APPENDIX I
Test America Category B Analytical Reports
Offsite Groundwater Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 320-34182-1

Job Description: Suffolk County Firematics Site

For:
PW Grosser Consulting
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Attention: Mr. Andrew C Lockwood

Melissa Haas

Approved for release.
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Job Number: 320-34182-1

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I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Melissa Haas

Approved for release.
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Project Manager I
1/4/2018 4:55 PM

Melissa Haas

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CASE NARRATIVE

Client: PW Grosser Consulting

Project: Suffolk County Firematics Site

Report Number: 320-34182-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 12/12/2017 9:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): FW-CR008-A (320-34182-5). The container labels list 10:55, while the COC lists 12:55. The client confirmed that the correct time is 10:55.

The following sample was received at the laboratory without a sample collection date/time documented on the chain of custody: Dupe (320-34182-12). Use a sample collection date/time of 12/8/17 at 12:00am.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

PERFLUORINATED HYDROCARBONS (PFC)

Samples MW-CR001-A (320-34182-1), MW-CR002-A (320-34182-2), FW-LN001-A (320-34182-3), FW-YC001-A (320-34182-4), FW-CR008-A (320-34182-5), FW-CR007-A (320-34182-6), FW-CR006-A (320-34182-7), FW-FR004-A (320-34182-8), MW-FR003-A (320-34182-9), FW-GA003-A (320-34182-10), MW-GA001-A (320-34182-11), Dupe (320-34182-12), MW-SP002-A (320-34182-13), FW-SP003-A (320-34182-14), MW-GA002-A (320-34182-15), FW-GA004-A (320-34182-16), FB001 (320-34182-17), EB001 (320-34182-18), FB002 (320-34182-19), EB002 (320-34182-20), FB003 (320-34182-21) and EB003 (320-34182-22) were analyzed for Perfluorinated Hydrocarbons (PFC) in accordance with PFC. The samples were prepared on 12/18/2017 and analyzed on 12/20/2017.

The following samples: MW-CR001-A (320-34182-1), MW-CR002-A (320-34182-2), FW-LN001-A (320-34182-3), FW-LN001-A (320-34182-3[MS]), FW-LN001-A (320-34182-3[MSD]), FW-YC001-A (320-34182-4), FW-CR008-A (320-34182-5), FW-CR007-A (320-34182-6), FW-CR006-A (320-34182-7), FW-FR004-A (320-34182-8), MW-GA001-A (320-34182-11), Dupe (320-34182-12), MW-SP002-A (320-34182-13), FW-SP003-A (320-34182-14) and FW-GA004-A (320-34182-16) were decanted prior to extraction due to containing excess sediment/detritus, which had the potential to clog the solid-phase column.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-200330.

Isotope Dilution Analyte (IDA) recovery for M2-6:2FTS is above the method recommended limit for the following continuing calibration verifications (CCV): (CCV 320-200662/1) and (CCV 320-200662/7). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Isotope Dilution Analyte (IDA) recovery for M2-8:2FTS is above the method recommended limit for the following samples: FB003 (320-34182-21), EB003 (320-34182-22), (LCS 320-200330/2-A), (LCSD 320-200330/3-A) and (MB 320-200330/1-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: MW-CR001-A (320-34182-1), MW-CR002-A (320-34182-2), FW-LN001-A (320-34182-3), FW-LN001-A (320-34182-3[MS]), FW-LN001-A (320-34182-3[MSD]),

FW-YC001-A (320-34182-4), FW-CR008-A (320-34182-5), FW-CR007-A (320-34182-6), FW-CR006-A (320-34182-7), FW-FR004-A (320-34182-8), MW-FR003-A (320-34182-9), FW-GA003-A (320-34182-10), FW-SP003-A (320-34182-14), MW-GA002-A (320-34182-15), FW-GA004-A (320-34182-16), FB001 (320-34182-17), EB001 (320-34182-18), FB002 (320-34182-19), EB002 (320-34182-20), (CCV 320-200666/1), (CCV 320-200666/12), (CCV 320-200666/23), (CCV 320-200666/28), (LCS 320-200328/2-A) and (MB 320-200328/1-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Perfluorohexanesulfonic acid (PFHxS) and Perfluorooctane Sulfonamide (FOSA) were detected in method blank MB 320-200328/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Perfluorohexanesulfonic acid (PFHxS) and Perfluorononanoic acid (PFNA) were detected in method blank MB 320-200330/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Refer to the QC report for details.

No other difficulties were encountered during the Perfluorinated Hydrocarbons (PFC) analysis.

All other quality control parameters were within the acceptance limits.

Sample Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34182-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-34182-1	MW-CR001-A	Water	12/08/17 10:40	12/12/17 09:55
320-34182-2	MW-CR002-A	Water	12/08/17 10:50	12/12/17 09:55
320-34182-3	FW-LN001-A	Water	12/05/17 09:45	12/12/17 09:55
320-34182-4	FW-YC001-A	Water	12/05/17 10:30	12/12/17 09:55
320-34182-5	FW-CR008-A	Water	12/05/17 10:55	12/12/17 09:55
320-34182-6	FW-CR007-A	Water	12/05/17 11:50	12/12/17 09:55
320-34182-7	FW-CR006-A	Water	12/05/17 12:00	12/12/17 09:55
320-34182-8	FW-FR004-A	Water	12/05/17 12:35	12/12/17 09:55
320-34182-9	MW-FR003-A	Water	12/06/17 10:15	12/12/17 09:55
320-34182-10	FW-GA003-A	Water	12/05/17 13:50	12/12/17 09:55
320-34182-11	MW-GA001-A	Water	12/06/17 11:00	12/12/17 09:55
320-34182-12	Dupe	Water	12/08/17 00:00	12/12/17 09:55
320-34182-13	MW-SP002-A	Water	12/06/17 13:00	12/12/17 09:55
320-34182-14	FW-SP003-A	Water	12/08/17 13:30	12/12/17 09:55
320-34182-15	MW-GA002-A	Water	12/08/17 12:15	12/12/17 09:55
320-34182-16	FW-GA004-A	Water	12/05/17 14:00	12/12/17 09:55
320-34182-17	FB001	Water	12/05/17 13:00	12/12/17 09:55
320-34182-18	EB001	Water	12/05/17 13:05	12/12/17 09:55
320-34182-19	FB002	Water	12/06/17 13:00	12/12/17 09:55
320-34182-20	EB002	Water	12/06/17 13:05	12/12/17 09:55
320-34182-21	FB003	Water	12/08/17 13:00	12/12/17 09:55
320-34182-22	EB003	Water	12/08/17 13:05	12/12/17 09:55

Detection Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34182-1

Client Sample ID: MW-CR001-A — Lab Sample ID: 320-34182-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.44		2.03	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.30		2.03	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.73		2.03	0.59	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.81	J	2.03	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.17		2.03	0.86	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.92	J	2.03	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.80	J	2.03	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.63	B	2.03	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.30	J	2.03	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	13.4		2.03	0.55	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	1.11	J B	2.03	0.35	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-CR002-A — Lab Sample ID: 320-34182-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.40		2.06	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.24		2.06	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.76		2.06	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.12		2.06	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.49		2.06	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	3.09		2.06	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.34	J	2.06	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.06	B	2.06	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.26	J	2.06	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	15.8		2.06	0.56	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FW-LN001-A — Lab Sample ID: 320-34182-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	11.4		1.96	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.05		1.96	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14.0		1.96	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.17		1.96	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14.7		1.96	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.29	J	1.96	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.32	J	1.96	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.63	B	1.96	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.25	J	1.96	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	9.60		1.96	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FW-YC001-A — Lab Sample ID: 320-34182-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.01	J	2.05	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.06	J	2.05	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.08	J	2.05	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.83	J	2.05	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.31		2.05	0.87	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FW-YC001-A (Continued) — Lab Sample ID: 320-34182-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.50	J	2.05	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.0	J	2.05	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.71	B	2.05	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.80		2.05	0.55	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.45	J B	2.05	0.36	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FW-CR008-A — Lab Sample ID: 320-34182-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.22		2.02	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.68		2.02	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.00		2.02	0.58	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.63	J	2.02	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.92		2.02	0.86	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.92	J	2.02	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.30	J	2.02	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.65	B	2.02	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	J	2.02	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	10.4		2.02	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.42	J B	2.02	0.35	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FW-CR007-A — Lab Sample ID: 320-34182-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.15	J	2.05	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.34	J	2.05	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.58	J	2.05	0.59	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.85	J	2.05	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.95	J	2.05	0.87	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.96	J	2.05	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.55	J	2.05	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.86	J B	2.05	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.69		2.05	0.55	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.82	J B	2.05	0.36	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FW-CR006-A — Lab Sample ID: 320-34182-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.78	J	2.06	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.90	J	2.06	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.11		2.06	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.93	J	2.06	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.56		2.06	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.92	J	2.06	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.58	J	2.06	0.57	ng/L	1		537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.66	J	2.06	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.81	J	2.06	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.23	B	2.06	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.06		2.06	0.56	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.41	J B	2.06	0.36	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FW-FR004-A — Lab Sample ID: 320-34182-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.07		1.98	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.61	J	1.98	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.70	J	1.98	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.87	J	1.98	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.05		1.98	0.84	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	2.09		1.98	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.66	J	1.98	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.65	J B	1.98	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.63	J	1.98	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.61	J B	1.98	0.35	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-FR003-A — Lab Sample ID: 320-34182-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.75	J	2.03	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.11	J	2.03	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.43	J	2.03	0.59	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.89	J	2.03	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.64	J	2.03	0.86	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.36	J	2.03	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.21	J	2.03	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.36	J B	2.03	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.42		2.03	0.55	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	1.36	J B	2.03	0.36	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FW-GA003-A — Lab Sample ID: 320-34182-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.19		2.08	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.23		2.08	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3.41		2.08	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.95	J	2.08	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.46		2.08	0.89	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.94	J	2.08	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.64	B	2.08	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.59	J	2.08	0.56	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.43	J B	2.08	0.36	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-GA001-A — Lab Sample ID: 320-34182-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.63	J	1.95	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.09	J	1.95	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.16	J	1.95	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.84	J	1.95	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.31	J	1.95	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.36	J	1.95	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.69	J B	1.95	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.27		1.95	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	1.44	J B	1.95	0.34	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34182-1

Client Sample ID: Dupe — Lab Sample ID: 320-34182-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.63	J	1.95	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.07	J	1.95	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.27	J	1.95	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.79	J	1.95	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.26	J	1.95	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.40	J	1.95	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.77	J B	1.95	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.39		1.95	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.96	J B	1.95	0.34	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-SP002-A — Lab Sample ID: 320-34182-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.02	J	1.92	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.94	J	1.92	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.45	J B	1.92	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	1.66	J B	1.92	0.34	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FW-SP003-A — Lab Sample ID: 320-34182-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.62		1.96	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.30		1.96	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.75		1.96	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.92	J	1.96	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.16		1.96	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.75	J	1.96	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.18	J	1.96	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.89	B	1.96	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.91		1.96	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-GA002-A — Lab Sample ID: 320-34182-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.74		2.08	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.97		2.08	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.54		2.08	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.71	J	2.08	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.20		2.08	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.30	J	2.08	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.94	J	2.08	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11.3	B	2.08	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.44	J	2.08	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17.4		2.08	0.56	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	2.59	B	2.08	0.36	ng/L	1		537 (modified)	Total/NA
6:2FTS	3.29	J	20.8	2.08	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FW-GA004-A — Lab Sample ID: 320-34182-16

This Detection Summary does not include radiochemical test results.

Client Sample ID: FW-GA004-A (Continued) — Lab Sample ID: 320-34182-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.28		1.99	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	7.39		1.99	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	16.7		1.99	0.58	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.77		1.99	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.61		1.99	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	16.9		1.99	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	28.2	B	1.99	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.82	J	1.99	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	25.7		1.99	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.56	J B	1.99	0.35	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FB001 — Lab Sample ID: 320-34182-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.01	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: EB001 — Lab Sample ID: 320-34182-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.00	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.51	J B	2.00	0.35	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FB002 — Lab Sample ID: 320-34182-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.24	J B	2.00	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: EB002 — Lab Sample ID: 320-34182-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.01	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FB003 — Lab Sample ID: 320-34182-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.42	J	2.02	0.35	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.28	J B	2.02	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: EB003 — Lab Sample ID: 320-34182-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	2.00	0.17	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34182-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client Sample ID: MW-CR001-A

Date Collected: 12/08/17 10:40
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.44**		2.03	0.35	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluoropentanoic acid (PFPeA)	**4.30**		2.03	0.50	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorohexanoic acid (PFHxA)	**4.73**		2.03	0.59	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluoroheptanoic acid (PFHpA)	**1.81**	**J**	2.03	0.25	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorooctanoic acid (PFOA)	**3.17**		2.03	0.86	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorononanoic acid (PFNA)	**1.92**	**J**	2.03	0.27	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.03	0.31	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluoroundecanoic acid (PFUnA)	1.11	U	2.03	1.11	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.03	0.56	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorotridecanoic Acid (PFTriA)	1.32	U	2.03	1.32	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.03	0.29	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorobutanesulfonic acid (PFBS)	**1.80**	**J**	2.03	0.20	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorohexanesulfonic acid (PFHxS)	**8.63**	**B**	2.03	0.17	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.30**	**J**	2.03	0.19	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorooctanesulfonic acid (PFOS)	**13.4**		2.03	0.55	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.03	0.32	ng/L		12/18/17 13:25	12/20/17 07:49	1
Perfluorooctane Sulfonamide (FOSA)	**1.11**	**J B**	2.03	0.35	ng/L		12/18/17 13:25	12/20/17 07:49	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.14	U	20.3	3.14	ng/L		12/18/17 13:25	12/20/17 07:49	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.93	U	20.3	1.93	ng/L		12/18/17 13:25	12/20/17 07:49	1
6:2FTS	2.03	U	20.3	2.03	ng/L		12/18/17 13:25	12/20/17 07:49	1
8:2FTS	2.03	U	20.3	2.03	ng/L		12/18/17 13:25	12/20/17 07:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C5 PFPeA	*123*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C2 PFHxA	*114*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C4-PFHpA	*117*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C4 PFOA	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C5 PFNA	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C2 PFDA	*128*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C2 PFUnA	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C2 PFDoA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C2-PFTeDA	*128*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C3-PFBS	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
18O2 PFHxS	*117*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C4 PFOS	*117*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
13C8 FOSA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
d3-NMeFOSAA	*145*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
d5-NEtFOSAA	*127*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
M2-6:2FTS	*71*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*
M2-8:2FTS	*183*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 07:49*	*1*

Client Sample ID: MW-CR002-A

Date Collected: 12/08/17 10:50
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.40**		2.06	0.36	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluoropentanoic acid (PFPeA)	**4.24**		2.06	0.51	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorohexanoic acid (PFHxA)	**4.76**		2.06	0.60	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluoroheptanoic acid (PFHpA)	**2.12**		2.06	0.26	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorooctanoic acid (PFOA)	**3.49**		2.06	0.88	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorononanoic acid (PFNA)	**3.09**		2.06	0.28	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.06	0.32	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluoroundecanoic acid (PFUnA)	1.13	U	2.06	1.13	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorododecanoic acid (PFDoA)	0.57	U	2.06	0.57	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.06	1.34	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.06	0.30	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorobutanesulfonic acid (PFBS)	**1.34**	**J**	2.06	0.21	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorohexanesulfonic acid (PFHxS)	**6.06**	**B**	2.06	0.18	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.26**	**J**	2.06	0.20	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorooctanesulfonic acid (PFOS)	**15.8**		2.06	0.56	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.06	0.33	ng/L		12/18/17 13:25	12/20/17 07:57	1
Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.06	0.36	ng/L		12/18/17 13:25	12/20/17 07:57	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.20	U	20.6	3.20	ng/L		12/18/17 13:25	12/20/17 07:57	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.6	1.96	ng/L		12/18/17 13:25	12/20/17 07:57	1
6:2FTS	2.06	U	20.6	2.06	ng/L		12/18/17 13:25	12/20/17 07:57	1
8:2FTS	2.06	U	20.6	2.06	ng/L		12/18/17 13:25	12/20/17 07:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C5 PFPeA	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C2 PFHxA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C4-PFHpA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C4 PFOA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C5 PFNA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C2 PFDA	*125*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C2 PFUnA	*114*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C2 PFDoA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C2-PFTeDA	*130*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C3-PFBS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
18O2 PFHxS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C4 PFOS	*117*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
13C8 FOSA	*99*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
d3-NMeFOSAA	*141*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
d5-NEtFOSAA	*126*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
M2-6:2FTS	*68*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*
M2-8:2FTS	*199*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 07:57*	*1*

Client Sample ID: FW-LN001-A

Date Collected: 12/05/17 09:45
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**11.4**		1.96	0.34	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluoropentanoic acid (PFPeA)	**6.05**		1.96	0.48	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorohexanoic acid (PFHxA)	**14.0**		1.96	0.57	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluoroheptanoic acid (PFHpA)	**6.17**		1.96	0.24	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorooctanoic acid (PFOA)	**14.7**		1.96	0.83	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorononanoic acid (PFNA)	**1.29**	**J**	1.96	0.26	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorodecanoic acid (PFDA)	0.30	U	1.96	0.30	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluoroundecanoic acid (PFUnA)	1.08	U	1.96	1.08	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.96	0.54	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.96	1.27	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorobutanesulfonic acid (PFBS)	**1.32**	**J**	1.96	0.20	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorohexanesulfonic acid (PFHxS)	**5.63**	**B**	1.96	0.17	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.25**	**J**	1.96	0.19	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorooctanesulfonic acid (PFOS)	**9.60**		1.96	0.53	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31	ng/L		12/18/17 13:25	12/20/17 08:05	1
Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.96	0.34	ng/L		12/18/17 13:25	12/20/17 08:05	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.03	U	19.6	3.03	ng/L		12/18/17 13:25	12/20/17 08:05	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	19.6	1.86	ng/L		12/18/17 13:25	12/20/17 08:05	1
6:2FTS	1.96	U	19.6	1.96	ng/L		12/18/17 13:25	12/20/17 08:05	1
8:2FTS	1.96	U	19.6	1.96	ng/L		12/18/17 13:25	12/20/17 08:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C5 PFPeA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C2 PFHxA	*97*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C4-PFHpA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C4 PFOA	*103*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C5 PFNA	*117*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C2 PFDA	*122*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C2 PFUnA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C2 PFDoA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C2-PFTeDA	*134*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C3-PFBS	*121*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
18O2 PFHxS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C4 PFOS	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
13C8 FOSA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
d3-NMeFOSAA	*137*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
d5-NEtFOSAA	*128*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
M2-6:2FTS	*89*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*
M2-8:2FTS	*179*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 08:05*	*1*

Client Sample ID: FW-YC001-A

Date Collected: 12/05/17 10:30
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-4

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.01**	**J**	2.05	0.36	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluoropentanoic acid (PFPeA)	**1.06**	**J**	2.05	0.50	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorohexanoic acid (PFHxA)	**1.08**	**J**	2.05	0.60	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluoroheptanoic acid (PFHpA)	**0.83**	**J**	2.05	0.26	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorooctanoic acid (PFOA)	**2.31**		2.05	0.87	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorononanoic acid (PFNA)	**0.50**	**J**	2.05	0.28	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.05	0.32	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluoroundecanoic acid (PFUnA)	1.13	U	2.05	1.13	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.05	0.56	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.05	1.33	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.05	0.30	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorobutanesulfonic acid (PFBS)	**1.0**	**J**	2.05	0.21	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorohexanesulfonic acid (PFHxS)	**2.71**	**B**	2.05	0.17	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.05	0.19	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorooctanesulfonic acid (PFOS)	**3.80**		2.05	0.55	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.05	0.33	ng/L		12/18/17 13:25	12/20/17 08:28	1
Perfluorooctane Sulfonamide (FOSA)	**0.45**	**J B**	2.05	0.36	ng/L		12/18/17 13:25	12/20/17 08:28	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.18	U	20.5	3.18	ng/L		12/18/17 13:25	12/20/17 08:28	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.95	U	20.5	1.95	ng/L		12/18/17 13:25	12/20/17 08:28	1
6:2FTS	2.05	U	20.5	2.05	ng/L		12/18/17 13:25	12/20/17 08:28	1
8:2FTS	2.05	U	20.5	2.05	ng/L		12/18/17 13:25	12/20/17 08:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C5 PFPeA	*123*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C2 PFHxA	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C4-PFHpA	*114*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C4 PFOA	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C5 PFNA	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C2 PFDA	*121*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C2 PFUnA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C2 PFDoA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C2-PFTeDA	*132*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C3-PFBS	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
18O2 PFHxS	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C4 PFOS	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
13C8 FOSA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
d3-NMeFOSAA	*132*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
d5-NEtFOSAA	*127*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
M2-6:2FTS	*69*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*
M2-8:2FTS	*169*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 08:28*	*1*

Client Sample ID: FW-CR008-A

Date Collected: 12/05/17 10:55
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.22**		2.02	0.35	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluoropentanoic acid (PFPeA)	**3.68**		2.02	0.49	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorohexanoic acid (PFHxA)	**4.00**		2.02	0.58	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluoroheptanoic acid (PFHpA)	**1.63**	**J**	2.02	0.25	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorooctanoic acid (PFOA)	**2.92**		2.02	0.86	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorononanoic acid (PFNA)	**1.92**	**J**	2.02	0.27	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.02	0.31	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluoroundecanoic acid (PFUnA)	1.11	U	2.02	1.11	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.02	0.55	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorotridecanoic Acid (PFTriA)	1.31	U	2.02	1.31	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.02	0.29	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorobutanesulfonic acid (PFBS)	**1.30**	**J**	2.02	0.20	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorohexanesulfonic acid (PFHxS)	**6.65**	**B**	2.02	0.17	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.19**	**J**	2.02	0.19	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorooctanesulfonic acid (PFOS)	**10.4**		2.02	0.54	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.02	0.32	ng/L		12/18/17 13:25	12/20/17 08:36	1
Perfluorooctane Sulfonamide (FOSA)	**0.42**	**J B**	2.02	0.35	ng/L		12/18/17 13:25	12/20/17 08:36	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.13	U	20.2	3.13	ng/L		12/18/17 13:25	12/20/17 08:36	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.92	U	20.2	1.92	ng/L		12/18/17 13:25	12/20/17 08:36	1
6:2FTS	2.02	U	20.2	2.02	ng/L		12/18/17 13:25	12/20/17 08:36	1
8:2FTS	2.02	U	20.2	2.02	ng/L		12/18/17 13:25	12/20/17 08:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C5 PFPeA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C2 PFHxA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C4-PFHpA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C4 PFOA	*103*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C5 PFNA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C2 PFDA	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C2 PFUnA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C2 PFDoA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C2-PFTeDA	*119*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C3-PFBS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
18O2 PFHxS	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C4 PFOS	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
13C8 FOSA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
d3-NMeFOSAA	*130*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
d5-NEtFOSAA	*122*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
M2-6:2FTS	*67*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*
M2-8:2FTS	*180*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 08:36*	*1*

Client Sample ID: FW-CR007-A

Date Collected: 12/05/17 11:50
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.15**	**J**	2.05	0.36	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluoropentanoic acid (PFPeA)	**1.34**	**J**	2.05	0.50	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorohexanoic acid (PFHxA)	**1.58**	**J**	2.05	0.59	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluoroheptanoic acid (PFHpA)	**0.85**	**J**	2.05	0.26	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorooctanoic acid (PFOA)	**1.95**	**J**	2.05	0.87	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorononanoic acid (PFNA)	**0.96**	**J**	2.05	0.28	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.05	0.32	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluoroundecanoic acid (PFUnA)	1.13	U	2.05	1.13	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.05	0.56	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.05	1.33	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.05	0.30	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorobutanesulfonic acid (PFBS)	**0.55**	**J**	2.05	0.20	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorohexanesulfonic acid (PFHxS)	**1.86**	**J B**	2.05	0.17	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.05	0.19	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorooctanesulfonic acid (PFOS)	**5.69**		2.05	0.55	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.05	0.33	ng/L		12/18/17 13:25	12/20/17 08:44	1
Perfluorooctane Sulfonamide (FOSA)	**0.82**	**J B**	2.05	0.36	ng/L		12/18/17 13:25	12/20/17 08:44	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.17	U	20.5	3.17	ng/L		12/18/17 13:25	12/20/17 08:44	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.95	U	20.5	1.95	ng/L		12/18/17 13:25	12/20/17 08:44	1
6:2FTS	2.05	U	20.5	2.05	ng/L		12/18/17 13:25	12/20/17 08:44	1
8:2FTS	2.05	U	20.5	2.05	ng/L		12/18/17 13:25	12/20/17 08:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C5 PFPeA	*121*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C2 PFHxA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C4-PFHpA	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C4 PFOA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C5 PFNA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C2 PFDA	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C2 PFUnA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C2 PFDoA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C2-PFTeDA	*132*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C3-PFBS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
18O2 PFHxS	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C4 PFOS	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
13C8 FOSA	*99*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
d3-NMeFOSAA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
d5-NEtFOSAA	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
M2-6:2FTS	*67*		*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*
M2-8:2FTS	*158*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 08:44*	*1*

Client Sample ID: FW-CR006-A

Date Collected: 12/05/17 12:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.78**	**J**	2.06	0.36	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluoropentanoic acid (PFPeA)	**1.90**	**J**	2.06	0.50	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorohexanoic acid (PFHxA)	**2.11**		2.06	0.60	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluoroheptanoic acid (PFHpA)	**0.93**	**J**	2.06	0.26	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorooctanoic acid (PFOA)	**2.56**		2.06	0.88	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorononanoic acid (PFNA)	**0.92**	**J**	2.06	0.28	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.06	0.32	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluoroundecanoic acid (PFUnA)	1.13	U	2.06	1.13	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorododecanoic acid (PFDoA)	**0.58**	**J**	2.06	0.57	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.06	1.34	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorotetradecanoic acid (PFTeA)	**0.66**	**J**	2.06	0.30	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorobutanesulfonic acid (PFBS)	**0.81**	**J**	2.06	0.21	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorohexanesulfonic acid (PFHxS)	**2.23**	**B**	2.06	0.18	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.06	0.20	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorooctanesulfonic acid (PFOS)	**4.06**		2.06	0.56	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.06	0.33	ng/L		12/18/17 13:25	12/20/17 09:00	1
Perfluorooctane Sulfonamide (FOSA)	**0.41**	**J B**	2.06	0.36	ng/L		12/18/17 13:25	12/20/17 09:00	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.19	U	20.6	3.19	ng/L		12/18/17 13:25	12/20/17 09:00	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.6	1.96	ng/L		12/18/17 13:25	12/20/17 09:00	1
6:2FTS	2.06	U	20.6	2.06	ng/L		12/18/17 13:25	12/20/17 09:00	1
8:2FTS	2.06	U	20.6	2.06	ng/L		12/18/17 13:25	12/20/17 09:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C5 PFPeA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C2 PFHxA	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C4-PFHpA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C4 PFOA	*103*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C5 PFNA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C2 PFDA	*123*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C2 PFUnA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C2 PFDoA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C2-PFTeDA	*119*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C3-PFBS	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
18O2 PFHxS	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C4 PFOS	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
13C8 FOSA	*98*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
d3-NMeFOSAA	*128*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
d5-NEtFOSAA	*123*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
M2-6:2FTS	*70*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*
M2-8:2FTS	*172*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 09:00*	*1*

Client Sample ID: FW-FR004-A

Date Collected: 12/05/17 12:35
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.07**		1.98	0.35	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluoropentanoic acid (PFPeA)	**1.61**	**J**	1.98	0.48	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorohexanoic acid (PFHxA)	**1.70**	**J**	1.98	0.57	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluoroheptanoic acid (PFHpA)	**0.87**	**J**	1.98	0.25	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorooctanoic acid (PFOA)	**2.05**		1.98	0.84	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorononanoic acid (PFNA)	**2.09**		1.98	0.27	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorodecanoic acid (PFDA)	0.31	U	1.98	0.31	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluoroundecanoic acid (PFUnA)	1.09	U	1.98	1.09	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.98	0.54	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorotridecanoic Acid (PFTriA)	1.29	U	1.98	1.29	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.98	0.29	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorobutanesulfonic acid (PFBS)	**0.66**	**J**	1.98	0.20	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorohexanesulfonic acid (PFHxS)	**1.65**	**J B**	1.98	0.17	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.98	0.19	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorooctanesulfonic acid (PFOS)	**1.63**	**J**	1.98	0.53	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.98	0.32	ng/L		12/18/17 13:25	12/20/17 09:08	1
Perfluorooctane Sulfonamide (FOSA)	**0.61**	**J B**	1.98	0.35	ng/L		12/18/17 13:25	12/20/17 09:08	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.07	U	19.8	3.07	ng/L		12/18/17 13:25	12/20/17 09:08	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.88	U	19.8	1.88	ng/L		12/18/17 13:25	12/20/17 09:08	1
6:2FTS	1.98	U	19.8	1.98	ng/L		12/18/17 13:25	12/20/17 09:08	1
8:2FTS	1.98	U	19.8	1.98	ng/L		12/18/17 13:25	12/20/17 09:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C5 PFPeA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C2 PFHxA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C4-PFHpA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C4 PFOA	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C5 PFNA	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C2 PFDA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C2 PFUnA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C2 PFDoA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C2-PFTeDA	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C3-PFBS	*103*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
18O2 PFHxS	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C4 PFOS	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
13C8 FOSA	*95*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
d3-NMeFOSAA	*123*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
d5-NEtFOSAA	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
M2-6:2FTS	*68*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*
M2-8:2FTS	*173*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 09:08*	*1*

Client Sample ID: MW-FR003-A

Date Collected: 12/06/17 10:15
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.75**	**J**	2.03	0.36	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluoropentanoic acid (PFPeA)	**1.11**	**J**	2.03	0.50	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorohexanoic acid (PFHxA)	**1.43**	**J**	2.03	0.59	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluoroheptanoic acid (PFHpA)	**0.89**	**J**	2.03	0.25	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorooctanoic acid (PFOA)	**1.64**	**J**	2.03	0.86	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorononanoic acid (PFNA)	**0.36**	**J**	2.03	0.27	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.03	0.31	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluoroundecanoic acid (PFUnA)	1.12	U	2.03	1.12	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.03	0.56	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorotridecanoic Acid (PFTriA)	1.32	U	2.03	1.32	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.03	0.29	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorobutanesulfonic acid (PFBS)	**0.21**	**J**	2.03	0.20	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorohexanesulfonic acid (PFHxS)	**1.36**	**J B**	2.03	0.17	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.03	0.19	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorooctanesulfonic acid (PFOS)	**3.42**		2.03	0.55	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.03	0.32	ng/L		12/18/17 13:25	12/20/17 09:16	1
Perfluorooctane Sulfonamide (FOSA)	**1.36**	**J B**	2.03	0.36	ng/L		12/18/17 13:25	12/20/17 09:16	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.15	U	20.3	3.15	ng/L		12/18/17 13:25	12/20/17 09:16	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.93	U	20.3	1.93	ng/L		12/18/17 13:25	12/20/17 09:16	1
6:2FTS	2.03	U	20.3	2.03	ng/L		12/18/17 13:25	12/20/17 09:16	1
8:2FTS	2.03	U	20.3	2.03	ng/L		12/18/17 13:25	12/20/17 09:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C5 PFPeA	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C2 PFHxA	*114*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C4-PFHpA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C4 PFOA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C5 PFNA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C2 PFDA	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C2 PFUnA	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C2 PFDoA	*98*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C2-PFTeDA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C3-PFBS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
18O2 PFHxS	*114*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C4 PFOS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
13C8 FOSA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
d3-NMeFOSAA	*121*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
d5-NEtFOSAA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
M2-6:2FTS	*57*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*
M2-8:2FTS	*155*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 09:16*	*1*

Client Sample ID: FW-GA003-A

Date Collected: 12/05/17 13:50
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-10

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.19**		2.08	0.36	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluoropentanoic acid (PFPeA)	**3.23**		2.08	0.51	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorohexanoic acid (PFHxA)	**3.41**		2.08	0.60	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluoroheptanoic acid (PFHpA)	**1.95**	**J**	2.08	0.26	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorooctanoic acid (PFOA)	**3.46**		2.08	0.89	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorononanoic acid (PFNA)	0.28	U	2.08	0.28	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.08	0.32	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluoroundecanoic acid (PFUnA)	1.15	U	2.08	1.15	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorododecanoic acid (PFDoA)	0.57	U	2.08	0.57	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorotridecanoic Acid (PFTriA)	1.35	U	2.08	1.35	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.08	0.30	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorobutanesulfonic acid (PFBS)	**0.94**	**J**	2.08	0.21	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorohexanesulfonic acid (PFHxS)	**5.64**	**B**	2.08	0.18	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.08	0.20	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorooctanesulfonic acid (PFOS)	**1.59**	**J**	2.08	0.56	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.08	0.33	ng/L		12/18/17 13:25	12/20/17 09:23	1
Perfluorooctane Sulfonamide (FOSA)	**0.43**	**J B**	2.08	0.36	ng/L		12/18/17 13:25	12/20/17 09:23	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.23	U	20.8	3.23	ng/L		12/18/17 13:25	12/20/17 09:23	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.98	U	20.8	1.98	ng/L		12/18/17 13:25	12/20/17 09:23	1
6:2FTS	2.08	U	20.8	2.08	ng/L		12/18/17 13:25	12/20/17 09:23	1
8:2FTS	2.08	U	20.8	2.08	ng/L		12/18/17 13:25	12/20/17 09:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C5 PFPeA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C4-PFHpA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C4 PFOA	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C5 PFNA	*121*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C2 PFDA	*122*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C2 PFUnA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C2 PFDoA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C2-PFTeDA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C3-PFBS	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
18O2 PFHxS	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C4 PFOS	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
13C8 FOSA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
d3-NMeFOSAA	*131*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
d5-NEtFOSAA	*130*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
M2-6:2FTS	*74*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*
M2-8:2FTS	*169*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 09:23*	*1*

Client Sample ID: MW-GA001-A

Date Collected: 12/06/17 11:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.63**	**J**	1.95	0.34	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluoropentanoic acid (PFPeA)	**1.09**	**J**	1.95	0.48	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorohexanoic acid (PFHxA)	**1.16**	**J**	1.95	0.56	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluoroheptanoic acid (PFHpA)	**0.84**	**J**	1.95	0.24	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorooctanoic acid (PFOA)	**1.31**	**J**	1.95	0.83	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorononanoic acid (PFNA)	0.26	U	1.95	0.26	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorodecanoic acid (PFDA)	0.30	U	1.95	0.30	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluoroundecanoic acid (PFUnA)	1.07	U	1.95	1.07	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.95	0.54	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.95	1.27	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.95	0.28	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorobutanesulfonic acid (PFBS)	**0.36**	**J**	1.95	0.19	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorohexanesulfonic acid (PFHxS)	**1.69**	**J B**	1.95	0.17	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	1.95	0.18	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorooctanesulfonic acid (PFOS)	**2.27**		1.95	0.53	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.95	0.31	ng/L		12/18/17 13:25	12/20/17 09:31	1
Perfluorooctane Sulfonamide (FOSA)	**1.44**	**J B**	1.95	0.34	ng/L		12/18/17 13:25	12/20/17 09:31	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.02	U	19.5	3.02	ng/L		12/18/17 13:25	12/20/17 09:31	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.85	U	19.5	1.85	ng/L		12/18/17 13:25	12/20/17 09:31	1
6:2FTS	1.95	U	19.5	1.95	ng/L		12/18/17 13:25	12/20/17 09:31	1
8:2FTS	1.95	U	19.5	1.95	ng/L		12/18/17 13:25	12/20/17 09:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C5 PFPeA	*126*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C2 PFHxA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C4-PFHpA	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C4 PFOA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C5 PFNA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C2 PFDA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C2 PFUnA	*98*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C2 PFDoA	*95*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C2-PFTeDA	*93*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C3-PFBS	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
18O2 PFHxS	*117*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C4 PFOS	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
13C8 FOSA	*96*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
d3-NMeFOSAA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
d5-NEtFOSAA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
M2-6:2FTS	*56*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*
M2-8:2FTS	*144*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:31*	*1*

Client Sample ID: Dupe

Date Collected: 12/08/17 00:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-12

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.63**	**J**	1.95	0.34	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluoropentanoic acid (PFPeA)	**1.07**	**J**	1.95	0.48	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorohexanoic acid (PFHxA)	**1.27**	**J**	1.95	0.57	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluoroheptanoic acid (PFHpA)	**0.79**	**J**	1.95	0.24	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorooctanoic acid (PFOA)	**1.26**	**J**	1.95	0.83	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorononanoic acid (PFNA)	0.26	U	1.95	0.26	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorodecanoic acid (PFDA)	0.30	U	1.95	0.30	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluoroundecanoic acid (PFUnA)	1.07	U	1.95	1.07	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.95	0.54	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.95	1.27	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.95	0.28	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorobutanesulfonic acid (PFBS)	**0.40**	**J**	1.95	0.19	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorohexanesulfonic acid (PFHxS)	**1.77**	**J B**	1.95	0.17	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.95	0.19	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorooctanesulfonic acid (PFOS)	**2.39**		1.95	0.53	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.95	0.31	ng/L		12/18/17 13:25	12/20/17 09:39	1
Perfluorooctane Sulfonamide (FOSA)	**0.96**	**J B**	1.95	0.34	ng/L		12/18/17 13:25	12/20/17 09:39	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.02	U	19.5	3.02	ng/L		12/18/17 13:25	12/20/17 09:39	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.85	U	19.5	1.85	ng/L		12/18/17 13:25	12/20/17 09:39	1
6:2FTS	1.95	U	19.5	1.95	ng/L		12/18/17 13:25	12/20/17 09:39	1
8:2FTS	1.95	U	19.5	1.95	ng/L		12/18/17 13:25	12/20/17 09:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C5 PFPeA	*117*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C2 PFHxA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C4-PFHpA	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C4 PFOA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C5 PFNA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C2 PFDA	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C2 PFUnA	*99*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C2 PFDoA	*92*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C2-PFTeDA	*84*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C3-PFBS	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
18O2 PFHxS	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C4 PFOS	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
13C8 FOSA	*96*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
d3-NMeFOSAA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
d5-NEtFOSAA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
M2-6:2FTS	*58*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*
M2-8:2FTS	*135*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:39*	*1*

Client Sample ID: MW-SP002-A

Date Collected: 12/06/17 13:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-13

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.02**	**J**	1.92	0.34	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluoropentanoic acid (PFPeA)	0.47	U	1.92	0.47	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorohexanoic acid (PFHxA)	0.56	U	1.92	0.56	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluoroheptanoic acid (PFHpA)	**0.94**	**J**	1.92	0.24	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorooctanoic acid (PFOA)	0.82	U	1.92	0.82	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorononanoic acid (PFNA)	0.26	U	1.92	0.26	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorodecanoic acid (PFDA)	0.30	U	1.92	0.30	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluoroundecanoic acid (PFUnA)	1.06	U	1.92	1.06	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorododecanoic acid (PFDoA)	0.53	U	1.92	0.53	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorotridecanoic Acid (PFTriA)	1.25	U	1.92	1.25	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.92	0.28	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorobutanesulfonic acid (PFBS)	0.19	U	1.92	0.19	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorohexanesulfonic acid (PFHxS)	**0.45**	**J B**	1.92	0.16	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	1.92	0.18	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorooctanesulfonic acid (PFOS)	0.52	U	1.92	0.52	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.92	0.31	ng/L		12/18/17 13:25	12/20/17 09:47	1
Perfluorooctane Sulfonamide (FOSA)	**1.66**	**J B**	1.92	0.34	ng/L		12/18/17 13:25	12/20/17 09:47	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	2.98	U	19.2	2.98	ng/L		12/18/17 13:25	12/20/17 09:47	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.83	U	19.2	1.83	ng/L		12/18/17 13:25	12/20/17 09:47	1
6:2FTS	1.92	U	19.2	1.92	ng/L		12/18/17 13:25	12/20/17 09:47	1
8:2FTS	1.92	U	19.2	1.92	ng/L		12/18/17 13:25	12/20/17 09:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C5 PFPeA	*122*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C2 PFHxA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C4-PFHpA	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C5 PFNA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C2 PFDA	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C2 PFUnA	*100*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C2 PFDoA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C2-PFTeDA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C3-PFBS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
18O2 PFHxS	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C4 PFOS	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
13C8 FOSA	*100*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
d3-NMeFOSAA	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
d5-NEtFOSAA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
M2-6:2FTS	*57*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*
M2-8:2FTS	*145*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:47*	*1*

Client Sample ID: FW-SP003-A

Date Collected: 12/08/17 13:30
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-14

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.62**		1.96	0.34	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluoropentanoic acid (PFPeA)	**2.30**		1.96	0.48	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorohexanoic acid (PFHxA)	**2.75**		1.96	0.57	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluoroheptanoic acid (PFHpA)	**1.92**	**J**	1.96	0.24	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorooctanoic acid (PFOA)	**4.16**		1.96	0.83	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorononanoic acid (PFNA)	**0.75**	**J**	1.96	0.26	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorodecanoic acid (PFDA)	0.30	U	1.96	0.30	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluoroundecanoic acid (PFUnA)	1.08	U	1.96	1.08	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.96	0.54	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.96	1.27	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorobutanesulfonic acid (PFBS)	**1.18**	**J**	1.96	0.20	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorohexanesulfonic acid (PFHxS)	**3.89**	**B**	1.96	0.17	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.96	0.19	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorooctanesulfonic acid (PFOS)	**4.91**		1.96	0.53	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31	ng/L		12/18/17 13:25	12/20/17 09:55	1
Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.96	0.34	ng/L		12/18/17 13:25	12/20/17 09:55	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.03	U	19.6	3.03	ng/L		12/18/17 13:25	12/20/17 09:55	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	19.6	1.86	ng/L		12/18/17 13:25	12/20/17 09:55	1
6:2FTS	1.96	U	19.6	1.96	ng/L		12/18/17 13:25	12/20/17 09:55	1
8:2FTS	1.96	U	19.6	1.96	ng/L		12/18/17 13:25	12/20/17 09:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C5 PFPeA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C2 PFHxA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C4-PFHpA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C4 PFOA	*100*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C5 PFNA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C2 PFDA	*119*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C2 PFUnA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C2 PFDoA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C2-PFTeDA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C3-PFBS	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
18O2 PFHxS	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C4 PFOS	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
13C8 FOSA	*98*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
d3-NMeFOSAA	*127*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
d5-NEtFOSAA	*121*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
M2-6:2FTS	*72*		*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*
M2-8:2FTS	*162*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 09:55*	*1*

Client Sample ID: MW-GA002-A

Date Collected: 12/08/17 12:15
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-15

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.74**		2.08	0.36	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluoropentanoic acid (PFPeA)	**2.97**		2.08	0.51	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorohexanoic acid (PFHxA)	**4.54**		2.08	0.60	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluoroheptanoic acid (PFHpA)	**1.71**	**J**	2.08	0.26	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorooctanoic acid (PFOA)	**3.20**		2.08	0.88	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorononanoic acid (PFNA)	**0.30**	**J**	2.08	0.28	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.08	0.32	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluoroundecanoic acid (PFUnA)	1.14	U	2.08	1.14	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorododecanoic acid (PFDoA)	0.57	U	2.08	0.57	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorotridecanoic Acid (PFTriA)	1.35	U	2.08	1.35	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.08	0.30	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorobutanesulfonic acid (PFBS)	**1.94**	**J**	2.08	0.21	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorohexanesulfonic acid (PFHxS)	**11.3**	**B**	2.08	0.18	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.44**	**J**	2.08	0.20	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorooctanesulfonic acid (PFOS)	**17.4**		2.08	0.56	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.08	0.33	ng/L		12/18/17 13:25	12/20/17 10:03	1
Perfluorooctane Sulfonamide (FOSA)	**2.59**	**B**	2.08	0.36	ng/L		12/18/17 13:25	12/20/17 10:03	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.22	U	20.8	3.22	ng/L		12/18/17 13:25	12/20/17 10:03	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.97	U	20.8	1.97	ng/L		12/18/17 13:25	12/20/17 10:03	1
6:2FTS	**3.29**	**J**	20.8	2.08	ng/L		12/18/17 13:25	12/20/17 10:03	1
8:2FTS	2.08	U	20.8	2.08	ng/L		12/18/17 13:25	12/20/17 10:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C5 PFPeA	*127*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C2 PFHxA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C4-PFHpA	*124*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C4 PFOA	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C5 PFNA	*124*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C2 PFDA	*124*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C2 PFUnA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C2 PFDoA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C2-PFTeDA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C3-PFBS	*122*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
18O2 PFHxS	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C4 PFOS	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
13C8 FOSA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
d3-NMeFOSAA	*142*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
d5-NEtFOSAA	*132*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
M2-6:2FTS	*60*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*
M2-8:2FTS	*177*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 10:03*	*1*

Client Sample ID: FW-GA004-A

Date Collected: 12/05/17 14:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-16

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.28**		1.99	0.35	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluoropentanoic acid (PFPeA)	**7.39**		1.99	0.49	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorohexanoic acid (PFHxA)	**16.7**		1.99	0.58	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluoroheptanoic acid (PFHpA)	**2.77**		1.99	0.25	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorooctanoic acid (PFOA)	**2.61**		1.99	0.85	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorononanoic acid (PFNA)	0.27	U	1.99	0.27	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorodecanoic acid (PFDA)	0.31	U	1.99	0.31	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	1.99	1.10	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorododecanoic acid (PFDoA)	0.55	U	1.99	0.55	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	1.99	1.30	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.99	0.29	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorobutanesulfonic acid (PFBS)	**16.9**		1.99	0.20	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorohexanesulfonic acid (PFHxS)	**28.2**	**B**	1.99	0.17	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.82**	**J**	1.99	0.19	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorooctanesulfonic acid (PFOS)	**25.7**		1.99	0.54	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.99	0.32	ng/L		12/18/17 13:25	12/20/17 10:11	1
Perfluorooctane Sulfonamide (FOSA)	**0.56**	**J B**	1.99	0.35	ng/L		12/18/17 13:25	12/20/17 10:11	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.09	U	19.9	3.09	ng/L		12/18/17 13:25	12/20/17 10:11	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.89	U	19.9	1.89	ng/L		12/18/17 13:25	12/20/17 10:11	1
6:2FTS	1.99	U	19.9	1.99	ng/L		12/18/17 13:25	12/20/17 10:11	1
8:2FTS	1.99	U	19.9	1.99	ng/L		12/18/17 13:25	12/20/17 10:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C5 PFPeA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C4-PFHpA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C4 PFOA	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C5 PFNA	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C2 PFDA	*122*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C2 PFUnA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C2 PFDoA	*101*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C2-PFTeDA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C3-PFBS	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
18O2 PFHxS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C4 PFOS	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
13C8 FOSA	*101*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
d3-NMeFOSAA	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
d5-NEtFOSAA	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
M2-6:2FTS	*66*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*
M2-8:2FTS	*162*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 10:11*	*1*

Client Sample ID: FB001

Date Collected: 12/05/17 13:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-17

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.01	0.35	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.01	0.49	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.01	0.58	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.01	0.25	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.01	0.85	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorononanoic acid (PFNA)	0.27	U	2.01	0.27	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.01	0.31	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.01	1.10	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.01	0.55	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.01	1.30	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.01	0.29	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.01	0.20	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorohexanesulfonic acid (PFHxS)	**0.29**	**J B**	2.01	0.17	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.01	0.19	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.01	0.54	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.01	0.32	ng/L		12/18/17 13:25	12/20/17 10:26	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.01	0.35	ng/L		12/18/17 13:25	12/20/17 10:26	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.11	U	20.1	3.11	ng/L		12/18/17 13:25	12/20/17 10:26	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.91	U	20.1	1.91	ng/L		12/18/17 13:25	12/20/17 10:26	1
6:2FTS	2.01	U	20.1	2.01	ng/L		12/18/17 13:25	12/20/17 10:26	1
8:2FTS	2.01	U	20.1	2.01	ng/L		12/18/17 13:25	12/20/17 10:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C5 PFPeA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C4-PFHpA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C4 PFOA	*103*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C5 PFNA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C2 PFDA	*119*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C2 PFUnA	*114*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C2 PFDoA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C2-PFTeDA	*132*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C3-PFBS	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
18O2 PFHxS	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C4 PFOS	*117*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
13C8 FOSA	*103*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
d3-NMeFOSAA	*133*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
d5-NEtFOSAA	*134*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
M2-6:2FTS	*68*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*
M2-8:2FTS	*172*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 10:26*	*1*

Client Sample ID: EB001

Date Collected: 12/05/17 13:05
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-18

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorohexanesulfonic acid (PFHxS)	**0.29**	**J B**	2.00	0.17	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/18/17 13:25	12/20/17 10:34	1
Perfluorooctane Sulfonamide (FOSA)	**0.51**	**J B**	2.00	0.35	ng/L		12/18/17 13:25	12/20/17 10:34	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10	ng/L		12/18/17 13:25	12/20/17 10:34	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/18/17 13:25	12/20/17 10:34	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:25	12/20/17 10:34	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:25	12/20/17 10:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*114*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C5 PFPeA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C2 PFHxA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C4-PFHpA	*120*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C4 PFOA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C5 PFNA	*119*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C2 PFDA	*128*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C2 PFUnA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C2 PFDoA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C2-PFTeDA	*125*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C3-PFBS	*114*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
18O2 PFHxS	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C4 PFOS	*118*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
13C8 FOSA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
d3-NMeFOSAA	*136*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
d5-NEtFOSAA	*128*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
M2-6:2FTS	*67*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*
M2-8:2FTS	*184*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 10:34*	*1*

Client Sample ID: FB002

Date Collected: 12/06/17 13:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-19

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorohexanesulfonic acid (PFHxS)	**0.24**	**J B**	2.00	0.17	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/18/17 13:25	12/20/17 10:42	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35	ng/L		12/18/17 13:25	12/20/17 10:42	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10	ng/L		12/18/17 13:25	12/20/17 10:42	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/18/17 13:25	12/20/17 10:42	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:25	12/20/17 10:42	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:25	12/20/17 10:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C5 PFPeA	*109*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C2 PFHxA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C4-PFHpA	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C4 PFOA	*103*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C5 PFNA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C2 PFDA	*119*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C2 PFUnA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C2 PFDoA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C2-PFTeDA	*115*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C3-PFBS	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
18O2 PFHxS	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C4 PFOS	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
13C8 FOSA	*99*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
d3-NMeFOSAA	*133*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
d5-NEtFOSAA	*127*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
M2-6:2FTS	*68*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*
M2-8:2FTS	*170*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 10:42*	*1*

Client Sample ID: EB002

Date Collected: 12/06/17 13:05
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-20

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.01	0.35	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.01	0.49	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.01	0.58	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.01	0.25	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.01	0.85	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorononanoic acid (PFNA)	0.27	U	2.01	0.27	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.01	0.31	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.01	1.10	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.01	0.55	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.01	1.30	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.01	0.29	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.01	0.20	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorohexanesulfonic acid (PFHxS)	**0.29**	**J B**	2.01	0.17	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.01	0.19	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.01	0.54	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.01	0.32	ng/L		12/18/17 13:25	12/20/17 10:50	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.01	0.35	ng/L		12/18/17 13:25	12/20/17 10:50	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.11	U	20.1	3.11	ng/L		12/18/17 13:25	12/20/17 10:50	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.91	U	20.1	1.91	ng/L		12/18/17 13:25	12/20/17 10:50	1
6:2FTS	2.01	U	20.1	2.01	ng/L		12/18/17 13:25	12/20/17 10:50	1
8:2FTS	2.01	U	20.1	2.01	ng/L		12/18/17 13:25	12/20/17 10:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C5 PFPeA	*108*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C2 PFHxA	*107*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C4-PFHpA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C4 PFOA	*105*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C5 PFNA	*110*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C2 PFDA	*124*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C2 PFUnA	*113*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C2 PFDoA	*112*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C2-PFTeDA	*130*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C3-PFBS	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
18O2 PFHxS	*104*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C4 PFOS	*111*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
13C8 FOSA	*99*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
d3-NMeFOSAA	*129*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
d5-NEtFOSAA	*130*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
M2-6:2FTS	*66*		*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*
M2-8:2FTS	*171*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 10:50*	*1*

Client Sample ID: FB003

Date Collected: 12/08/17 13:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-21

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.42**	**J**	2.02	0.35	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluoropentanoic acid (PFPeA)	0.50	U	2.02	0.50	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorohexanoic acid (PFHxA)	0.59	U	2.02	0.59	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.02	0.25	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorooctanoic acid (PFOA)	0.86	U	2.02	0.86	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorononanoic acid (PFNA)	0.27	U	2.02	0.27	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.02	0.31	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluoroundecanoic acid (PFUnA)	1.11	U	2.02	1.11	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.02	0.56	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorotridecanoic Acid (PFTriA)	1.31	U	2.02	1.31	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.02	0.29	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.02	0.20	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorohexanesulfonic acid (PFHxS)	**0.28**	**J B**	2.02	0.17	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.02	0.19	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorooctanesulfonic acid (PFOS)	0.55	U	2.02	0.55	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.02	0.32	ng/L		12/18/17 13:33	12/20/17 07:01	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.02	0.35	ng/L		12/18/17 13:33	12/20/17 07:01	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.13	U	20.2	3.13	ng/L		12/18/17 13:33	12/20/17 07:01	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.92	U	20.2	1.92	ng/L		12/18/17 13:33	12/20/17 07:01	1
6:2FTS	2.02	U	20.2	2.02	ng/L		12/18/17 13:33	12/20/17 07:01	1
8:2FTS	2.02	U	20.2	2.02	ng/L		12/18/17 13:33	12/20/17 07:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*114*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C5 PFPeA	*115*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C2 PFHxA	*114*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C4-PFHpA	*111*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C4 PFOA	*112*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C5 PFNA	*129*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C2 PFDA	*124*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C2 PFUnA	*117*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C2 PFDoA	*117*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C2-PFTeDA	*166*	*	*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C3-PFBS	*107*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
18O2 PFHxS	*118*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C4 PFOS	*119*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
13C8 FOSA	*105*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
d3-NMeFOSAA	*138*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
d5-NEtFOSAA	*138*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
M2-6:2FTS	*72*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*
M2-8:2FTS	*184*	*	*25 - 150*	*12/18/17 13:33*	*12/20/17 07:01*	*1*

Client Sample ID: EB003

Date Collected: 12/08/17 13:05
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-22

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorohexanesulfonic acid (PFHxS)	**0.30**	**J B**	2.00	0.17	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/18/17 13:33	12/20/17 07:09	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35	ng/L		12/18/17 13:33	12/20/17 07:09	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10	ng/L		12/18/17 13:33	12/20/17 07:09	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/18/17 13:33	12/20/17 07:09	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:33	12/20/17 07:09	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:33	12/20/17 07:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C5 PFPeA	*118*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C2 PFHxA	*116*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C4-PFHpA	*114*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C4 PFOA	*109*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C5 PFNA	*119*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C2 PFDA	*132*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C2 PFUnA	*122*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C2 PFDoA	*122*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C2-PFTeDA	*137*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C3-PFBS	*114*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
18O2 PFHxS	*120*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C4 PFOS	*122*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
13C8 FOSA	*110*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
d3-NMeFOSAA	*142*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
d5-NEtFOSAA	*141*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
M2-6:2FTS	*70*		*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*
M2-8:2FTS	*182*	*	*25 - 150*	*12/18/17 13:33*	*12/20/17 07:09*	*1*

Isotope Dilution Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34182-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-34182-1	MW-CR001-A	102	123	114	117	109	116	128	111
320-34182-2	MW-CR002-A	92	116	106	107	102	113	125	114
320-34182-3	FW-LN001-A	62	102	97	113	103	117	122	108
320-34182-3 MS	FW-LN001-A	62	102	97	110	107	114	121	112
320-34182-3 MSD	FW-LN001-A	63	97	96	112	105	116	118	106
320-34182-4	FW-YC001-A	94	123	111	114	104	111	121	106
320-34182-5	FW-CR008-A	99	118	110	112	103	115	120	107
320-34182-6	FW-CR007-A	99	121	107	116	105	113	120	108
320-34182-7	FW-CR006-A	95	118	109	118	103	112	123	106
320-34182-8	FW-FR004-A	83	108	102	108	104	109	113	107
320-34182-9	MW-FR003-A	97	120	114	115	102	112	120	104
320-34182-10	FW-GA003-A	95	115	108	118	104	121	122	113
320-34182-11	MW-GA001-A	100	126	113	116	107	112	118	98
320-34182-12	Dupe	93	117	107	111	102	108	109	99
320-34182-13	MW-SP002-A	100	122	110	109	101	108	120	100
320-34182-14	FW-SP003-A	78	110	106	108	100	110	119	108
320-34182-15	MW-GA002-A	102	127	115	124	109	124	124	110
320-34182-16	FW-GA004-A	91	115	108	112	104	116	122	106
320-34182-17	FB001	112	113	108	115	103	113	119	114
320-34182-18	EB001	114	115	115	120	108	119	128	110
320-34182-19	FB002	108	109	110	111	103	112	119	107
320-34182-20	EB002	106	108	107	110	105	110	124	113
320-34182-21	FB003	114	115	114	111	112	129	124	117
320-34182-22	EB003	115	118	116	114	109	119	132	122
LCS 320-200328/2-A	Lab Control Sample	114	119	116	120	107	115	123	118
LCS 320-200328/2-A - RA	Lab Control Sample								
LCS 320-200330/2-A	Lab Control Sample	116	116	114	121	109	123	132	120
LCSD 320-200330/3-A	Lab Control Sample Dup	115	118	115	119	105	117	126	118
MB 320-200328/1-A	Method Blank	128	129	126	131	122	137	141	134
MB 320-200330/1-A	Method Blank	111	112	111	114	107	112	128	118

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	3C3-PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	-NMeFOSA (25-150)	-NEtFOSA (25-150)
320-34182-1	MW-CR001-A	113	128	118	117	117	108	145	127
320-34182-2	MW-CR002-A	118	130	115	115	117	99	141	126
320-34182-3	FW-LN001-A	113	134	121	115	112	105	137	128
320-34182-3 MS	FW-LN001-A	108	117	109	114	116	104	136	127
320-34182-3 MSD	FW-LN001-A	102	117	102	113	111	99	126	116
320-34182-4	FW-YC001-A	107	132	120	113	112	102	132	127
320-34182-5	FW-CR008-A	105	119	115	110	113	105	130	122
320-34182-6	FW-CR007-A	108	132	115	112	111	99	118	120
320-34182-7	FW-CR006-A	108	119	118	118	116	98	128	123
320-34182-8	FW-FR004-A	105	111	103	110	105	95	123	120
320-34182-9	MW-FR003-A	98	102	115	114	115	102	121	115
320-34182-10	FW-GA003-A	108	115	106	112	116	107	131	130
320-34182-11	MW-GA001-A	95	93	112	117	109	96	112	112
320-34182-12	Dupe	92	84	107	107	107	96	112	108
320-34182-13	MW-SP002-A	106	110	115	116	109	100	116	118
320-34182-14	FW-SP003-A	102	106	105	112	108	98	127	121

Isotope Dilution Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34182-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	3C3-PFBS	PFHxS	PFOS	PFOSA	-NMeFOSA	-NEtFOSA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-34182-15	MW-GA002-A	106	105	122	120	120	105	142	132
320-34182-16	FW-GA004-A	101	107	104	115	109	101	118	111
320-34182-17	FB001	112	132	107	115	117	103	133	134
320-34182-18	EB001	108	125	114	111	118	105	136	128
320-34182-19	FB002	106	115	104	110	112	99	133	127
320-34182-20	EB002	112	130	104	104	111	99	129	130
320-34182-21	FB003	117	166 *	107	118	119	105	138	138
320-34182-22	EB003	122	137	114	120	122	110	142	141
LCS 320-200328/2-A	Lab Control Sample	126	134	113	116	117	106	145	
LCS 320-200328/2-A - RA	Lab Control Sample					98			93
LCS 320-200330/2-A	Lab Control Sample	116	140	111	118	123	107	147	136
LCSD 320-200330/3-A	Lab Control Sample Dup	118	140	112	113	114	109	145	135
MB 320-200328/1-A	Method Blank	135	151 *	129	132	135	116	159 *	148
MB 320-200330/1-A	Method Blank	119	137	113	115	115	102	139	124

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M262FTS	M282FTS						
Lab Sample ID	Client Sample ID	(25-150)	(25-150)						
320-34182-1	MW-CR001-A	71	183 *						
320-34182-2	MW-CR002-A	68	199 *						
320-34182-3	FW-LN001-A	89	179 *						
320-34182-3 MS	FW-LN001-A	85	185 *						
320-34182-3 MSD	FW-LN001-A	87	165 *						
320-34182-4	FW-YC001-A	69	169 *						
320-34182-5	FW-CR008-A	67	180 *						
320-34182-6	FW-CR007-A	67	158 *						
320-34182-7	FW-CR006-A	70	172 *						
320-34182-8	FW-FR004-A	68	173 *						
320-34182-9	MW-FR003-A	57	155 *						
320-34182-10	FW-GA003-A	74	169 *						
320-34182-11	MW-GA001-A	56	144						
320-34182-12	Dupe	58	135						
320-34182-13	MW-SP002-A	57	145						
320-34182-14	FW-SP003-A	72	162 *						
320-34182-15	MW-GA002-A	60	177 *						
320-34182-16	FW-GA004-A	66	162 *						
320-34182-17	FB001	68	172 *						
320-34182-18	EB001	67	184 *						
320-34182-19	FB002	68	170 *						
320-34182-20	EB002	66	171 *						
320-34182-21	FB003	72	184 *						
320-34182-22	EB003	70	182 *						
LCS 320-200328/2-A	Lab Control Sample	68	179 *						
LCS 320-200328/2-A - RA	Lab Control Sample								
LCS 320-200330/2-A	Lab Control Sample	69	180 *						
LCSD 320-200330/3-A	Lab Control Sample Dup	71	175 *						
MB 320-200328/1-A	Method Blank	80	203 *						
MB 320-200330/1-A	Method Blank	66	170 *						

Surrogate Legend

Isotope Dilution Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34182-1

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFHpA = 13C4-PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2-PFTeDA
13C3-PFBS = 13C3-PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2FTS
M282FTS = M2-8:2FTS

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-200328/1-A
Matrix: Water
Analysis Batch: 200666

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 200328

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorohexanesulfonic acid (PFHxS)	0.292	J	2.00	0.17	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/18/17 13:25	12/20/17 07:33	1
Perfluorooctane Sulfonamide (FOSA)	0.368	J	2.00	0.35	ng/L		12/18/17 13:25	12/20/17 07:33	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10	ng/L		12/18/17 13:25	12/20/17 07:33	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/18/17 13:25	12/20/17 07:33	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:25	12/20/17 07:33	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:25	12/20/17 07:33	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*128*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C5 PFPeA	*129*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C2 PFHxA	*126*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C4-PFHpA	*131*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C4 PFOA	*122*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C5 PFNA	*137*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C2 PFDA	*141*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C2 PFUnA	*134*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C2 PFDoA	*135*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C2-PFTeDA	*151*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C3-PFBS	*129*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
18O2 PFHxS	*132*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C4 PFOS	*135*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
13C8 FOSA	*116*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
d3-NMeFOSAA	*159*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
d5-NEtFOSAA	*148*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
M2-6:2FTS	*80*		*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*
M2-8:2FTS	*203*	*	*25 - 150*	*12/18/17 13:25*	*12/20/17 07:33*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-200328/2-A
Matrix: Water
Analysis Batch: 200666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 200328

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorobutanoic acid (PFBA)			40.0	34.36		ng/L		86	78 - 138		
Perfluoropentanoic acid (PFPeA)			40.0	32.66		ng/L		82	66 - 136		
Perfluorohexanoic acid (PFHxA)			40.0	31.82		ng/L		80	76 - 136		
Perfluoroheptanoic acid (PFHpA)			40.0	31.72		ng/L		79	78 - 138		
Perfluorooctanoic acid (PFOA)			40.0	30.93		ng/L		77	70 - 130		
Perfluorononanoic acid (PFNA)			40.0	34.93		ng/L		87	77 - 137		
Perfluorodecanoic acid (PFDA)			40.0	35.72		ng/L		89	74 - 134		
Perfluoroundecanoic acid (PFUnA)			40.0	31.57		ng/L		79	68 - 128		
Perfluorododecanoic acid (PFDoA)			40.0	32.87		ng/L		82	72 - 132		
Perfluorotridecanoic Acid (PFTriA)			40.0	31.48		ng/L		79	56 - 163		
Perfluorotetradecanoic acid (PFTeA)			40.0	32.50		ng/L		81	63 - 123		
Perfluorobutanesulfonic acid (PFBS)			35.4	31.82		ng/L		90	79 - 139		
Perfluorohexanesulfonic acid (PFHxS)			36.4	29.18		ng/L		80	77 - 137		
Perfluorooctanesulfonic acid (PFOS)			37.1	31.08		ng/L		84	74 - 134		
Perfluorodecanesulfonic acid (PFDS)			38.6	34.48		ng/L		89	75 - 135		
Perfluorooctane Sulfonamide (FOSA)			40.0	33.18		ng/L		83	82 - 142		
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)			40.0	31.27		ng/L		78	77 - 137		
6:2FTS			37.9	33.66		ng/L		89	82 - 142		
8:2FTS			38.3	32.72		ng/L		85	80 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*114*		*25 - 150*
13C5 PFPeA	*119*		*25 - 150*
13C2 PFHxA	*116*		*25 - 150*
13C4-PFHpA	*120*		*25 - 150*
13C4 PFOA	*107*		*25 - 150*
13C5 PFNA	*115*		*25 - 150*
13C2 PFDA	*123*		*25 - 150*
13C2 PFUnA	*118*		*25 - 150*
13C2 PFDoA	*126*		*25 - 150*
13C2-PFTeDA	*134*		*25 - 150*
13C3-PFBS	*113*		*25 - 150*
18O2 PFHxS	*116*		*25 - 150*
13C4 PFOS	*117*		*25 - 150*
13C8 FOSA	*106*		*25 - 150*
d3-NMeFOSAA	*145*		*25 - 150*
M2-6:2FTS	*68*		*25 - 150*
M2-8:2FTS	*179*	*	*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-34182-3 MS
Matrix: Water
Analysis Batch: 200666

Client Sample ID: FW-LN001-A
Prep Type: Total/NA
Prep Batch: 200328

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	11.4		40.0	53.02		ng/L		104	78 - 138
Perfluoropentanoic acid (PFPeA)	6.05		40.0	45.09		ng/L		98	66 - 136
Perfluorohexanoic acid (PFHxA)	14.0		40.0	55.30		ng/L		103	76 - 136
Perfluoroheptanoic acid (PFHpA)	6.17		40.0	48.61		ng/L		106	78 - 138
Perfluorooctanoic acid (PFOA)	14.7		40.0	52.35		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	1.29	J	40.0	43.26		ng/L		105	77 - 137
Perfluorodecanoic acid (PFDA)	0.30	U	40.0	41.73		ng/L		104	74 - 134
Perfluoroundecanoic acid (PFUnA)	1.08	U	40.0	37.22		ng/L		93	68 - 128
Perfluorododecanoic acid (PFDoA)	0.54	U	40.0	43.27		ng/L		108	72 - 132
Perfluorotridecanoic Acid (PFTriA)	1.27	U	40.0	42.99		ng/L		107	56 - 163
Perfluorotetradecanoic acid (PFTeA)	0.28	U	40.0	39.12		ng/L		98	63 - 123
Perfluorobutanesulfonic acid (PFBS)	1.32	J	35.4	39.25		ng/L		107	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	5.63	B	36.4	40.96		ng/L		97	77 - 137
Perfluoroheptanesulfonic Acid (PFHpS)	0.25	J	38.1	36.58		ng/L		95	83 - 143
Perfluorooctanesulfonic acid (PFOS)	9.60		37.1	48.57		ng/L		105	74 - 134
Perfluorodecanesulfonic acid (PFDS)	0.31	U	38.6	38.30		ng/L		99	75 - 135
Perfluorooctane Sulfonamide (FOSA)	0.34	U	40.0	42.44		ng/L		106	82 - 142
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.03	U	40.0	39.63		ng/L		99	77 - 137
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	40.0	38.91		ng/L		97	79 - 139
6:2FTS	1.96	U	38.0	39.53		ng/L		104	82 - 142
8:2FTS	1.96	U	38.4	39.30		ng/L		102	80 - 140

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*62*		*25 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C2 PFHxA	*97*		*25 - 150*
13C4-PFHpA	*110*		*25 - 150*
13C4 PFOA	*107*		*25 - 150*
13C5 PFNA	*114*		*25 - 150*
13C2 PFDA	*121*		*25 - 150*
13C2 PFUnA	*112*		*25 - 150*
13C2 PFDoA	*108*		*25 - 150*
13C2-PFTeDA	*117*		*25 - 150*
13C3-PFBS	*109*		*25 - 150*
18O2 PFHxS	*114*		*25 - 150*
13C4 PFOS	*116*		*25 - 150*
13C8 FOSA	*104*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-34182-3 MS
Matrix: Water
Analysis Batch: 200666

Client Sample ID: FW-LN001-A
Prep Type: Total/NA
Prep Batch: 200328

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
d3-NMeFOSAA	136		25 - 150
d5-NEtFOSAA	127		25 - 150
M2-6:2FTS	85		25 - 150
M2-8:2FTS	185	*	25 - 150

Lab Sample ID: 320-34182-3 MSD
Matrix: Water
Analysis Batch: 200666

Client Sample ID: FW-LN001-A
Prep Type: Total/NA
Prep Batch: 200328

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	11.4		42.0	53.83		ng/L		101	78 - 138	2	30
Perfluoropentanoic acid (PFPeA)	6.05		42.0	48.25		ng/L		100	66 - 136	7	30
Perfluorohexanoic acid (PFHxA)	14.0		42.0	55.66		ng/L		99	76 - 136	1	30
Perfluoroheptanoic acid (PFHpA)	6.17		42.0	47.13		ng/L		98	78 - 138	3	30
Perfluorooctanoic acid (PFOA)	14.7		42.0	51.41		ng/L		87	70 - 130	2	30
Perfluorononanoic acid (PFNA)	1.29	J	42.0	43.64		ng/L		101	77 - 137	1	30
Perfluorodecanoic acid (PFDA)	0.30	U	42.0	44.29		ng/L		105	74 - 134	6	30
Perfluoroundecanoic acid (PFUnA)	1.08	U	42.0	41.67		ng/L		99	68 - 128	11	30
Perfluorododecanoic acid (PFDoA)	0.54	U	42.0	44.45		ng/L		106	72 - 132	3	30
Perfluorotridecanoic Acid (PFTriA)	1.27	U	42.0	43.25		ng/L		103	56 - 163	1	30
Perfluorotetradecanoic acid (PFTeA)	0.28	U	42.0	41.07		ng/L		98	63 - 123	5	30
Perfluorobutanesulfonic acid (PFBS)	1.32	J	37.1	42.95		ng/L		112	79 - 139	9	30
Perfluorohexanesulfonic acid (PFHxS)	5.63	B	38.2	42.12		ng/L		95	77 - 137	3	30
Perfluoroheptanesulfonic Acid (PFHpS)	0.25	J	40.0	41.01		ng/L		102	83 - 143	11	30
Perfluorooctanesulfonic acid (PFOS)	9.60		39.0	48.39		ng/L		100	74 - 134	0	30
Perfluorodecanesulfonic acid (PFDS)	0.31	U	40.5	41.55		ng/L		103	75 - 135	8	30
Perfluorooctane Sulfonamide (FOSA)	0.34	U	42.0	46.32		ng/L		110	82 - 142	9	30
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.03	U	42.0	43.72		ng/L		104	77 - 137	10	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	42.0	41.07		ng/L		98	79 - 139	5	30
6:2FTS	1.96	U	39.8	43.24		ng/L		109	82 - 142	9	30
8:2FTS	1.96	U	40.2	42.84		ng/L		106	80 - 140	9	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C4 PFBA	63		25 - 150
13C5 PFPeA	97		25 - 150
13C2 PFHxA	96		25 - 150
13C4-PFHpA	112		25 - 150
13C4 PFOA	105		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-34182-3 MSD
Matrix: Water
Analysis Batch: 200666

Client Sample ID: FW-LN001-A
Prep Type: Total/NA
Prep Batch: 200328

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C5 PFNA	116		25 - 150
13C2 PFDA	118		25 - 150
13C2 PFUnA	106		25 - 150
13C2 PFDoA	102		25 - 150
13C2-PFTeDA	117		25 - 150
13C3-PFBS	102		25 - 150
18O2 PFHxS	113		25 - 150
13C4 PFOS	111		25 - 150
13C8 FOSA	99		25 - 150
d3-NMeFOSAA	126		25 - 150
d5-NEtFOSAA	116		25 - 150
M2-6:2FTS	87		25 - 150
M2-8:2FTS	165	*	25 - 150

Lab Sample ID: MB 320-200330/1-A
Matrix: Water
Analysis Batch: 200662

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 200330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorononanoic acid (PFNA)	0.454	J	2.00	0.27	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorohexanesulfonic acid (PFHxS)	0.282	J	2.00	0.17	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/18/17 13:33	12/20/17 06:38	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35	ng/L		12/18/17 13:33	12/20/17 06:38	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10	ng/L		12/18/17 13:33	12/20/17 06:38	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/18/17 13:33	12/20/17 06:38	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:33	12/20/17 06:38	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/18/17 13:33	12/20/17 06:38	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	111		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C5 PFPeA	112		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C2 PFHxA	111		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C4-PFHpA	114		25 - 150	12/18/17 13:33	12/20/17 06:38	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-200330/1-A
Matrix: Water
Analysis Batch: 200662

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 200330

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	107		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C5 PFNA	112		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C2 PFDA	128		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C2 PFUnA	118		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C2 PFDoA	119		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C2-PFTeDA	137		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C3-PFBS	113		25 - 150	12/18/17 13:33	12/20/17 06:38	1
18O2 PFHxS	115		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C4 PFOS	115		25 - 150	12/18/17 13:33	12/20/17 06:38	1
13C8 FOSA	102		25 - 150	12/18/17 13:33	12/20/17 06:38	1
d3-NMeFOSAA	139		25 - 150	12/18/17 13:33	12/20/17 06:38	1
d5-NEtFOSAA	124		25 - 150	12/18/17 13:33	12/20/17 06:38	1
M2-6:2FTS	66		25 - 150	12/18/17 13:33	12/20/17 06:38	1
M2-8:2FTS	170	*	25 - 150	12/18/17 13:33	12/20/17 06:38	1

Lab Sample ID: LCS 320-200330/2-A
Matrix: Water
Analysis Batch: 200662

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 200330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	41.78		ng/L		104	78 - 138
Perfluoropentanoic acid (PFPeA)	40.0	40.65		ng/L		102	66 - 136
Perfluorohexanoic acid (PFHxA)	40.0	41.85		ng/L		105	76 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	40.69		ng/L		102	78 - 138
Perfluorooctanoic acid (PFOA)	40.0	37.38		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	40.0	43.10		ng/L		108	77 - 137
Perfluorodecanoic acid (PFDA)	40.0	40.82		ng/L		102	74 - 134
Perfluoroundecanoic acid (PFUnA)	40.0	40.82		ng/L		102	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	45.34		ng/L		113	72 - 132
Perfluorotridecanoic Acid (PFTriA)	40.0	45.37		ng/L		113	56 - 163
Perfluorotetradecanoic acid (PFTeA)	40.0	37.80		ng/L		95	63 - 123
Perfluorobutanesulfonic acid (PFBS)	35.4	40.53		ng/L		115	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.97		ng/L		99	77 - 137
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	35.79		ng/L		94	83 - 143
Perfluorooctanesulfonic acid (PFOS)	37.1	36.65		ng/L		99	74 - 134
Perfluorodecanesulfonic acid (PFDS)	38.6	38.77		ng/L		101	75 - 135
Perfluorooctane Sulfonamide (FOSA)	40.0	43.70		ng/L		109	82 - 142
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	38.68		ng/L		97	77 - 137

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-200330/2-A
Matrix: Water
Analysis Batch: 200662

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 200330

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)			40.0	37.49		ng/L		94	79 - 139		
6:2FTS			37.9	39.64		ng/L		105	82 - 142		
8:2FTS			38.3	36.58		ng/L		95	80 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*116*		*25 - 150*
13C5 PFPeA	*116*		*25 - 150*
13C2 PFHxA	*114*		*25 - 150*
13C4-PFHpA	*121*		*25 - 150*
13C4 PFOA	*109*		*25 - 150*
13C5 PFNA	*123*		*25 - 150*
13C2 PFDA	*132*		*25 - 150*
13C2 PFUnA	*120*		*25 - 150*
13C2 PFDoA	*116*		*25 - 150*
13C2-PFTeDA	*140*		*25 - 150*
13C3-PFBS	*111*		*25 - 150*
18O2 PFHxS	*118*		*25 - 150*
13C4 PFOS	*123*		*25 - 150*
13C8 FOSA	*107*		*25 - 150*
d3-NMeFOSAA	*147*		*25 - 150*
d5-NEtFOSAA	*136*		*25 - 150*
M2-6:2FTS	*69*		*25 - 150*
M2-8:2FTS	*180*	*	*25 - 150*

Lab Sample ID: LCSD 320-200330/3-A
Matrix: Water
Analysis Batch: 200662

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 200330

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	41.94		ng/L		105	78 - 138	0	30
Perfluoropentanoic acid (PFPeA)			40.0	38.06		ng/L		95	66 - 136	7	30
Perfluorohexanoic acid (PFHxA)			40.0	39.38		ng/L		98	76 - 136	6	30
Perfluoroheptanoic acid (PFHpA)			40.0	38.47		ng/L		96	78 - 138	6	30
Perfluorooctanoic acid (PFOA)			40.0	37.69		ng/L		94	70 - 130	1	30
Perfluorononanoic acid (PFNA)			40.0	40.28		ng/L		101	77 - 137	7	30
Perfluorodecanoic acid (PFDA)			40.0	40.56		ng/L		101	74 - 134	1	30
Perfluoroundecanoic acid (PFUnA)			40.0	36.76		ng/L		92	68 - 128	10	30
Perfluorododecanoic acid (PFDoA)			40.0	42.01		ng/L		105	72 - 132	8	30
Perfluorotridecanoic Acid (PFTriA)			40.0	40.47		ng/L		101	56 - 163	11	30
Perfluorotetradecanoic acid (PFTeA)			40.0	41.01		ng/L		103	63 - 123	8	30
Perfluorobutanesulfonic acid (PFBS)			35.4	38.22		ng/L		108	79 - 139	6	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	35.20		ng/L		97	77 - 137	2	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-200330/3-A
Matrix: Water
Analysis Batch: 200662

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 200330

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	36.41		ng/L		96	83 - 143	2	30
Perfluorooctanesulfonic acid (PFOS)			37.1	38.44		ng/L		104	74 - 134	5	30
Perfluorodecanesulfonic acid (PFDS)			38.6	39.93		ng/L		104	75 - 135	3	30
Perfluorooctane Sulfonamide (FOSA)			40.0	38.14		ng/L		95	82 - 142	14	30
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)			40.0	38.62		ng/L		97	77 - 137	0	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)			40.0	35.91		ng/L		90	79 - 139	4	30
6:2FTS			37.9	37.36		ng/L		99	82 - 142	6	30
8:2FTS			38.3	36.63		ng/L		96	80 - 140	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*115*		*25 - 150*
13C5 PFPeA	*118*		*25 - 150*
13C2 PFHxA	*115*		*25 - 150*
13C4-PFHpA	*119*		*25 - 150*
13C4 PFOA	*105*		*25 - 150*
13C5 PFNA	*117*		*25 - 150*
13C2 PFDA	*126*		*25 - 150*
13C2 PFUnA	*118*		*25 - 150*
13C2 PFDoA	*118*		*25 - 150*
13C2-PFTeDA	*140*		*25 - 150*
13C3-PFBS	*112*		*25 - 150*
18O2 PFHxS	*113*		*25 - 150*
13C4 PFOS	*114*		*25 - 150*
13C8 FOSA	*109*		*25 - 150*
d3-NMeFOSAA	*145*		*25 - 150*
d5-NEtFOSAA	*135*		*25 - 150*
M2-6:2FTS	*71*		*25 - 150*
M2-8:2FTS	*175*	*	*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances - RA

Lab Sample ID: LCS 320-200328/2-A
Matrix: Water
Analysis Batch: 201684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 200328

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS) - RA			38.1	34.34		ng/L		90	83 - 143
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) - RA			40.0	32.19		ng/L		80	79 - 139

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFOS - RA	98		25 - 150
d5-NEtFOSAA - RA	93		25 - 150

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	Isotope Dilution analyte is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

LCMS

Prep Batch: 200328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34182-1	MW-CR001-A	Total/NA	Water	3535	
320-34182-2	MW-CR002-A	Total/NA	Water	3535	
320-34182-3	FW-LN001-A	Total/NA	Water	3535	
320-34182-4	FW-YC001-A	Total/NA	Water	3535	
320-34182-5	FW-CR008-A	Total/NA	Water	3535	
320-34182-6	FW-CR007-A	Total/NA	Water	3535	
320-34182-7	FW-CR006-A	Total/NA	Water	3535	
320-34182-8	FW-FR004-A	Total/NA	Water	3535	
320-34182-9	MW-FR003-A	Total/NA	Water	3535	
320-34182-10	FW-GA003-A	Total/NA	Water	3535	
320-34182-11	MW-GA001-A	Total/NA	Water	3535	
320-34182-12	Dupe	Total/NA	Water	3535	
320-34182-13	MW-SP002-A	Total/NA	Water	3535	
320-34182-14	FW-SP003-A	Total/NA	Water	3535	
320-34182-15	MW-GA002-A	Total/NA	Water	3535	
320-34182-16	FW-GA004-A	Total/NA	Water	3535	
320-34182-17	FB001	Total/NA	Water	3535	
320-34182-18	EB001	Total/NA	Water	3535	
320-34182-19	FB002	Total/NA	Water	3535	
320-34182-20	EB002	Total/NA	Water	3535	
MB 320-200328/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-200328/2-A	Lab Control Sample	Total/NA	Water	3535	
LCS 320-200328/2-A - RA	Lab Control Sample	Total/NA	Water	3535	
320-34182-3 MS	FW-LN001-A	Total/NA	Water	3535	
320-34182-3 MSD	FW-LN001-A	Total/NA	Water	3535	

Prep Batch: 200330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34182-21	FB003	Total/NA	Water	3535	
320-34182-22	EB003	Total/NA	Water	3535	
MB 320-200330/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-200330/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-200330/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 200662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34182-21	FB003	Total/NA	Water	537 (modified)	200330
320-34182-22	EB003	Total/NA	Water	537 (modified)	200330
MB 320-200330/1-A	Method Blank	Total/NA	Water	537 (modified)	200330
LCS 320-200330/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	200330
LCSD 320-200330/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	200330

Analysis Batch: 200666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34182-1	MW-CR001-A	Total/NA	Water	537 (modified)	200328
320-34182-2	MW-CR002-A	Total/NA	Water	537 (modified)	200328
320-34182-3	FW-LN001-A	Total/NA	Water	537 (modified)	200328
320-34182-4	FW-YC001-A	Total/NA	Water	537 (modified)	200328
320-34182-5	FW-CR008-A	Total/NA	Water	537 (modified)	200328
320-34182-6	FW-CR007-A	Total/NA	Water	537 (modified)	200328
320-34182-7	FW-CR006-A	Total/NA	Water	537 (modified)	200328

LCMS (Continued)

Analysis Batch: 200666 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34182-8	FW-FR004-A	Total/NA	Water	537 (modified)	200328
320-34182-9	MW-FR003-A	Total/NA	Water	537 (modified)	200328
320-34182-10	FW-GA003-A	Total/NA	Water	537 (modified)	200328
320-34182-11	MW-GA001-A	Total/NA	Water	537 (modified)	200328
320-34182-12	Dupe	Total/NA	Water	537 (modified)	200328
320-34182-13	MW-SP002-A	Total/NA	Water	537 (modified)	200328
320-34182-14	FW-SP003-A	Total/NA	Water	537 (modified)	200328
320-34182-15	MW-GA002-A	Total/NA	Water	537 (modified)	200328
320-34182-16	FW-GA004-A	Total/NA	Water	537 (modified)	200328
320-34182-17	FB001	Total/NA	Water	537 (modified)	200328
320-34182-18	EB001	Total/NA	Water	537 (modified)	200328
320-34182-19	FB002	Total/NA	Water	537 (modified)	200328
320-34182-20	EB002	Total/NA	Water	537 (modified)	200328
MB 320-200328/1-A	Method Blank	Total/NA	Water	537 (modified)	200328
LCS 320-200328/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	200328
320-34182-3 MS	FW-LN001-A	Total/NA	Water	537 (modified)	200328
320-34182-3 MSD	FW-LN001-A	Total/NA	Water	537 (modified)	200328

Analysis Batch: 201684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-200328/2-A - RA	Lab Control Sample	Total/NA	Water	537 (modified)	200328

Client Sample ID: MW-CR001-A
Date Collected: 12/08/17 10:40
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 07:49	JRB	TAL SAC

Client Sample ID: MW-CR002-A
Date Collected: 12/08/17 10:50
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 07:57	JRB	TAL SAC

Client Sample ID: FW-LN001-A
Date Collected: 12/05/17 09:45
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 08:05	JRB	TAL SAC

Client Sample ID: FW-YC001-A
Date Collected: 12/05/17 10:30
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 08:28	JRB	TAL SAC

Client Sample ID: FW-CR008-A
Date Collected: 12/05/17 10:55
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 08:36	JRB	TAL SAC

Client Sample ID: FW-CR007-A
Date Collected: 12/05/17 11:50
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 08:44	JRB	TAL SAC

Client Sample ID: FW-CR006-A
Date Collected: 12/05/17 12:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 09:00	JRB	TAL SAC

Client Sample ID: FW-FR004-A
Date Collected: 12/05/17 12:35
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 09:08	JRB	TAL SAC

Client Sample ID: MW-FR003-A
Date Collected: 12/06/17 10:15
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 09:16	JRB	TAL SAC

Client Sample ID: FW-GA003-A
Date Collected: 12/05/17 13:50
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 09:23	JRB	TAL SAC

Client Sample ID: MW-GA001-A
Date Collected: 12/06/17 11:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 09:31	JRB	TAL SAC

Client Sample ID: Dupe
Date Collected: 12/08/17 00:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 09:39	JRB	TAL SAC

Client Sample ID: MW-SP002-A
Lab Sample ID: 320-34182-13
Date Collected: 12/06/17 13:00
Matrix: Water
Date Received: 12/12/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 09:47	JRB	TAL SAC

Client Sample ID: FW-SP003-A
Lab Sample ID: 320-34182-14
Date Collected: 12/08/17 13:30
Matrix: Water
Date Received: 12/12/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 09:55	JRB	TAL SAC

Client Sample ID: MW-GA002-A
Lab Sample ID: 320-34182-15
Date Collected: 12/08/17 12:15
Matrix: Water
Date Received: 12/12/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 10:03	JRB	TAL SAC

Client Sample ID: FW-GA004-A
Lab Sample ID: 320-34182-16
Date Collected: 12/05/17 14:00
Matrix: Water
Date Received: 12/12/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 10:11	JRB	TAL SAC

Client Sample ID: FB001
Lab Sample ID: 320-34182-17
Date Collected: 12/05/17 13:00
Matrix: Water
Date Received: 12/12/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 10:26	JRB	TAL SAC

Client Sample ID: EB001
Lab Sample ID: 320-34182-18
Date Collected: 12/05/17 13:05
Matrix: Water
Date Received: 12/12/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 10:34	JRB	TAL SAC

Lab Chronicle

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34182-1

Client Sample ID: FB002
Date Collected: 12/06/17 13:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 10:42	JRB	TAL SAC

Client Sample ID: EB002
Date Collected: 12/06/17 13:05
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-20
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200328	12/18/17 13:25	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200666	12/20/17 10:50	JRB	TAL SAC

Client Sample ID: FB003
Date Collected: 12/08/17 13:00
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-21
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200330	12/18/17 13:33	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200662	12/20/17 07:01	JRB	TAL SAC

Client Sample ID: EB003
Date Collected: 12/08/17 13:05
Date Received: 12/12/17 09:55

Lab Sample ID: 320-34182-22
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200330	12/18/17 13:33	KMK	TAL SAC
Total/NA	Analysis	537 (modified)		1	200662	12/20/17 07:09	JRB	TAL SAC

Laboratory References:
TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: PW Grosser Consulting
TestAmerica Job ID: 320-34182-1
Project/Site: Suffolk County Firematics Site

Laboratory: TestAmerica Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-055	01-31-18
Arizona	State Program	9	AZ0708	08-11-18
Arkansas DEQ	State Program	6	88-0691	06-17-18
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-18
Connecticut	State Program	1	PH-0691	06-30-19
Florida	NELAP	4	E87570	06-30-18
Georgia	State Program	4	N/A	01-28-19
Hawaii	State Program	9	N/A	01-29-18
Illinois	NELAP	5	200060	03-17-18
Kansas	NELAP	7	E-10375	12-31-17 *
L-A-B	DoD ELAP		L2468	01-20-18
Louisiana	NELAP	6	30612	06-30-18
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-18
New Hampshire	NELAP	1	2997	04-18-18
New Jersey	NELAP	2	CA005	06-30-18
New York	NELAP	2	11666	04-01-18
Oregon	NELAP	10	4040	01-28-18
Pennsylvania	NELAP	3	68-01272	03-31-18
Texas	NELAP	6	T104704399	05-31-18
US Fish & Wildlife	Federal		LE148388-0	07-31-18
USDA	Federal		P330-11-00436	12-30-17 *
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-18
Virginia	NELAP	3	460278	03-14-18
Washington	State Program	10	C581	05-05-18
West Virginia (DW)	State Program	3	9930C	12-31-17
Wyoming	State Program	8	8TMS-L	01-28-19

Laboratory: TestAmerica Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Connecticut	State Program	1	PH-0200	09-30-18
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	N/A	12-31-18
New Jersey	NELAP	2	12028	06-30-18
New York	NELAP	2	11452	04-01-18
Pennsylvania	NELAP	3	68-00522	02-28-18
Rhode Island	State Program	1	LAO00132	12-30-17 *
USDA	Federal		NJCA-003-08	06-13-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method PFC IDA

Fluorinated Hydrocarbons by Method PFAS IDA

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	PFBS #	PFHxA #	PFHpA #	PFHxS #	M262FTS #	PFOA #
MW-CR001-A	320-34182-1	102	123	118	114	117	117	71	109
MW-CR002-A	320-34182-2	92	116	115	106	107	115	68	102
FW-LN001-A	320-34182-3	62	102	121	97	113	115	89	103
FW-YC001-A	320-34182-4	94	123	120	111	114	113	69	104
FW-CR008-A	320-34182-5	99	118	115	110	112	110	67	103
FW-CR007-A	320-34182-6	99	121	115	107	116	112	67	105
FW-CR006-A	320-34182-7	95	118	118	109	118	118	70	103
FW-FR004-A	320-34182-8	83	108	103	102	108	110	68	104
MW-FR003-A	320-34182-9	97	120	115	114	115	114	57	102
FW-GA003-A	320-34182-10	95	115	106	108	118	112	74	104
MW-GA001-A	320-34182-11	100	126	112	113	116	117	56	107
Dupe	320-34182-12	93	117	107	107	111	107	58	102
MW-SP002-A	320-34182-13	100	122	115	110	109	116	57	101
FW-SP003-A	320-34182-14	78	110	105	106	108	112	72	100
MW-GA002-A	320-34182-15	102	127	122	115	124	120	60	109
FW-GA004-A	320-34182-16	91	115	104	108	112	115	66	104
FB001	320-34182-17	112	113	107	108	115	115	68	103
EB001	320-34182-18	114	115	114	115	120	111	67	108
FB002	320-34182-19	108	109	104	110	111	110	68	103
EB002	320-34182-20	106	108	104	107	110	104	66	105
FB003	320-34182-21	114	115	107	114	111	118	72	112
EB003	320-34182-22	115	118	114	116	114	120	70	109
	MB 320-200328/1-A	128	129	129	126	131	132	80	122
	MB 320-200330/1-A	111	112	113	111	114	115	66	107
	LCS 320-200330/2-A	116	116	111	114	121	118	69	109
	LCSD 320-200330/3-A	115	118	112	115	119	113	71	105
FW-LN001-A MS	320-34182-3 MS	62	102	109	97	110	114	85	107
FW-LN001-A MSD	320-34182-3 MSD	63	97	102	96	112	113	87	105

	QC LIMITS
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5 PFPeA	25-150
PFBS = 13C3-PFBS	25-150
PFHxA = 13C2 PFHxA	25-150
PFHpA = 13C4-PFHpA	25-150
PFHxS = 18O2 PFHxS	25-150
M262FTS = M2-6:2FTS	25-150
PFOA = 13C4 PFOA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFNA #	PFOS #	PFOSA #	M282FTS #	PFDA #	d3NMFOS #	d5NEFOS #	PFUnA #
MW-CR001-A	320-34182-1	116	117	108	183 *	128	145	127	111
MW-CR002-A	320-34182-2	113	117	99	199 *	125	141	126	114
FW-LN001-A	320-34182-3	117	112	105	179 *	122	137	128	108
FW-YC001-A	320-34182-4	111	112	102	169 *	121	132	127	106
FW-CR008-A	320-34182-5	115	113	105	180 *	120	130	122	107
FW-CR007-A	320-34182-6	113	111	99	158 *	120	118	120	108
FW-CR006-A	320-34182-7	112	116	98	172 *	123	128	123	106
FW-FR004-A	320-34182-8	109	105	95	173 *	113	123	120	107
MW-FR003-A	320-34182-9	112	115	102	155 *	120	121	115	104
FW-GA003-A	320-34182-10	121	116	107	169 *	122	131	130	113
MW-GA001-A	320-34182-11	112	109	96	144	118	112	112	98
Dupe	320-34182-12	108	107	96	135	109	112	108	99
MW-SP002-A	320-34182-13	108	109	100	145	120	116	118	100
FW-SP003-A	320-34182-14	110	108	98	162 *	119	127	121	108
MW-GA002-A	320-34182-15	124	120	105	177 *	124	142	132	110
FW-GA004-A	320-34182-16	116	109	101	162 *	122	118	111	106
FB001	320-34182-17	113	117	103	172 *	119	133	134	114
EB001	320-34182-18	119	118	105	184 *	128	136	128	110
FB002	320-34182-19	112	112	99	170 *	119	133	127	107
EB002	320-34182-20	110	111	99	171 *	124	129	130	113
FB003	320-34182-21	129	119	105	184 *	124	138	138	117
EB003	320-34182-22	119	122	110	182 *	132	142	141	122
	MB 320-200328/1-A	137	135	116	203 *	141	159 *	148	134
	MB 320-200330/1-A	112	115	102	170 *	128	139	124	118
	LCS 320-200330/2-A	123	123	107	180 *	132	147	136	120
	LCSD 320-200330/3-A	117	114	109	175 *	126	145	135	118
FW-LN001-A MS	320-34182-3 MS	114	116	104	185 *	121	136	127	112
FW-LN001-A MSD	320-34182-3 MSD	116	111	99	165 *	118	126	116	106

	QC LIMITS
PFNA = 13C5 PFNA	25-150
PFOS = 13C4 PFOS	25-150
PFOSA = 13C8 FOSA	25-150
M282FTS = M2-8:2FTS	25-150
PFDA = 13C2 PFDA	25-150
d3NMFOS = d3-NMeFOSAA	25-150
d5NEFOS = d5-NEtFOSAA	25-150
PFUnA = 13C2 PFUnA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFDoA #	PFTDA #
MW-CR001-A	320-34182-1	113	128
MW-CR002-A	320-34182-2	118	130
FW-LN001-A	320-34182-3	113	134
FW-YC001-A	320-34182-4	107	132
FW-CR008-A	320-34182-5	105	119
FW-CR007-A	320-34182-6	108	132
FW-CR006-A	320-34182-7	108	119
FW-FR004-A	320-34182-8	105	111
MW-FR003-A	320-34182-9	98	102
FW-GA003-A	320-34182-10	108	115
MW-GA001-A	320-34182-11	95	93
Dupe	320-34182-12	92	84
MW-SP002-A	320-34182-13	106	110
FW-SP003-A	320-34182-14	102	106
MW-GA002-A	320-34182-15	106	105
FW-GA004-A	320-34182-16	101	107
FB001	320-34182-17	112	132
EB001	320-34182-18	108	125
FB002	320-34182-19	106	115
EB002	320-34182-20	112	130
FB003	320-34182-21	117	166 *
EB003	320-34182-22	122	137
	MB 320-200328/1-A	135	151 *
	MB 320-200330/1-A	119	137
	LCS 320-200330/2-A	116	140
	LCSD 320-200330/3-A	118	140
FW-LN001-A MS	320-34182-3 MS	108	117
FW-LN001-A MSD	320-34182-3 MSD	102	117

	QC LIMITS
PFDoA = 13C2 PFDoA	25-150
PFTDA = 13C2-PFTeDA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	PFBS #	PFHxA #	PFHpA #	PFHxS #	M262FTS #	PFOA #
	LCS 320-200328/2-A	114	119	113	116	120	116	68	107

	QC LIMITS
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5 PFPeA	25-150
PFBS = 13C3-PFBS	25-150
PFHxA = 13C2 PFHxA	25-150
PFHpA = 13C4-PFHpA	25-150
PFHxS = 18O2 PFHxS	25-150
M262FTS = M2-6:2FTS	25-150
PFOA = 13C4 PFOA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFNA #	PFOS #	PFOSA #	M282FTS #	PFDA #	d3NMFOS #	PFUnA #	PFDoA #
	LCS 320-200328/2-A	115	117	106	179 *	123	145	118	126

	QC LIMITS
PFNA = 13C5 PFNA	25-150
PFOS = 13C4 PFOS	25-150
PFOSA = 13C8 FOSA	25-150
M282FTS = M2-8:2FTS	25-150
PFDA = 13C2 PFDA	25-150
d3NMFOS = d3-NMeFOSAA	25-150
PFUnA = 13C2 PFUnA	25-150
PFDoA = 13C2 PFDoA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFTDA #
	LCS 320-200328/2-A	134

	QC LIMITS
PFTDA = 13C2-PFTeDA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFOS #	d5NEFOS #
	LCS 320-200328/2-A RA	98	93

	QC LIMITS
PFOS = 13C4 PFOS	25-150
d5NEFOS = d5-NEtFOSAA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_025.d

Lab ID: LCS 320-200328/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	34.36	86	78-138	
Perfluoropentanoic acid (PFPeA)	40.0	32.66	82	66-136	
Perfluorohexanoic acid (PFHxA)	40.0	31.82	80	76-136	
Perfluoroheptanoic acid (PFHpA)	40.0	31.72	79	78-138	
Perfluorooctanoic acid (PFOA)	40.0	30.93	77	70-130	
Perfluorononanoic acid (PFNA)	40.0	34.93	87	77-137	
Perfluorodecanoic acid (PFDA)	40.0	35.72	89	74-134	
Perfluoroundecanoic acid (PFUnA)	40.0	31.57	79	68-128	
Perfluorododecanoic acid (PFDoA)	40.0	32.87	82	72-132	
Perfluorotridecanoic Acid (PFTriA)	40.0	31.48	79	56-163	
Perfluorotetradecanoic acid (PFTeA)	40.0	32.50	81	63-123	
Perfluorobutanesulfonic acid (PFBS)	35.4	31.82	90	79-139	
Perfluorohexanesulfonic acid (PFHxS)	36.4	29.18	80	77-137	
Perfluorooctanesulfonic acid (PFOS)	37.1	31.08	84	74-134	
Perfluorodecanesulfonic acid (PFDS)	38.6	34.48	89	75-135	
Perfluorooctane Sulfonamide (FOSA)	40.0	33.18	83	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	31.27	78	77-137	
6:2FTS	37.9	33.66	89	82-142	
8:2FTS	38.3	32.72	85	80-140	
13C4 PFBA	100	113.6	114	25-150	
13C5 PFPeA	100	119.1	119	25-150	
13C2 PFHxA	100	115.6	116	25-150	
13C4-PFHpA	100	120.2	120	25-150	
13C4 PFOA	100	106.7	107	25-150	
13C5 PFNA	100	115.4	115	25-150	
13C2 PFDA	100	122.6	123	25-150	
13C2 PFUnA	100	117.6	118	25-150	
13C2 PFDoA	100	125.8	126	25-150	
13C2-PFTeDA	100	134.0	134	25-150	
13C3-PFBS	93.0	104.8	113	25-150	
18O2 PFHxS	94.6	110.2	116	25-150	
13C4 PFOS	95.6	111.6	117	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_025.d

Lab ID: LCS 320-200328/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
13C8 FOSA	100	105.7	106	25-150	
d3-NMeFOSAA	100	145.4	145	25-150	
M2-6:2FTS	95.0	64.52	68	25-150	
M2-8:2FTS	95.8	171.3	179	25-150	*

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.28LLB_033.d

Lab ID: LCS 320-200328/2-A RA Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	34.34	90	83-143	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	32.19	80	79-139	
13C4 PFOS	95.6	93.55	98	25-150	
d5-NEtFOSAA	100	93.29	93	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_018.d

Lab ID: LCS 320-200330/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	41.78	104	78-138	
Perfluoropentanoic acid (PFPeA)	40.0	40.65	102	66-136	
Perfluorohexanoic acid (PFHxA)	40.0	41.85	105	76-136	
Perfluoroheptanoic acid (PFHpA)	40.0	40.69	102	78-138	
Perfluorooctanoic acid (PFOA)	40.0	37.38	93	70-130	
Perfluorononanoic acid (PFNA)	40.0	43.10	108	77-137	
Perfluorodecanoic acid (PFDA)	40.0	40.82	102	74-134	
Perfluoroundecanoic acid (PFUnA)	40.0	40.82	102	68-128	
Perfluorododecanoic acid (PFDoA)	40.0	45.34	113	72-132	
Perfluorotridecanoic Acid (PFTriA)	40.0	45.37	113	56-163	
Perfluorotetradecanoic acid (PFTeA)	40.0	37.80	95	63-123	
Perfluorobutanesulfonic acid (PFBS)	35.4	40.53	115	79-139	
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.97	99	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	35.79	94	83-143	
Perfluorooctanesulfonic acid (PFOS)	37.1	36.65	99	74-134	
Perfluorodecanesulfonic acid (PFDS)	38.6	38.77	101	75-135	
Perfluorooctane Sulfonamide (FOSA)	40.0	43.70	109	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	38.68	97	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	37.49	94	79-139	
6:2FTS	37.9	39.64	105	82-142	
8:2FTS	38.3	36.58	95	80-140	
13C4 PFBA	100	115.7	116	25-150	
13C5 PFPeA	100	115.8	116	25-150	
13C2 PFHxA	100	113.7	114	25-150	
13C4-PFHpA	100	121.4	121	25-150	
13C4 PFOA	100	109.4	109	25-150	
13C5 PFNA	100	122.5	123	25-150	
13C2 PFDA	100	132.4	132	25-150	
13C2 PFUnA	100	120.3	120	25-150	
13C2 PFDoA	100	116.3	116	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_018.d

Lab ID: LCS 320-200330/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
13C2-PFTeDA	100	140.1	140	25-150	
13C3-PFBS	93.0	103.2	111	25-150	
18O2 PFHxS	94.6	111.6	118	25-150	
13C4 PFOS	95.6	117.5	123	25-150	
13C8 FOSA	100	106.8	107	25-150	
d3-NMeFOSAA	100	147.4	147	25-150	
d5-NEtFOSAA	100	136.0	136	25-150	
M2-6:2FTS	95.0	65.09	69	25-150	
M2-8:2FTS	95.8	172.7	180	25-150	*

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_019.d

Lab ID: LCSD 320-200330/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	41.94	105	0	30	78-138	
Perfluoropentanoic acid (PFPeA)	40.0	38.06	95	7	30	66-136	
Perfluorohexanoic acid (PFHxA)	40.0	39.38	98	6	30	76-136	
Perfluoroheptanoic acid (PFHpA)	40.0	38.47	96	6	30	78-138	
Perfluorooctanoic acid (PFOA)	40.0	37.69	94	1	30	70-130	
Perfluorononanoic acid (PFNA)	40.0	40.28	101	7	30	77-137	
Perfluorodecanoic acid (PFDA)	40.0	40.56	101	1	30	74-134	
Perfluoroundecanoic acid (PFUnA)	40.0	36.76	92	10	30	68-128	
Perfluorododecanoic acid (PFDoA)	40.0	42.01	105	8	30	72-132	
Perfluorotridecanoic Acid (PFTriA)	40.0	40.47	101	11	30	56-163	
Perfluorotetradecanoic acid (PFTeA)	40.0	41.01	103	8	30	63-123	
Perfluorobutanesulfonic acid (PFBS)	35.4	38.22	108	6	30	79-139	
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.20	97	2	30	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	36.41	96	2	30	83-143	
Perfluorooctanesulfonic acid (PFOS)	37.1	38.44	104	5	30	74-134	
Perfluorodecanesulfonic acid (PFDS)	38.6	39.93	104	3	30	75-135	
Perfluorooctane Sulfonamide (FOSA)	40.0	38.14	95	14	30	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	38.62	97	0	30	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	35.91	90	4	30	79-139	
6:2FTS	37.9	37.36	99	6	30	82-142	
8:2FTS	38.3	36.63	96	0	30	80-140	
13C4 PFBA	100	115.2	115			25-150	
13C5 PFPeA	100	118.2	118			25-150	
13C2 PFHxA	100	114.9	115			25-150	
13C4-PFHpA	100	119.1	119			25-150	
13C4 PFOA	100	105.1	105			25-150	
13C5 PFNA	100	117.4	117			25-150	
13C2 PFDA	100	126.2	126			25-150	
13C2 PFUnA	100	117.6	118			25-150	
13C2 PFDoA	100	117.8	118			25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_019.d

Lab ID: LCSD 320-200330/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
13C2-PFTeDA	100	140.4	140			25-150	
13C3-PFBS	93.0	103.9	112			25-150	
18O2 PFHxS	94.6	107.3	113			25-150	
13C4 PFOS	95.6	109.2	114			25-150	
13C8 FOSA	100	108.6	109			25-150	
d3-NMeFOSAA	100	144.9	145			25-150	
d5-NEtFOSAA	100	135.1	135			25-150	
M2-6:2FTS	95.0	67.19	71			25-150	
M2-8:2FTS	95.8	167.4	175			25-150	*

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_029.d

Lab ID: 320-34182-3 MS Client ID: FW-LN001-A MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	11.4	53.02	104	78-138	
Perfluoropentanoic acid (PFPeA)	40.0	6.05	45.09	98	66-136	
Perfluorohexanoic acid (PFHxA)	40.0	14.0	55.30	103	76-136	
Perfluoroheptanoic acid (PFHpA)	40.0	6.17	48.61	106	78-138	
Perfluorooctanoic acid (PFOA)	40.0	14.7	52.35	94	70-130	
Perfluorononanoic acid (PFNA)	40.0	1.29 J	43.26	105	77-137	
Perfluorodecanoic acid (PFDA)	40.0	0.30 U	41.73	104	74-134	
Perfluoroundecanoic acid (PFUnA)	40.0	1.08 U	37.22	93	68-128	
Perfluorododecanoic acid (PFDoA)	40.0	0.54 U	43.27	108	72-132	
Perfluorotridecanoic Acid (PFTriA)	40.0	1.27 U	42.99	107	56-163	
Perfluorotetradecanoic acid (PFTeA)	40.0	0.28 U	39.12	98	63-123	
Perfluorobutanesulfonic acid (PFBS)	35.4	1.32 J	39.25	107	79-139	
Perfluorohexanesulfonic acid (PFHxS)	36.4	5.63	40.96	97	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	0.25 J	36.58	95	83-143	
Perfluorooctanesulfonic acid (PFOS)	37.1	9.60	48.57	105	74-134	
Perfluorodecanesulfonic acid (PFDS)	38.6	0.31 U	38.30	99	75-135	
Perfluorooctane Sulfonamide (FOSA)	40.0	0.34 U	42.44	106	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	3.03 U	39.63	99	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	1.86 U	38.91	97	79-139	
6:2FTS	38.0	1.96 U	39.53	104	82-142	
8:2FTS	38.4	1.96 U	39.30	102	80-140	
13C4 PFBA	100	60.7	61.74	62	25-150	
13C5 PFPeA	100	99.4	102.4	102	25-150	
13C2 PFHxA	100	95.2	97.11	97	25-150	
13C4-PFHpA	100	110	109.9	110	25-150	
13C4 PFOA	100	101	107.0	107	25-150	
13C5 PFNA	100	114	114.3	114	25-150	
13C2 PFDA	100	120	121.1	121	25-150	
13C2 PFUnA	100	106	112.4	112	25-150	
13C2 PFDoA	100	111	107.8	108	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_029.d

Lab ID: 320-34182-3 MS Client ID: FW-LN001-A MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
13C2-PFTeDA	100	131	117.0	117	25-150	
13C3-PFBS	93.1	110	101.0	109	25-150	
18O2 PFHxS	94.7	106	107.7	114	25-150	
13C4 PFOS	95.7	105	110.5	116	25-150	
13C8 FOSA	100	103	104.1	104	25-150	
d3-NMeFOSAA	100	134	136.4	136	25-150	
d5-NEtFOSAA	100	125	127.6	127	25-150	
M2-6:2FTS	95.1	82.4	81.21	85	25-150	
M2-8:2FTS	95.9	168	177.4	185	25-150	*

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_030.d

Lab ID: 320-34182-3 MSD Client ID: FW-LN001-A MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	42.0	53.83	101	2	30	78-138	
Perfluoropentanoic acid (PFPeA)	42.0	48.25	100	7	30	66-136	
Perfluorohexanoic acid (PFHxA)	42.0	55.66	99	1	30	76-136	
Perfluoroheptanoic acid (PFHpA)	42.0	47.13	98	3	30	78-138	
Perfluorooctanoic acid (PFOA)	42.0	51.41	87	2	30	70-130	
Perfluorononanoic acid (PFNA)	42.0	43.64	101	1	30	77-137	
Perfluorodecanoic acid (PFDA)	42.0	44.29	105	6	30	74-134	
Perfluoroundecanoic acid (PFUnA)	42.0	41.67	99	11	30	68-128	
Perfluorododecanoic acid (PFDoA)	42.0	44.45	106	3	30	72-132	
Perfluorotridecanoic Acid (PFTriA)	42.0	43.25	103	1	30	56-163	
Perfluorotetradecanoic acid (PFTeA)	42.0	41.07	98	5	30	63-123	
Perfluorobutanesulfonic acid (PFBS)	37.1	42.95	112	9	30	79-139	
Perfluorohexanesulfonic acid (PFHxS)	38.2	42.12	95	3	30	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	40.0	41.01	102	11	30	83-143	
Perfluorooctanesulfonic acid (PFOS)	39.0	48.39	100	0	30	74-134	
Perfluorodecanesulfonic acid (PFDS)	40.5	41.55	103	8	30	75-135	
Perfluorooctane Sulfonamide (FOSA)	42.0	46.32	110	9	30	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	42.0	43.72	104	10	30	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	42.0	41.07	98	5	30	79-139	
6:2FTS	39.8	43.24	109	9	30	82-142	
8:2FTS	40.2	42.84	106	9	30	80-140	
13C4 PFBA	105	65.79	63			25-150	
13C5 PFPeA	105	101.4	97			25-150	
13C2 PFHxA	105	100.6	96			25-150	
13C4-PFHpA	105	117.4	112			25-150	
13C4 PFOA	105	110.7	105			25-150	
13C5 PFNA	105	121.7	116			25-150	
13C2 PFDA	105	124.0	118			25-150	
13C2 PFUnA	105	110.8	106			25-150	
13C2 PFDoA	105	107.1	102			25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.19LLC_030.d

Lab ID: 320-34182-3 MSD Client ID: FW-LN001-A MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
13C2-PFTeDA	105	122.5	117			25-150	
13C3-PFBS	97.6	99.20	102			25-150	
18O2 PFHxS	99.3	112.2	113			25-150	
13C4 PFOS	100	111.5	111			25-150	
13C8 FOSA	105	104.4	99			25-150	
d3-NMeFOSAA	105	132.1	126			25-150	
d5-NEtFOSAA	105	122.1	116			25-150	
M2-6:2FTS	99.7	87.17	87			25-150	
M2-8:2FTS	101	165.8	165			25-150	*

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab File ID: 2017.12.19LLC_024.d Lab Sample ID: MB 320-200328/1-A

Matrix: Water Date Extracted: 12/18/2017 13:25

Instrument ID: A8_N Date Analyzed: 12/20/2017 07:33

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-200328/2-A	2017.12.19LLC_025.d	12/20/2017 07:41
MW-CR001-A	320-34182-1	2017.12.19LLC_026.d	12/20/2017 07:49
MW-CR002-A	320-34182-2	2017.12.19LLC_027.d	12/20/2017 07:57
FW-LN001-A	320-34182-3	2017.12.19LLC_028.d	12/20/2017 08:05
FW-LN001-A MS	320-34182-3 MS	2017.12.19LLC_029.d	12/20/2017 08:12
FW-LN001-A MSD	320-34182-3 MSD	2017.12.19LLC_030.d	12/20/2017 08:20
FW-YC001-A	320-34182-4	2017.12.19LLC_031.d	12/20/2017 08:28
FW-CR008-A	320-34182-5	2017.12.19LLC_032.d	12/20/2017 08:36
FW-CR007-A	320-34182-6	2017.12.19LLC_033.d	12/20/2017 08:44
FW-CR006-A	320-34182-7	2017.12.19LLC_035.d	12/20/2017 09:00
FW-FR004-A	320-34182-8	2017.12.19LLC_036.d	12/20/2017 09:08
MW-FR003-A	320-34182-9	2017.12.19LLC_037.d	12/20/2017 09:16
FW-GA003-A	320-34182-10	2017.12.19LLC_038.d	12/20/2017 09:23
MW-GA001-A	320-34182-11	2017.12.19LLC_039.d	12/20/2017 09:31
Dupe	320-34182-12	2017.12.19LLC_040.d	12/20/2017 09:39
MW-SP002-A	320-34182-13	2017.12.19LLC_041.d	12/20/2017 09:47
FW-SP003-A	320-34182-14	2017.12.19LLC_042.d	12/20/2017 09:55
MW-GA002-A	320-34182-15	2017.12.19LLC_043.d	12/20/2017 10:03
FW-GA004-A	320-34182-16	2017.12.19LLC_044.d	12/20/2017 10:11
FB001	320-34182-17	2017.12.19LLC_046.d	12/20/2017 10:26
EB001	320-34182-18	2017.12.19LLC_047.d	12/20/2017 10:34
FB002	320-34182-19	2017.12.19LLC_048.d	12/20/2017 10:42

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab File ID: 2017.12.19LLC_024.d Lab Sample ID: MB 320-200328/1-A

Matrix: Water Date Extracted: 12/18/2017 13:25

Instrument ID: A8_N Date Analyzed: 12/20/2017 07:33

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
EB002	320-34182-20	2017.12.19LLC_049.d	12/20/2017 10:50
	LCS 320-200328/2-A RA	2017.12.28LLB_033.d	12/28/2017 12:35

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab File ID: 2017.12.19LLC_017.d Lab Sample ID: MB 320-200330/1-A

Matrix: Water Date Extracted: 12/18/2017 13:33

Instrument ID: A8_N Date Analyzed: 12/20/2017 06:38

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-200330/2-A	2017.12.19LLC_018.d	12/20/2017 06:46
	LCSD 320-200330/3-A	2017.12.19LLC_019.d	12/20/2017 06:54
FB003	320-34182-21	2017.12.19LLC_020.d	12/20/2017 07:01
EB003	320-34182-22	2017.12.19LLC_021.d	12/20/2017 07:09

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-CR001-A | Lab Sample ID: 320-34182-1

Matrix: Water | Lab File ID: 2017.12.19LLC_026.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 10:40

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 246.7(mL) | Date Analyzed: 12/20/2017 07:49

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.44		2.03	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	4.30		2.03	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	4.73		2.03	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.81	J	2.03	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	3.17		2.03	0.86
375-95-1	Perfluorononanoic acid (PFNA)	1.92	J	2.03	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.03	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.11	U	2.03	1.11
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.03	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.32	U	2.03	1.32
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.03	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.80	J	2.03	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	8.63	B	2.03	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.30	J	2.03	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	13.4		2.03	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.03	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	1.11	J B	2.03	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.14	U	20.3	3.14
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.93	U	20.3	1.93
27619-97-2	6:2FTS	2.03	U	20.3	2.03
39108-34-4	8:2FTS	2.03	U	20.3	2.03

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-CR001-A | Lab Sample ID: 320-34182-1

Matrix: Water | Lab File ID: 2017.12.19LLC_026.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 10:40

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 246.7(mL) | Date Analyzed: 12/20/2017 07:49

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	102		25-150
STL01893	13C5 PFPeA	123		25-150
STL00993	13C2 PFHxA	114		25-150
STL01892	13C4-PFHpA	117		25-150
STL00990	13C4 PFOA	109		25-150
STL00995	13C5 PFNA	116		25-150
STL00996	13C2 PFDA	128		25-150
STL00997	13C2 PFUnA	111		25-150
STL00998	13C2 PFDoA	113		25-150
STL02116	13C2-PFTeDA	128		25-150
STL02337	13C3-PFBS	118		25-150
STL00994	18O2 PFHxS	117		25-150
STL00991	13C4 PFOS	117		25-150
STL01056	13C8 FOSA	108		25-150
STL02118	d3-NMeFOSAA	145		25-150
STL02117	d5-NEtFOSAA	127		25-150
STL02279	M2-6:2FTS	71		25-150
STL02280	M2-8:2FTS	183	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_026.d
Lims ID: 320-34182-A-1-A
Client ID: MW-CR001-A
Sample Type: Client
Inject. Date: 20-Dec-2017 07:49:18 ALS Bottle#: 17 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-1-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:16:17

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.534	7591621	2.54		102	24196	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.414	1.412	0.002	1.000	166961	0.0603			22.2	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.629	5424434	3.09		123	52179	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.663	1.664	-0.001	1.000	254715	0.1062			53.8	M
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.642	101730	2.74		118	2083	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.698	1.703	-0.005	1.000	145204	0.0444			60.9	M
298.90 > 99.00	1.698	1.703	-0.005	1.000	61493		2.36(1.25-3.74)		120	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.944	1.949	-0.005	1.000	248554	0.1168			207	M
313.00 > 119.00	1.944	1.949	-0.005	1.000	19292		12.88(5.03-15.10)		256	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.944	1.949	-0.005	0.735	5321492	2.85		114	53594	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.279	2.286	-0.007	1.000	93971	0.0447			88.4	M
363.00 > 169.00	2.279	2.286	-0.007	1.000	39362		2.39(1.13-3.40)		365	
D 9 13C4-PFHpA										
367.00 > 322.00	2.279	2.286	-0.007	0.862	5109887	2.93		117	43200	
D 11 18O2 PFHxS										
403.00 > 84.00	2.292	2.299	-0.007	0.867	5979664	2.77		117	49933	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.292	2.299	-0.007	1.000	585426	0.2130			676	
399.00 > 99.00	2.292	2.299	-0.007	1.000	182400		3.21(1.50-4.49)		494	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.617	2.640	-0.023	1.000	24709	0.0301			1246	
D 12 M2-6:2FTS										
429.00 > 81.00	2.617	2.640	-0.023	0.989	1217116	1.68		70.8	16993	
* 62 13C2-PFOA										
415.00 > 370.00	2.645	2.643	0.002		5061669	2.50			46745	
D 14 13C4 PFOA										
417.00 > 372.00	2.645	2.647	-0.002	1.000	5695553	2.72		109	49390	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.645	2.649	-0.004	1.000	188151	0.0783			80.3	M
413.00 > 169.00	2.645	2.649	-0.004	1.000	101279		1.86(0.84-2.52)		719	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.652	2.654	-0.002	1.000	17327	0.007389			91.0	
449.00 > 99.00	2.645	2.654	-0.009	0.997	4786		3.62(1.94-5.82)		63.8	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.017	3.025	-0.008	1.000	573527	0.3309			73.5	
499.00 > 99.00	3.017	3.025	-0.008	1.000	119526		4.80(2.31-6.93)		113	
D 18 13C4 PFOS										
503.00 > 80.00	3.017	3.025	-0.008	1.141	3895405	2.81		117	29208	
20 Perfluorononanoic acid										
463.00 > 419.00	3.017	3.026	-0.009	1.000	74837	0.0475			87.2	
463.00 > 169.00	3.017	3.026	-0.009	1.000	17699		4.23(1.90-5.69)		188	
D 19 13C5 PFNA										
468.00 > 423.00	3.017	3.026	-0.009	1.141	4066685	2.89		116	41483	
D 21 13C8 FOSA										
506.00 > 78.00	3.364	3.362	0.002	1.272	5292910	2.70		108	32515	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.364	3.365	-0.001	1.000	54697	0.0273			892	
D 26 M2-8:2FTS										
529.00 > 81.00	3.371	3.375	-0.004	1.275	1351370	4.38		183	13414	
D 23 13C2 PFDA										
515.00 > 470.00	3.379	3.387	-0.008	1.277	3614623	3.21		128	37546	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.531	3.541	-0.010	1.335	1880250	3.62		145	22867	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.698	3.711	-0.013	1.398	1694772	3.17		127	9655	
D 30 13C2 PFUnA										
565.00 > 520.00	3.707	3.717	-0.010	1.401	2399177	2.77		111	32208	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.015	-0.009	1.514	2615601	2.84		113	43585	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.707	3235561	3.20		128	29413	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:24:56 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_026.d

Injection Date: 20-Dec-2017 07:49:18 Instrument ID: A8_N

Lims ID: 320-34182-A-1-A Lab Sample ID: 320-34182-1

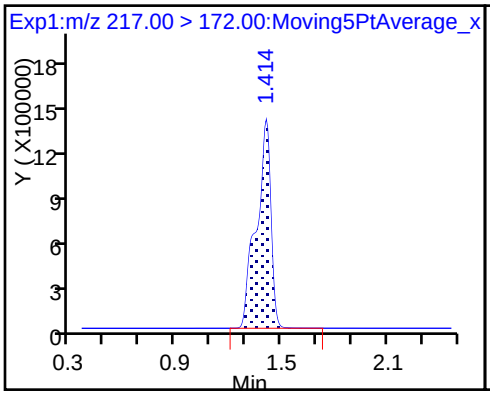
Client ID: MW-CR001-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 17 Worklist Smp#: 4

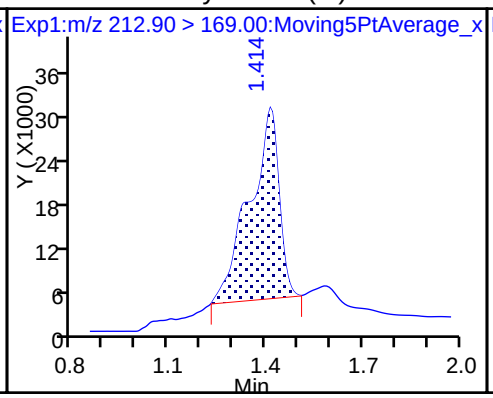
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

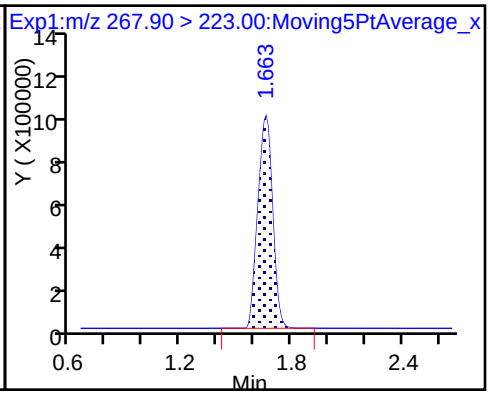
D 1 13C4 PFBA



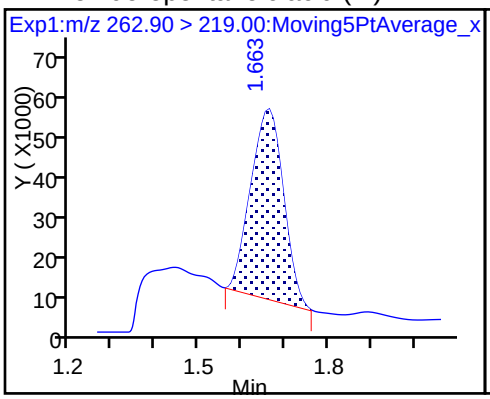
2 Perfluorobutyric acid (M)



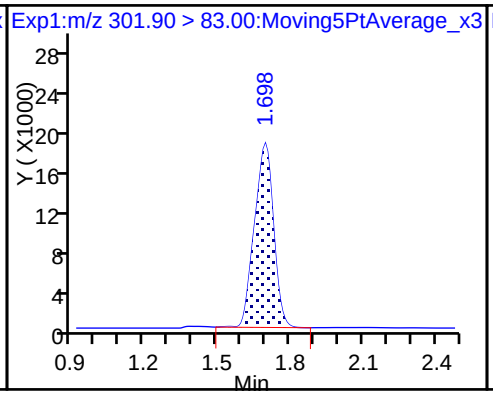
D 3 13C5-PFPeA



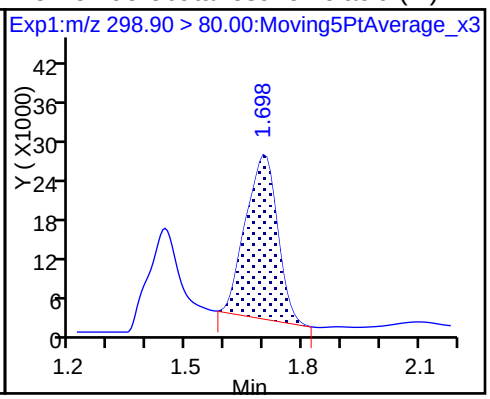
4 Perfluoropentanoic acid (M)



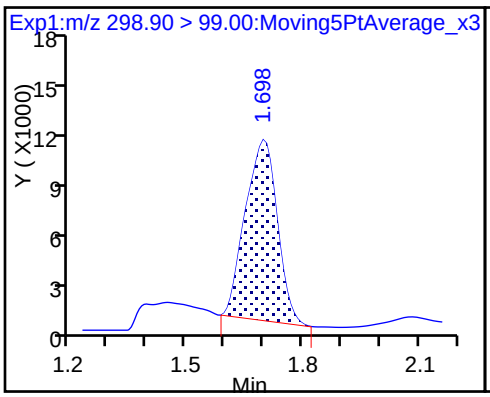
D 47 13C3-PFBS



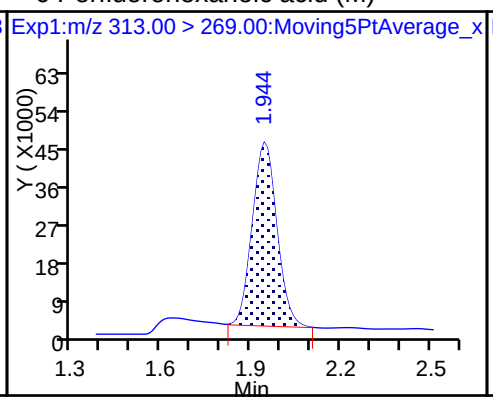
5 Perfluorobutanesulfonic acid (M)



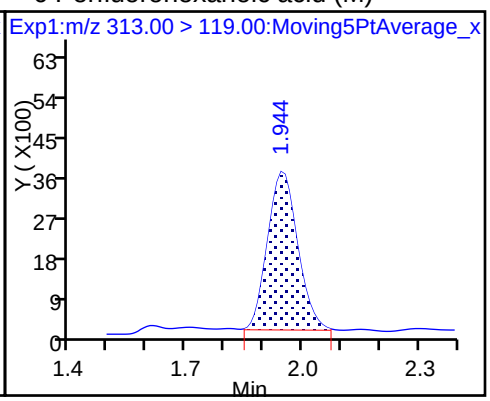
5 Perfluorobutanesulfonic acid



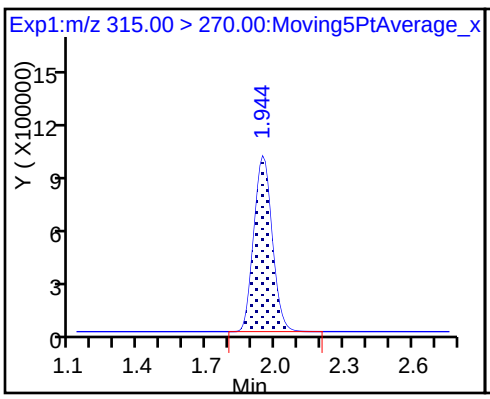
6 Perfluorohexanoic acid (M)



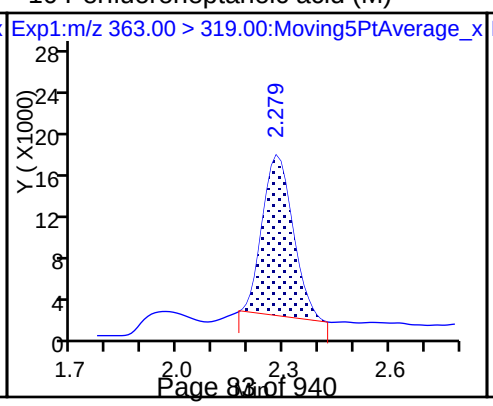
6 Perfluorohexanoic acid (M)



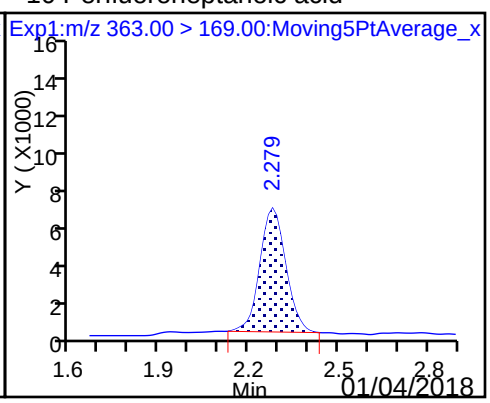
D 7 13C2 PFHxA



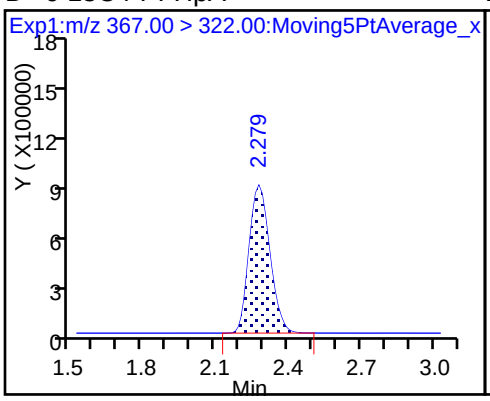
10 Perfluoroheptanoic acid (M)



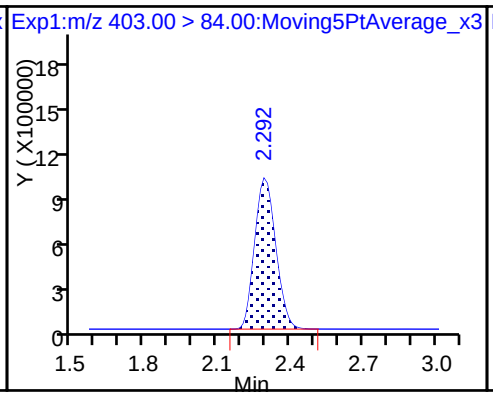
10 Perfluoroheptanoic acid



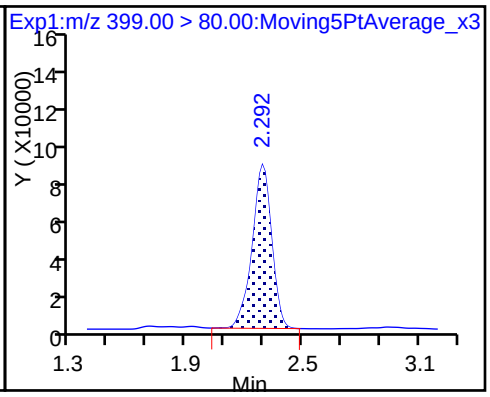
D 9 13C4-PFHpA



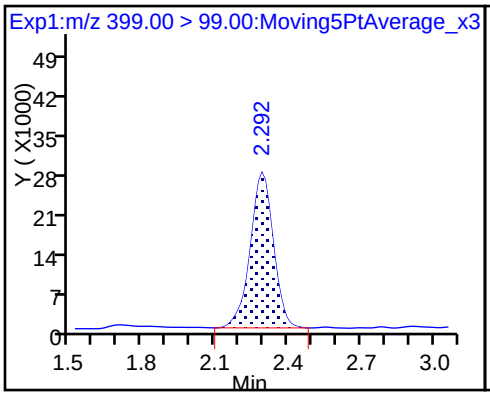
D 11 18O2 PFHxS



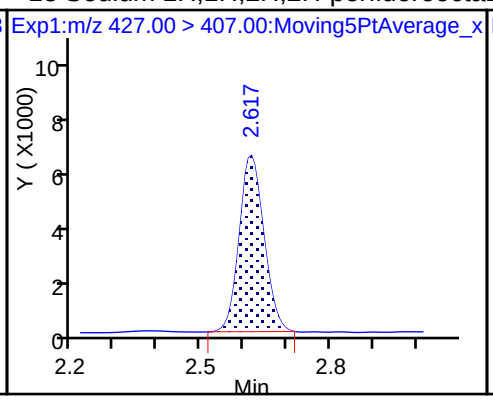
8 Perfluorohexanesulfonic acid



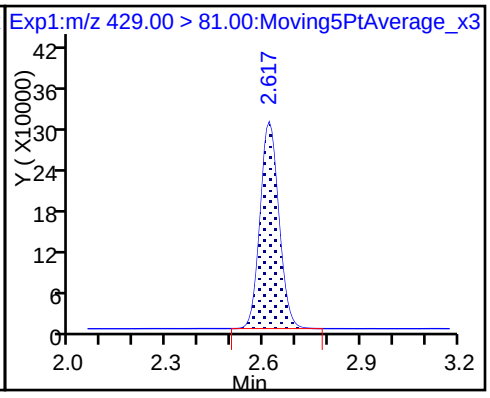
8 Perfluorohexanesulfonic acid



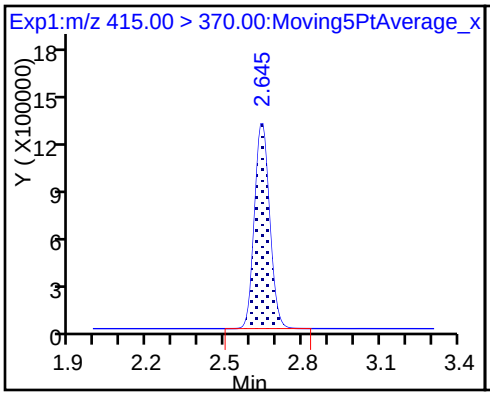
13 Sodium 1H,1H,2H,2H-perfluorooctane



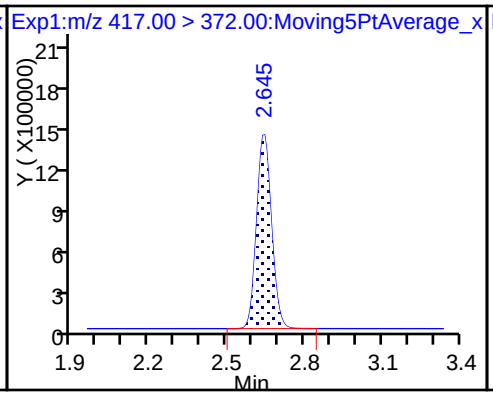
D 12 M2-6:2FTS



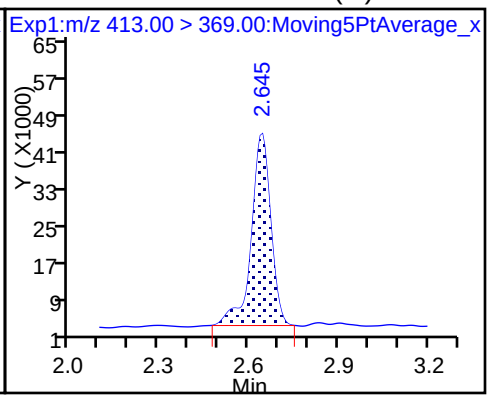
* 62 13C2-PFOA



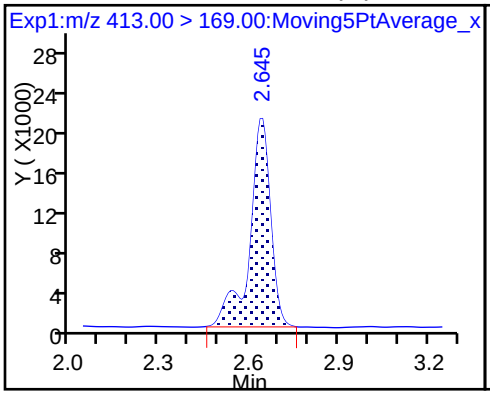
D 14 13C4 PFOA



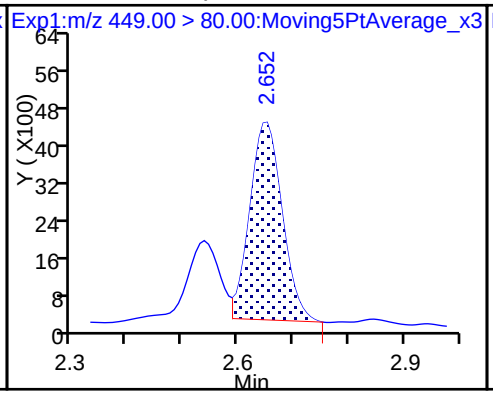
15 Perfluorooctanoic acid (M)



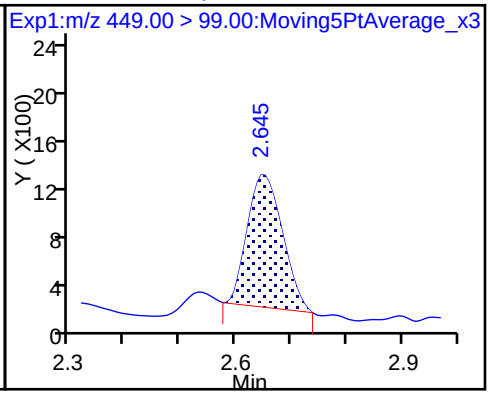
15 Perfluorooctanoic acid (M)



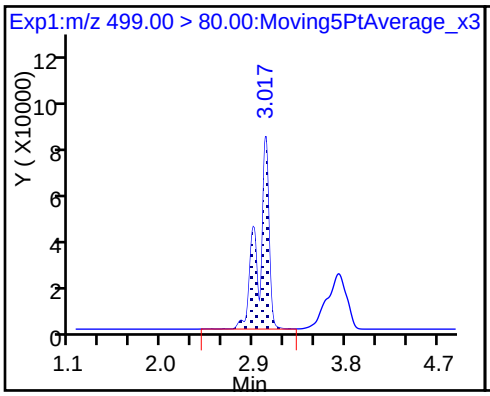
16 Perfluoroheptanesulfonic Acid



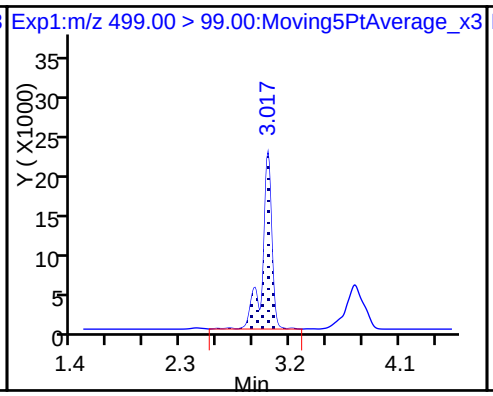
16 Perfluoroheptanesulfonic Acid



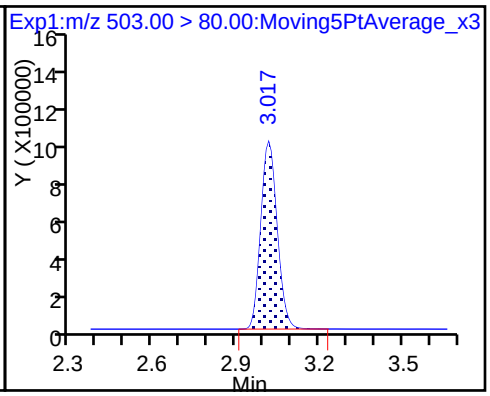
17 Perfluorooctane sulfonic acid



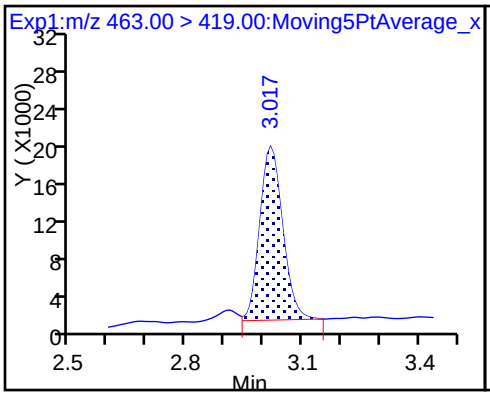
17 Perfluorooctane sulfonic acid



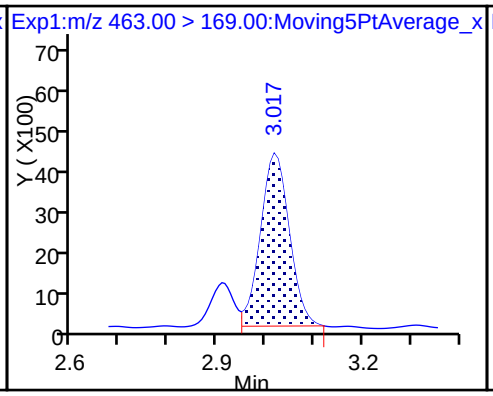
D 18 13C4 PFOS



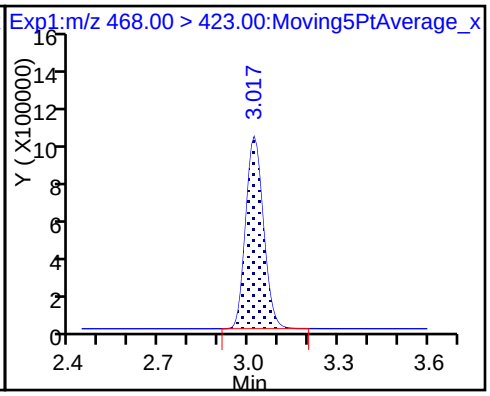
20 Perfluorononanoic acid



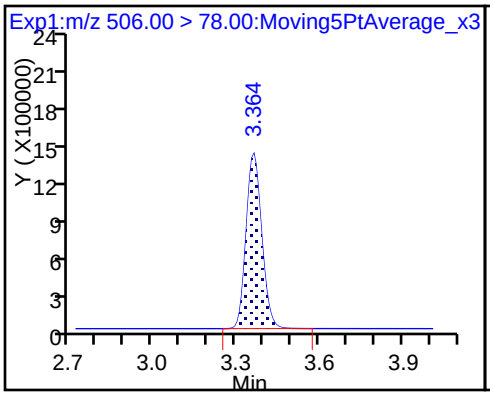
20 Perfluorononanoic acid



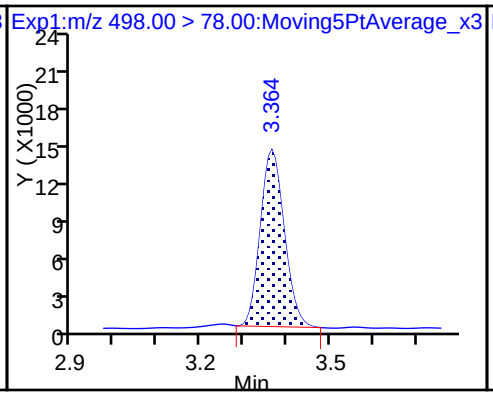
D 19 13C5 PFNA



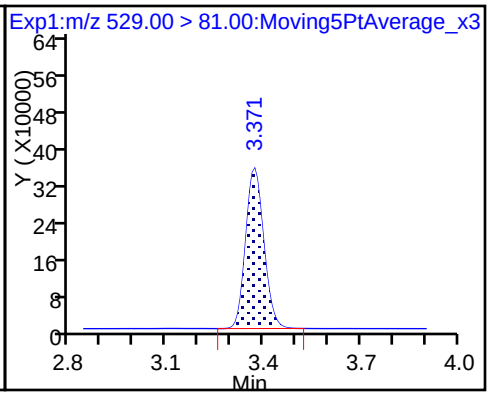
D 21 13C8 FOSA



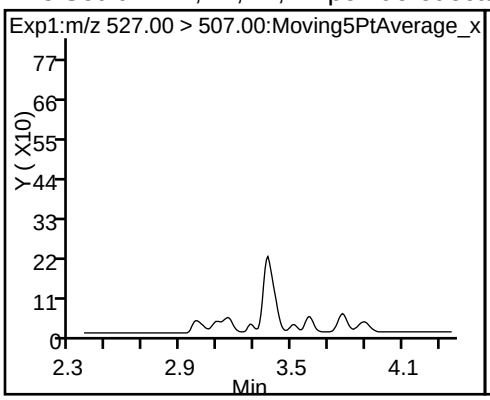
22 Perfluorooctane Sulfonamide



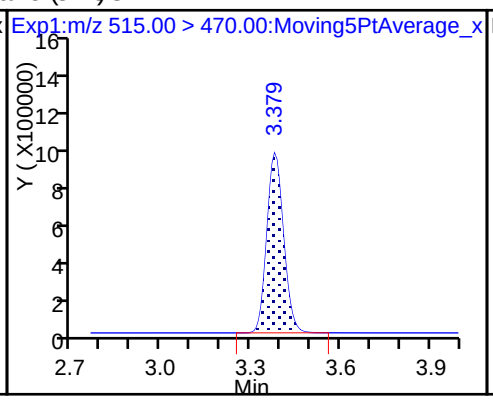
D 26 M2-8:2FTS



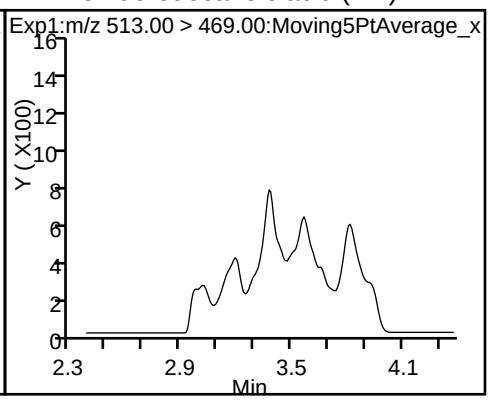
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



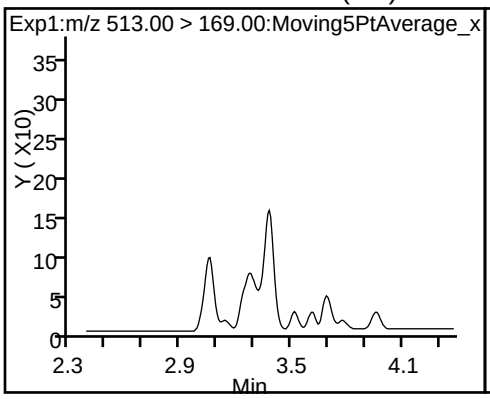
D 13C2 PFDA



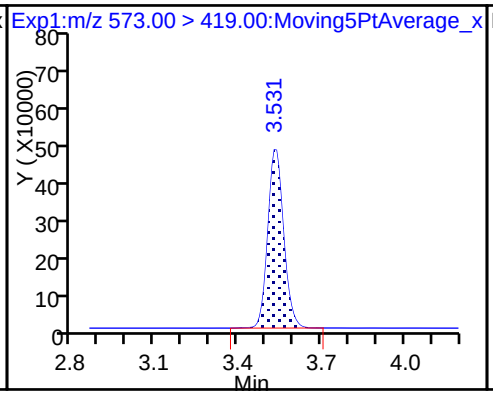
24 Perfluorodecanoic acid (ND)



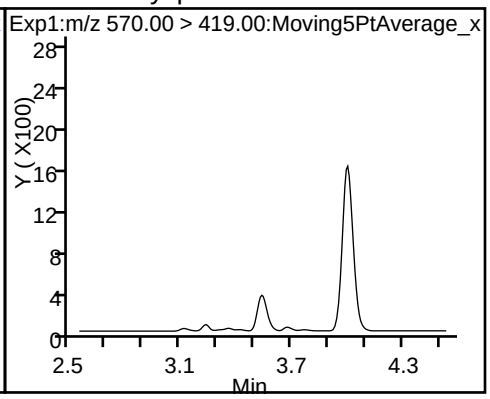
24 Perfluorodecanoic acid (ND)



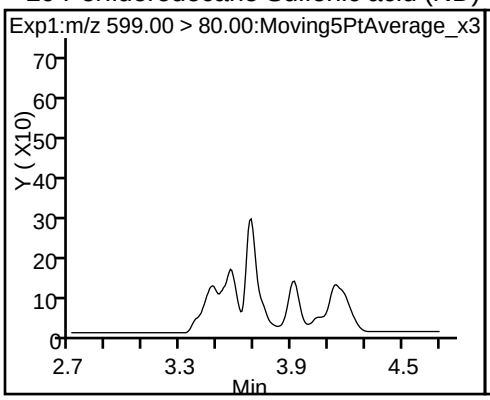
D 27 d3-NMeFOSAA



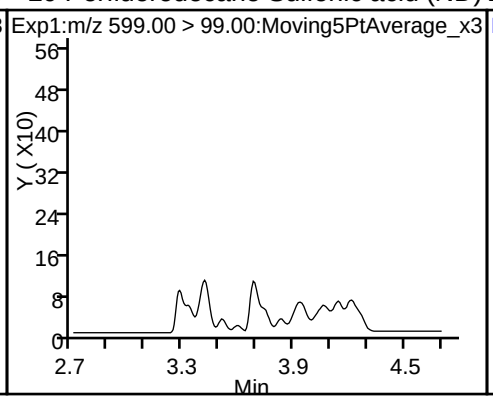
28 N-methyl perfluorooctane sulfonami (ND)



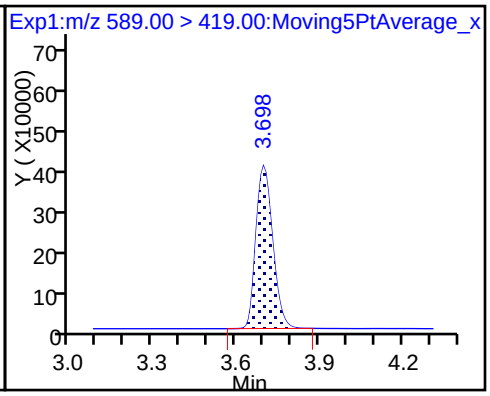
29 Perfluorodecane Sulfonic acid (ND)



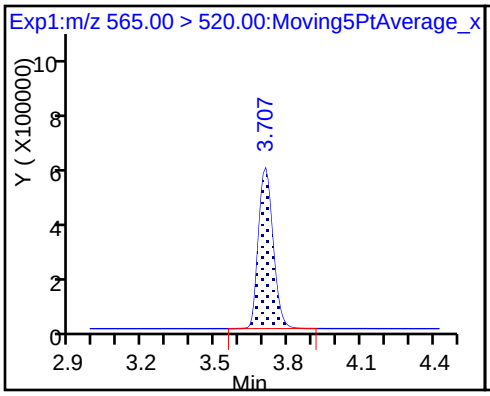
29 Perfluorodecane Sulfonic acid (ND)



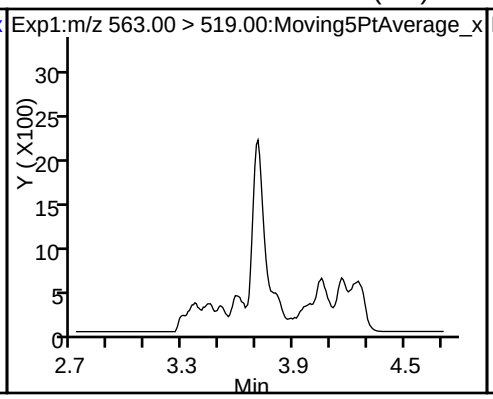
D 32 d5-NEtFOSAA



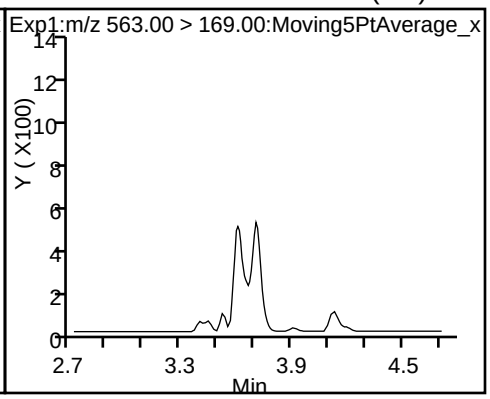
D 30 13C2 PFUnA



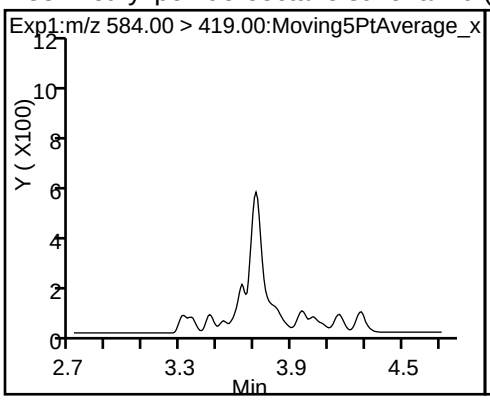
31 Perfluoroundecanoic acid (ND)



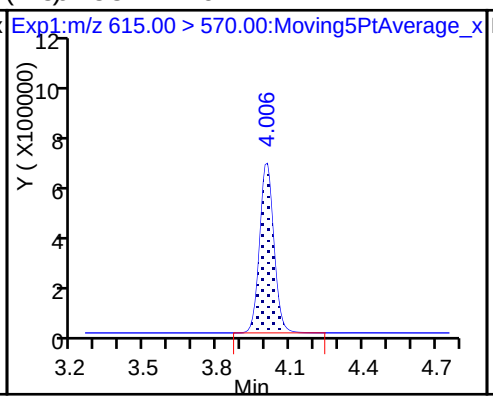
31 Perfluoroundecanoic acid (ND)



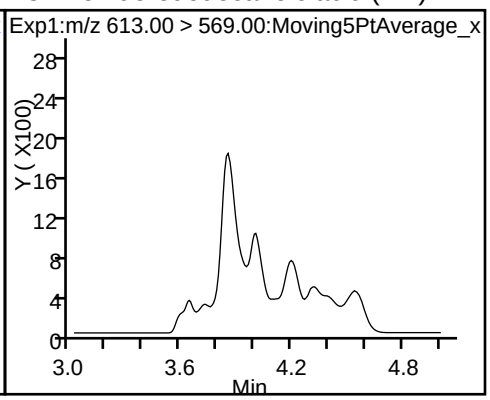
33 N-ethyl perfluorooctane sulfonamid (ND)



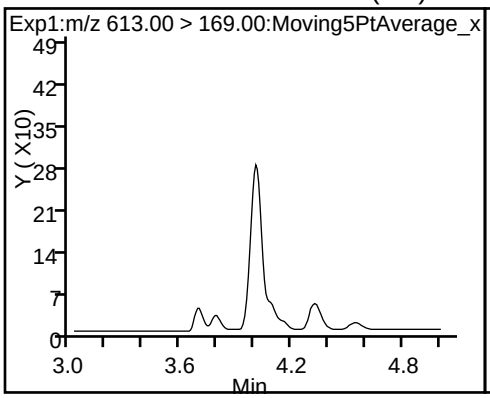
D 36 13C2 PFDoA



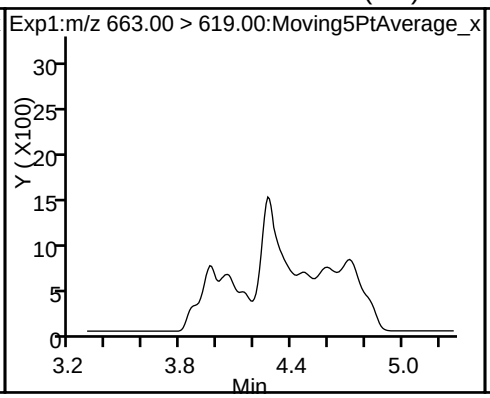
37 Perfluorododecanoic acid (ND)



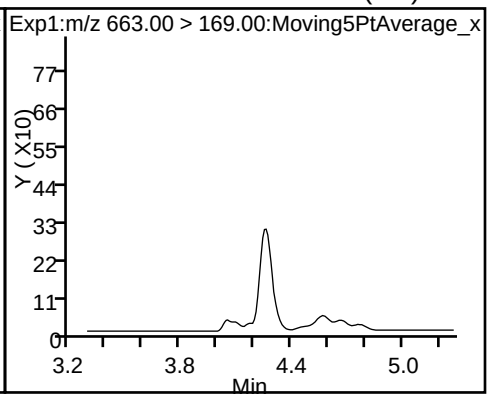
37 Perfluorododecanoic acid (ND)



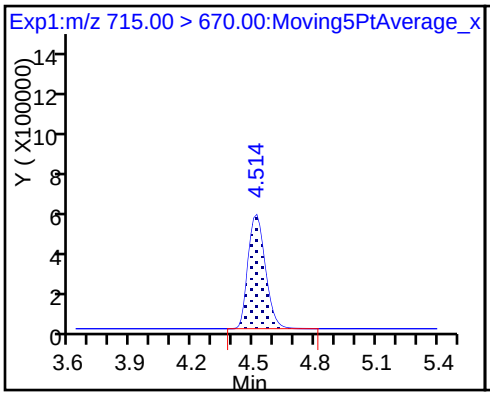
41 Perfluorotridecanoic acid (ND)



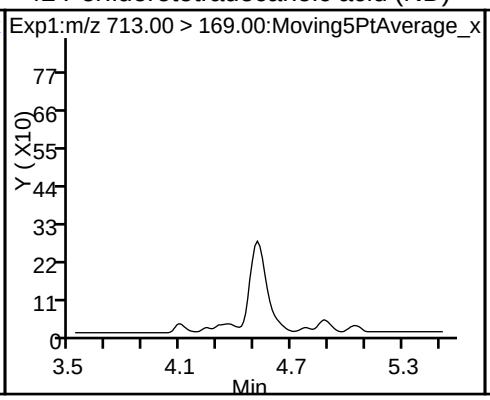
41 Perfluorotridecanoic acid (ND)



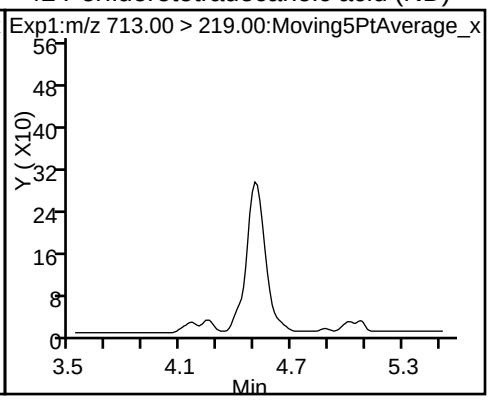
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

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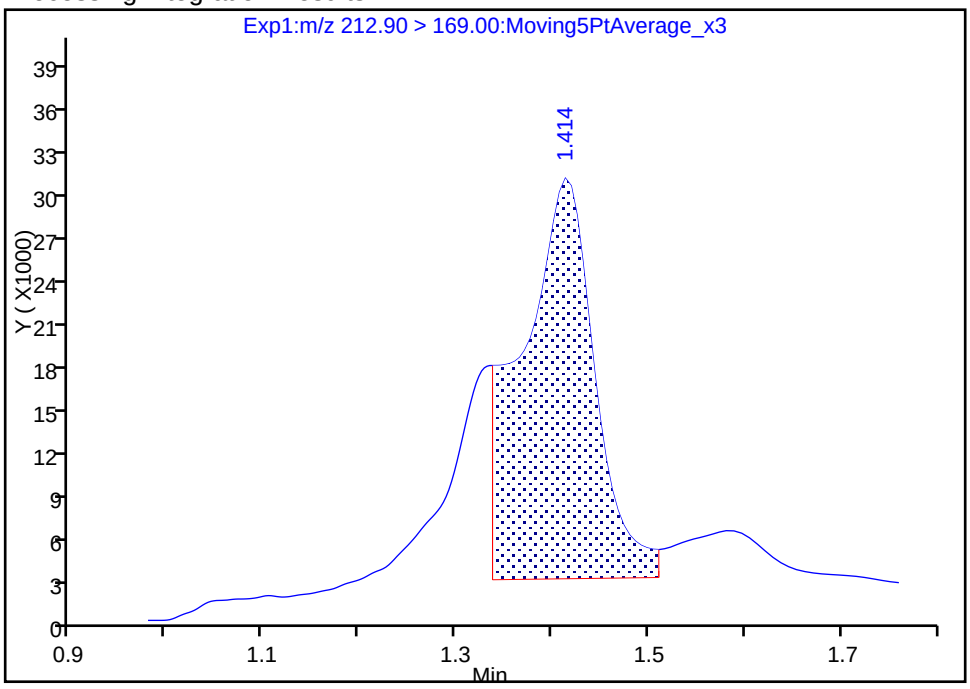
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Injection Date:	20-Dec-2017 07:49:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-1-A	Lab Sample ID:	320-34182-1		
Client ID:	MW-CR001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

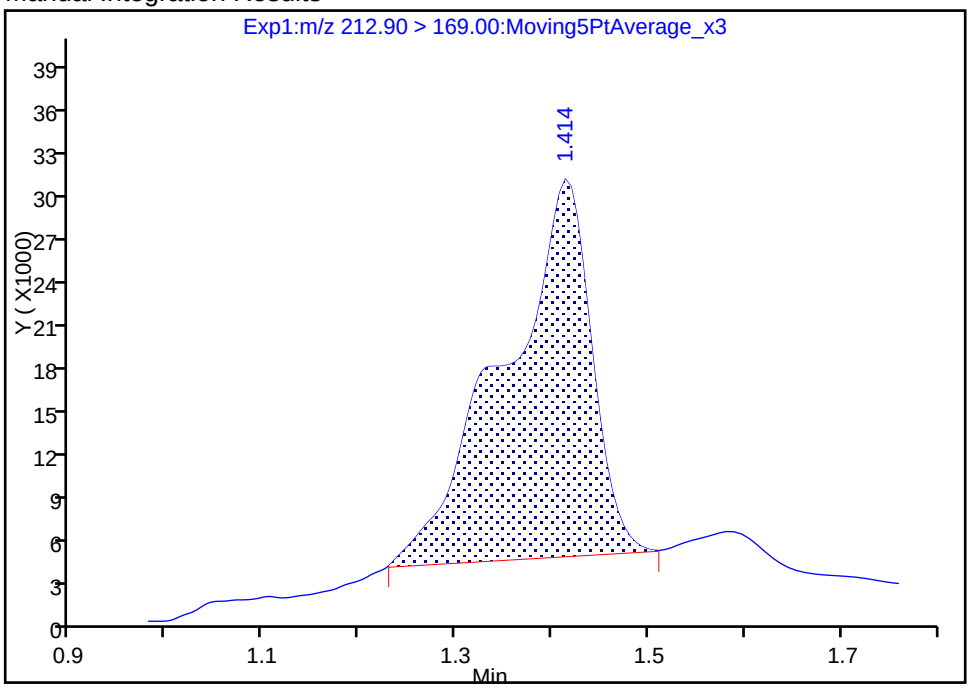
Processing Integration Results

RT: 1.41
Area: 146801
Amount: 0.052989
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 166961
Amount: 0.060265
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:12:39

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

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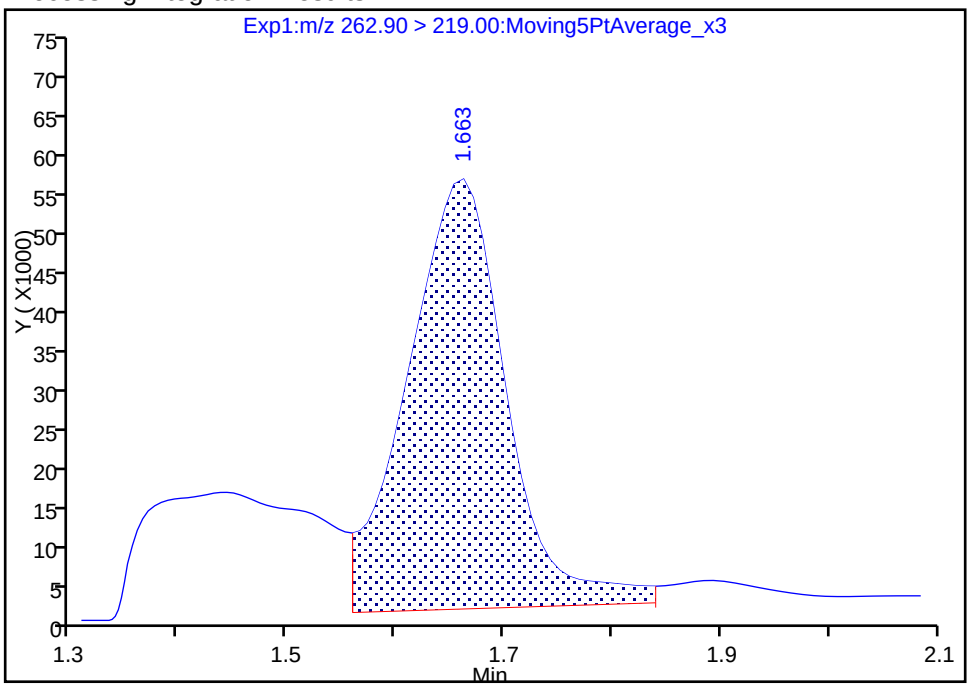
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_026.d				
Injection Date:	20-Dec-2017 07:49:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-1-A	Lab Sample ID:	320-34182-1		
Client ID:	MW-CR001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

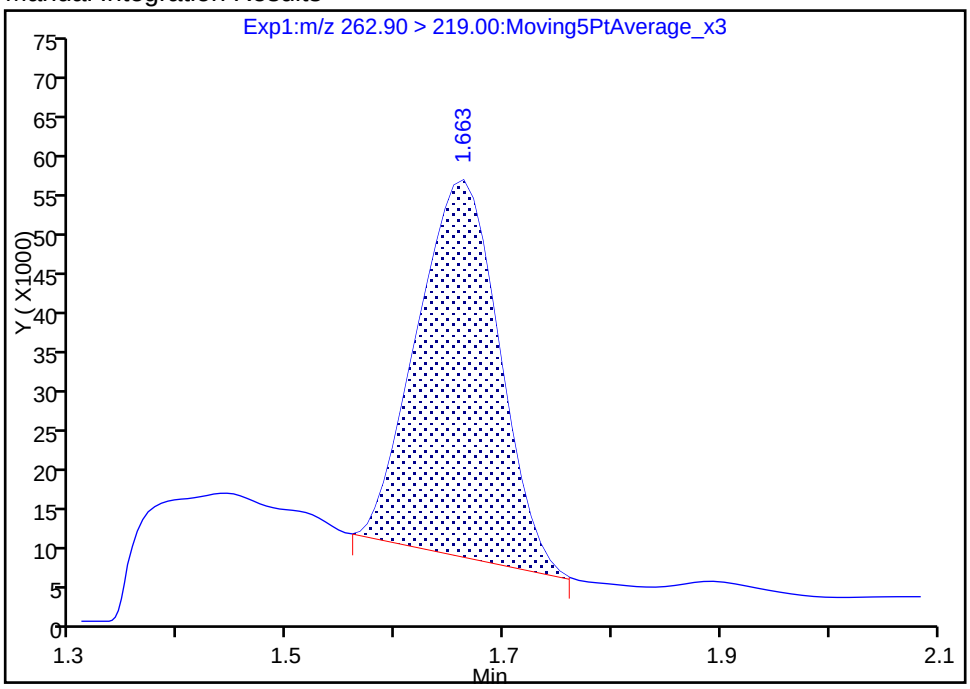
Processing Integration Results

RT: 1.66
Area: 349555
Amount: 0.145737
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 254715
Amount: 0.106196
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:12:59

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

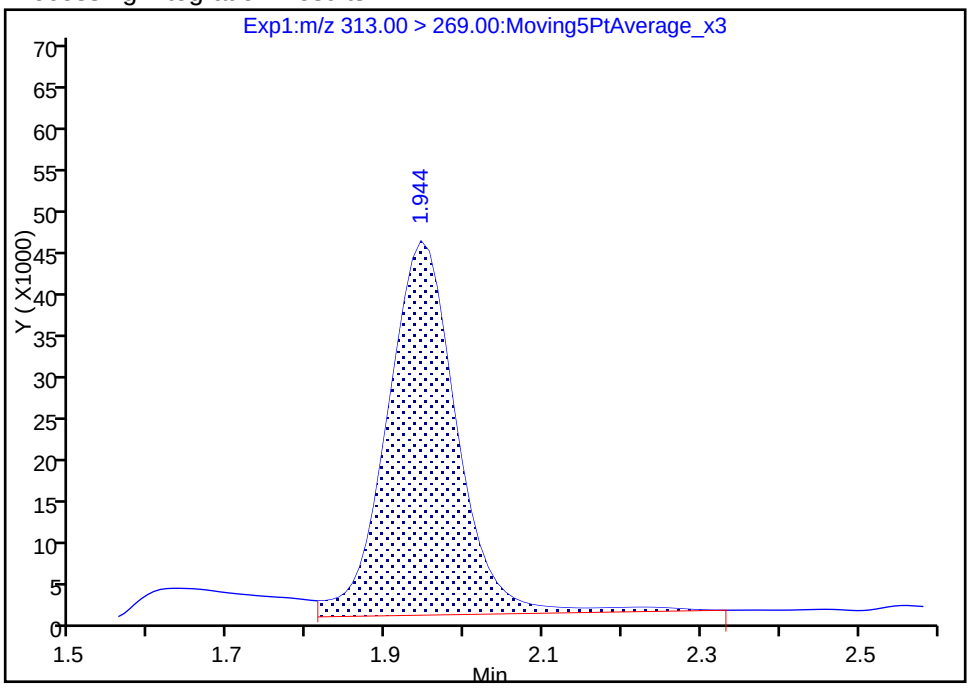
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Injection Date:	20-Dec-2017 07:49:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-1-A	Lab Sample ID:	320-34182-1		
Client ID:	MW-CR001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

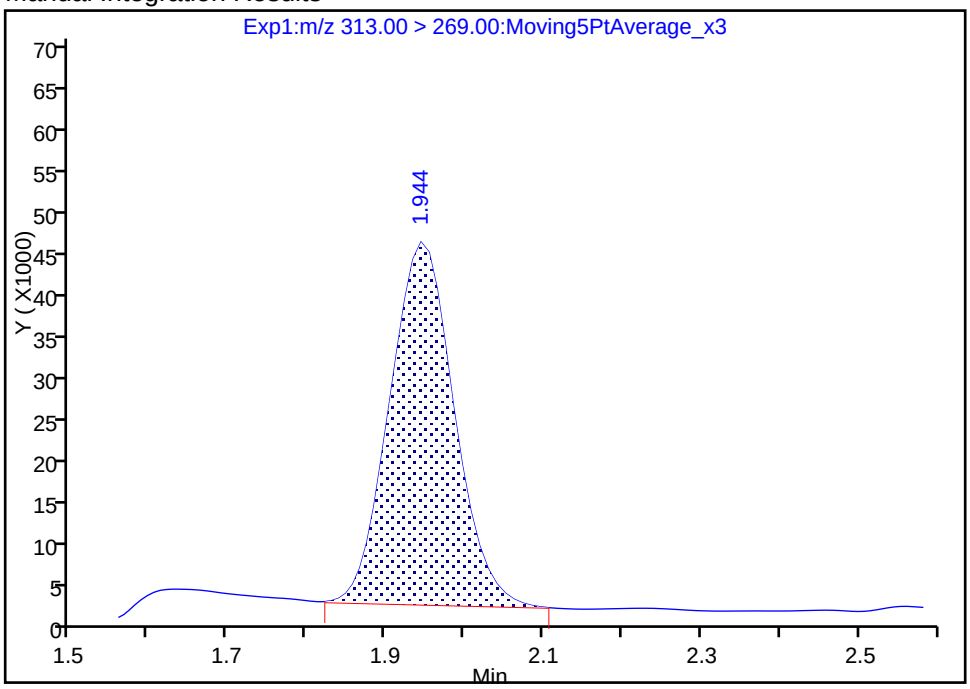
Processing Integration Results

RT: 1.94
Area: 276113
Amount: 0.129735
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 248554
Amount: 0.116786
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:13:37
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

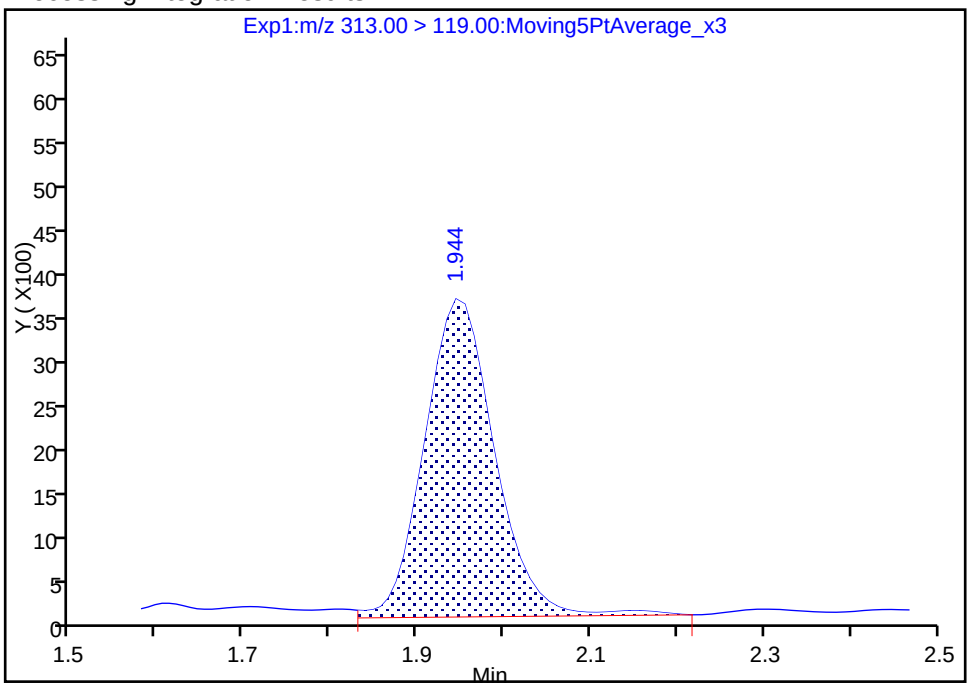
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Injection Date:	20-Dec-2017 07:49:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-1-A	Lab Sample ID:	320-34182-1		
Client ID:	MW-CR001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

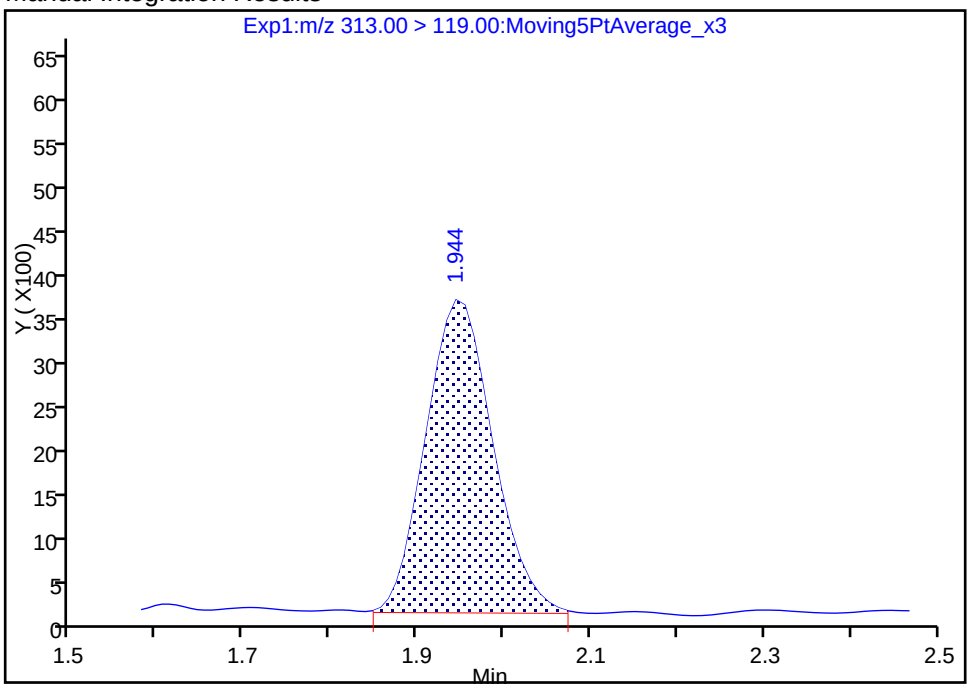
Processing Integration Results

RT: 1.94
Area: 20451
Amount: 0.129735
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 19292
Amount: 0.116786
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:13:51
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

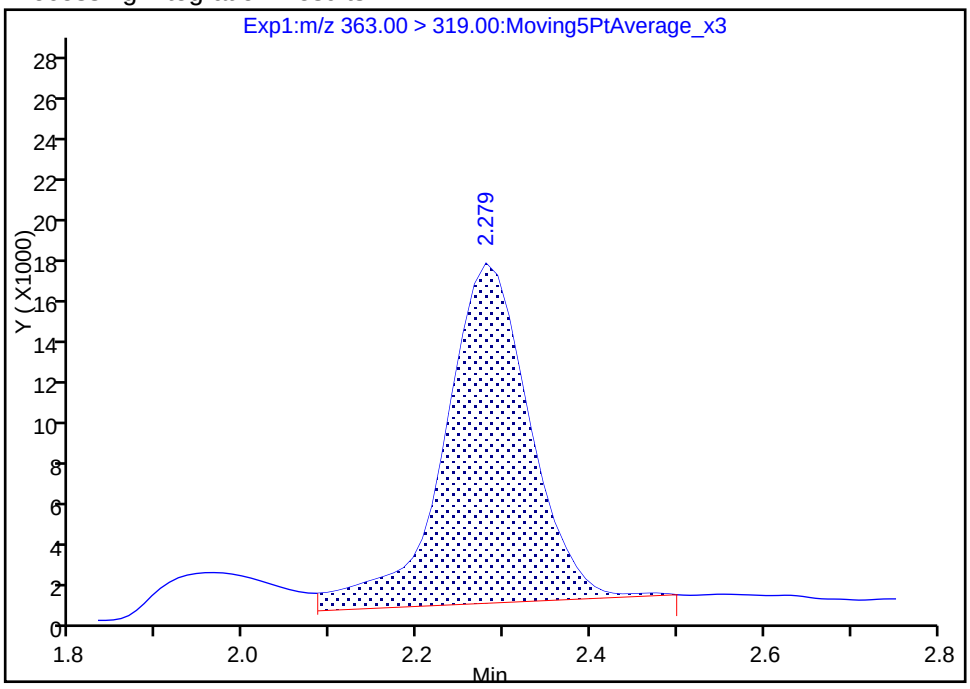
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Injection Date:	20-Dec-2017 07:49:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-1-A	Lab Sample ID:	320-34182-1		
Client ID:	MW-CR001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

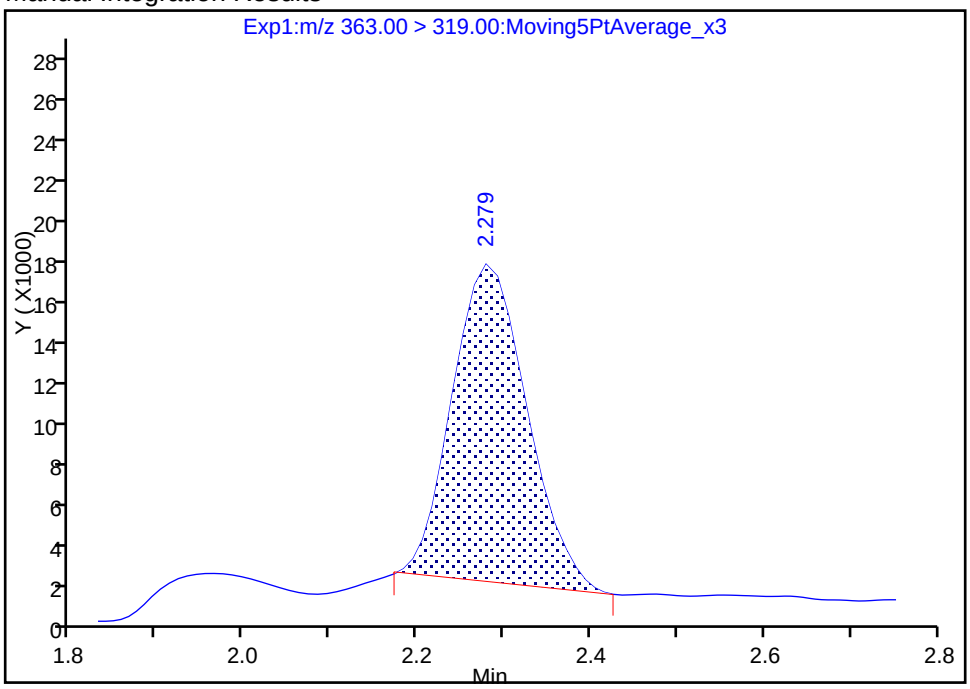
Processing Integration Results

RT: 2.28
Area: 115942
Amount: 0.055093
Amount Units: ng/ml



Manual Integration Results

RT: 2.28
Area: 93971
Amount: 0.044653
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:14:07
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

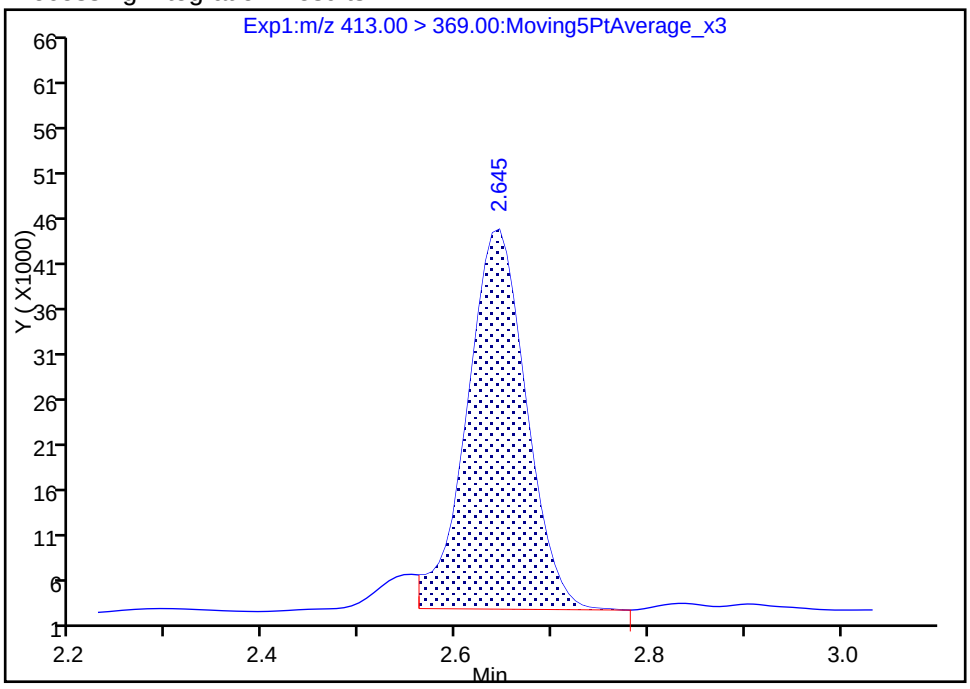
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Lims ID:	320-34182-A-1-A	Lab Sample ID:	320-34182-1		
Client ID:	MW-CR001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

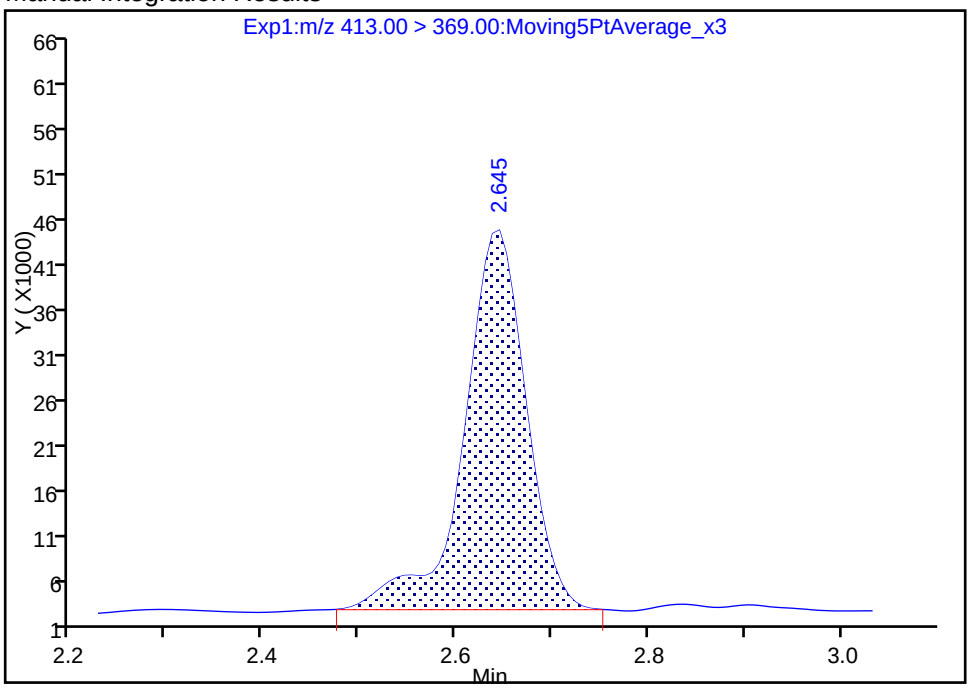
Processing Integration Results

RT: 2.65
Area: 178244
Amount: 0.074141
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 188151
Amount: 0.078262
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:14:31

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

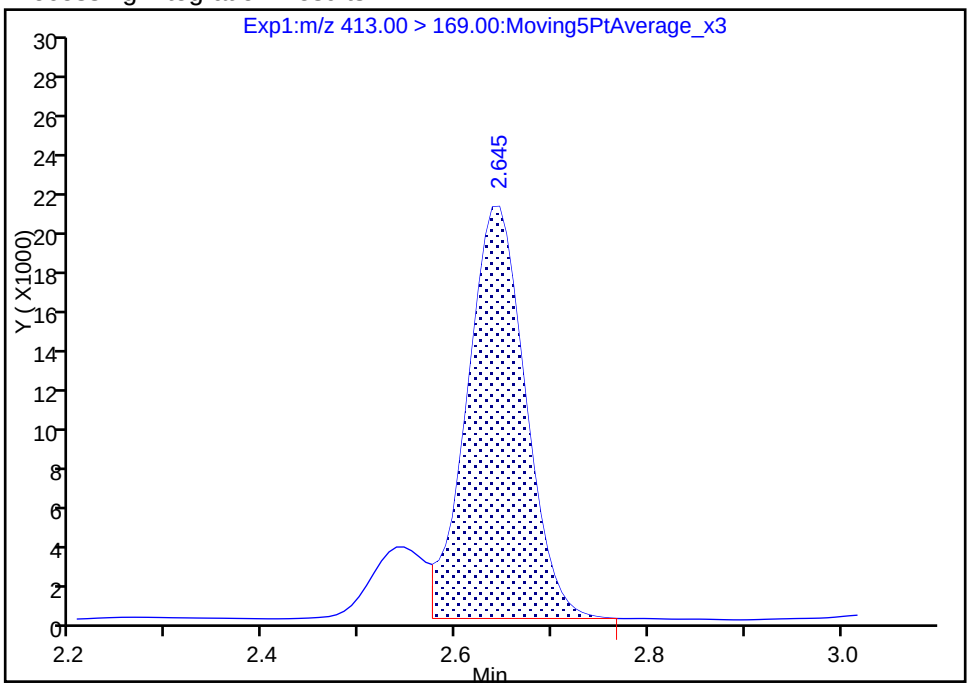
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_026.d				
Injection Date:	20-Dec-2017 07:49:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-1-A	Lab Sample ID:	320-34182-1		
Client ID:	MW-CR001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

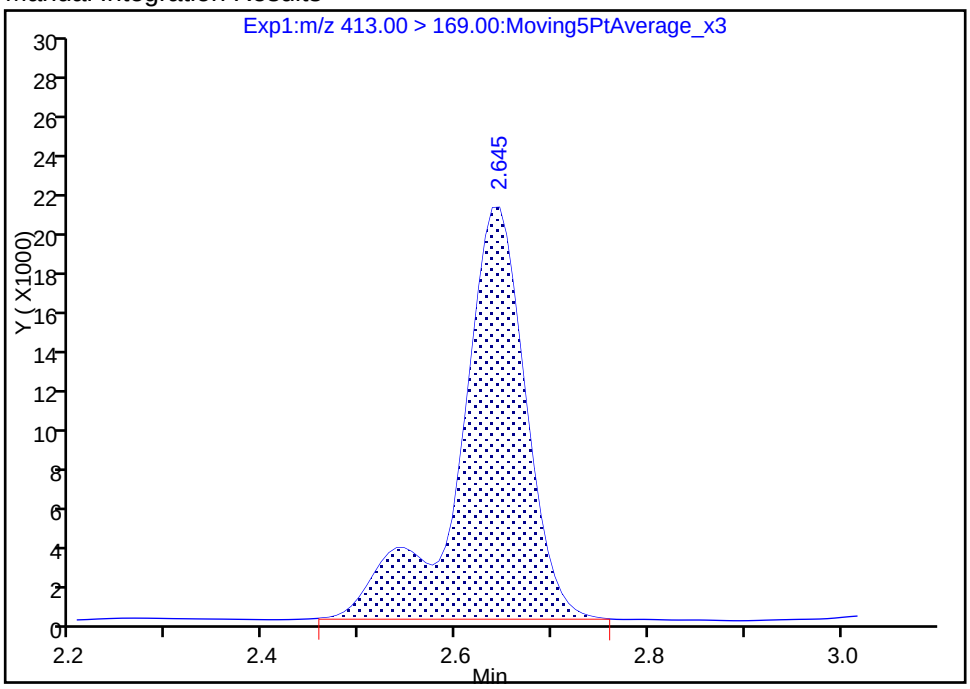
Processing Integration Results

RT: 2.65
Area: 87358
Amount: 0.074141
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 101279
Amount: 0.078262
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:14:39

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

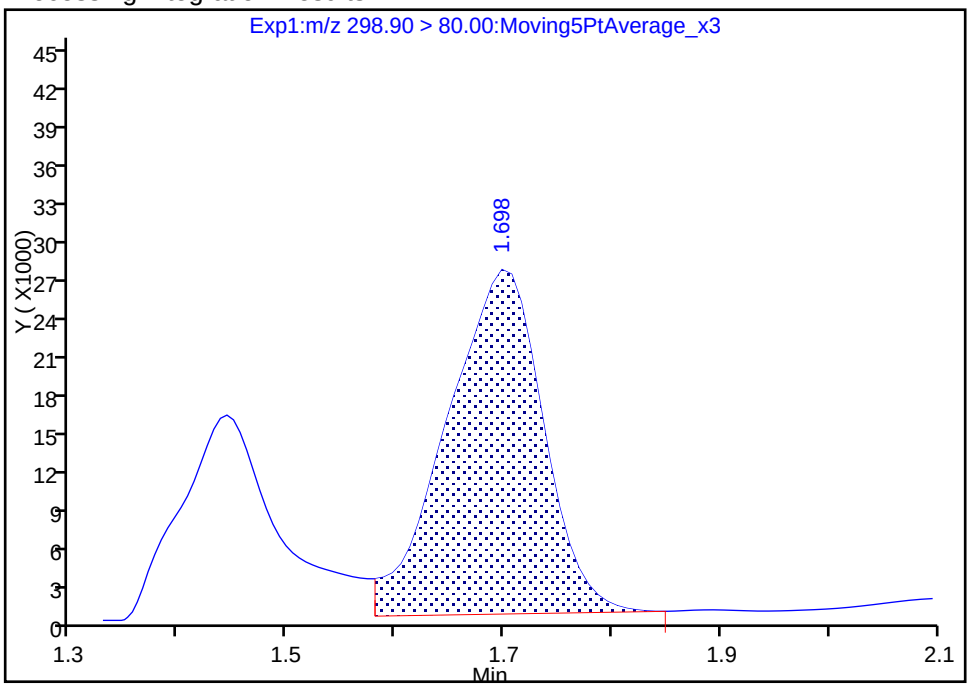
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Injection Date:	20-Dec-2017 07:49:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-1-A	Lab Sample ID:	320-34182-1		
Client ID:	MW-CR001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

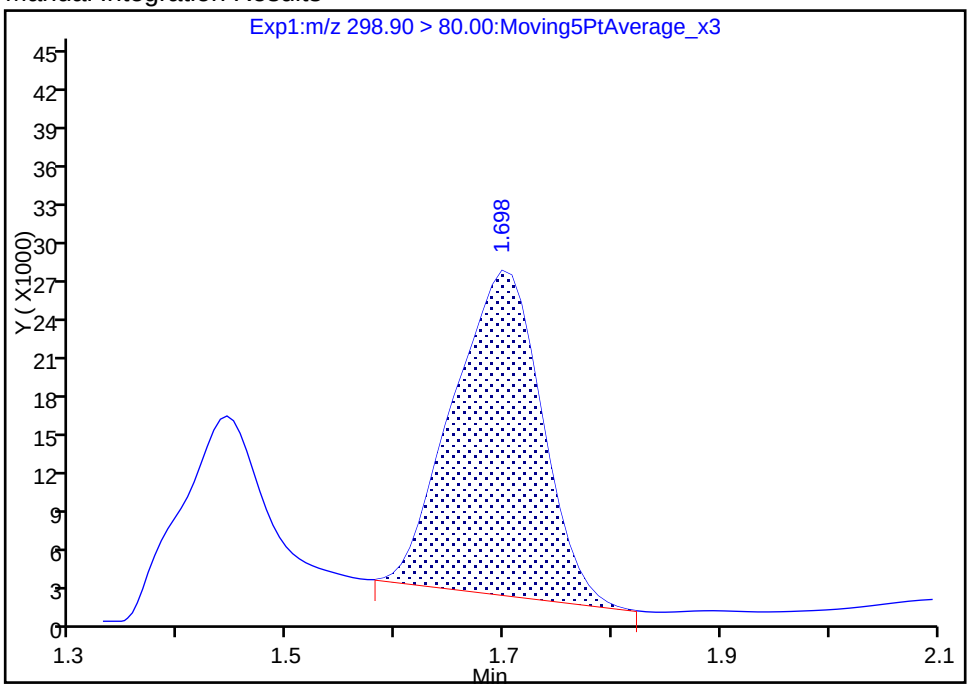
Processing Integration Results

RT: 1.70
Area: 166873
Amount: 0.051018
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 145204
Amount: 0.044393
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:13:22

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-CR002-A | Lab Sample ID: 320-34182-2

Matrix: Water | Lab File ID: 2017.12.19LLC_027.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 10:50

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 242.4(mL) | Date Analyzed: 12/20/2017 07:57

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.40		2.06	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	4.24		2.06	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	4.76		2.06	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.12		2.06	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	3.49		2.06	0.88
375-95-1	Perfluorononanoic acid (PFNA)	3.09		2.06	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.06	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.13	U	2.06	1.13
307-55-1	Perfluorododecanoic acid (PFDoA)	0.57	U	2.06	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.06	1.34
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.06	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.34	J	2.06	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	6.06	B	2.06	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.26	J	2.06	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	15.8		2.06	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.06	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.06	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.20	U	20.6	3.20
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.6	1.96
27619-97-2	6:2FTS	2.06	U	20.6	2.06
39108-34-4	8:2FTS	2.06	U	20.6	2.06

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-CR002-A | Lab Sample ID: 320-34182-2

Matrix: Water | Lab File ID: 2017.12.19LLC_027.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 10:50

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 242.4(mL) | Date Analyzed: 12/20/2017 07:57

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	92		25-150
STL01893	13C5 PFPeA	116		25-150
STL00993	13C2 PFHxA	106		25-150
STL01892	13C4-PFHpA	107		25-150
STL00990	13C4 PFOA	102		25-150
STL00995	13C5 PFNA	113		25-150
STL00996	13C2 PFDA	125		25-150
STL00997	13C2 PFUnA	114		25-150
STL00998	13C2 PFDoA	118		25-150
STL02116	13C2-PFTeDA	130		25-150
STL02337	13C3-PFBS	115		25-150
STL00994	18O2 PFHxS	115		25-150
STL00991	13C4 PFOS	117		25-150
STL01056	13C8 FOSA	99		25-150
STL02118	d3-NMeFOSAA	141		25-150
STL02117	d5-NEtFOSAA	126		25-150
STL02279	M2-6:2FTS	68		25-150
STL02280	M2-8:2FTS	199	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_027.d
Lims ID: 320-34182-A-2-A
Client ID: MW-CR002-A
Sample Type: Client
Inject. Date: 20-Dec-2017 07:57:09 ALS Bottle#: 18 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-2-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:24:25

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.534	7218606	2.30		92.0	27746	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.412	1.412	0.0	1.000	153127	0.0581			14.5	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.660	1.664	-0.004	0.628	5341877	2.89		116	38023	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.660	1.664	-0.004	1.000	242641	0.1027			34.7	M
D 47 13C3-PFBS										
301.90 > 83.00	1.695	1.699	-0.004	0.642	104767	2.68		115	1125	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.695	1.703	-0.008	1.000	109061	0.0324			34.5	M
298.90 > 99.00	1.695	1.703	-0.008	1.000	48151		2.26(1.25-3.74)		67.8	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.940	1.949	-0.009	1.000	239082	0.1154			181	M
313.00 > 119.00	1.940	1.949	-0.009	1.000	24834		9.63(5.03-15.10)		231	
D 7 13C2 PFHxA										
315.00 > 270.00	1.940	1.949	-0.009	0.734	5179268	2.64		106	52804	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.275	2.286	-0.011	1.000	103379	0.0514			104	M
363.00 > 169.00	2.275	2.286	-0.011	1.000	45805		2.26(1.13-3.40)		325	
D 9 13C4-PFHpA										
367.00 > 322.00	2.275	2.286	-0.011	0.861	4883679	2.67		107	37561	
D 11 18O2 PFHxS										
403.00 > 84.00	2.288	2.299	-0.011	0.866	6180218	2.72		115	58170	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.288	2.299	-0.011	1.000	417285	0.1469			406	
399.00 > 99.00	2.288	2.299	-0.011	1.000	137393		3.04(1.50-4.49)		287	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.613	2.640	-0.027	1.000	38026	0.0460			1419	
D 12 M2-6:2FTS										
429.00 > 81.00	2.613	2.640	-0.027	0.989	1226237	1.61		67.9	10337	
* 62 13C2-PFOA										
415.00 > 370.00	2.642	2.643	-0.001		5319755	2.50			50107	
D 14 13C4 PFOA										
417.00 > 372.00	2.635	2.647	-0.012	0.997	5631748	2.56		102	56542	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.642	2.649	-0.007	1.003	201138	0.0846			126	M
413.00 > 169.00	2.642	2.649	-0.007	1.003	109881		1.83(0.84-2.52)		800	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.649	2.654	-0.005	1.000	15330	0.006261			65.5	
449.00 > 99.00	2.649	2.654	-0.005	1.000	3119		4.92(1.94-5.82)		27.4	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.015	3.025	-0.010	1.000	694658	0.3839			78.5	
499.00 > 99.00	3.015	3.025	-0.010	1.000	116215		5.98(2.31-6.93)		108	
D 18 13C4 PFOS										
503.00 > 80.00	3.015	3.025	-0.010	1.141	4067250	2.79		117	21599	
20 Perfluorononanoic acid										
463.00 > 419.00	3.015	3.026	-0.011	1.000	120794	0.0748			114	
463.00 > 169.00	3.015	3.026	-0.011	1.000	30294		3.99(1.90-5.69)		364	
D 19 13C5 PFNA										
468.00 > 423.00	3.015	3.026	-0.011	1.141	4164043	2.82		113	40865	
D 21 13C8 FOSA										
506.00 > 78.00	3.362	3.362	0.0	1.273	5125417	2.49		99.4	32042	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.362	3.365	-0.003	1.000	14263	0.007359			285	
D 26 M2-8:2FTS										
529.00 > 81.00	3.362	3.375	-0.013	1.273	1542531	4.76		199	13196	
D 23 13C2 PFDA										
515.00 > 470.00	3.377	3.387	-0.010	1.278	3708018	3.13		125	56479	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.529	3.541	-0.012	1.336	1923834	3.53		141	26410	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.697	3.711	-0.014	1.399	1776383	3.16		126	15029	
D 30 13C2 PFUnA										
565.00 > 520.00	3.697	3.717	-0.020	1.399	2603041	2.86		114	29990	
D 36 13C2 PFDoA										
615.00 > 570.00	3.997	4.015	-0.018	1.513	2854224	2.95		118	41834	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.500	4.522	-0.022	1.703	3462428	3.25		130	35413	

QC Flag Legend

Review Flags

M - Manually Integrated

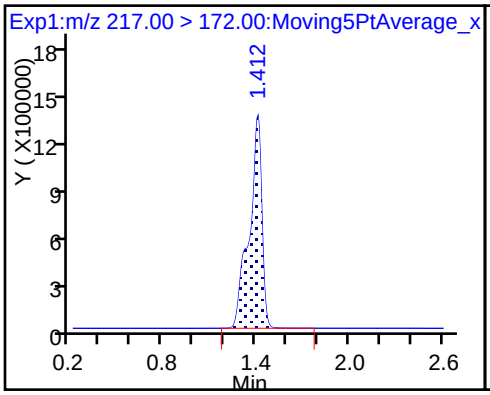
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TestAmerica Sacramento

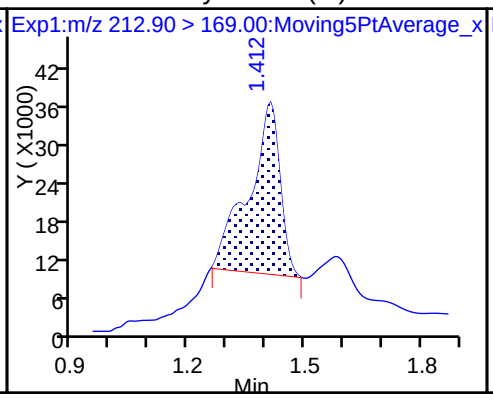
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_027.d

Injection Date:	20-Dec-2017 07:57:09	Instrument ID:	A8_N		
Lims ID:	320-34182-A-2-A	Lab Sample ID:	320-34182-2		
Client ID:	MW-CR002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

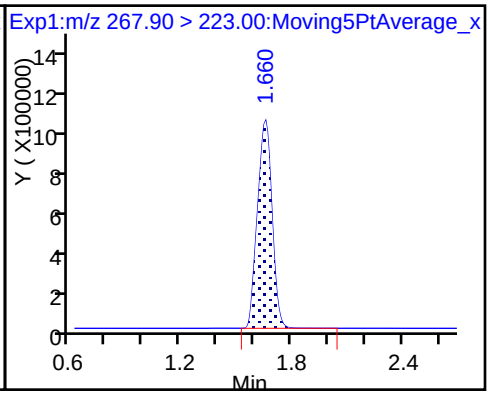
D 1 13C4 PFBA



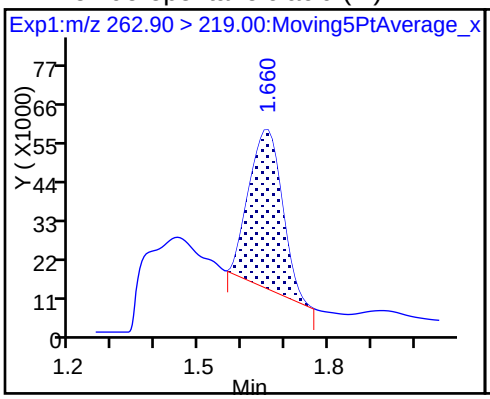
2 Perfluorobutyric acid (M)



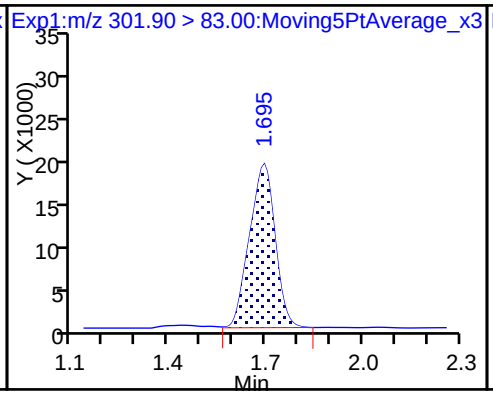
D 3 13C5-PFPeA



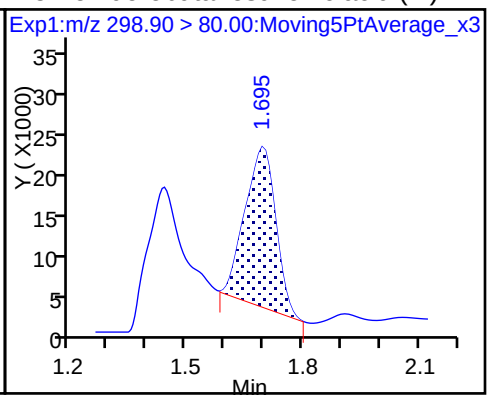
4 Perfluoropentanoic acid (M)



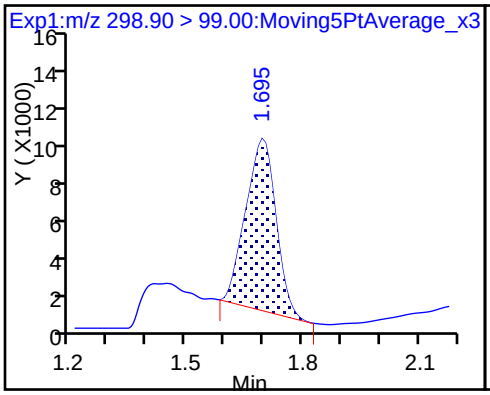
D 47 13C3-PFBS



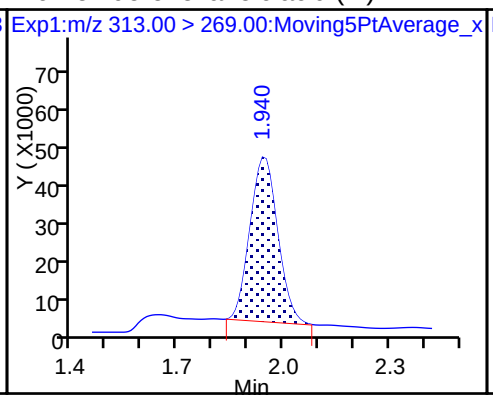
5 Perfluorobutanesulfonic acid (M)



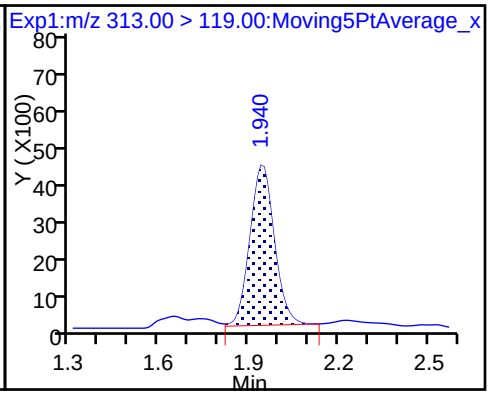
5 Perfluorobutanesulfonic acid



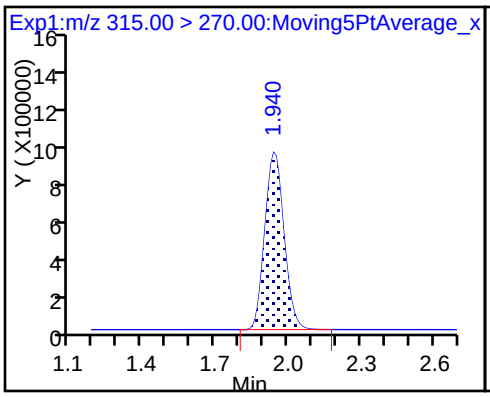
6 Perfluorohexanoic acid (M)



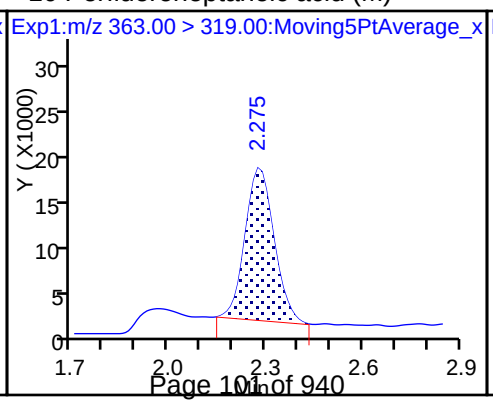
6 Perfluorohexanoic acid



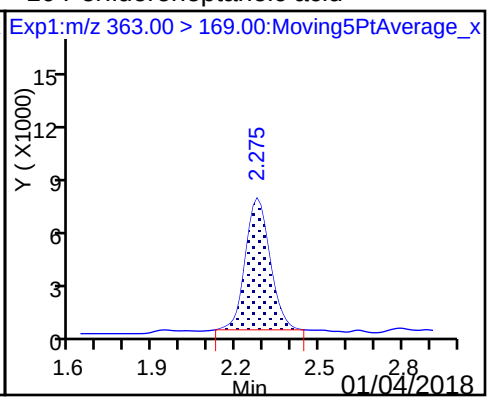
D 7 13C2 PFHxA



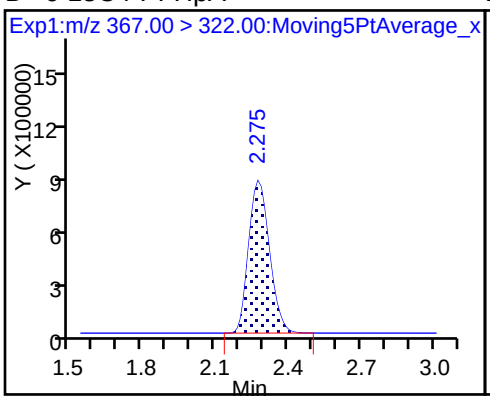
10 Perfluoroheptanoic acid (M)



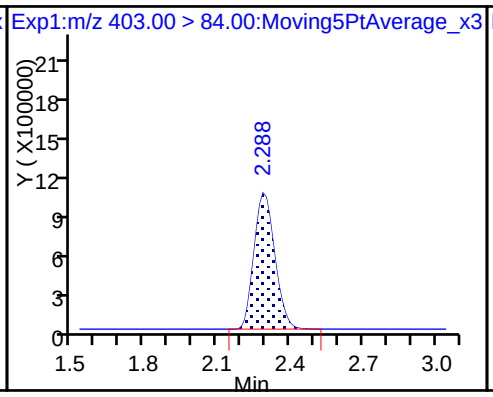
10 Perfluoroheptanoic acid



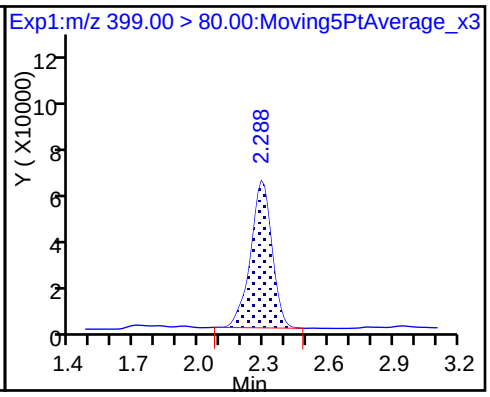
D 9 13C4-PFHpA



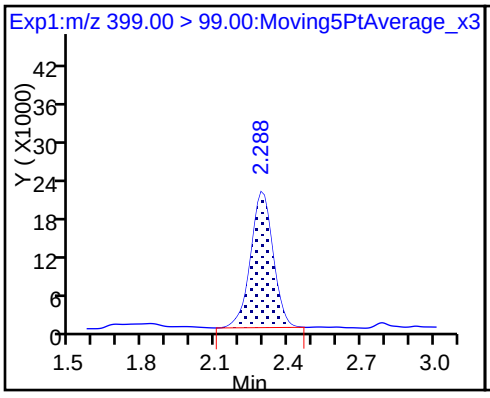
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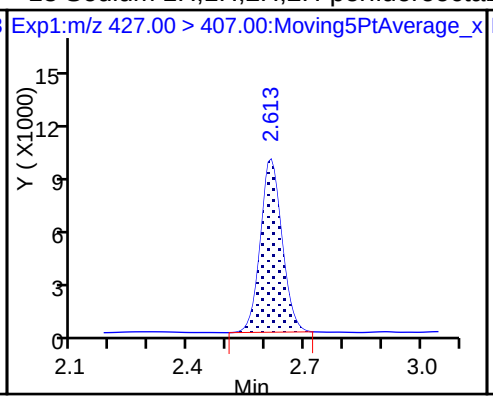
8 Perfluorohexanesulfonic acid



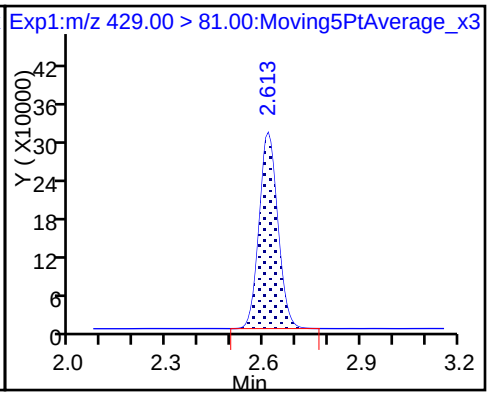
8 Perfluorohexanesulfonic acid



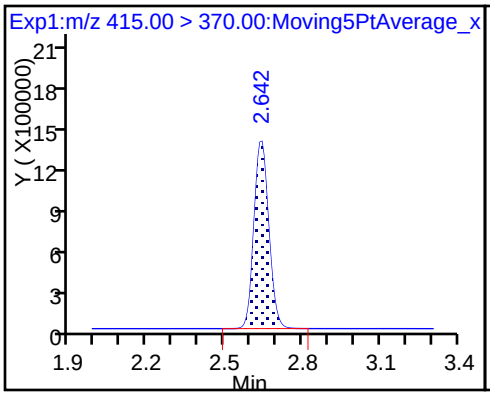
13 Sodium 1H,1H,2H,2H-perfluorooctane



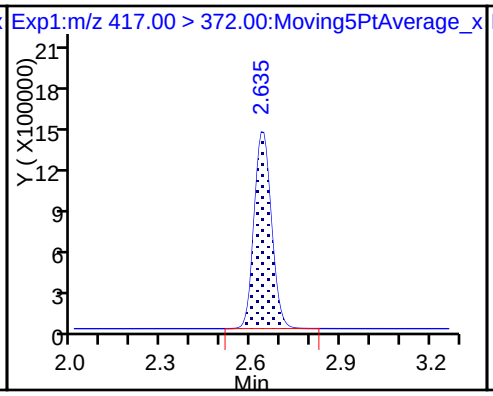
D 12 M2-6:2FTS



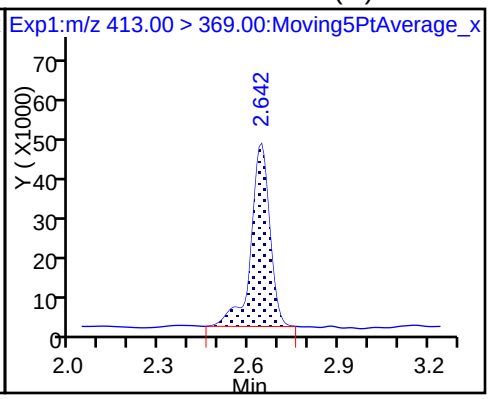
* 62 13C2-PFOA



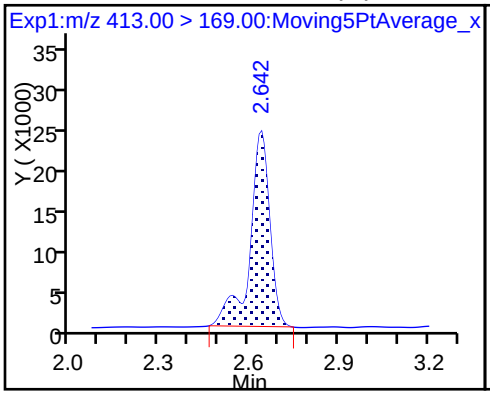
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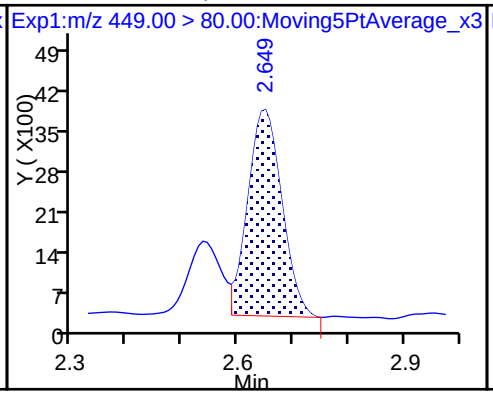
15 Perfluorooctanoic acid (M)



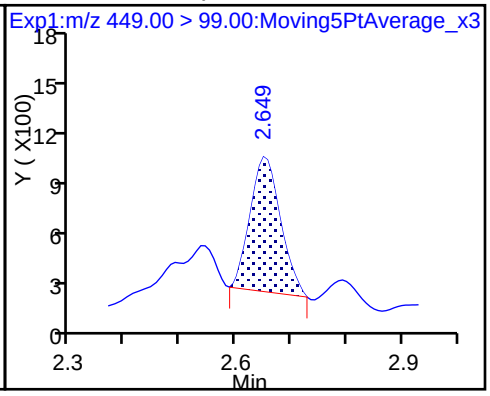
15 Perfluorooctanoic acid (M)



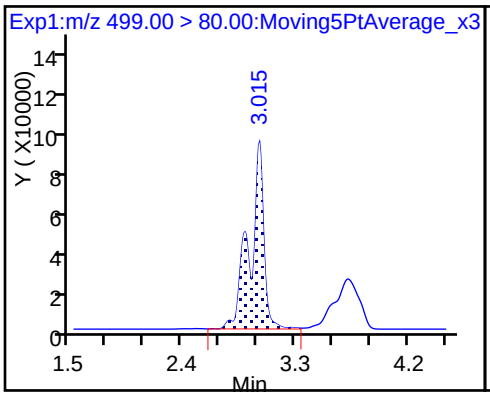
16 Perfluoroheptanesulfonic Acid



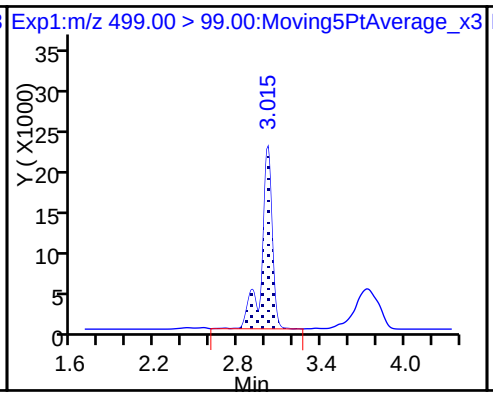
16 Perfluoroheptanesulfonic Acid



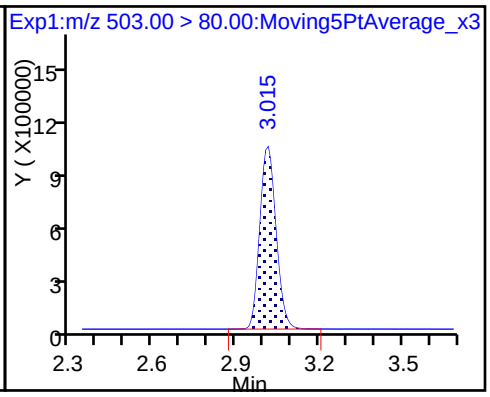
17 Perfluorooctane sulfonic acid



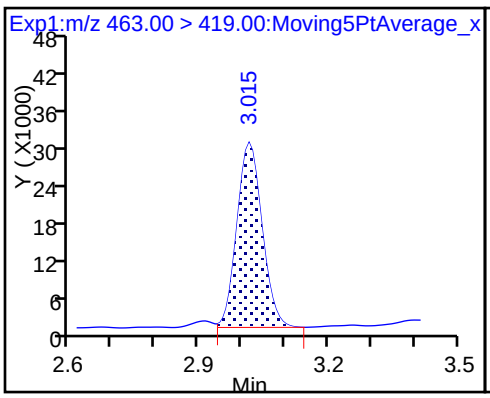
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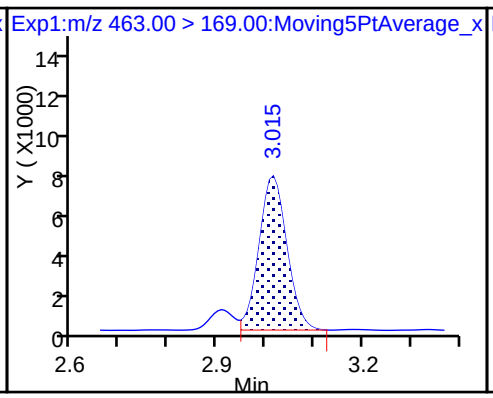
D 18 13C4 PFOS



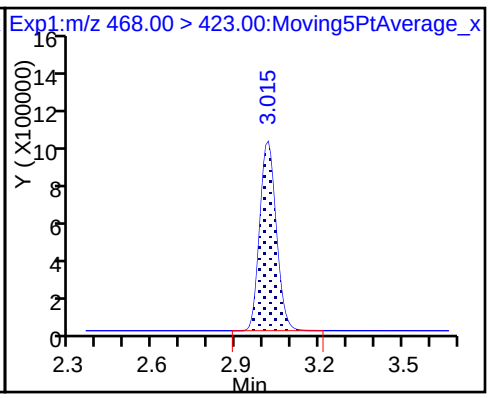
20 Perfluorononanoic acid



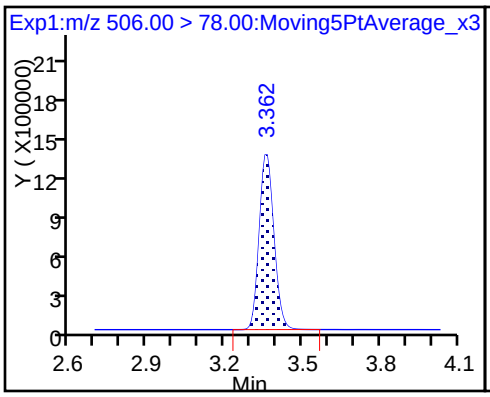
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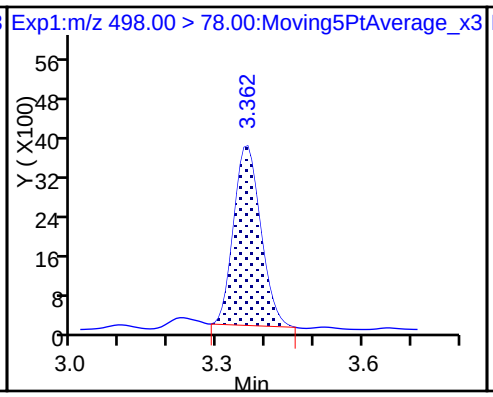
D 19 13C5 PFNA



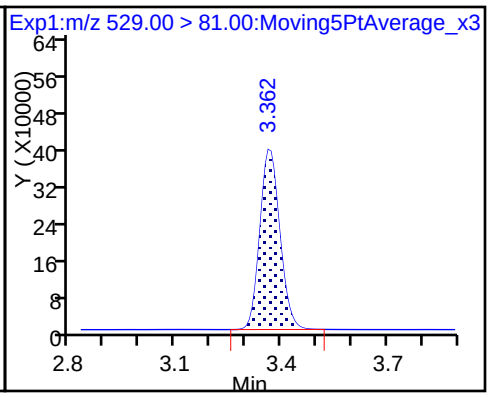
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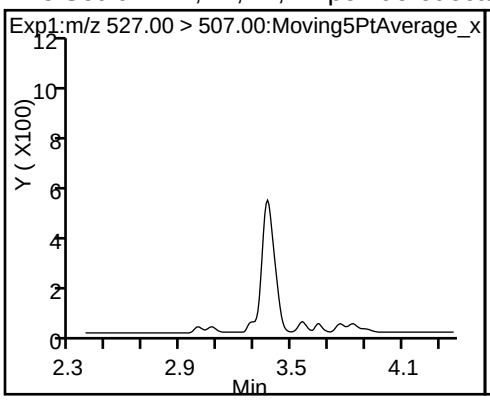
22 Perfluorooctane Sulfonamide



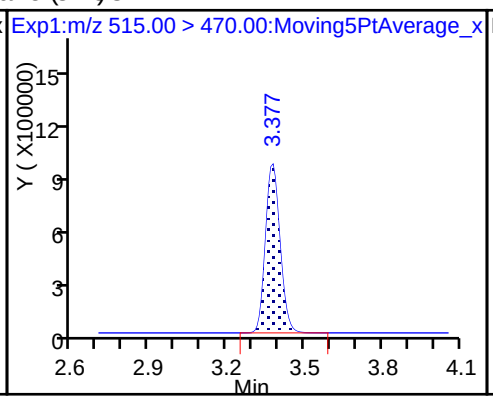
D 26 M2-8:2FTS



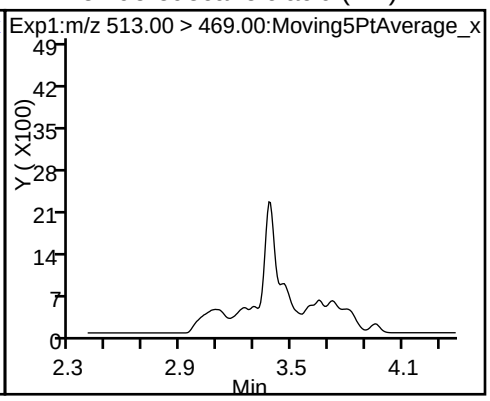
25 Sodium 1H,1H,2H,2H-perfluorodecane...



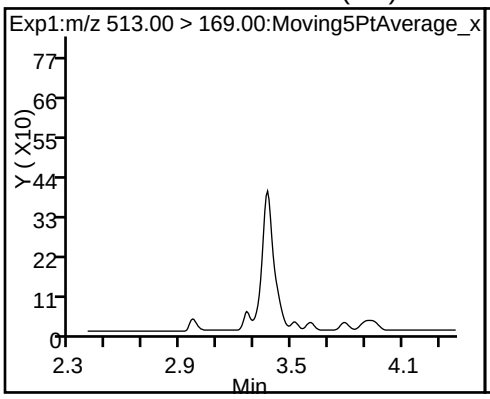
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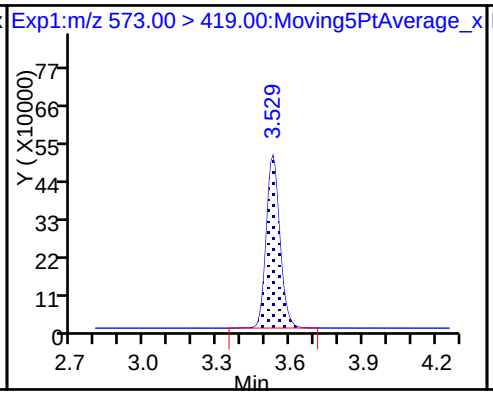
24 Perfluorodecanoic acid (ND)



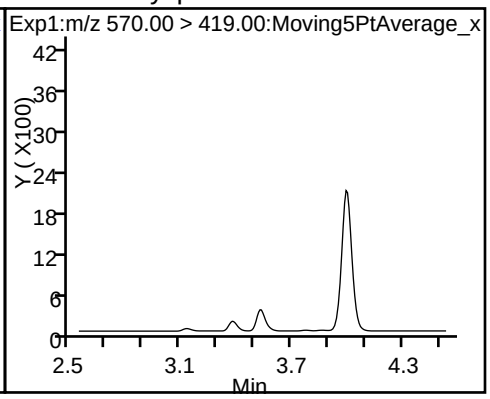
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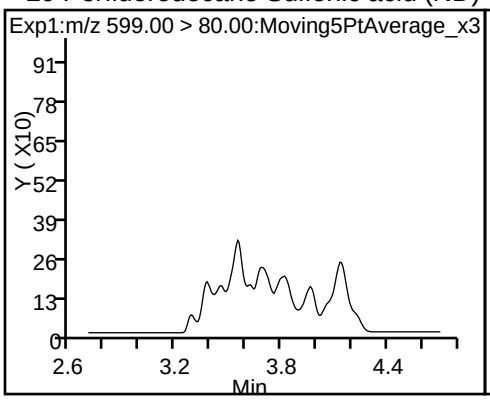
D 27 d3-NMeFOSAA



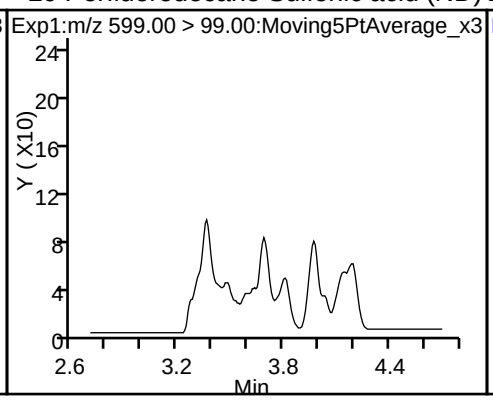
28 N-methyl perfluorooctane sulfonami (ND)



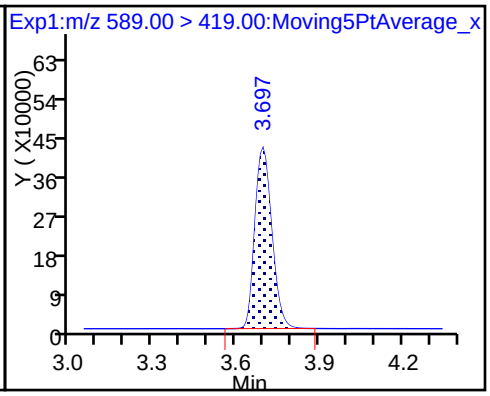
29 Perfluorodecane Sulfonic acid (ND)



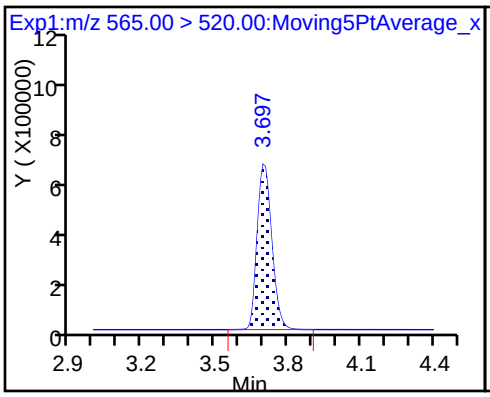
29 Perfluorodecane Sulfonic acid (ND)



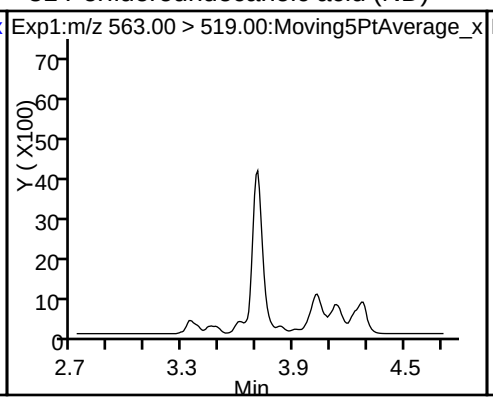
D 32 d5-NEtFOSAA



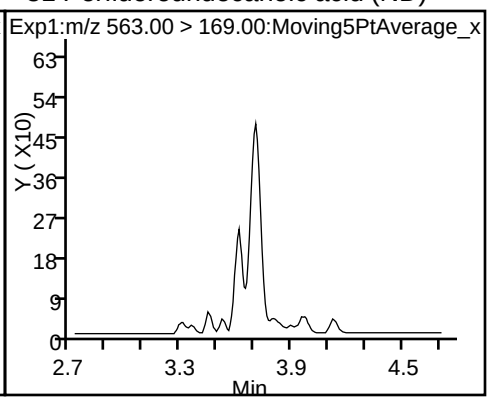
D 30 13C2 PFUnA



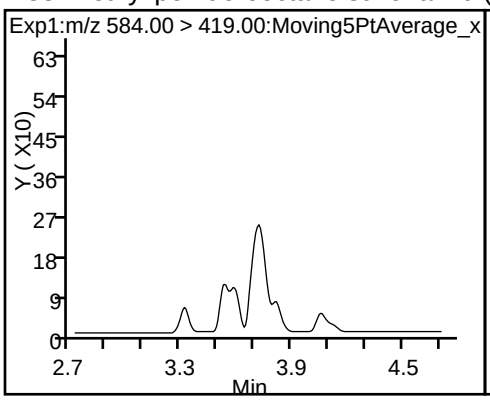
31 Perfluoroundecanoic acid (ND)



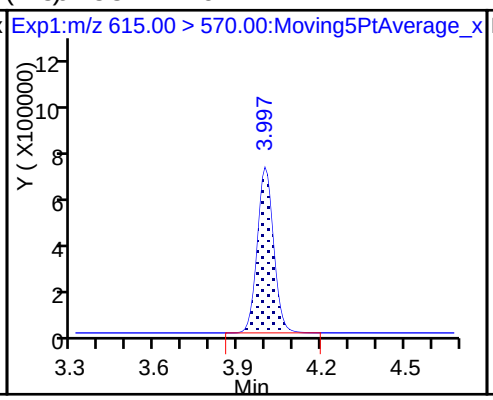
31 Perfluoroundecanoic acid (ND)



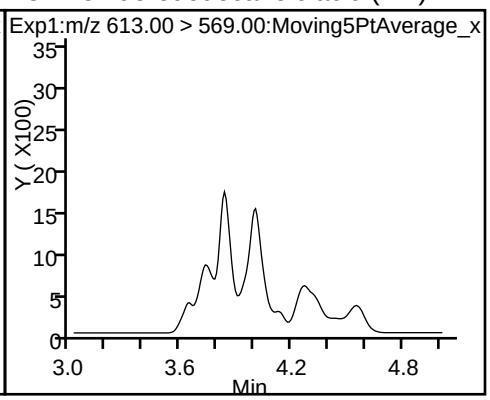
33 N-ethyl perfluorooctane sulfonamid (ND)



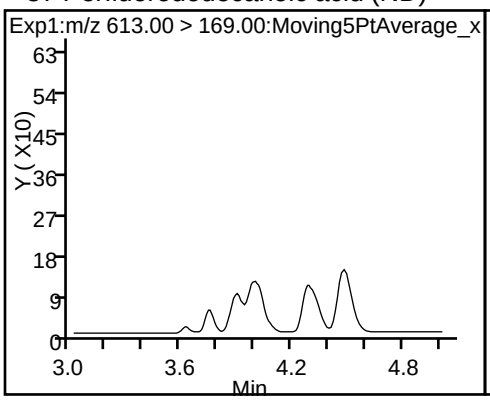
D 36 13C2 PFDoA



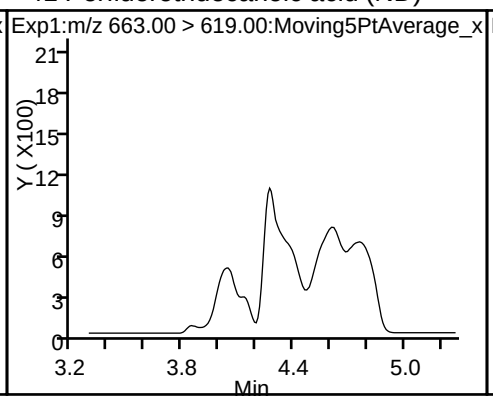
37 Perfluorododecanoic acid (ND)



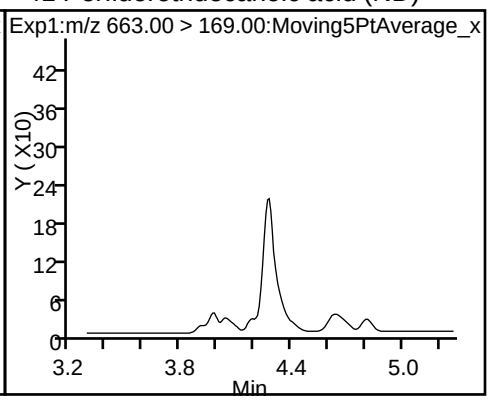
37 Perfluorododecanoic acid (ND)



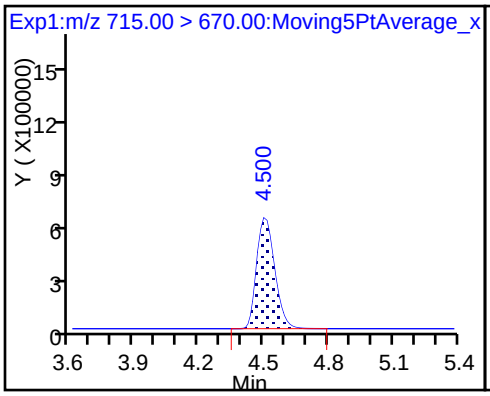
41 Perfluorotridecanoic acid (ND)



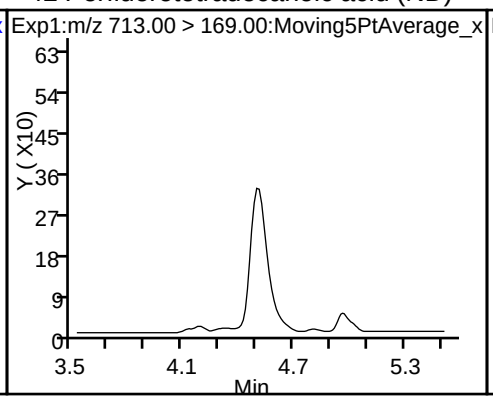
41 Perfluorotridecanoic acid (ND)



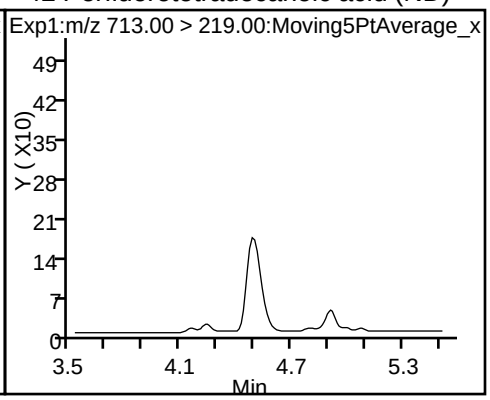
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

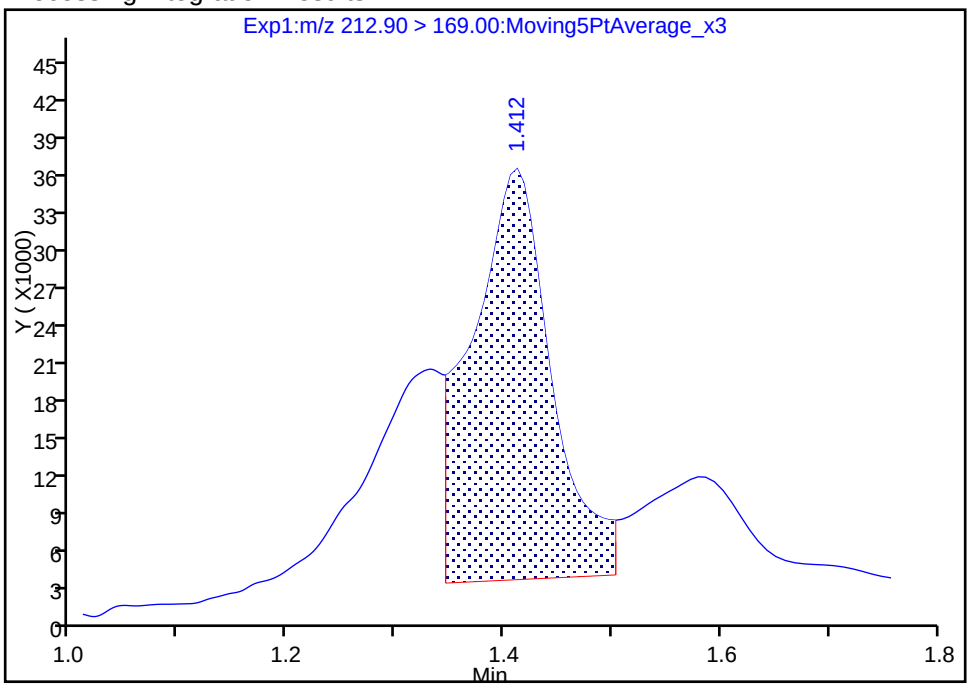
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Injection Date:	20-Dec-2017 07:57:09	Instrument ID:	A8_N		
Lims ID:	320-34182-A-2-A	Lab Sample ID:	320-34182-2		
Client ID:	MW-CR002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

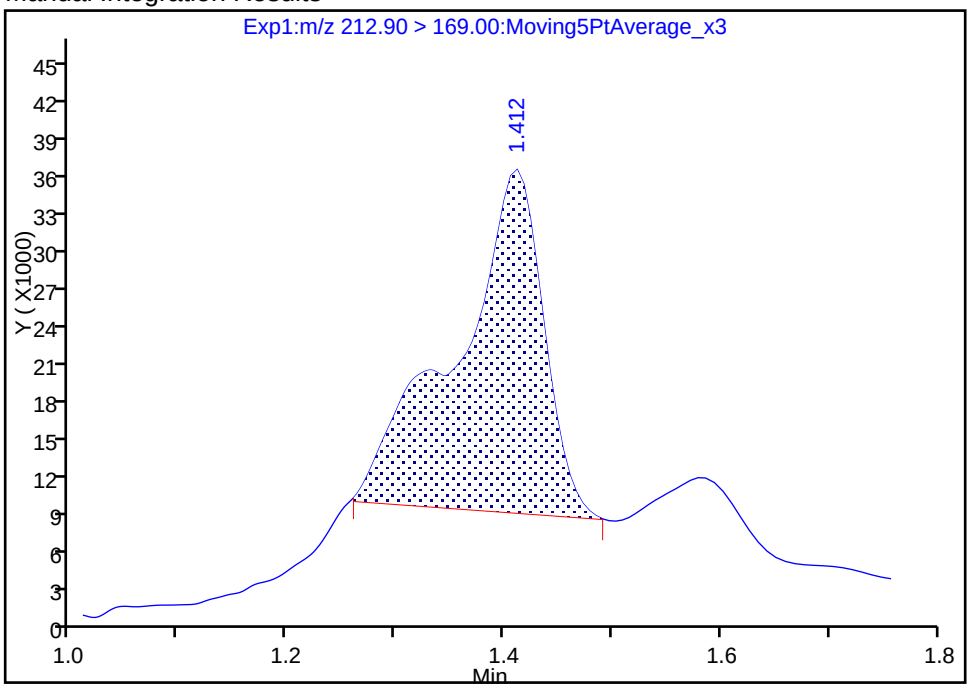
Processing Integration Results

RT: 1.41
Area: 166117
Amount: 0.063059
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 153127
Amount: 0.058128
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:21:32

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

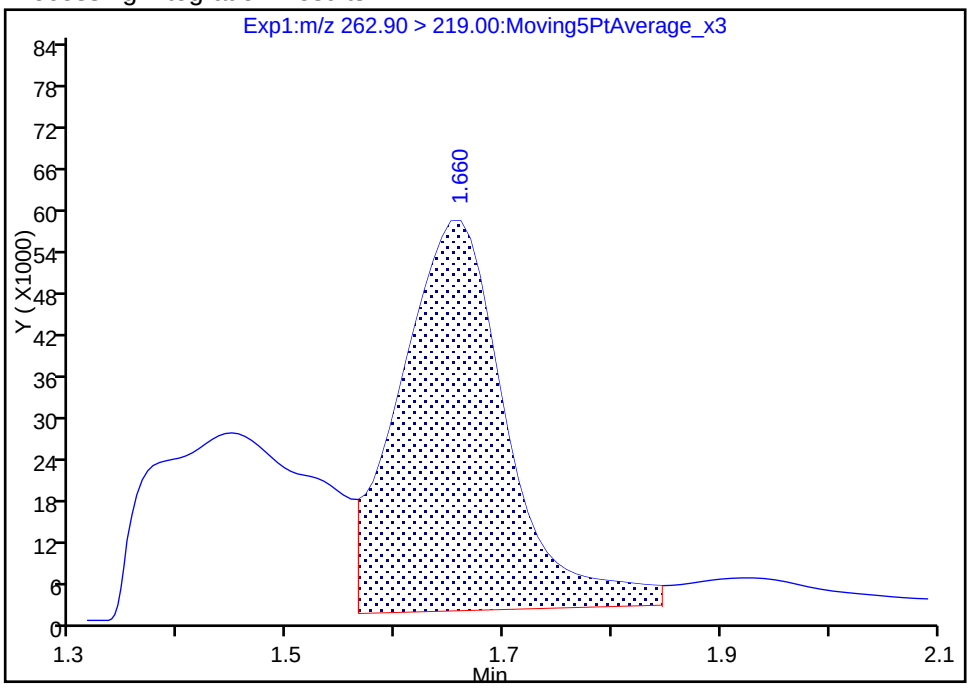
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_027.d				
Injection Date:	20-Dec-2017 07:57:09	Instrument ID:	A8_N		
Lims ID:	320-34182-A-2-A	Lab Sample ID:	320-34182-2		
Client ID:	MW-CR002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

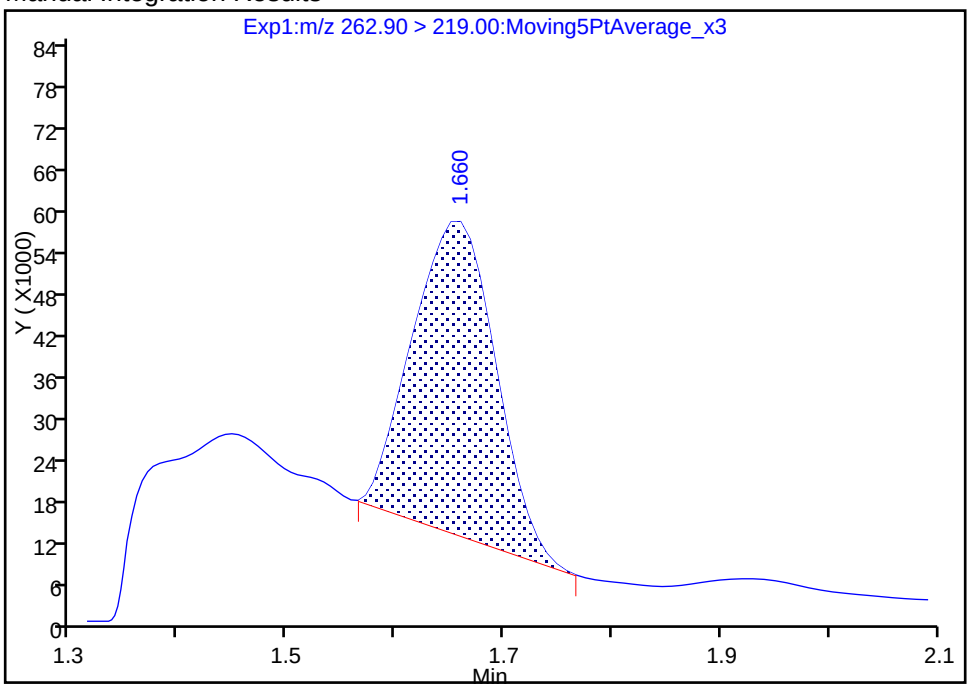
Processing Integration Results

RT: 1.66
Area: 386792
Amount: 0.163755
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 242641
Amount: 0.102726
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:21:53

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

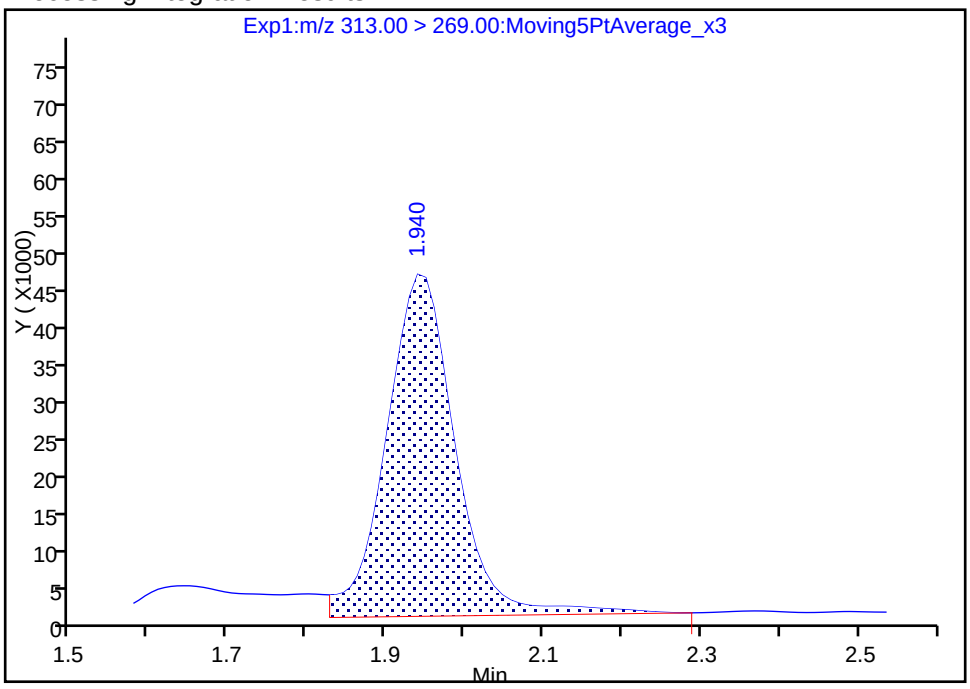
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_027.d				
Injection Date:	20-Dec-2017 07:57:09	Instrument ID:	A8_N		
Lims ID:	320-34182-A-2-A	Lab Sample ID:	320-34182-2		
Client ID:	MW-CR002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

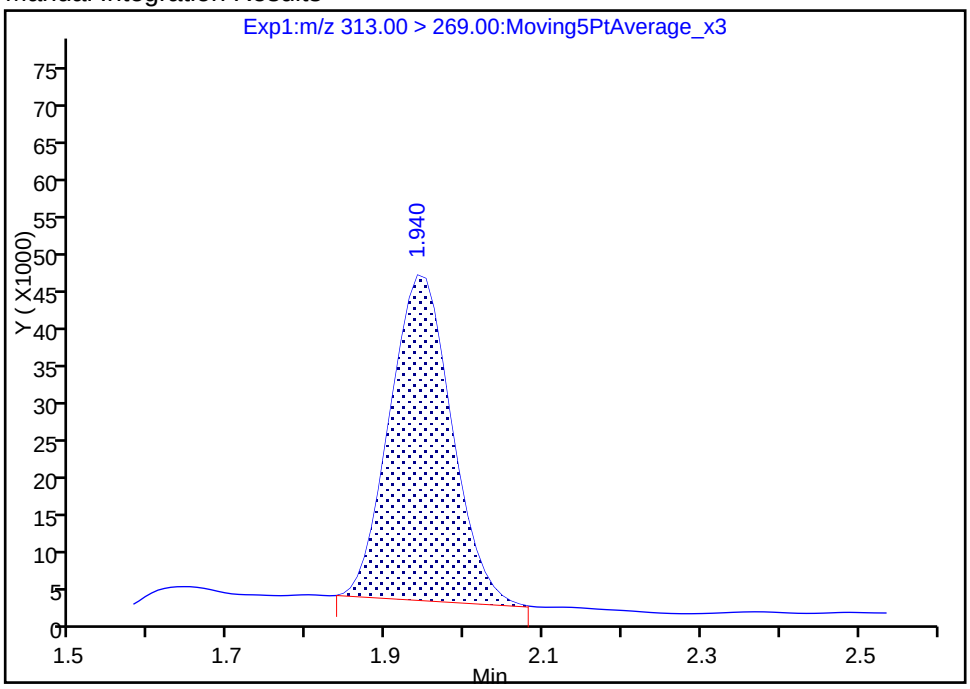
Processing Integration Results

RT: 1.94
Area: 279769
Amount: 0.135063
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 239082
Amount: 0.115421
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:22:18

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

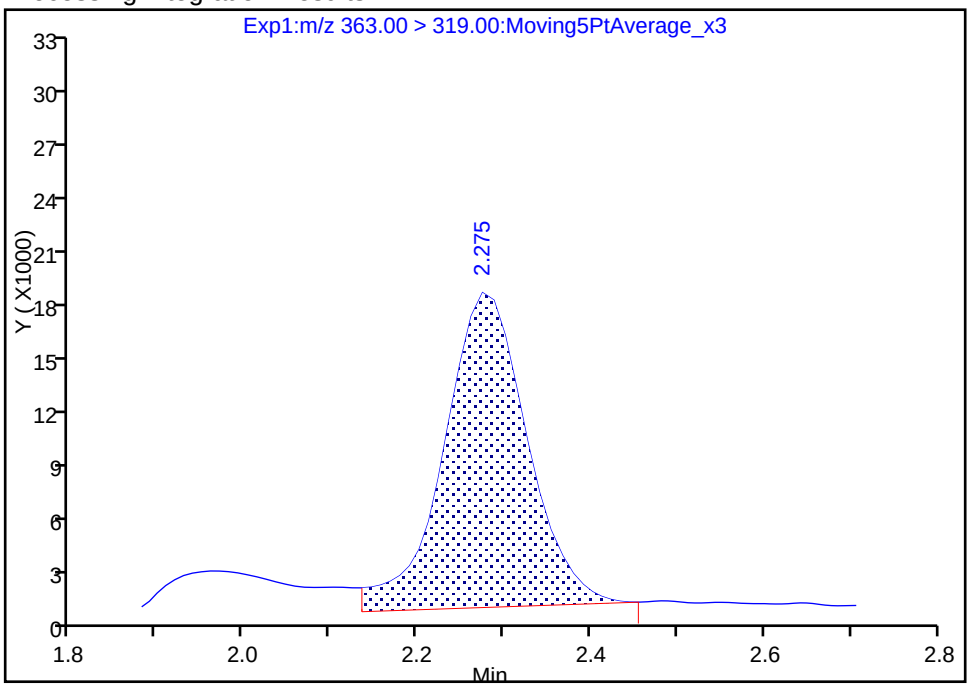
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_027.d				
Injection Date:	20-Dec-2017 07:57:09	Instrument ID:	A8_N		
Lims ID:	320-34182-A-2-A	Lab Sample ID:	320-34182-2		
Client ID:	MW-CR002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

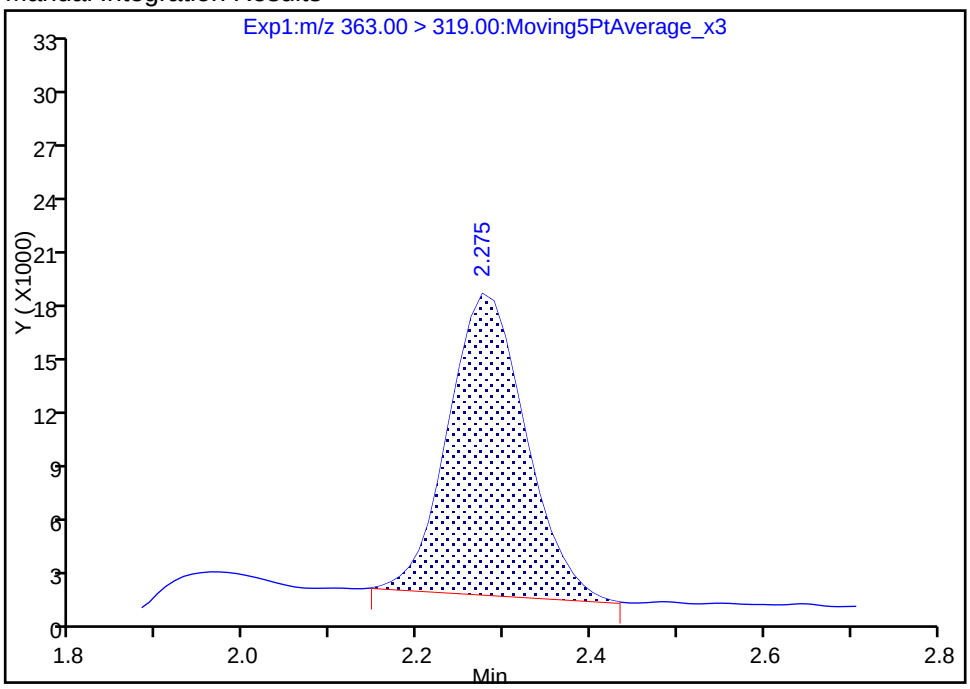
Processing Integration Results

RT: 2.28
Area: 115683
Amount: 0.057516
Amount Units: ng/ml



Manual Integration Results

RT: 2.28
Area: 103379
Amount: 0.051399
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:22:37

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

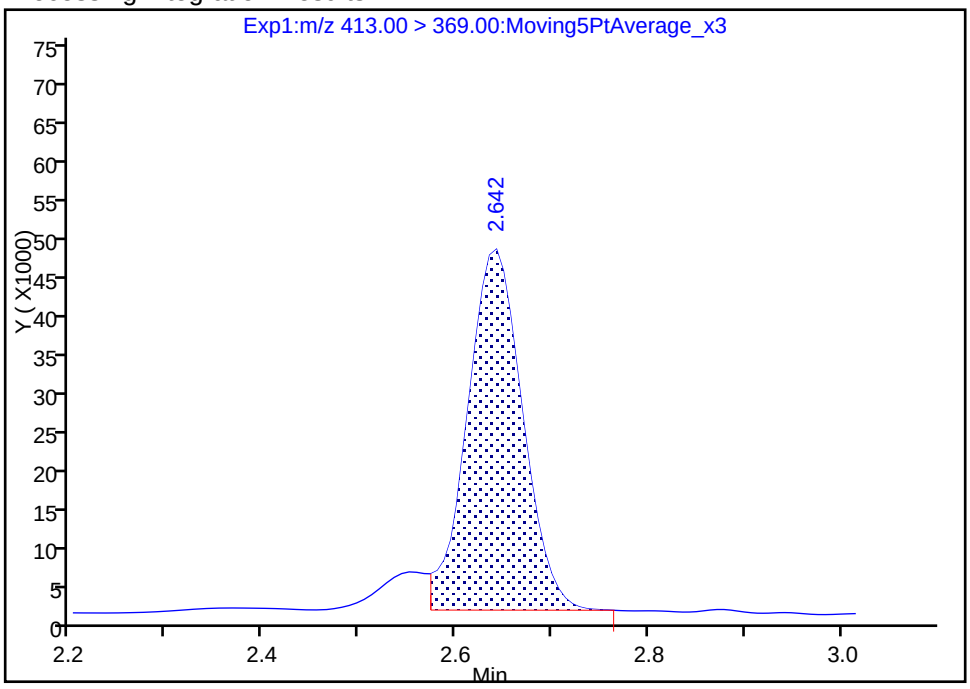
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_027.d				
Injection Date:	20-Dec-2017 07:57:09	Instrument ID:	A8_N		
Lims ID:	320-34182-A-2-A	Lab Sample ID:	320-34182-2		
Client ID:	MW-CR002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

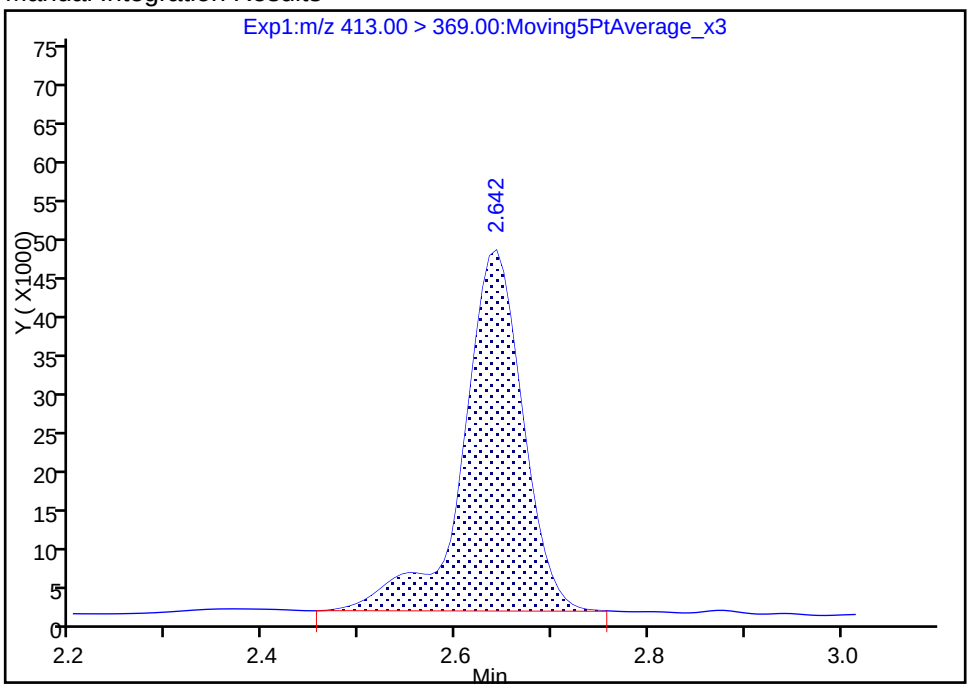
Processing Integration Results

RT: 2.64
Area: 184041
Amount: 0.077420
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 201138
Amount: 0.084612
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:23:09

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

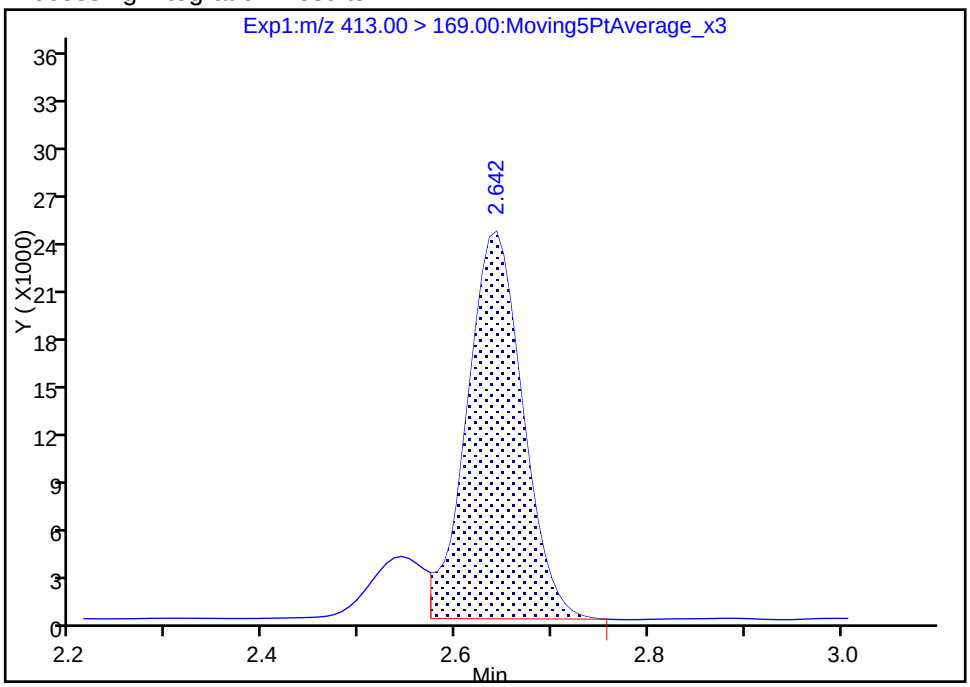
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_027.d				
Injection Date:	20-Dec-2017 07:57:09	Instrument ID:	A8_N		
Lims ID:	320-34182-A-2-A	Lab Sample ID:	320-34182-2		
Client ID:	MW-CR002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

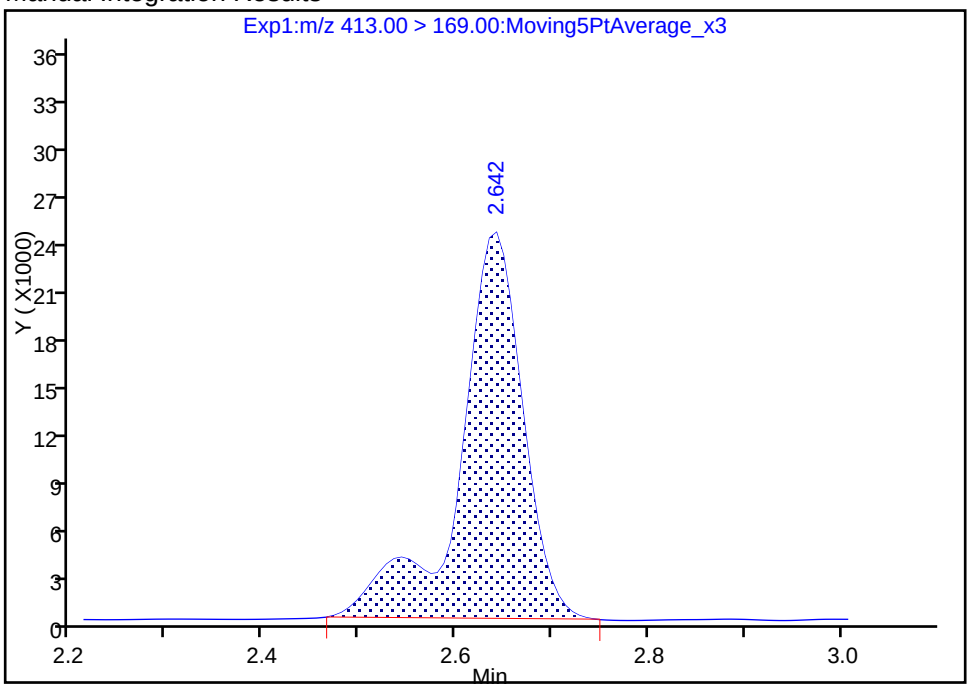
Processing Integration Results

RT: 2.64
Area: 96585
Amount: 0.077420
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 109881
Amount: 0.084612
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:23:18

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

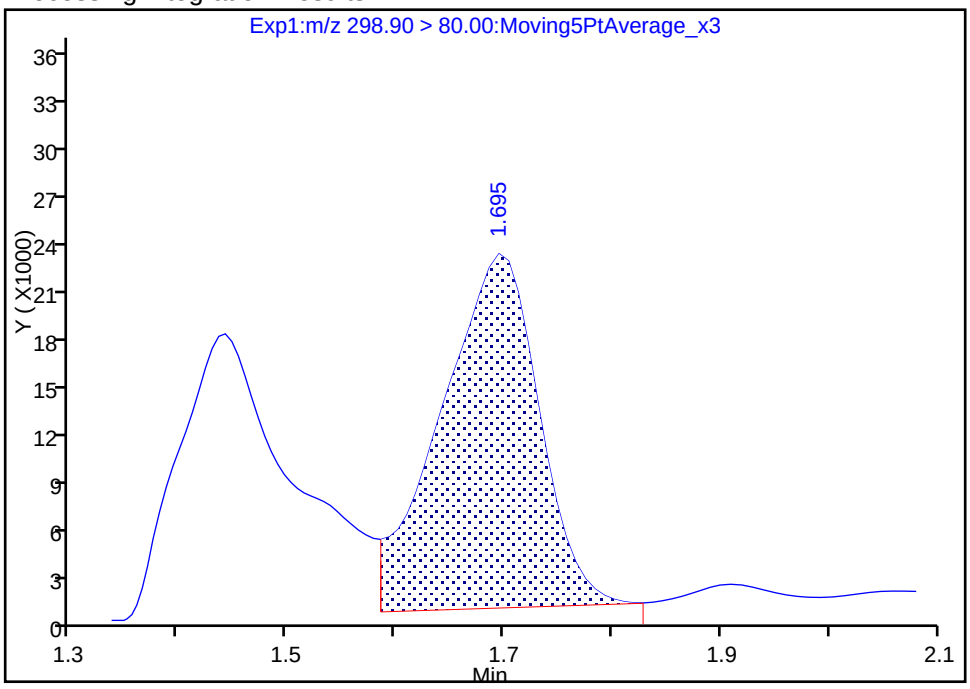
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_027.d				
Injection Date:	20-Dec-2017 07:57:09	Instrument ID:	A8_N		
Lims ID:	320-34182-A-2-A	Lab Sample ID:	320-34182-2		
Client ID:	MW-CR002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

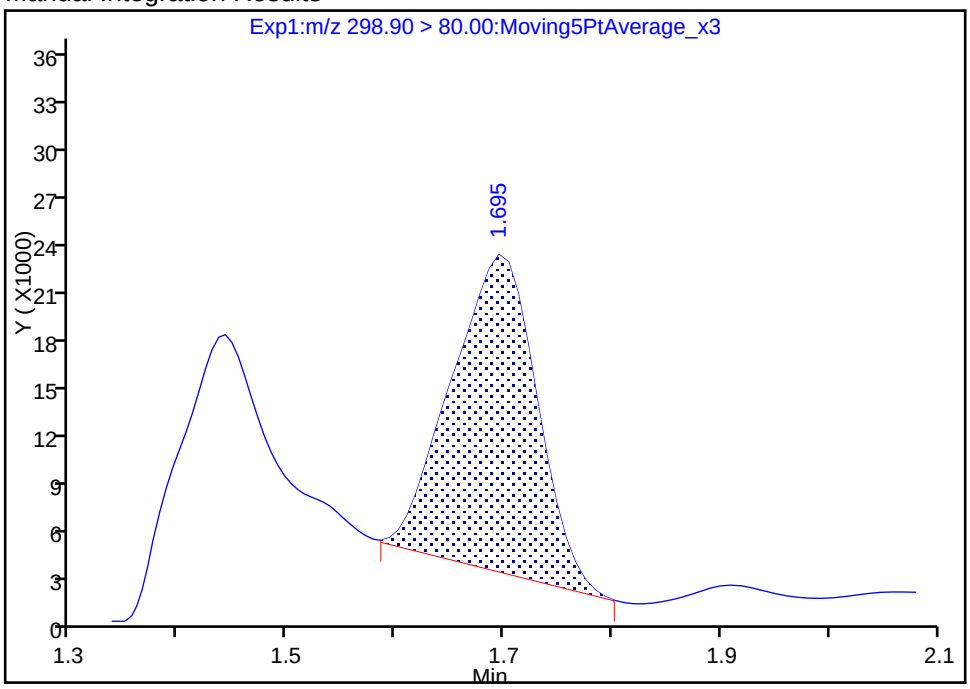
Processing Integration Results

RT: 1.70
Area: 139500
Amount: 0.041413
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 109061
Amount: 0.032376
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:22:07

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-LN001-A | Lab Sample ID: 320-34182-3

Matrix: Water | Lab File ID: 2017.12.19LLC_028.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 09:45

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 255.6(mL) | Date Analyzed: 12/20/2017 08:05

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	11.4		1.96	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	6.05		1.96	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	14.0		1.96	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	6.17		1.96	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	14.7		1.96	0.83
375-95-1	Perfluorononanoic acid (PFNA)	1.29	J	1.96	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.30	U	1.96	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.08	U	1.96	1.08
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.96	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.96	1.27
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.32	J	1.96	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	5.63	B	1.96	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.25	J	1.96	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	9.60		1.96	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.96	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.03	U	19.6	3.03
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	19.6	1.86
27619-97-2	6:2FTS	1.96	U	19.6	1.96
39108-34-4	8:2FTS	1.96	U	19.6	1.96

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-LN001-A | Lab Sample ID: 320-34182-3

Matrix: Water | Lab File ID: 2017.12.19LLC_028.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 09:45

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 255.6(mL) | Date Analyzed: 12/20/2017 08:05

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	62		25-150
STL01893	13C5 PFPeA	102		25-150
STL00993	13C2 PFHxA	97		25-150
STL01892	13C4-PFHpA	113		25-150
STL00990	13C4 PFOA	103		25-150
STL00995	13C5 PFNA	117		25-150
STL00996	13C2 PFDA	122		25-150
STL00997	13C2 PFUnA	108		25-150
STL00998	13C2 PFDoA	113		25-150
STL02116	13C2-PFTeDA	134		25-150
STL02337	13C3-PFBS	121		25-150
STL00994	18O2 PFHxS	115		25-150
STL00991	13C4 PFOS	112		25-150
STL01056	13C8 FOSA	105		25-150
STL02118	d3-NMeFOSAA	137		25-150
STL02117	d5-NEtFOSAA	128		25-150
STL02279	M2-6:2FTS	89		25-150
STL02280	M2-8:2FTS	179	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_028.d
Lims ID: 320-34182-A-3-A
Client ID: FW-LN001-A
Sample Type: Client
Inject. Date: 20-Dec-2017 08:05:00 ALS Bottle#: 19 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-3-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:27:15

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.418	1.411	0.007	0.536	4961807	1.55		62.0	17001	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.418	1.412	0.006	1.000	527137	0.2911			28.0	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.668	1.664	0.004	0.630	4784304	2.54		102	21516	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.668	1.664	0.004	1.000	327166	0.1547			16.5	M
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.643	112304	2.82		121	643	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.703	1.703	0.0	1.000	121983	0.0338			11.8	M
298.90 > 99.00	1.703	1.703	0.0	1.000	55599		2.19(1.25-3.74)		29.6	
D 60 M2-4:2FTS										
329.00 > 81.00	1.960	1.924	0.036	0.740	6621	0.0318		0.0	38.8	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.949	1.949	0.0	1.000	698083	0.3591			138	M
313.00 > 119.00	1.949	1.949	0.0	1.000	65147		10.72(5.03-15.10)		364	
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.736	4860978	2.43		97.3	40605	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.286	2.286	0.0	1.000	342137	0.1578			139	M
363.00 > 169.00	2.286	2.286	0.0	1.000	138872		2.46(1.13-3.40)		826	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.864	5265007	2.82		113	46364	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.869	6287491	2.72		115	52903	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										M
399.00 > 80.00	2.299	2.299	0.0	1.000	415713	0.1439			148	M
399.00 > 99.00	2.299	2.299	0.0	1.000	153580		2.71(1.50-4.49)		144	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.619	2.640	-0.021	1.000	23503	0.0213			1004	
D 12 M2-6:2FTS										
429.00 > 81.00	2.619	2.640	-0.021	0.989	1633355	2.11		88.7	7730	
* 62 13C2-PFOA										
415.00 > 370.00	2.647	2.643	0.004		5424301	2.50			47549	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.647	0.0	1.000	5801615	2.59		103	47409	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.647	2.649	-0.002	1.000	921285	0.3762			352	M
413.00 > 169.00	2.647	2.649	-0.002	1.000	586146		1.57(0.84-2.52)		2879	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.654	2.654	0.0	1.000	15266	0.006371			37.4	
449.00 > 99.00	2.662	2.654	0.008	1.003	5677		2.69(1.94-5.82)		26.3	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.021	3.025	-0.004	1.000	434533	0.2454			52.3	
499.00 > 99.00	3.021	3.025	-0.004	1.000	85290		5.09(2.31-6.93)		77.3	
D 18 13C4 PFOS										
503.00 > 80.00	3.021	3.025	-0.004	1.141	3980242	2.68		112	19341	
20 Perfluorononanoic acid										
463.00 > 419.00	3.021	3.026	-0.005	1.000	56225	0.0330			64.7	
463.00 > 169.00	3.021	3.026	-0.005	1.000	12797		4.39(1.90-5.69)		88.9	
D 19 13C5 PFNA										
468.00 > 423.00	3.021	3.026	-0.005	1.141	4394887	2.91		117	44817	
D 21 13C8 FOSA										
506.00 > 78.00	3.366	3.362	0.004	1.271	5542486	2.64		105	27152	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.000	16141	0.007701			192	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.274	1420928	4.30		179	11479	
D 23 13C2 PFDA										
515.00 > 470.00	3.381	3.387	-0.006	1.277	3690529	3.06		122	46010	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.541	-0.008	1.335	1899176	3.41		137	19595	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.397	1834035	3.20		128	15382	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.401	2520534	2.71		108	29002	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.717	3.718	-0.001	1.002	5155	0.005652			18.3	
563.00 > 169.00	3.717	3.718	-0.001	1.002	2043		2.52(0.00-0.00)		94.7	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.718	-0.010	1.002	5635	0.007883			31.0	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.457	715810	1.16		46.2	1656	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.015	-0.008	1.514	2801999	2.84		113	25338	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.528	607972	1.04		41.6	1271	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.706	3638302	3.35		134	25281	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.944	-0.012	1.863	5098690	2.57		103	11459	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.945	-0.013	1.000	45157	0.001249			23.7	
813.00 > 169.00	4.932	4.945	-0.013	1.000	7603		5.94(2.86-8.58)		225	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:07 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_028.d

Injection Date: 20-Dec-2017 08:05:00 Instrument ID: A8_N

Lims ID: 320-34182-A-3-A Lab Sample ID: 320-34182-3

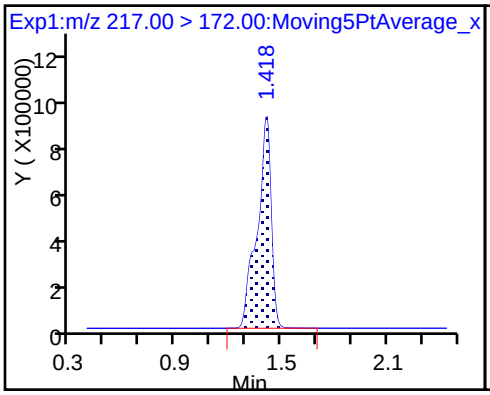
Client ID: FW-LN001-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 19 Worklist Smp#: 6

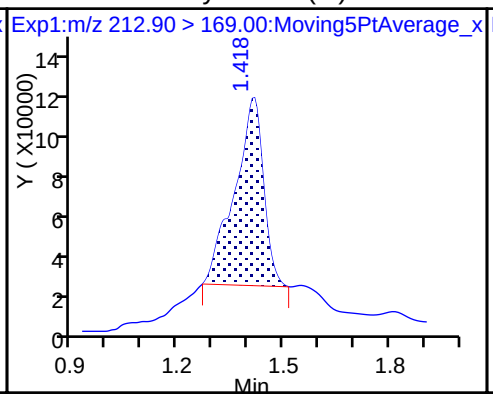
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

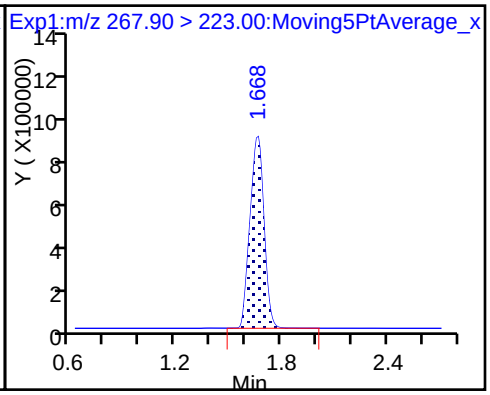
D 1 13C4 PFBA



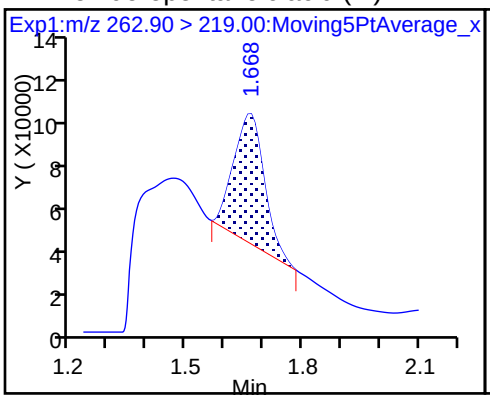
2 Perfluorobutyric acid (M)



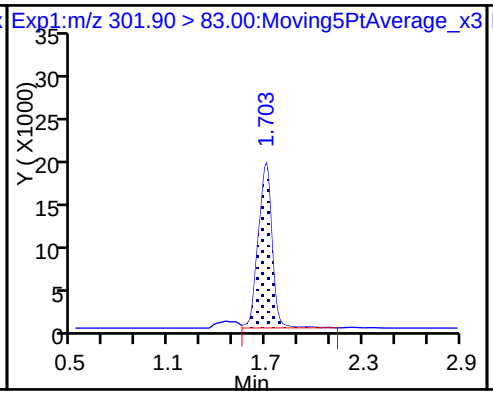
D 3 13C5-PFPeA



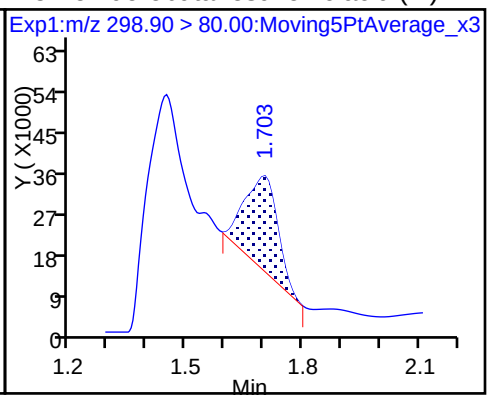
4 Perfluoropentanoic acid (M)



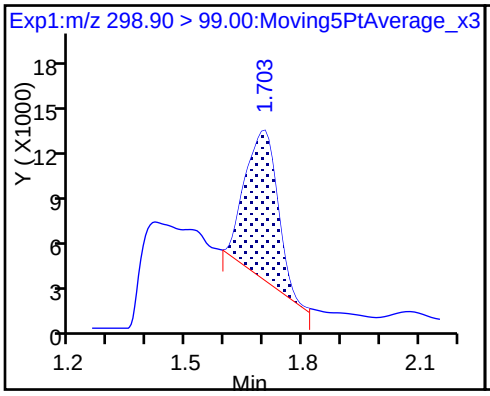
D 47 13C3-PFBS



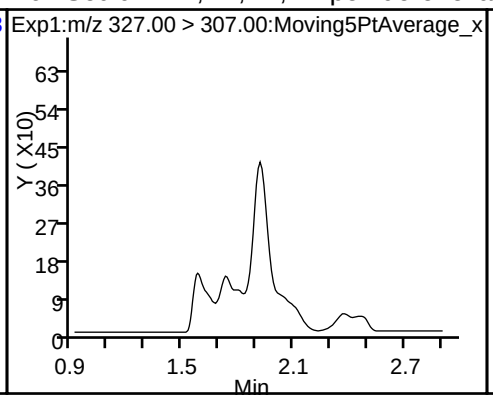
5 Perfluorobutanesulfonic acid (M)



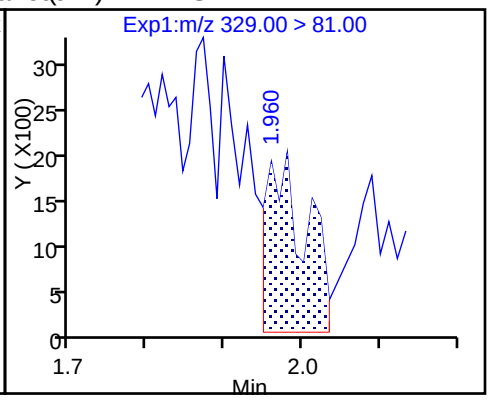
5 Perfluorobutanesulfonic acid



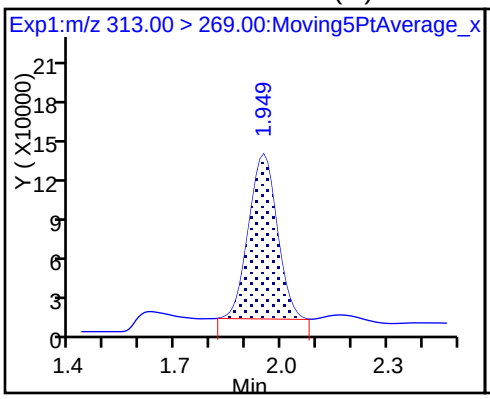
61 Sodium 1H,1H,2H,2H-perfluorohexanesulfonate (NM)



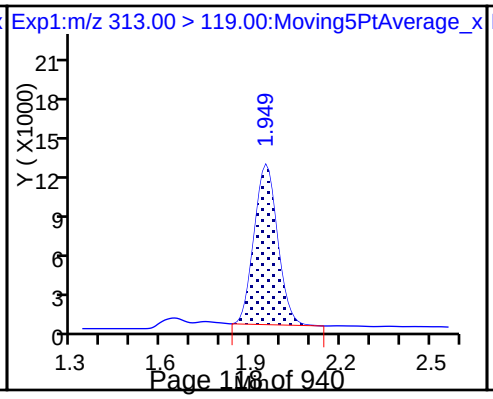
D 60 M2-4:2FTS



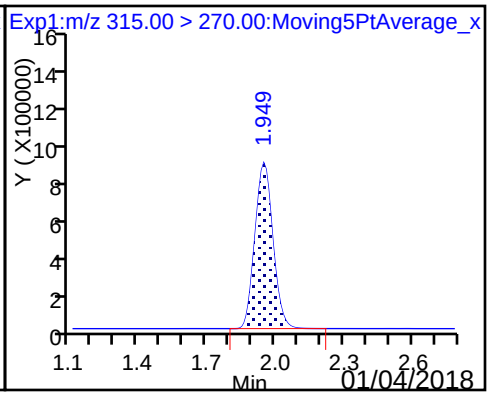
6 Perfluorohexanoic acid (M)



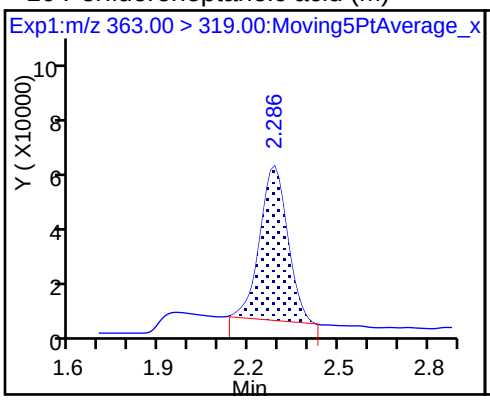
6 Perfluorohexanoic acid



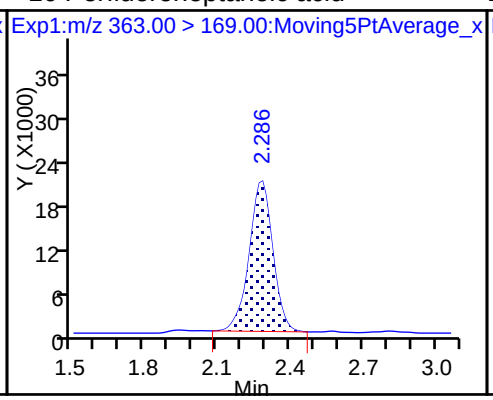
D 7 13C2 PFHxA



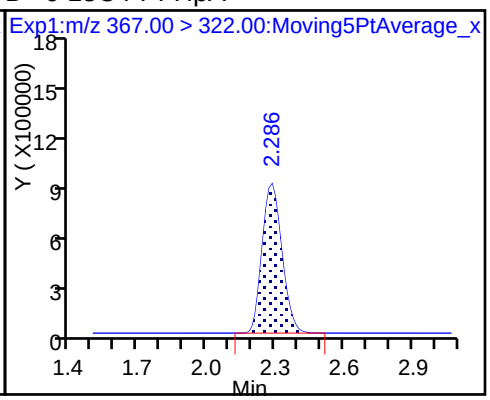
10 Perfluoroheptanoic acid (M)



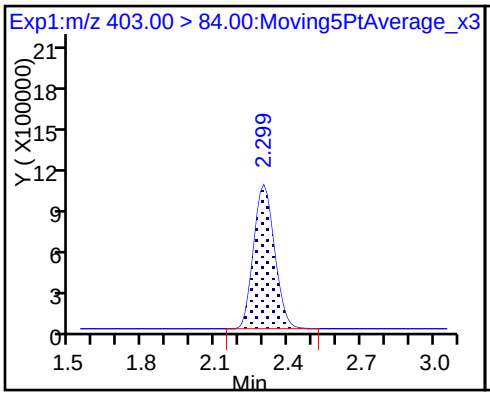
10 Perfluoroheptanoic acid



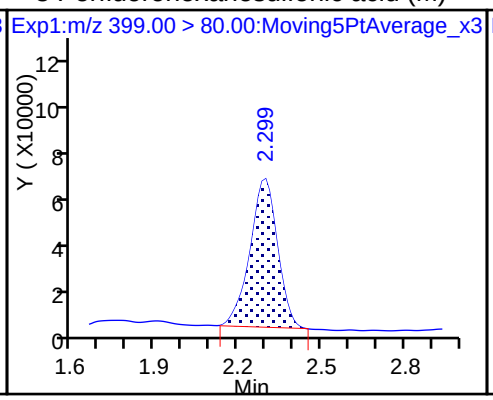
D 9 13C4-PFHpA



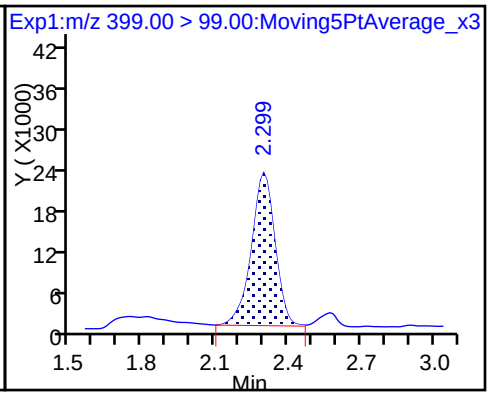
D 11 18O2 PFHxS



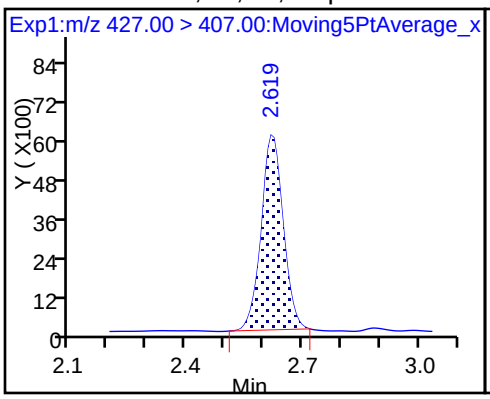
8 Perfluorohexanesulfonic acid (M)



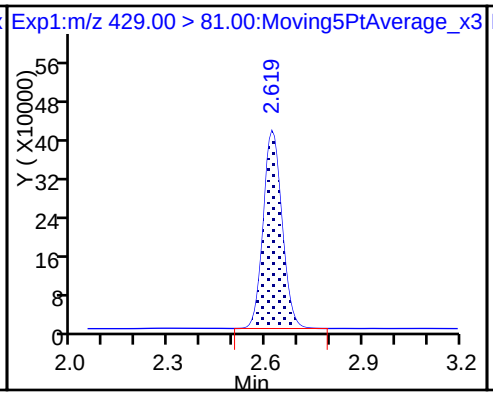
8 Perfluorohexanesulfonic acid



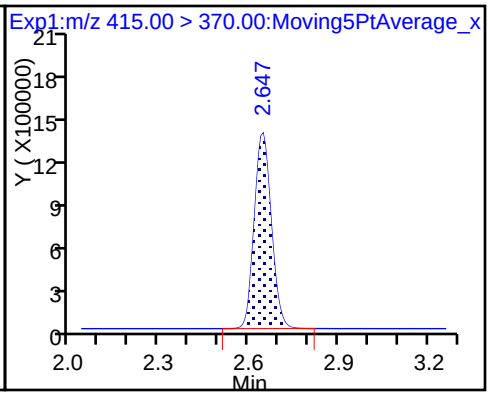
13 Sodium 1H,1H,2H,2H-perfluorooctane



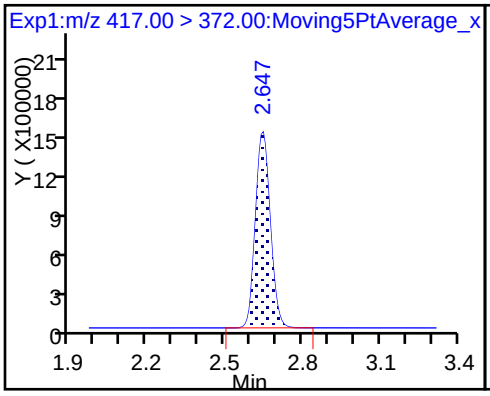
D 12 M2-6:2FTS



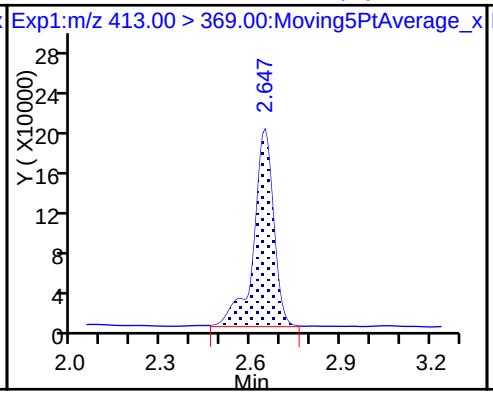
* 62 13C2-PFOA



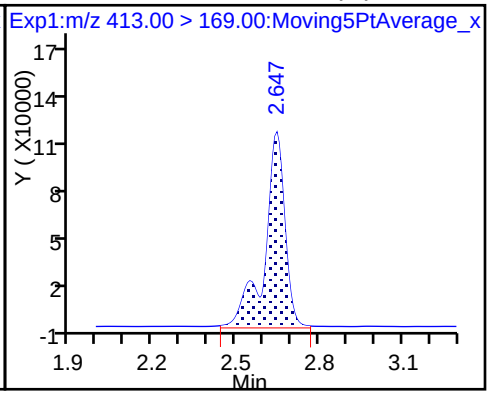
D 14 13C4 PFOA



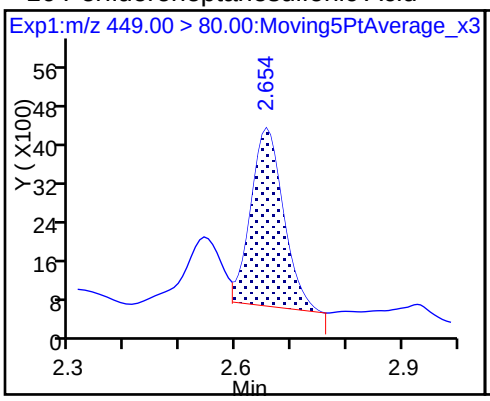
15 Perfluorooctanoic acid (M)



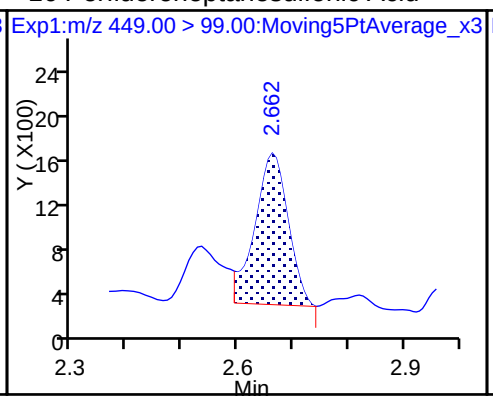
15 Perfluorooctanoic acid (M)



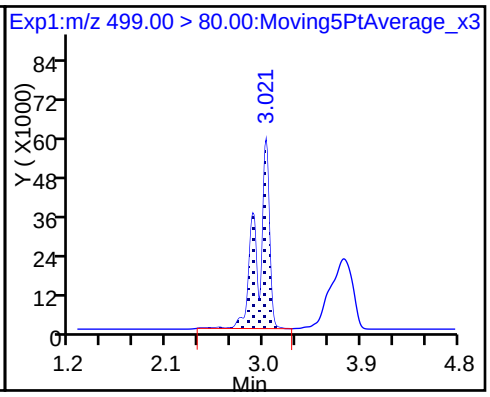
16 Perfluoroheptanesulfonic Acid



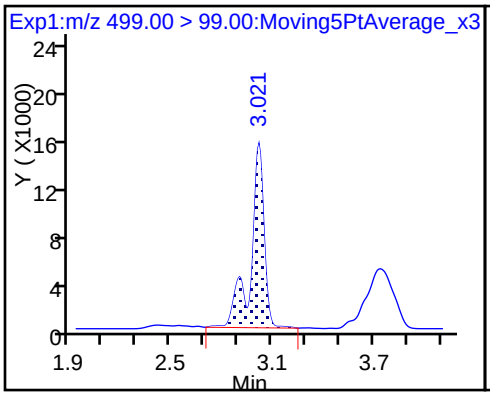
16 Perfluoroheptanesulfonic Acid



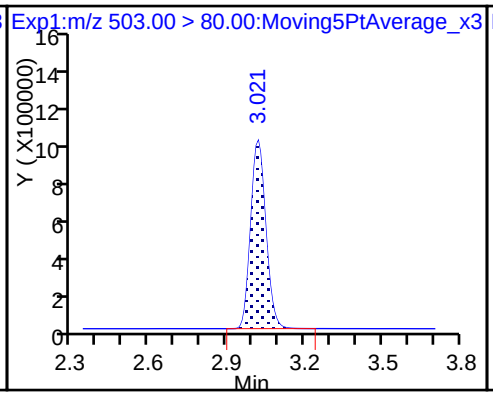
17 Perfluorooctane sulfonic acid



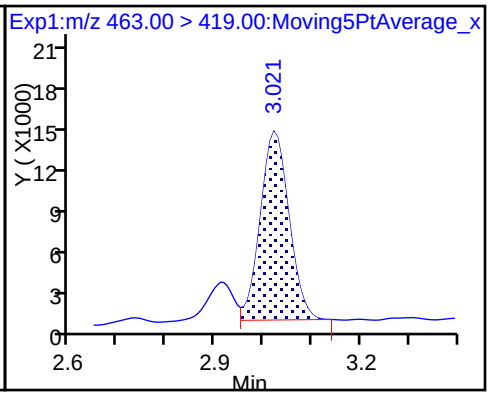
17 Perfluorooctane sulfonic acid



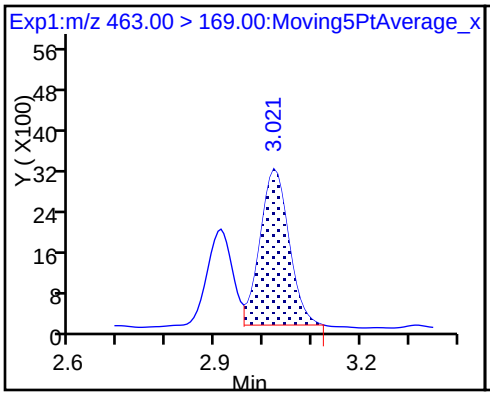
D 18 13C4 PFOS



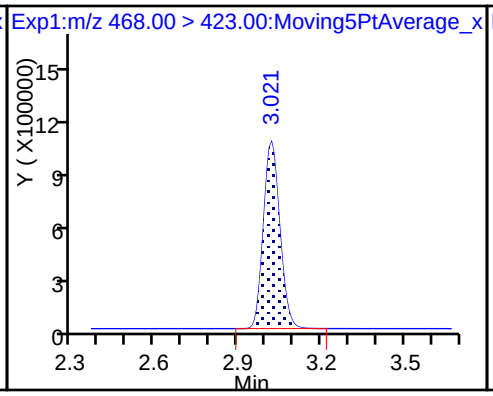
20 Perfluorononanoic acid



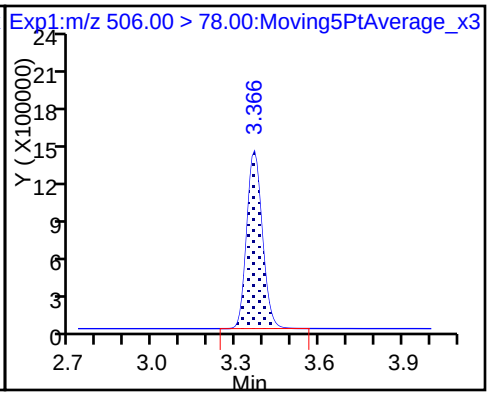
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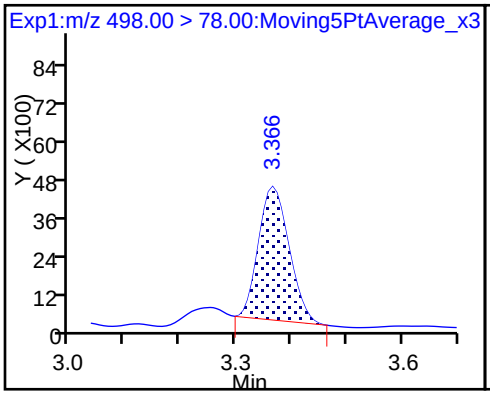
D 19 13C5 PFNA



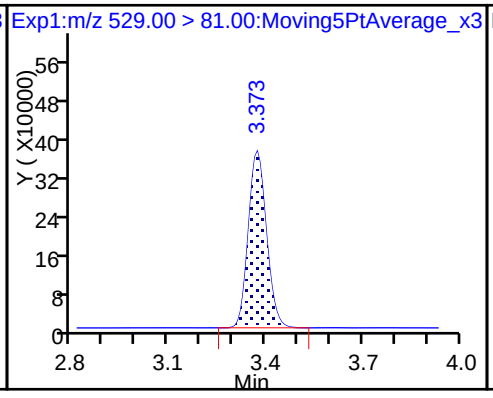
D 21 13C8 FOSA



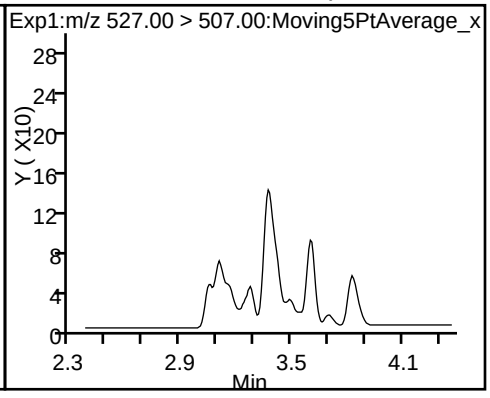
22 Perfluorooctane Sulfonamide



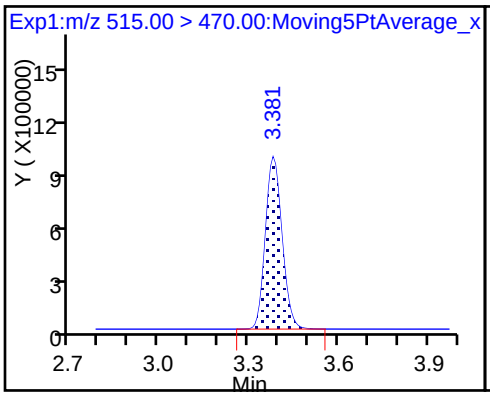
D 26 M2-8:2FTS



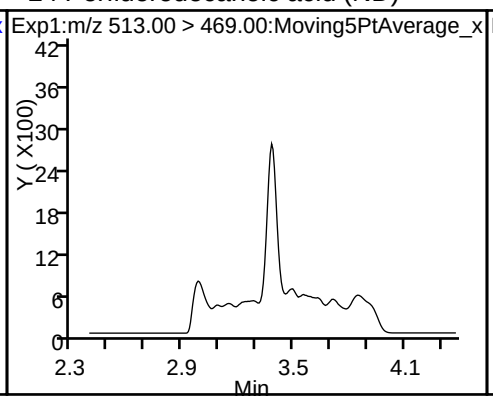
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



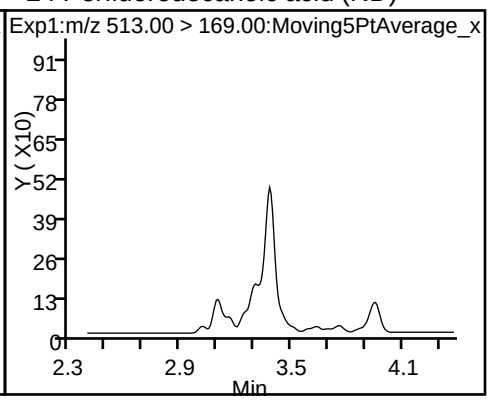
D 23 13C2 PFDA



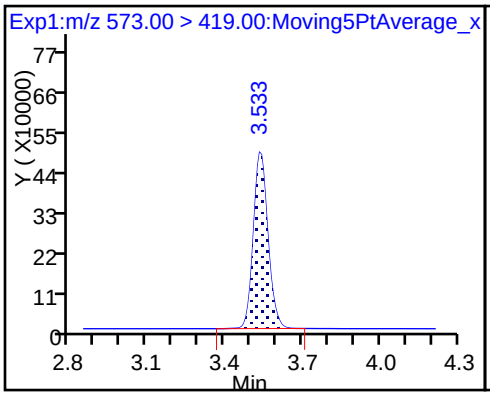
24 Perfluorodecanoic acid (ND)



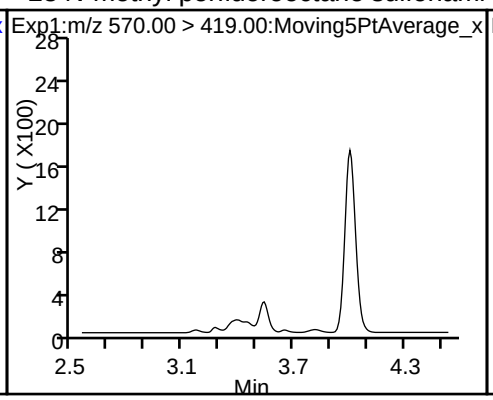
24 Perfluorodecanoic acid (ND)



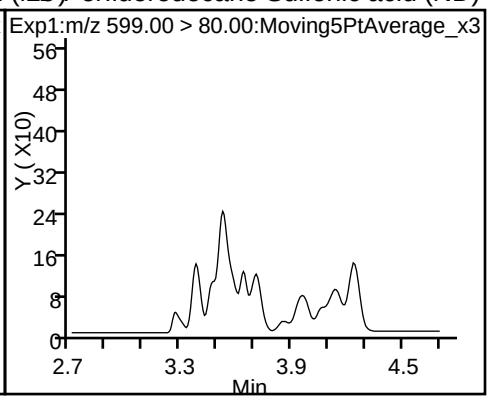
D 27 d3-NMeFOSAA



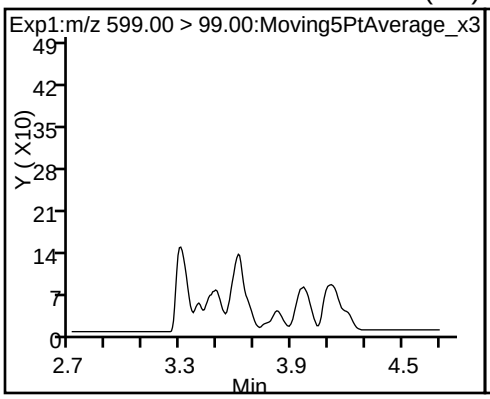
28 N-methyl perfluorooctane sulfonami (ND)



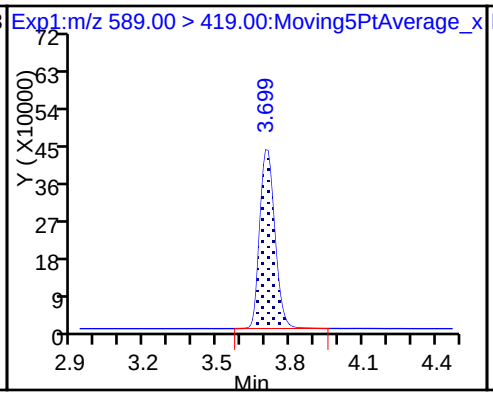
29 Perfluorodecane Sulfonic acid (ND)



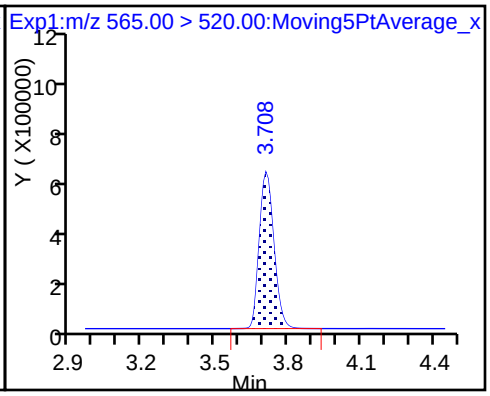
29 Perfluorodecane Sulfonic acid (ND)



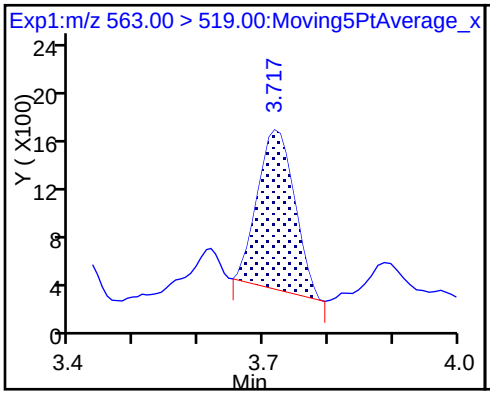
D 32 d5-NEtFOSAA



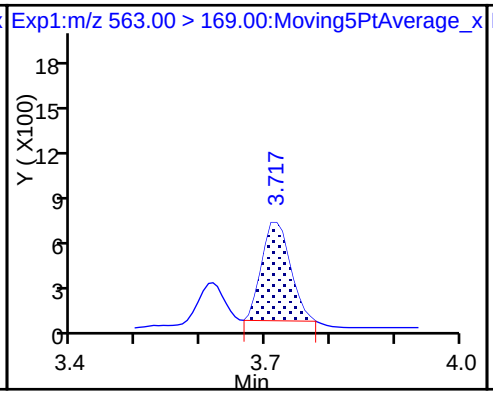
D 30 13C2 PFUnA



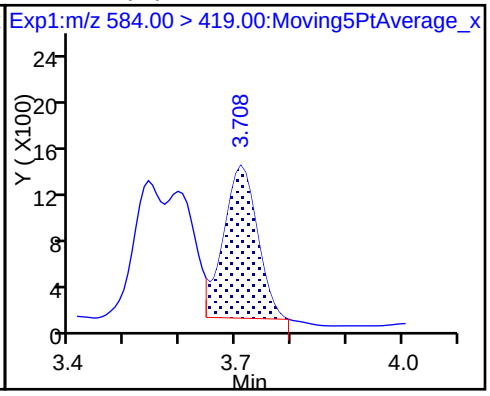
31 Perfluoroundecanoic acid



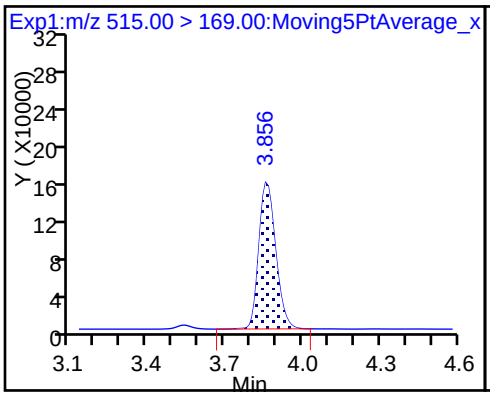
31 Perfluoroundecanoic acid



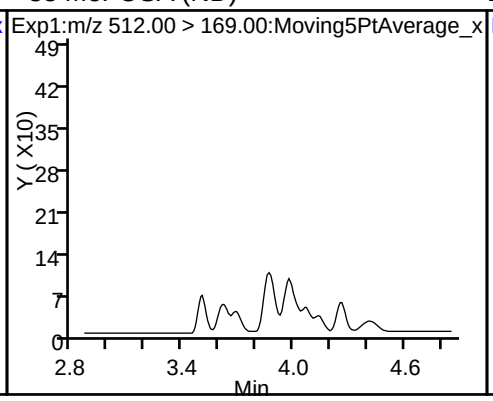
33 N-ethyl perfluorooctane sulfonamid



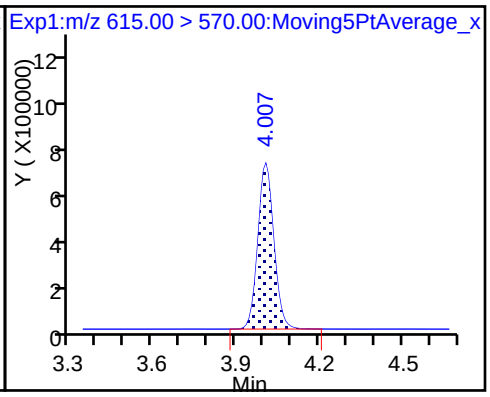
D 34 d-N-MeFOSA-M



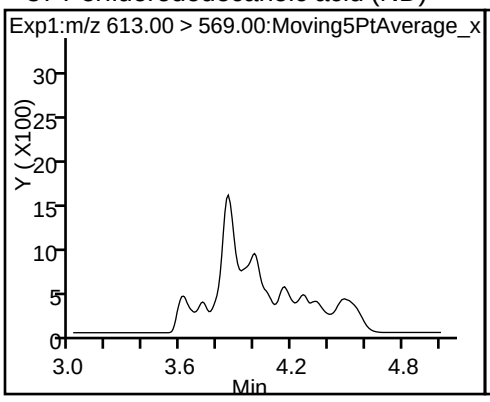
35 MeFOSA (ND)



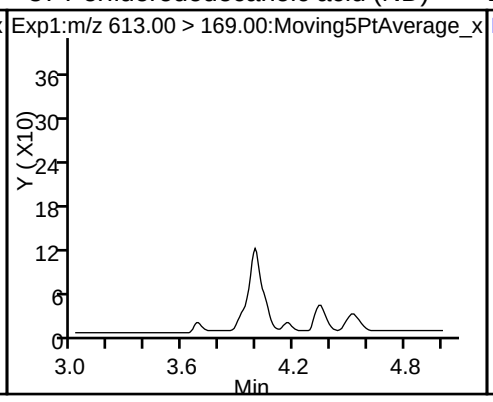
D 36 13C2 PFDoA



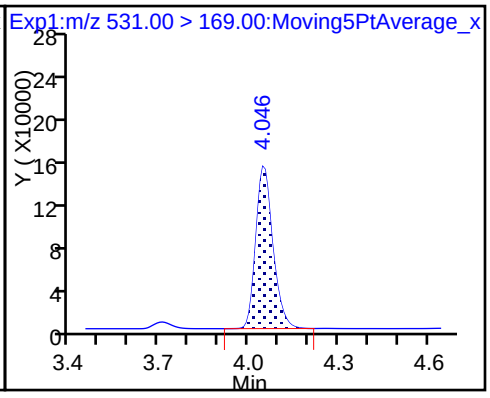
37 Perfluorododecanoic acid (ND)



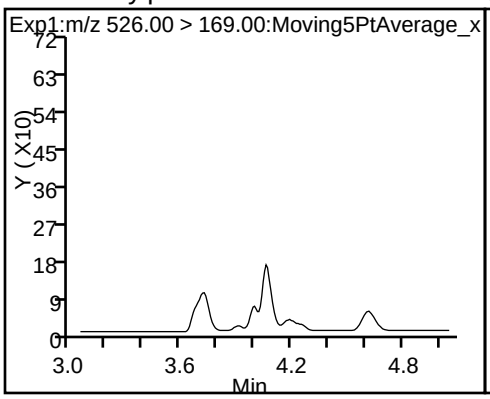
37 Perfluorododecanoic acid (ND)



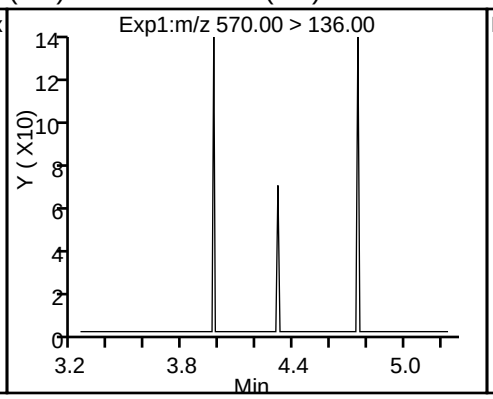
D 38 d-N-EtFOSA-M



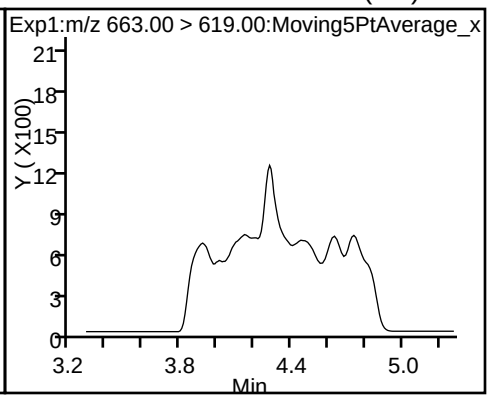
39 N-ethylperfluoro-1-octanesulfonami



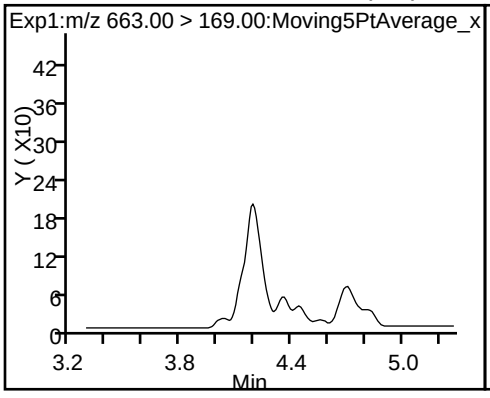
D 40 d-N-EtFOSE-M (ND)



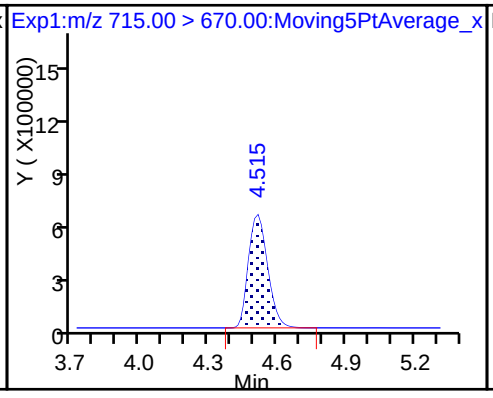
41 Perfluorotridecanoic acid (ND)



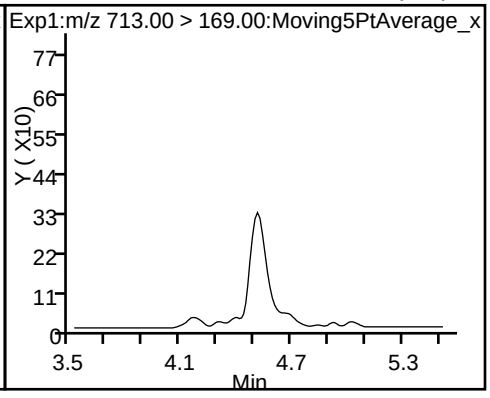
41 Perfluorotridecanoic acid (ND)



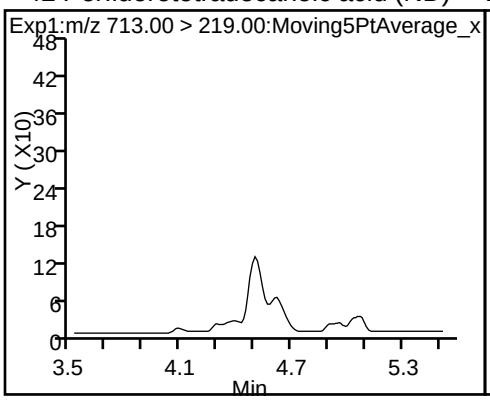
D 43 13C2-PFTeDA



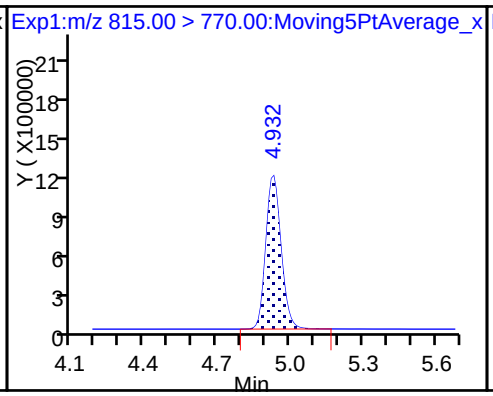
42 Perfluorotetradecanoic acid (ND)



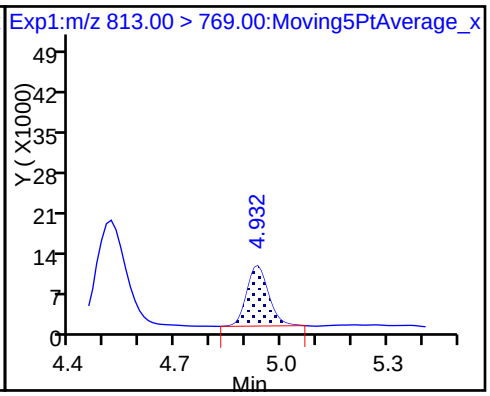
42 Perfluorotetradecanoic acid (ND)



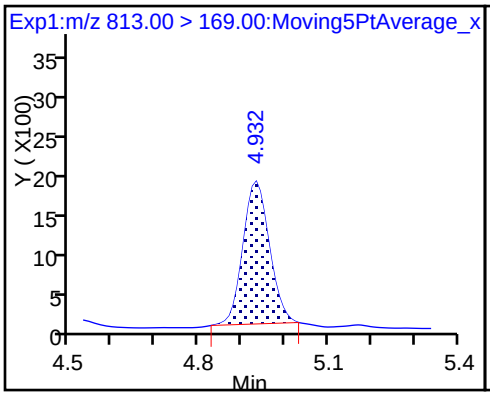
D 44 13C2-PFHxDA



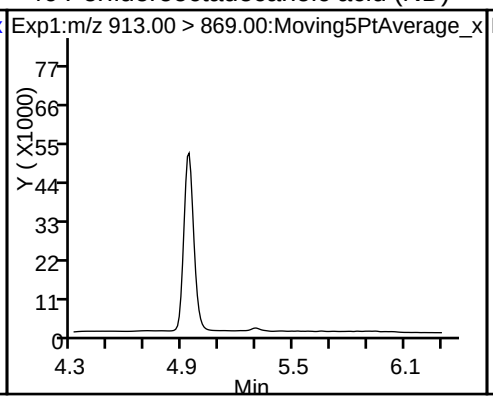
45 Perfluorohexadecanoic acid



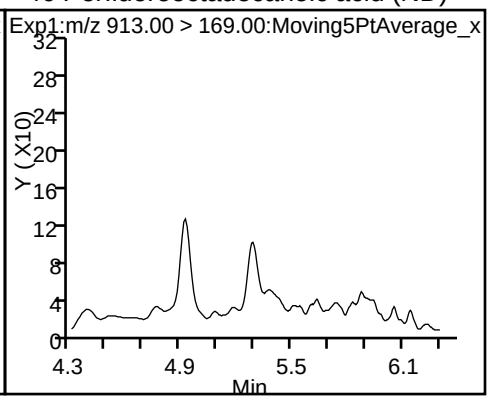
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid (ND)



46 Perfluorooctadecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

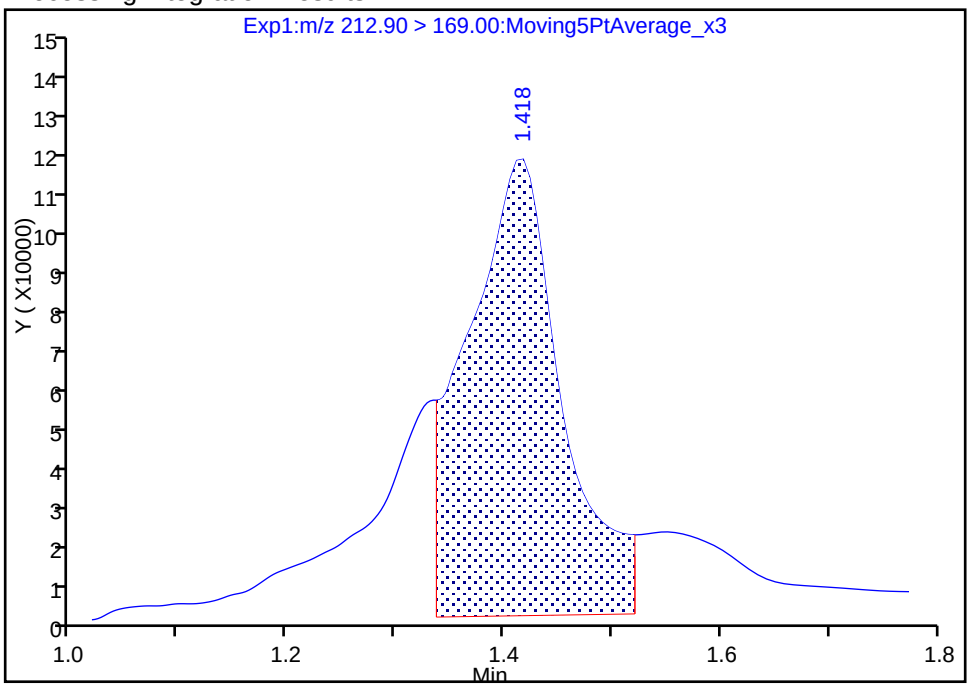
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Injection Date:	20-Dec-2017 08:05:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-A	Lab Sample ID:	320-34182-3		
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

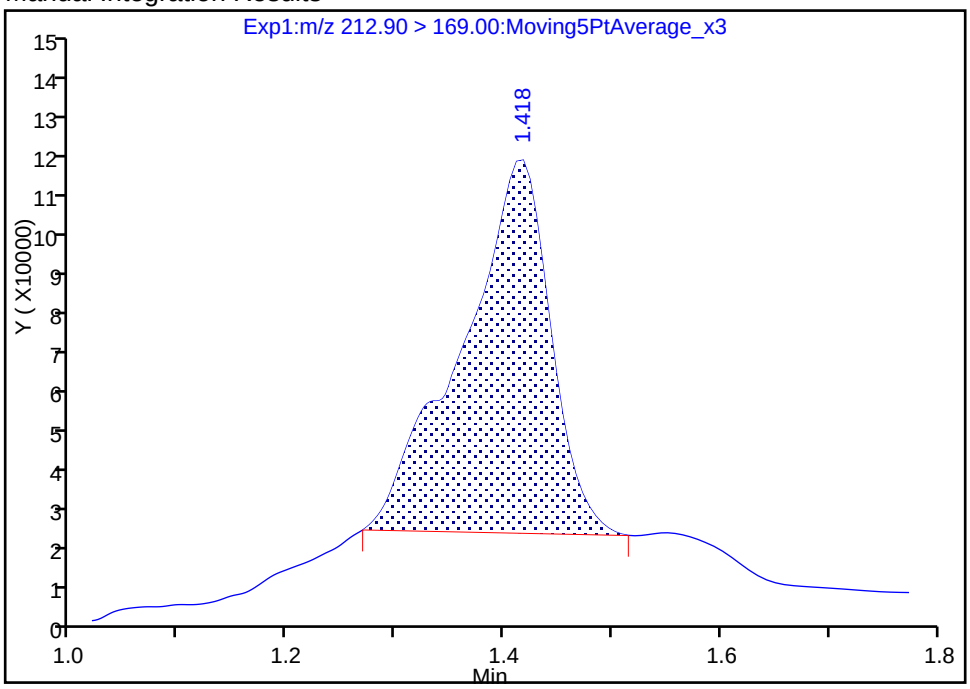
Processing Integration Results

RT: 1.42
Area: 686936
Amount: 0.379371
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 527137
Amount: 0.291119
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:24:59

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

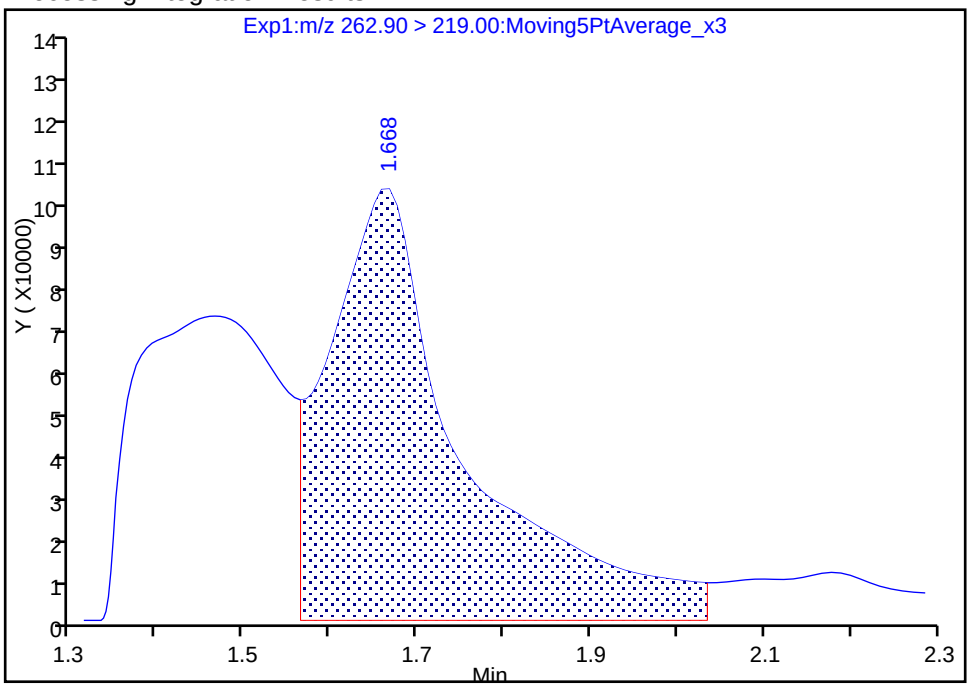
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Lims ID:	320-34182-A-3-A	Lab Sample ID:	320-34182-3		
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

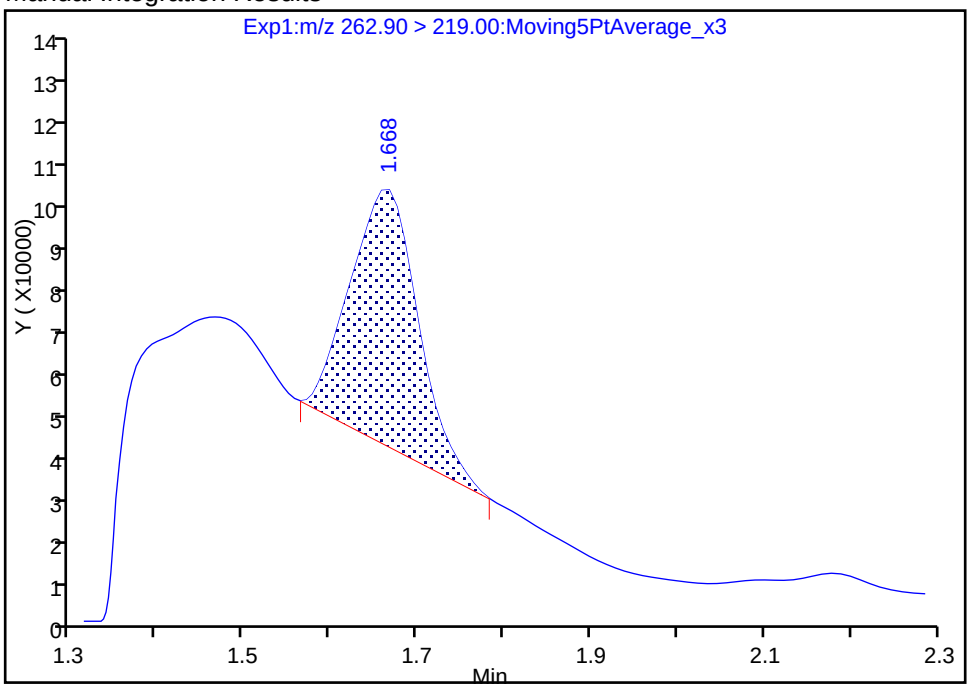
Processing Integration Results

RT: 1.67
Area: 1091980
Amount: 0.516185
Amount Units: ng/ml



Manual Integration Results

RT: 1.67
Area: 327166
Amount: 0.154653
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:25:21
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

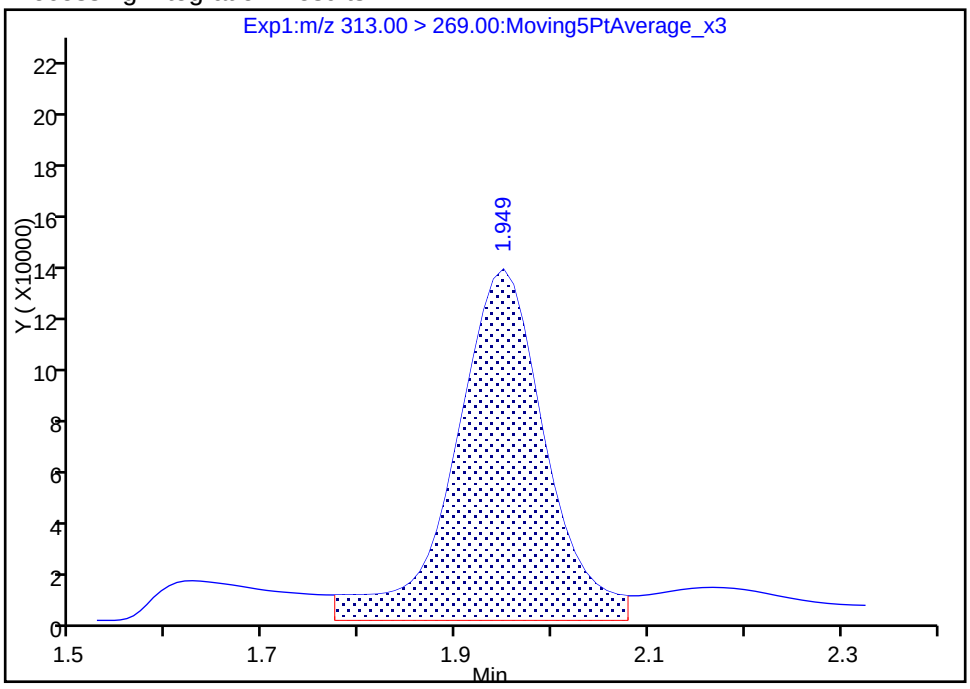
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Injection Date:	20-Dec-2017 08:05:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-A	Lab Sample ID:	320-34182-3		
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

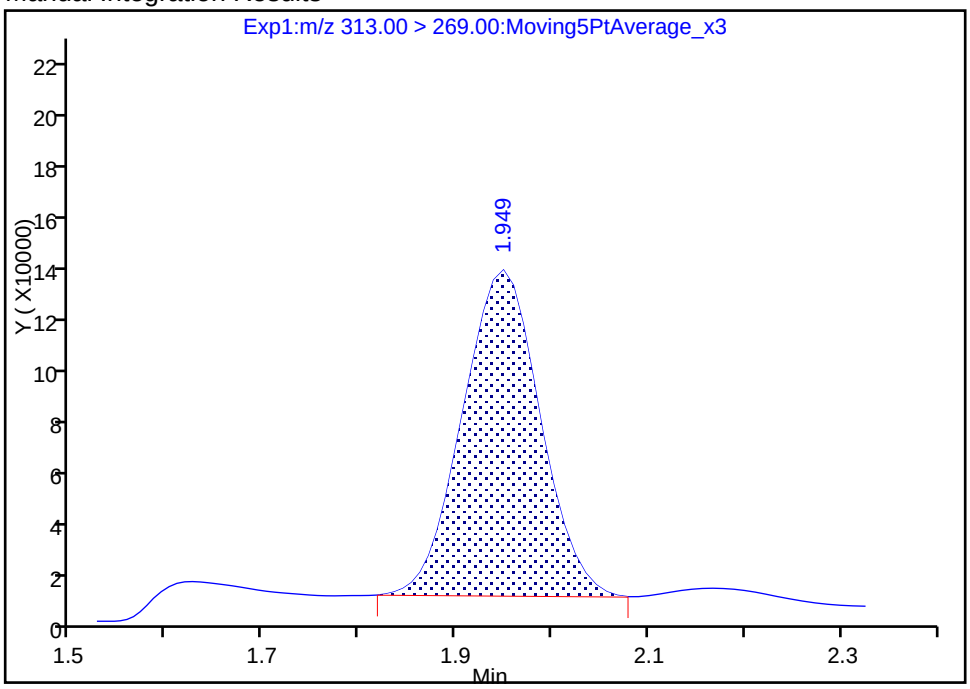
Processing Integration Results

RT: 1.95
Area: 873803
Amount: 0.449464
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 698083
Amount: 0.359077
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:25:47

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

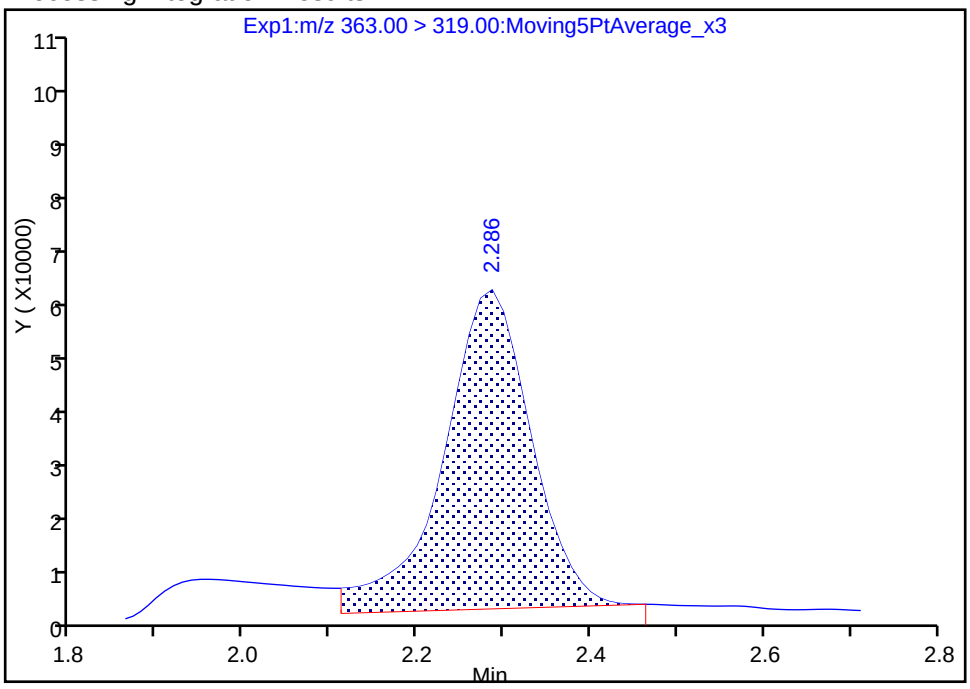
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Injection Date:	20-Dec-2017 08:05:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-A	Lab Sample ID:	320-34182-3		
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

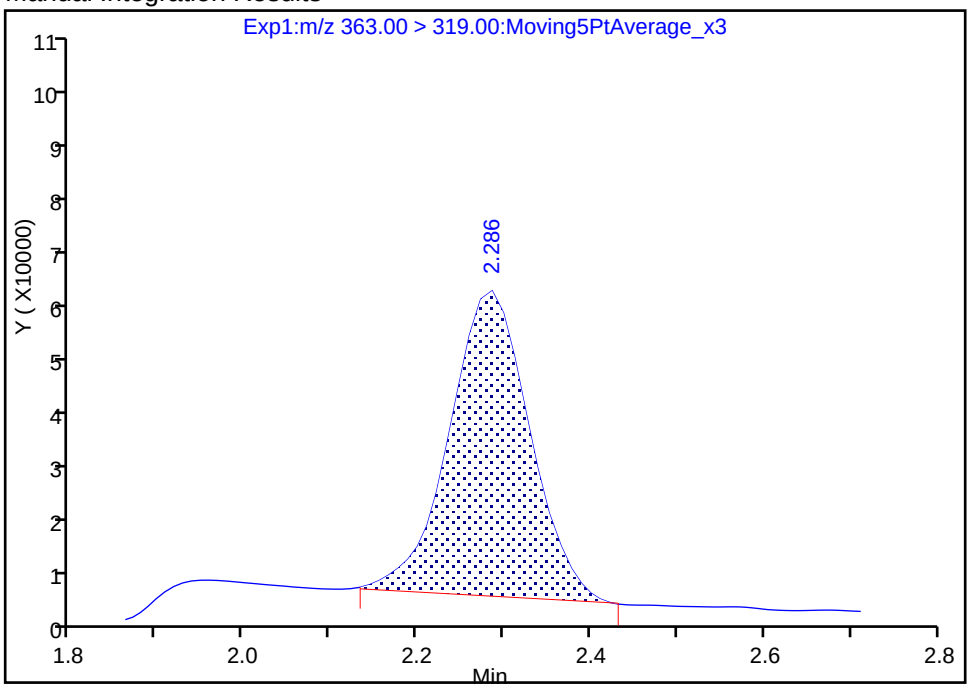
Processing Integration Results

RT: 2.29
Area: 391274
Amount: 0.180446
Amount Units: ng/ml



Manual Integration Results

RT: 2.29
Area: 342137
Amount: 0.157786
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:26:15

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

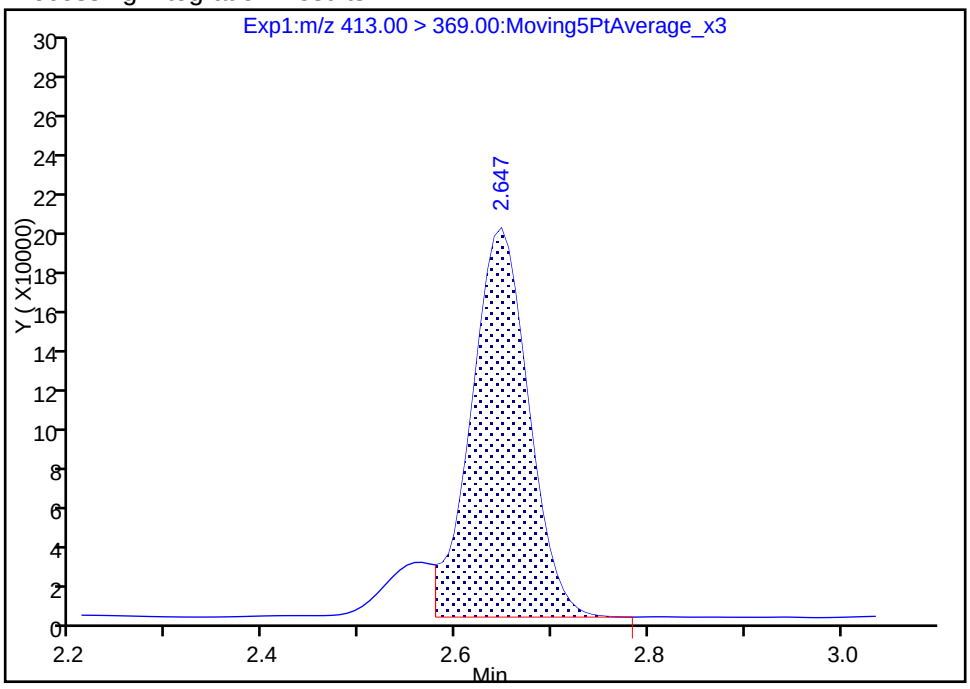
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Injection Date:	20-Dec-2017 08:05:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-A	Lab Sample ID:	320-34182-3		
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

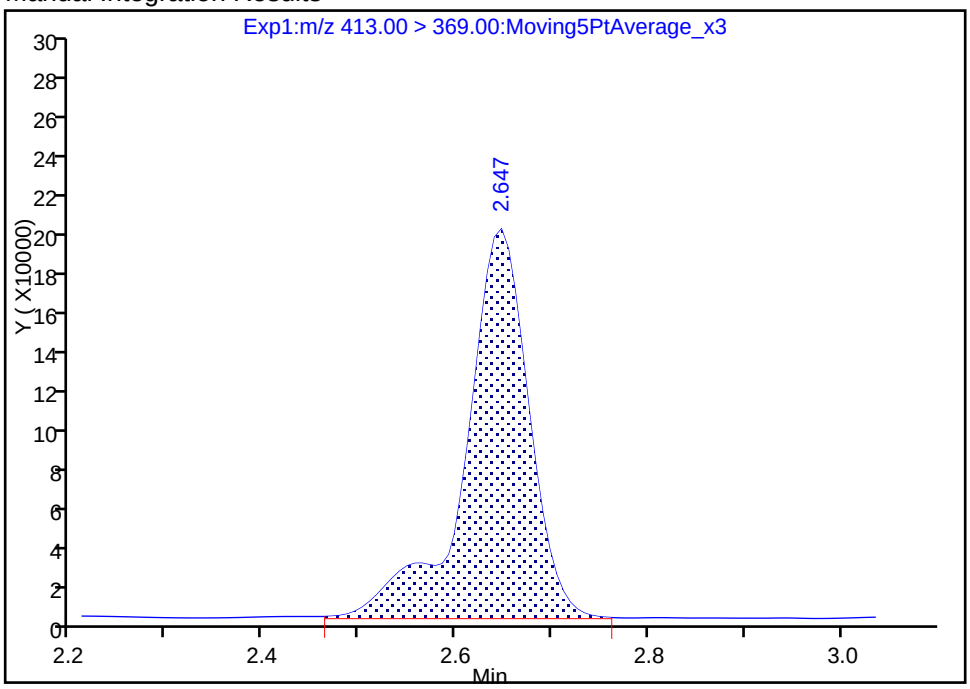
Processing Integration Results

RT: 2.65
Area: 816200
Amount: 0.333294
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 921285
Amount: 0.376205
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:26:36

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

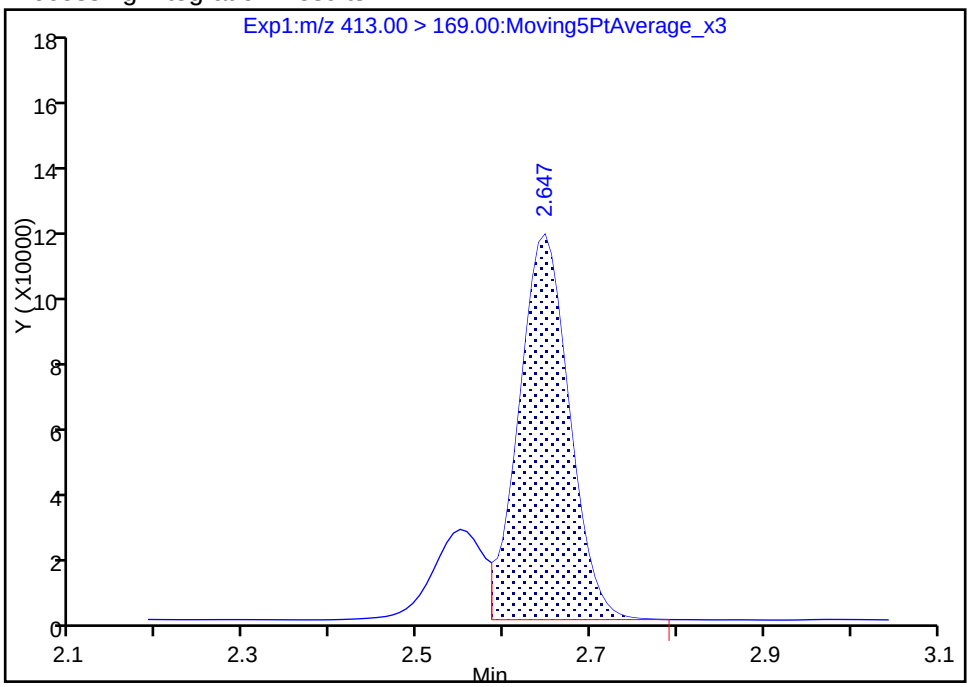
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Injection Date:	20-Dec-2017 08:05:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-A	Lab Sample ID:	320-34182-3		
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

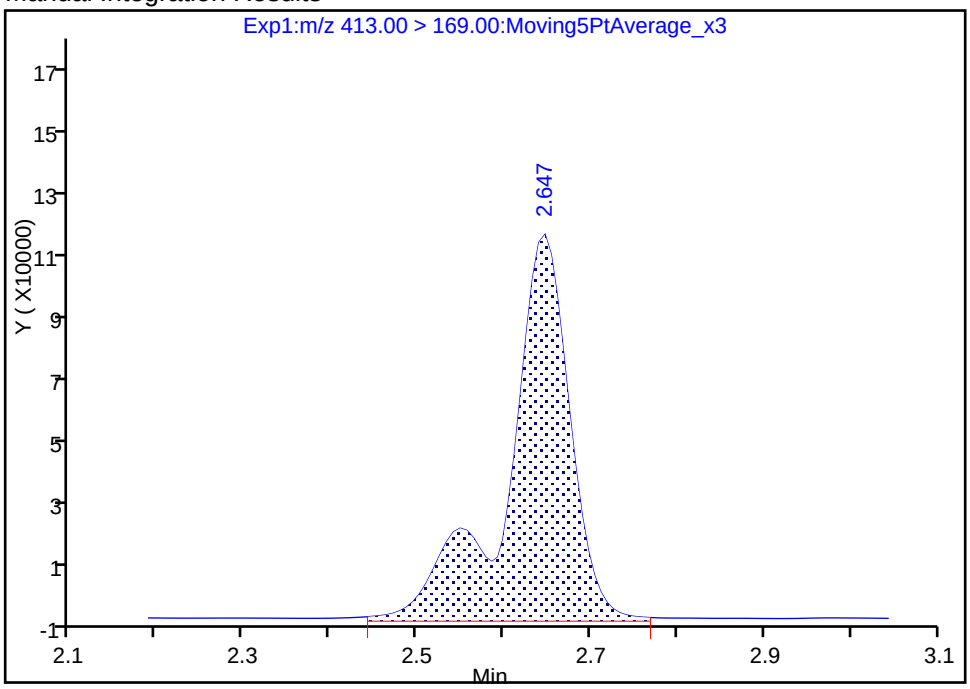
Processing Integration Results

RT: 2.65
Area: 460153
Amount: 0.333294
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 586146
Amount: 0.376205
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:26:44
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

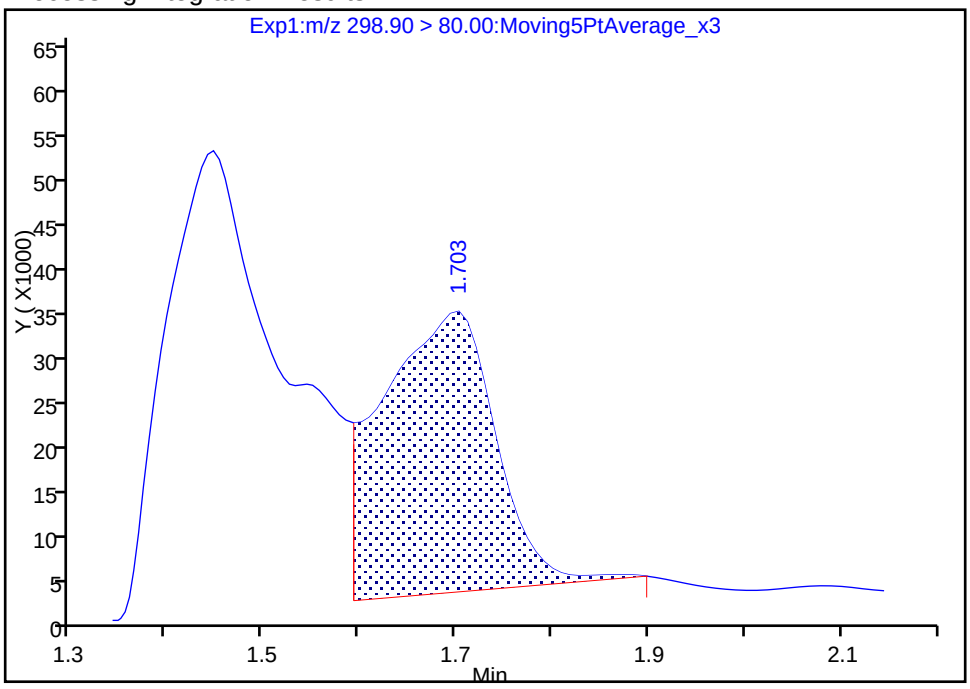
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Lims ID:	320-34182-A-3-A	Lab Sample ID:	320-34182-3		
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

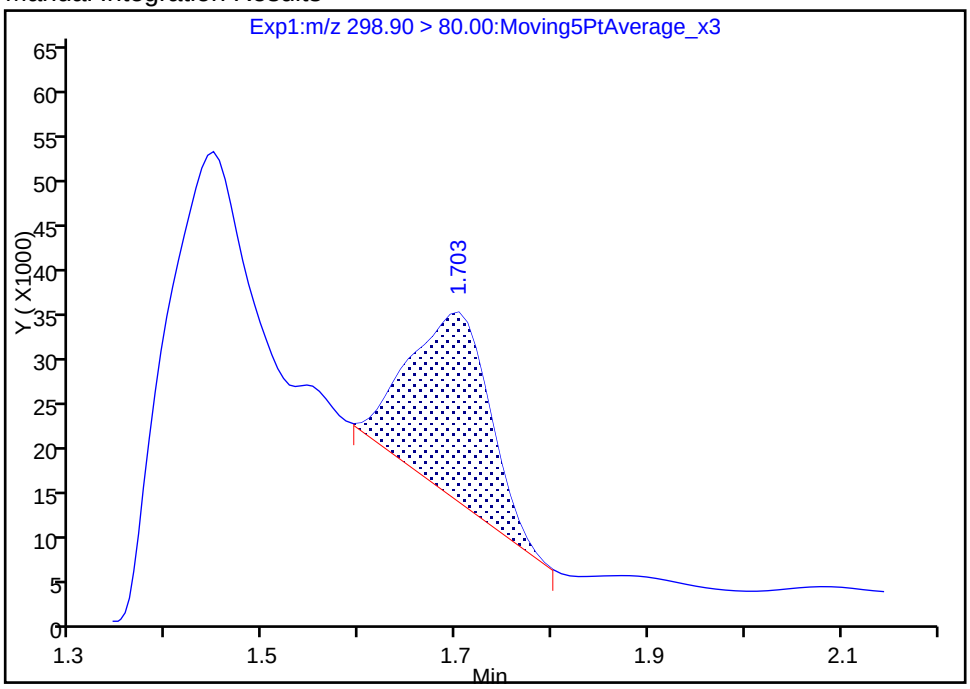
Processing Integration Results

RT: 1.70
Area: 259060
Amount: 0.071744
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 121983
Amount: 0.033782
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:25:32

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

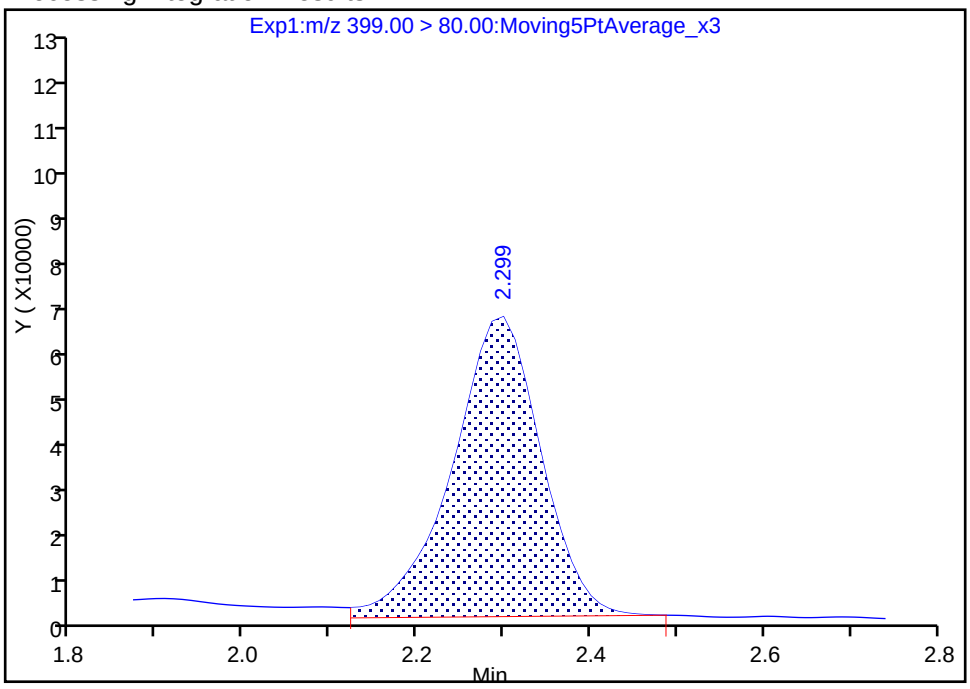
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Lims ID:	320-34182-A-3-A	Lab Sample ID:	320-34182-3		
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

8 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

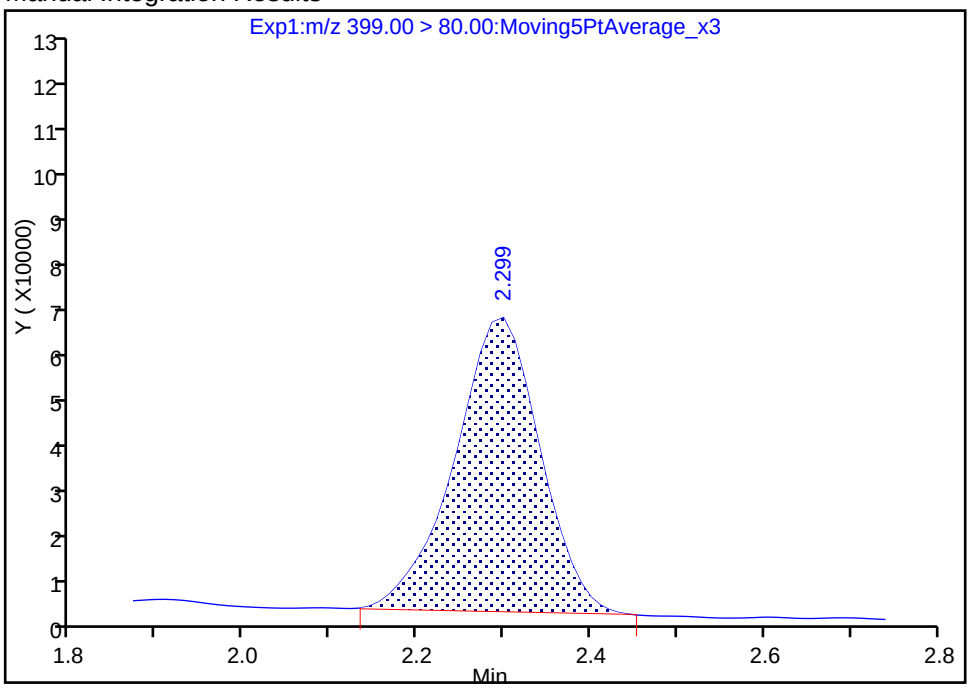
Processing Integration Results

RT: 2.30
Area: 440535
Amount: 0.152453
Amount Units: ng/ml



Manual Integration Results

RT: 2.30
Area: 415713
Amount: 0.143863
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:26:01

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-YC001-A | Lab Sample ID: 320-34182-4

Matrix: Water | Lab File ID: 2017.12.19LLC_031.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 10:30

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 243.6(mL) | Date Analyzed: 12/20/2017 08:28

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.01	J	2.05	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.06	J	2.05	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	1.08	J	2.05	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.83	J	2.05	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	2.31		2.05	0.87
375-95-1	Perfluorononanoic acid (PFNA)	0.50	J	2.05	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.05	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.13	U	2.05	1.13
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.05	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.05	1.33
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.05	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.0	J	2.05	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.71	B	2.05	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.05	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.80		2.05	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.05	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.45	J B	2.05	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.18	U	20.5	3.18
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.95	U	20.5	1.95
27619-97-2	6:2FTS	2.05	U	20.5	2.05
39108-34-4	8:2FTS	2.05	U	20.5	2.05

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-YC001-A | Lab Sample ID: 320-34182-4

Matrix: Water | Lab File ID: 2017.12.19LLC_031.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 10:30

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 243.6(mL) | Date Analyzed: 12/20/2017 08:28

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	94		25-150
STL01893	13C5 PFPeA	123		25-150
STL00993	13C2 PFHxA	111		25-150
STL01892	13C4-PFHpA	114		25-150
STL00990	13C4 PFOA	104		25-150
STL00995	13C5 PFNA	111		25-150
STL00996	13C2 PFDA	121		25-150
STL00997	13C2 PFUnA	106		25-150
STL00998	13C2 PFDoA	107		25-150
STL02116	13C2-PFTeDA	132		25-150
STL02337	13C3-PFBS	120		25-150
STL00994	18O2 PFHxS	113		25-150
STL00991	13C4 PFOS	112		25-150
STL01056	13C8 FOSA	102		25-150
STL02118	d3-NMeFOSAA	132		25-150
STL02117	d5-NEtFOSAA	127		25-150
STL02279	M2-6:2FTS	69		25-150
STL02280	M2-8:2FTS	169	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_031.d
Lims ID: 320-34182-A-4-A
Client ID: FW-YC001-A
Sample Type: Client
Inject. Date: 20-Dec-2017 08:28:39 ALS Bottle#: 22 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-4-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:34:47

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.411	1.411	0.0	0.535	7264042	2.35		93.9	26165	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.417	1.412	0.005	1.004	130053	0.0491			21.5	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.666	1.664	0.002	0.631	5595760	3.07		123	45620	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.657	1.664	-0.007	0.995	63641	0.0257			13.4	M
D 47 13C3-PFBS										
301.90 > 83.00	1.702	1.699	0.003	0.645	107214	2.78		120	1650	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.702	1.703	-0.001	1.000	83566	0.0242			61.2	
298.90 > 99.00	1.702	1.703	-0.001	1.000	31869		2.62(1.25-3.74)		48.9	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.948	1.949	-0.001	1.000	56776	0.0264			37.9	M
313.00 > 119.00	1.948	1.949	-0.001	1.000	5456		10.41(5.03-15.10)		57.9	
D 7 13C2 PFHxA										
315.00 > 270.00	1.948	1.949	-0.001	0.738	5375152	2.78		111	44967	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.284	2.286	-0.002	1.000	42820	0.0202			38.3	
363.00 > 169.00	2.284	2.286	-0.002	1.000	20491		2.09(1.13-3.40)		172	
D 9 13C4-PFHpA										
367.00 > 322.00	2.284	2.286	-0.002	0.866	5138522	2.84		114	36853	
D 11 18O2 PFHxS										
403.00 > 84.00	2.297	2.299	-0.002	0.871	5999162	2.68		113	62284	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.297	2.299	-0.002	1.000	181696	0.0659			191	
399.00 > 99.00	2.297	2.299	-0.002	1.000	54755		3.32(1.50-4.49)		143	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.610	2.640	-0.030	0.997	13575	0.0163			670	
D 12 M2-6:2FTS										
429.00 > 81.00	2.617	2.640	-0.023	0.992	1235191	1.65		69.3	11706	
* 62 13C2-PFOA										
415.00 > 370.00	2.638	2.643	-0.005		5249427	2.50			43115	
D 14 13C4 PFOA										
417.00 > 372.00	2.638	2.647	-0.009	1.000	5642124	2.60		104	53066	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.645	2.649	-0.004	1.003	133845	0.0562			59.0	M
413.00 > 169.00	2.638	2.649	-0.011	1.000	71222		1.88(0.84-2.52)		504	M
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.018	3.025	-0.007	1.000	158096	0.0926			19.7	
499.00 > 99.00	3.018	3.025	-0.007	1.000	29302		5.40(2.31-6.93)		26.1	
D 18 13C4 PFOS										
503.00 > 80.00	3.018	3.025	-0.007	1.144	3836996	2.66		112	29314	
20 Perfluorononanoic acid										R
463.00 > 419.00	3.018	3.026	-0.008	1.000	18926	0.0121			26.0	R
463.00 > 169.00	3.018	3.026	-0.008	1.000	2282		8.29(1.90-5.69)		53.3	
D 19 13C5 PFNA										
468.00 > 423.00	3.018	3.026	-0.008	1.144	4041978	2.77		111	46775	
D 21 13C8 FOSA										
506.00 > 78.00	3.357	3.362	-0.005	1.273	5212194	2.56		102	26978	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.357	3.365	-0.008	1.000	21797	0.0111			403	
D 26 M2-8:2FTS										
529.00 > 81.00	3.365	3.375	-0.010	1.275	1294202	4.04		169	14937	
D 23 13C2 PFDA										
515.00 > 470.00	3.380	3.387	-0.007	1.281	3542435	3.03		121	41320	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.532	3.541	-0.009	1.339	1781947	3.31		132	22564	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.540	3.547	-0.007	1.002	3184	0.004334			30.7	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.698	3.711	-0.013	1.402	1758786	3.17		127	11053	
D 30 13C2 PFUnA										
565.00 > 520.00	3.707	3.717	-0.010	1.405	2389201	2.66		106	38336	
33 N-ethyl perfluorooctane sulfonamid										M
584.00 > 419.00	3.707	3.718	-0.011	1.002	2878	0.004198			43.6	M
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.015	-0.009	1.518	2554933	2.67		107	30070	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.711	3468442	3.30		132	22956	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:24 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_031.d

Injection Date: 20-Dec-2017 08:28:39 Instrument ID: A8_N

Lims ID: 320-34182-A-4-A Lab Sample ID: 320-34182-4

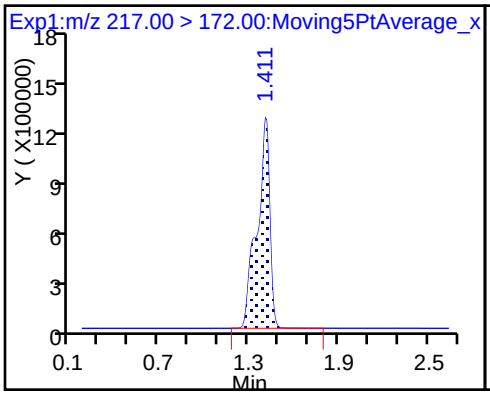
Client ID: FW-YC001-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 22 Worklist Smp#: 9

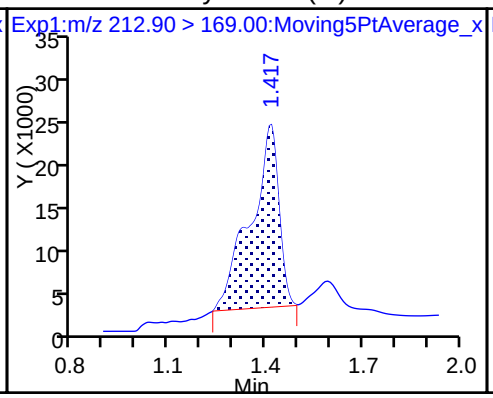
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

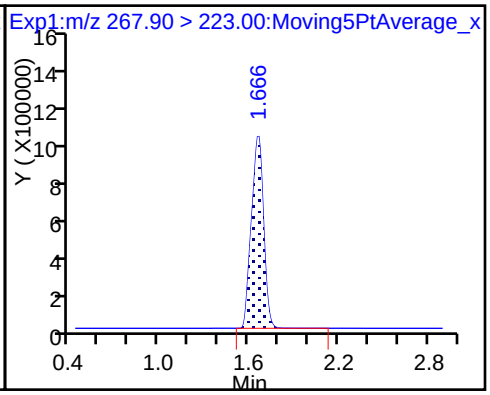
D 1 13C4 PFBA



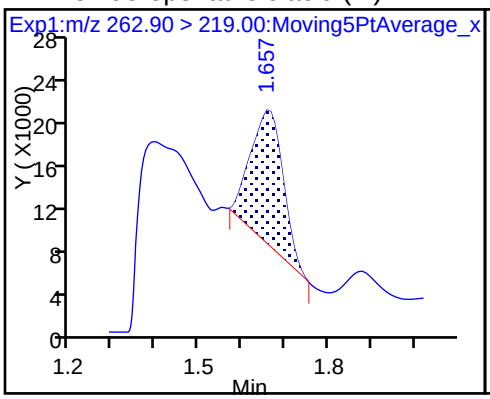
2 Perfluorobutyric acid (M)



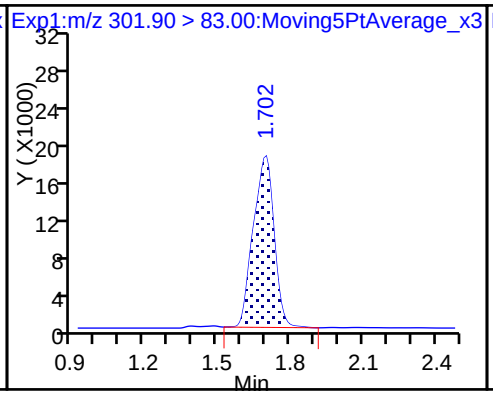
D 3 13C5-PFPeA



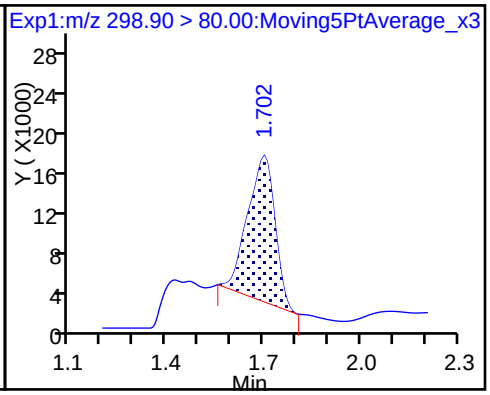
4 Perfluoropentanoic acid (M)



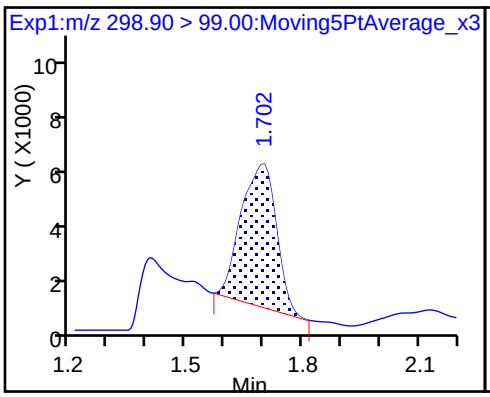
D 47 13C3-PFBS



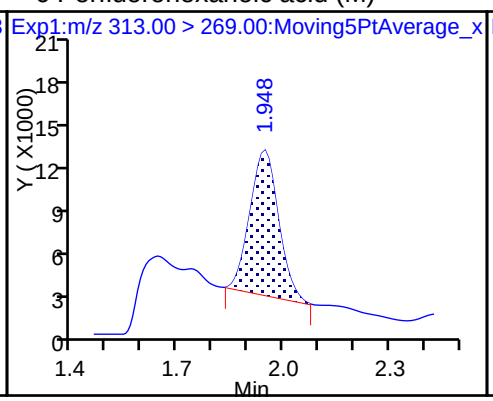
5 Perfluorobutanesulfonic acid



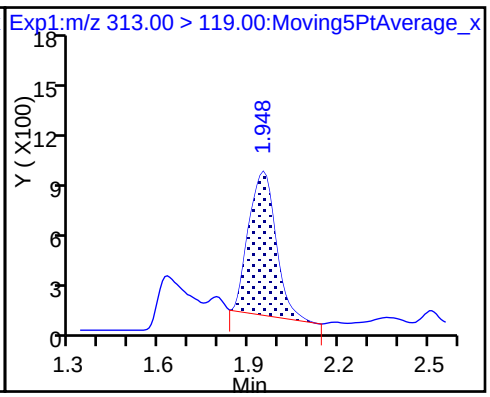
5 Perfluorobutanesulfonic acid



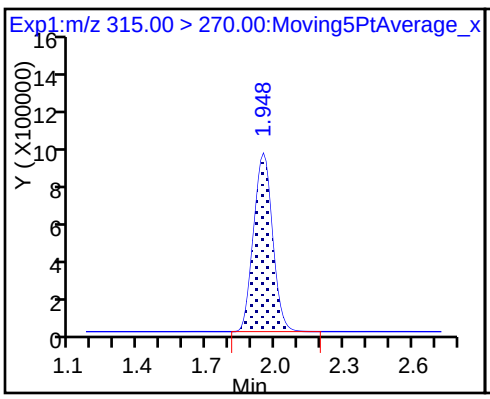
6 Perfluorohexanoic acid (M)



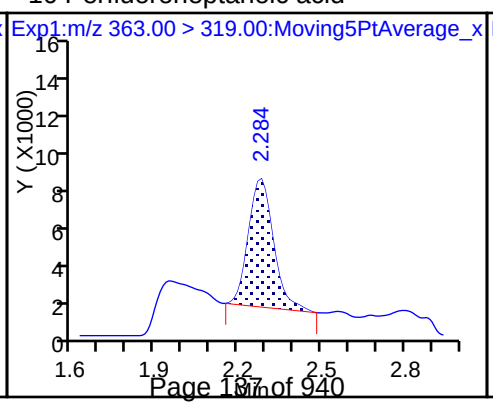
6 Perfluorohexanoic acid



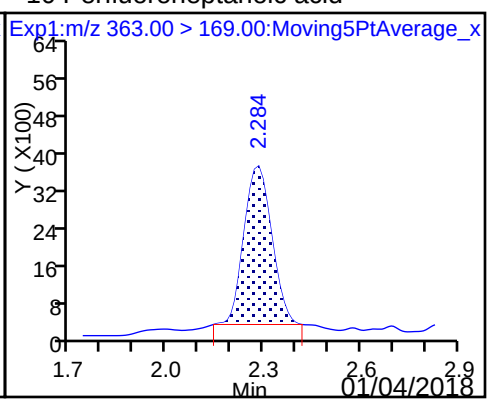
D 7 13C2 PFHxA



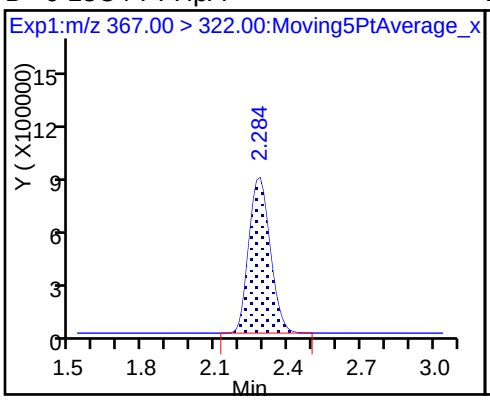
10 Perfluoroheptanoic acid



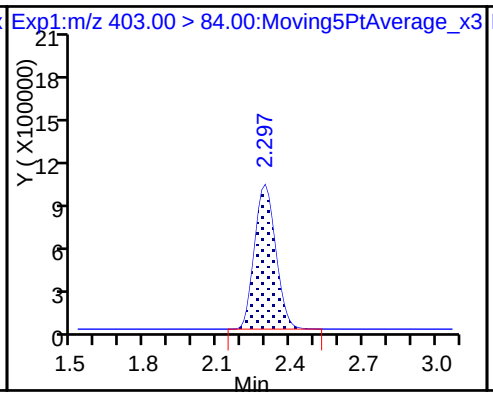
10 Perfluoroheptanoic acid



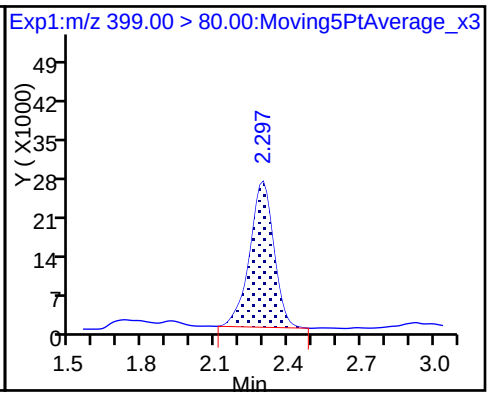
D 9 13C4-PFHpA



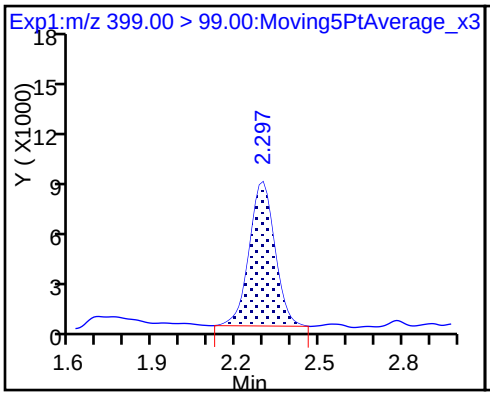
D 11 18O2 PFHxS



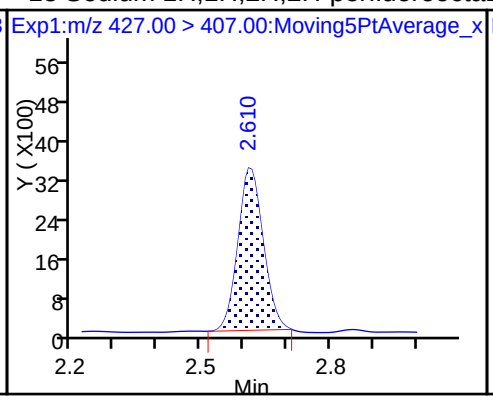
8 Perfluorohexanesulfonic acid



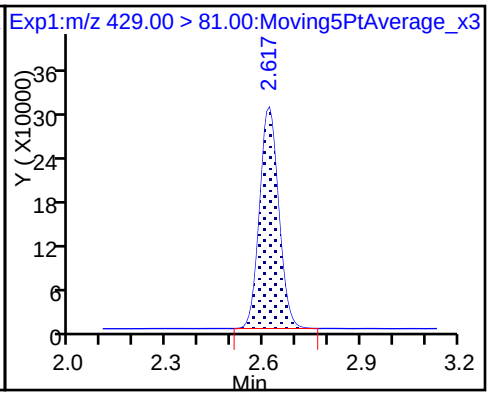
8 Perfluorohexanesulfonic acid



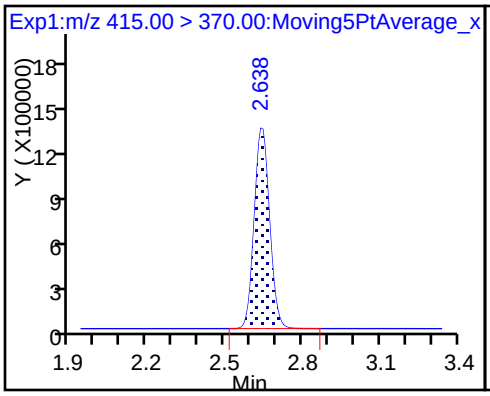
13 Sodium 1H,1H,2H,2H-perfluorooctane



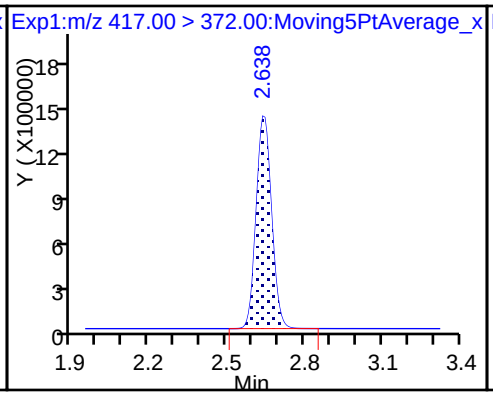
D 12 M2-6:2FTS



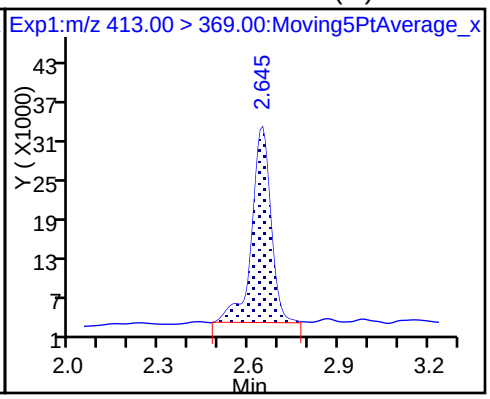
* 62 13C2-PFOA



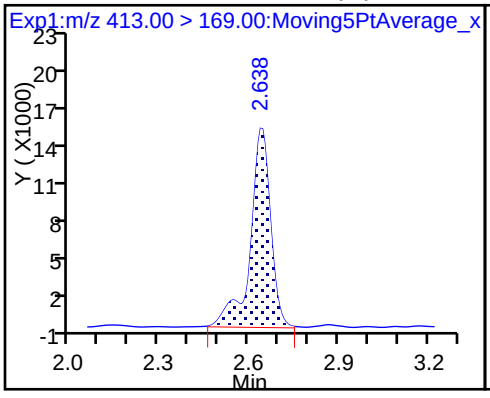
D 14 13C4 PFOA



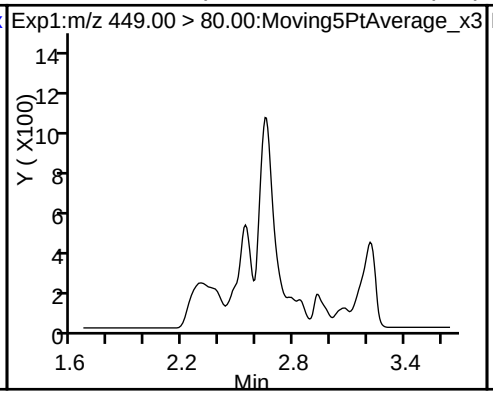
15 Perfluorooctanoic acid (M)



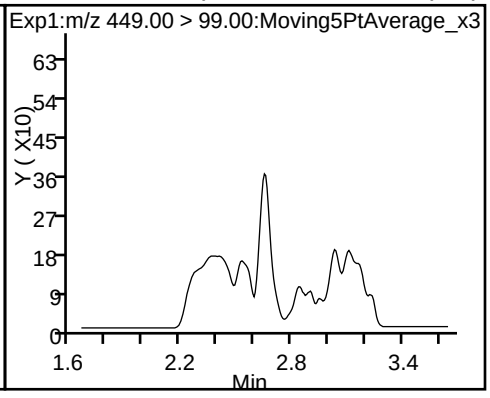
15 Perfluorooctanoic acid (M)



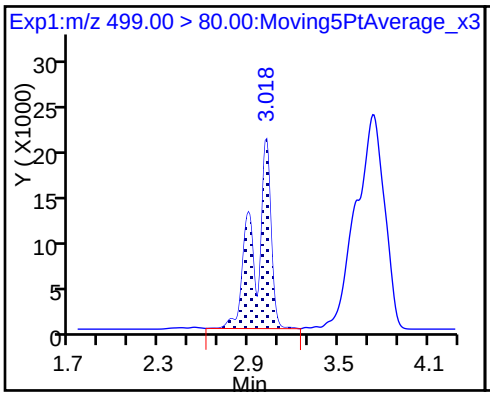
16 Perfluoroheptanesulfonic Acid (ND)



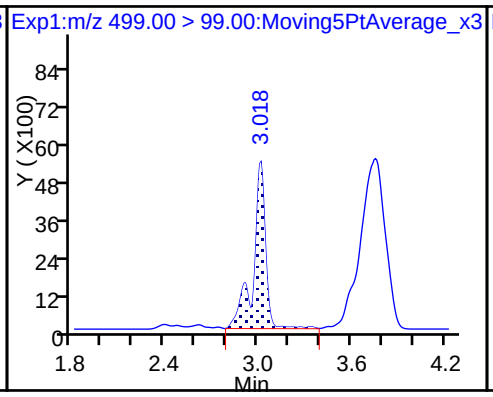
16 Perfluoroheptanesulfonic Acid (ND)



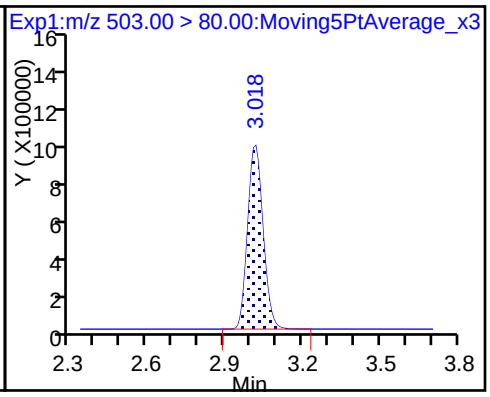
17 Perfluorooctane sulfonic acid



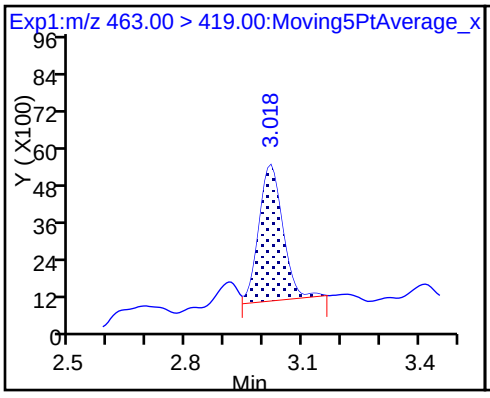
17 Perfluorooctane sulfonic acid



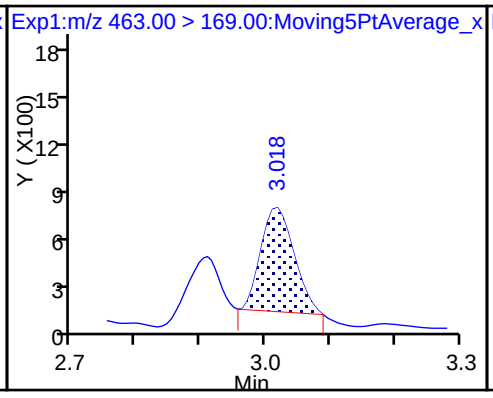
D 18 13C4 PFOS



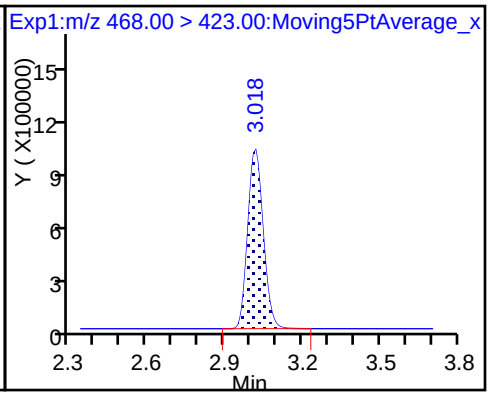
20 Perfluorononanoic acid



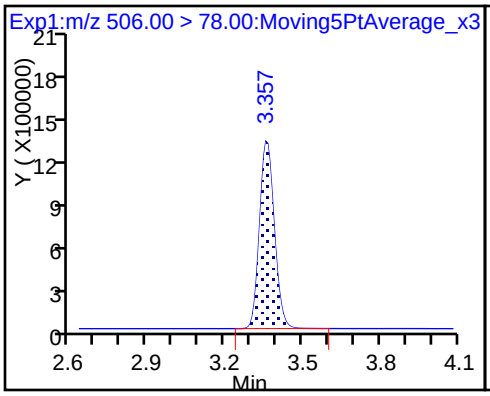
20 Perfluorononanoic acid



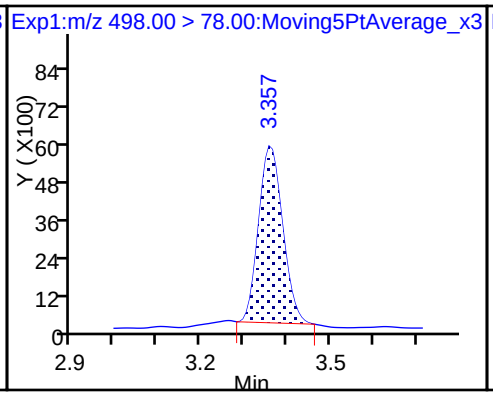
D 19 13C5 PFNA



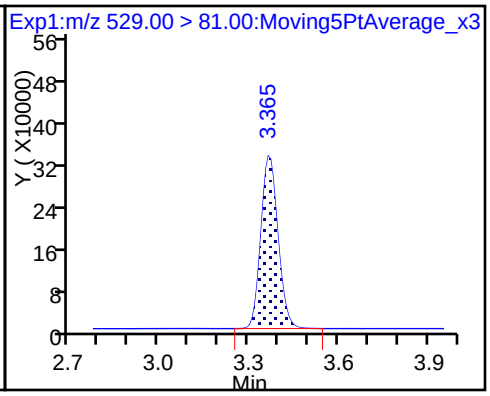
D 21 13C8 FOSA



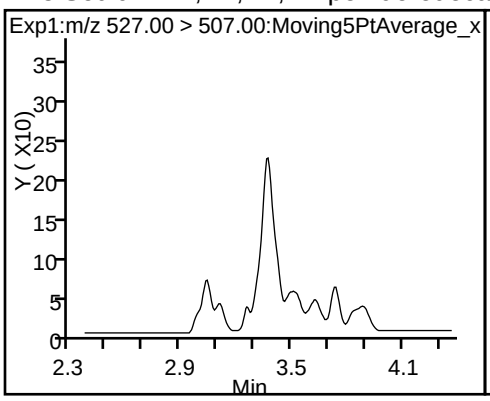
22 Perfluorooctane Sulfonamide



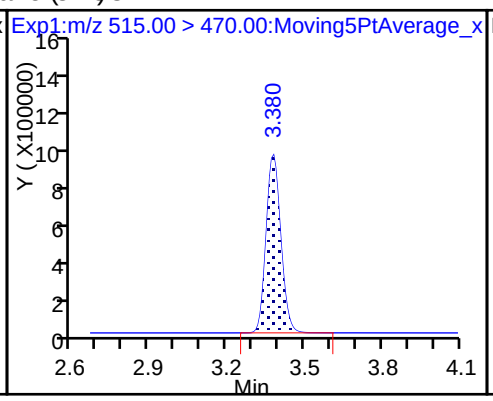
D 26 M2-8:2FTS



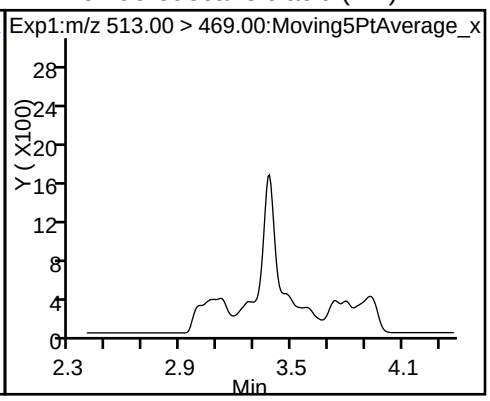
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



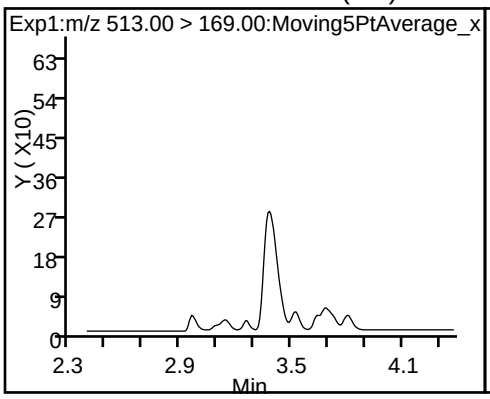
D 13C2 PFDA



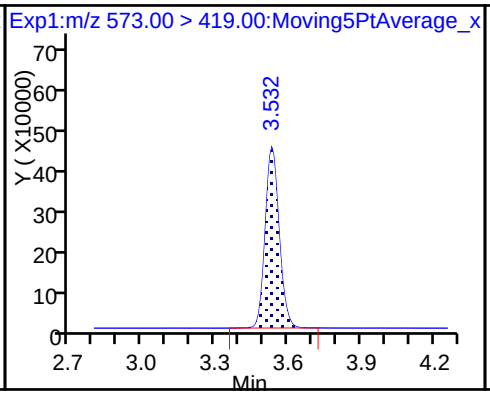
24 Perfluorodecanoic acid (ND)



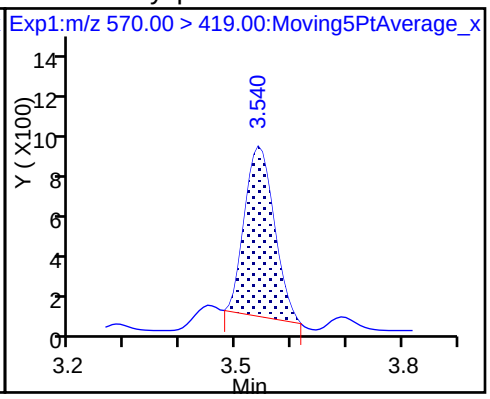
24 Perfluorodecanoic acid (ND)



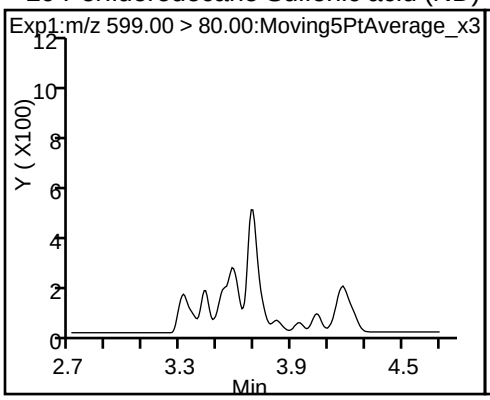
D 27 d3-NMeFOSAA



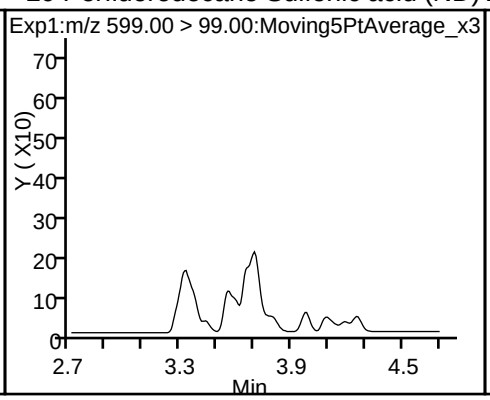
28 N-methyl perfluorooctane sulfonami



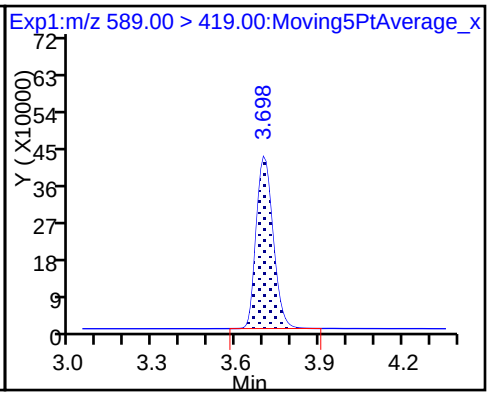
29 Perfluorodecane Sulfonic acid (ND)



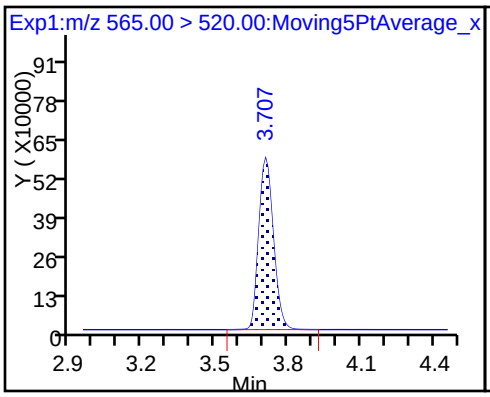
29 Perfluorodecane Sulfonic acid (ND)



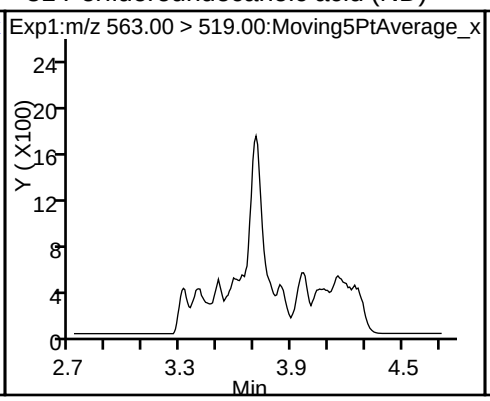
D 32 d5-NEtFOSAA



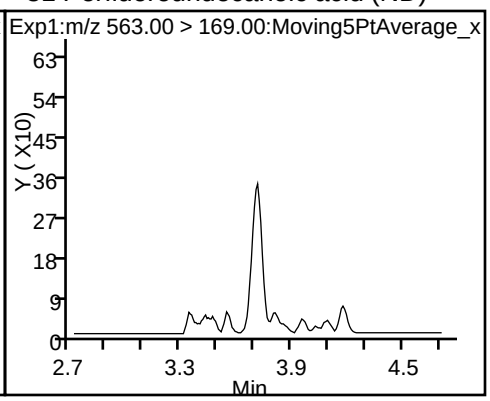
D 30 13C2 PFUnA



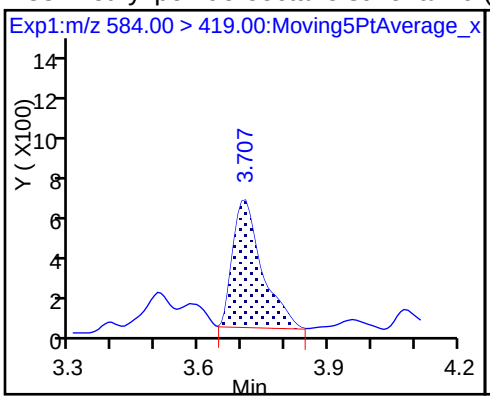
31 Perfluoroundecanoic acid (ND)



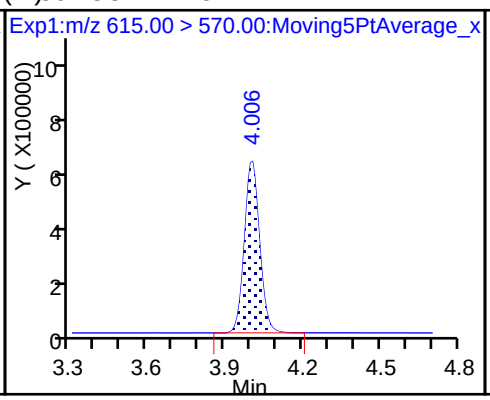
31 Perfluoroundecanoic acid (ND)



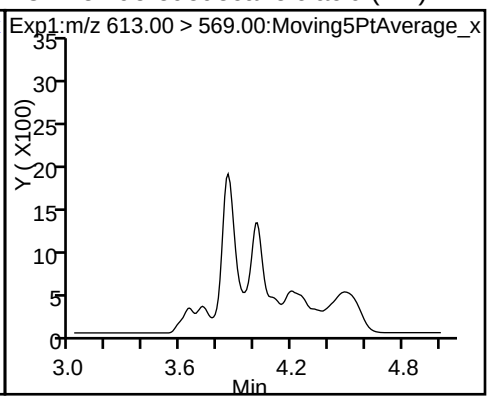
33 N-ethyl perfluorooctane sulfonamid (M)



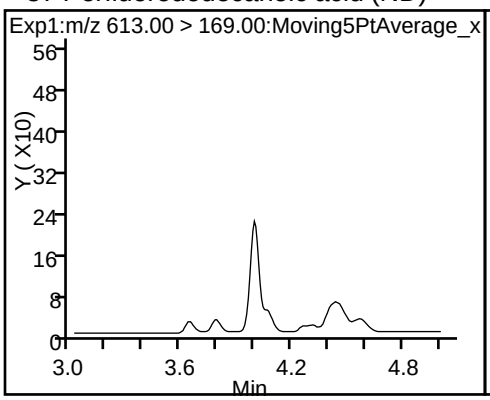
D 36 13C2 PFDoA



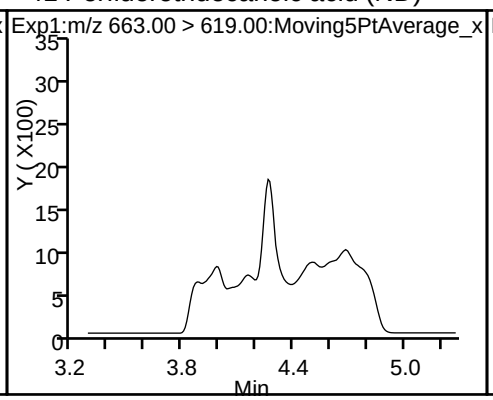
37 Perfluorododecanoic acid (ND)



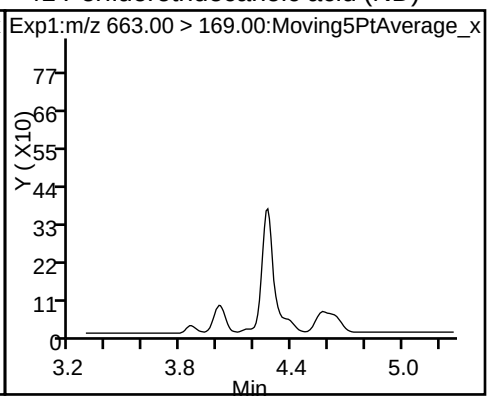
37 Perfluorododecanoic acid (ND)



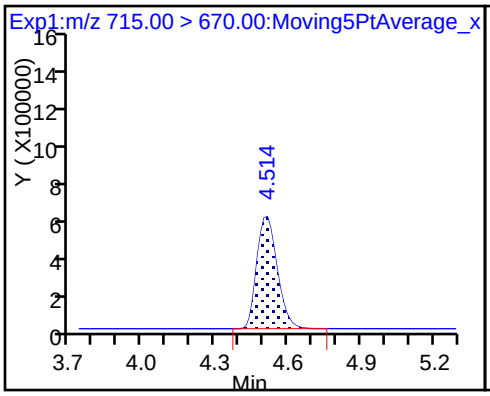
41 Perfluorotridecanoic acid (ND)



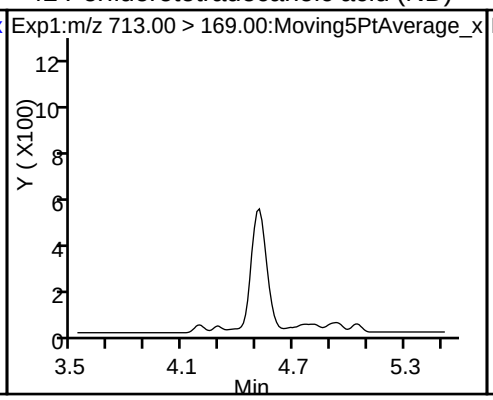
41 Perfluorotridecanoic acid (ND)



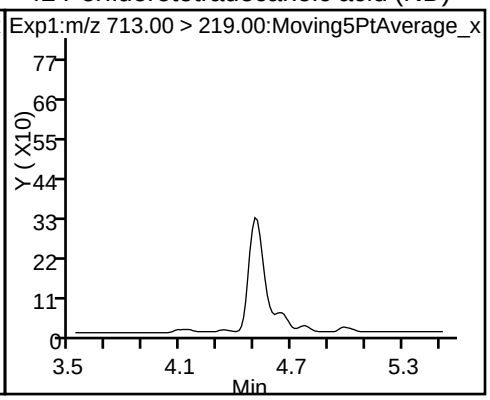
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

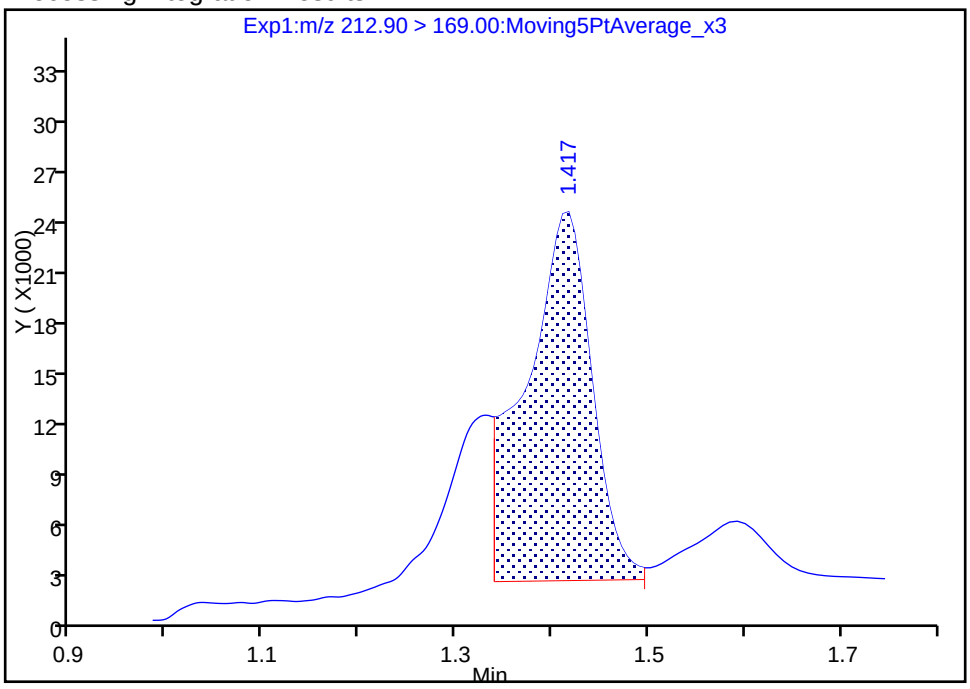
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Injection Date:	20-Dec-2017 08:28:39	Instrument ID:	A8_N		
Lims ID:	320-34182-A-4-A	Lab Sample ID:	320-34182-4		
Client ID:	FW-YC001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

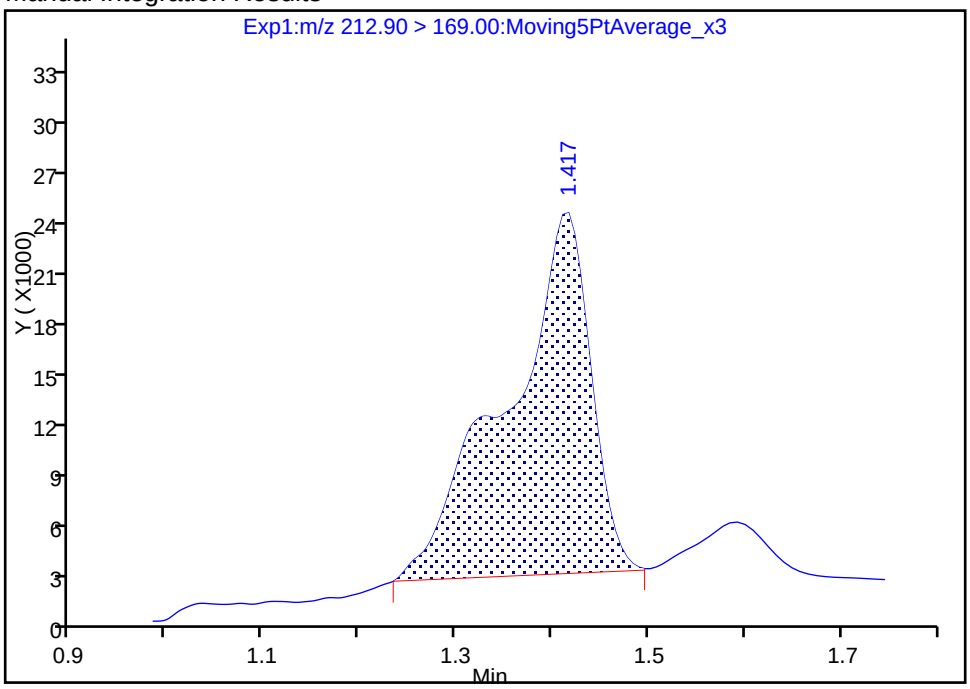
Processing Integration Results

RT: 1.42
Area: 104241
Amount: 0.039323
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 130053
Amount: 0.049060
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:32:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

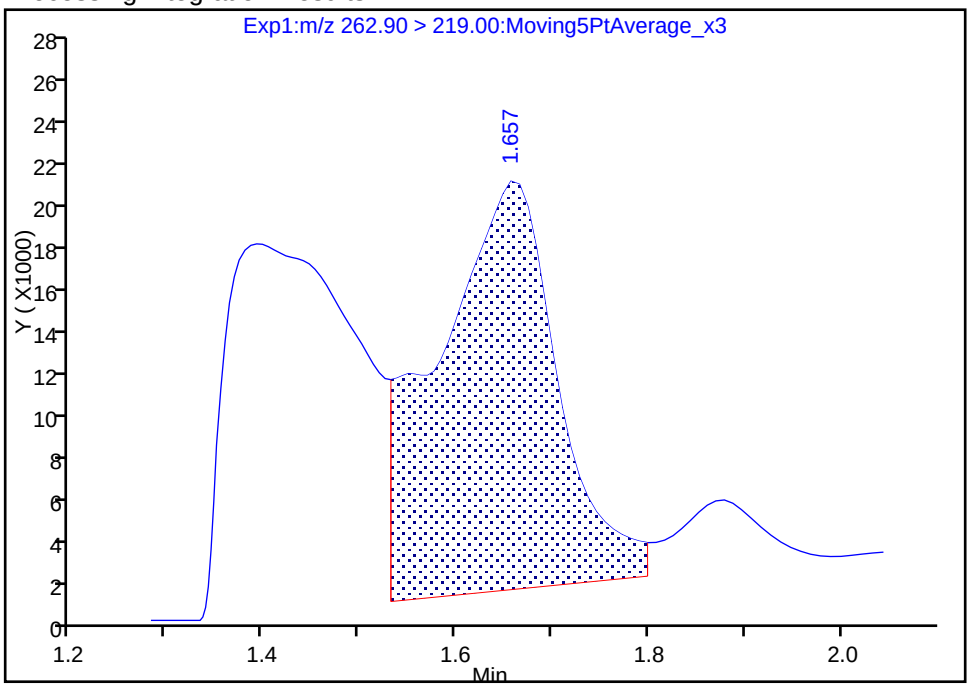
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Lims ID:	320-34182-A-4-A	Lab Sample ID:	320-34182-4		
Client ID:	FW-YC001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

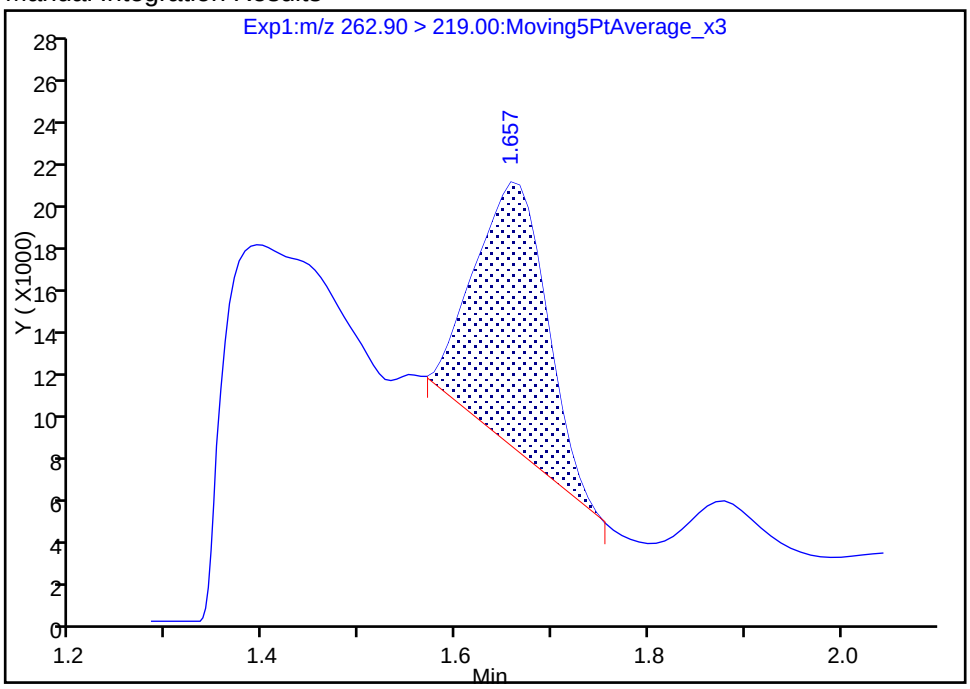
Processing Integration Results

RT: 1.66
Area: 164815
Amount: 0.066611
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 63641
Amount: 0.025721
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:33:05

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

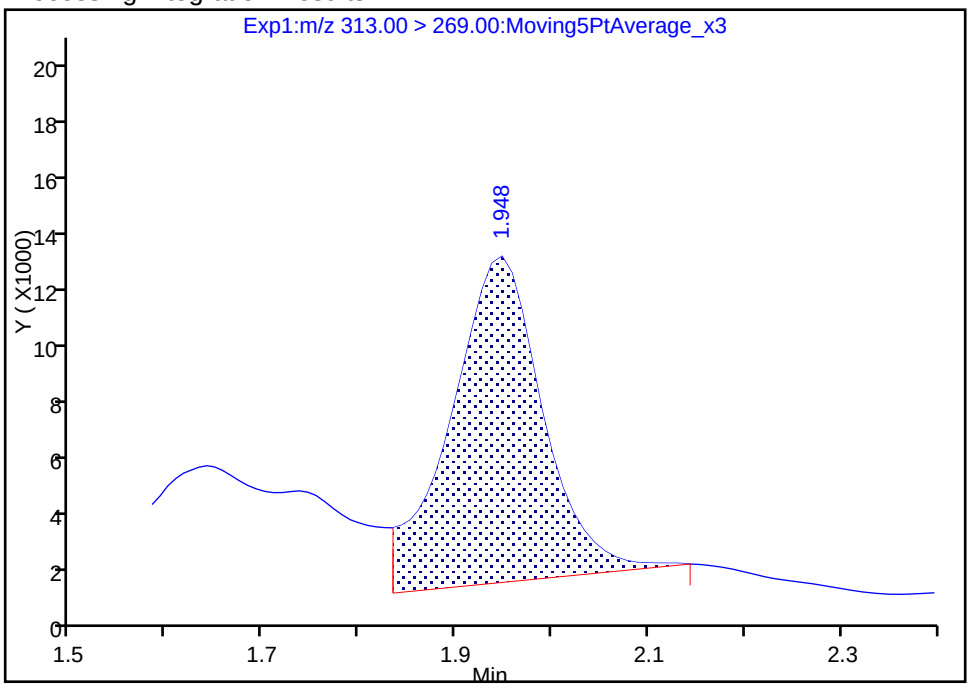
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Lims ID:	320-34182-A-4-A	Lab Sample ID:	320-34182-4		
Client ID:	FW-YC001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

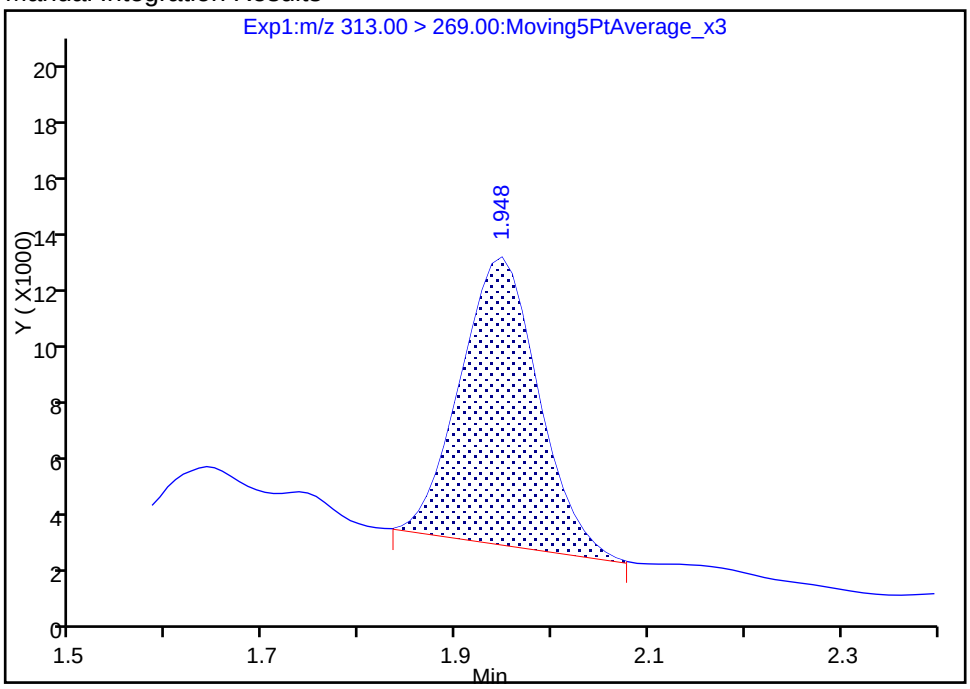
Processing Integration Results

RT: 1.95
Area: 75788
Amount: 0.035254
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 56776
Amount: 0.026411
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:33:20

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

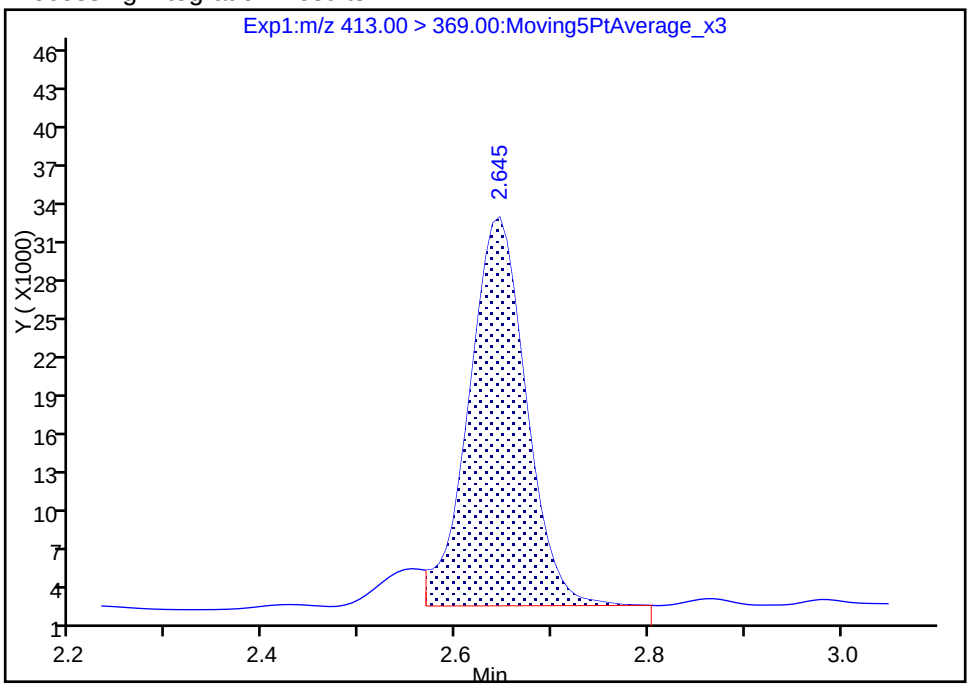
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Injection Date:	20-Dec-2017 08:28:39	Instrument ID:	A8_N		
Lims ID:	320-34182-A-4-A	Lab Sample ID:	320-34182-4		
Client ID:	FW-YC001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

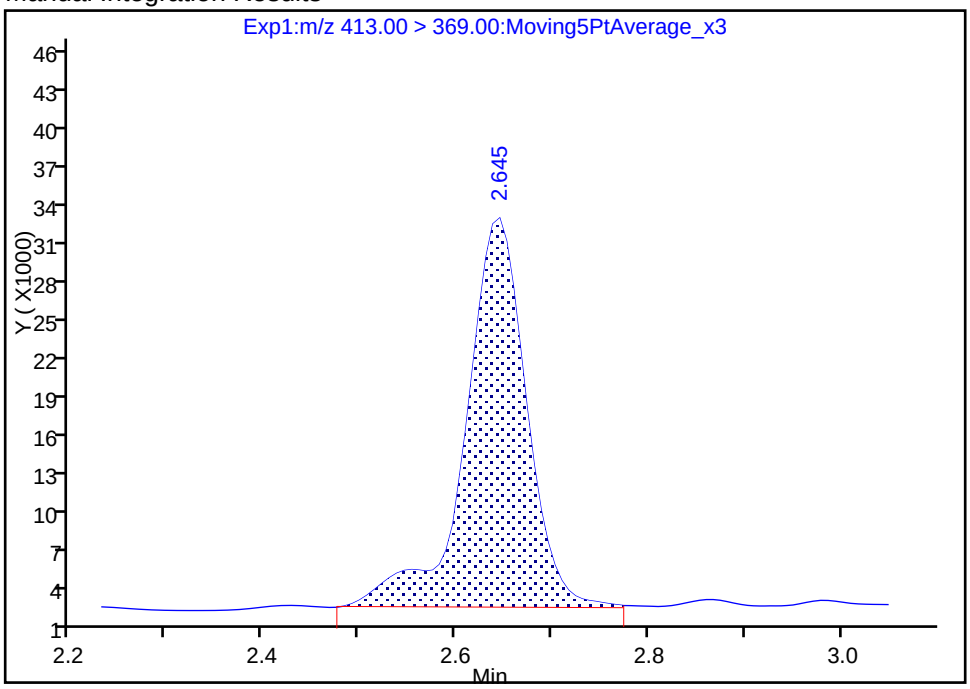
Processing Integration Results

RT: 2.65
Area: 124325
Amount: 0.052203
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 133845
Amount: 0.056200
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:33:46
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

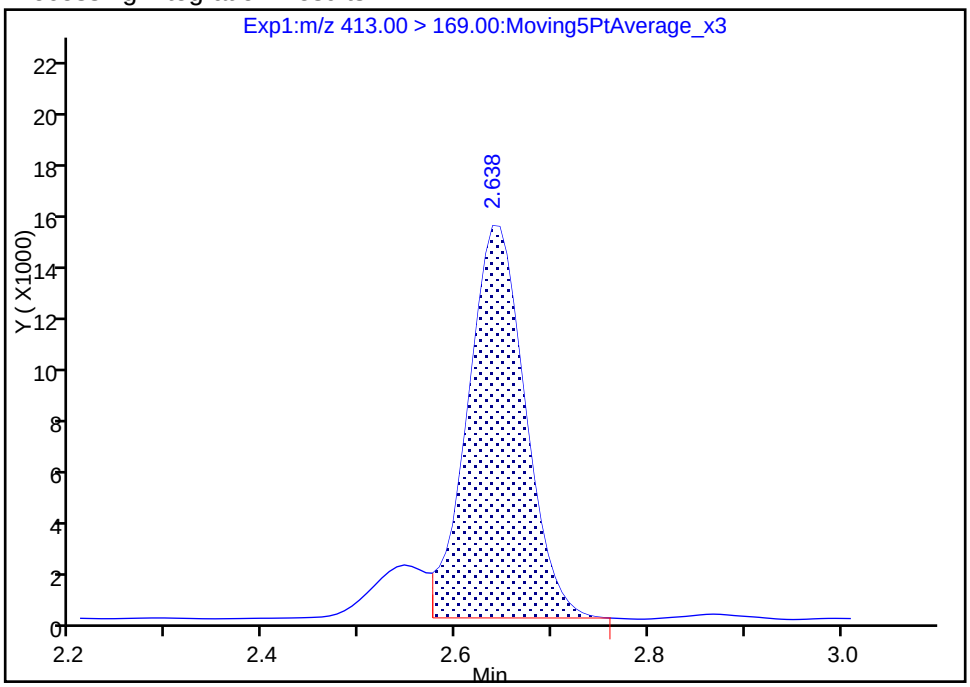
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_031.d				
Injection Date:	20-Dec-2017 08:28:39	Instrument ID:	A8_N		
Lims ID:	320-34182-A-4-A	Lab Sample ID:	320-34182-4		
Client ID:	FW-YC001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

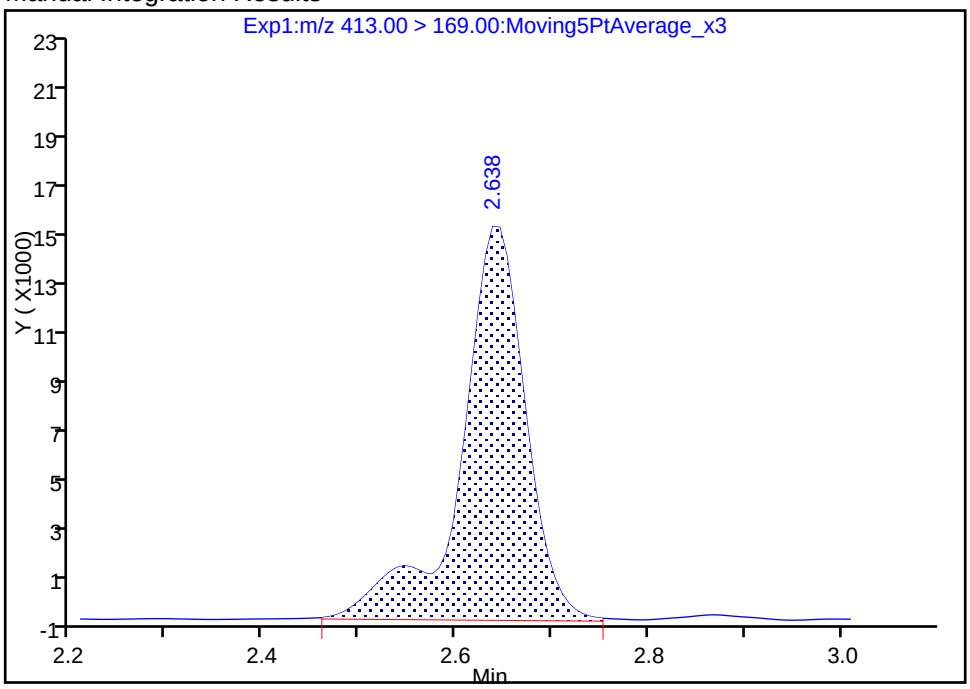
Processing Integration Results

RT: 2.64
Area: 62190
Amount: 0.052203
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 71222
Amount: 0.056200
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:33:53

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

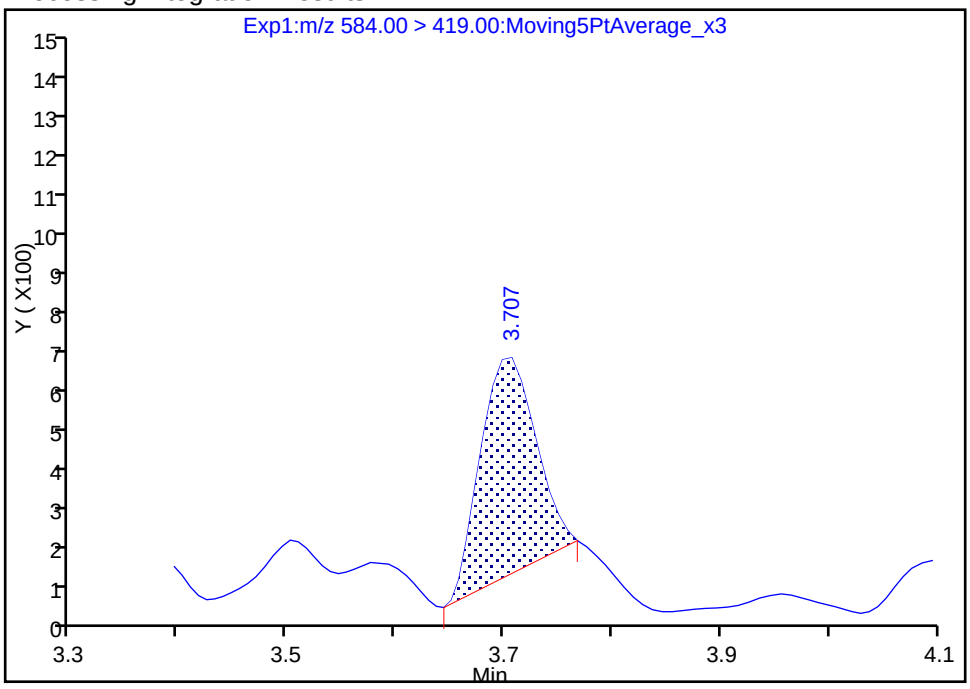
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Injection Date:	20-Dec-2017 08:28:39	Instrument ID:	A8_N		
Lims ID:	320-34182-A-4-A	Lab Sample ID:	320-34182-4		
Client ID:	FW-YC001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

33 N-ethyl perfluorooctane sulfonamidoacetic ac, CAS: 2991-50-6

Signal: 1

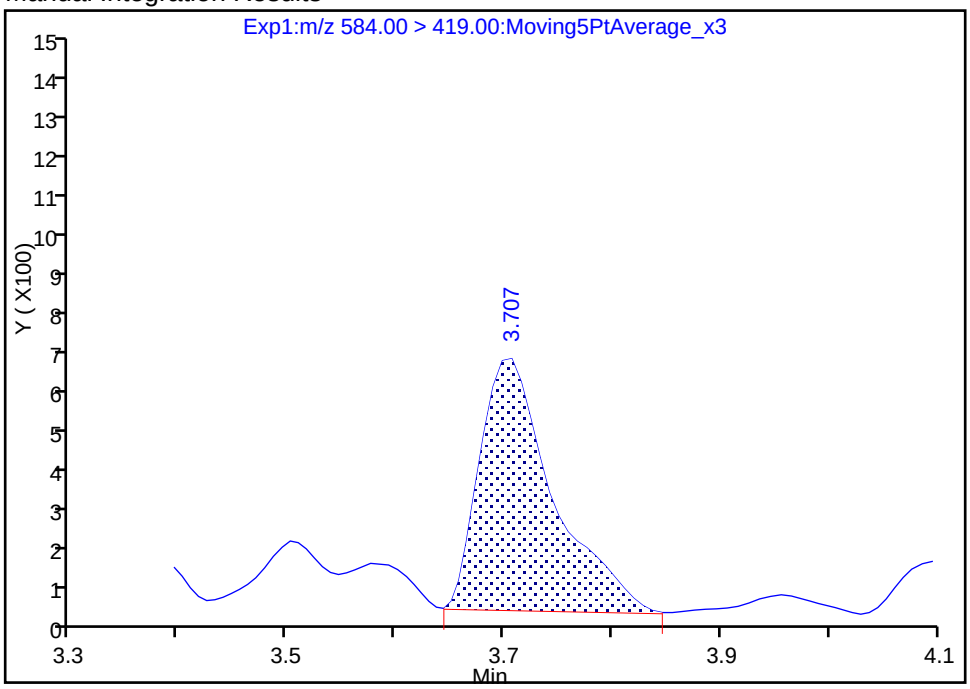
Processing Integration Results

RT: 3.71
Area: 1875
Amount: 0.002735
Amount Units: ng/ml



Manual Integration Results

RT: 3.71
Area: 2878
Amount: 0.004198
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:34:23

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-CR008-A | Lab Sample ID: 320-34182-5

Matrix: Water | Lab File ID: 2017.12.19LLC_032.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 10:55

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 247.9(mL) | Date Analyzed: 12/20/2017 08:36

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.22		2.02	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.68		2.02	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	4.00		2.02	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.63	J	2.02	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	2.92		2.02	0.86
375-95-1	Perfluorononanoic acid (PFNA)	1.92	J	2.02	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.02	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.11	U	2.02	1.11
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.02	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.31	U	2.02	1.31
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.02	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.30	J	2.02	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	6.65	B	2.02	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	J	2.02	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	10.4		2.02	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.02	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.42	J B	2.02	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.13	U	20.2	3.13
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.92	U	20.2	1.92
27619-97-2	6:2FTS	2.02	U	20.2	2.02
39108-34-4	8:2FTS	2.02	U	20.2	2.02

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-CR008-A | Lab Sample ID: 320-34182-5

Matrix: Water | Lab File ID: 2017.12.19LLC_032.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 10:55

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 247.9(mL) | Date Analyzed: 12/20/2017 08:36

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	99		25-150
STL01893	13C5 PFPeA	118		25-150
STL00993	13C2 PFHxA	110		25-150
STL01892	13C4-PFHpA	112		25-150
STL00990	13C4 PFOA	103		25-150
STL00995	13C5 PFNA	115		25-150
STL00996	13C2 PFDA	120		25-150
STL00997	13C2 PFUnA	107		25-150
STL00998	13C2 PFDoA	105		25-150
STL02116	13C2-PFTeDA	119		25-150
STL02337	13C3-PFBS	115		25-150
STL00994	18O2 PFHxS	110		25-150
STL00991	13C4 PFOS	113		25-150
STL01056	13C8 FOSA	105		25-150
STL02118	d3-NMeFOSAA	130		25-150
STL02117	d5-NEtFOSAA	122		25-150
STL02279	M2-6:2FTS	67		25-150
STL02280	M2-8:2FTS	180	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_032.d
Lims ID: 320-34182-A-5-A
Client ID: FW-CR008-A
Sample Type: Client
Inject. Date: 20-Dec-2017 08:36:31 ALS Bottle#: 23 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-5-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:37:22

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.414	1.411	0.003	0.533	7733971	2.48		99.4	17694	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.420	1.412	0.008	1.004	155342	0.0550			19.9	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.662	1.664	-0.002	0.627	5422899	2.96		118	35627	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.662	1.664	-0.002	1.000	218747	0.0912			47.4	M
D 47 13C3-PFBS										
301.90 > 83.00	1.706	1.699	0.007	0.643	103890	2.68		115	1817	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.706	1.703	0.003	1.000	107475	0.0322			89.8	
298.90 > 99.00	1.706	1.703	0.003	1.000	49178		2.19(1.25-3.74)		101	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.954	1.949	0.005	1.000	212872	0.0992			207	M
313.00 > 119.00	1.954	1.949	0.005	1.000	16981		12.54(5.03-15.10)		273	
D 7 13C2 PFHxA										
315.00 > 270.00	1.954	1.949	0.005	0.737	5363795	2.76		110	47009	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.278	2.286	-0.008	1.000	84580	0.0404			84.6	M
363.00 > 169.00	2.278	2.286	-0.008	1.000	35393		2.39(1.13-3.40)		288	
D 9 13C4-PFHpA										
367.00 > 322.00	2.278	2.286	-0.008	0.859	5085085	2.80		112	37715	
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.299	0.005	0.869	5846254	2.60		110	49994	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.291	2.299	-0.008	0.994	443233	0.1650			478	
399.00 > 99.00	2.304	2.299	0.005	1.000	146405		3.03(1.50-4.49)		437	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.623	2.640	-0.017	1.000	23561	0.0291			1151	
D 12 M2-6:2FTS										
429.00 > 81.00	2.623	2.640	-0.017	0.989	1199709	1.59		66.9	13595	
* 62 13C2-PFOA										
415.00 > 370.00	2.651	2.643	0.008		5279811	2.50			48068	
D 14 13C4 PFOA										
417.00 > 372.00	2.644	2.647	-0.003	0.997	5647171	2.59		103	81310	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.651	2.649	0.002	1.003	172499	0.0724			76.0	
413.00 > 169.00	2.644	2.649	-0.005	1.000	94541		1.82(0.84-2.52)		782	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.651	2.654	-0.003	1.000	11053	0.004680			63.4	
449.00 > 99.00	2.651	2.654	-0.003	1.000	3400		3.25(1.94-5.82)		59.6	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.024	3.025	-0.001	1.000	451784	0.2588			65.1	
499.00 > 99.00	3.024	3.025	-0.001	1.000	102495		4.41(2.31-6.93)		104	
D 18 13C4 PFOS										
503.00 > 80.00	3.024	3.025	-0.001	1.141	3923101	2.71		113	28010	
20 Perfluorononanoic acid										
463.00 > 419.00	3.024	3.026	-0.002	1.000	77627	0.0476			97.5	
463.00 > 169.00	3.024	3.026	-0.002	1.000	21594		3.59(1.90-5.69)		179	
D 19 13C5 PFNA										
468.00 > 423.00	3.024	3.026	-0.002	1.141	4207761	2.87		115	46187	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.362	0.008	1.271	5397041	2.64		105	26472	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.365	0.005	1.000	21012	0.0103			551	
D 26 M2-8:2FTS										
529.00 > 81.00	3.377	3.375	0.002	1.274	1386110	4.31		180	15448	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.387	-0.002	1.277	3513007	2.99		120	45572	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.536	3.541	-0.005	1.334	1759991	3.25		130	20317	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.544	3.547	-0.003	1.002	3569	0.004919			33.4	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.704	3.711	-0.007	1.397	1699529	3.05		122	9891	
D 30 13C2 PFUnA										
565.00 > 520.00	3.713	3.717	-0.004	1.400	2414223	2.67		107	26325	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.721	3.718	0.003	1.005	5405	0.008159			116	
D 36 13C2 PFDoA										
615.00 > 570.00	4.011	4.015	-0.004	1.513	2513243	2.61		105	27328	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.011	4.016	-0.005	1.000	7147	0.007404			22.4	
613.00 > 169.00	4.011	4.016	-0.005	1.000	1751		4.08(2.13-6.40)		88.5	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.278	4.285	-0.007	1.000	5338	0.004633			13.2	
663.00 > 169.00	4.278	4.285	-0.007	1.000	3043		1.75(1.25-3.76)		124	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.522	-0.009	1.702	3130807	2.97		119	25671	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:28 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_032.d

Injection Date: 20-Dec-2017 08:36:31 Instrument ID: A8_N

Lims ID: 320-34182-A-5-A Lab Sample ID: 320-34182-5

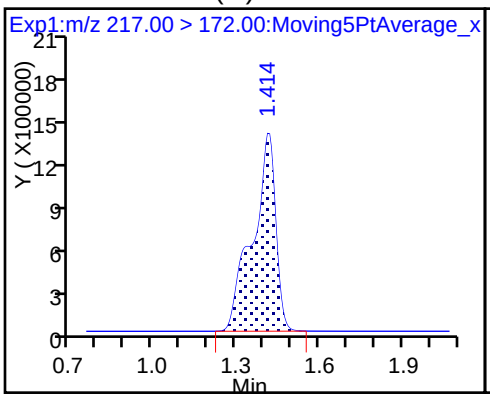
Client ID: FW-CR008-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 23 Worklist Smp#: 10

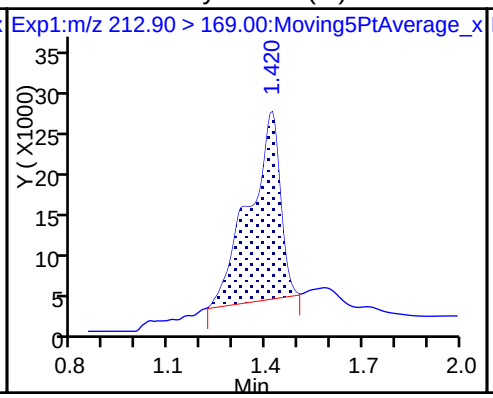
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

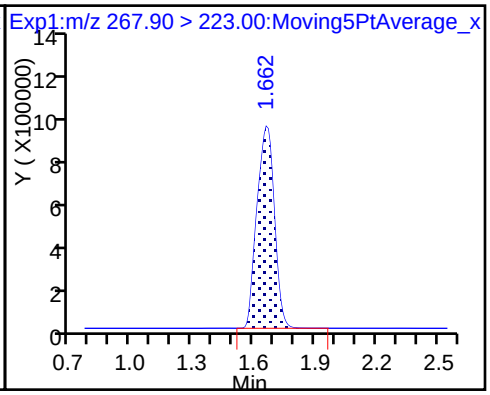
D 1 13C4 PFBA (M)



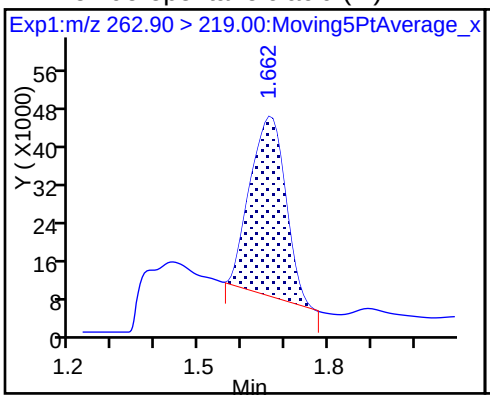
2 Perfluorobutyric acid (M)



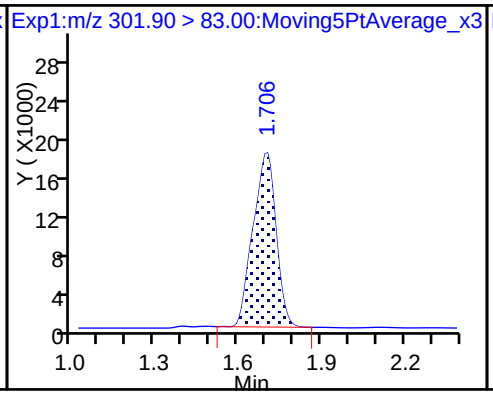
D 3 13C5-PFPeA



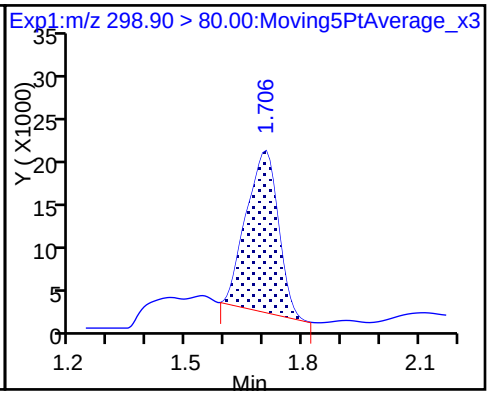
4 Perfluoropentanoic acid (M)



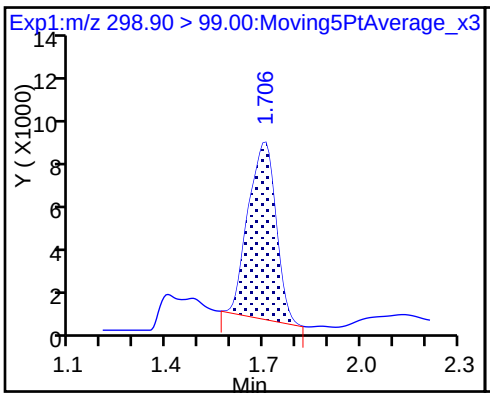
D 47 13C3-PFBS



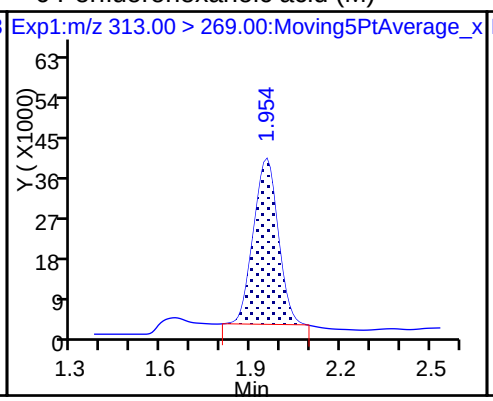
5 Perfluorobutanesulfonic acid



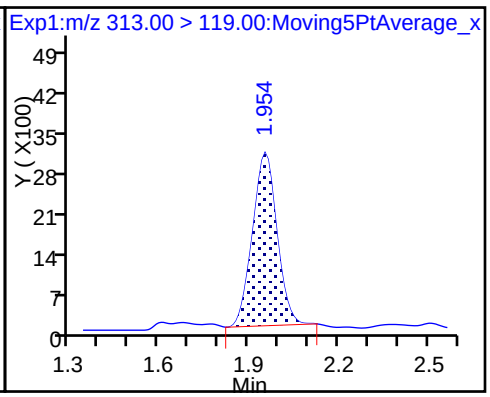
5 Perfluorobutanesulfonic acid



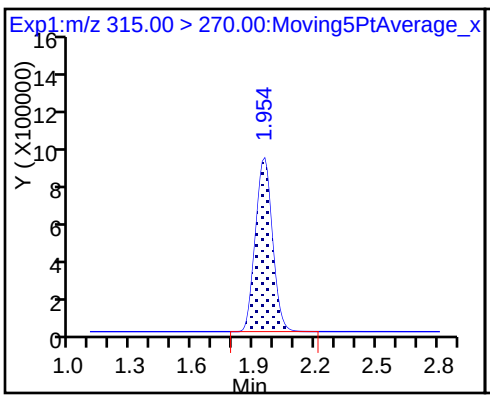
6 Perfluorohexanoic acid (M)



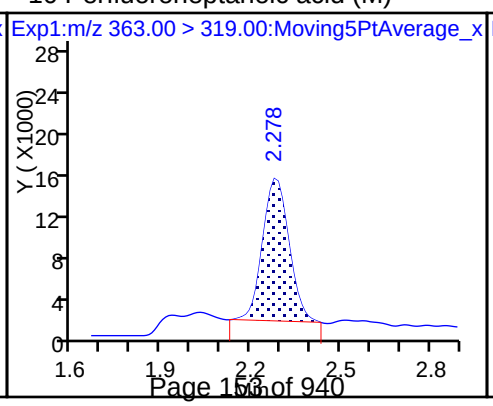
6 Perfluorohexanoic acid



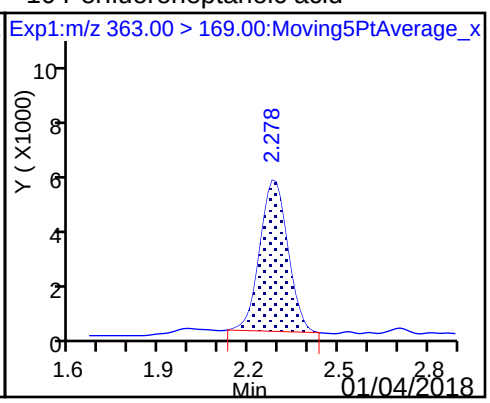
D 7 13C2 PFHxA



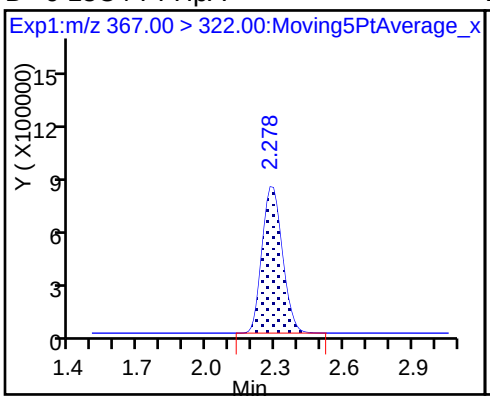
10 Perfluoroheptanoic acid (M)



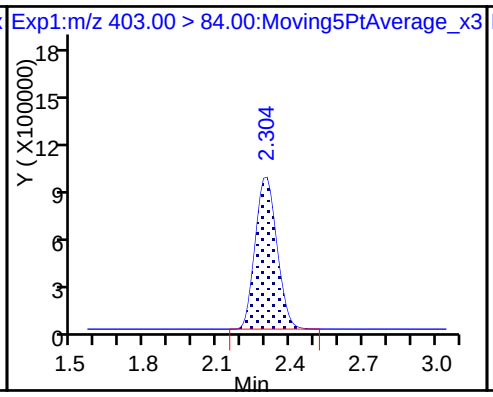
10 Perfluoroheptanoic acid



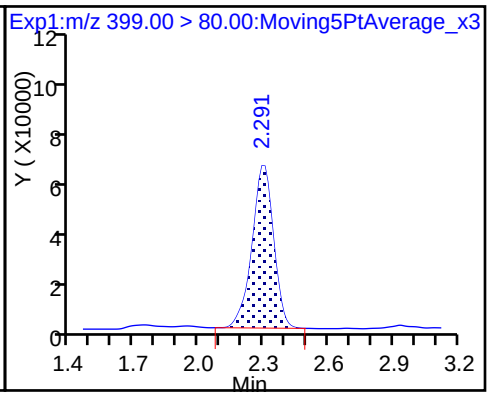
D 9 13C4-PFHpA



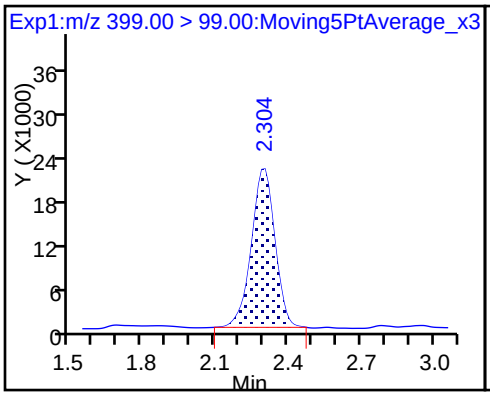
D 11 18O2 PFHxS



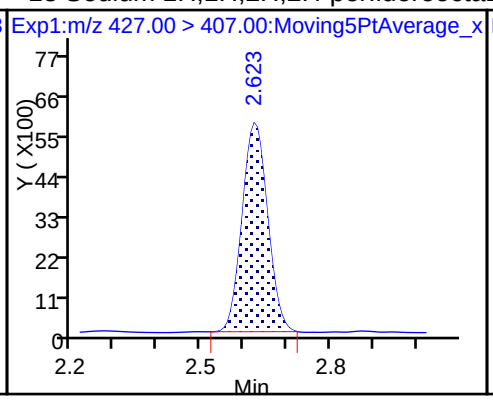
8 Perfluorohexanesulfonic acid



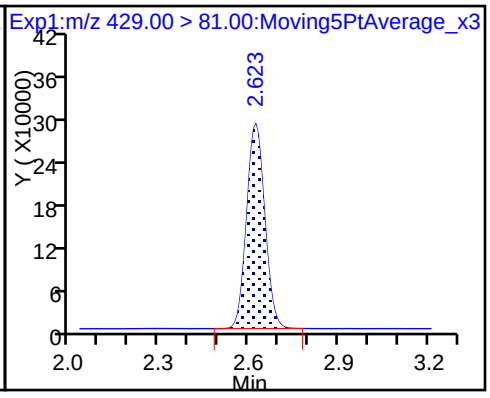
8 Perfluorohexanesulfonic acid



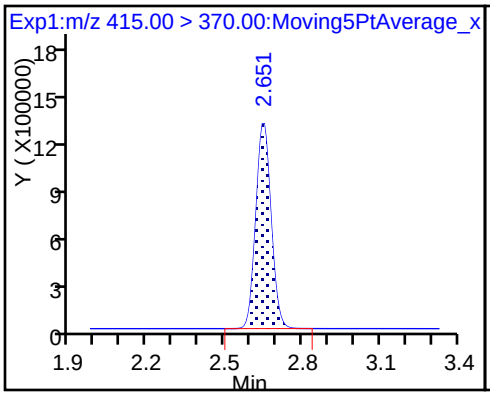
13 Sodium 1H,1H,2H,2H-perfluorooctane



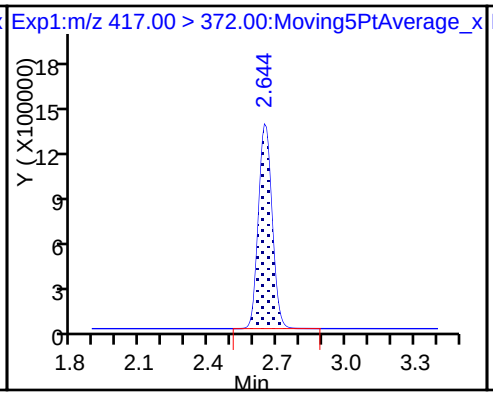
D 12 M2-6:2FTS



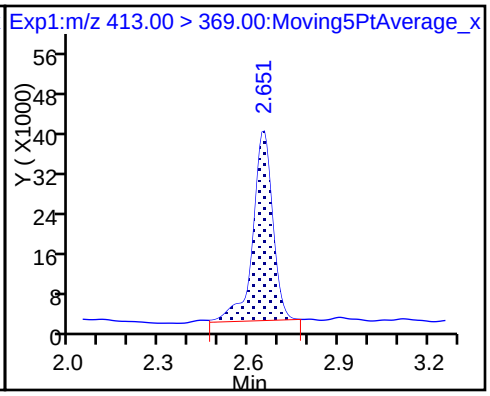
* 62 13C2-PFOA



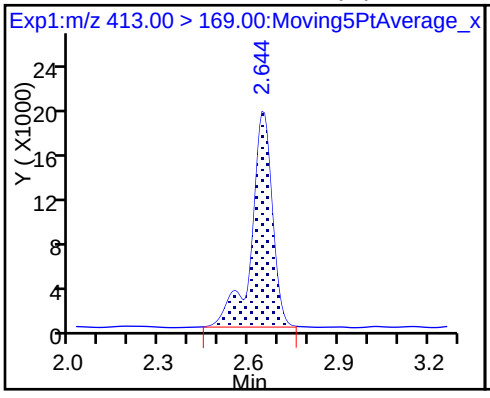
D 14 13C4 PFOA



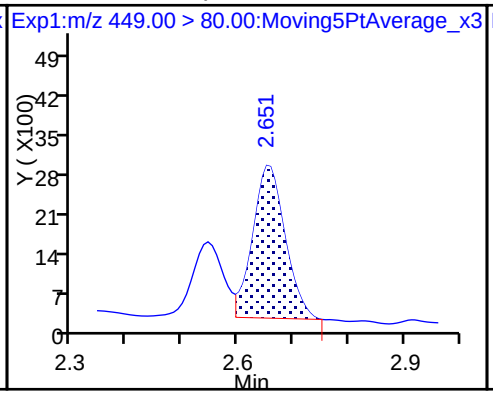
15 Perfluorooctanoic acid



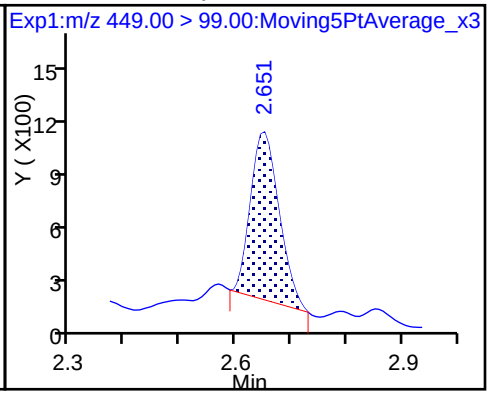
15 Perfluorooctanoic acid (M)



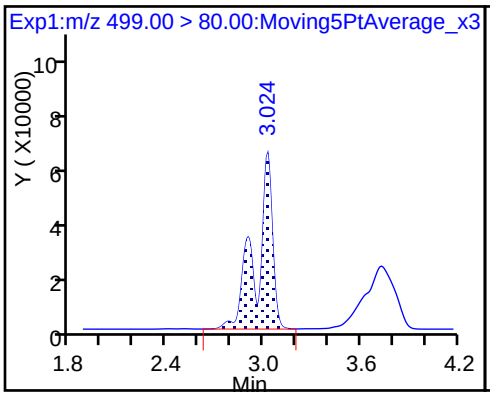
16 Perfluoroheptanesulfonic Acid



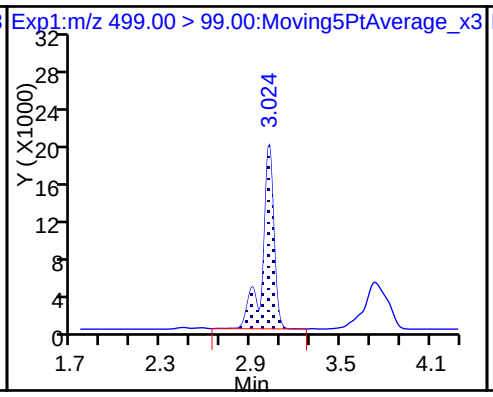
16 Perfluoroheptanesulfonic Acid



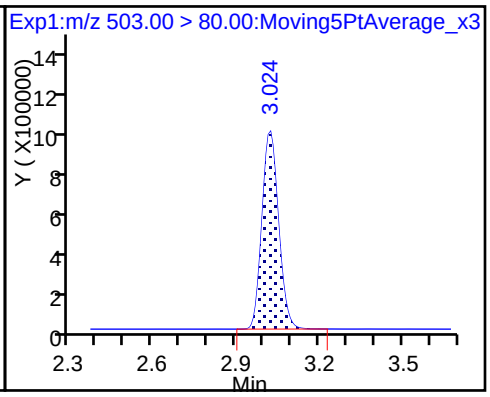
17 Perfluorooctane sulfonic acid



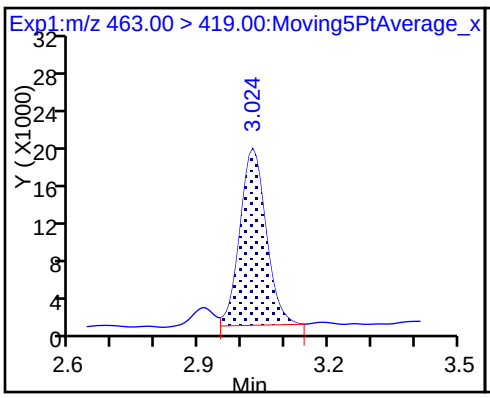
17 Perfluorooctane sulfonic acid



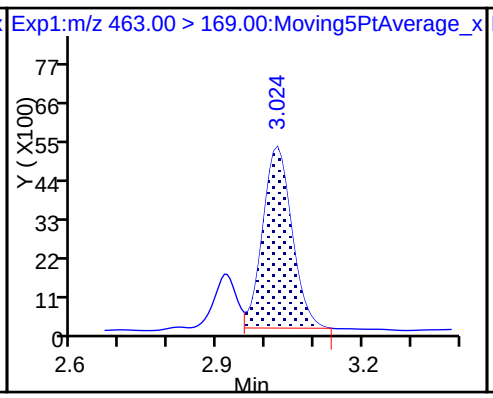
D 18 13C4 PFOS



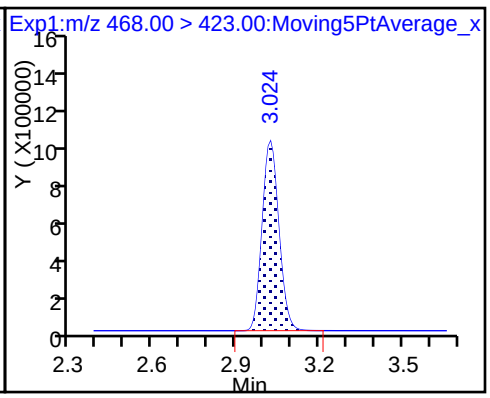
20 Perfluorononanoic acid



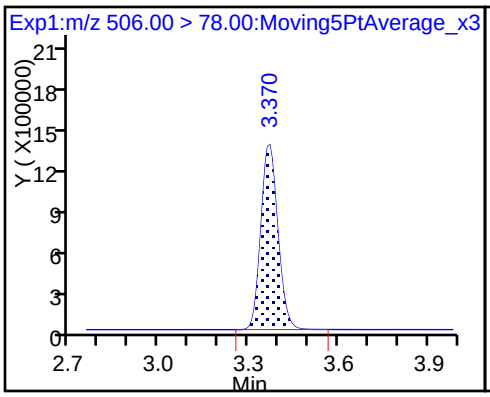
20 Perfluorononanoic acid



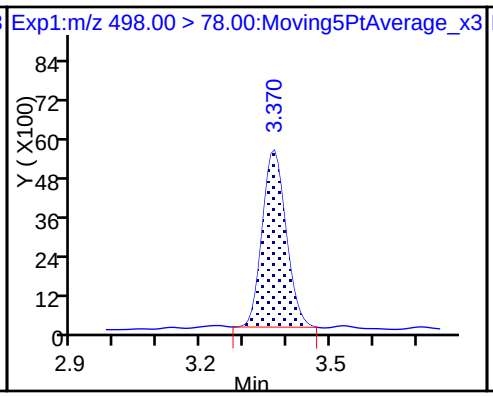
D 19 13C5 PFNA



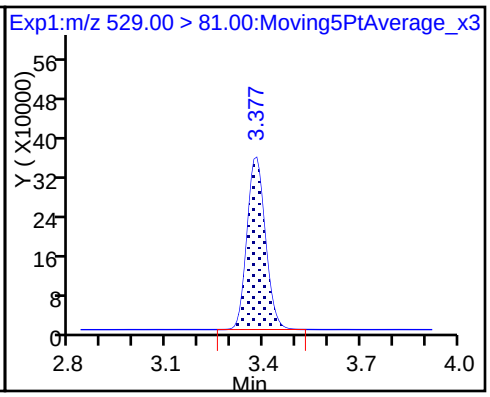
D 21 13C8 FOSA



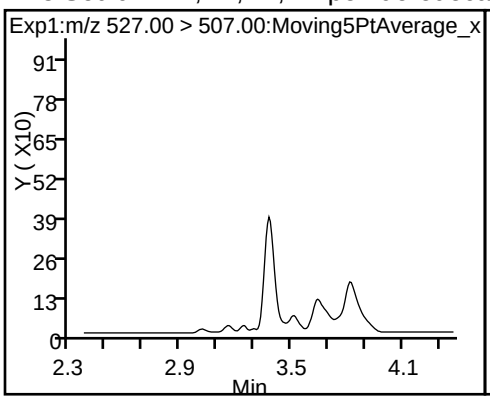
22 Perfluorooctane Sulfonamide



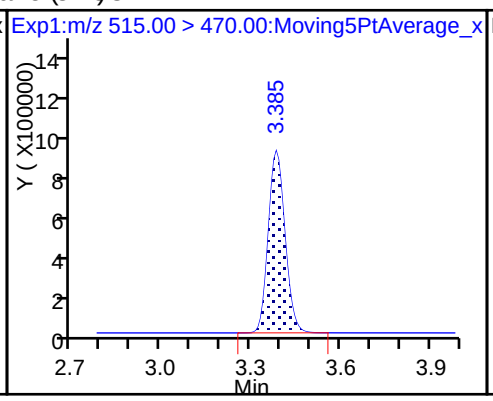
D 26 M2-8:2FTS



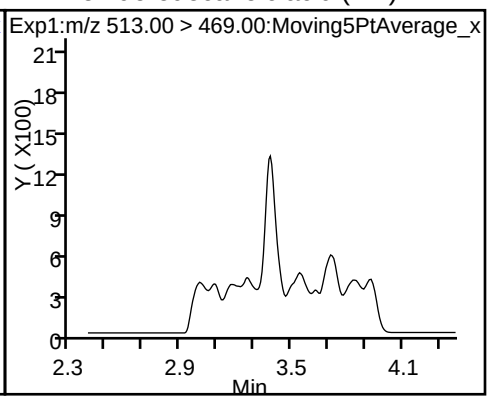
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



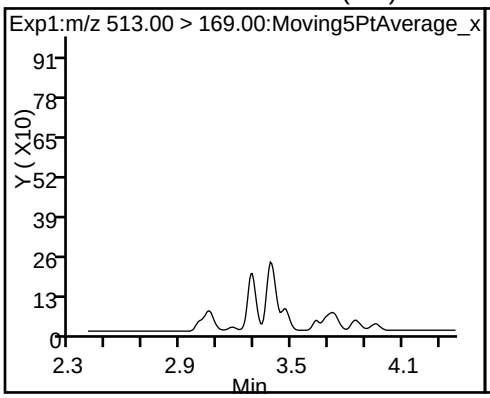
D 13C2 PFDA



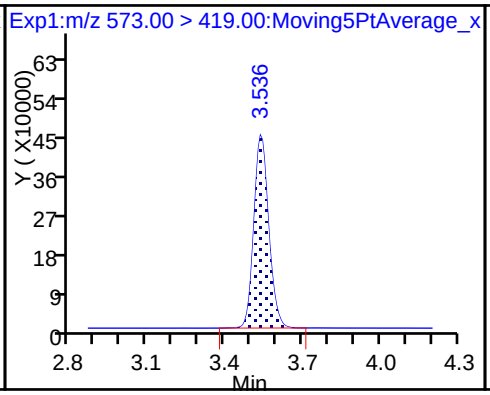
24 Perfluorodecanoic acid (ND)



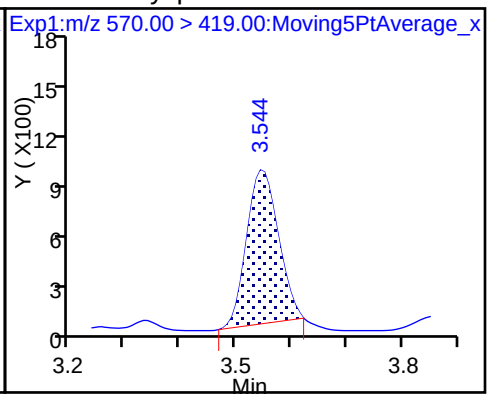
24 Perfluorodecanoic acid (ND)



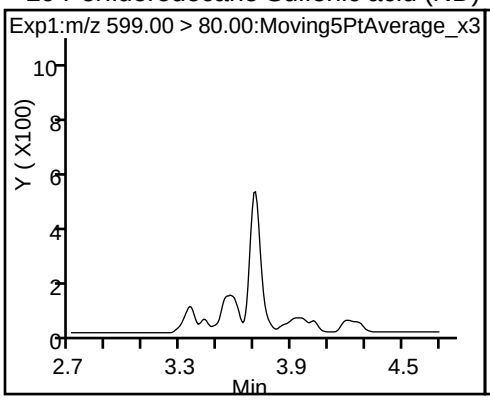
D 27 d3-NMeFOSAA



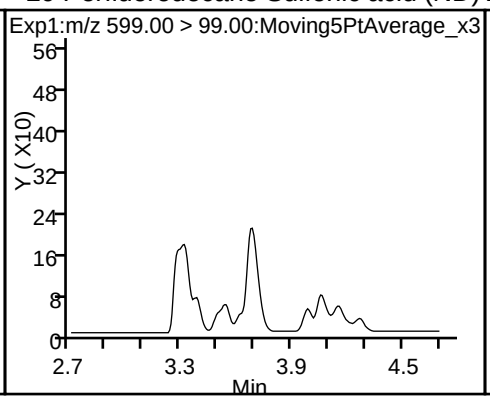
28 N-methyl perfluorooctane sulfonami



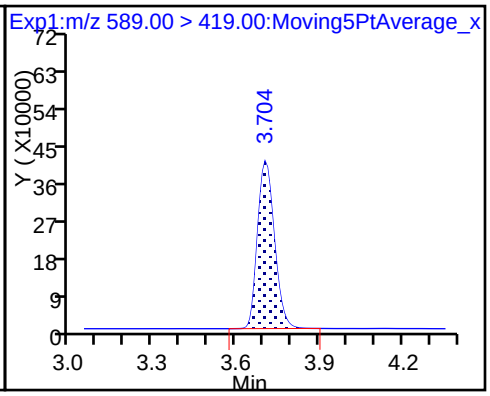
29 Perfluorodecane Sulfonic acid (ND)



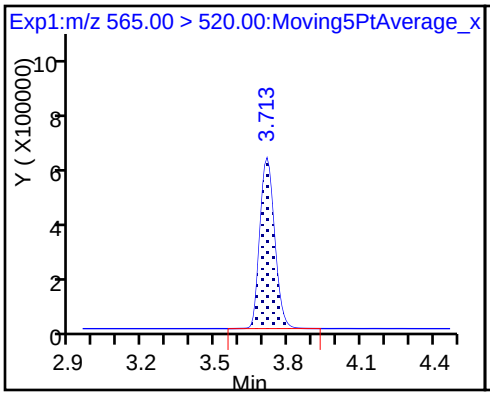
29 Perfluorodecane Sulfonic acid (ND)



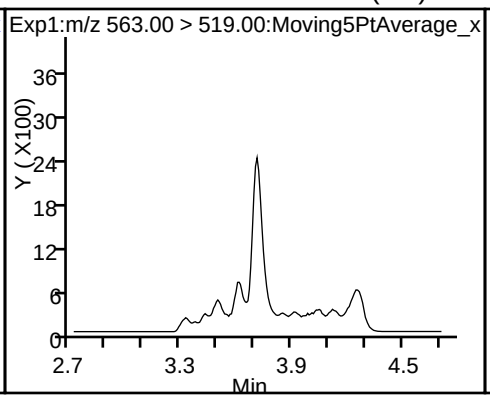
D 32 d5-NEtFOSAA



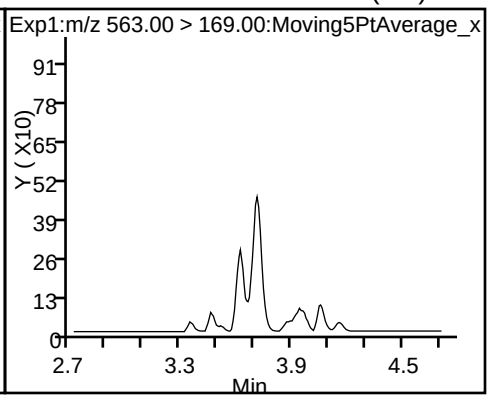
D 30 13C2 PFUnA



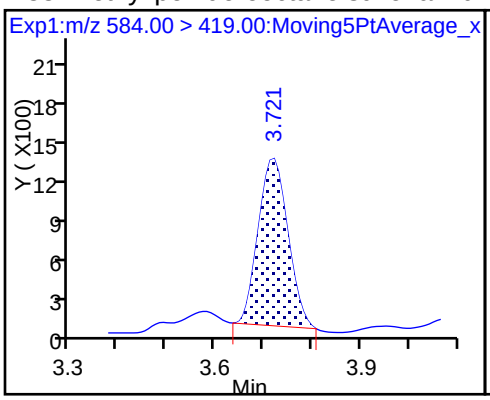
31 Perfluoroundecanoic acid (ND)



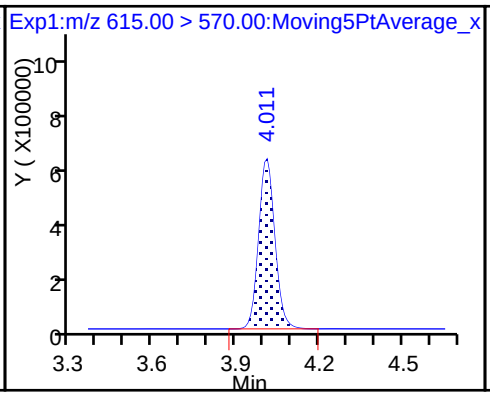
31 Perfluoroundecanoic acid (ND)



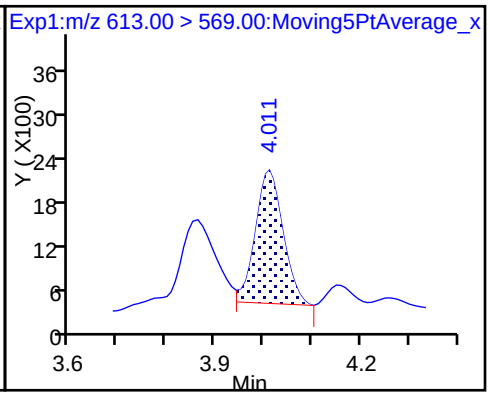
33 N-ethyl perfluorooctane sulfonamid



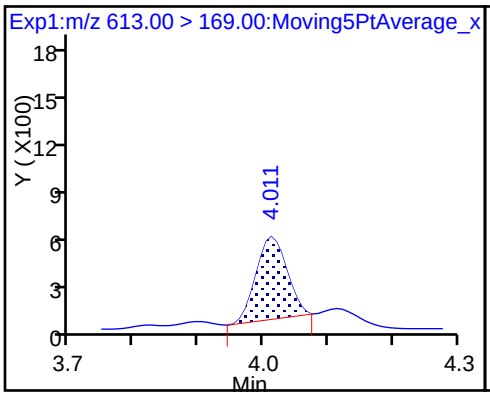
D 36 13C2 PFDoA



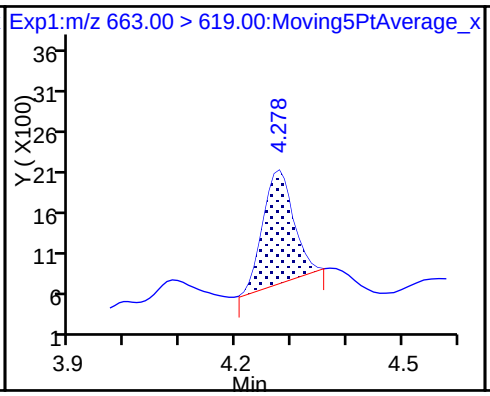
37 Perfluorododecanoic acid



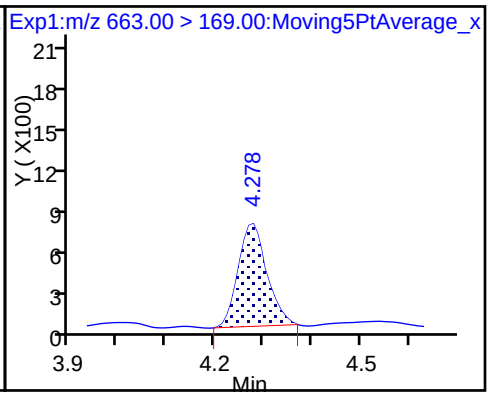
37 Perfluorododecanoic acid



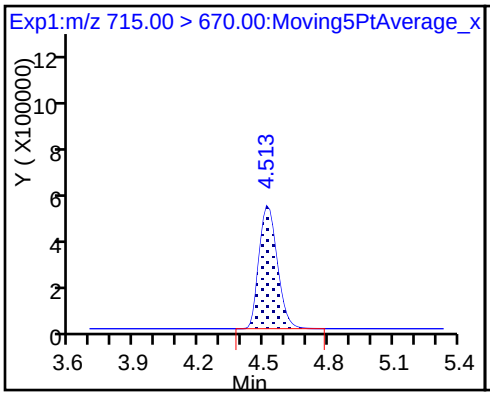
41 Perfluorotridecanoic acid



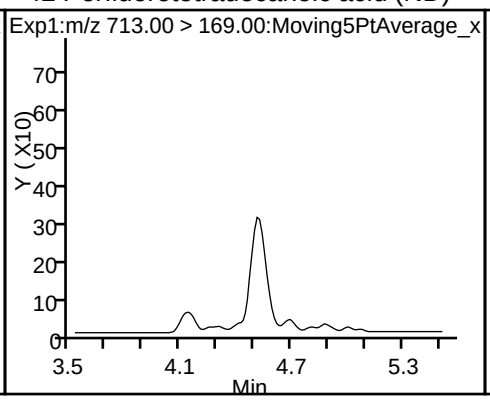
41 Perfluorotridecanoic acid



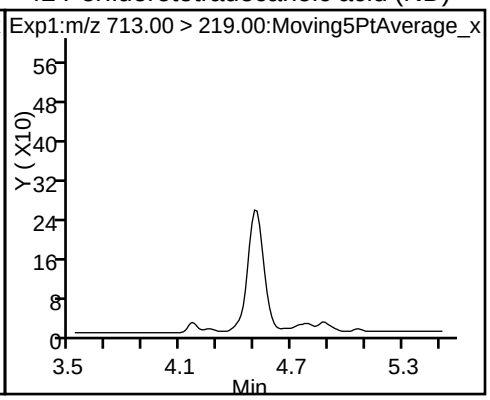
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

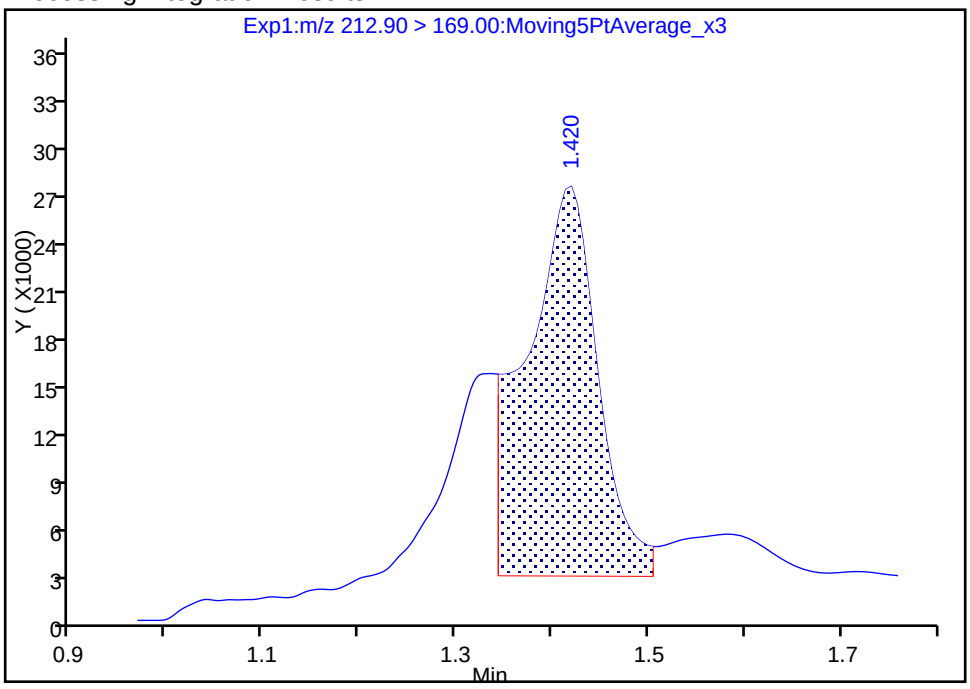
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Injection Date:	20-Dec-2017 08:36:31	Instrument ID:	A8_N		
Lims ID:	320-34182-A-5-A	Lab Sample ID:	320-34182-5		
Client ID:	FW-CR008-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

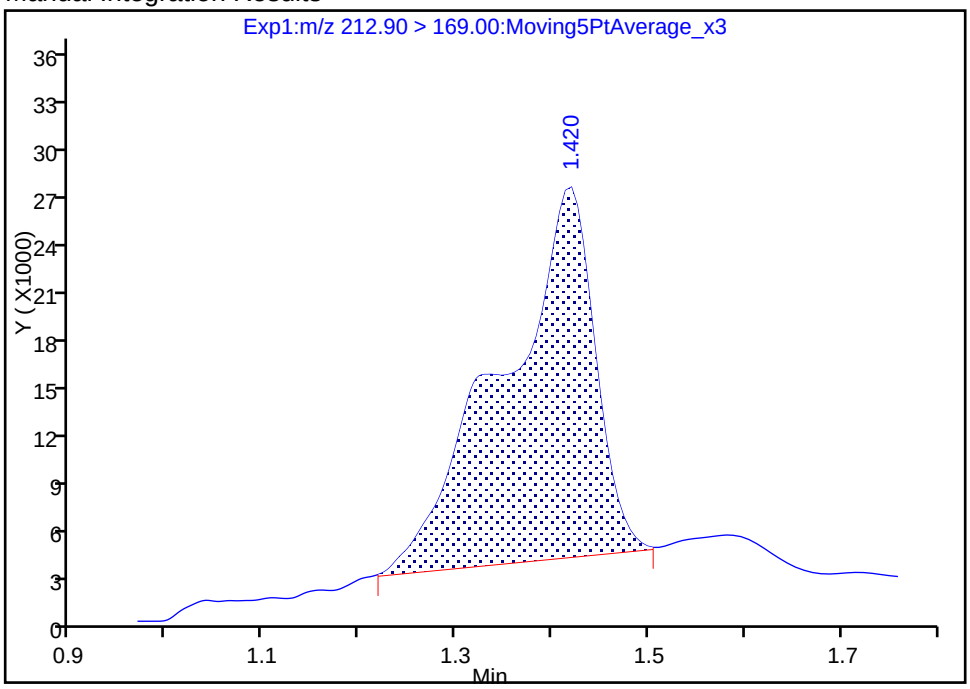
Processing Integration Results

RT: 1.42
Area: 124975
Amount: 0.044280
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 155342
Amount: 0.055039
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:35:31

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

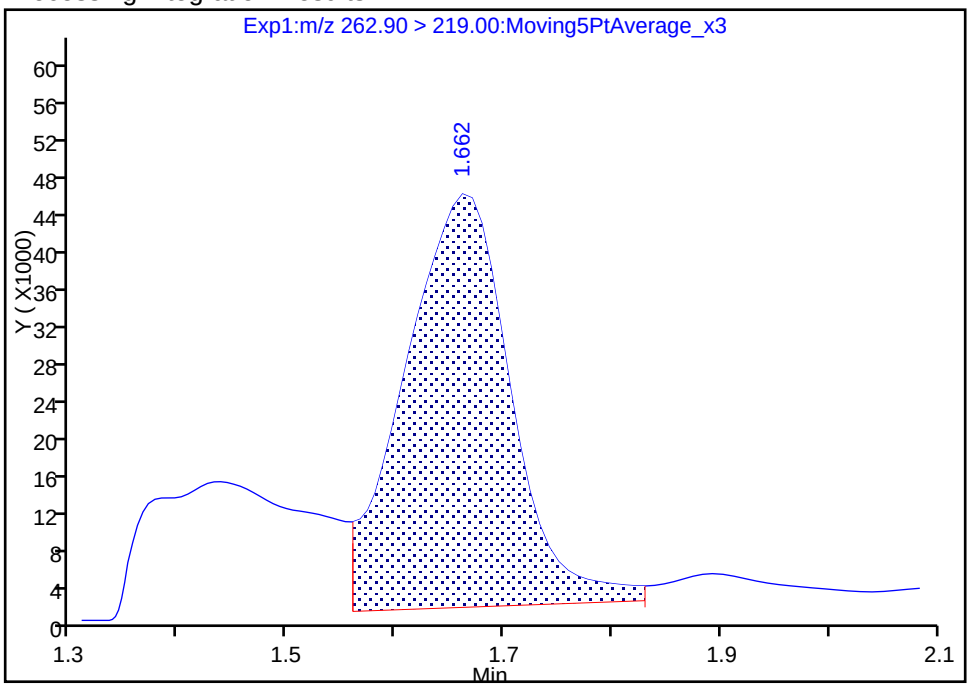
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_032.d				
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Lims ID:	320-34182-A-5-A	Lab Sample ID:	320-34182-5		
Client ID:	FW-CR008-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

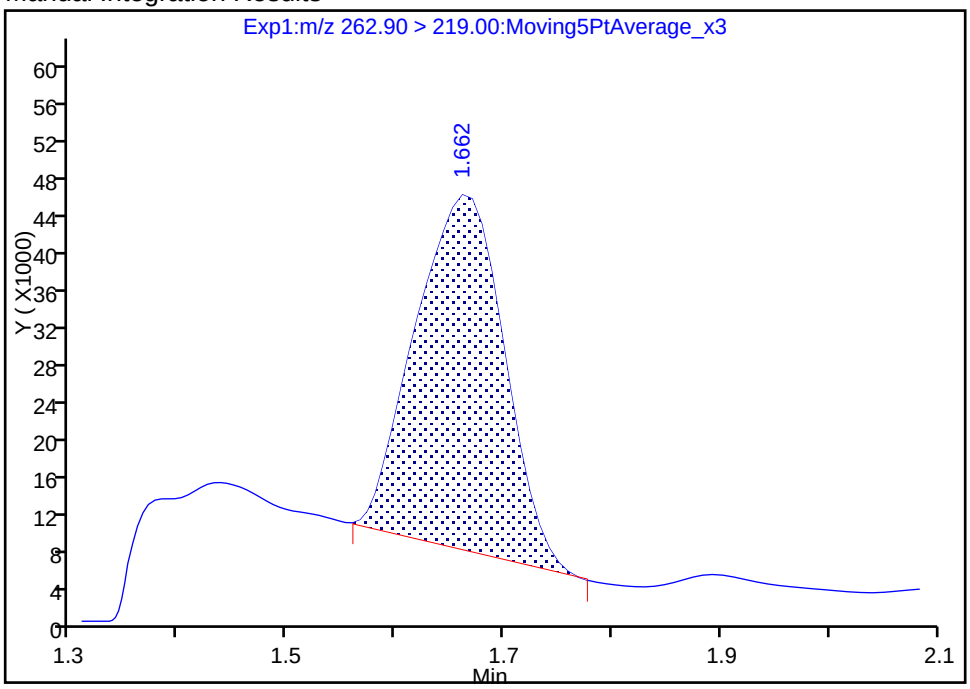
Processing Integration Results

RT: 1.66
Area: 304334
Amount: 0.126920
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 218747
Amount: 0.091226
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:35:50

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

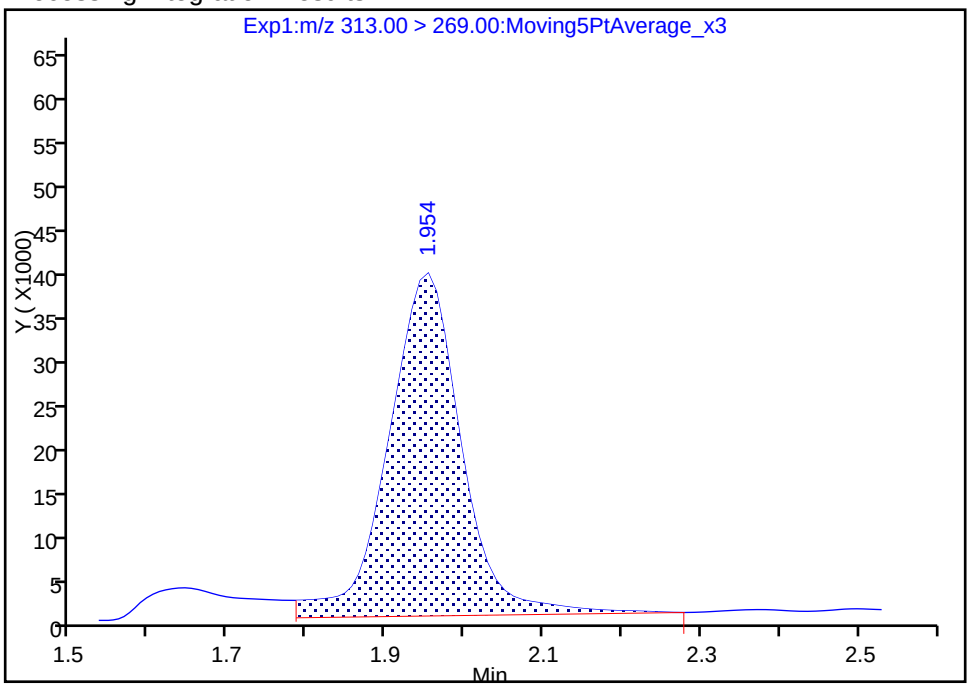
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Lims ID:	320-34182-A-5-A	Lab Sample ID:	320-34182-5		
Client ID:	FW-CR008-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

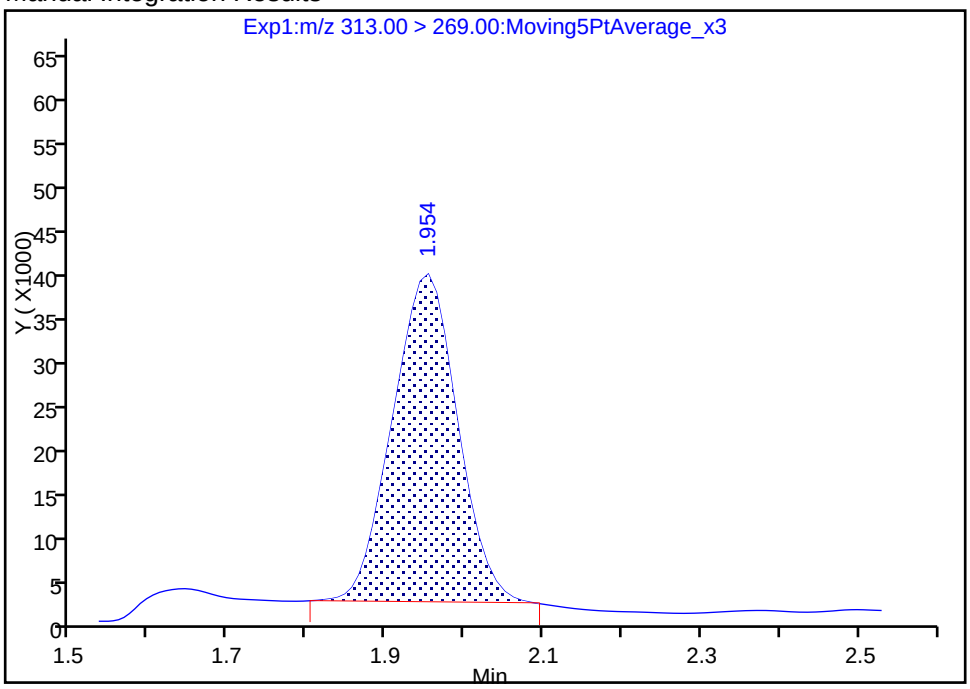
Processing Integration Results

RT: 1.95
Area: 250222
Amount: 0.116643
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 212872
Amount: 0.099232
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:36:05

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

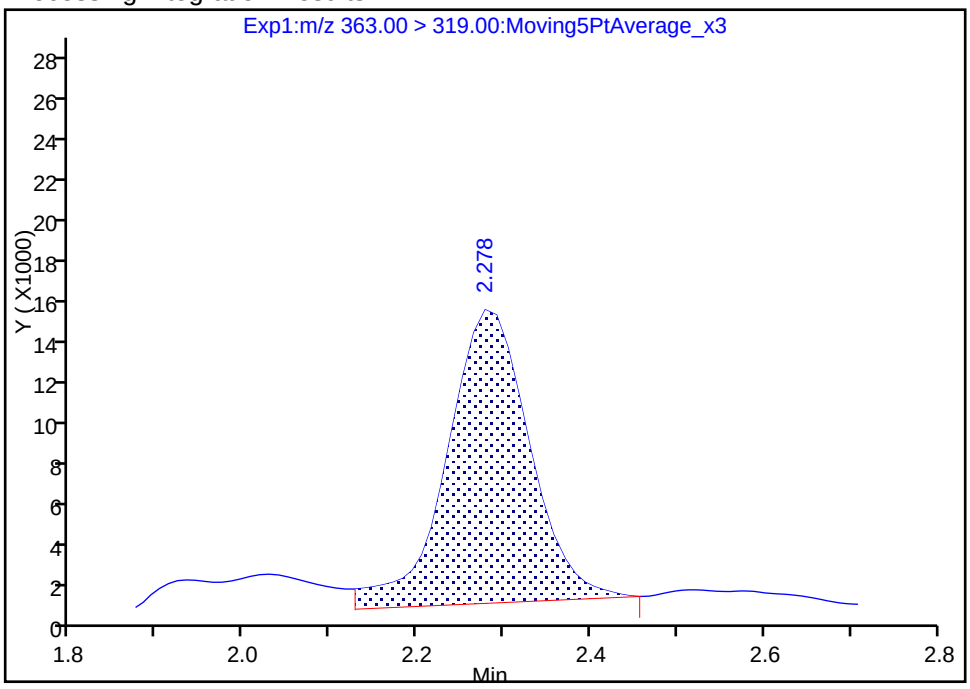
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Injection Date:	20-Dec-2017 08:36:31	Instrument ID:	A8_N		
Lims ID:	320-34182-A-5-A	Lab Sample ID:	320-34182-5		
Client ID:	FW-CR008-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

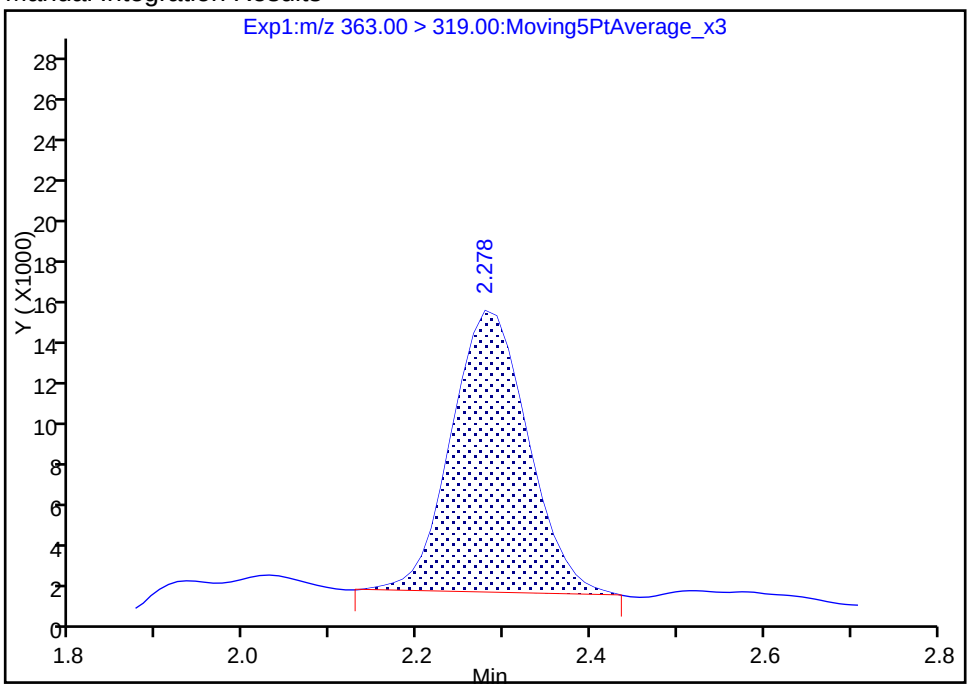
Processing Integration Results

RT: 2.28
Area: 95549
Amount: 0.045624
Amount Units: ng/ml



Manual Integration Results

RT: 2.28
Area: 84580
Amount: 0.040386
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:36:21

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

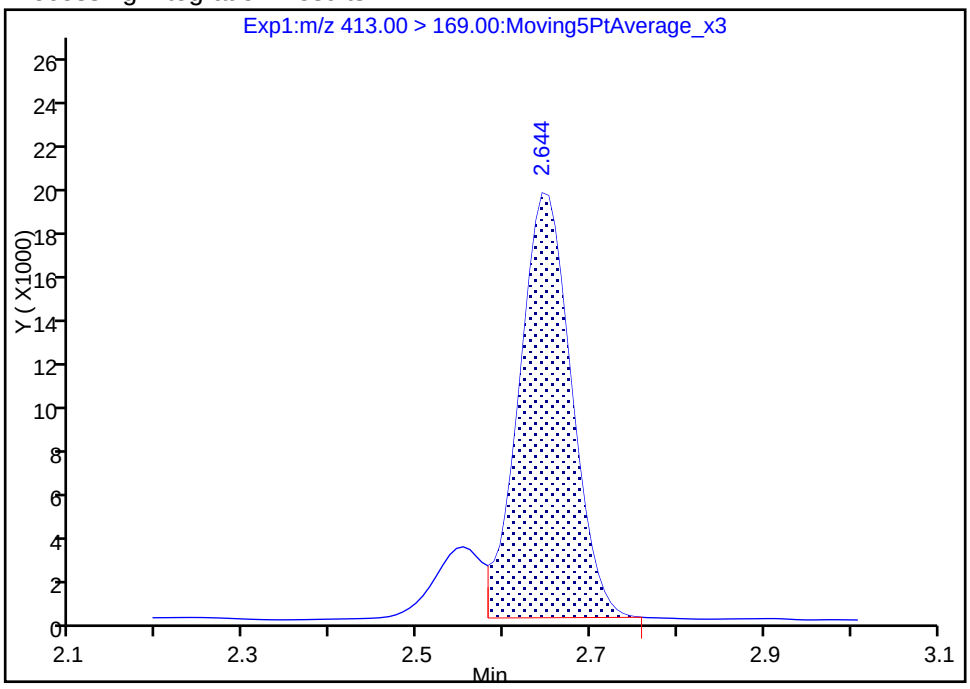
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_032.d				
Injection Date:	20-Dec-2017 08:36:31	Instrument ID:	A8_N		
Lims ID:	320-34182-A-5-A	Lab Sample ID:	320-34182-5		
Client ID:	FW-CR008-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

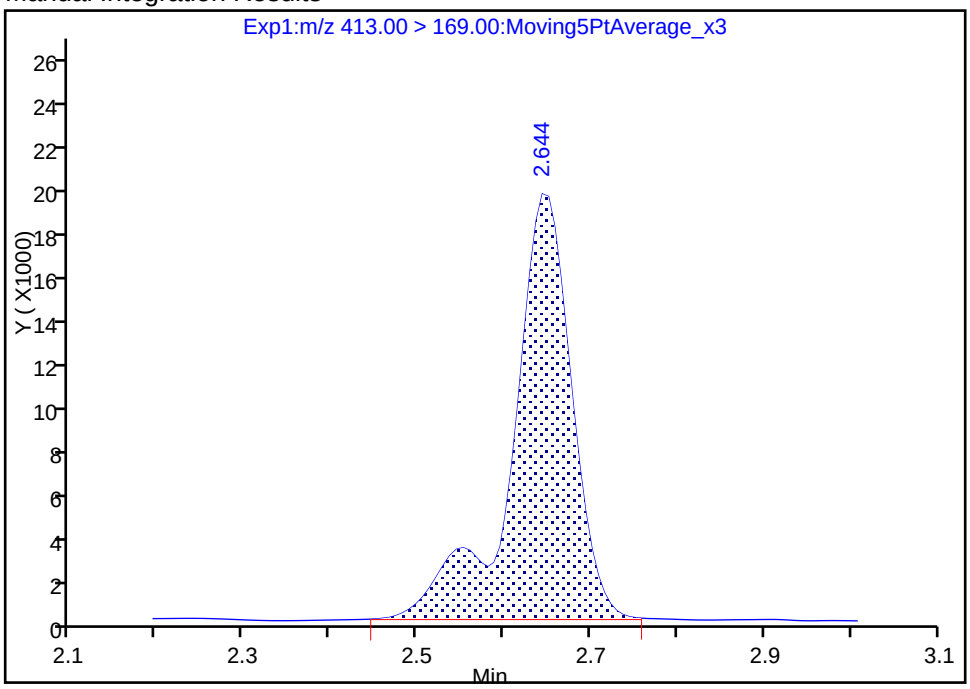
Processing Integration Results

RT: 2.64
Area: 81298
Amount: 0.072366
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 94541
Amount: 0.072366
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:36:42

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

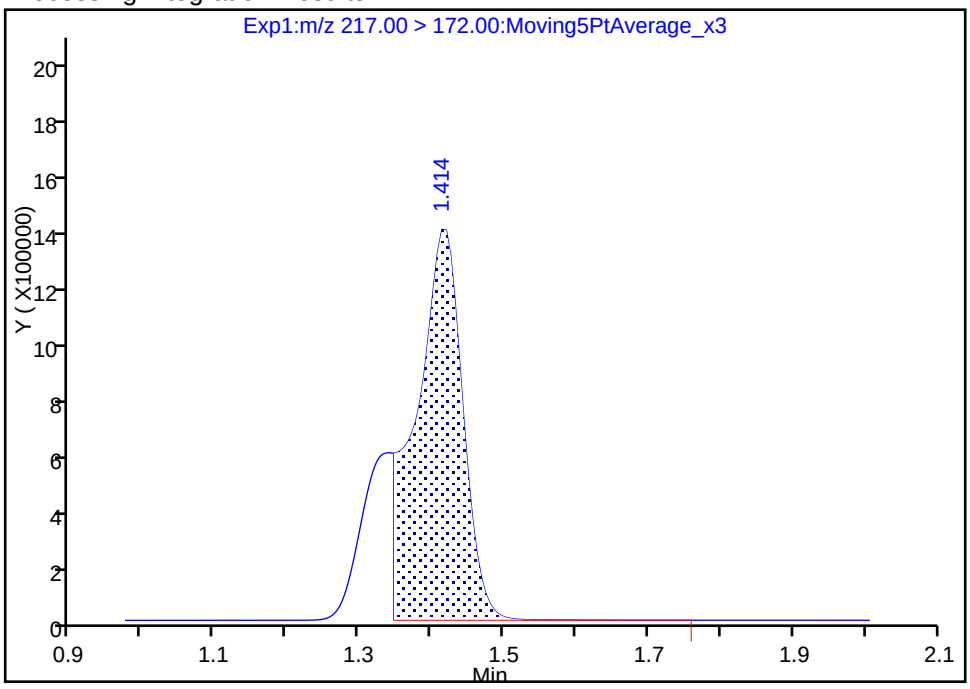
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Injection Date:	20-Dec-2017 08:36:31	Instrument ID:	A8_N		
Lims ID:	320-34182-A-5-A	Lab Sample ID:	320-34182-5		
Client ID:	FW-CR008-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

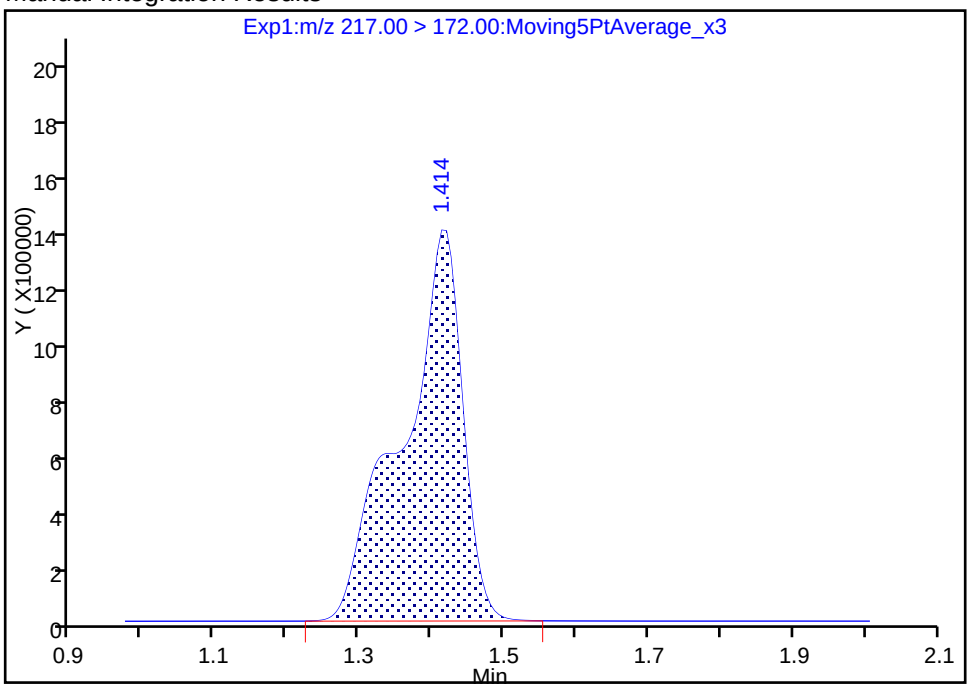
Processing Integration Results

RT: 1.41
Area: 6028205
Amount: 1.935991
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 7733971
Amount: 2.483808
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:35:20

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-CR007-A | Lab Sample ID: 320-34182-6

Matrix: Water | Lab File ID: 2017.12.19LLC_033.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 11:50

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 244.2(mL) | Date Analyzed: 12/20/2017 08:44

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.15	J	2.05	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.34	J	2.05	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	1.58	J	2.05	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.85	J	2.05	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	1.95	J	2.05	0.87
375-95-1	Perfluorononanoic acid (PFNA)	0.96	J	2.05	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.05	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.13	U	2.05	1.13
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.05	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.05	1.33
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.05	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.55	J	2.05	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.86	J B	2.05	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.05	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	5.69		2.05	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.05	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.82	J B	2.05	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.17	U	20.5	3.17
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.95	U	20.5	1.95
27619-97-2	6:2FTS	2.05	U	20.5	2.05
39108-34-4	8:2FTS	2.05	U	20.5	2.05

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-CR007-A | Lab Sample ID: 320-34182-6

Matrix: Water | Lab File ID: 2017.12.19LLC_033.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 11:50

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 244.2(mL) | Date Analyzed: 12/20/2017 08:44

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	99		25-150
STL01893	13C5 PFPeA	121		25-150
STL00993	13C2 PFHxA	107		25-150
STL01892	13C4-PFHpA	116		25-150
STL00990	13C4 PFOA	105		25-150
STL00995	13C5 PFNA	113		25-150
STL00996	13C2 PFDA	120		25-150
STL00997	13C2 PFUnA	108		25-150
STL00998	13C2 PFDoA	108		25-150
STL02116	13C2-PFTeDA	132		25-150
STL02337	13C3-PFBS	115		25-150
STL00994	18O2 PFHxS	112		25-150
STL00991	13C4 PFOS	111		25-150
STL01056	13C8 FOSA	99		25-150
STL02118	d3-NMeFOSAA	118		25-150
STL02117	d5-NEtFOSAA	120		25-150
STL02279	M2-6:2FTS	67		25-150
STL02280	M2-8:2FTS	158	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_033.d
Lims ID: 320-34182-A-6-A
Client ID: FW-CR007-A
Sample Type: Client
Inject. Date: 20-Dec-2017 08:44:26 ALS Bottle#: 24 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-6-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:40:30

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.535	7738828	2.47		98.9	24348	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.412	1.412	0.0	1.000	79022	0.0280			13.5	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.658	1.664	-0.006	0.628	5578983	3.03		121	54574	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.658	1.664	-0.006	1.000	80734	0.0327			30.3	M
D 47 13C3-PFBS										
301.90 > 83.00	1.694	1.699	-0.005	0.642	104235	2.68		115	2328	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.694	1.703	-0.009	1.000	45118	0.0135			63.0	
298.90 > 99.00	1.703	1.703	0.0	1.005	21407		2.11(1.25-3.74)		61.7	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.949	1.949	0.0	1.000	80116	0.0385			101	M
313.00 > 119.00	1.949	1.949	0.0	1.000	8253		9.71(5.03-15.10)		127	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.738	5207994	2.67		107	46455	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.286	2.286	0.0	1.000	45401	0.0208			50.6	
363.00 > 169.00	2.286	2.286	0.0	1.000	18674		2.43(1.13-3.40)		133	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.866	5304060	2.90		116	38296	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.871	6013099	2.66		112	49946	
8 Perfluorohexanesulfonic acid										M
399.00 > 80.00	2.299	2.299	0.0	1.000	125807	0.0455			142	M
399.00 > 99.00	2.299	2.299	0.0	1.000	41404		3.04(1.50-4.49)		113	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.618	2.640	-0.022	1.000	11189	0.0137			568	
D 12 M2-6:2FTS										
429.00 > 81.00	2.618	2.640	-0.022	0.992	1212176	1.60		67.3	15899	
* 62 13C2-PFOA										
415.00 > 370.00	2.640	2.643	-0.003		5304733	2.50			48397	
D 14 13C4 PFOA										
417.00 > 372.00	2.640	2.647	-0.007	1.000	5746845	2.62		105	51512	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.640	2.649	-0.009	1.000	115552	0.0476			55.3	M
413.00 > 169.00	2.640	2.649	-0.009	1.000	64248		1.80(0.84-2.52)		442	M
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.020	3.025	-0.005	1.003	237691	0.1389			29.0	
499.00 > 99.00	3.012	3.025	-0.013	1.000	46673		5.09(2.31-6.93)		41.8	
D 18 13C4 PFOS										
503.00 > 80.00	3.012	3.025	-0.013	1.141	3847512	2.64		111	37610	
20 Perfluorononanoic acid										
463.00 > 419.00	3.020	3.026	-0.006	1.000	37582	0.0233			51.3	
463.00 > 169.00	3.020	3.026	-0.006	1.000	8973		4.19(1.90-5.69)		157	
D 19 13C5 PFNA										
468.00 > 423.00	3.020	3.026	-0.006	1.144	4155811	2.82		113	45650	
D 21 13C8 FOSA										
506.00 > 78.00	3.358	3.362	-0.004	1.272	5114951	2.49		99.5	29788	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.002	38503	0.0199			1097	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.278	1221887	3.78		158	19577	
D 23 13C2 PFDA										
515.00 > 470.00	3.381	3.387	-0.006	1.281	3551498	3.01		120	38735	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.541	-0.008	1.338	1600487	2.94		118	20268	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.401	1686889	3.01		120	10972	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.405	2450029	2.70		108	45080	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.718	-0.010	1.002	3555	0.005407			65.1	
D 36 13C2 PFDoA										
615.00 > 570.00	3.999	4.015	-0.016	1.515	2600450	2.69		108	30616	
41 Perfluorotridecanoic acid										M
663.00 > 619.00	4.263	4.285	-0.022	1.000	10165	0.008526			17.6	M
663.00 > 169.00	4.226	4.285	-0.059	0.991	3518		2.89(1.25-3.76)		36.1	M
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.710	3493677	3.29		132	26108	

QC Flag Legend

Review Flags

M - Manually Integrated

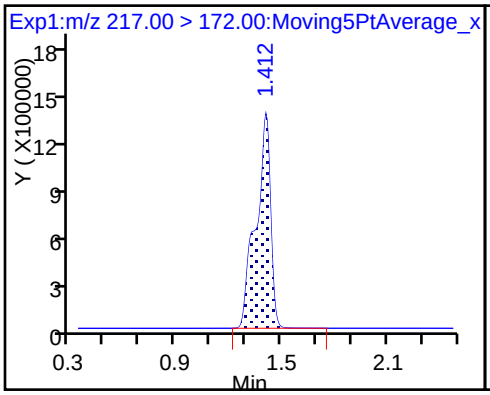
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TestAmerica Sacramento

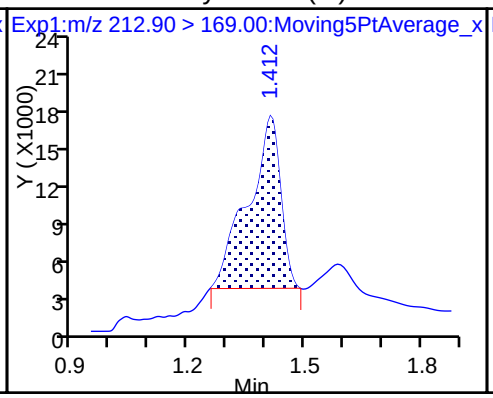
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Injection Date:	20-Dec-2017 08:44:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

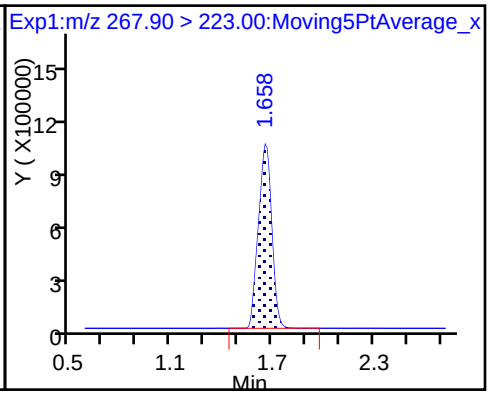
D 1 13C4 PFBA



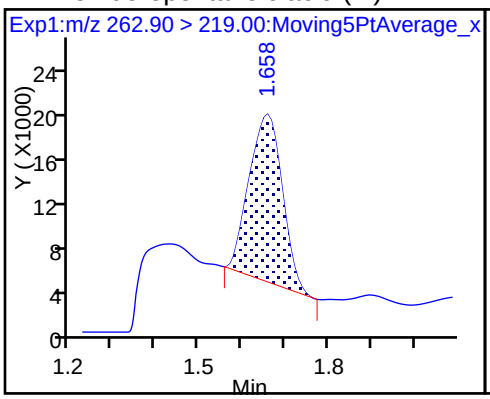
2 Perfluorobutyric acid (M)



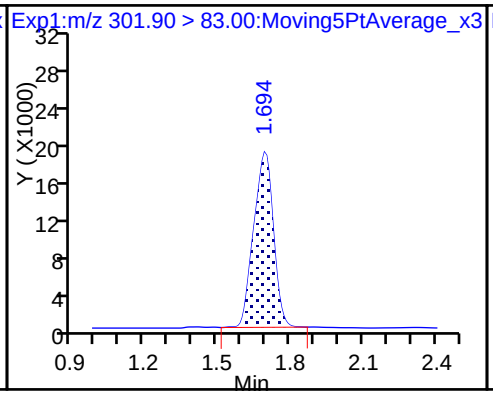
D 3 13C5-PFPeA



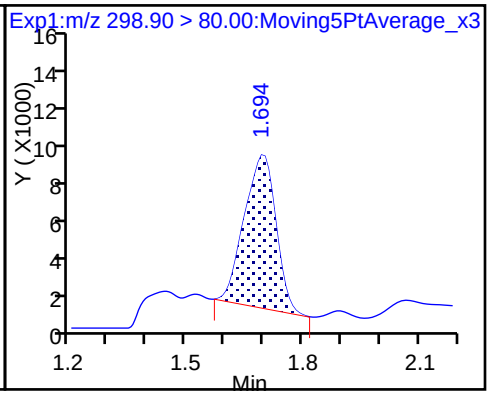
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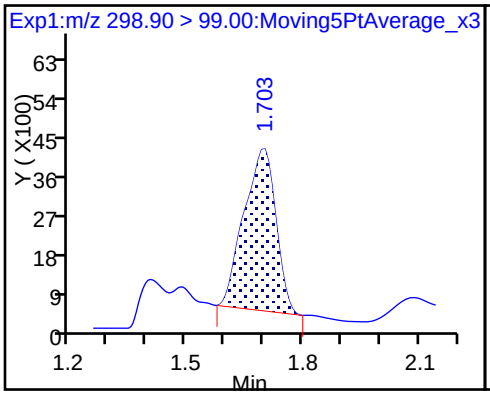
D 47 13C3-PFBS



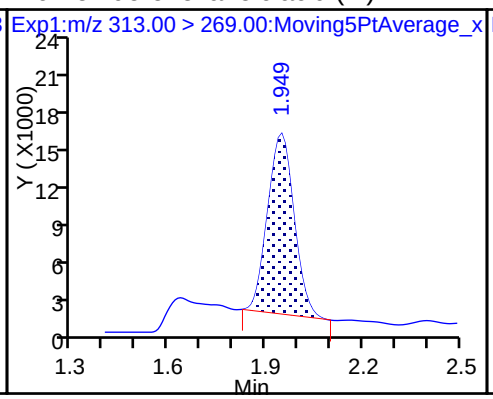
5 Perfluorobutanesulfonic acid



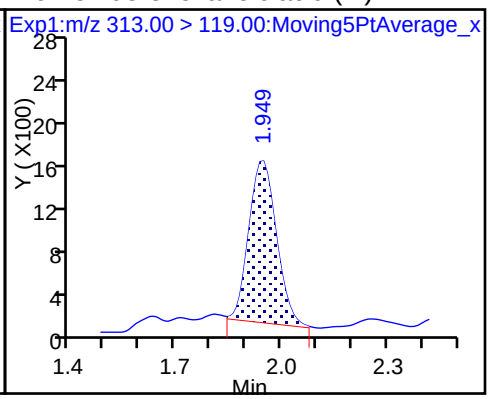
5 Perfluorobutanesulfonic acid



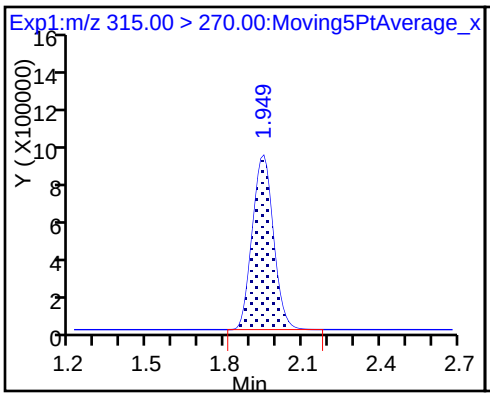
6 Perfluorohexanoic acid (M)



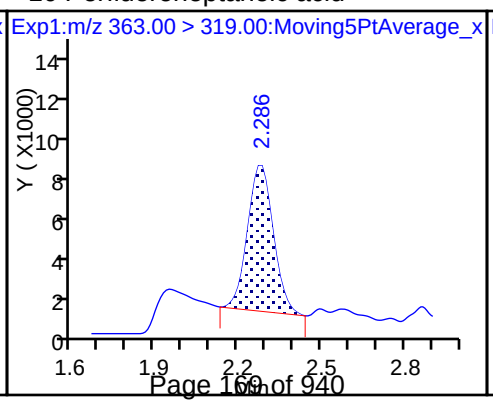
6 Perfluorohexanoic acid (M)



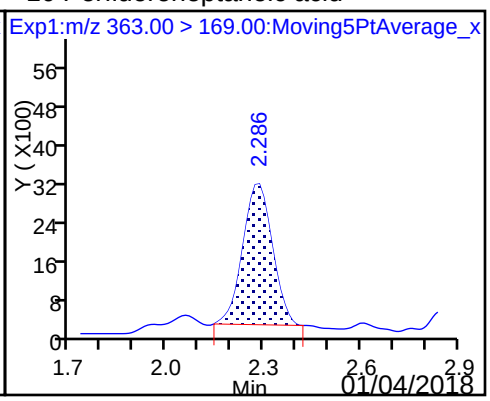
D 7 13C2 PFHxA



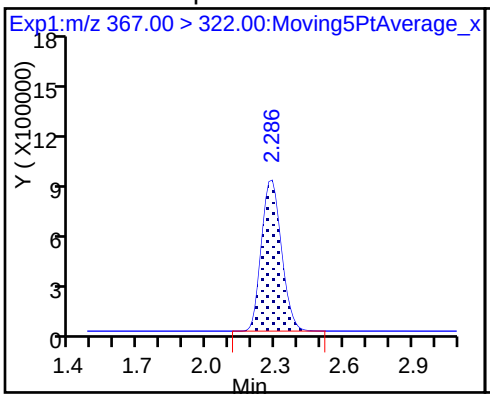
10 Perfluoroheptanoic acid



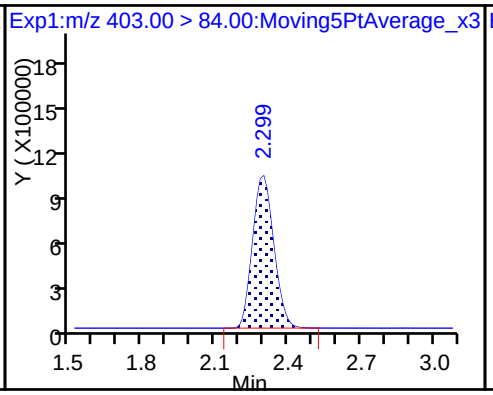
10 Perfluoroheptanoic acid



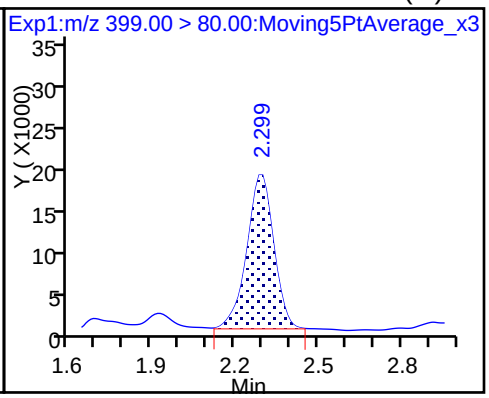
D 9 13C4-PFHpA



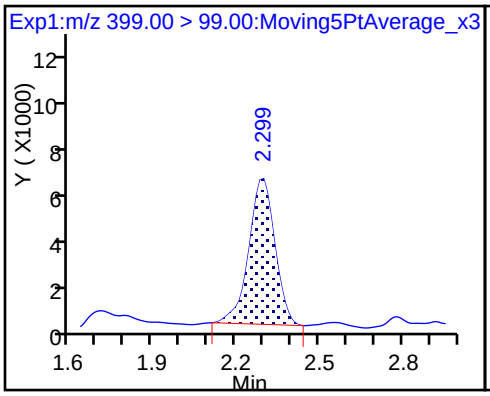
D 11 18O2 PFHxS



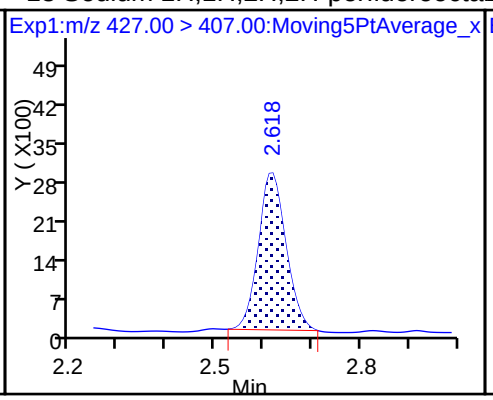
8 Perfluorohexanesulfonic acid (M)



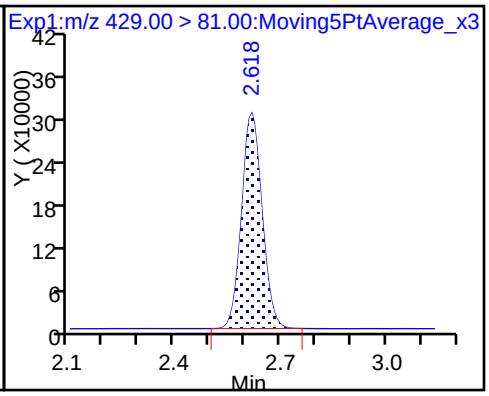
8 Perfluorohexanesulfonic acid



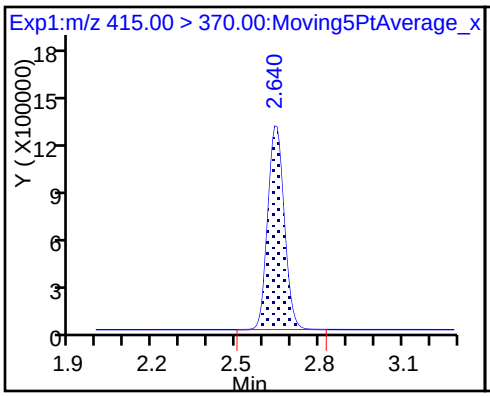
13 Sodium 1H,1H,2H,2H-perfluorooctane



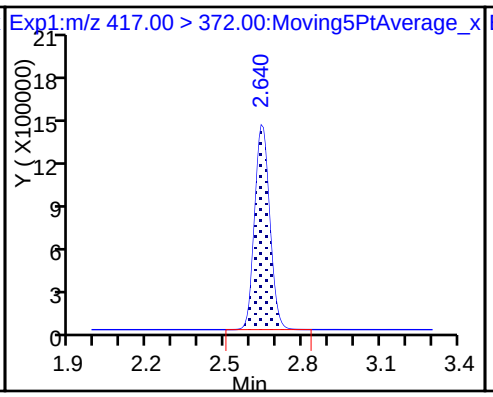
D 12 M2-6:2FTS



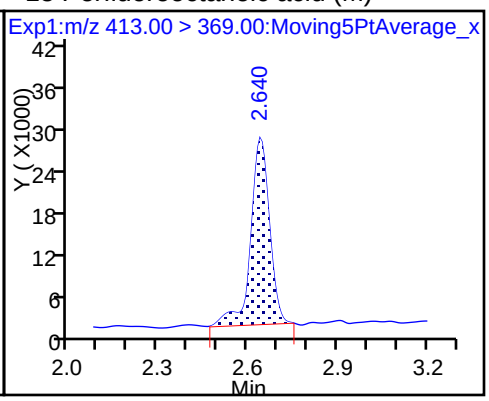
* 62 13C2-PFOA



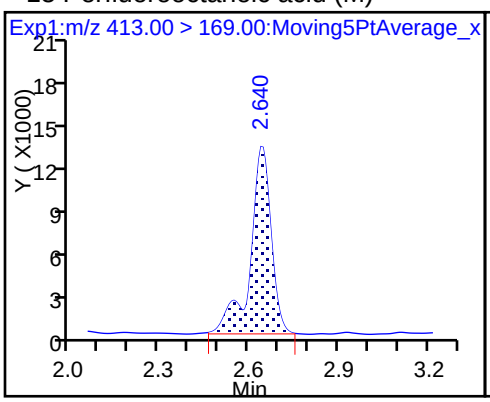
D 14 13C4 PFOA



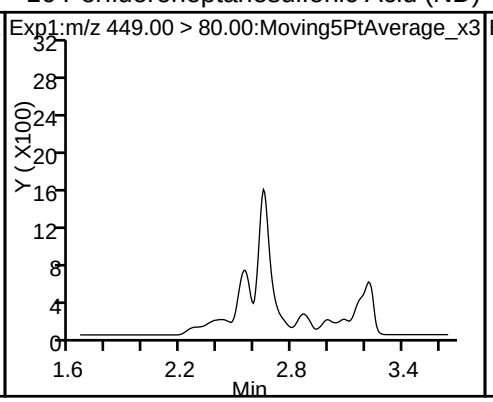
15 Perfluorooctanoic acid (M)



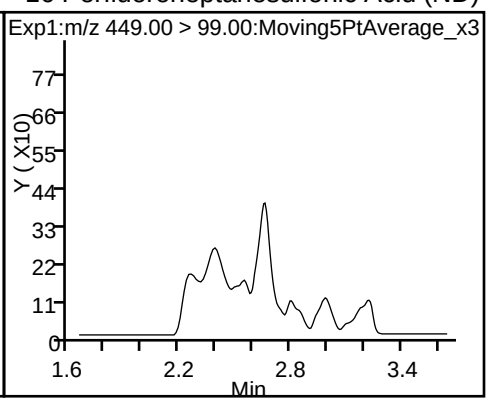
15 Perfluorooctanoic acid (M)



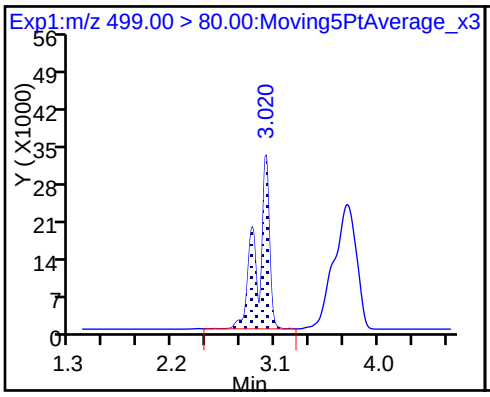
16 Perfluoroheptanesulfonic Acid (ND)



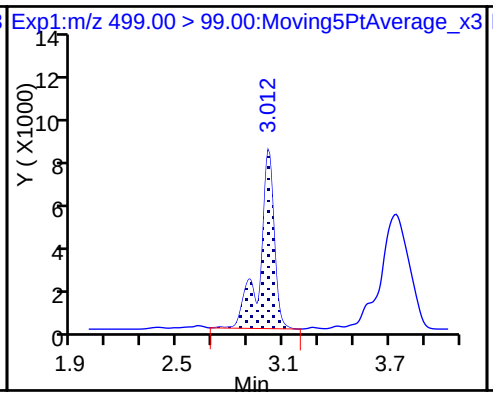
16 Perfluoroheptanesulfonic Acid (ND)



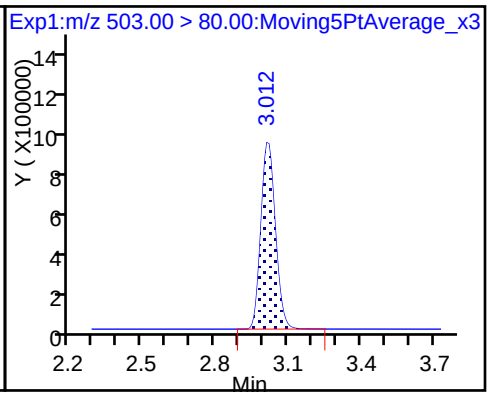
17 Perfluorooctane sulfonic acid



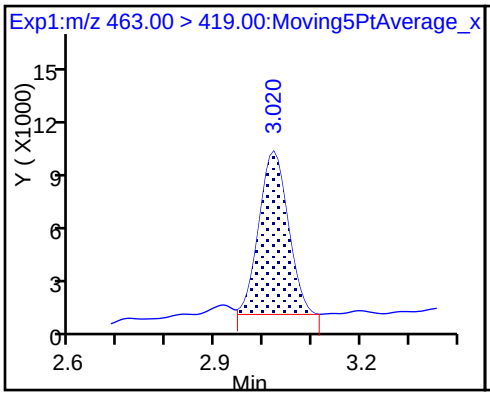
17 Perfluorooctane sulfonic acid



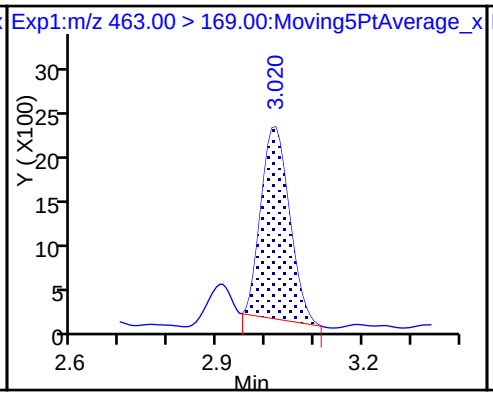
D 18 13C4 PFOS



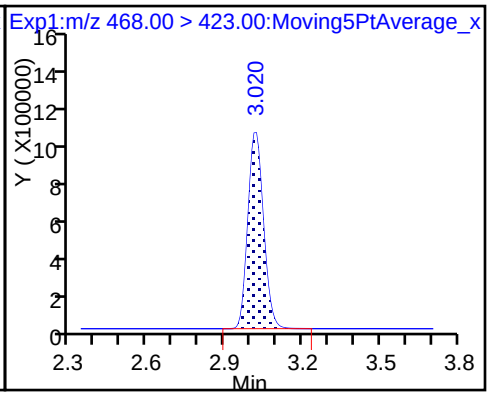
20 Perfluorononanoic acid



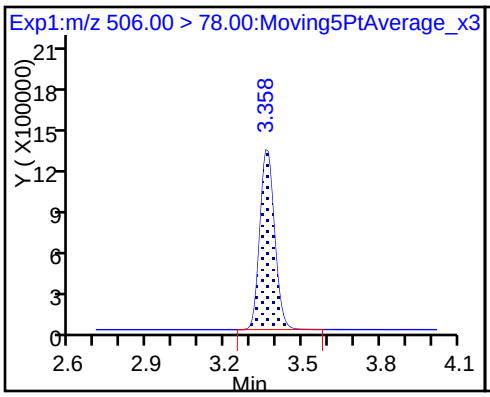
20 Perfluorononanoic acid



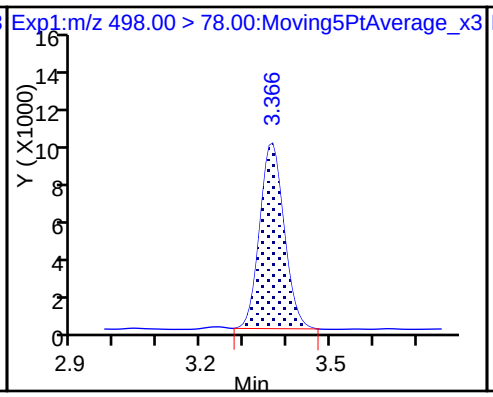
D 19 13C5 PFNA



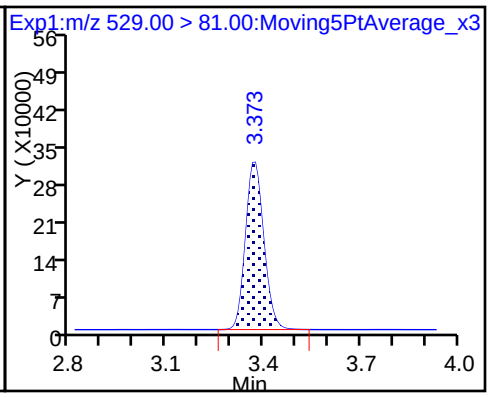
D 21 13C8 FOSA



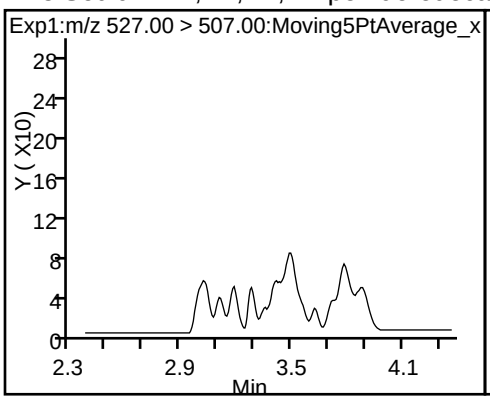
22 Perfluorooctane Sulfonamide



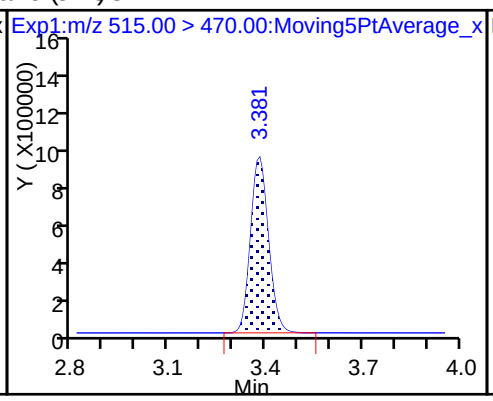
D 26 M2-8:2FTS



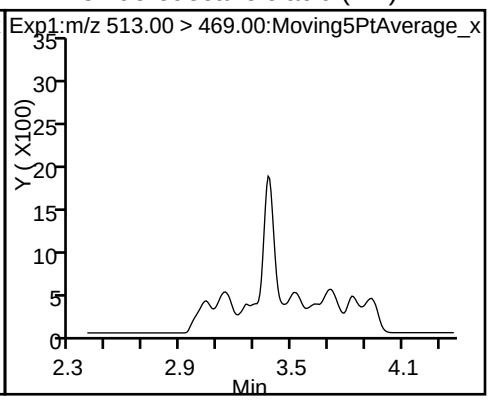
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



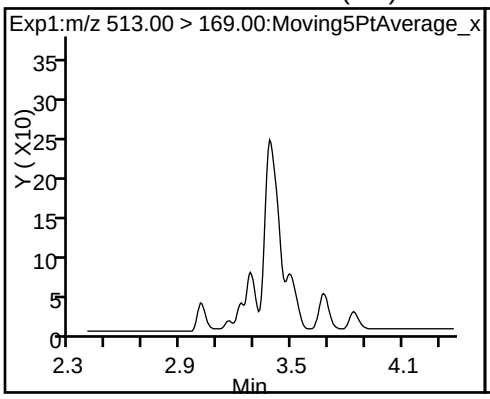
D 13C2 PFDA



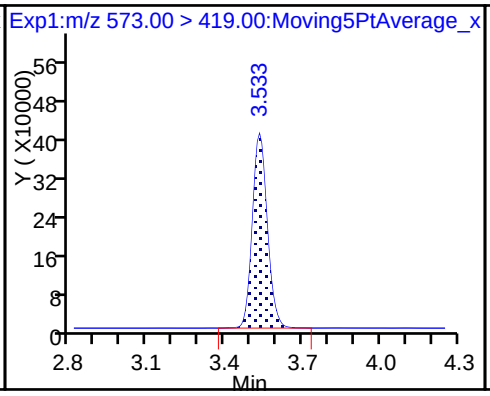
24 Perfluorodecanoic acid (ND)



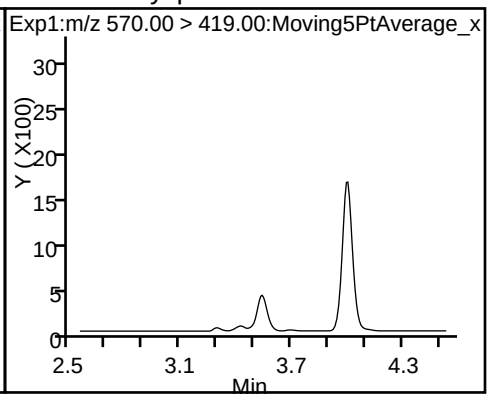
24 Perfluorodecanoic acid (ND)



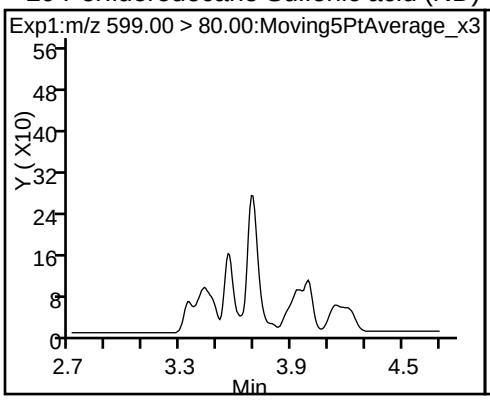
D 27 d3-NMeFOSAA



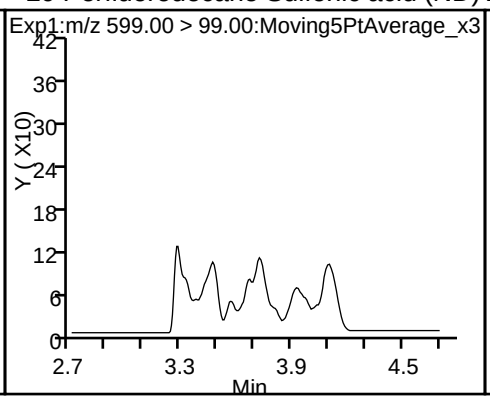
28 N-methyl perfluorooctane sulfonami (ND)



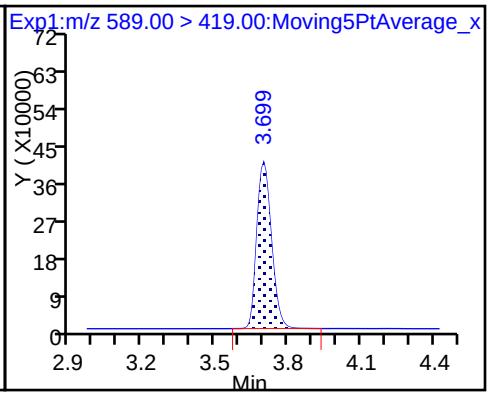
29 Perfluorodecane Sulfonic acid (ND)



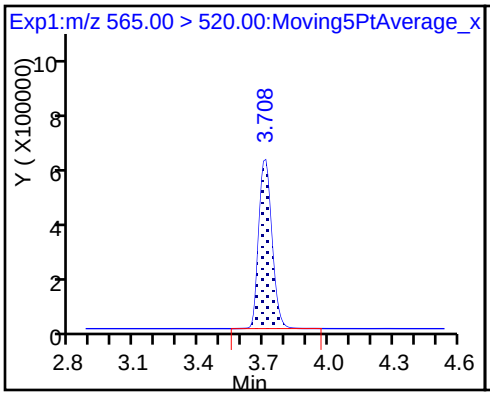
29 Perfluorodecane Sulfonic acid (ND)



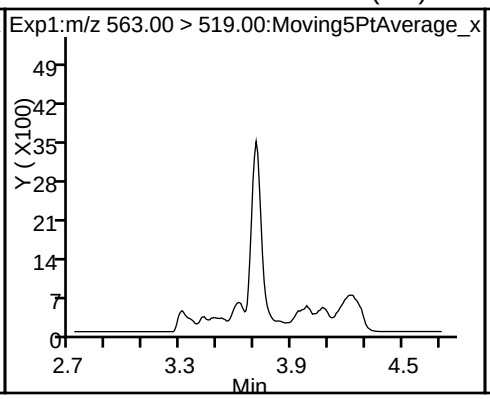
D 32 d5-NEtFOSAA



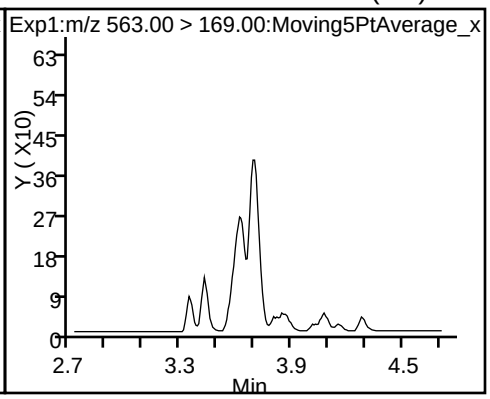
D 30 13C2 PFUnA



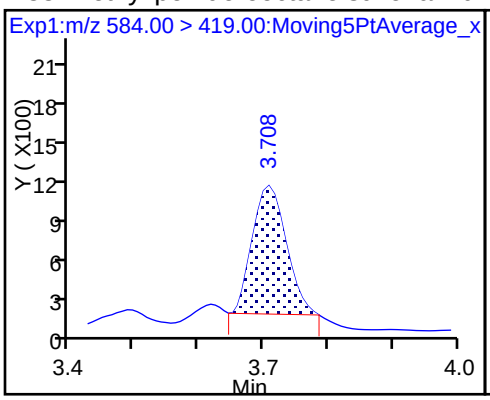
31 Perfluoroundecanoic acid (ND)



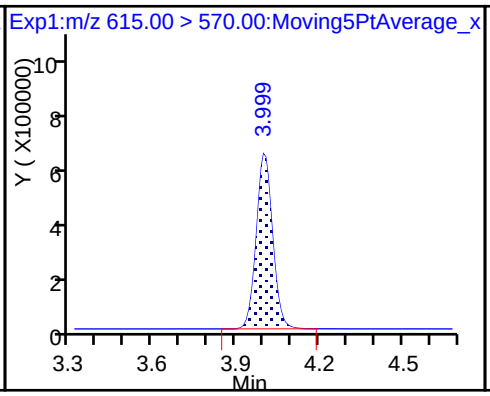
31 Perfluoroundecanoic acid (ND)



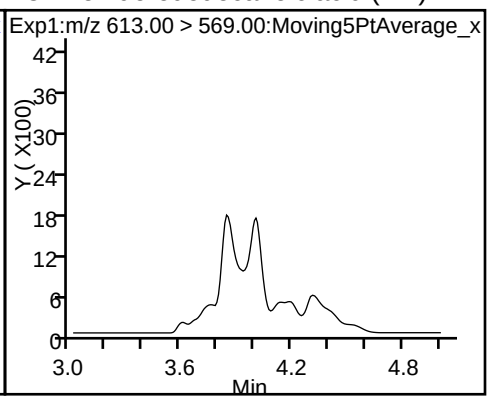
33 N-ethyl perfluorooctane sulfonamid



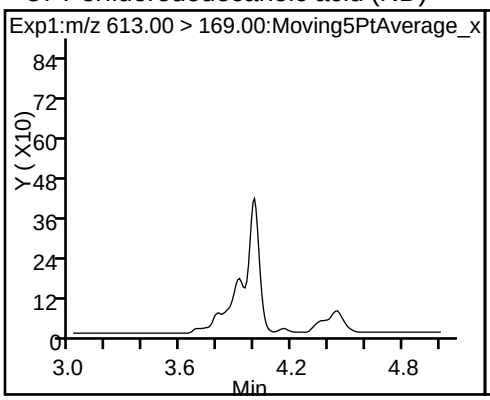
D 36 13C2 PFDoA



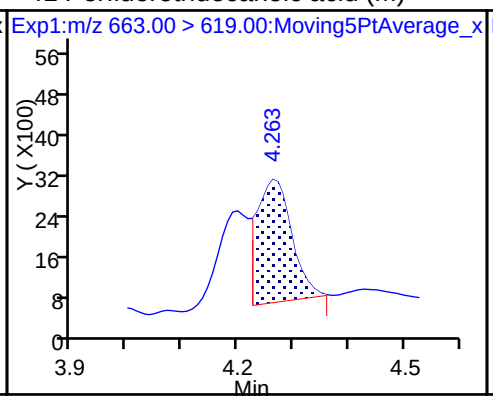
37 Perfluorododecanoic acid (ND)



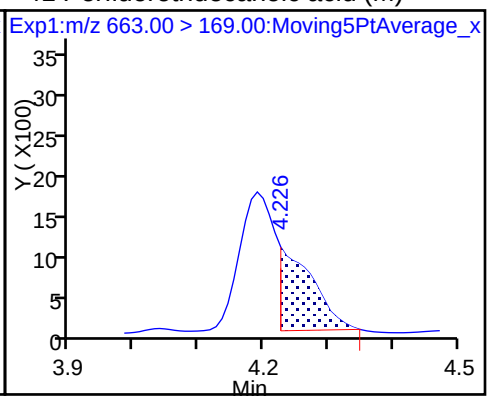
37 Perfluorododecanoic acid (ND)



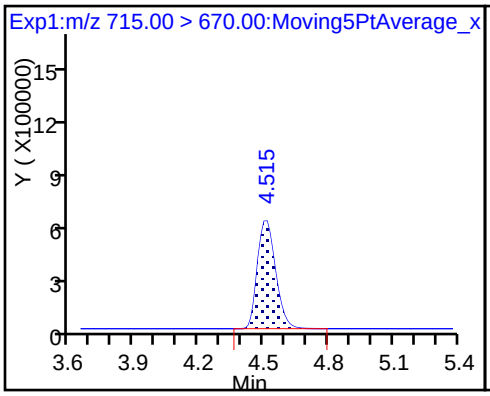
41 Perfluorotridecanoic acid (M)



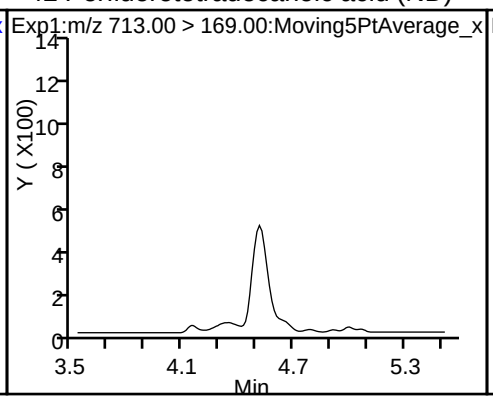
41 Perfluorotridecanoic acid (M)



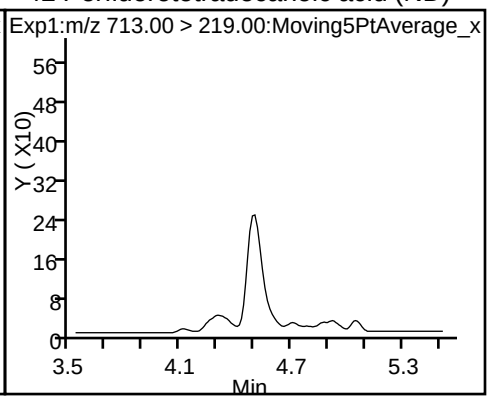
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

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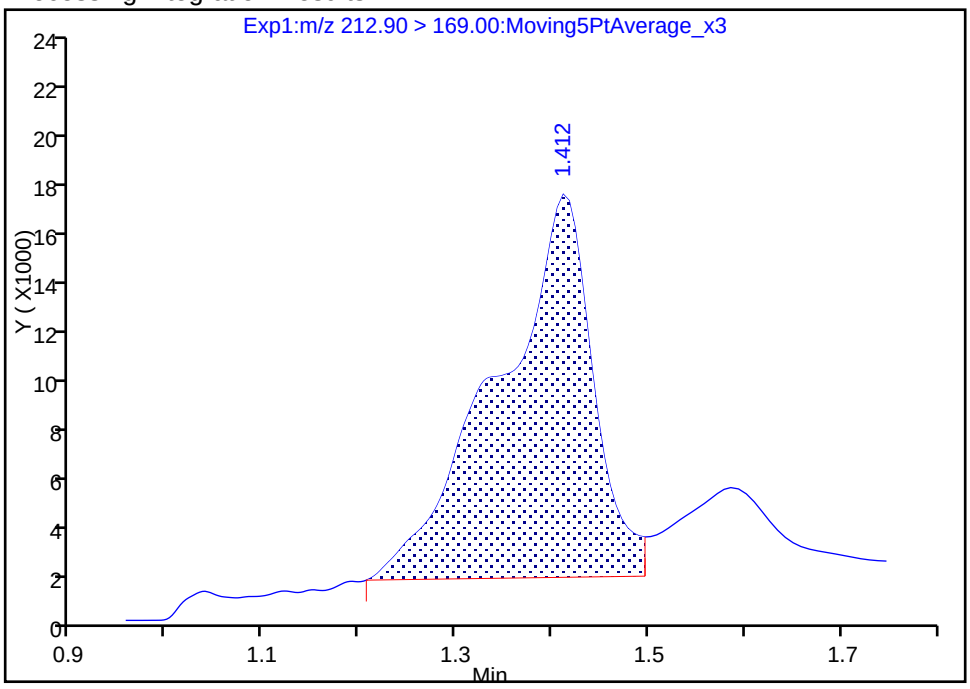
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Injection Date:	20-Dec-2017 08:44:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

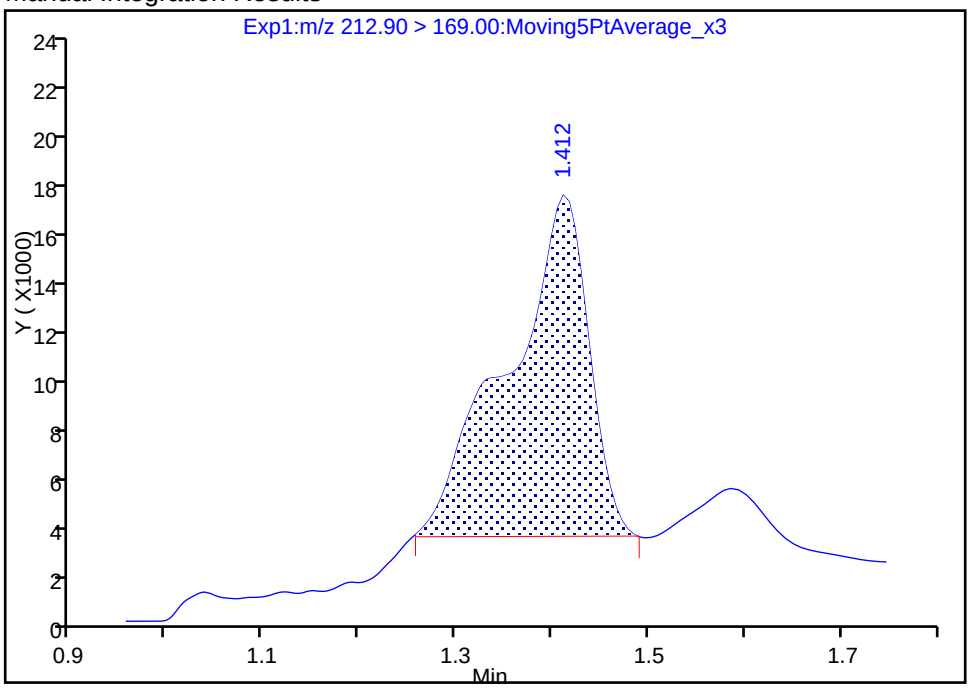
Processing Integration Results

RT: 1.41
Area: 105734
Amount: 0.037439
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 79022
Amount: 0.027981
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:37:58
Audit Action: Manually Integrated Audit Reason: Baseline

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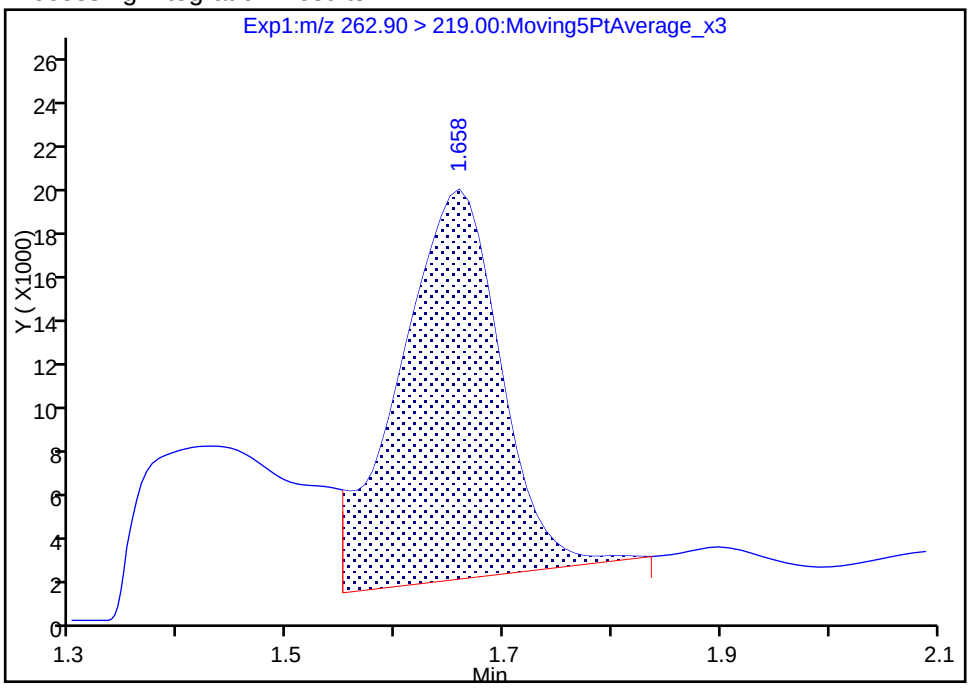
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Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

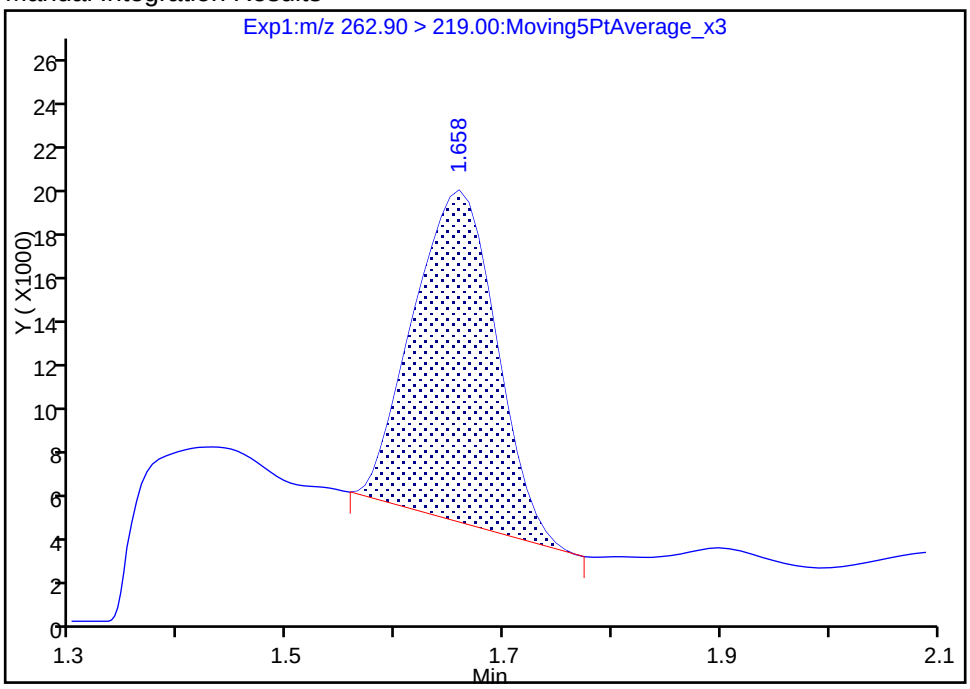
Processing Integration Results

RT: 1.66
Area: 115852
Amount: 0.046963
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 80734
Amount: 0.032727
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:38:15
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

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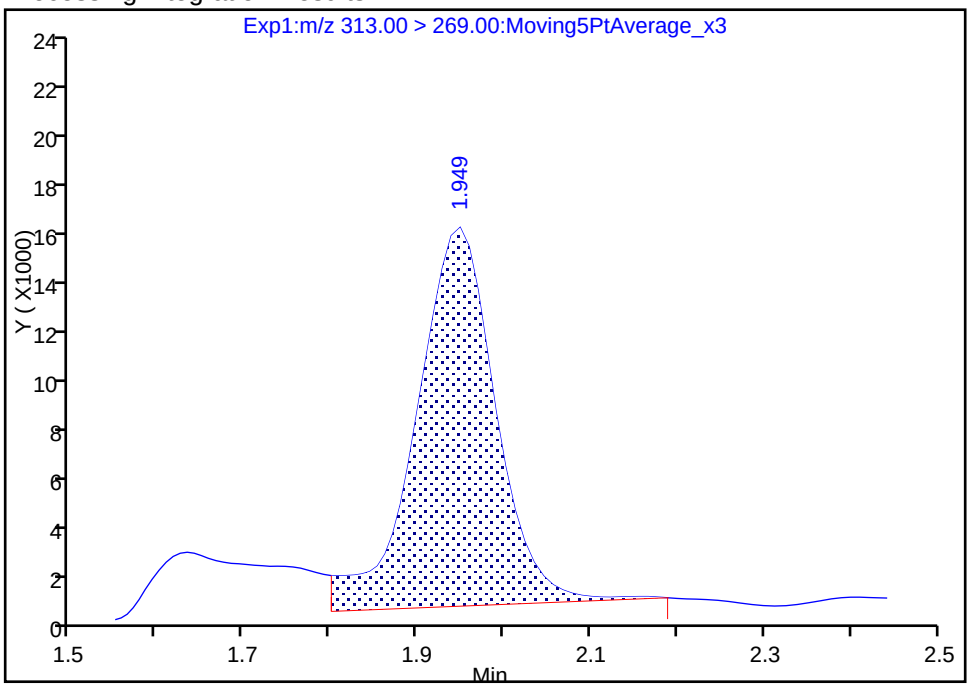
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Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

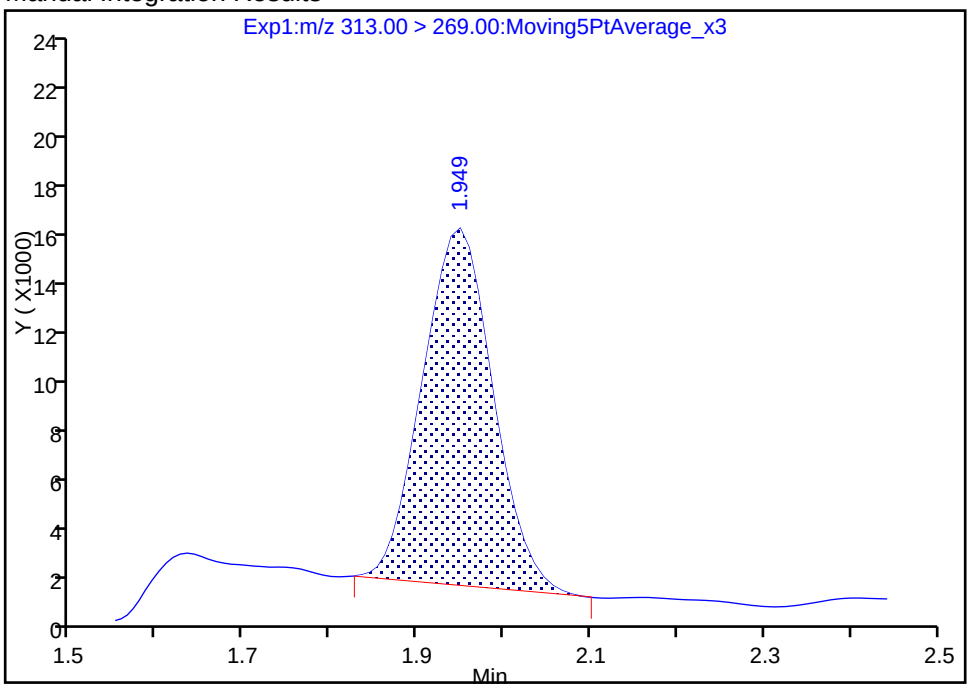
Processing Integration Results

RT: 1.95
Area: 95856
Amount: 0.046021
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 80116
Amount: 0.038464
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:38:34

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_033.d

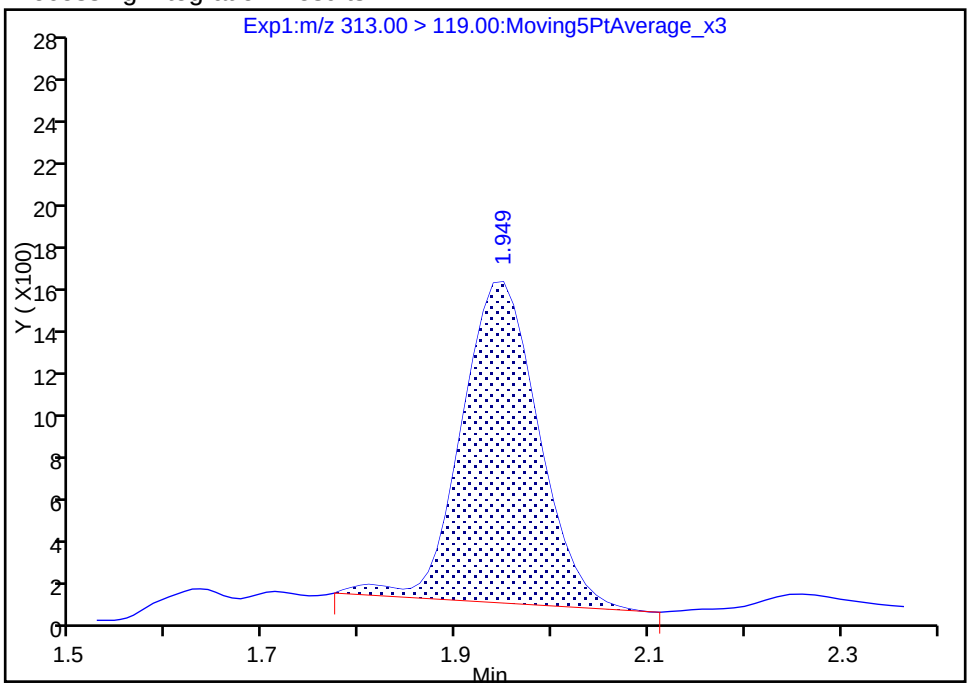
Injection Date:	20-Dec-2017 08:44:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

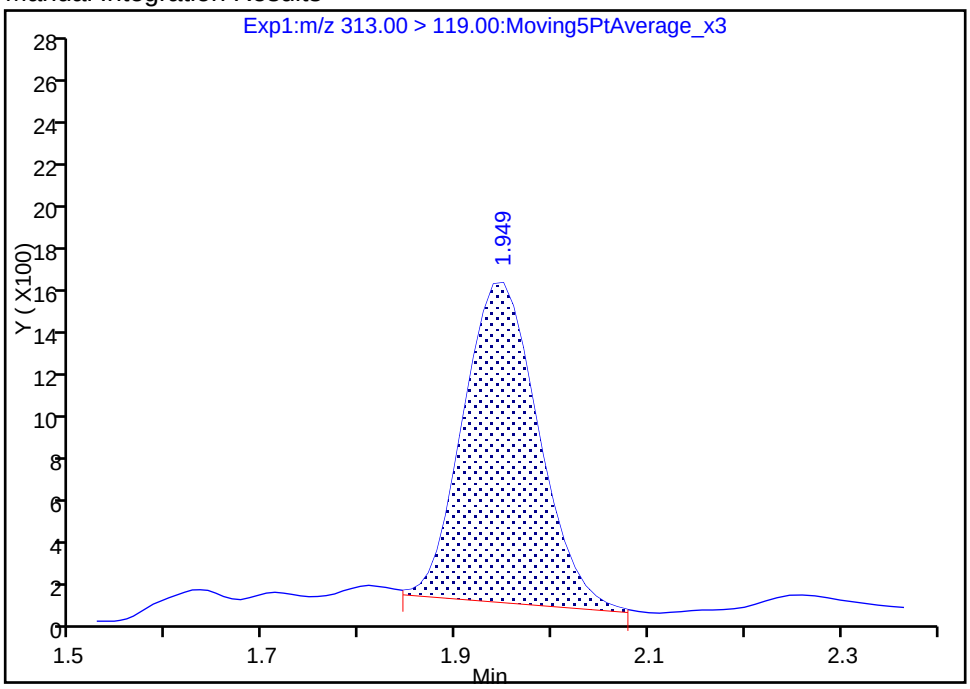
Processing Integration Results

RT: 1.95
Area: 8477
Amount: 0.046021
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 8253
Amount: 0.038464
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:38:44

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

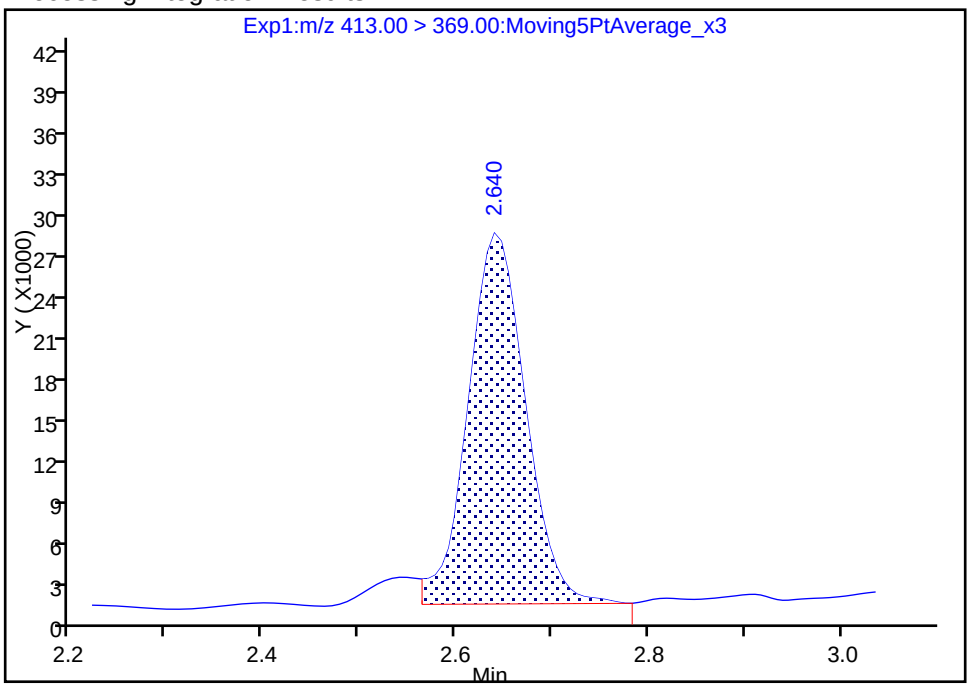
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Injection Date:	20-Dec-2017 08:44:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

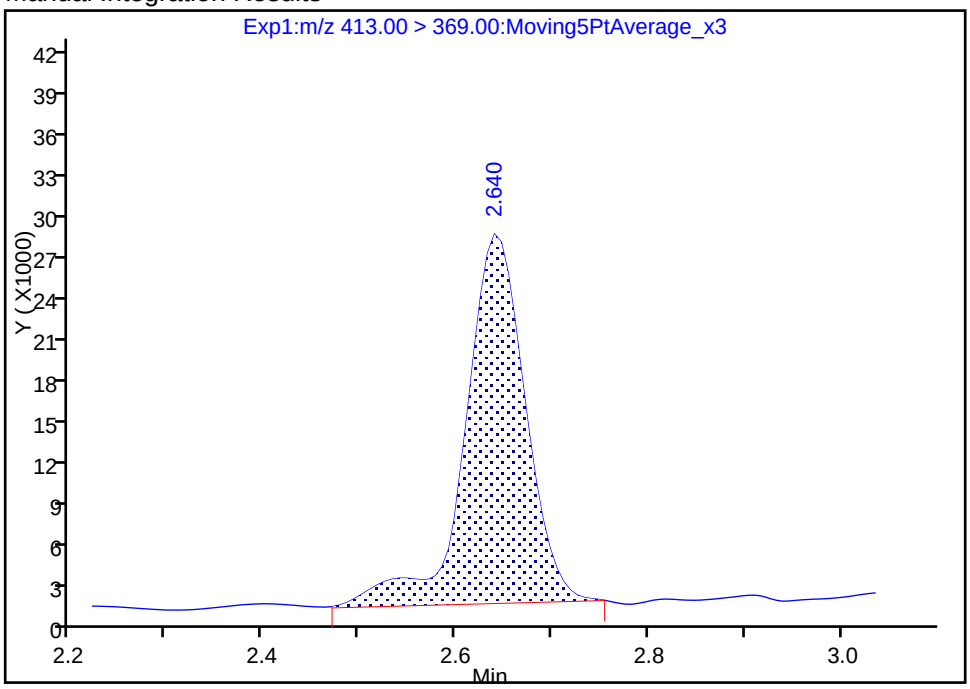
Processing Integration Results

RT: 2.64
Area: 109956
Amount: 0.045328
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 115552
Amount: 0.047635
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:39:29
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

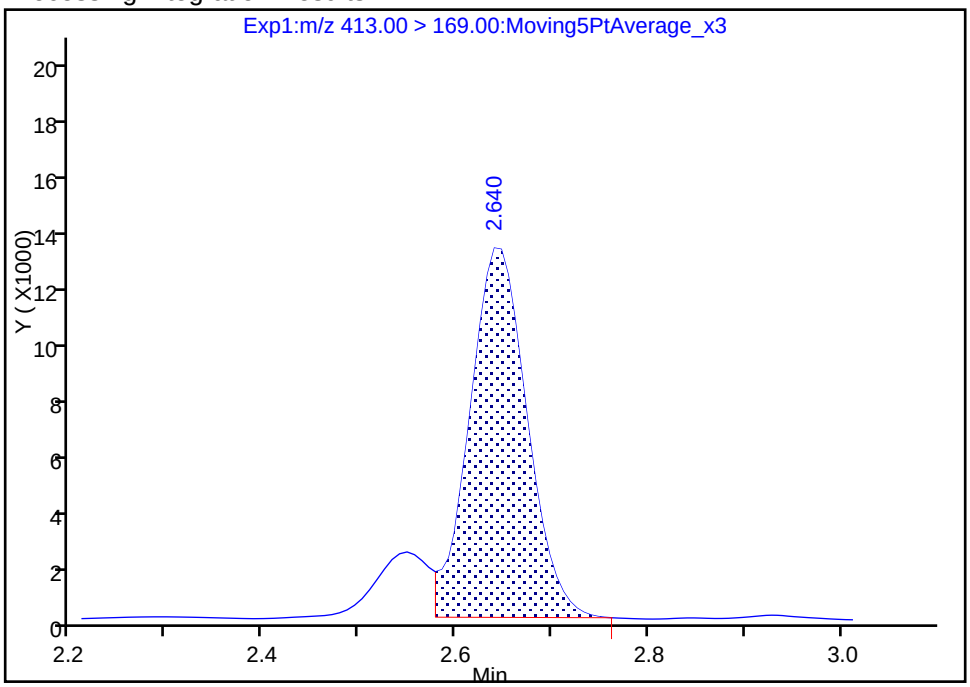
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Injection Date:	20-Dec-2017 08:44:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

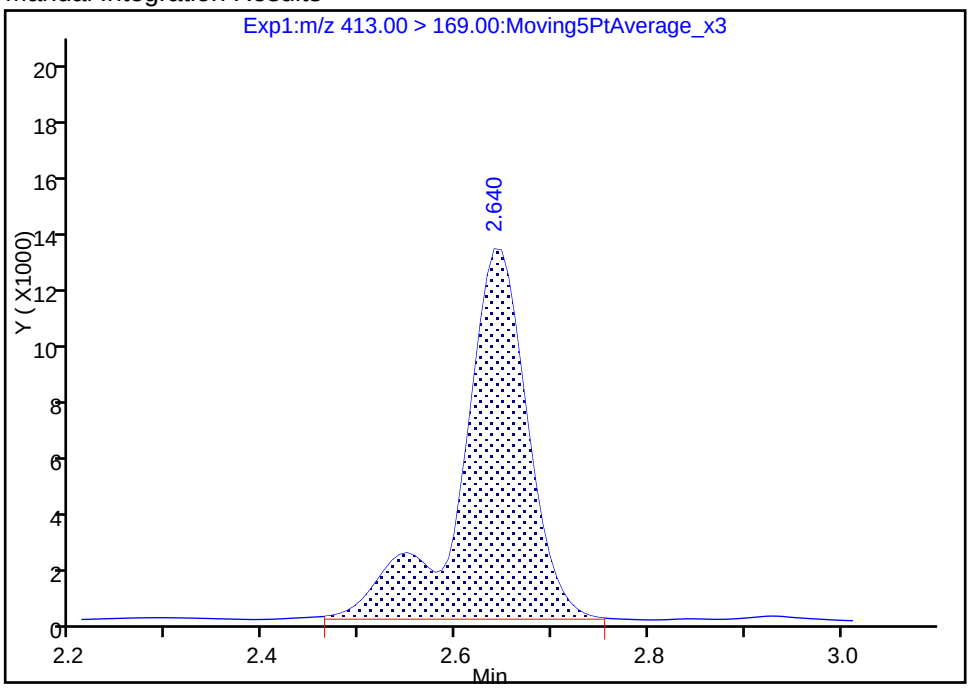
Processing Integration Results

RT: 2.64
Area: 54836
Amount: 0.045328
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 64248
Amount: 0.047635
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:39:38
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

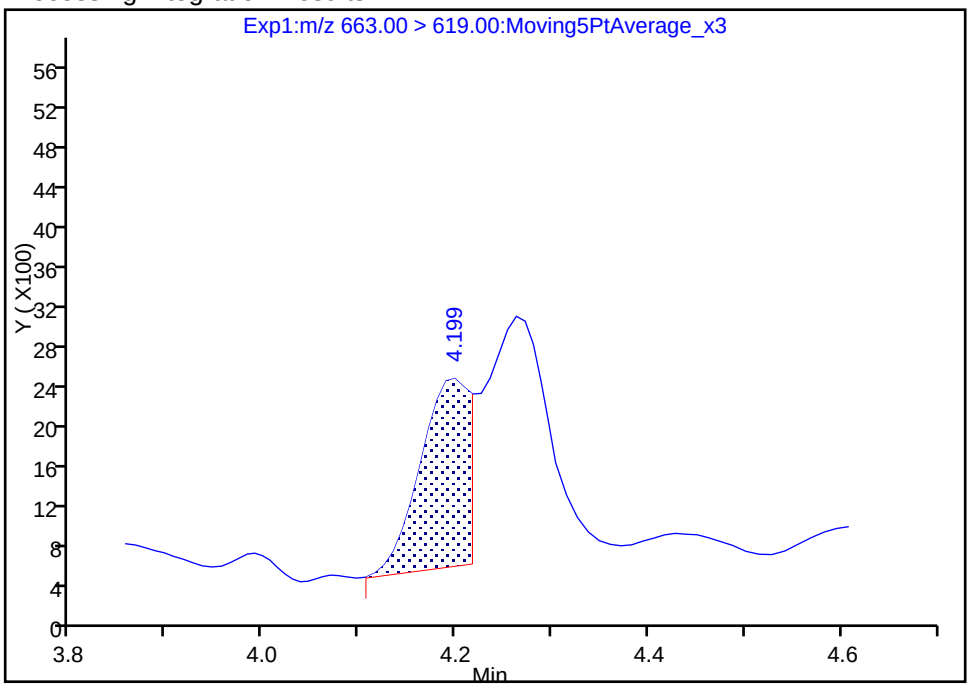
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_033.d				
Injection Date:	20-Dec-2017 08:44:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

41 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

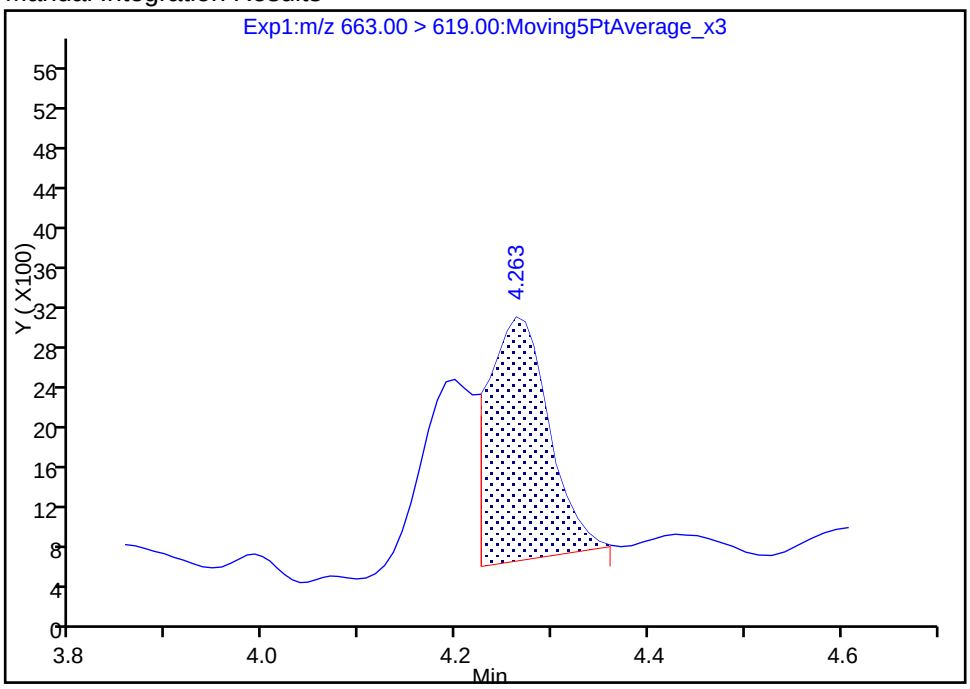
Processing Integration Results

RT: 4.20
Area: 6517
Amount: 0.005466
Amount Units: ng/ml



Manual Integration Results

RT: 4.26
Area: 10165
Amount: 0.008526
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:43:50

Audit Action: Manually Integrated Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

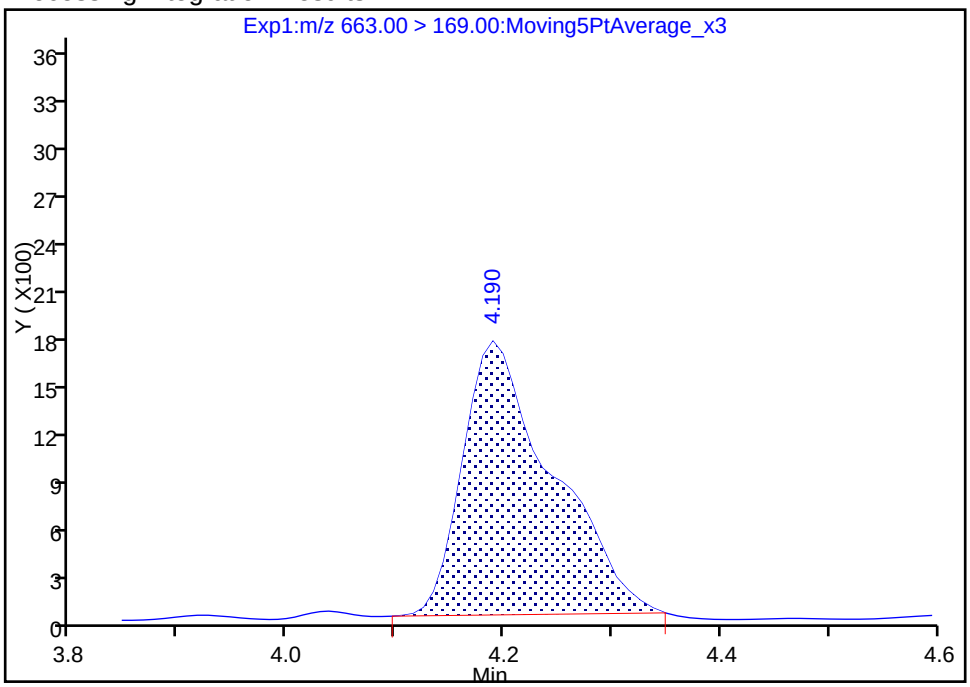
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_033.d				
Injection Date:	20-Dec-2017 08:44:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

41 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 2

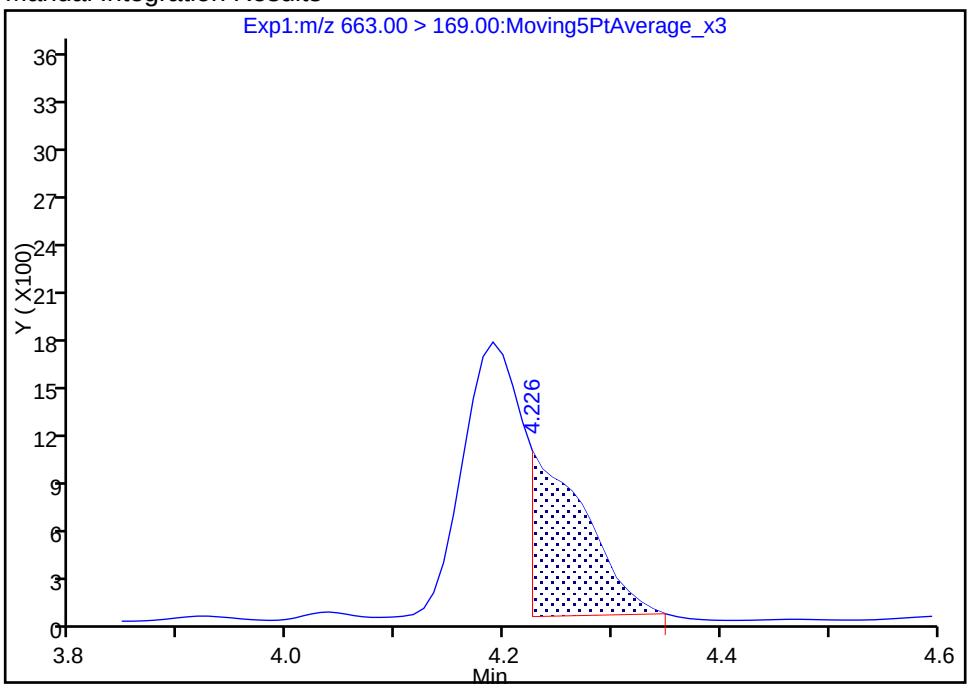
Processing Integration Results

RT: 4.19
Area: 9953
Amount: 0.005466
Amount Units: ng/ml



Manual Integration Results

RT: 4.23
Area: 3518
Amount: 0.008526
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:44:03
Audit Action: Manually Integrated Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

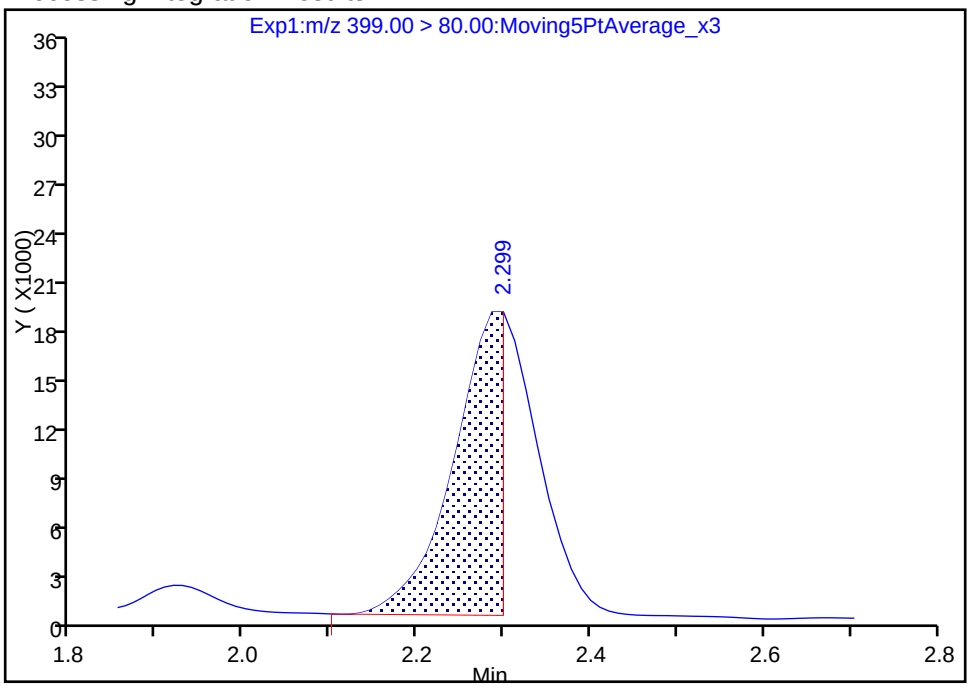
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_033.d				
Injection Date:	20-Dec-2017 08:44:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-6-A	Lab Sample ID:	320-34182-6		
Client ID:	FW-CR007-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

8 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

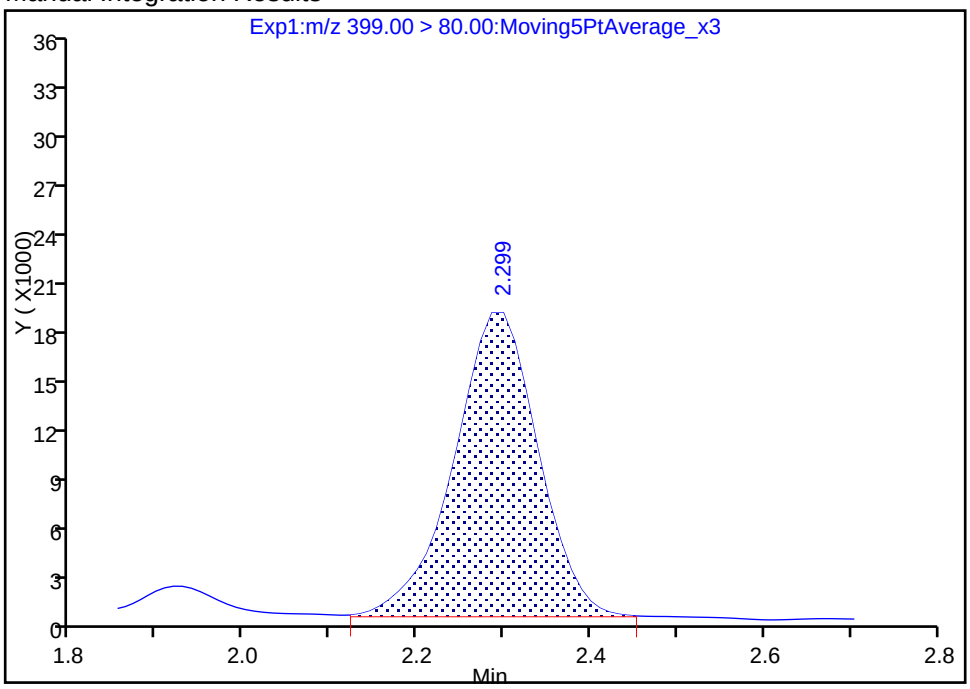
Processing Integration Results

RT: 2.30
Area: 71519
Amount: 0.025879
Amount Units: ng/ml



Manual Integration Results

RT: 2.30
Area: 125807
Amount: 0.045524
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:39:04

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-CR006-A | Lab Sample ID: 320-34182-7

Matrix: Water | Lab File ID: 2017.12.19LLC_035.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 12:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 242.6(mL) | Date Analyzed: 12/20/2017 09:00

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.78	J	2.06	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.90	J	2.06	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	2.11		2.06	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.93	J	2.06	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	2.56		2.06	0.88
375-95-1	Perfluorononanoic acid (PFNA)	0.92	J	2.06	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.06	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.13	U	2.06	1.13
307-55-1	Perfluorododecanoic acid (PFDoA)	0.58	J	2.06	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.06	1.34
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.66	J	2.06	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.81	J	2.06	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.23	B	2.06	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.06	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	4.06		2.06	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.06	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.41	J B	2.06	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.19	U	20.6	3.19
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.6	1.96
27619-97-2	6:2FTS	2.06	U	20.6	2.06
39108-34-4	8:2FTS	2.06	U	20.6	2.06

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-CR006-A | Lab Sample ID: 320-34182-7

Matrix: Water | Lab File ID: 2017.12.19LLC_035.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 12:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 242.6(mL) | Date Analyzed: 12/20/2017 09:00

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	95		25-150
STL01893	13C5 PFPeA	118		25-150
STL00993	13C2 PFHxA	109		25-150
STL01892	13C4-PFHpA	118		25-150
STL00990	13C4 PFOA	103		25-150
STL00995	13C5 PFNA	112		25-150
STL00996	13C2 PFDA	123		25-150
STL00997	13C2 PFUnA	106		25-150
STL00998	13C2 PFDoA	108		25-150
STL02116	13C2-PFTeDA	119		25-150
STL02337	13C3-PFBS	118		25-150
STL00994	18O2 PFHxS	118		25-150
STL00991	13C4 PFOS	116		25-150
STL01056	13C8 FOSA	98		25-150
STL02118	d3-NMeFOSAA	128		25-150
STL02117	d5-NEtFOSAA	123		25-150
STL02279	M2-6:2FTS	70		25-150
STL02280	M2-8:2FTS	172	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d
Lims ID: 320-34182-A-7-A
Client ID: FW-CR006-A
Sample Type: Client
Inject. Date: 20-Dec-2017 09:00:13 ALS Bottle#: 25 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-7-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:49:01

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.411	1.411	0.0	0.535	7618274	2.37		94.7	27255	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.411	1.412	-0.001	1.000	119976	0.0432			15.7	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.658	1.664	-0.006	0.628	5608718	2.96		118	46696	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.658	1.664	-0.006	1.000	114110	0.0460			29.0	M
D 47 13C3-PFBS										
301.90 > 83.00	1.694	1.699	-0.005	0.642	109804	2.74		118	2023	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.694	1.703	-0.009	1.000	69690	0.0197			65.0	M
298.90 > 99.00	1.694	1.703	-0.009	1.000	30637		2.27(1.25-3.74)		70.4	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.949	1.949	0.0	1.000	112158	0.0513			104	M
313.00 > 119.00	1.949	1.949	0.0	1.000	9941		11.28(5.03-15.10)		143	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.738	5467930	2.72		109	41966	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.286	2.286	0.0	1.006	51399	0.0225			46.8	M
363.00 > 169.00	2.273	2.286	-0.013	1.000	26159		1.96(1.13-3.40)		198	
D 9 13C4-PFHpA										
367.00 > 322.00	2.273	2.286	-0.013	0.861	5538340	2.95		118	40260	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.871	6485513	2.79		118	52181	
8 Perfluorohexanesulfonic acid										M
399.00 > 80.00	2.286	2.299	-0.013	0.994	161089	0.0540			163	M
399.00 > 99.00	2.286	2.299	-0.013	0.994	49135		3.28(1.50-4.49)		94.6	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.611	2.640	-0.029	1.000	14665	0.0167			628	
D 12 M2-6:2FTS										
429.00 > 81.00	2.611	2.640	-0.029	0.989	1305026	1.67		70.4	14493	
* 62 13C2-PFOA										
415.00 > 370.00	2.640	2.643	-0.003		5458293	2.50			60703	
D 14 13C4 PFOA										
417.00 > 372.00	2.640	2.647	-0.007	1.000	5833241	2.58		103	55052	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.640	2.649	-0.009	1.000	152870	0.0621			77.2	M
413.00 > 169.00	2.640	2.649	-0.009	1.000	89974		1.70(0.84-2.52)		653	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.654	2.654	0.0	1.000	8012	0.003202			52.3	
449.00 > 99.00	2.654	2.654	0.0	1.000	2322		3.45(1.94-5.82)		9.0	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.012	3.025	-0.013	1.000	182053	0.0984			18.3	
499.00 > 99.00	3.012	3.025	-0.013	1.000	35811		5.08(2.31-6.93)		27.8	
D 18 13C4 PFOS										
503.00 > 80.00	3.012	3.025	-0.013	1.141	4156909	2.78		116	33272	
20 Perfluorononanoic acid										
463.00 > 419.00	3.020	3.026	-0.006	1.003	36754	0.0222			51.6	
463.00 > 169.00	3.012	3.026	-0.014	1.000	9725		3.78(1.90-5.69)		148	
D 19 13C5 PFNA										
468.00 > 423.00	3.012	3.026	-0.014	1.141	4261439	2.81		112	41857	
D 21 13C8 FOSA										
506.00 > 78.00	3.358	3.362	-0.004	1.272	5197516	2.46		98.2	28493	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.365	0.0	1.002	19577	0.0100			489	
D 26 M2-8:2FTS										
529.00 > 81.00	3.365	3.375	-0.010	1.275	1372632	4.12		172	15945	
D 23 13C2 PFDA										
515.00 > 470.00	3.380	3.387	-0.007	1.281	3726620	3.07		123	33311	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.541	-0.008	1.338	1791506	3.20		128	32701	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.533	3.547	-0.014	1.000	3851	0.005214			38.0	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.701	-0.011	1.000	6885	0.006755			164	
599.00 > 99.00	3.682	3.701	-0.019	0.998	2127		3.24(1.39-4.16)		56.2	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.401	1768225	3.07		123	10431	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.405	2488717	2.66		106	39928	
31 Perfluoroundecanoic acid										M
563.00 > 519.00	3.699	3.718	-0.019	0.998	9130	0.0101			43.1	
563.00 > 169.00	3.699	3.718	-0.019	0.998	2147		4.25(0.00-0.00)		184	M
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.718	-0.010	1.002	5997	0.008701			115	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFDoA										
615.00 > 570.00	3.999	4.015	-0.016	1.515	2695185	2.71		108	29327	
37 Perfluorododecanoic acid										
613.00 > 569.00	3.999	4.016	-0.017	1.000	14559	0.0141			46.2	
613.00 > 169.00	4.006	4.016	-0.010	1.002	2321		6.27(2.13-6.40)		121	
41 Perfluorotridecanoic acid										R
663.00 > 619.00	4.272	4.285	-0.013	1.000	23776	0.0192			58.8	R
663.00 > 169.00	4.263	4.285	-0.022	0.998	5774		4.12(1.25-3.76)		339	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.501	4.522	-0.021	1.705	3252043	2.98		119	18678	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.501	4.522	-0.021	1.000	5250	0.0160			161	
713.00 > 219.00	4.501	4.522	-0.021	1.000	2881		1.82(0.71-2.13)		136	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:45 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d

Injection Date: 20-Dec-2017 09:00:13 Instrument ID: A8_N

Lims ID: 320-34182-A-7-A Lab Sample ID: 320-34182-7

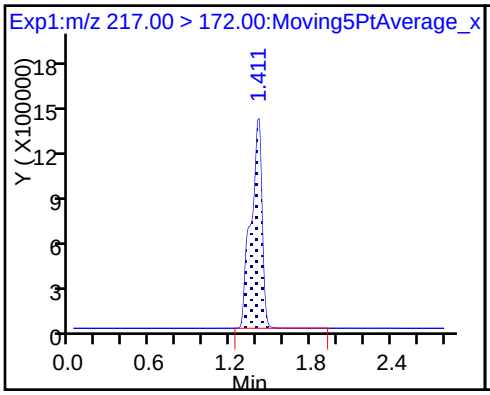
Client ID: FW-CR006-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 25 Worklist Smp#: 13

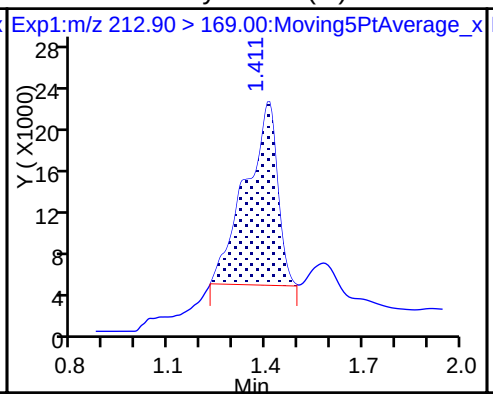
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

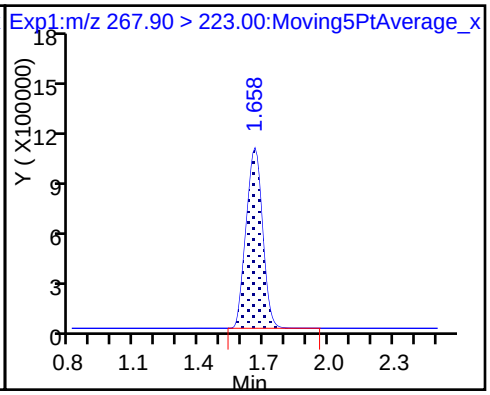
D 1 13C4 PFBA



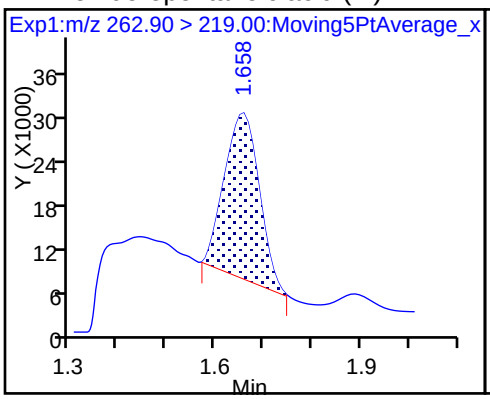
2 Perfluorobutyric acid (M)



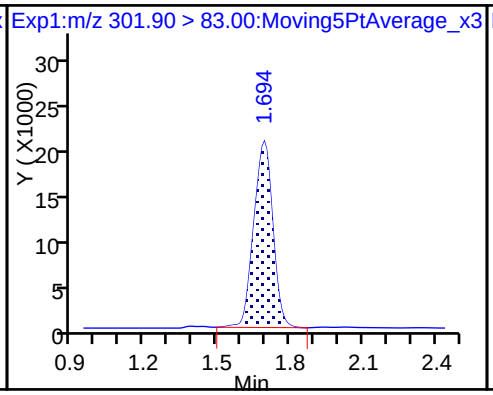
D 3 13C5-PFPeA



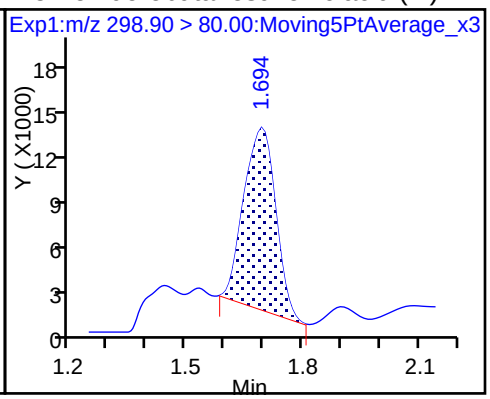
4 Perfluoropentanoic acid (M)



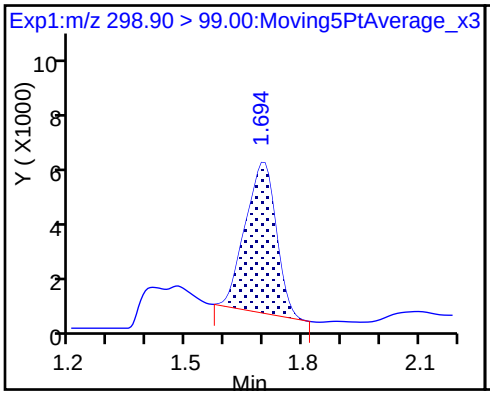
D 47 13C3-PFBS



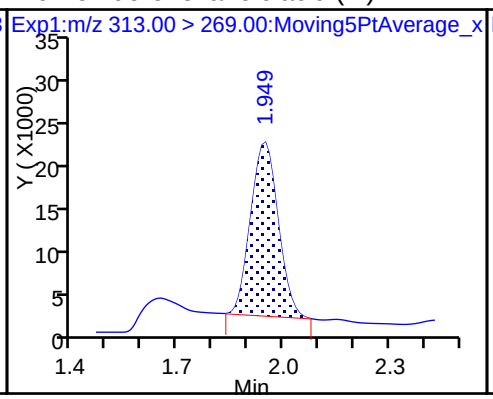
5 Perfluorobutanesulfonic acid (M)



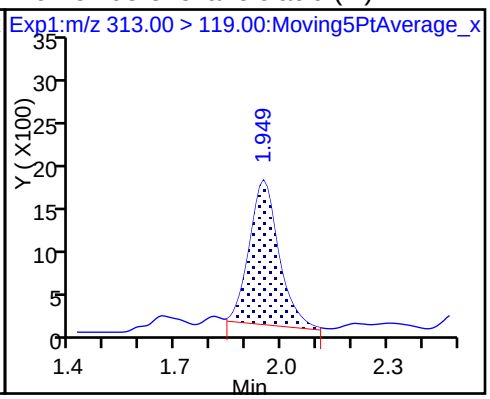
5 Perfluorobutanesulfonic acid



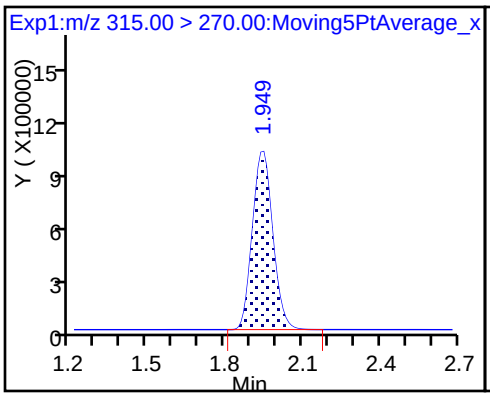
6 Perfluorohexanoic acid (M)



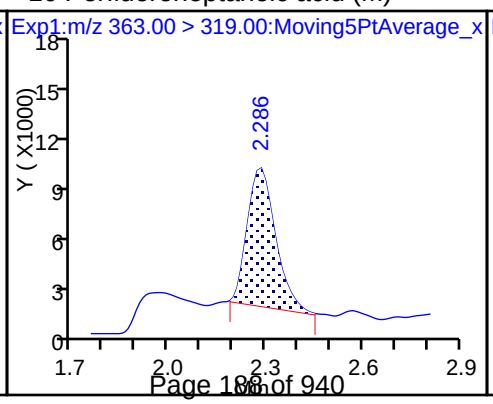
6 Perfluorohexanoic acid (M)



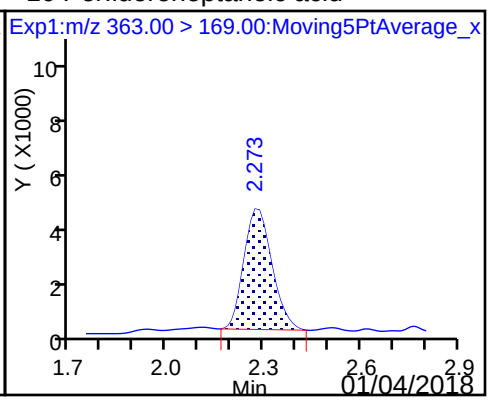
D 7 13C2 PFHxA



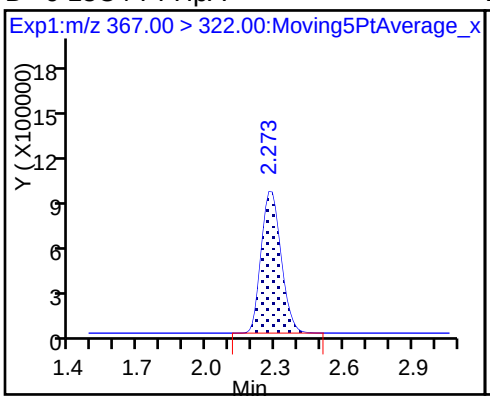
10 Perfluoroheptanoic acid (M)



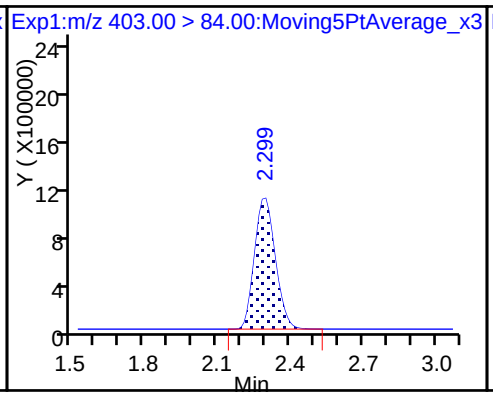
10 Perfluoroheptanoic acid



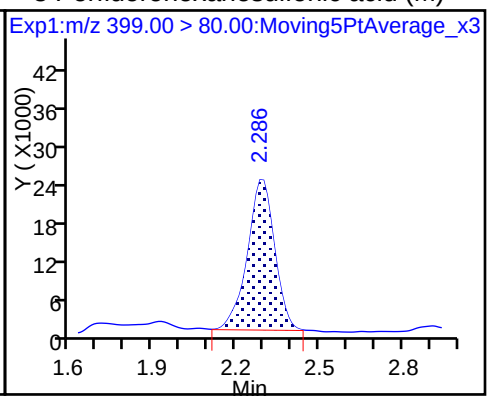
D 9 13C4-PFHpA



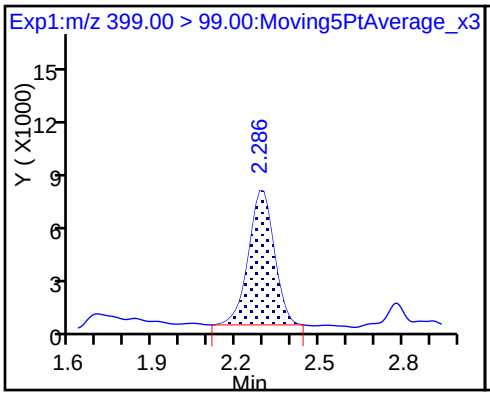
D 11 18O2 PFHxS



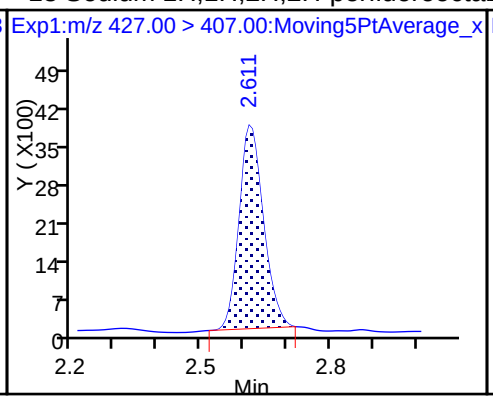
8 Perfluorohexanesulfonic acid (M)



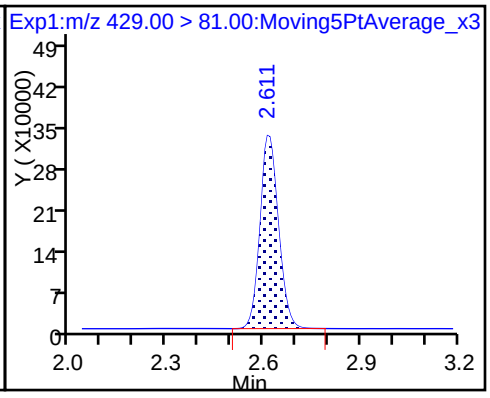
8 Perfluorohexanesulfonic acid



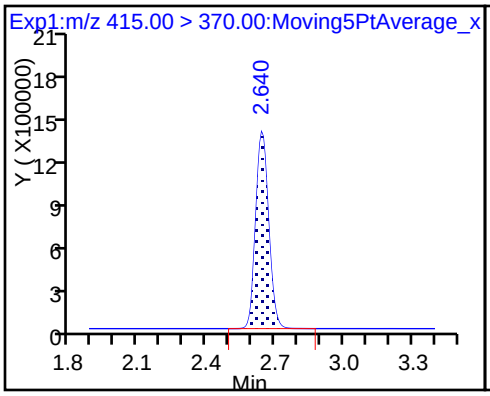
13 Sodium 1H,1H,2H,2H-perfluorooctane



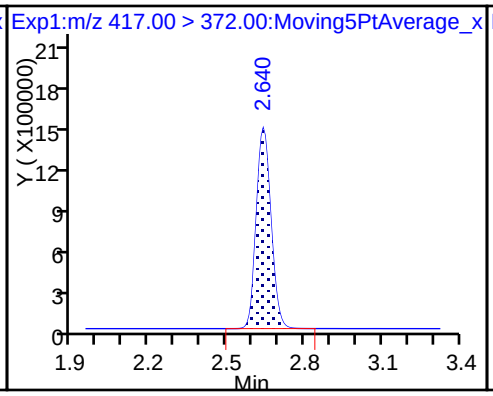
D 12 M2-6:2FTS



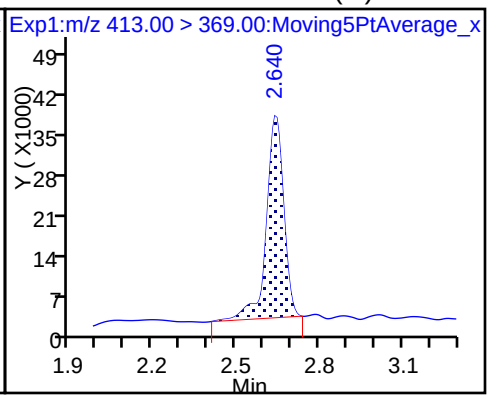
* 62 13C2-PFOA



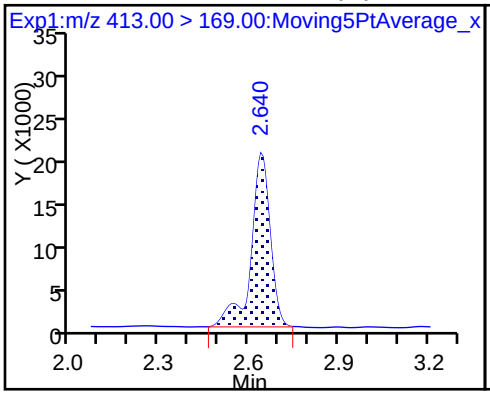
D 14 13C4 PFOA



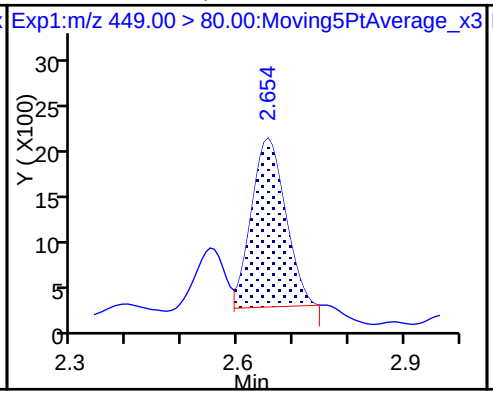
15 Perfluorooctanoic acid (M)



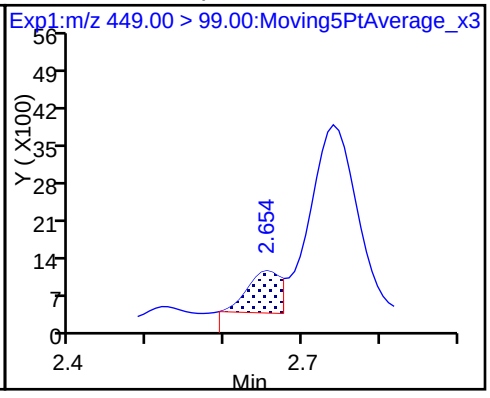
15 Perfluorooctanoic acid (M)



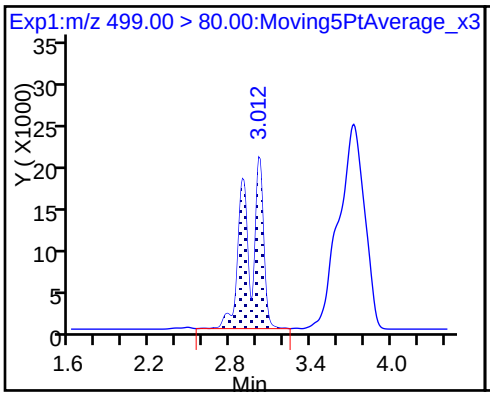
16 Perfluoroheptanesulfonic Acid



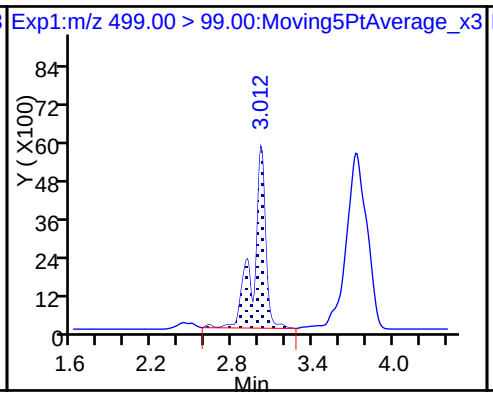
16 Perfluoroheptanesulfonic Acid



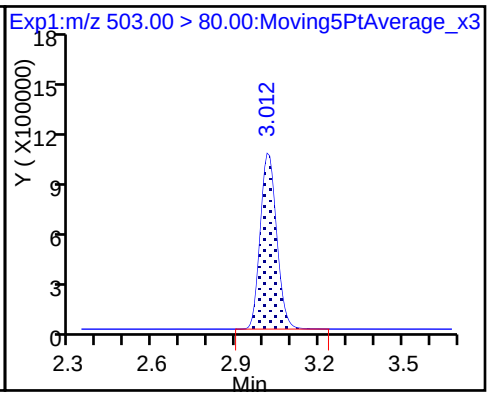
17 Perfluorooctane sulfonic acid



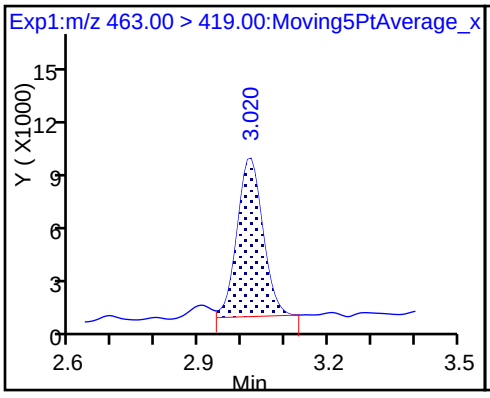
17 Perfluorooctane sulfonic acid



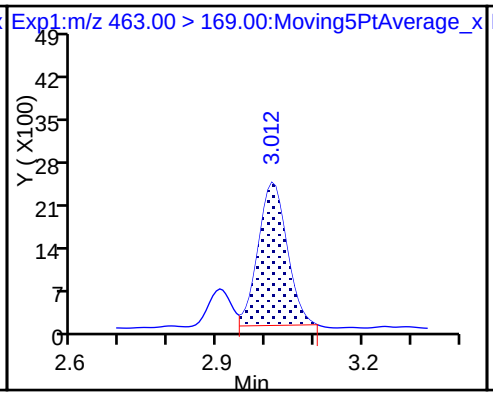
D 18 13C4 PFOS



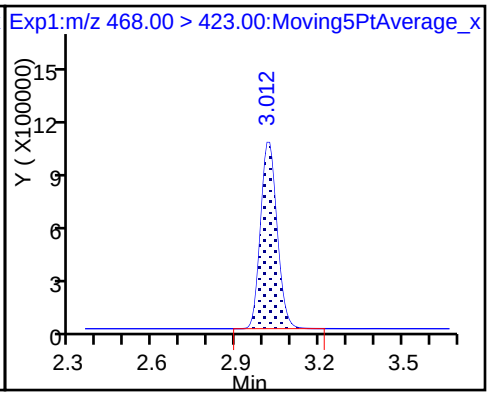
20 Perfluorononanoic acid



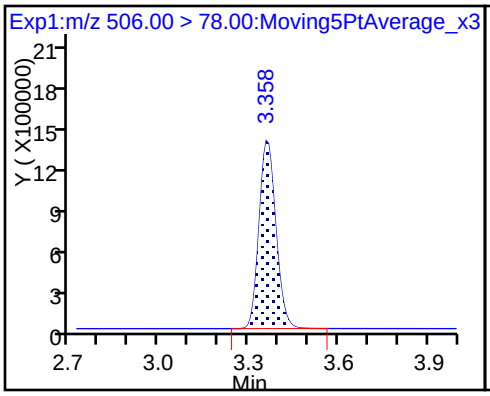
20 Perfluorononanoic acid



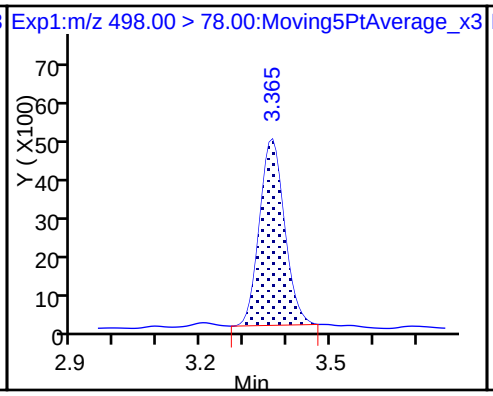
D 19 13C5 PFNA



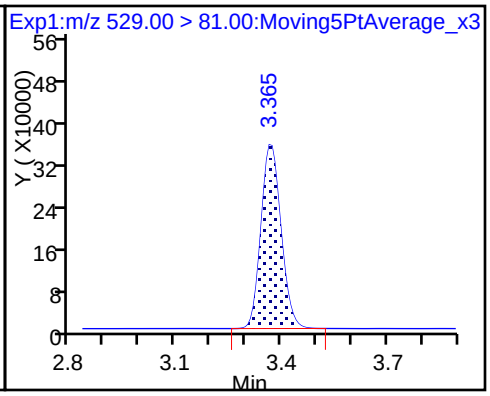
D 21 13C8 FOSA



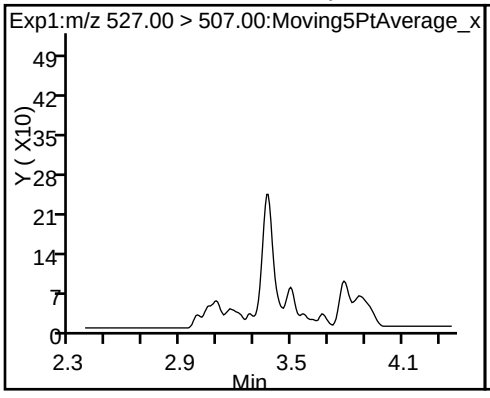
22 Perfluorooctane Sulfonamide



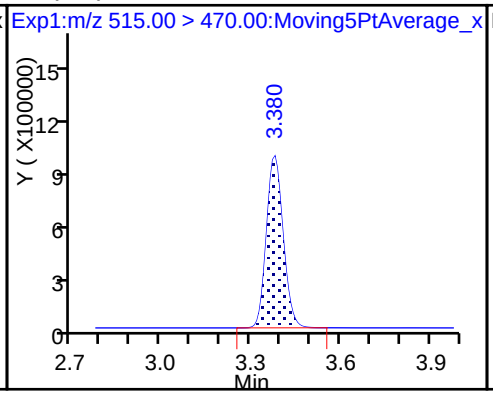
D 26 M2-8:2FTS



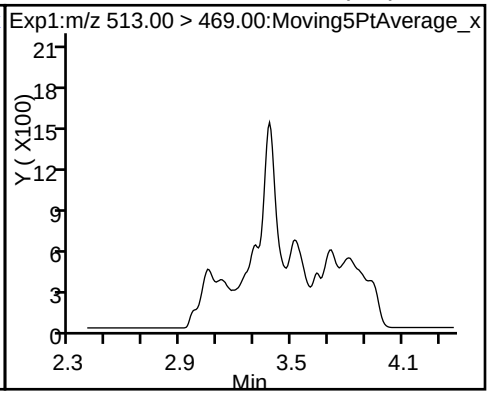
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



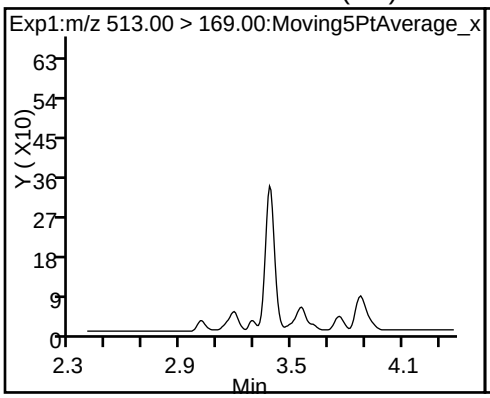
D 13C2 PFDA



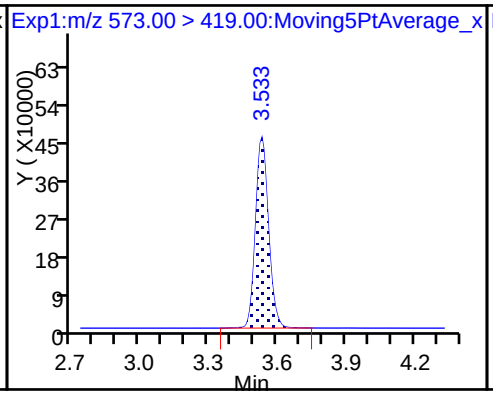
24 Perfluorodecanoic acid (ND)



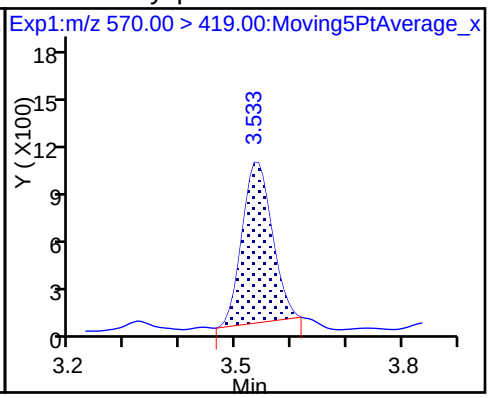
24 Perfluorodecanoic acid (ND)



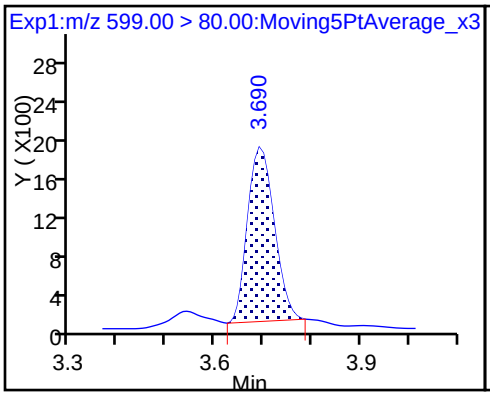
D 27 d3-NMeFOSAA



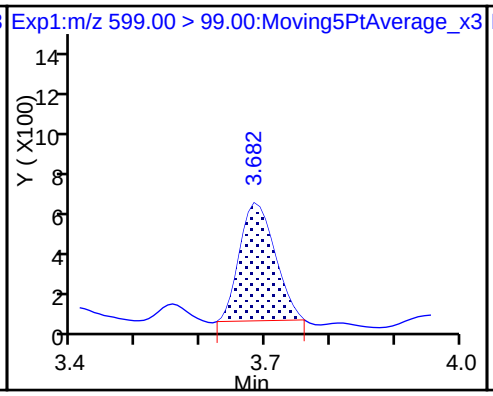
28 N-methyl perfluorooctane sulfonami



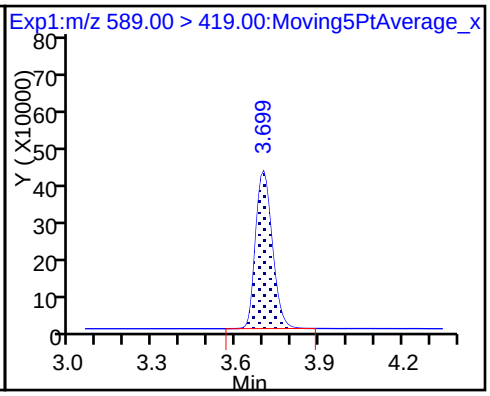
29 Perfluorodecane Sulfonic acid



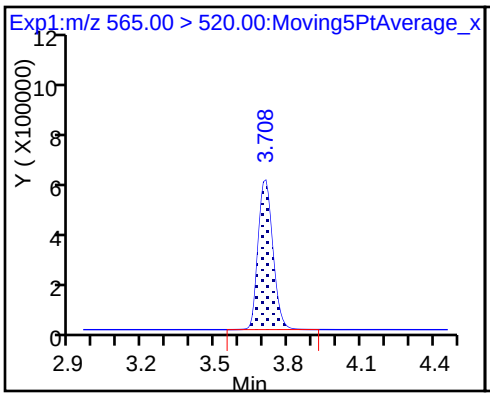
29 Perfluorodecane Sulfonic acid



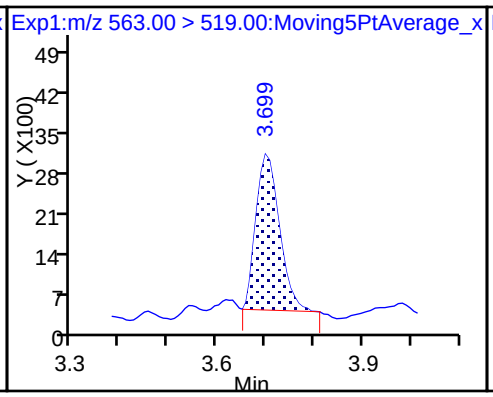
D 32 d5-NEtFOSAA



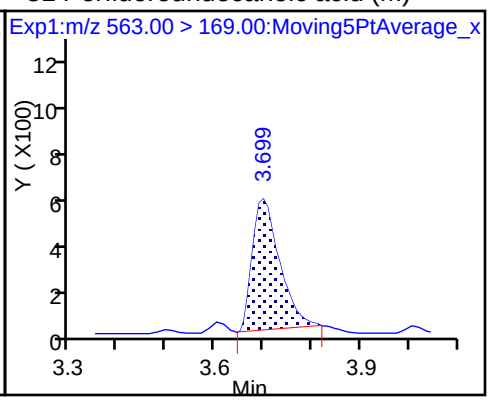
D 30 13C2 PFUnA



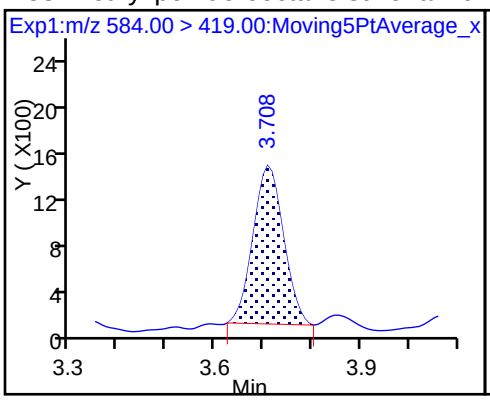
31 Perfluoroundecanoic acid



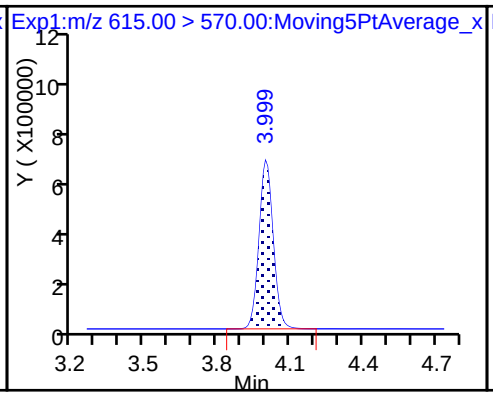
31 Perfluoroundecanoic acid (M)



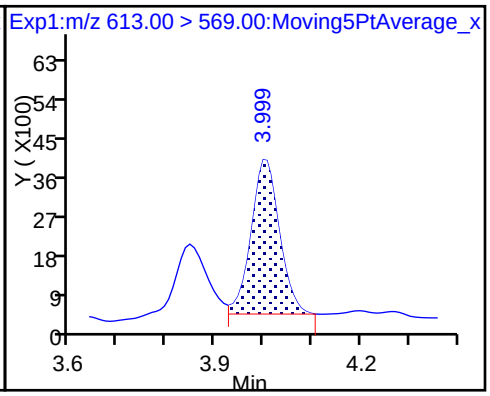
33 N-ethyl perfluorooctane sulfonamid



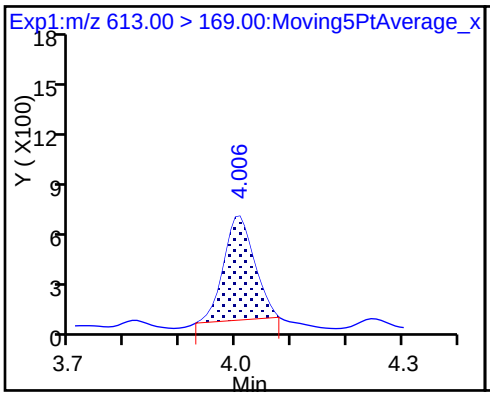
D 36 13C2 PFDoA



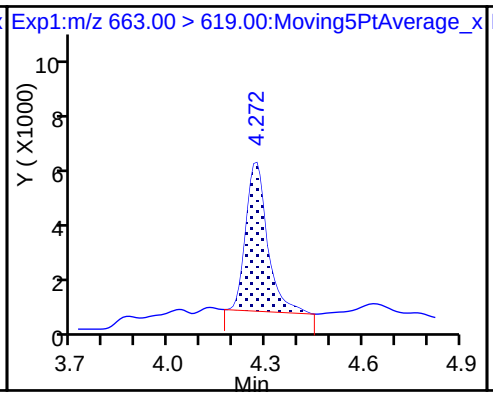
37 Perfluorododecanoic acid



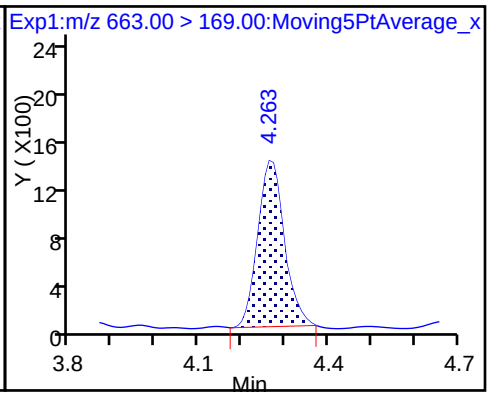
37 Perfluorododecanoic acid



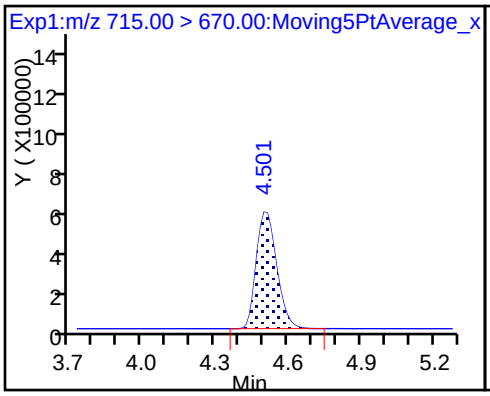
41 Perfluorotridecanoic acid



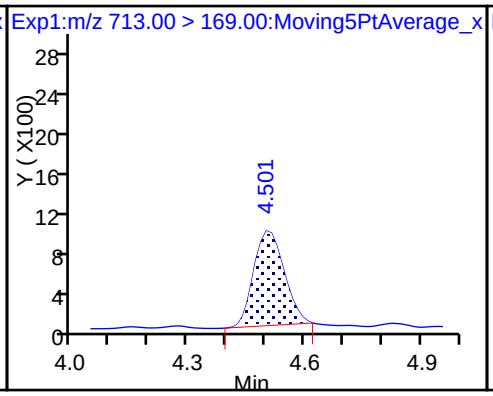
41 Perfluorotridecanoic acid



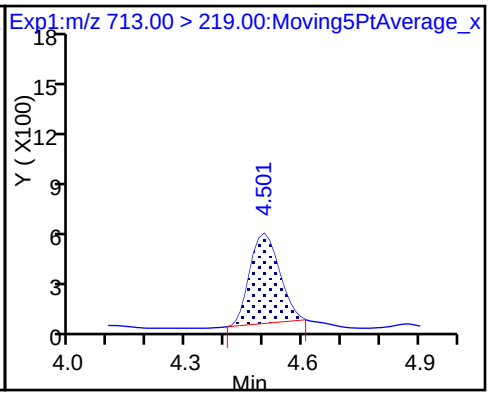
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



TestAmerica Sacramento

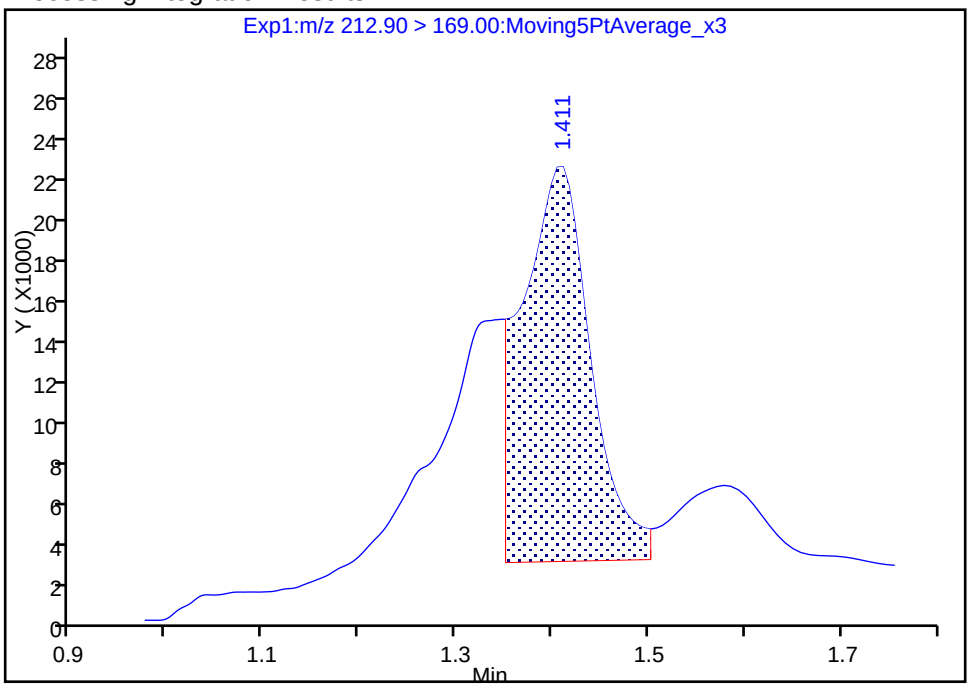
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Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

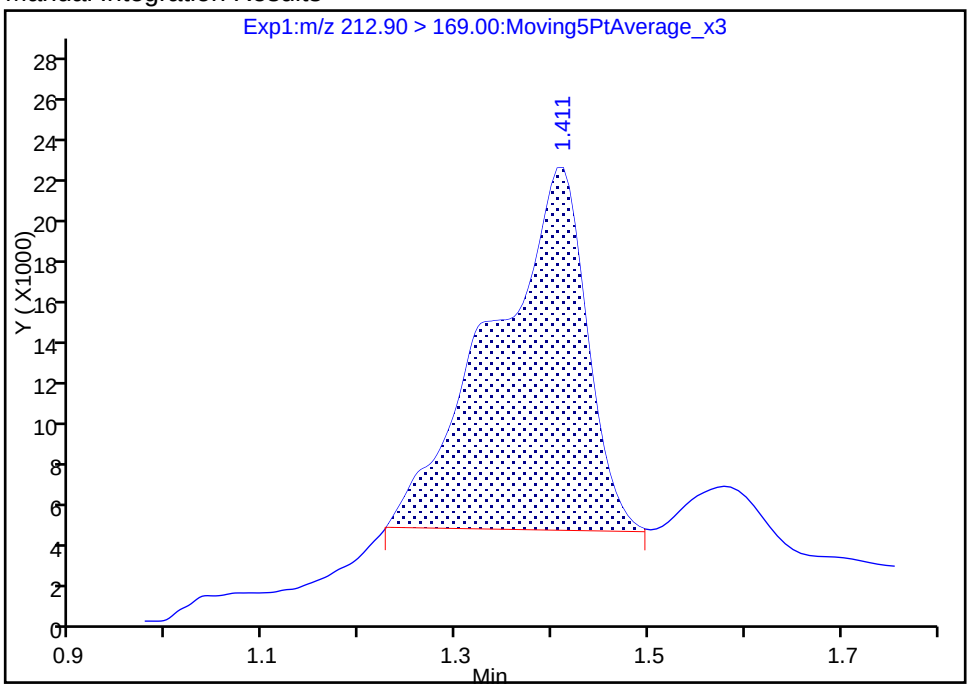
Processing Integration Results

RT: 1.41
Area: 93673
Amount: 0.033693
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 119976
Amount: 0.043154
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:44:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

TestAmerica Sacramento

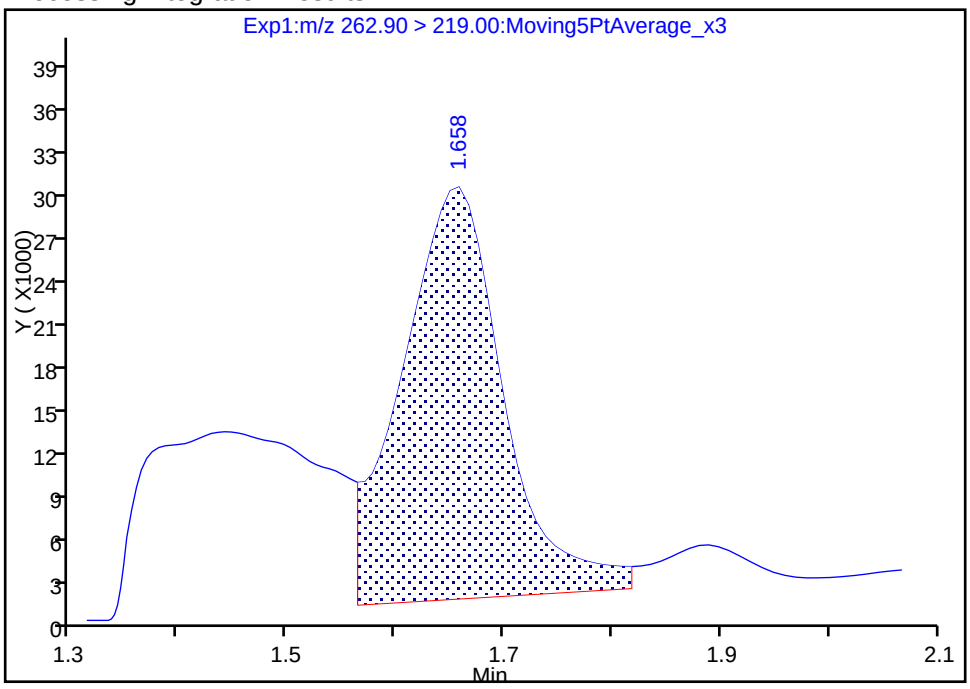
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Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

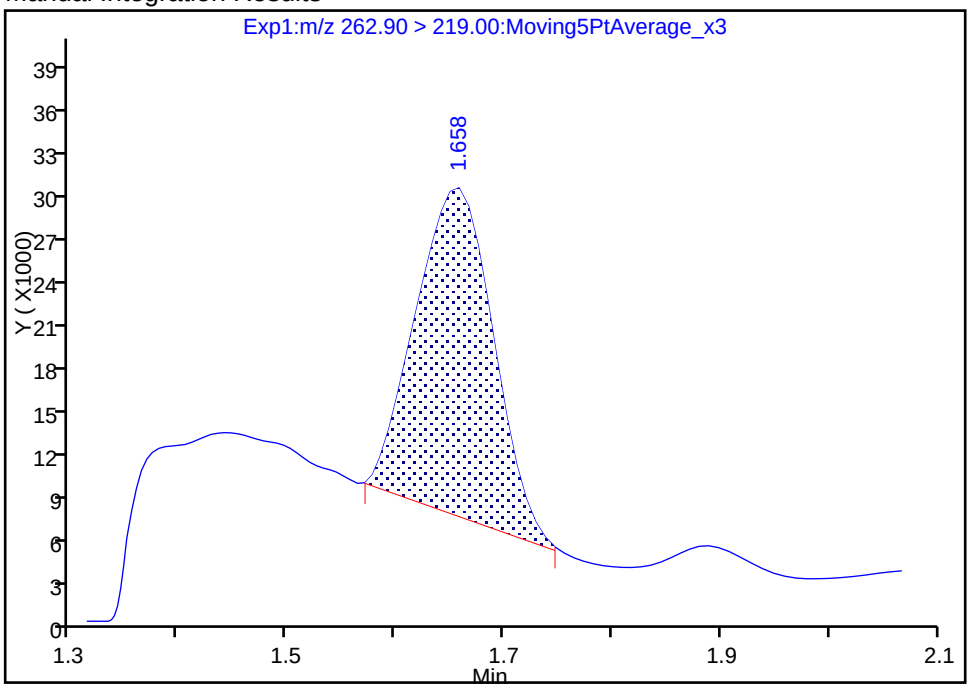
Processing Integration Results

RT: 1.66
Area: 187607
Amount: 0.075648
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 114110
Amount: 0.046012
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:45:13
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

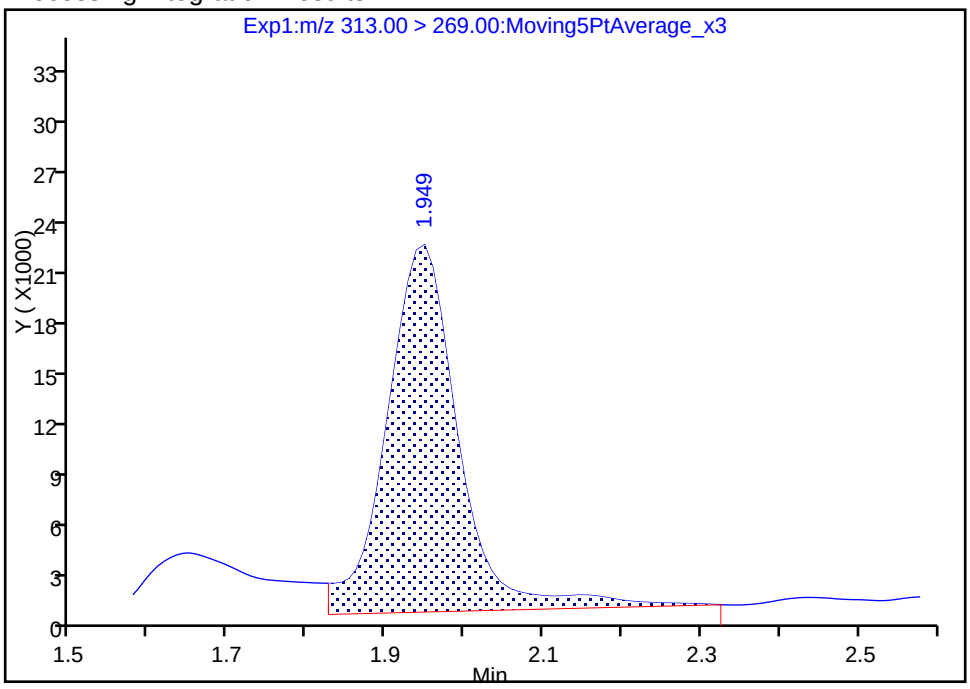
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Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

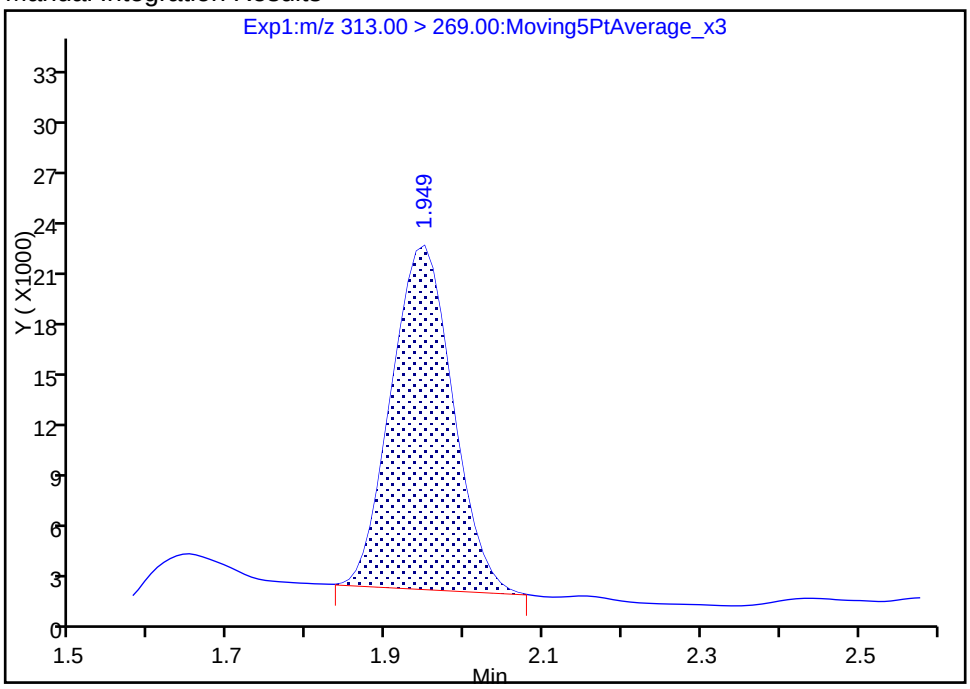
Processing Integration Results

RT: 1.95
Area: 139739
Amount: 0.063900
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 112158
Amount: 0.051288
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:45:37

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d

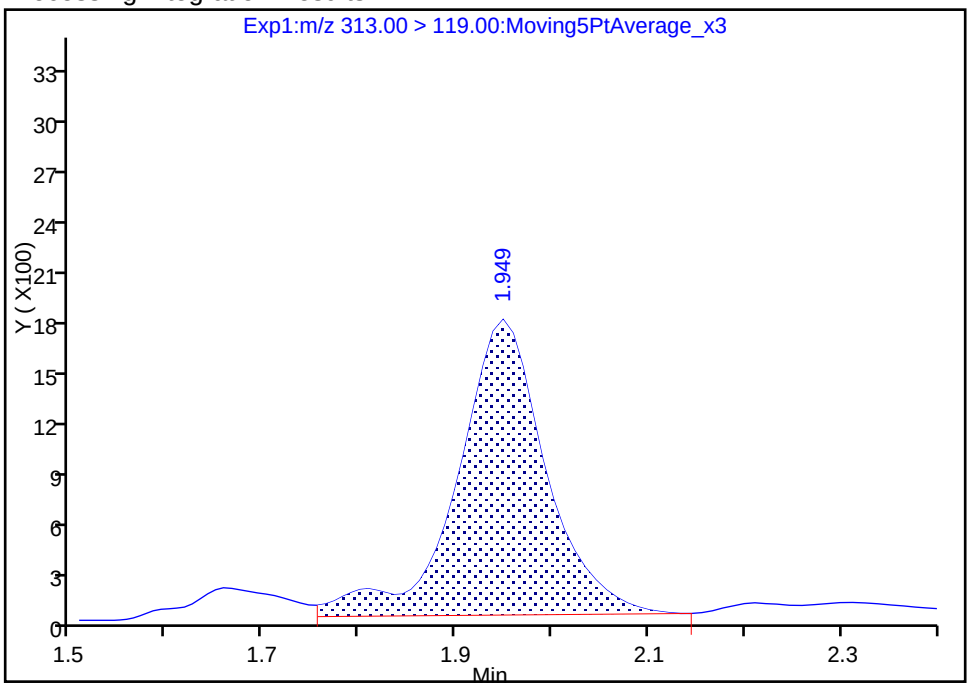
Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

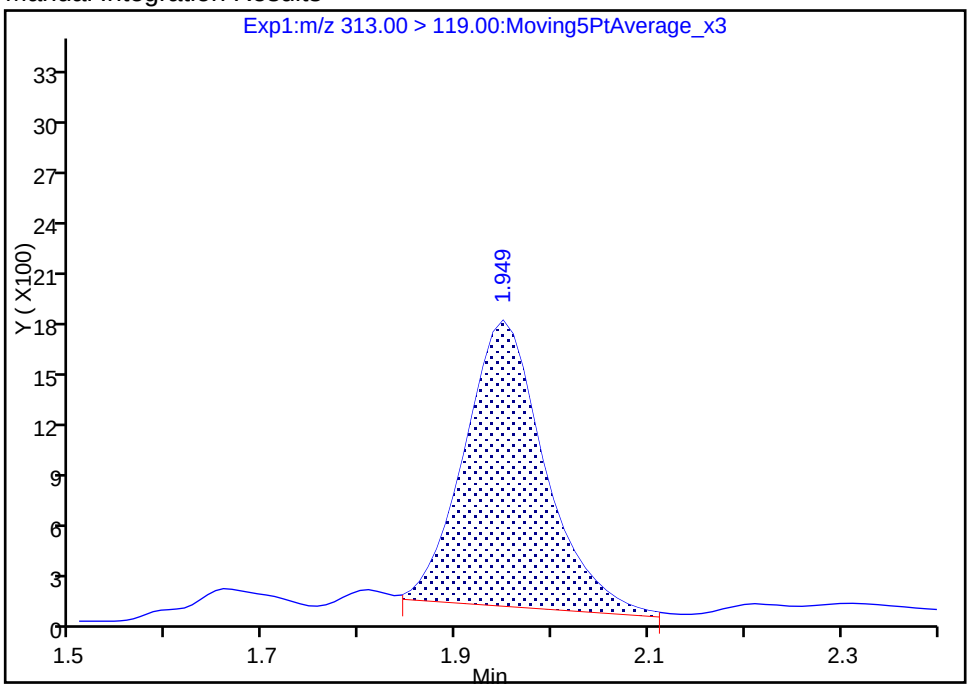
Processing Integration Results

RT: 1.95
Area: 11351
Amount: 0.063900
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 9941
Amount: 0.051288
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:45:45

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

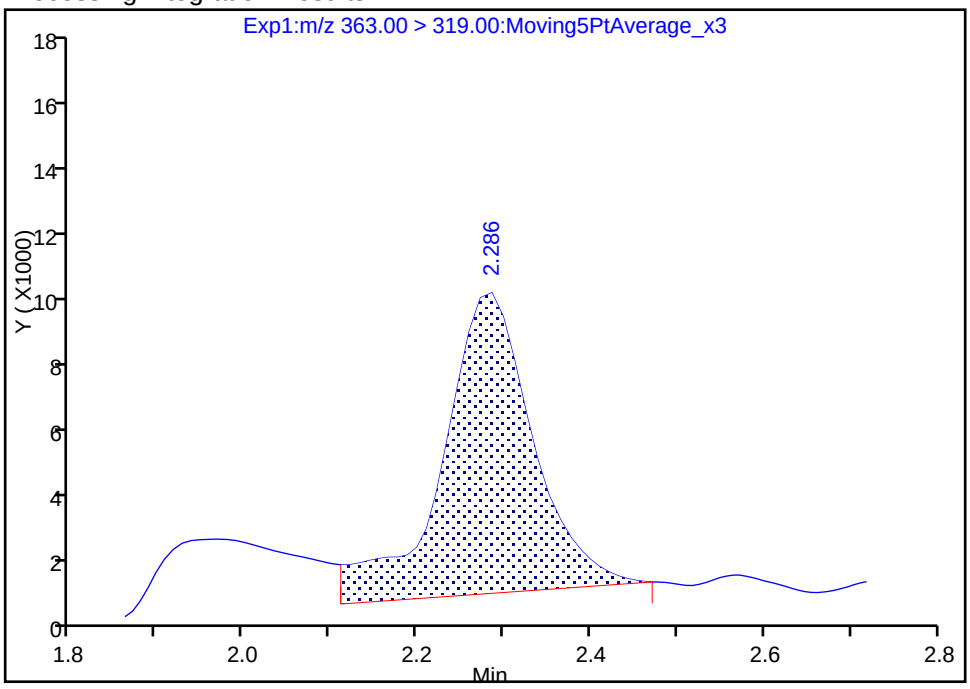
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d				
Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

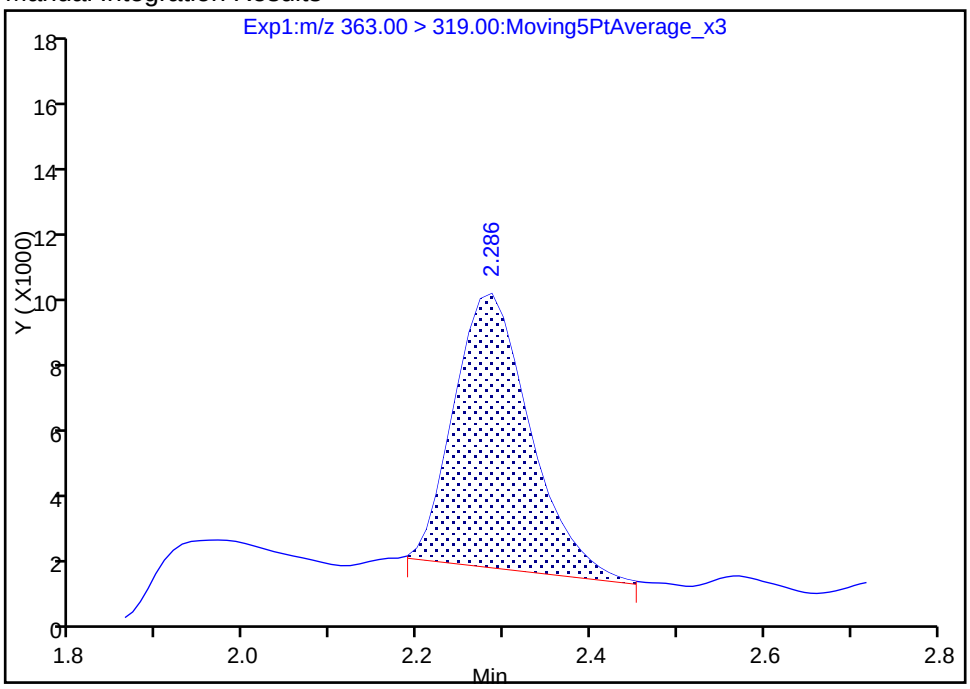
Processing Integration Results

RT: 2.29
Area: 67437
Amount: 0.029565
Amount Units: ng/ml



Manual Integration Results

RT: 2.29
Area: 51399
Amount: 0.022534
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:46:27
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

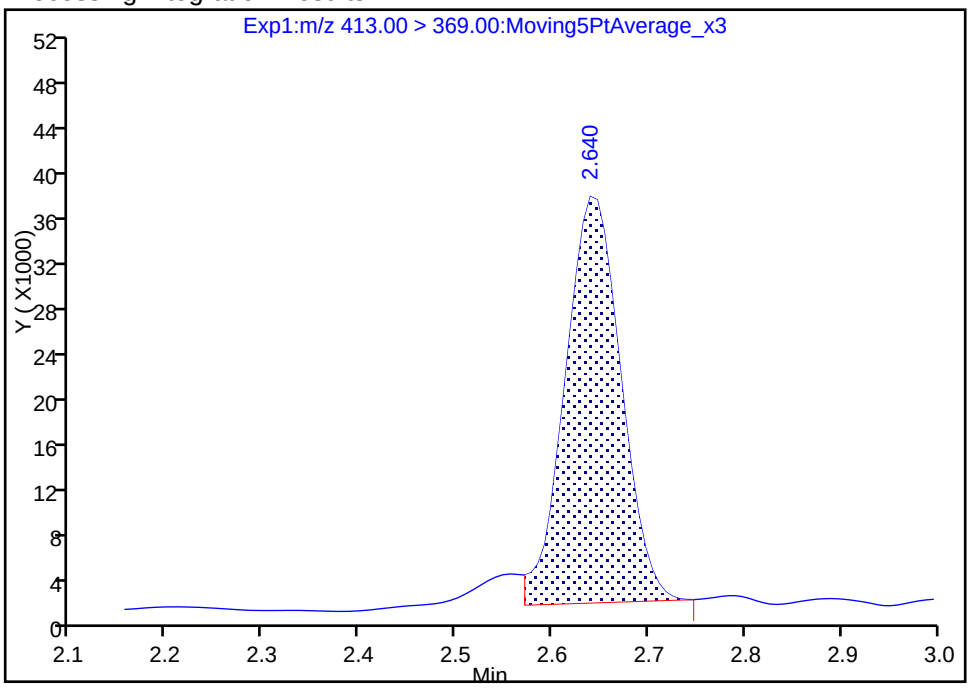
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d				
Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

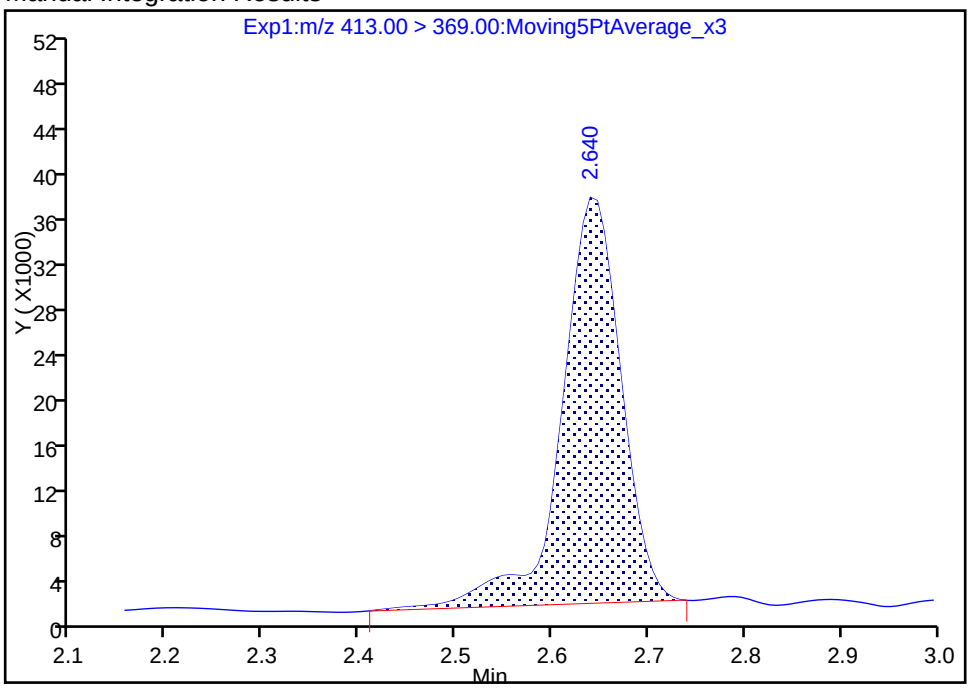
Processing Integration Results

RT: 2.64
Area: 143035
Amount: 0.058091
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 152870
Amount: 0.062086
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:46:49

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

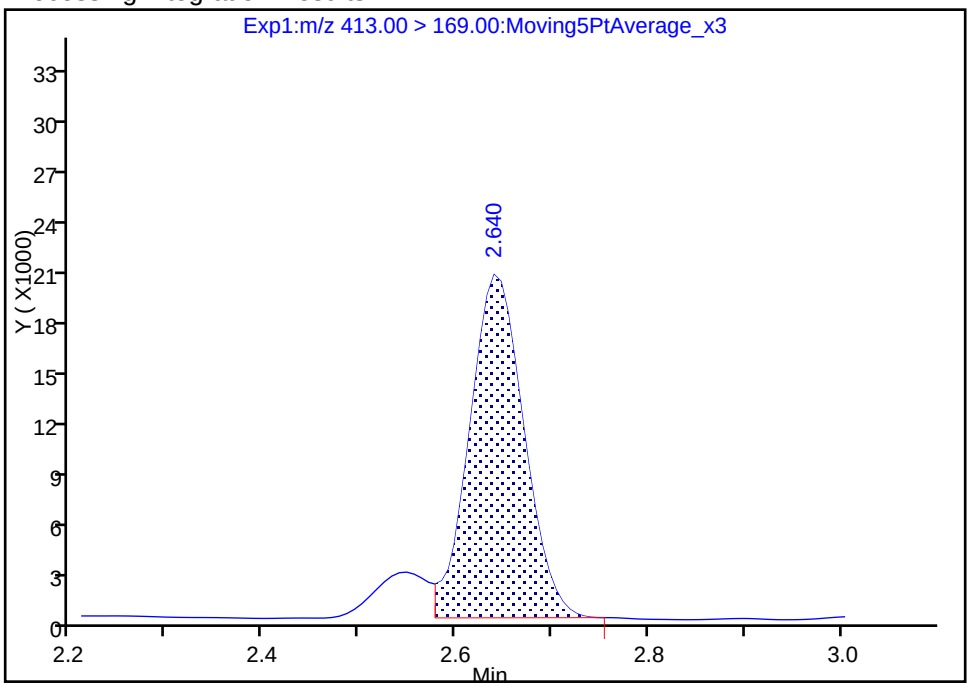
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d				
Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

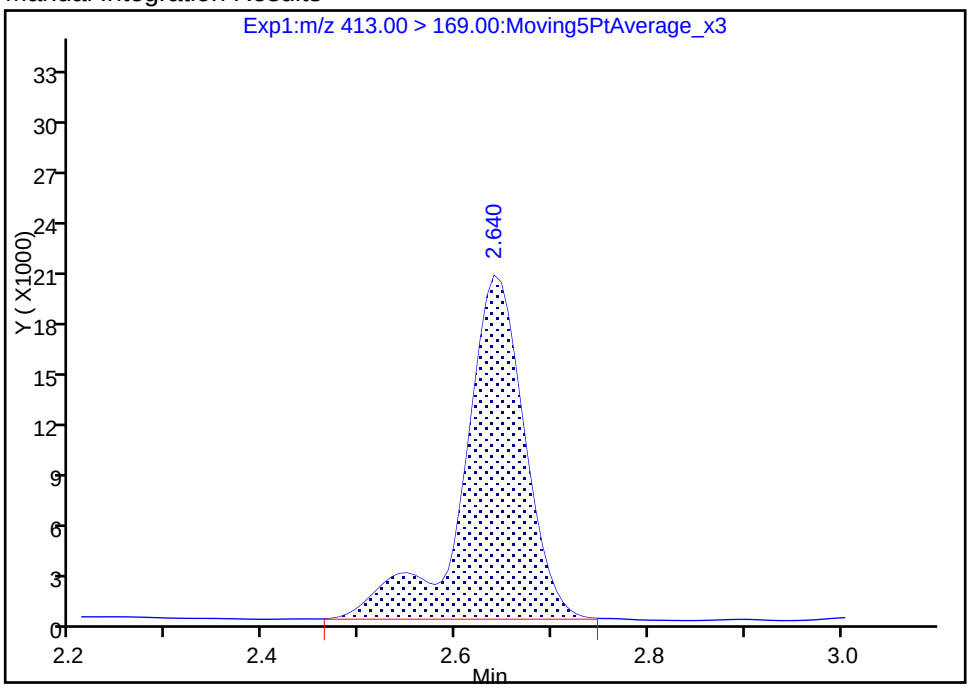
Processing Integration Results

RT: 2.64
Area: 79156
Amount: 0.058091
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 89974
Amount: 0.062086
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:46:59

Audit Action: Manually Integrated Audit Reason: Isomers

TestAmerica Sacramento

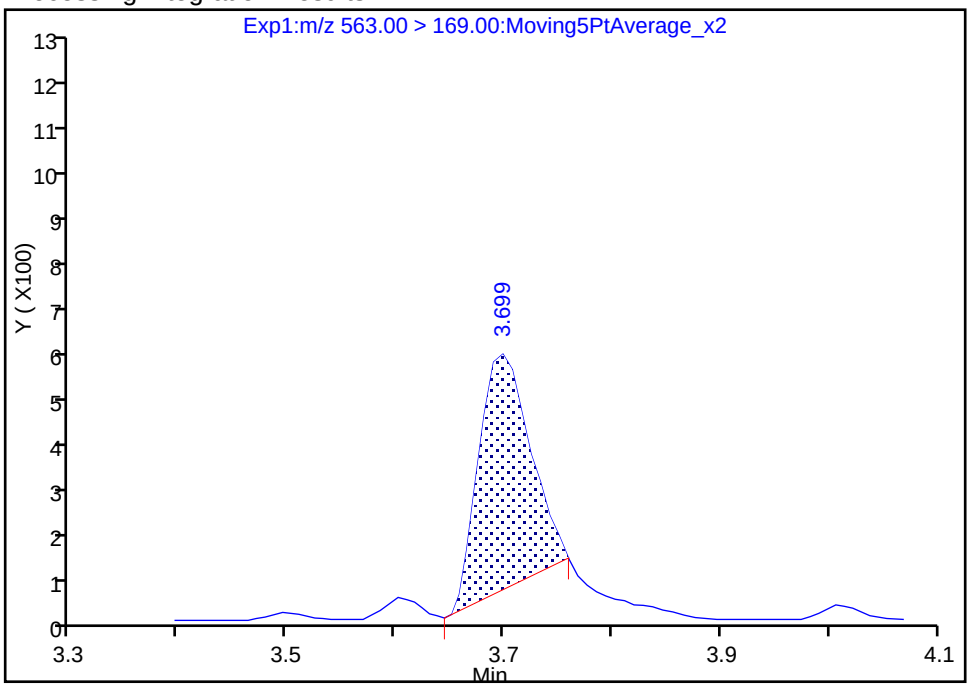
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d				
Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

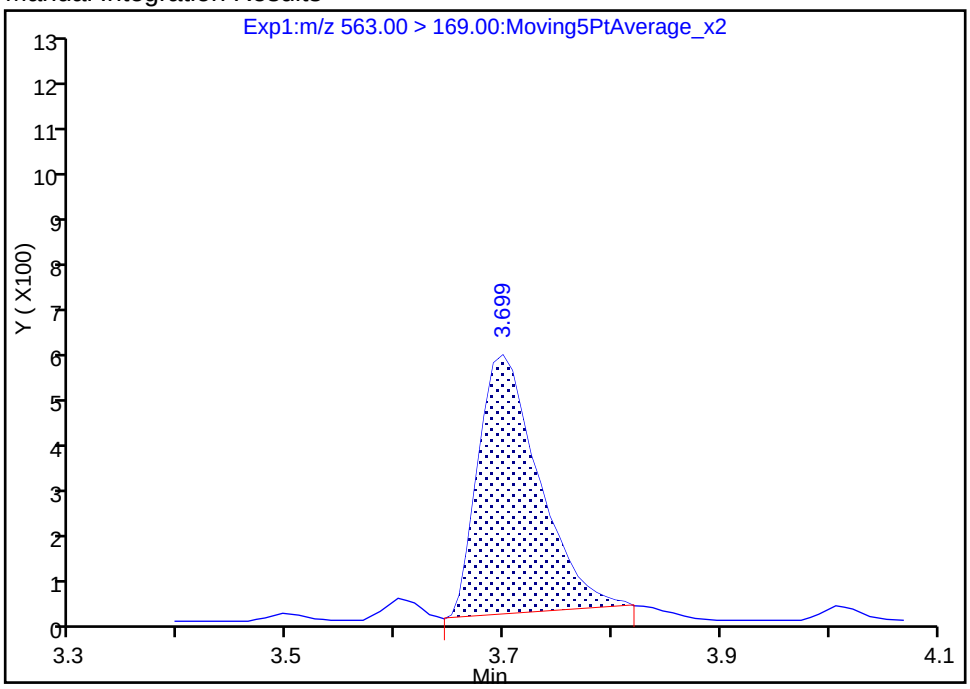
Processing Integration Results

RT: 3.70
Area: 1658
Amount: 0.010137
Amount Units: ng/ml



Manual Integration Results

RT: 3.70
Area: 2147
Amount: 0.010137
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:47:59
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

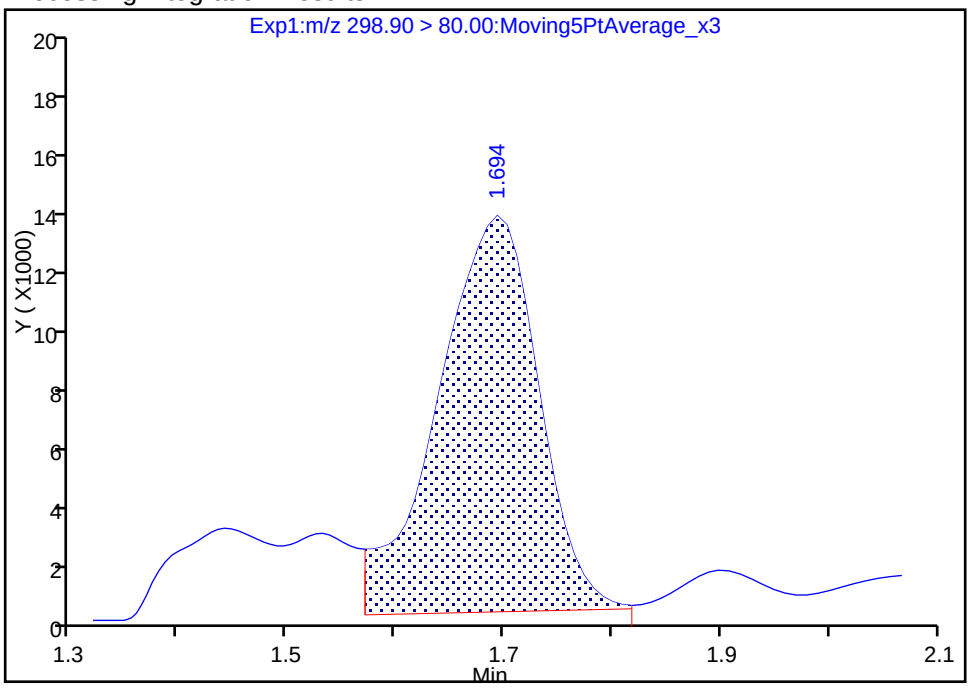
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d				
Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

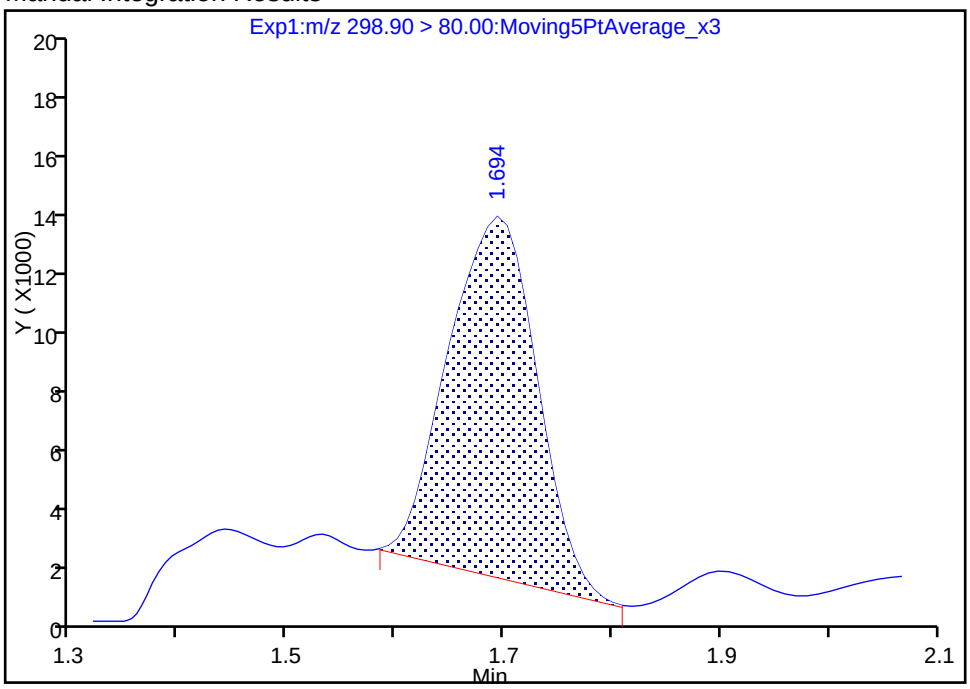
Processing Integration Results

RT: 1.69
Area: 87094
Amount: 0.024669
Amount Units: ng/ml



Manual Integration Results

RT: 1.69
Area: 69690
Amount: 0.019739
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:45:22

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

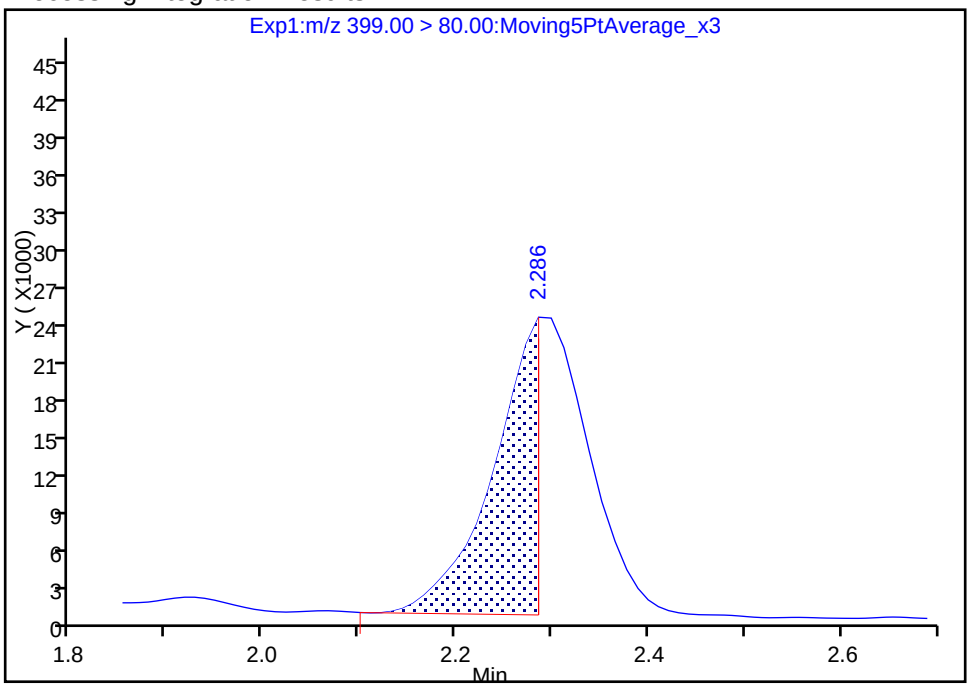
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_035.d				
Injection Date:	20-Dec-2017 09:00:13	Instrument ID:	A8_N		
Lims ID:	320-34182-A-7-A	Lab Sample ID:	320-34182-7		
Client ID:	FW-CR006-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	25	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

8 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

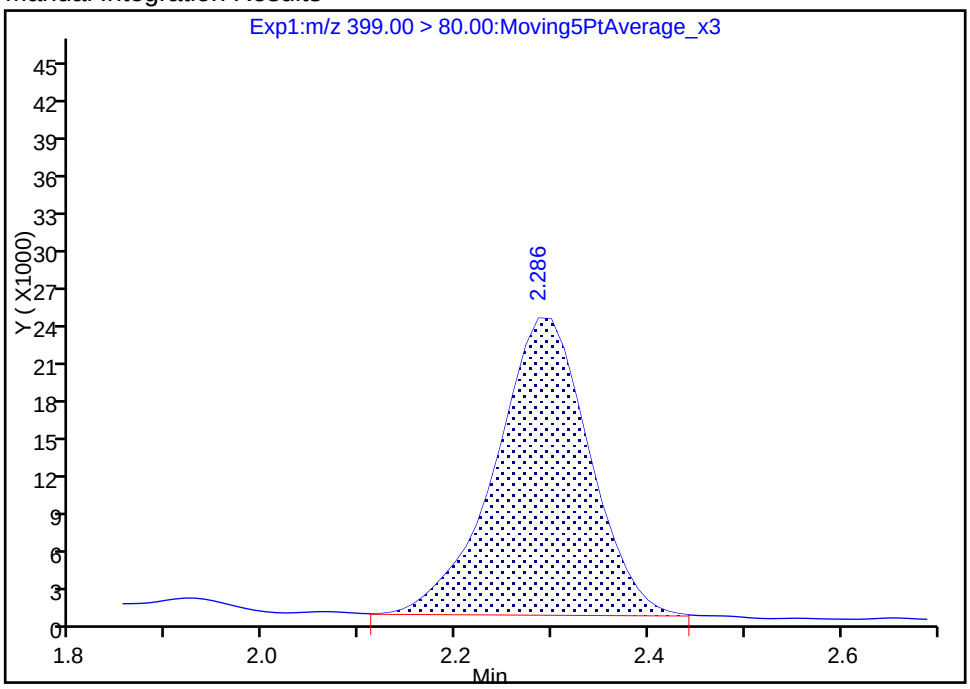
Processing Integration Results

RT: 2.29
Area: 75010
Amount: 0.025166
Amount Units: ng/ml



Manual Integration Results

RT: 2.29
Area: 161089
Amount: 0.054045
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:46:07
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-FR004-A | Lab Sample ID: 320-34182-8

Matrix: Water | Lab File ID: 2017.12.19LLC_036.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 12:35

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 252.7(mL) | Date Analyzed: 12/20/2017 09:08

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.07		1.98	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.61	J	1.98	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	1.70	J	1.98	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.87	J	1.98	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	2.05		1.98	0.84
375-95-1	Perfluorononanoic acid (PFNA)	2.09		1.98	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	1.98	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.09	U	1.98	1.09
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.98	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.29	U	1.98	1.29
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.98	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.66	J	1.98	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.65	J B	1.98	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.98	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.63	J	1.98	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.98	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.61	J B	1.98	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.07	U	19.8	3.07
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.88	U	19.8	1.88
27619-97-2	6:2FTS	1.98	U	19.8	1.98
39108-34-4	8:2FTS	1.98	U	19.8	1.98

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-FR004-A | Lab Sample ID: 320-34182-8

Matrix: Water | Lab File ID: 2017.12.19LLC_036.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 12:35

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 252.7(mL) | Date Analyzed: 12/20/2017 09:08

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	83		25-150
STL01893	13C5 PFPeA	108		25-150
STL00993	13C2 PFHxA	102		25-150
STL01892	13C4-PFHpA	108		25-150
STL00990	13C4 PFOA	104		25-150
STL00995	13C5 PFNA	109		25-150
STL00996	13C2 PFDA	113		25-150
STL00997	13C2 PFUnA	107		25-150
STL00998	13C2 PFDoA	105		25-150
STL02116	13C2-PFTeDA	111		25-150
STL02337	13C3-PFBS	103		25-150
STL00994	18O2 PFHxS	110		25-150
STL00991	13C4 PFOS	105		25-150
STL01056	13C8 FOSA	95		25-150
STL02118	d3-NMeFOSAA	123		25-150
STL02117	d5-NEtFOSAA	120		25-150
STL02279	M2-6:2FTS	68		25-150
STL02280	M2-8:2FTS	173	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d
Lims ID: 320-34182-A-8-A
Client ID: FW-FR004-A
Sample Type: Client
Inject. Date: 20-Dec-2017 09:08:06 ALS Bottle#: 26 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-8-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:49:26

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.533	6795793	2.08		83.1	20454	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.412	1.412	0.0	1.000	129431	0.0522			10.8	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.660	1.664	-0.004	0.627	5219521	2.71		108	30219	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.651	1.664	-0.013	0.995	94144	0.0408			11.1	M
D 47 13C3-PFBS										
301.90 > 83.00	1.695	1.699	-0.004	0.640	97094	2.39		103	1119	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.695	1.703	-0.008	1.000	52240	0.0167			25.8	M
298.90 > 99.00	1.704	1.703	0.001	1.005	26538		1.97(1.25-3.74)		33.6	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.951	1.949	0.002	1.000	89277	0.0429			46.5	M
313.00 > 119.00	1.951	1.949	0.002	1.000	8562		10.43(5.03-15.10)		77.3	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.951	1.949	0.002	0.736	5201885	2.55		102	44541	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.288	2.286	0.002	1.000	46787	0.0221			32.1	M
363.00 > 169.00	2.288	2.286	0.002	1.000	21317		2.19(1.13-3.40)		156	
D 9 13C4-PFHpA										
367.00 > 322.00	2.288	2.286	0.002	0.864	5146868	2.70		108	35679	
D 11 18O2 PFHxS										
403.00 > 84.00	2.301	2.299	0.002	0.869	6149189	2.60		110	53460	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.301	2.299	0.002	1.000	118169	0.0418			94.1	
399.00 > 99.00	2.301	2.299	0.002	1.000	36301		3.26(1.50-4.49)		74.0	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.620	2.640	-0.020	1.000	18478	0.0213			637	
D 12 M2-6:2FTS										
429.00 > 81.00	2.620	2.640	-0.020	0.989	1287670	1.62		68.4	8821	
* 62 13C2-PFOA										
415.00 > 370.00	2.649	2.643	0.006		5543637	2.50			50501	
D 14 13C4 PFOA										
417.00 > 372.00	2.642	2.647	-0.005	0.997	5971657	2.60		104	50812	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.649	2.649	0.0	1.003	130678	0.0518			62.8	M
413.00 > 169.00	2.642	2.649	-0.007	1.000	80181		1.63(0.84-2.52)		517	M
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.023	3.025	-0.002	1.000	70130	0.0412			7.6	
499.00 > 99.00	3.023	3.025	-0.002	1.000	13161		5.33(2.31-6.93)		10.7	
D 18 13C4 PFOS										
503.00 > 80.00	3.023	3.025	-0.002	1.141	3829296	2.52		105	24057	
20 Perfluorononanoic acid										
463.00 > 419.00	3.023	3.026	-0.003	1.000	86024	0.0528			121	
463.00 > 169.00	3.023	3.026	-0.003	1.000	19664		4.37(1.90-5.69)		288	
D 19 13C5 PFNA										
468.00 > 423.00	3.023	3.026	-0.003	1.141	4206730	2.73		109	36280	
D 21 13C8 FOSA										
506.00 > 78.00	3.361	3.362	-0.001	1.269	5090158	2.37		94.7	37077	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.361	3.365	-0.004	1.000	29781	0.0155			707	
D 26 M2-8:2FTS										
529.00 > 81.00	3.369	3.375	-0.006	1.272	1402789	4.15		173	3536	
D 23 13C2 PFDA										
515.00 > 470.00	3.376	3.387	-0.011	1.275	3496812	2.84		113	40759	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.536	3.541	-0.005	1.335	1748959	3.08		123	20257	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.703	3.711	-0.008	1.398	1763573	3.01		120	10920	
D 30 13C2 PFUnA										
565.00 > 520.00	3.703	3.717	-0.014	1.398	2531153	2.66		107	38531	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.712	3.718	-0.006	1.002	6986	0.007627			25.7	
563.00 > 169.00	3.703	3.718	-0.015	1.000	1683		4.15(0.00-0.00)		25.4	
D 36 13C2 PFDoA										
615.00 > 570.00	4.002	4.015	-0.013	1.511	2649075	2.62		105	25615	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.505	4.522	-0.017	1.701	3072908	2.77		111	28245	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:49 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d

Injection Date: 20-Dec-2017 09:08:06 Instrument ID: A8_N

Lims ID: 320-34182-A-8-A Lab Sample ID: 320-34182-8

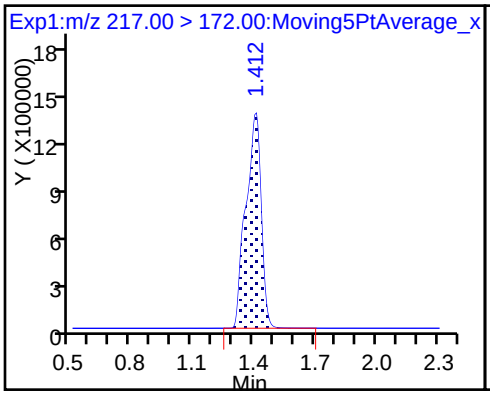
Client ID: FW-FR004-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 26 Worklist Smp#: 14

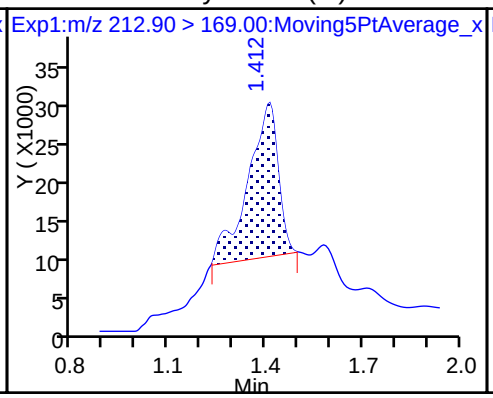
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

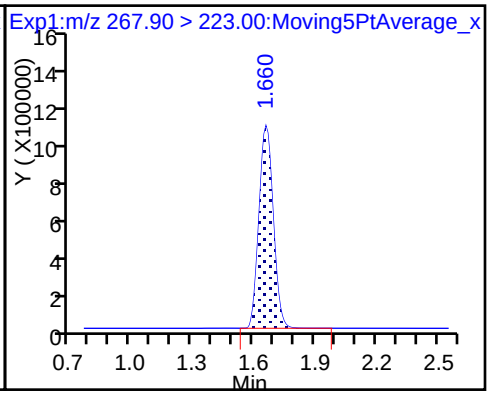
D 1 13C4 PFBA



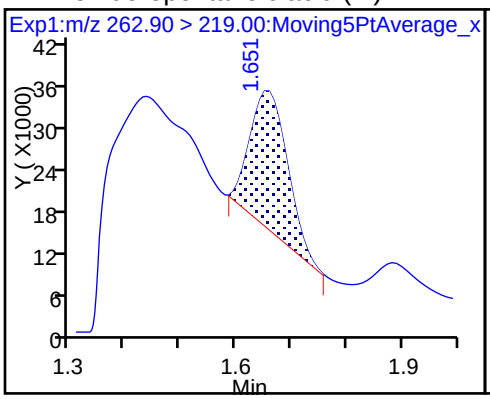
2 Perfluorobutyric acid (M)



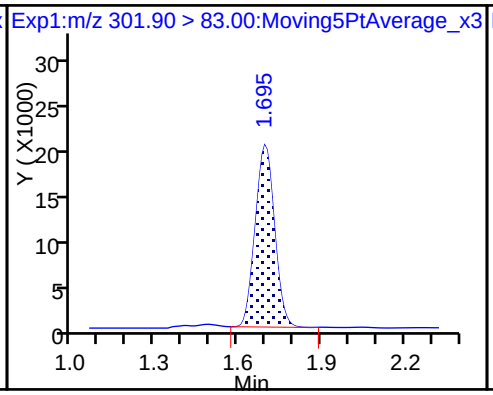
D 3 13C5-PFPeA



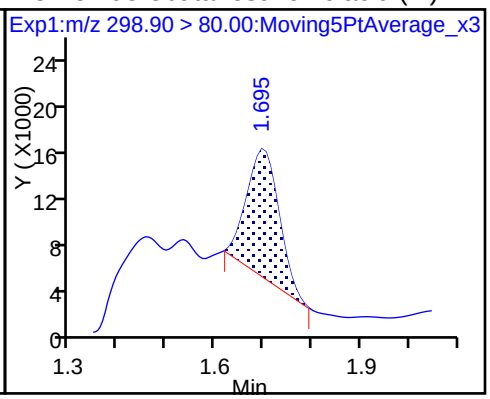
4 Perfluoropentanoic acid (M)



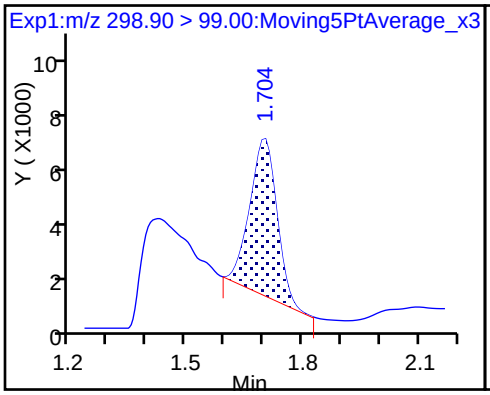
D 47 13C3-PFBS



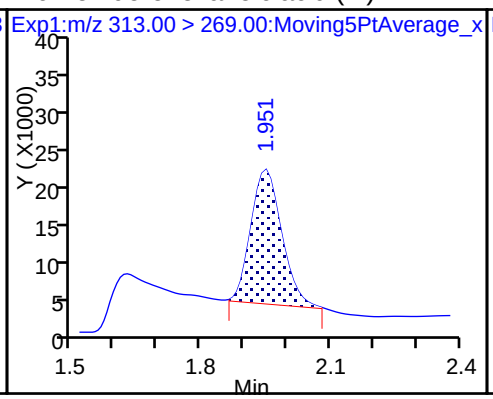
5 Perfluorobutanesulfonic acid (M)



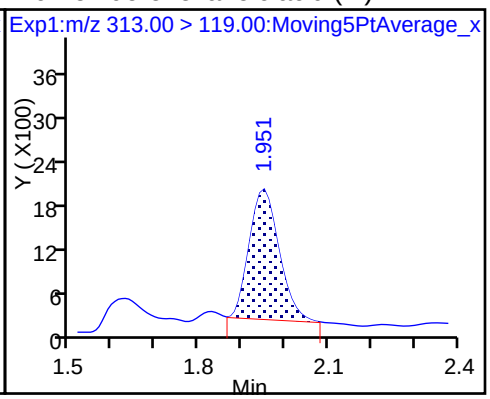
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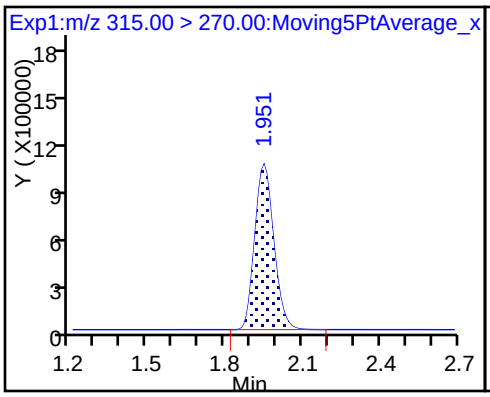
6 Perfluorohexanoic acid (M)



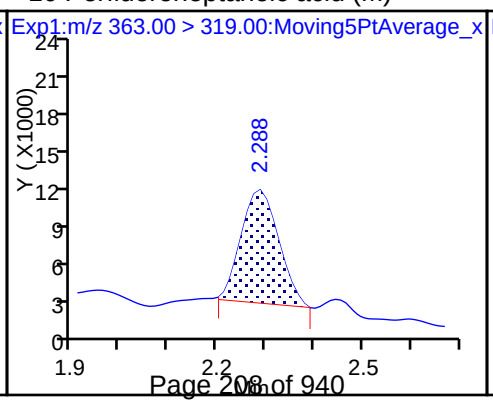
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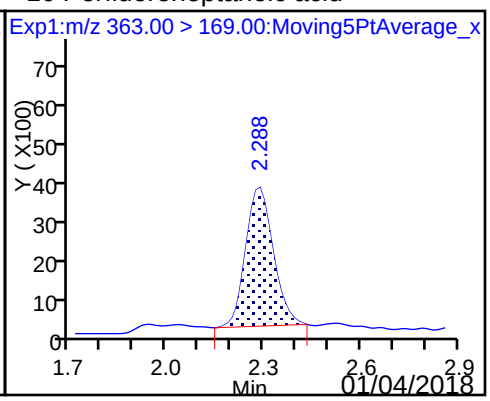
D 7 13C2 PFHxA



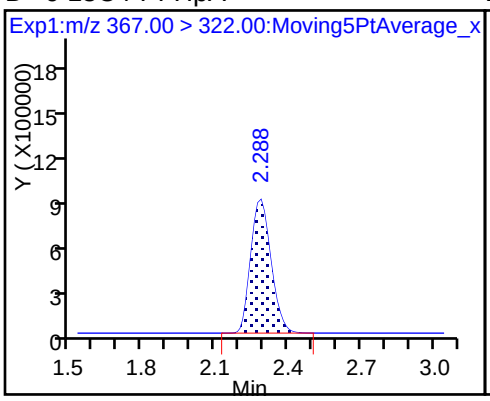
10 Perfluoroheptanoic acid (M)



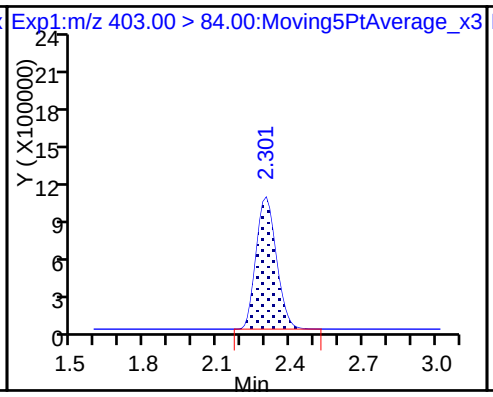
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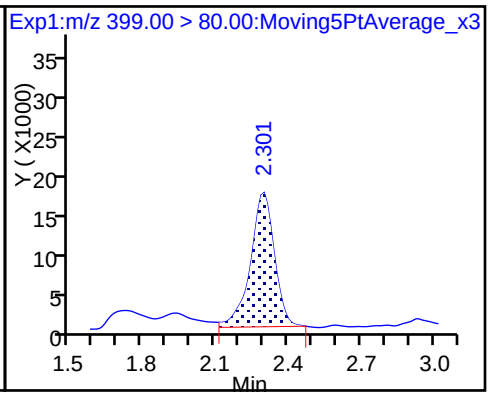
D 9 13C4-PFHpA



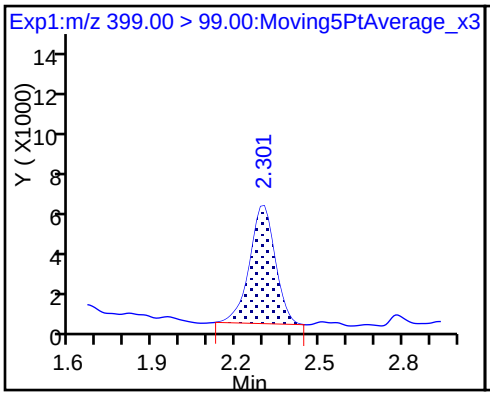
D 11 18O2 PFHxS



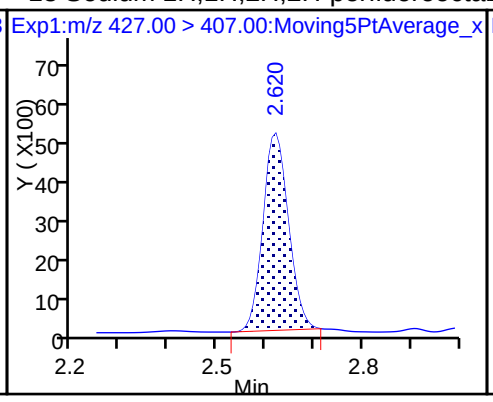
8 Perfluorohexanesulfonic acid



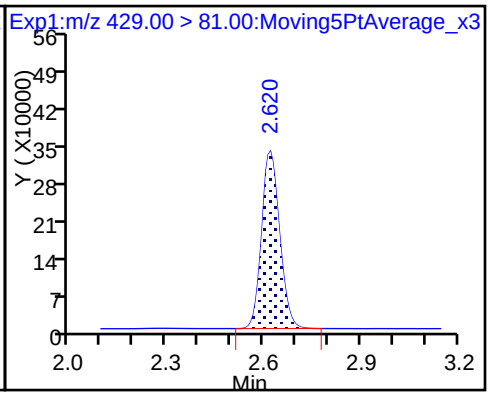
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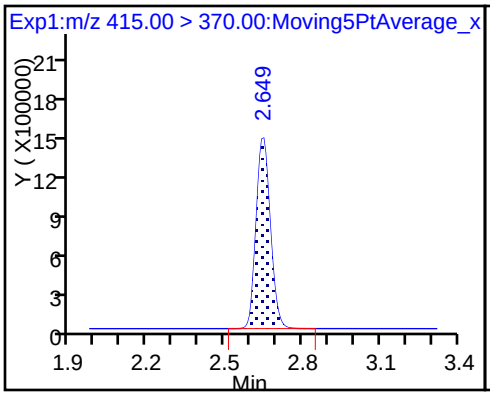
13 Sodium 1H,1H,2H,2H-perfluorooctane



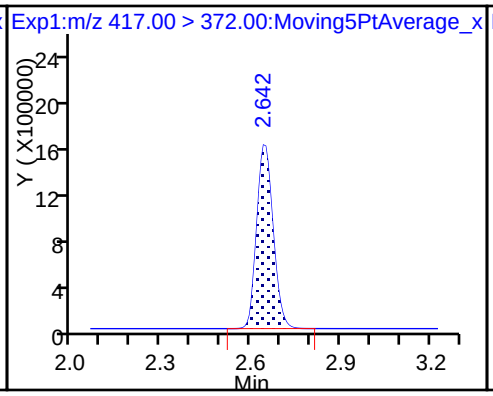
D 12 M2-6:2FTS



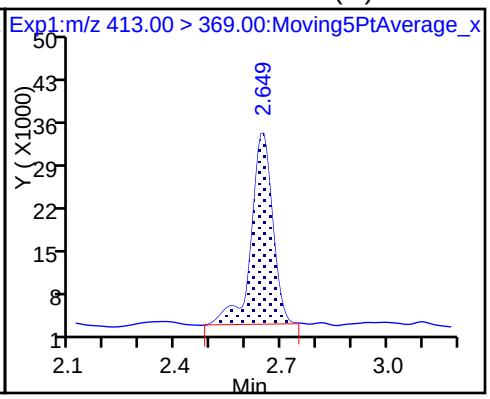
* 62 13C2-PFOA



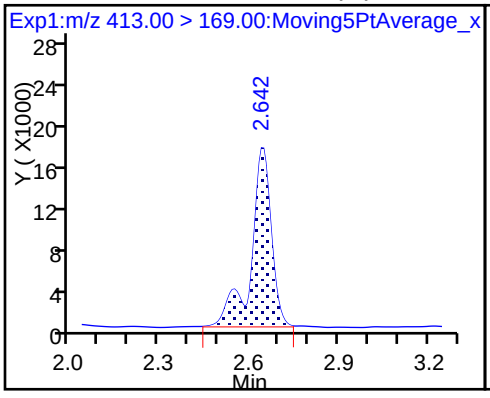
D 14 13C4 PFOA



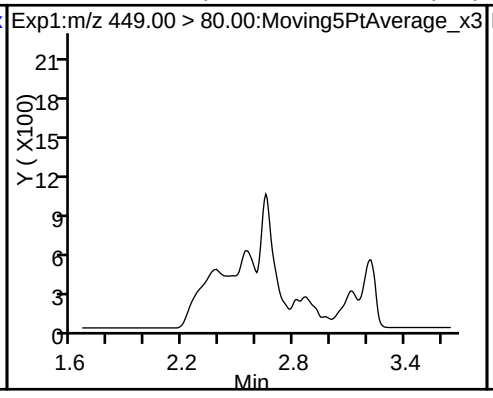
15 Perfluorooctanoic acid (M)



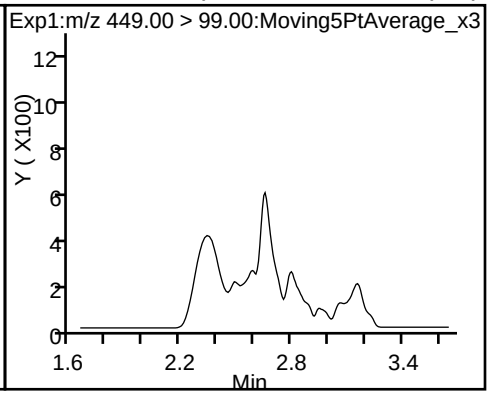
15 Perfluorooctanoic acid (M)



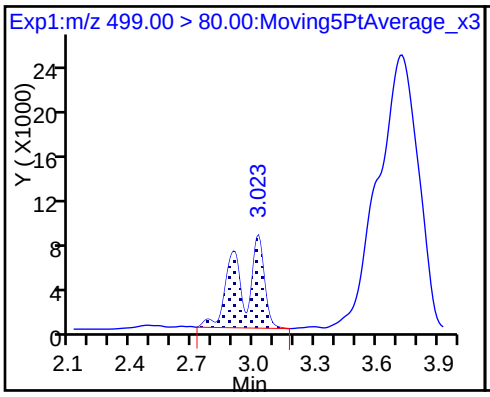
16 Perfluoroheptanesulfonic Acid (ND)



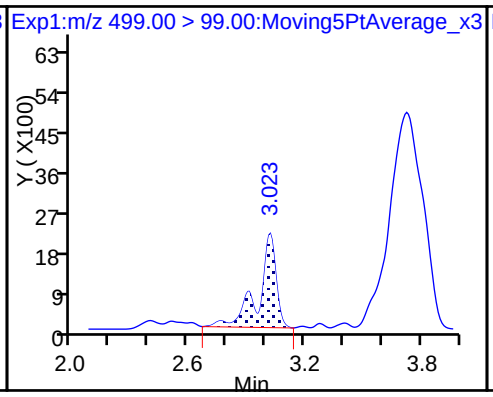
16 Perfluoroheptanesulfonic Acid (ND)



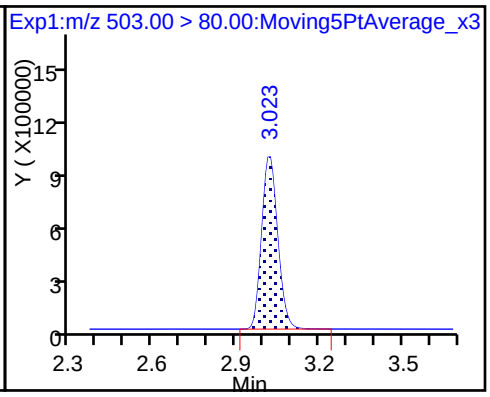
17 Perfluorooctane sulfonic acid



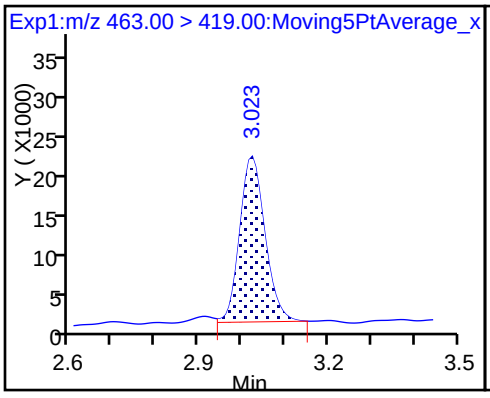
17 Perfluorooctane sulfonic acid



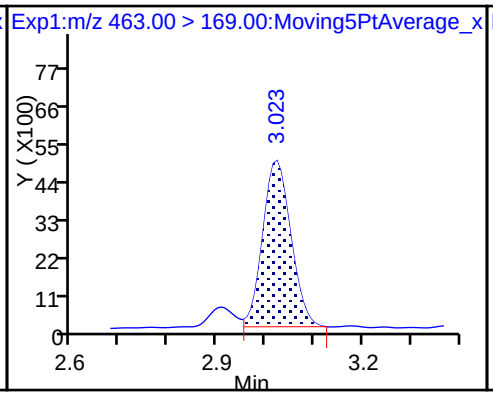
D 18 13C4 PFOS



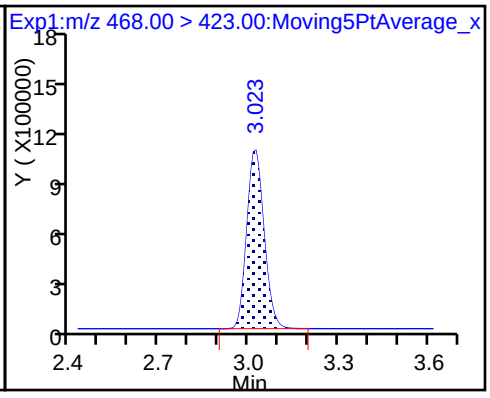
20 Perfluorononanoic acid



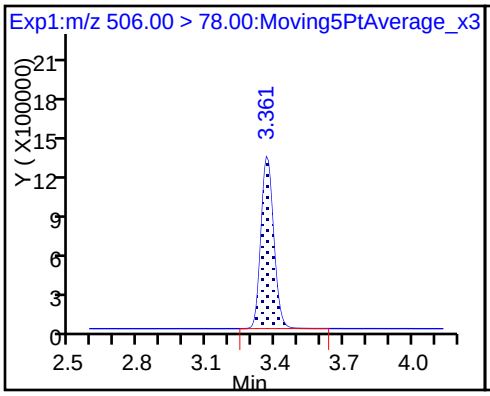
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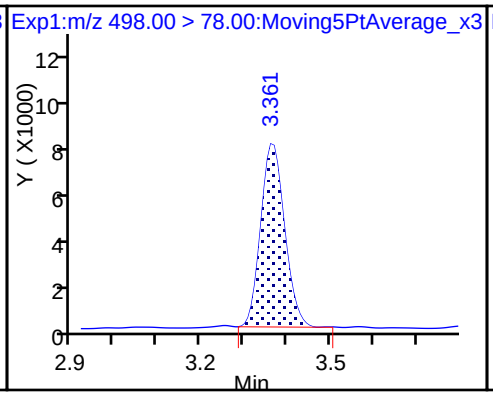
D 19 13C5 PFNA



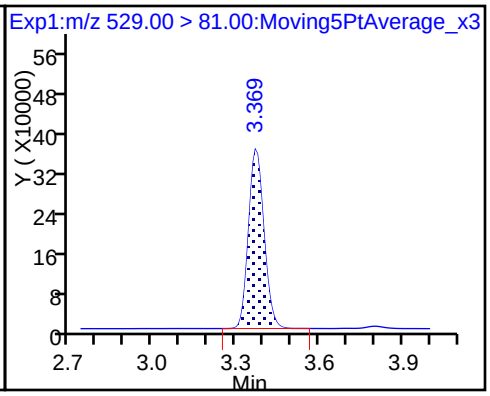
D 21 13C8 FOSA



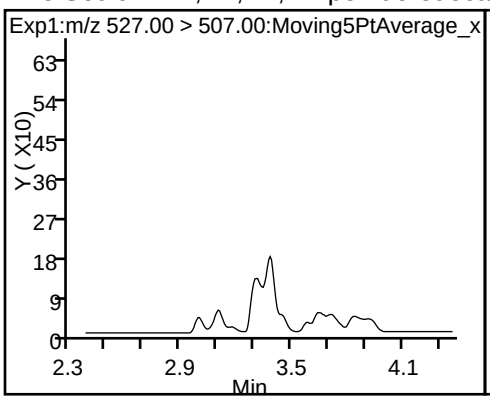
22 Perfluorooctane Sulfonamide



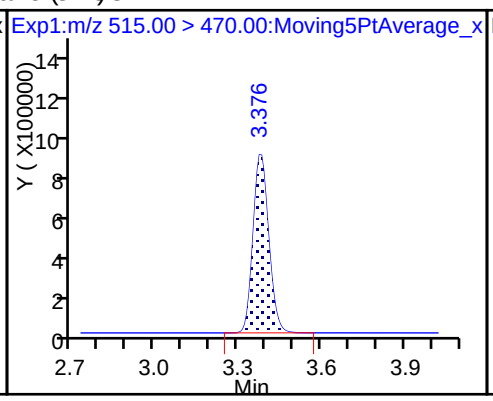
D 26 M2-8:2FTS



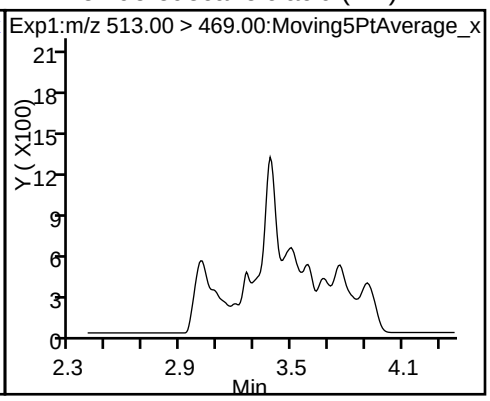
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



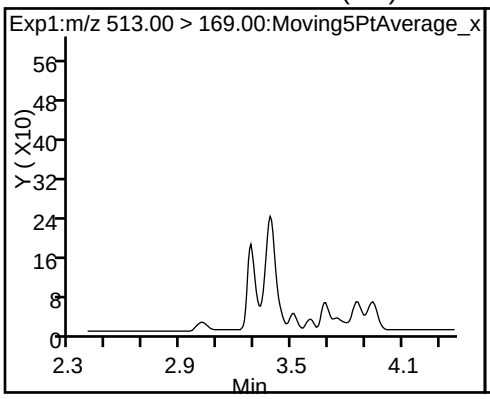
D 13C2 PFDA



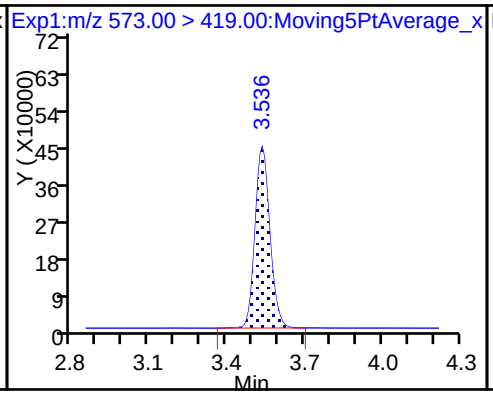
24 Perfluorodecanoic acid (ND)



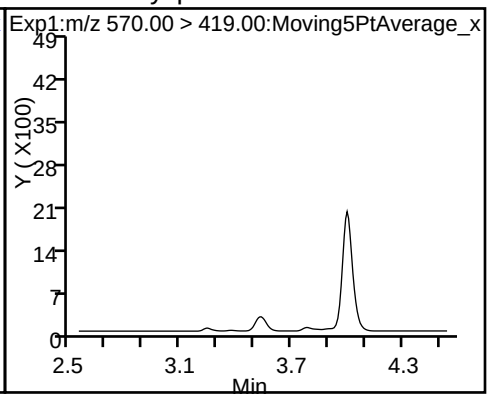
24 Perfluorodecanoic acid (ND)



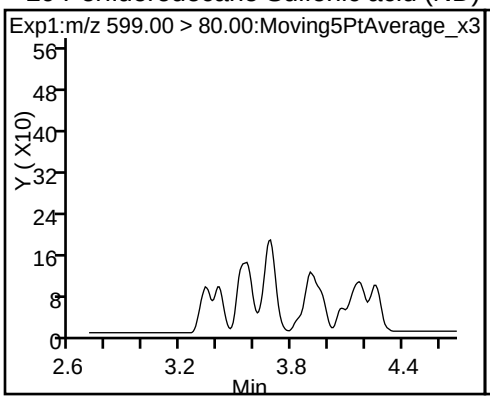
D 27 d3-NMeFOSAA



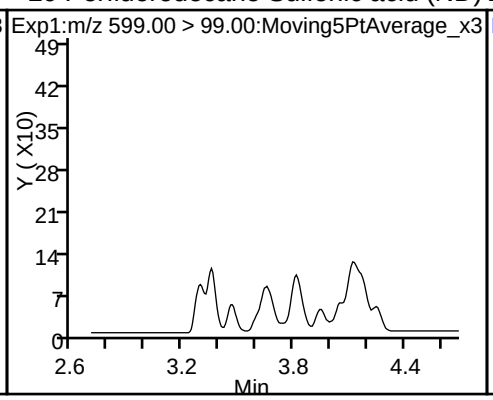
28 N-methyl perfluorooctane sulfonami (ND)



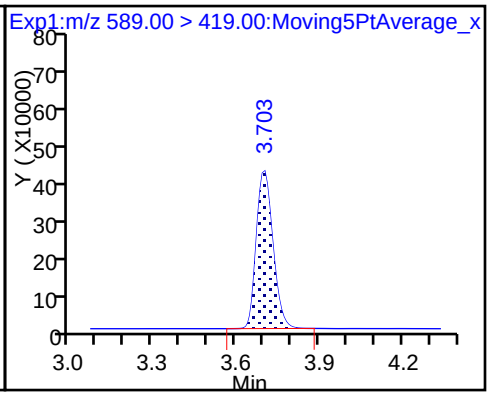
29 Perfluorodecane Sulfonic acid (ND)



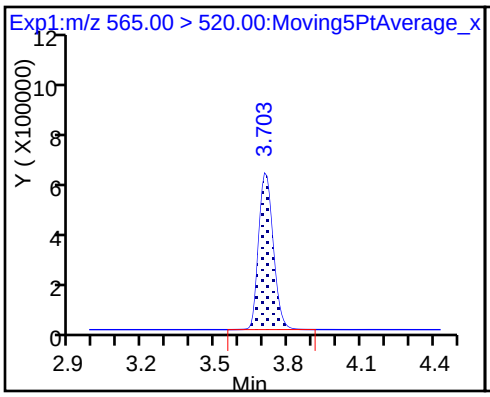
29 Perfluorodecane Sulfonic acid (ND)



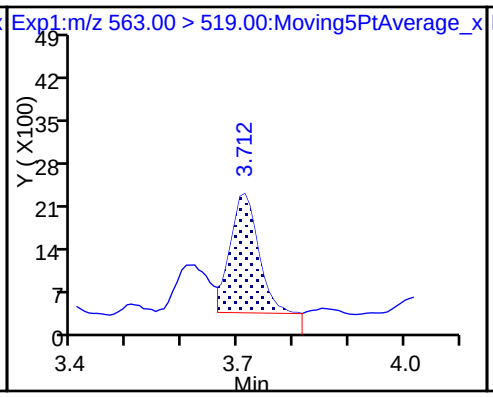
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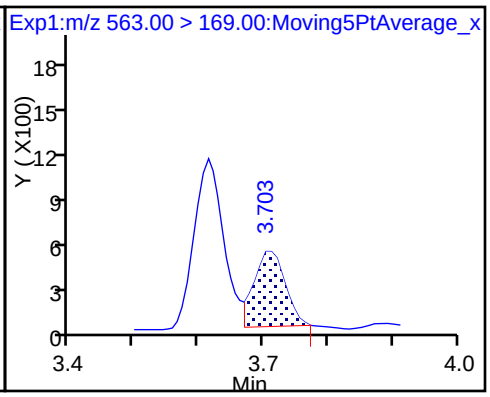
D 30 13C2 PFUnA



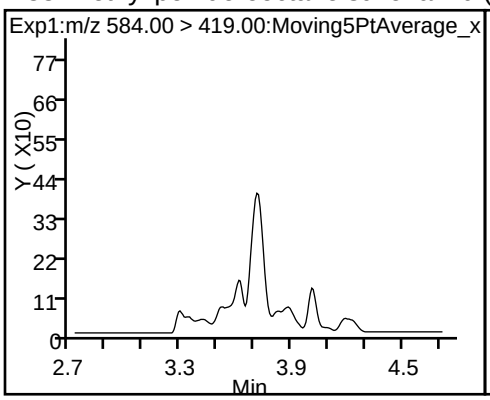
31 Perfluoroundecanoic acid



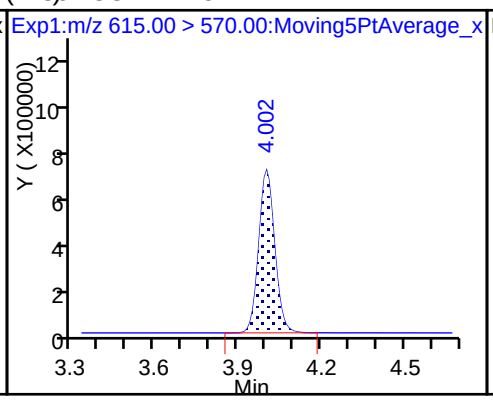
31 Perfluoroundecanoic acid



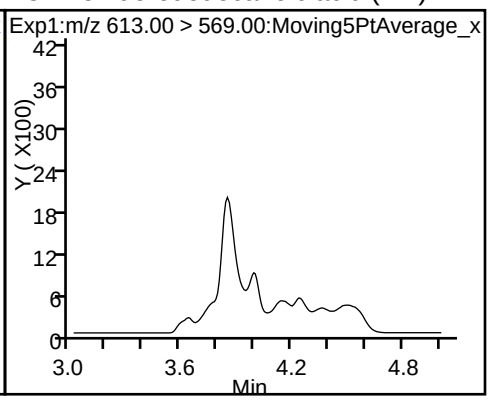
33 N-ethyl perfluorooctane sulfonamid (ND)



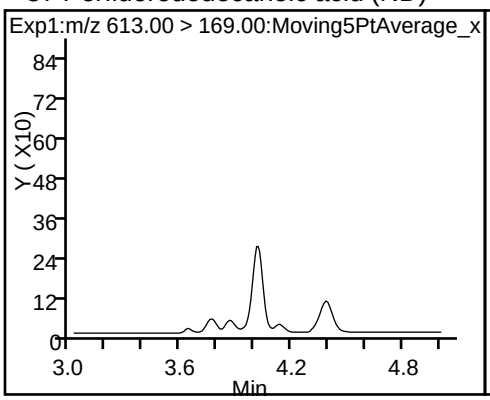
D 36 13C2 PFDoA



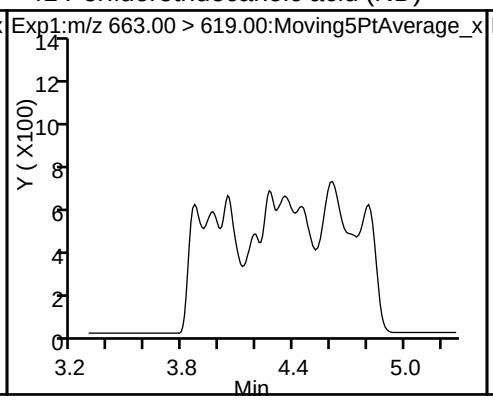
37 Perfluorododecanoic acid (ND)



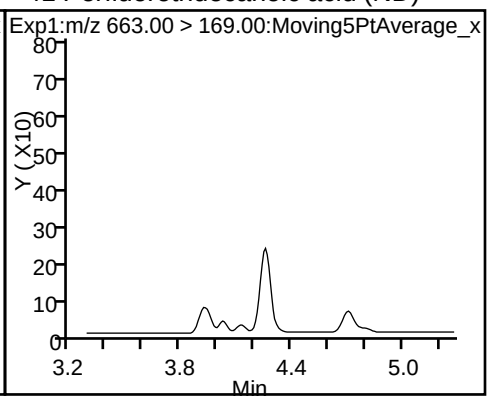
37 Perfluorododecanoic acid (ND)



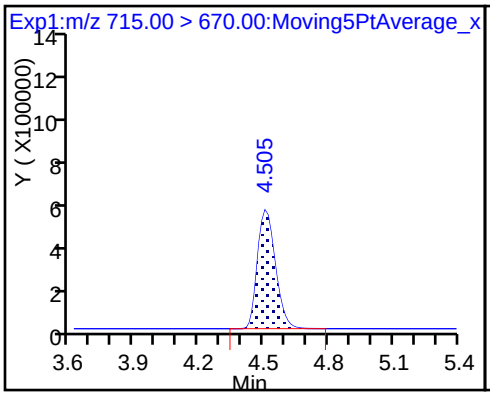
41 Perfluorotridecanoic acid (ND)



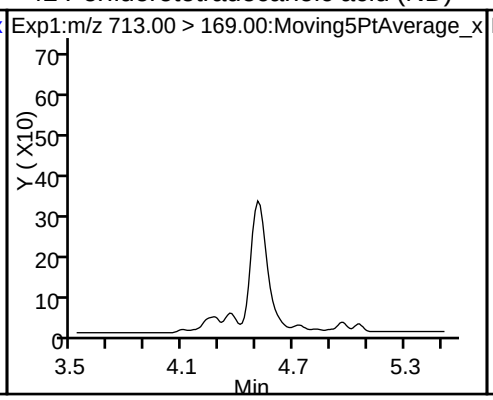
41 Perfluorotridecanoic acid (ND)



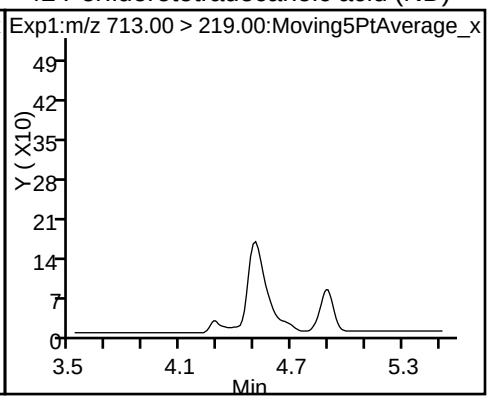
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

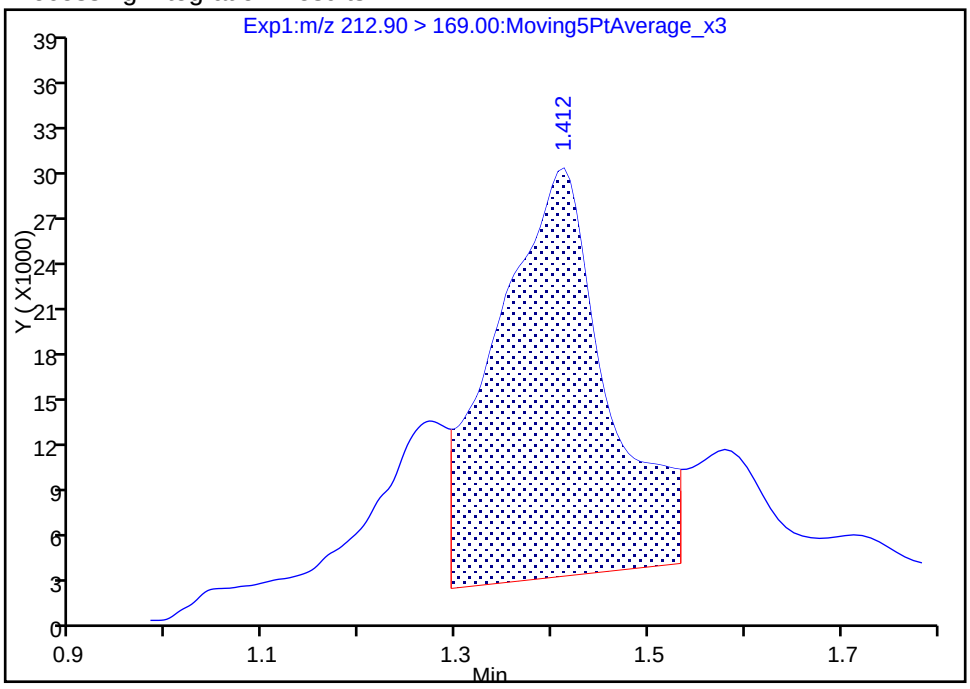
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d				
Injection Date:	20-Dec-2017 09:08:06	Instrument ID:	A8_N		
Lims ID:	320-34182-A-8-A	Lab Sample ID:	320-34182-8		
Client ID:	FW-FR004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	26	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

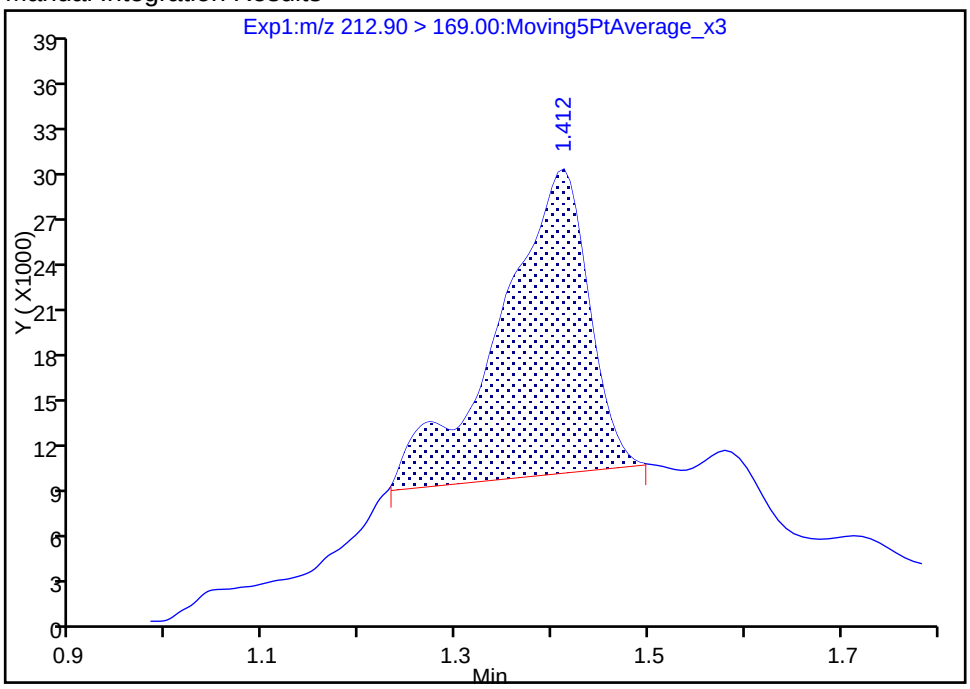
Processing Integration Results

RT: 1.41
Area: 214472
Amount: 0.086480
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 129431
Amount: 0.052190
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:50:24

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

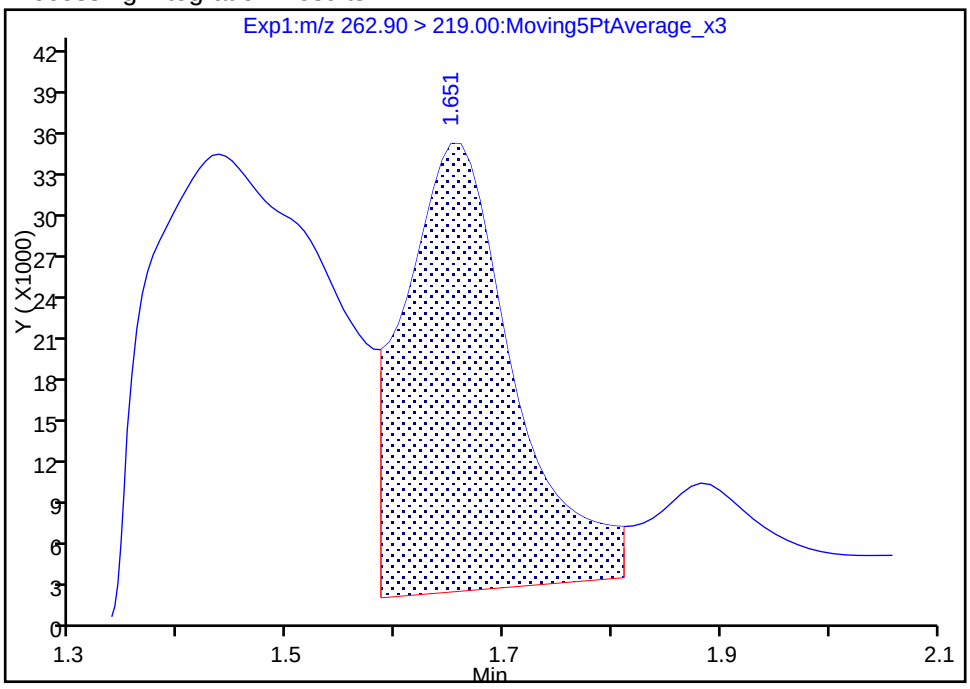
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d				
Injection Date:	20-Dec-2017 09:08:06	Instrument ID:	A8_N		
Lims ID:	320-34182-A-8-A	Lab Sample ID:	320-34182-8		
Client ID:	FW-FR004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	26	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

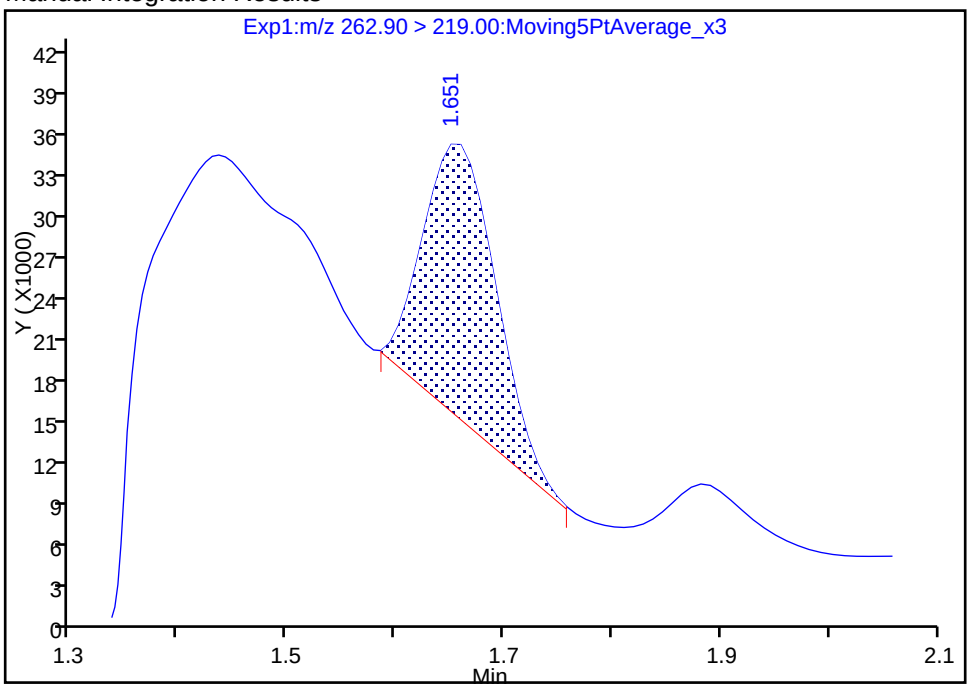
Processing Integration Results

RT: 1.65
Area: 228946
Amount: 0.099200
Amount Units: ng/ml



Manual Integration Results

RT: 1.65
Area: 94144
Amount: 0.040792
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:50:36

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

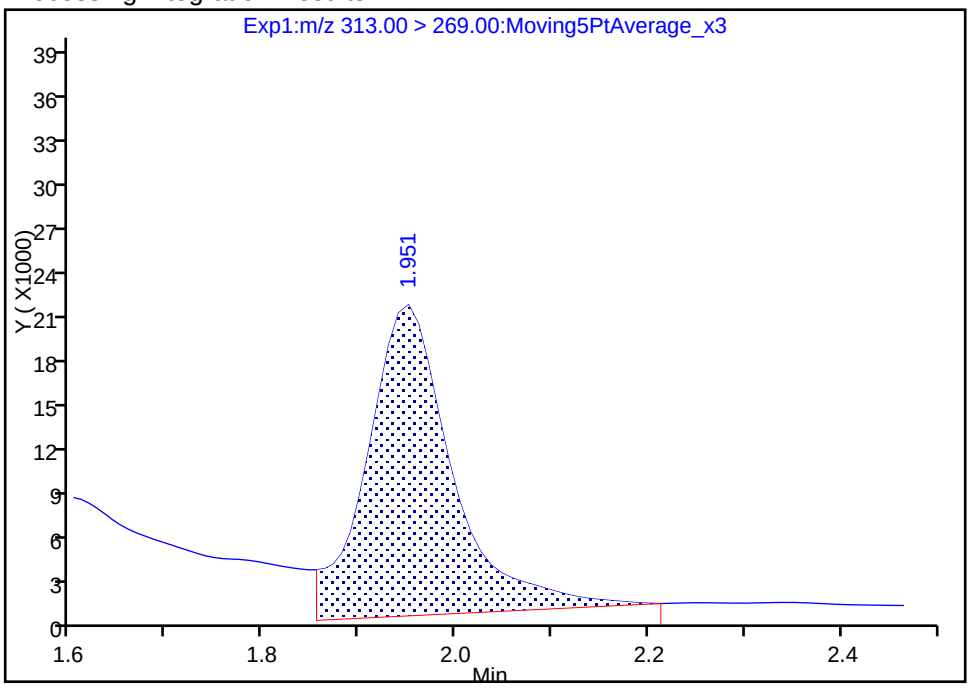
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d				
Injection Date:	20-Dec-2017 09:08:06	Instrument ID:	A8_N		
Lims ID:	320-34182-A-8-A	Lab Sample ID:	320-34182-8		
Client ID:	FW-FR004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	26	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

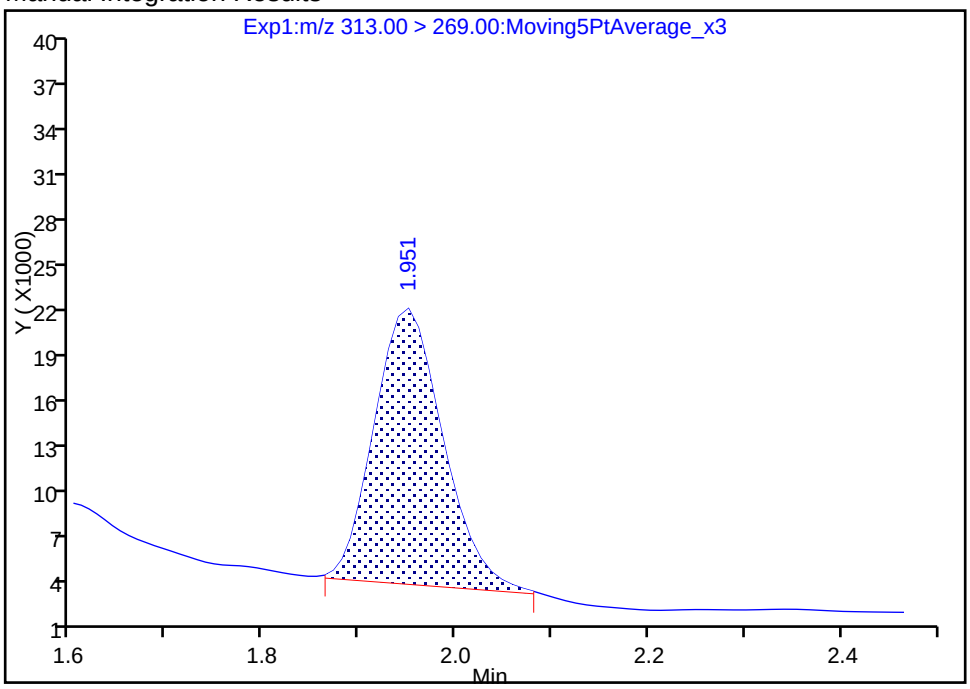
Processing Integration Results

RT: 1.95
Area: 126019
Amount: 0.060573
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 89277
Amount: 0.042912
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:51:02

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d

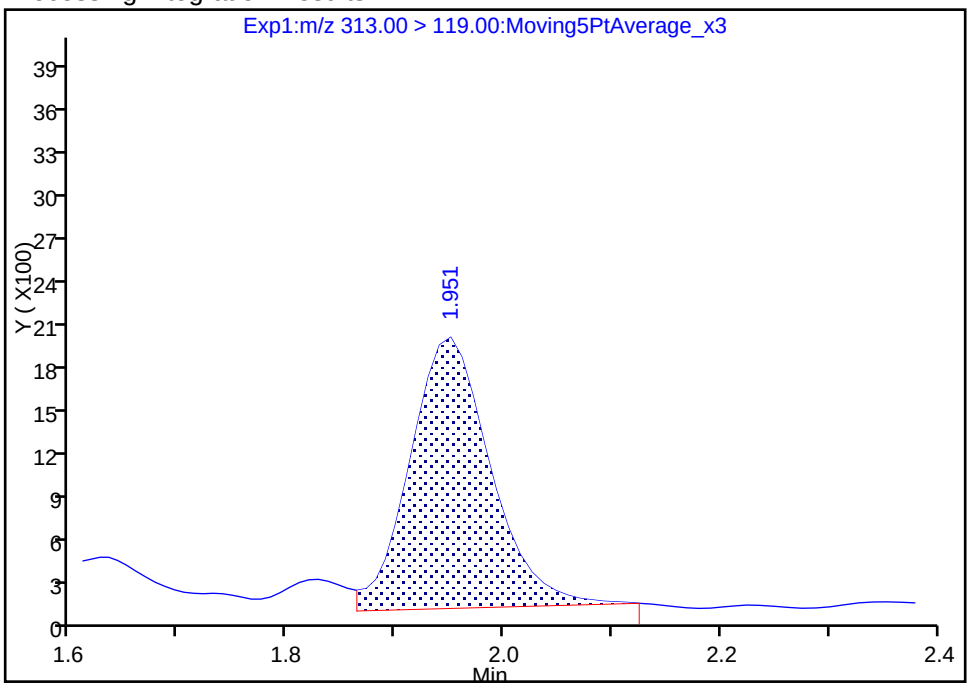
Injection Date:	20-Dec-2017 09:08:06	Instrument ID:	A8_N		
Lims ID:	320-34182-A-8-A	Lab Sample ID:	320-34182-8		
Client ID:	FW-FR004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	26	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

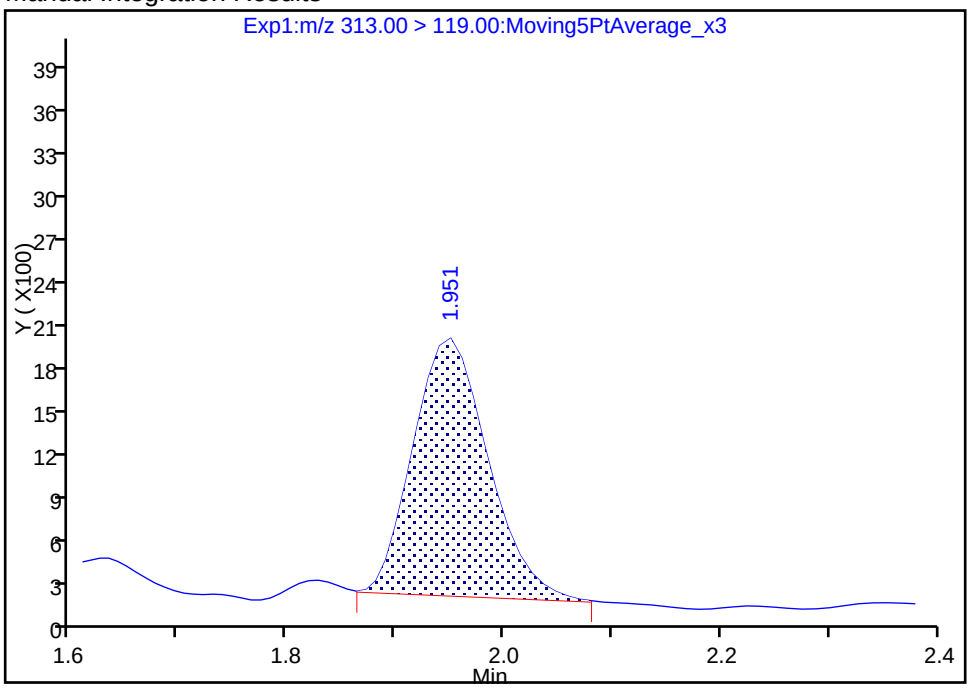
Processing Integration Results

RT: 1.95
Area: 9635
Amount: 0.060573
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 8562
Amount: 0.042912
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:51:25

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

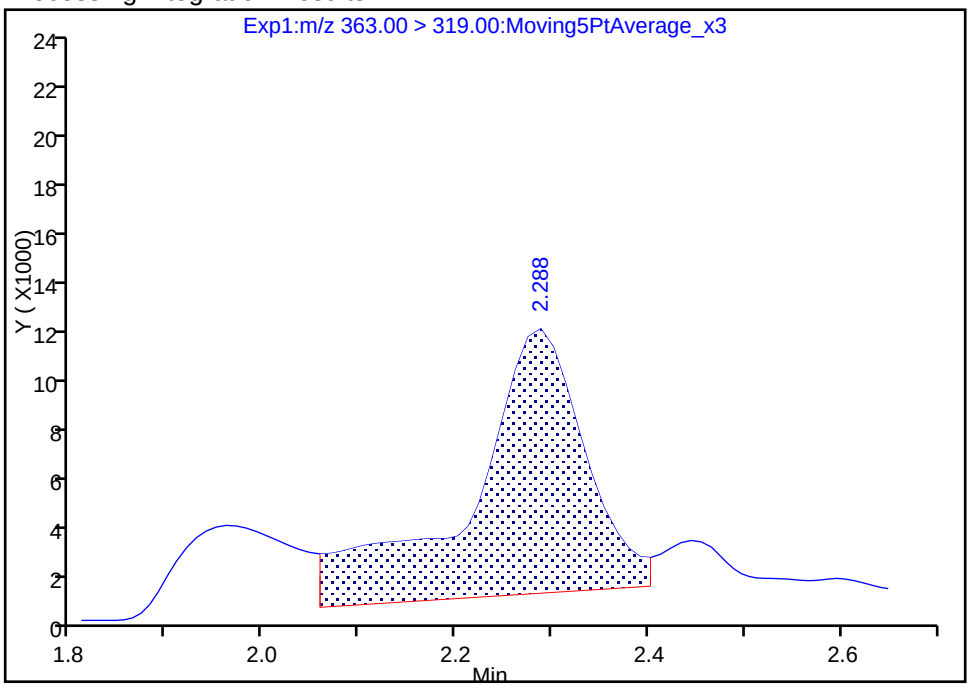
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d				
Injection Date:	20-Dec-2017 09:08:06	Instrument ID:	A8_N		
Lims ID:	320-34182-A-8-A	Lab Sample ID:	320-34182-8		
Client ID:	FW-FR004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	26	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

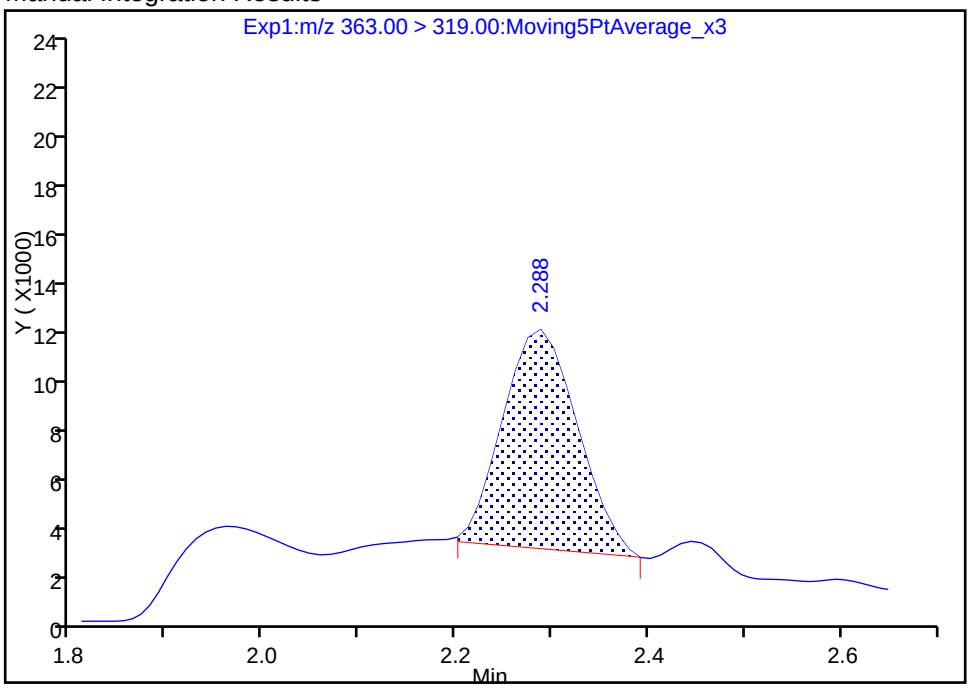
Processing Integration Results

RT: 2.29
Area: 87581
Amount: 0.041317
Amount Units: ng/ml



Manual Integration Results

RT: 2.29
Area: 46787
Amount: 0.022072
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:51:43
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

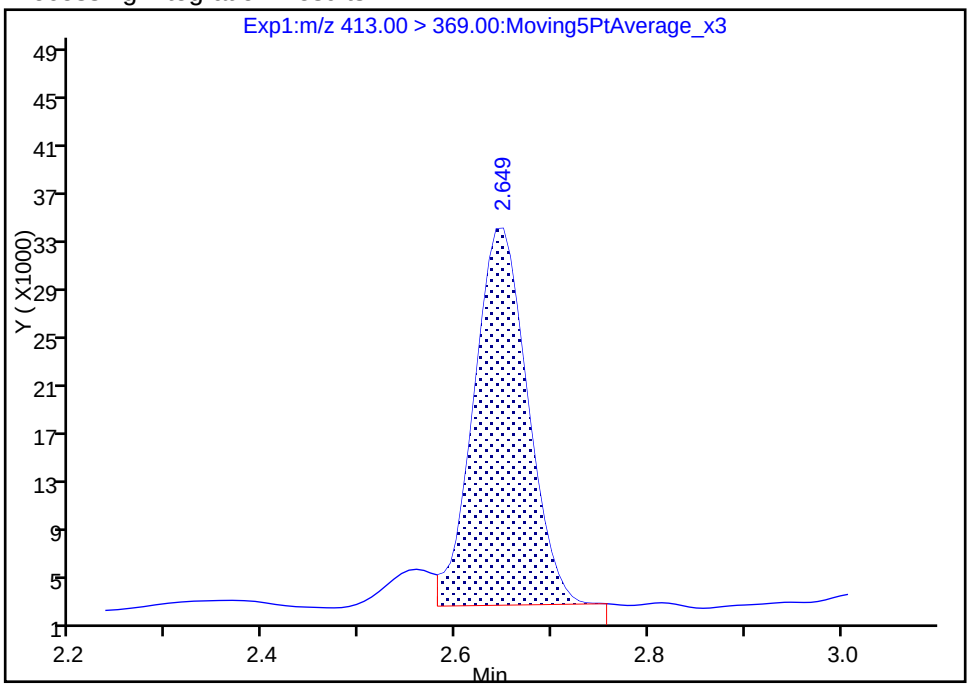
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d				
Injection Date:	20-Dec-2017 09:08:06	Instrument ID:	A8_N		
Lims ID:	320-34182-A-8-A	Lab Sample ID:	320-34182-8		
Client ID:	FW-FR004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	26	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

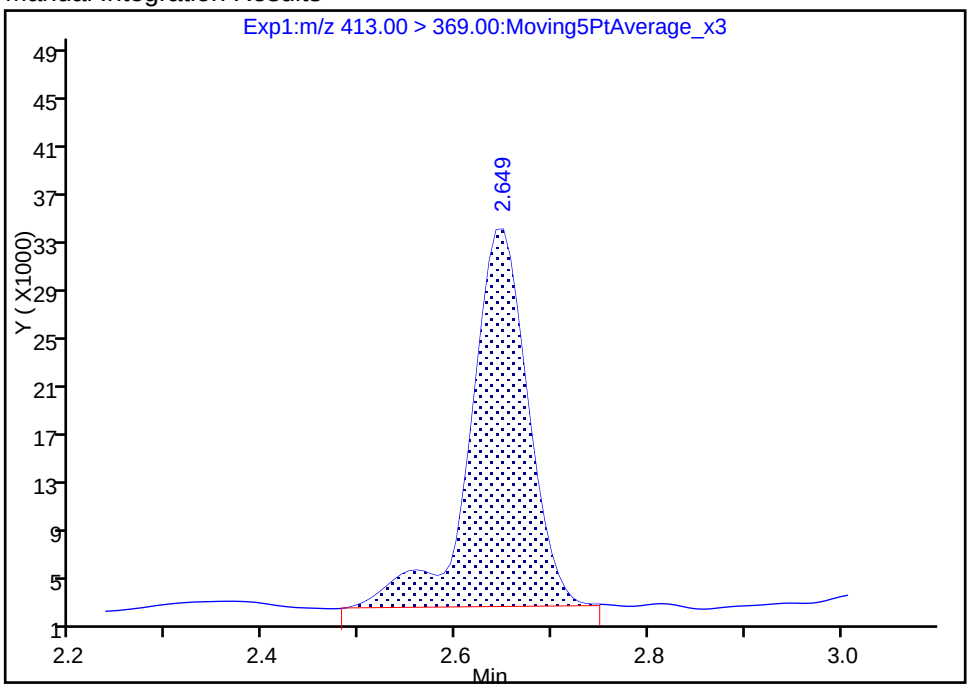
Processing Integration Results

RT: 2.65
Area: 120037
Amount: 0.047621
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 130678
Amount: 0.051843
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:52:05

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

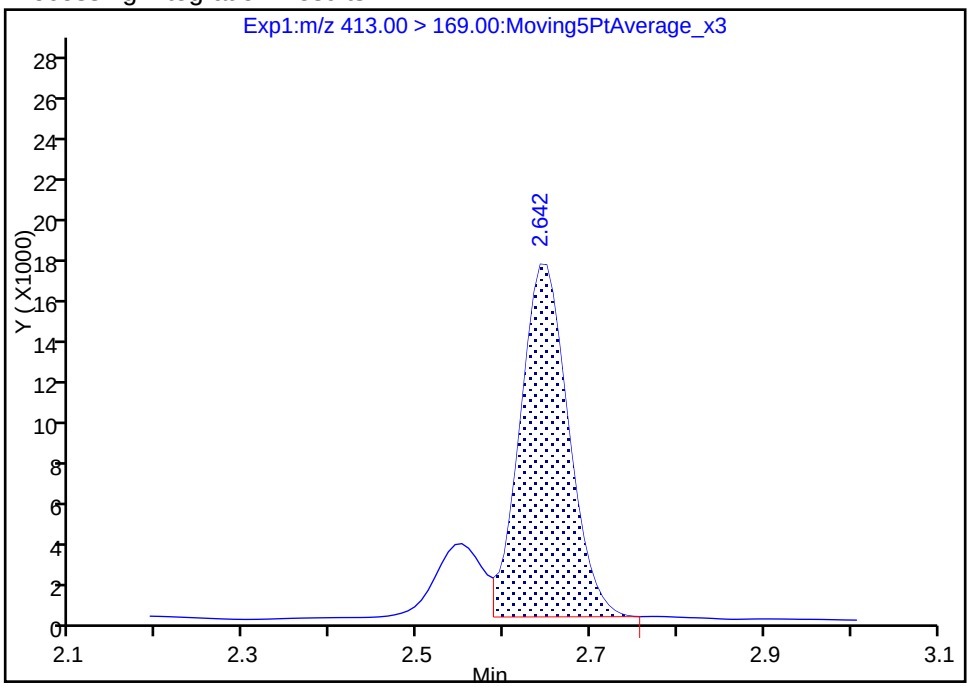
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d				
Injection Date:	20-Dec-2017 09:08:06	Instrument ID:	A8_N		
Lims ID:	320-34182-A-8-A	Lab Sample ID:	320-34182-8		
Client ID:	FW-FR004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	26	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

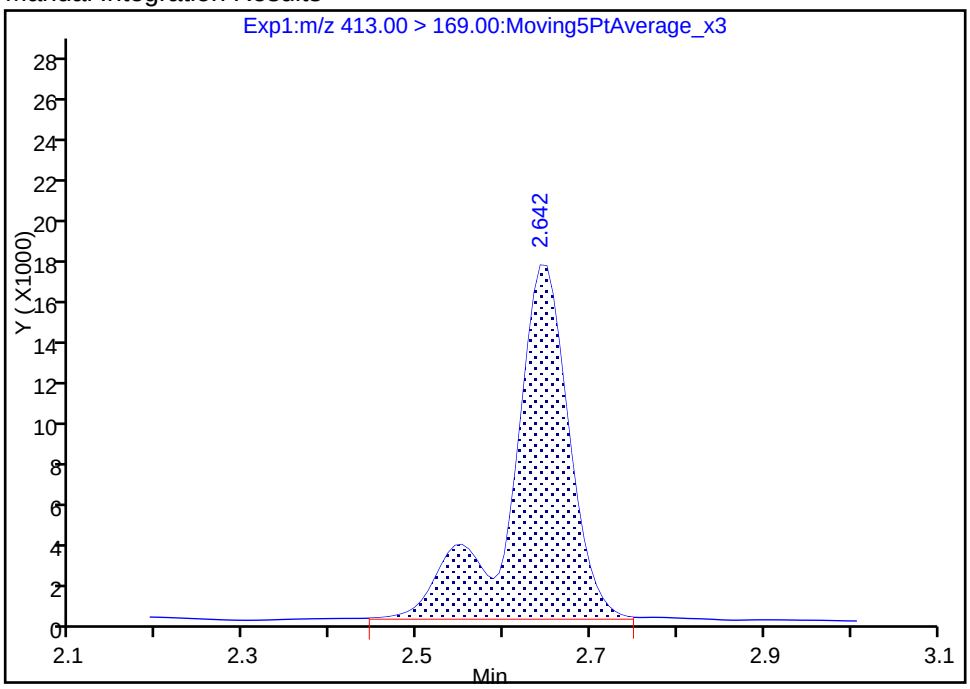
Processing Integration Results

RT: 2.64
Area: 65541
Amount: 0.047621
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 80181
Amount: 0.051843
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:52:24
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

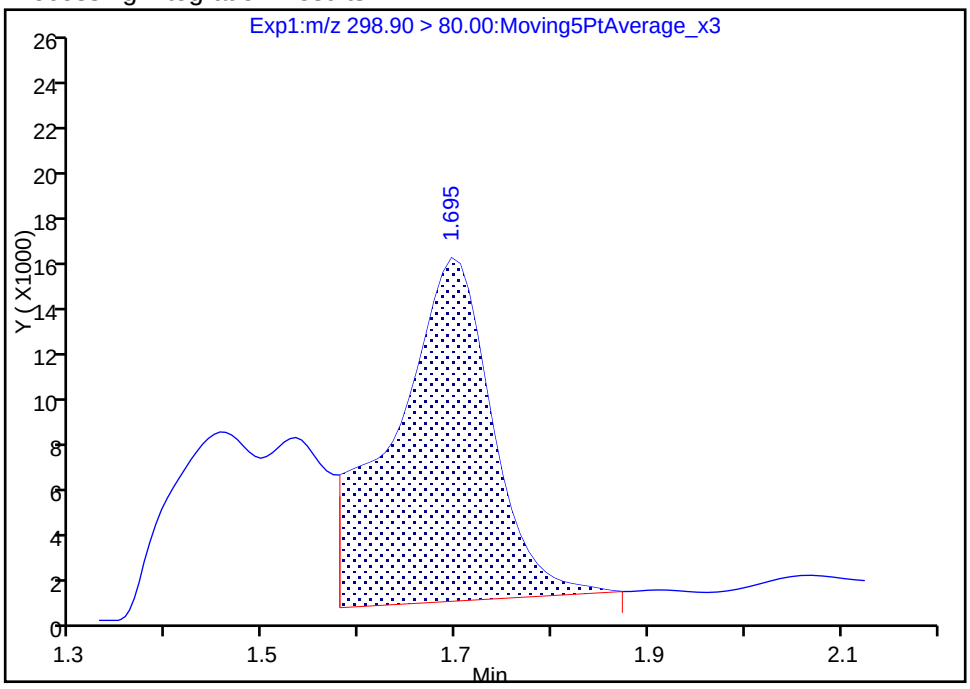
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_036.d				
Injection Date:	20-Dec-2017 09:08:06	Instrument ID:	A8_N		
Lims ID:	320-34182-A-8-A	Lab Sample ID:	320-34182-8		
Client ID:	FW-FR004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	26	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

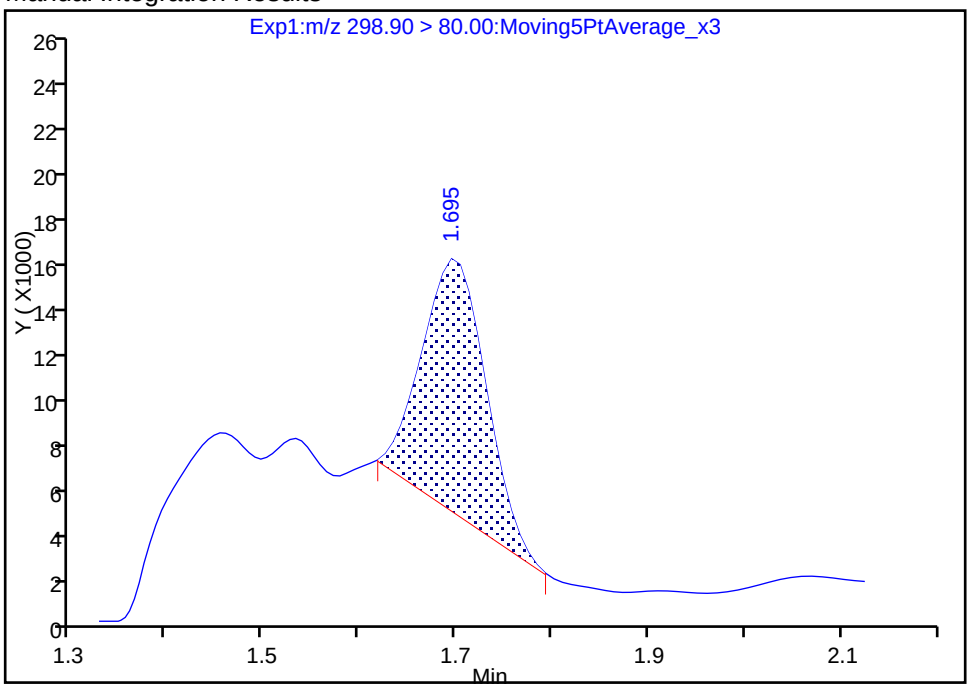
Processing Integration Results

RT: 1.70
Area: 107588
Amount: 0.034463
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 52240
Amount: 0.016734
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:50:50

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-FR003-A | Lab Sample ID: 320-34182-9

Matrix: Water | Lab File ID: 2017.12.19LLC_037.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 10:15

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 246.4(mL) | Date Analyzed: 12/20/2017 09:16

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.75	J	2.03	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.11	J	2.03	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	1.43	J	2.03	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.89	J	2.03	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	1.64	J	2.03	0.86
375-95-1	Perfluorononanoic acid (PFNA)	0.36	J	2.03	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.03	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.12	U	2.03	1.12
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.03	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.32	U	2.03	1.32
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.03	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.21	J	2.03	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.36	J B	2.03	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.03	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.42		2.03	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.03	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	1.36	J B	2.03	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.15	U	20.3	3.15
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.93	U	20.3	1.93
27619-97-2	6:2FTS	2.03	U	20.3	2.03
39108-34-4	8:2FTS	2.03	U	20.3	2.03

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-FR003-A | Lab Sample ID: 320-34182-9

Matrix: Water | Lab File ID: 2017.12.19LLC_037.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 10:15

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 246.4(mL) | Date Analyzed: 12/20/2017 09:16

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	97		25-150
STL01893	13C5 PFPeA	120		25-150
STL00993	13C2 PFHxA	114		25-150
STL01892	13C4-PFHpA	115		25-150
STL00990	13C4 PFOA	102		25-150
STL00995	13C5 PFNA	112		25-150
STL00996	13C2 PFDA	120		25-150
STL00997	13C2 PFUnA	104		25-150
STL00998	13C2 PFDoA	98		25-150
STL02116	13C2-PFTeDA	102		25-150
STL02337	13C3-PFBS	115		25-150
STL00994	18O2 PFHxS	114		25-150
STL00991	13C4 PFOS	115		25-150
STL01056	13C8 FOSA	102		25-150
STL02118	d3-NMeFOSAA	121		25-150
STL02117	d5-NEtFOSAA	115		25-150
STL02279	M2-6:2FTS	57		25-150
STL02280	M2-8:2FTS	155	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_037.d
Lims ID: 320-34182-A-9-A
Client ID: MW-FR003-A
Sample Type: Client
Inject. Date: 20-Dec-2017 09:16:00 ALS Bottle#: 27 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-9-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:55:38

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.533	7359928	2.43		97.4	25209	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.414	1.412	0.002	1.000	115745	0.0431			8.9	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.627	5364333	3.01		120	43023	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.663	1.664	-0.001	1.000	65144	0.0275			11.9	M
D 47 13C3-PFBS										
301.90 > 83.00	1.699	1.699	0.0	0.640	100699	2.68		115	1643	
5 Perfluorobutanesulfonic acid										RM
298.90 > 80.00	1.699	1.703	-0.004	1.000	16585	0.005122			2.5	RM
298.90 > 99.00	1.699	1.703	-0.004	1.000	17737		0.94(1.25-3.74)		36.1	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.955	1.949	0.006	1.000	75829	0.0351			66.3	M
313.00 > 119.00	1.955	1.949	0.006	1.000	6996		10.84(5.03-15.10)		76.4	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.949	0.006	0.737	5395599	2.86		114	56962	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.280	2.286	-0.006	0.994	45581	0.0218			57.1	
363.00 > 169.00	2.280	2.286	-0.006	0.994	13836		3.29(1.13-3.40)		120	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.286	0.007	0.864	5065231	2.87		115	40033	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.299	0.007	0.869	5878977	2.69		114	54249	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.299	0.007	1.000	90583	0.0335			115	
399.00 > 99.00	2.306	2.299	0.007	1.000	25893		3.50(1.50-4.49)		68.8	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.640	-0.016	1.000	11691	0.0175			520	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.640	-0.016	0.989	991453	1.35		56.9	9943	
* 62 13C2-PFOA										
415.00 > 370.00	2.653	2.643	0.010		5127511	2.50			43450	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.647	0.006	1.000	5400965	2.55		102	56846	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.653	2.649	0.004	1.000	92162	0.0404			88.6	M
413.00 > 169.00	2.653	2.649	0.004	1.000	51386		1.79(0.84-2.52)		385	M
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.018	3.025	-0.007	0.997	145306	0.0842			16.6	
499.00 > 99.00	3.018	3.025	-0.007	0.997	21082		6.89(2.31-6.93)		18.1	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.141	3879524	2.76		115	36147	
20 Perfluorononanoic acid										
463.00 > 419.00	3.026	3.026	0.0	1.000	13889	0.008972			25.4	
463.00 > 169.00	3.026	3.026	0.0	1.000	3327		4.17(1.90-5.69)		61.9	
D 19 13C5 PFNA										
468.00 > 423.00	3.026	3.026	0.0	1.141	3993616	2.80		112	41698	
D 21 13C8 FOSA										
506.00 > 78.00	3.365	3.362	0.003	1.268	5057798	2.54		102	30037	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.365	0.0	1.000	64246	0.0336			1896	
D 26 M2-8:2FTS										
529.00 > 81.00	3.372	3.375	-0.003	1.271	1162184	3.72		155	5998	
D 23 13C2 PFDA										
515.00 > 470.00	3.380	3.387	-0.007	1.274	3429800	3.01		120	40797	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.539	3.541	-0.002	1.334	1594821	3.03		121	17770	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.711	-0.003	1.398	1551057	2.86		115	10686	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.398	2292078	2.61		104	29122	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.708	3.718	-0.010	1.000	7455	0.008988			38.7	
563.00 > 169.00	3.708	3.718	-0.010	1.000	1172		6.36(0.00-0.00)		60.7	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.718	-0.010	1.000	2013	0.003330			44.7	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.015	-0.009	1.510	2293711	2.46		98.2	23840	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.702	2602184	2.54		102	16720	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:53 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_037.d

Injection Date: 20-Dec-2017 09:16:00 Instrument ID: A8_N

Lims ID: 320-34182-A-9-A Lab Sample ID: 320-34182-9

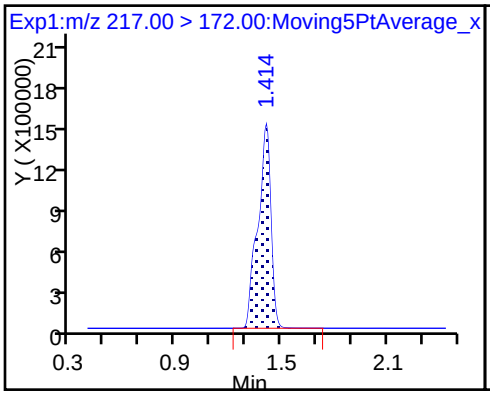
Client ID: MW-FR003-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 27 Worklist Smp#: 15

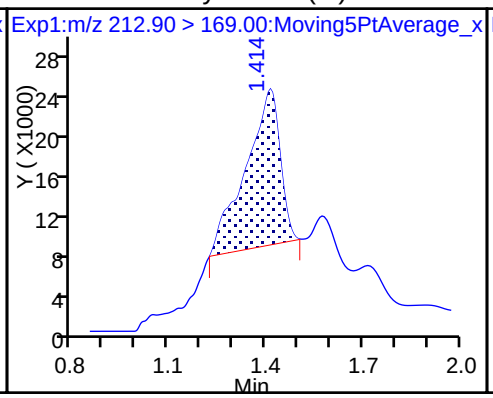
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

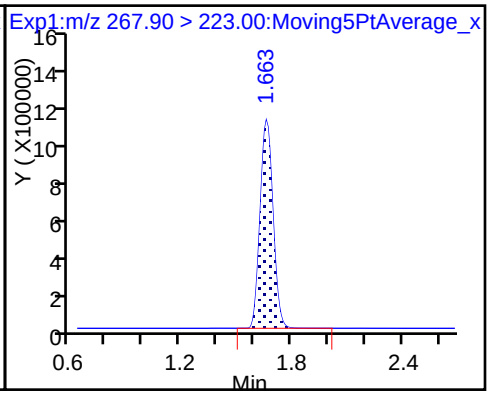
D 1 13C4 PFBA



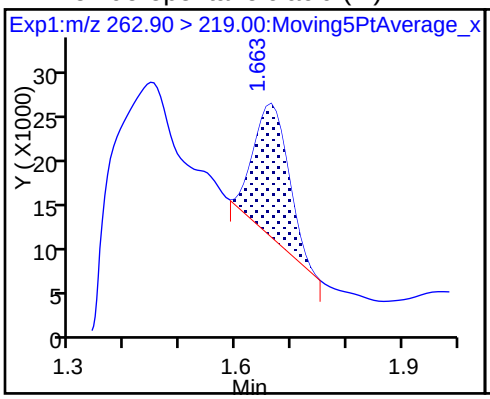
2 Perfluorobutyric acid (M)



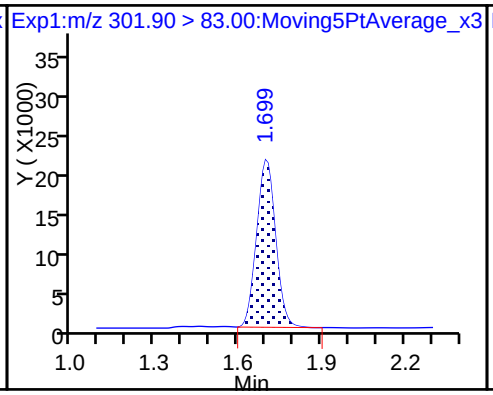
D 3 13C5-PFPeA



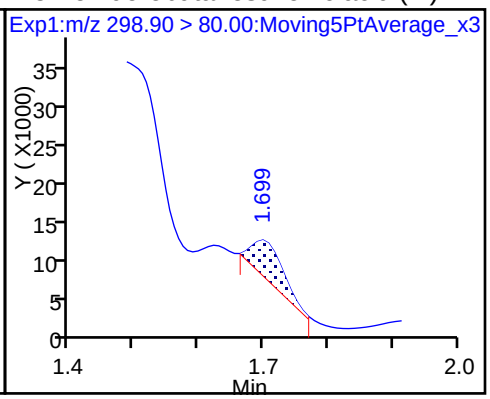
4 Perfluoropentanoic acid (M)



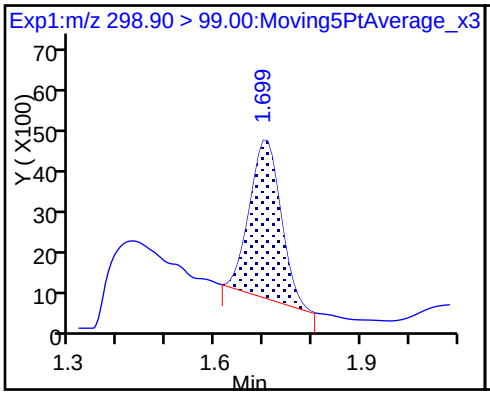
D 47 13C3-PFBS



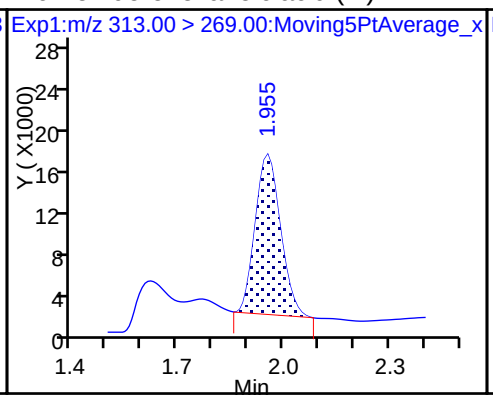
5 Perfluorobutanesulfonic acid (M)



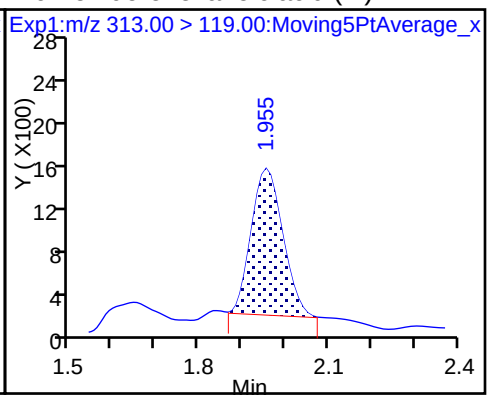
5 Perfluorobutanesulfonic acid



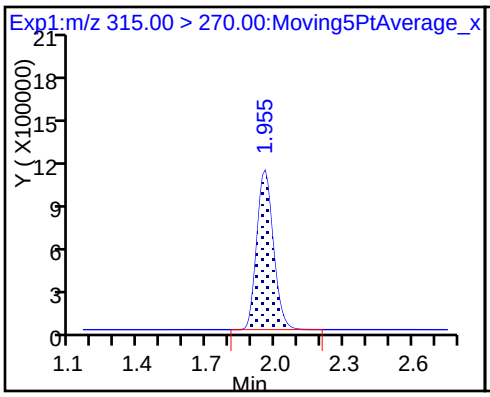
6 Perfluorohexanoic acid (M)



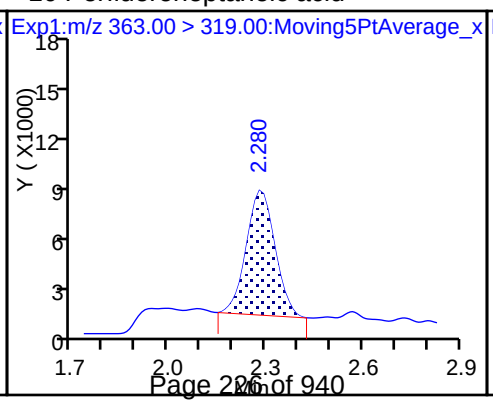
6 Perfluorohexanoic acid (M)



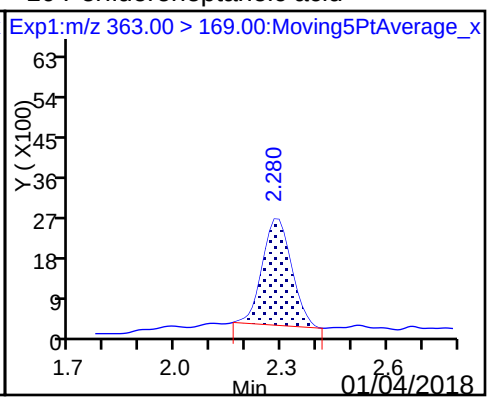
D 7 13C2 PFHxA



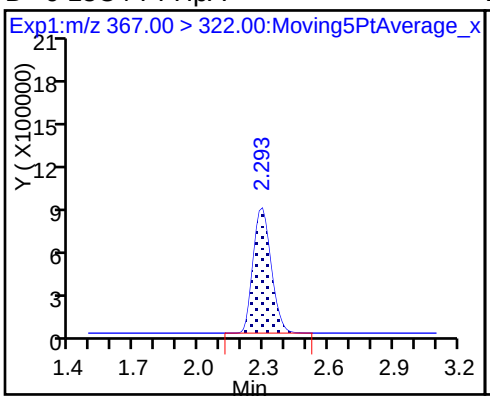
10 Perfluoroheptanoic acid



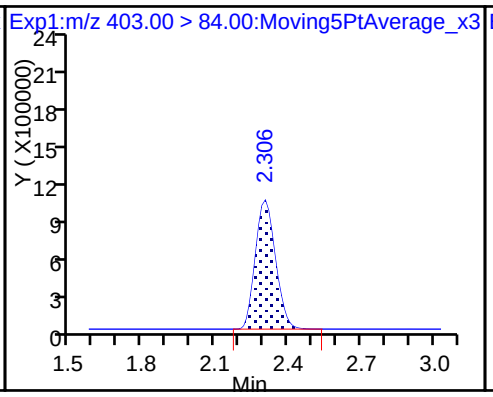
10 Perfluoroheptanoic acid



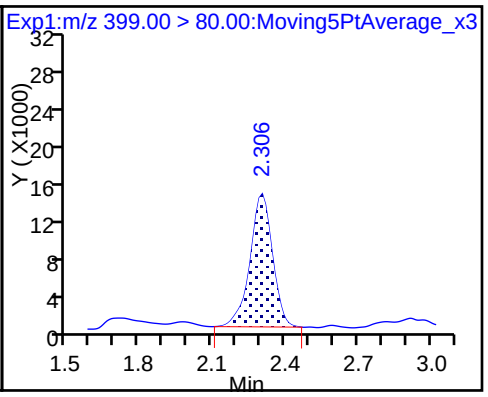
D 9 13C4-PFHpA



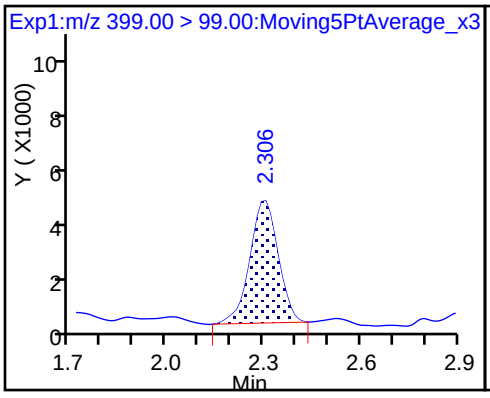
D 11 18O2 PFHxS



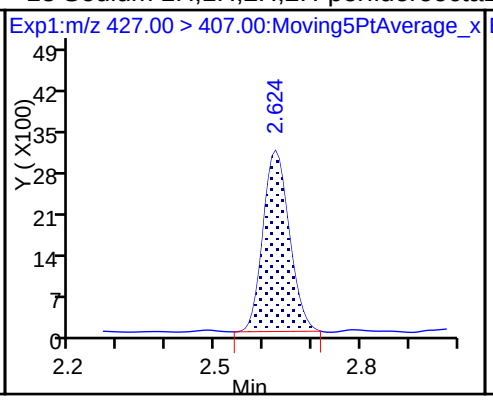
8 Perfluorohexanesulfonic acid



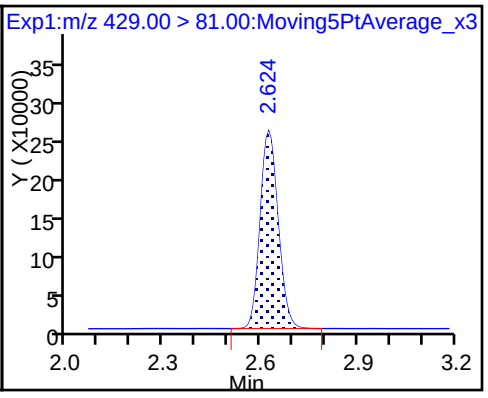
8 Perfluorohexanesulfonic acid



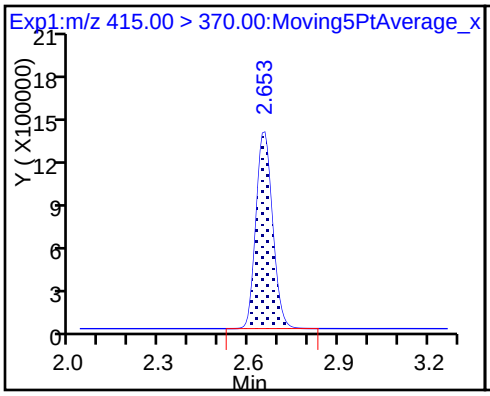
13 Sodium 1H,1H,2H,2H-perfluorooctane



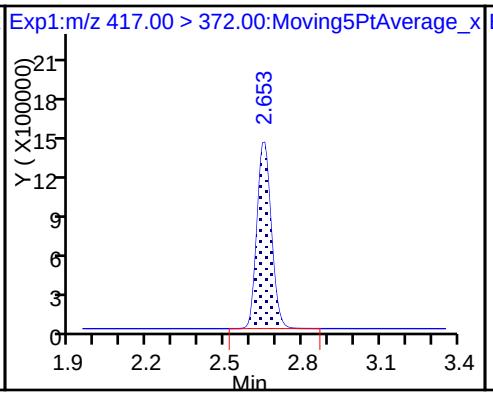
D 12 M2-6:2FTS



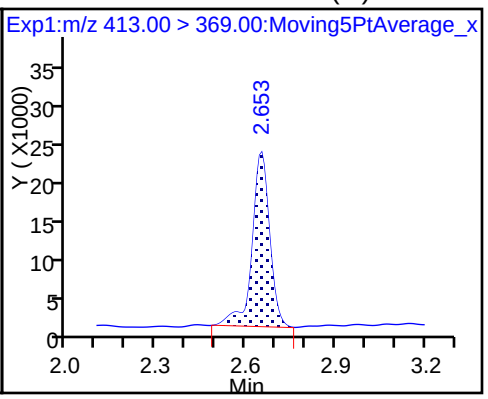
* 62 13C2-PFOA



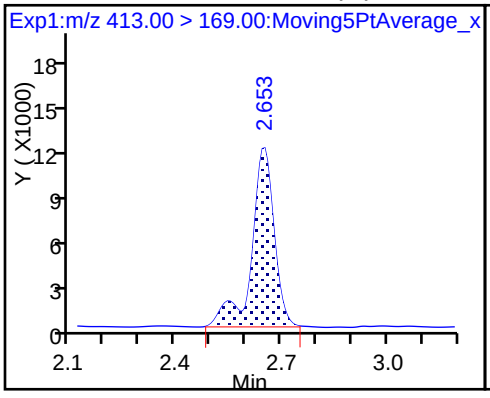
D 14 13C4 PFOA



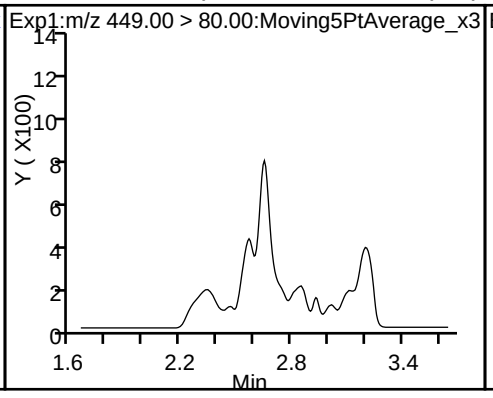
15 Perfluorooctanoic acid (M)



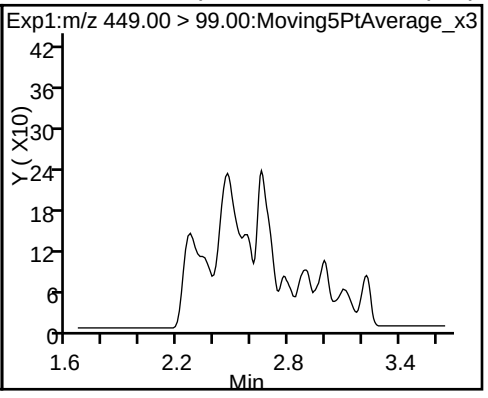
15 Perfluorooctanoic acid (M)



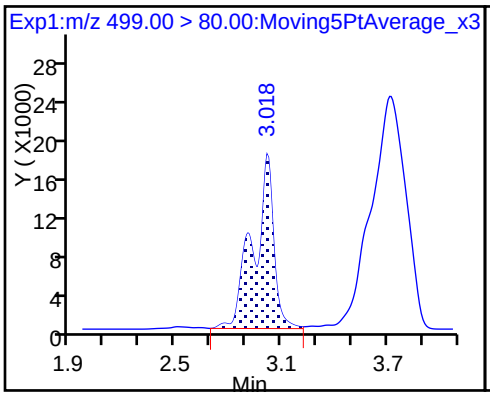
16 Perfluoroheptanesulfonic Acid (ND)



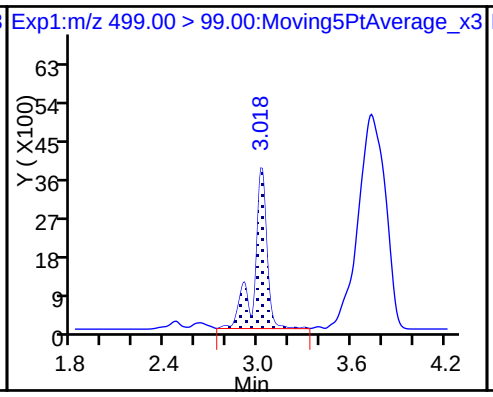
16 Perfluoroheptanesulfonic Acid (ND)



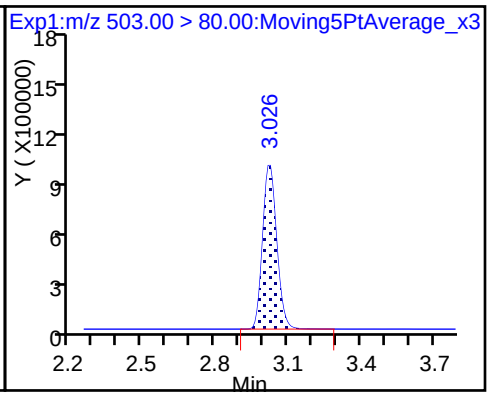
17 Perfluorooctane sulfonic acid



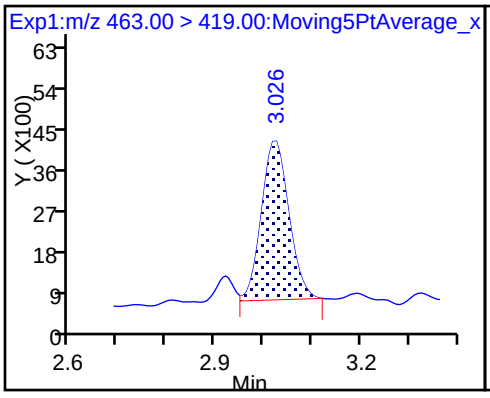
17 Perfluorooctane sulfonic acid



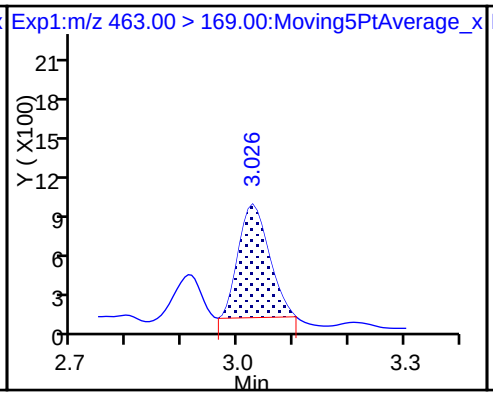
D 18 13C4 PFOS



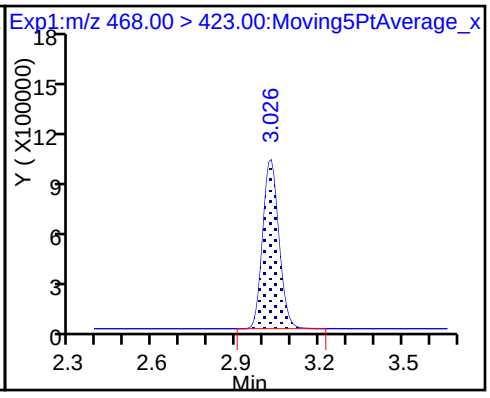
20 Perfluorononanoic acid



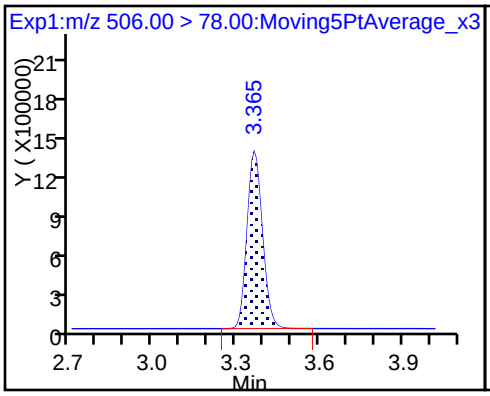
20 Perfluorononanoic acid



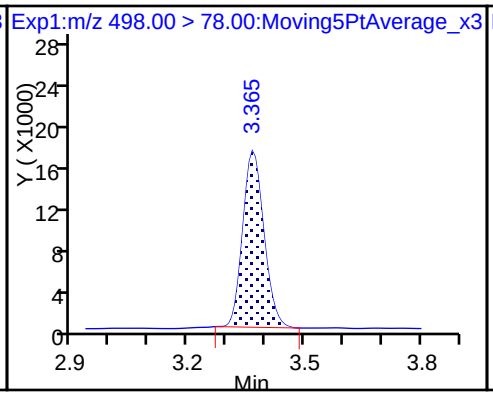
D 19 13C5 PFNA



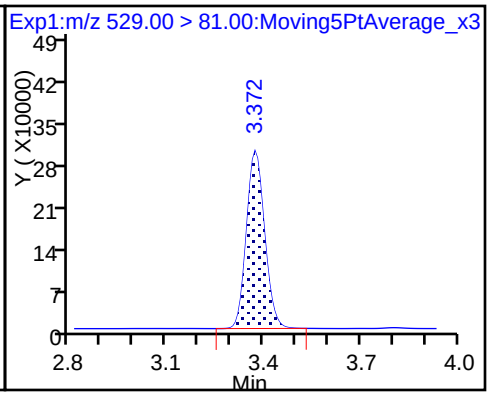
D 21 13C8 FOSA



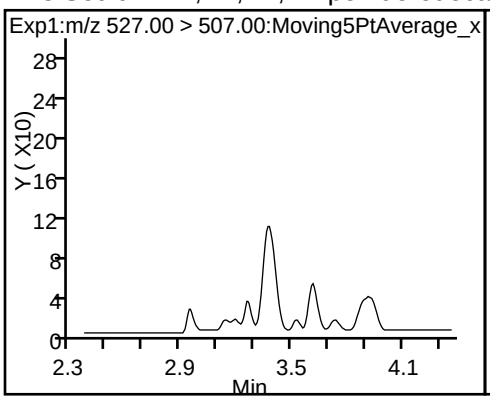
22 Perfluorooctane Sulfonamide



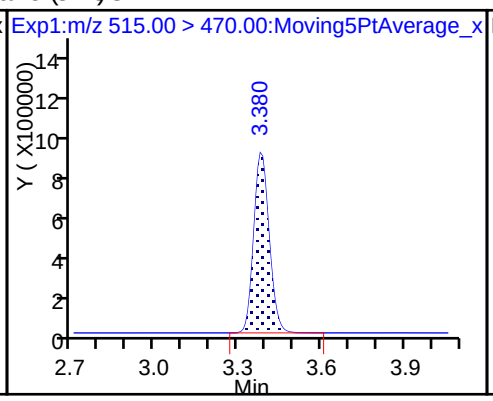
D 26 M2-8:2FTS



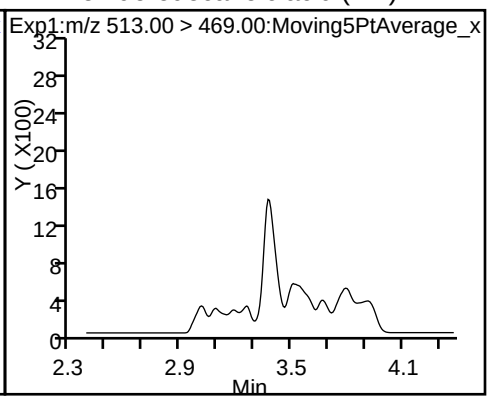
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



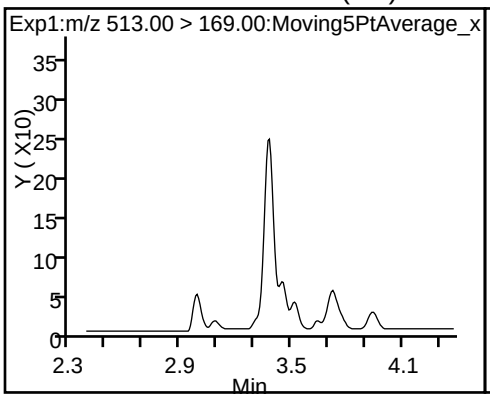
D 13C2 PFDA



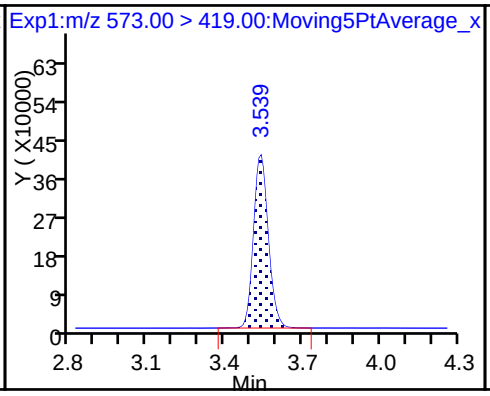
24 Perfluorodecanoic acid (ND)



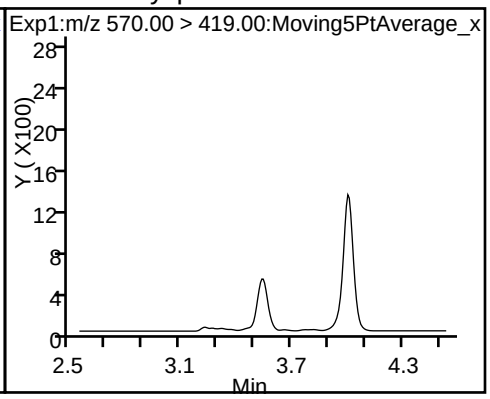
24 Perfluorodecanoic acid (ND)



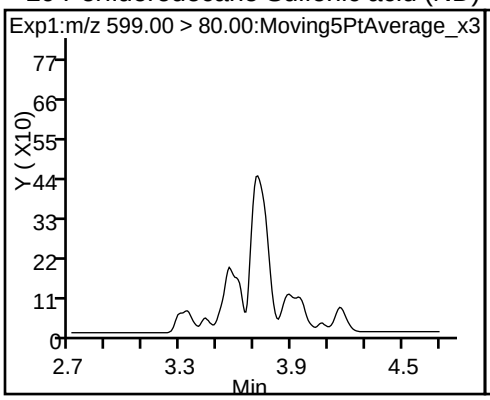
D 27 d3-NMeFOSAA



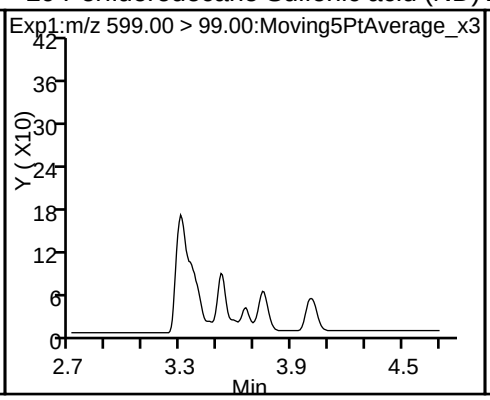
28 N-methyl perfluorooctane sulfonami (ND)



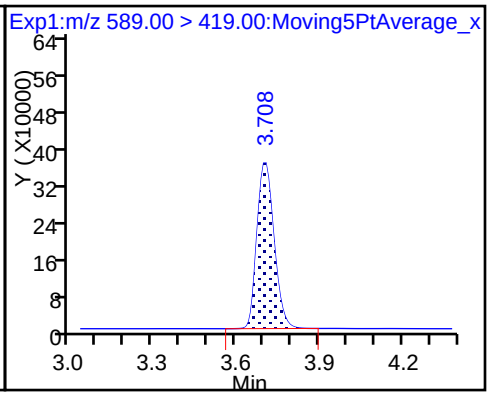
29 Perfluorodecane Sulfonic acid (ND)



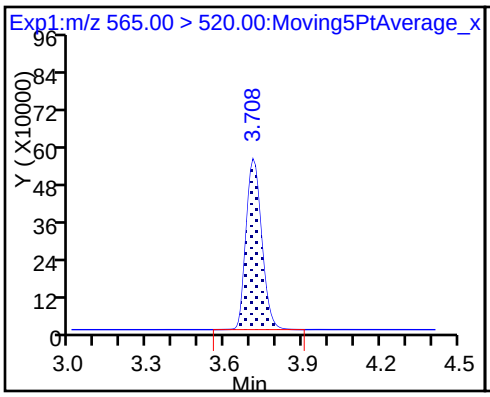
29 Perfluorodecane Sulfonic acid (ND)



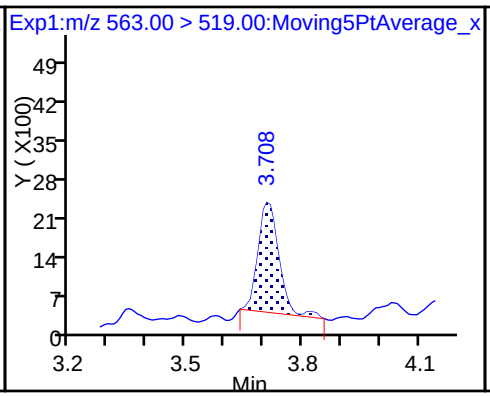
D 32 d5-NEtFOSAA



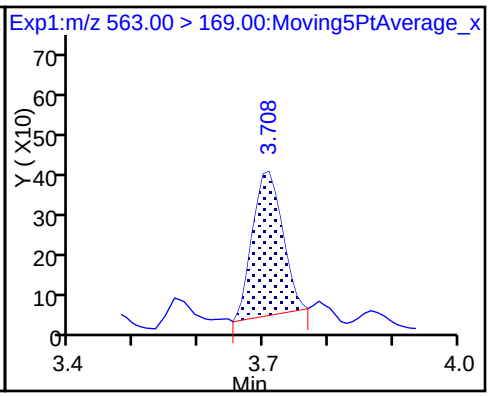
D 30 13C2 PFUnA



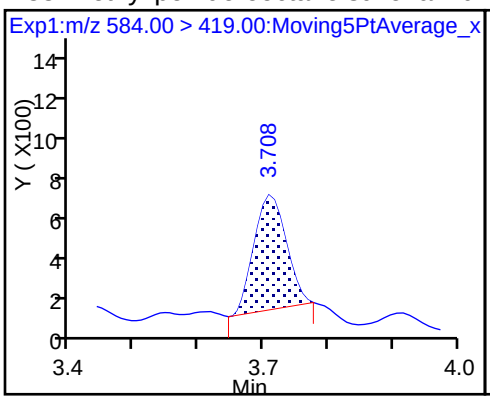
31 Perfluoroundecanoic acid



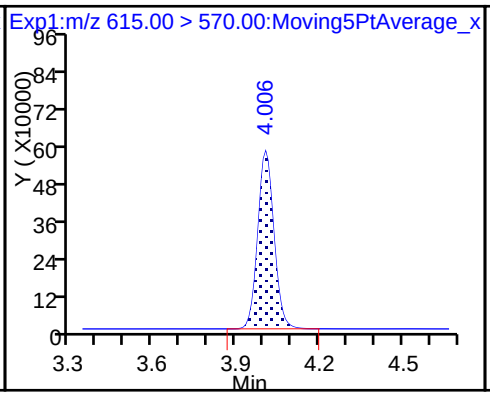
31 Perfluoroundecanoic acid



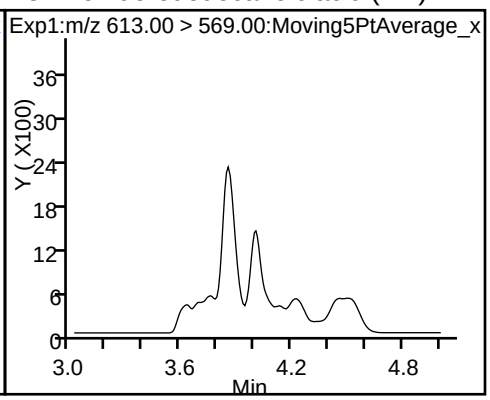
33 N-ethyl perfluorooctane sulfonamid



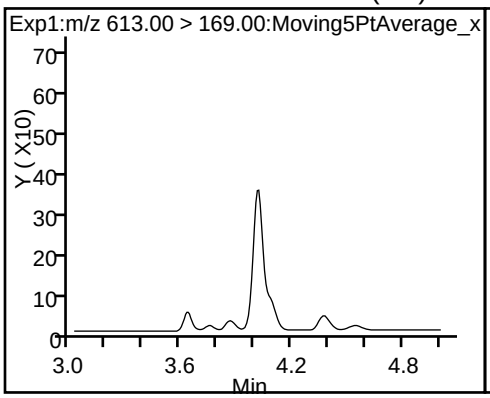
D 36 13C2 PFDoA



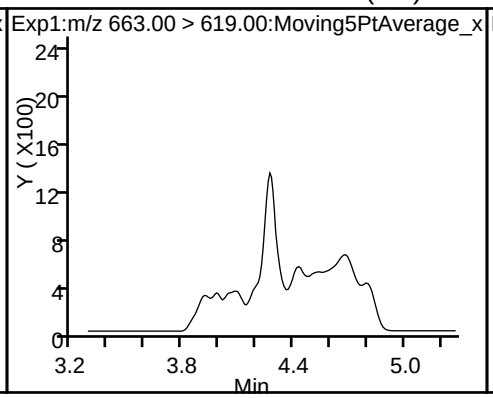
37 Perfluorododecanoic acid (ND)



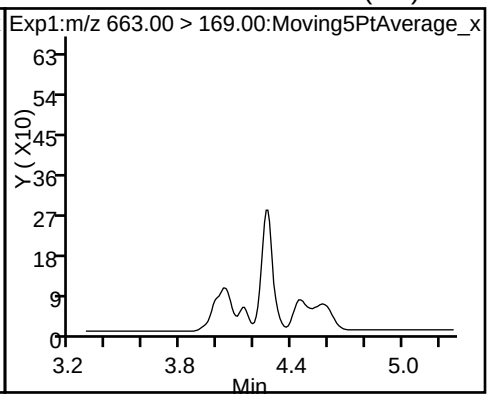
37 Perfluorododecanoic acid (ND)



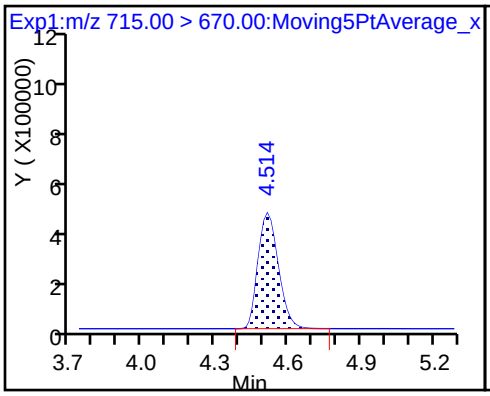
41 Perfluorotridecanoic acid (ND)



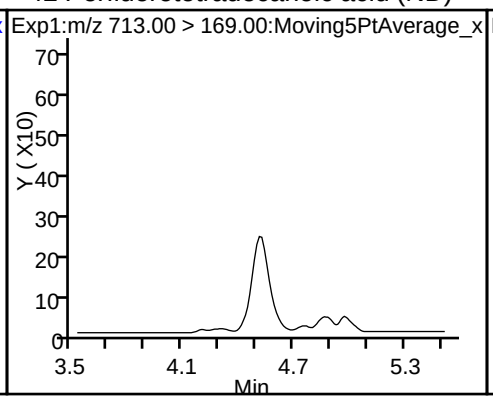
41 Perfluorotridecanoic acid (ND)



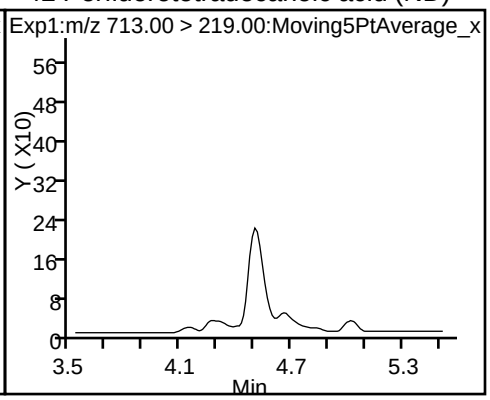
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

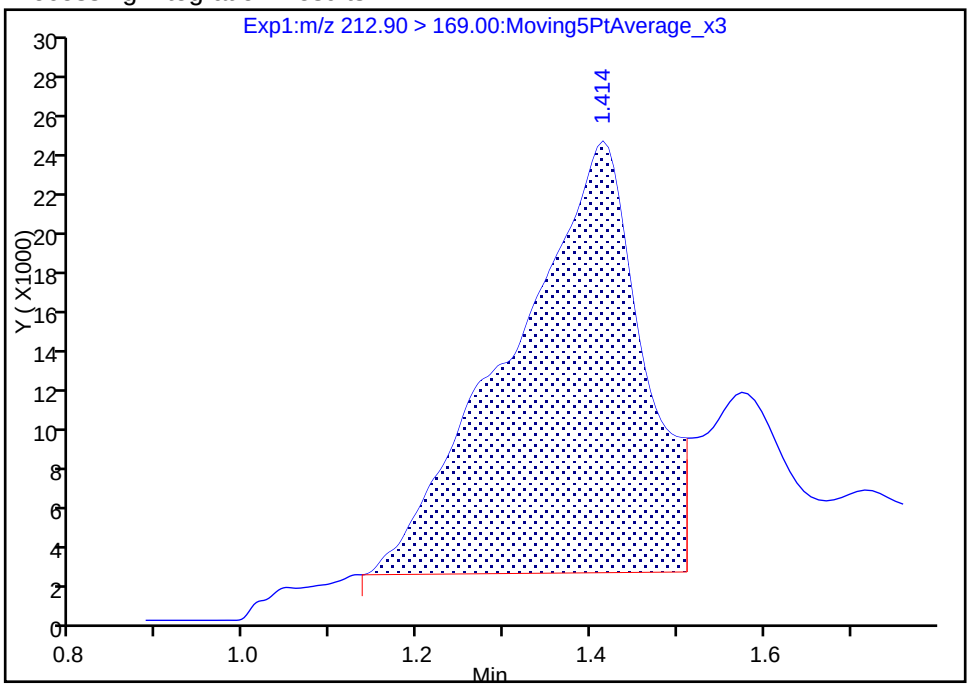
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Injection Date:	20-Dec-2017 09:16:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-9-A	Lab Sample ID:	320-34182-9		
Client ID:	MW-FR003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

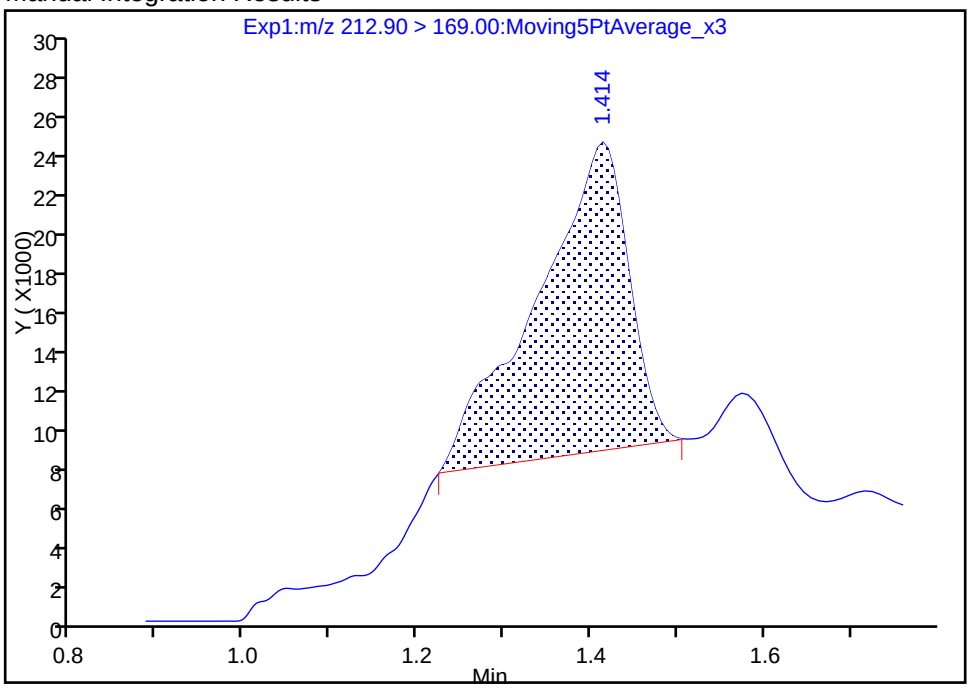
Processing Integration Results

RT: 1.41
Area: 230160
Amount: 0.085693
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 115745
Amount: 0.043094
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:53:33

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

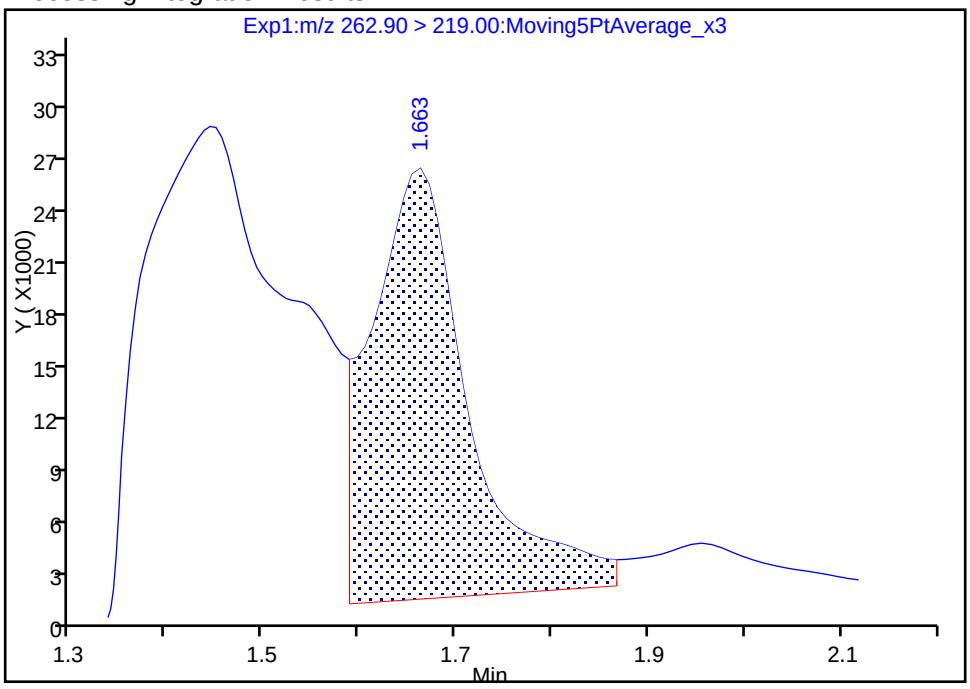
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_037.d				
Injection Date:	20-Dec-2017 09:16:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-9-A	Lab Sample ID:	320-34182-9		
Client ID:	MW-FR003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

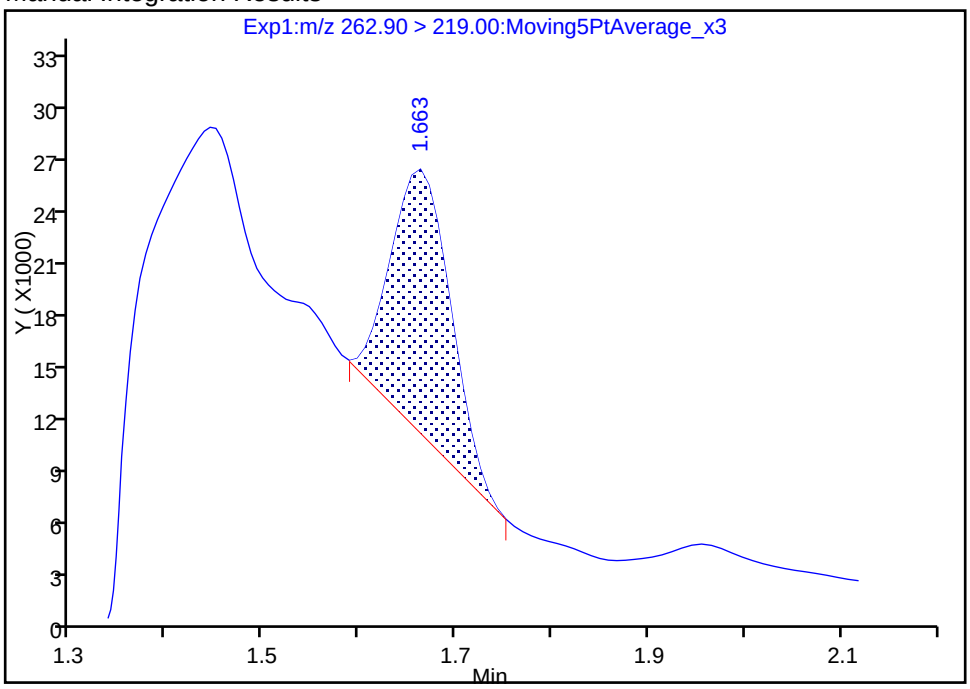
Processing Integration Results

RT: 1.66
Area: 171830
Amount: 0.072442
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 65144
Amount: 0.027464
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:53:54
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

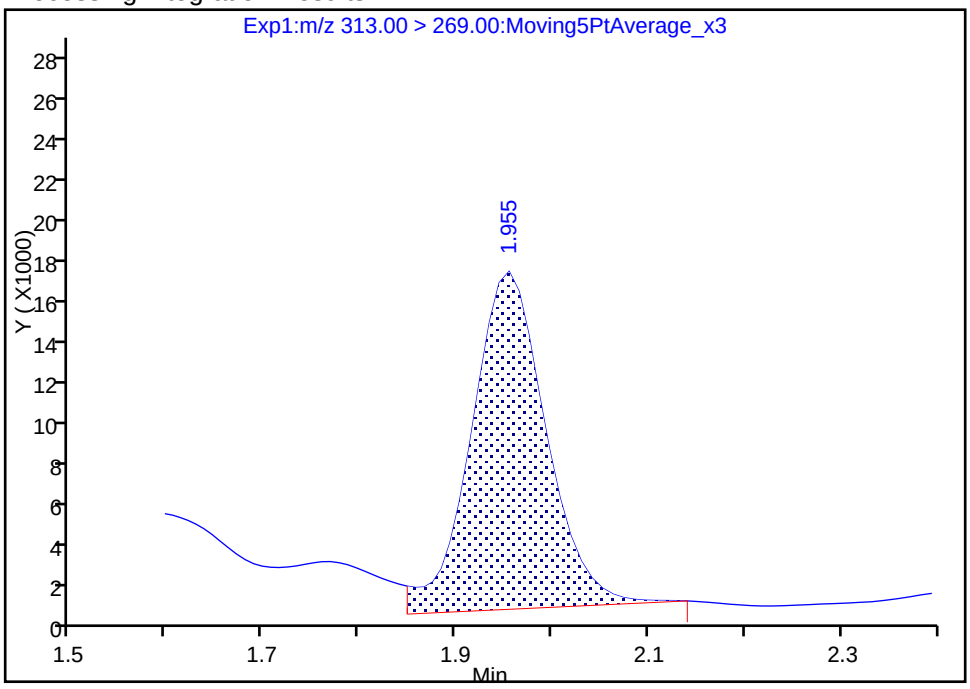
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Injection Date:	20-Dec-2017 09:16:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-9-A	Lab Sample ID:	320-34182-9		
Client ID:	MW-FR003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

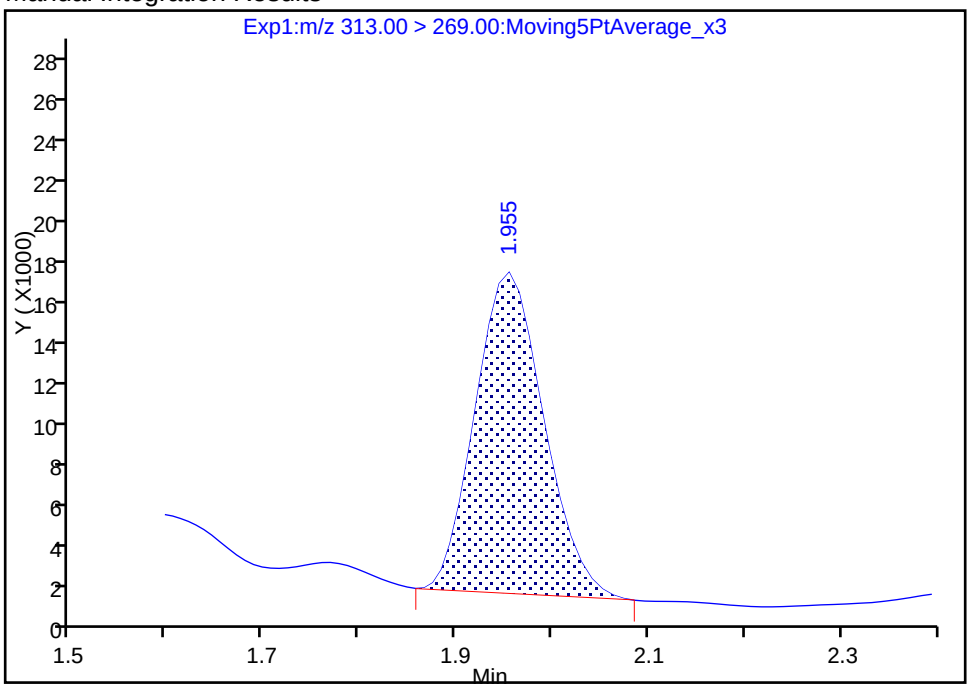
Processing Integration Results

RT: 1.96
Area: 86637
Amount: 0.040148
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 75829
Amount: 0.035140
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:54:25
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

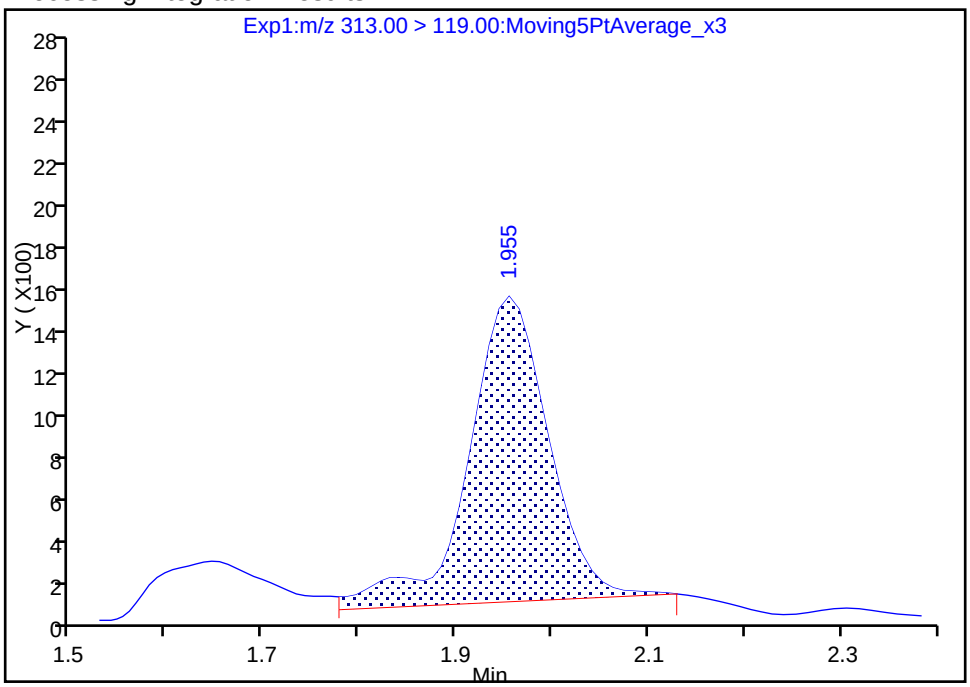
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_037.d				
Injection Date:	20-Dec-2017 09:16:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-9-A	Lab Sample ID:	320-34182-9		
Client ID:	MW-FR003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

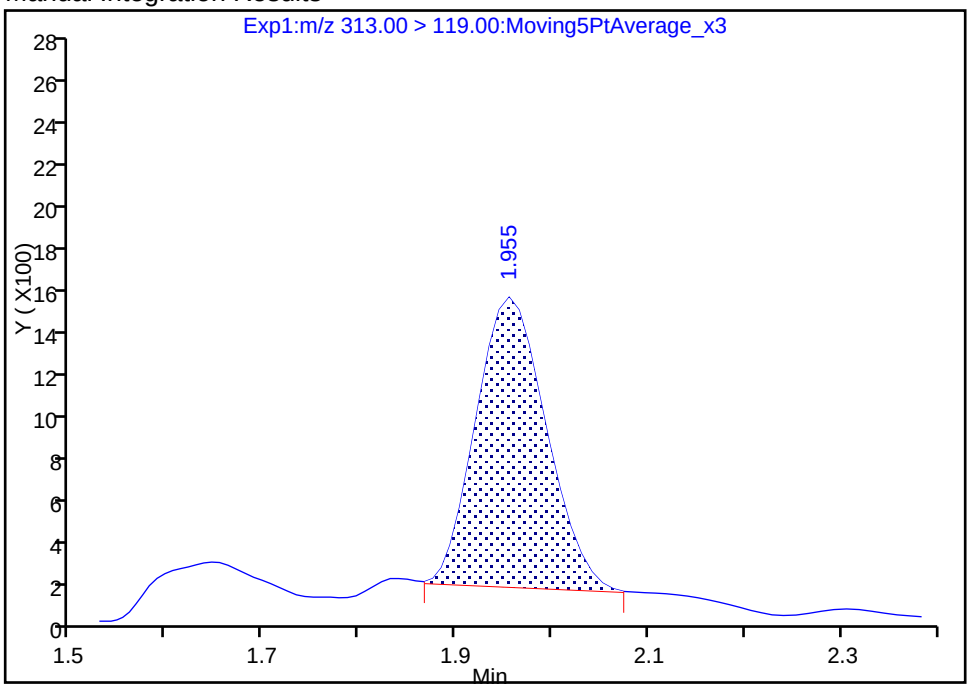
Processing Integration Results

RT: 1.96
Area: 8434
Amount: 0.040148
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 6996
Amount: 0.035140
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:54:32
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

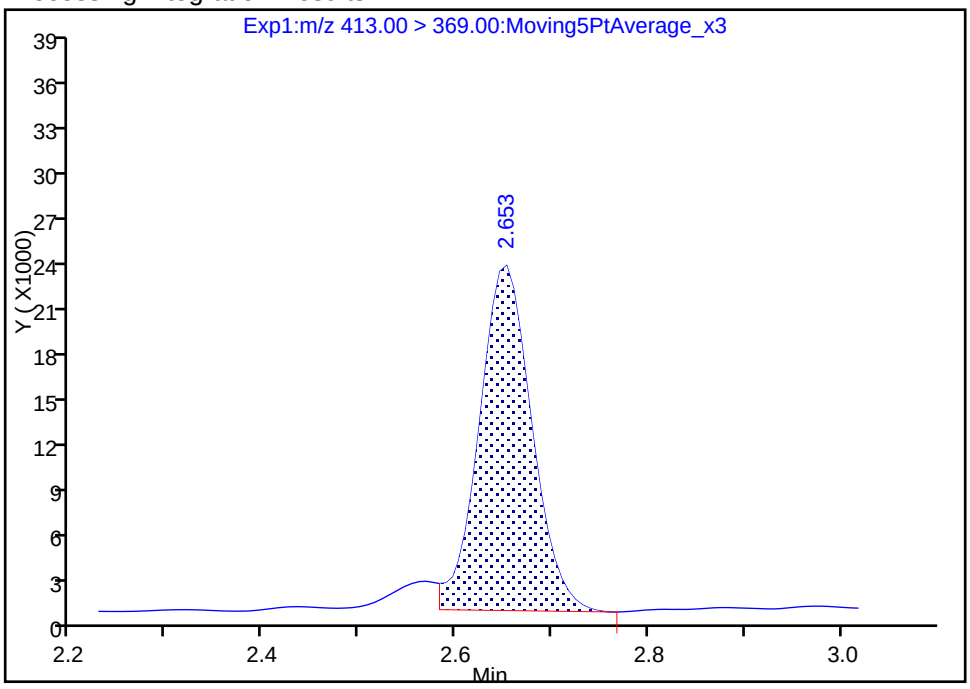
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_037.d				
Injection Date:	20-Dec-2017 09:16:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-9-A	Lab Sample ID:	320-34182-9		
Client ID:	MW-FR003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

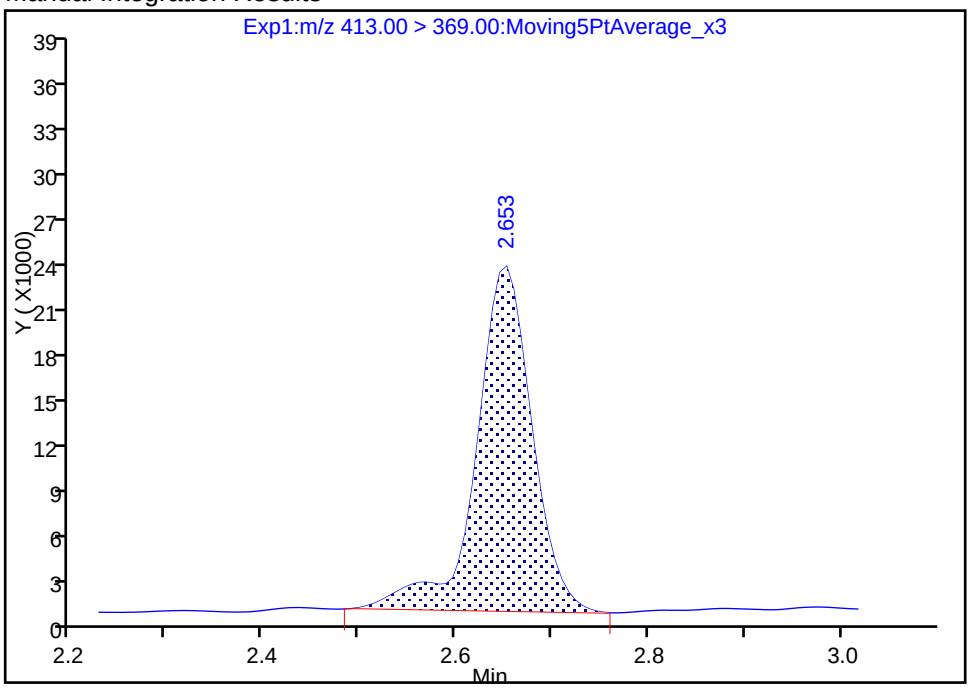
Processing Integration Results

RT: 2.65
Area: 86418
Amount: 0.037906
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 92162
Amount: 0.040426
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:55:00

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

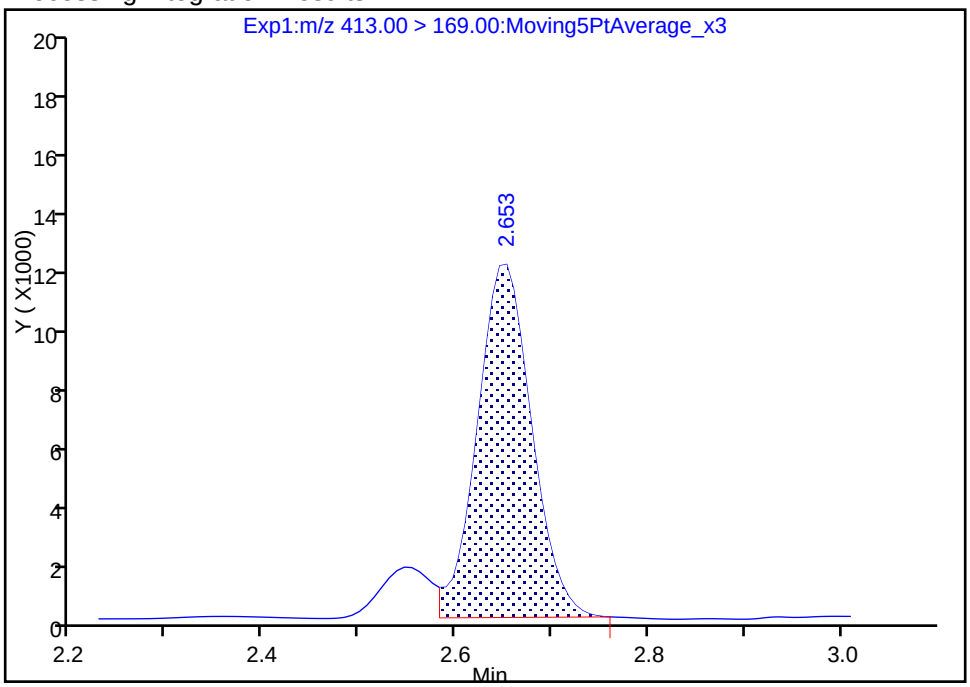
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_037.d				
Injection Date:	20-Dec-2017 09:16:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-9-A	Lab Sample ID:	320-34182-9		
Client ID:	MW-FR003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

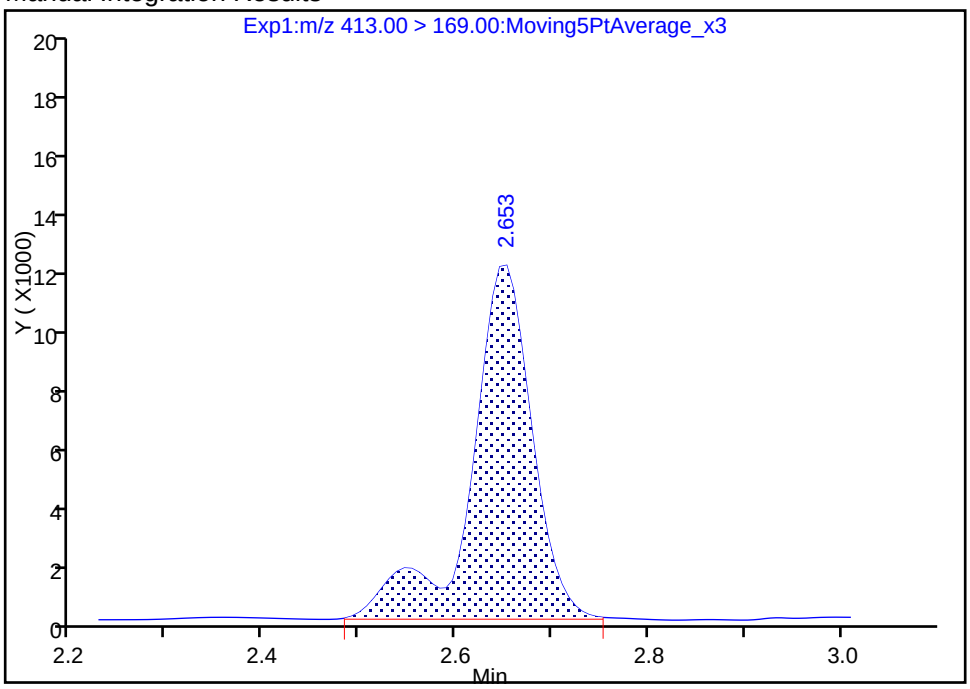
Processing Integration Results

RT: 2.65
Area: 45100
Amount: 0.037906
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 51386
Amount: 0.040426
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:55:10

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

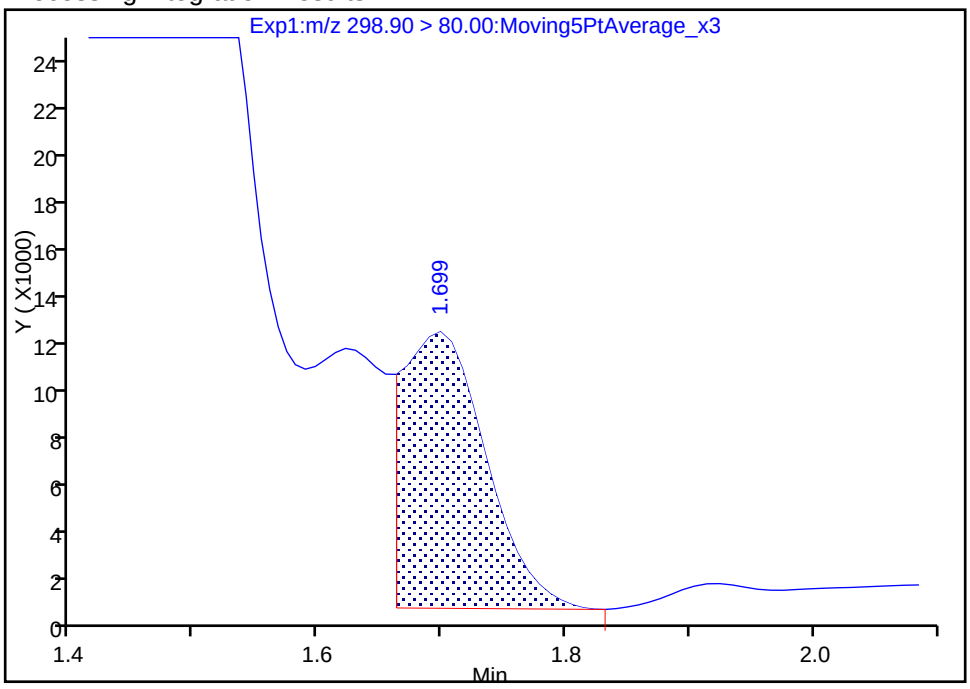
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_037.d				
Injection Date:	20-Dec-2017 09:16:00	Instrument ID:	A8_N		
Lims ID:	320-34182-A-9-A	Lab Sample ID:	320-34182-9		
Client ID:	MW-FR003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

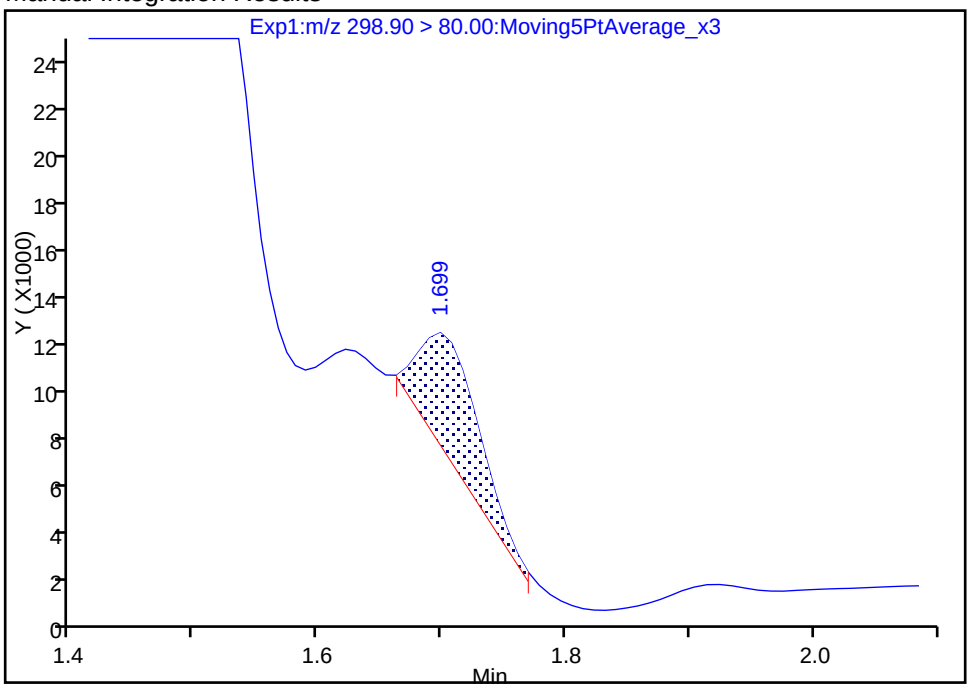
Processing Integration Results

RT: 1.70
Area: 52832
Amount: 0.016318
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 16585
Amount: 0.005122
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:54:10

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-GA003-A | Lab Sample ID: 320-34182-10

Matrix: Water | Lab File ID: 2017.12.19LLC_038.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 13:50

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 239.9(mL) | Date Analyzed: 12/20/2017 09:23

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	3.19		2.08	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.23		2.08	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	3.41		2.08	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.95	J	2.08	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	3.46		2.08	0.89
375-95-1	Perfluorononanoic acid (PFNA)	0.28	U	2.08	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.08	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.15	U	2.08	1.15
307-55-1	Perfluorododecanoic acid (PFDoA)	0.57	U	2.08	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.35	U	2.08	1.35
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.08	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.94	J	2.08	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	5.64	B	2.08	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.08	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.59	J	2.08	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.08	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.43	J B	2.08	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.23	U	20.8	3.23
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.98	U	20.8	1.98
27619-97-2	6:2FTS	2.08	U	20.8	2.08
39108-34-4	8:2FTS	2.08	U	20.8	2.08

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-GA003-A | Lab Sample ID: 320-34182-10

Matrix: Water | Lab File ID: 2017.12.19LLC_038.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 13:50

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 239.9(mL) | Date Analyzed: 12/20/2017 09:23

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	95		25-150
STL01893	13C5 PFPeA	115		25-150
STL00993	13C2 PFHxA	108		25-150
STL01892	13C4-PFHpA	118		25-150
STL00990	13C4 PFOA	104		25-150
STL00995	13C5 PFNA	121		25-150
STL00996	13C2 PFDA	122		25-150
STL00997	13C2 PFUnA	113		25-150
STL00998	13C2 PFDoA	108		25-150
STL02116	13C2-PFTeDA	115		25-150
STL02337	13C3-PFBS	106		25-150
STL00994	18O2 PFHxS	112		25-150
STL00991	13C4 PFOS	116		25-150
STL01056	13C8 FOSA	107		25-150
STL02118	d3-NMeFOSAA	131		25-150
STL02117	d5-NEtFOSAA	130		25-150
STL02279	M2-6:2FTS	74		25-150
STL02280	M2-8:2FTS	169	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_038.d
Lims ID: 320-34182-A-10-A
Client ID: FW-GA003-A
Sample Type: Client
Inject. Date: 20-Dec-2017 09:23:52 ALS Bottle#: 28 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-10-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:58:04

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.415	1.411	0.004	0.533	7227981	2.37		94.7	23481	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.409	1.412	-0.003	0.996	201679	0.0765			13.8	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.664	1.664	0.0	0.627	5175473	2.88		115	39376	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.664	1.664	0.0	1.000	177460	0.0775			27.8	M
D 47 13C3-PFBS										
301.90 > 83.00	1.699	1.699	0.0	0.641	93832	2.47		106	1295	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.708	1.703	0.005	1.005	68070	0.0226			68.2	M
298.90 > 99.00	1.708	1.703	0.005	1.005	32020		2.13(1.25-3.74)		47.9	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.956	1.949	0.007	1.000	167827	0.0818			134	M
313.00 > 119.00	1.956	1.949	0.007	1.000	17597		9.54(5.03-15.10)		232	
D 7 13C2 PFHxA										
315.00 > 270.00	1.956	1.949	0.007	0.737	5131879	2.69		108	52354	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.286	0.007	1.000	101193	0.0467			109	
363.00 > 169.00	2.293	2.286	0.007	1.000	38216		2.65(1.13-3.40)		281	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.286	0.007	0.865	5262938	2.95		118	57910	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.299	0.007	0.870	5856648	2.65		112	47088	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.299	0.007	1.000	364136	0.1353			393	
399.00 > 99.00	2.306	2.299	0.007	1.000	115131		3.16(1.50-4.49)		149	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.623	2.640	-0.017	1.000	12800	0.0145			485	
D 12 M2-6:2FTS										
429.00 > 81.00	2.623	2.640	-0.017	0.989	1305783	1.76		74.3	15189	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.643	0.009		5175039	2.50			55393	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.647	0.005	1.000	5573401	2.60		104	51345	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.652	2.649	0.003	1.000	195369	0.0830			90.5	M
413.00 > 169.00	2.652	2.649	0.003	1.000	104302		1.87(0.84-2.52)		676	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.659	2.654	0.005	1.000	6743	0.002851			36.8	
449.00 > 99.00	2.659	2.654	0.005	1.000	1446		4.66(1.94-5.82)		18.7	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	2.903	3.025	-0.122	0.960	66826	0.0382			7.4	
499.00 > 99.00	3.025	3.025	0.0	1.000	12120		5.51(2.31-6.93)		8.2	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3928610	2.77		116	32488	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.026	-0.001	1.141	4339639	3.02		121	55144	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.362	0.008	1.271	5360273	2.67		107	31346	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.365	0.005	1.000	20679	0.0102			496	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.375	0.003	1.274	1276060	4.04		169	13585	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.387	-0.002	1.277	3511545	3.05		122	41809	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.537	3.541	-0.004	1.334	1737516	3.27		131	21189	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.711	-0.005	1.397	1777743	3.25		130	11162	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.401	2503498	2.82		113	33615	
D 36 13C2 PFDoA										
615.00 > 570.00	4.005	4.015	-0.010	1.510	2540889	2.70		108	25111	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.522	-0.009	1.702	2985653	2.89		115	25876	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:57 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_038.d

Injection Date: 20-Dec-2017 09:23:52 Instrument ID: A8_N

Lims ID: 320-34182-A-10-A Lab Sample ID: 320-34182-10

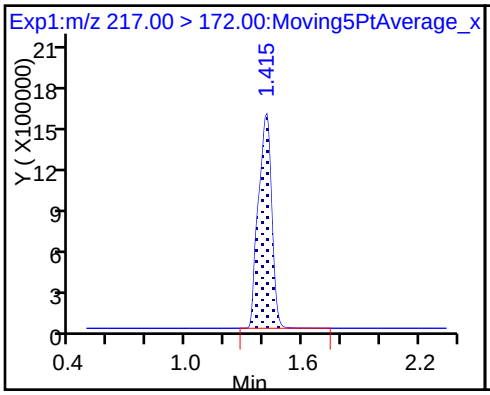
Client ID: FW-GA003-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 28 Worklist Smp#: 16

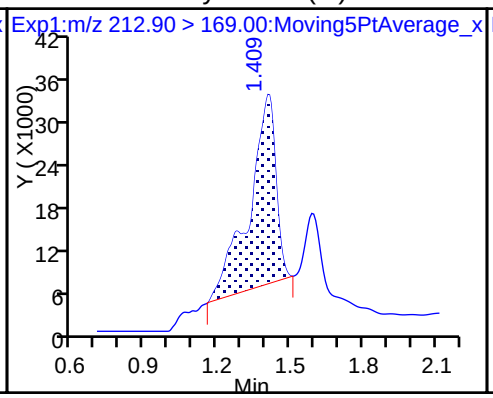
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

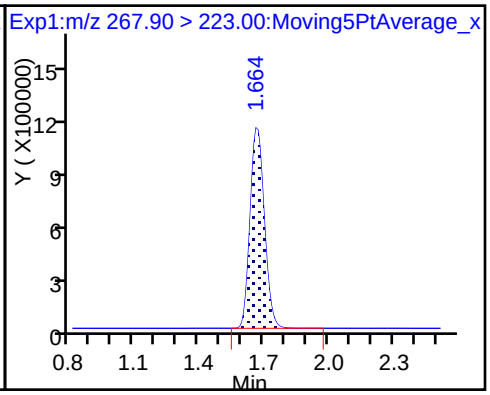
D 1 13C4 PFBA



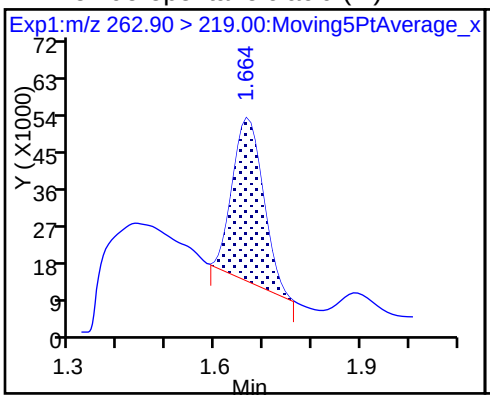
2 Perfluorobutyric acid (M)



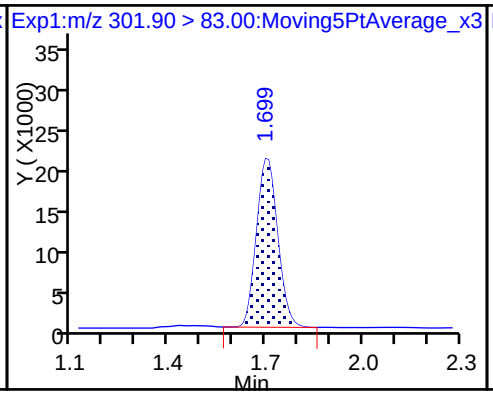
D 3 13C5-PFPeA



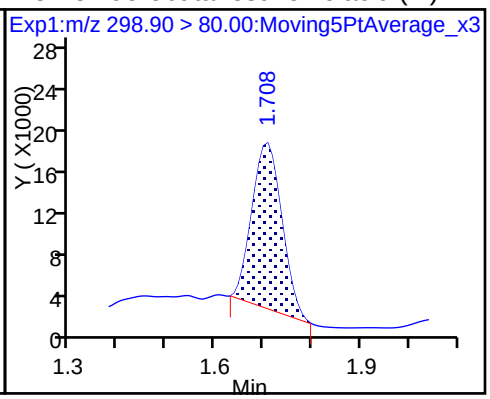
4 Perfluoropentanoic acid (M)



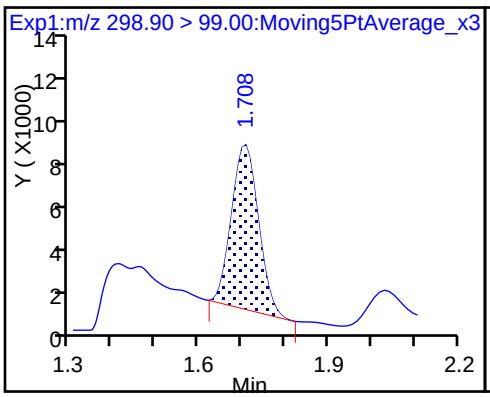
D 47 13C3-PFBS



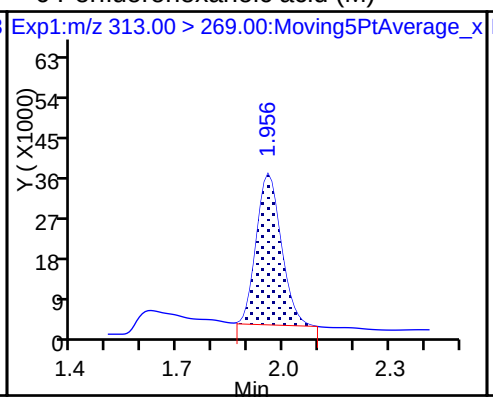
5 Perfluorobutanesulfonic acid (M)



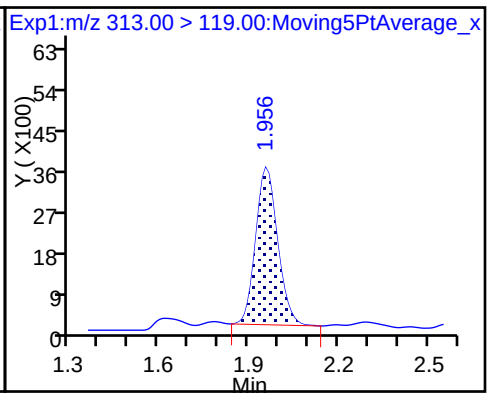
5 Perfluorobutanesulfonic acid



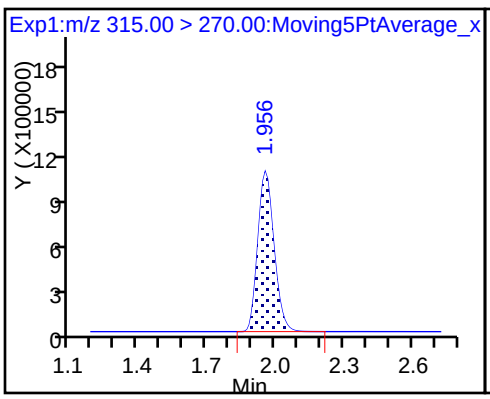
6 Perfluorohexanoic acid (M)



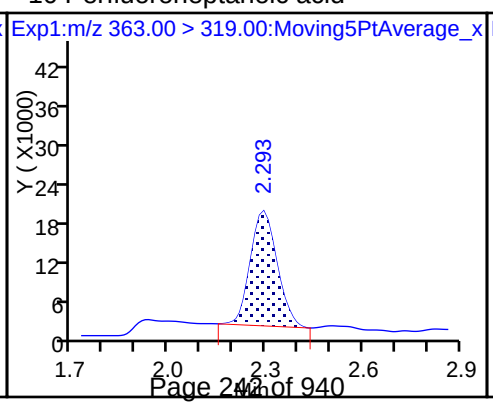
6 Perfluorohexanoic acid



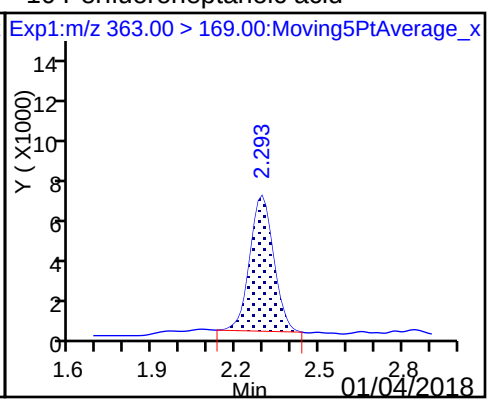
D 7 13C2 PFHxA



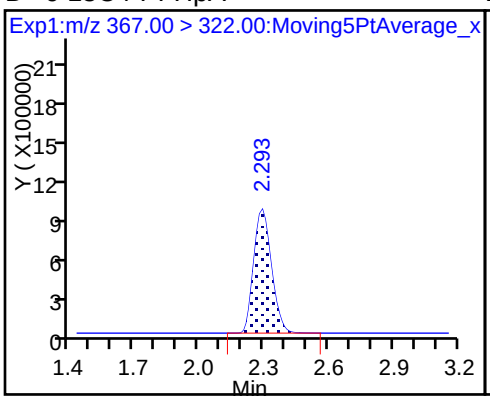
10 Perfluoroheptanoic acid



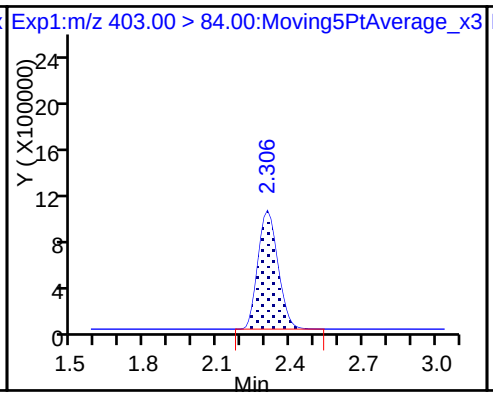
10 Perfluoroheptanoic acid



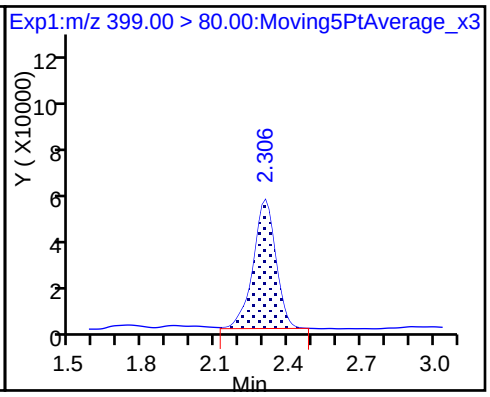
D 9 13C4-PFHpA



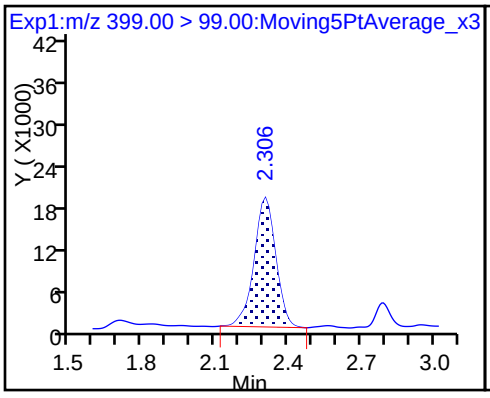
D 11 18O2 PFHxS



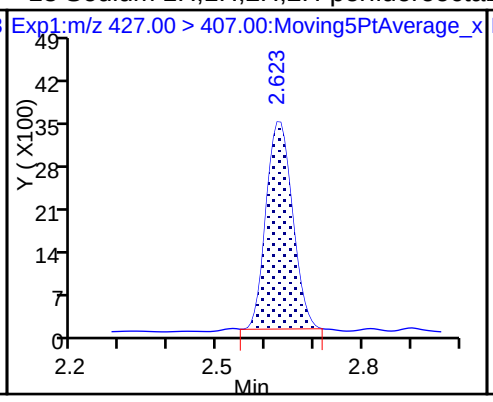
8 Perfluorohexanesulfonic acid



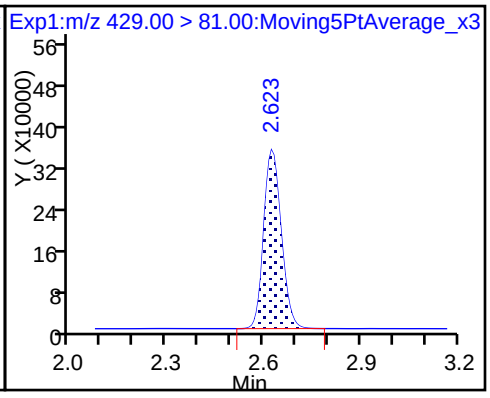
8 Perfluorohexanesulfonic acid



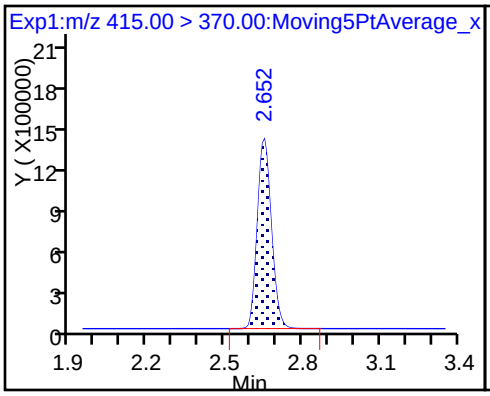
13 Sodium 1H,1H,2H,2H-perfluorooctane



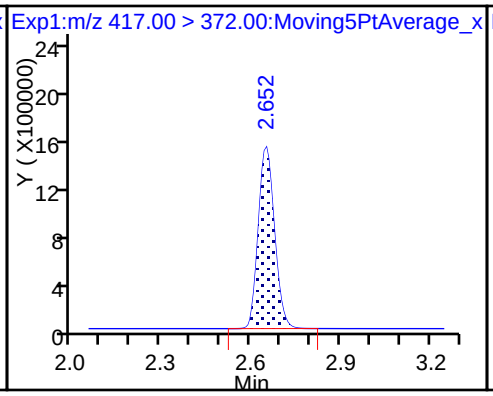
D 12 M2-6:2FTS



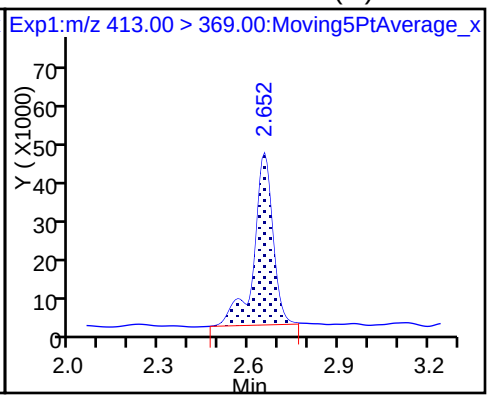
* 62 13C2-PFOA



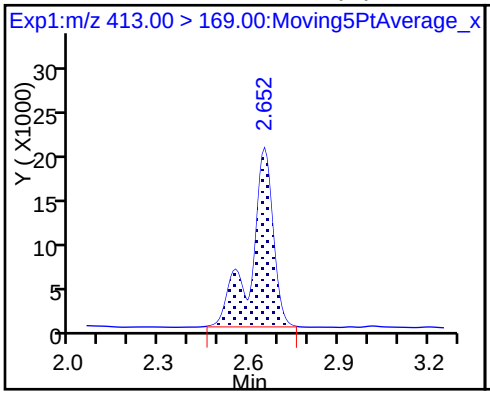
D 14 13C4 PFOA



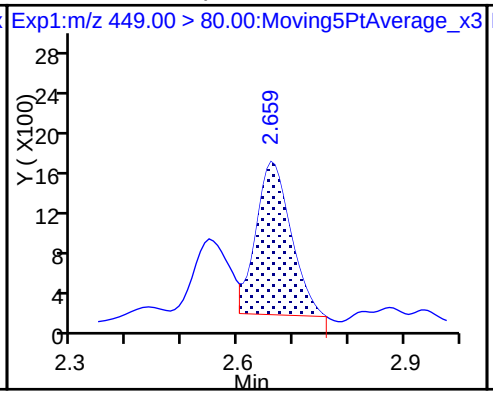
15 Perfluorooctanoic acid (M)



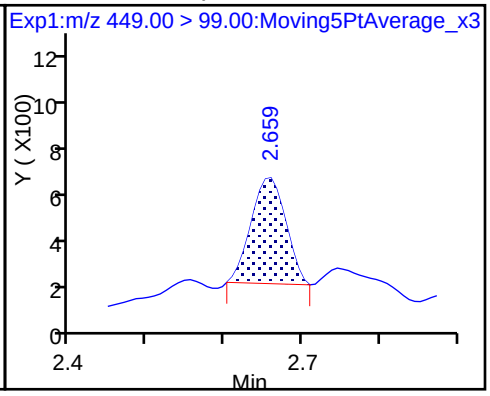
15 Perfluorooctanoic acid (M)



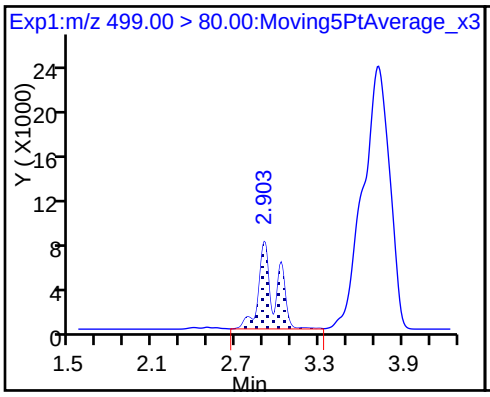
16 Perfluoroheptanesulfonic Acid



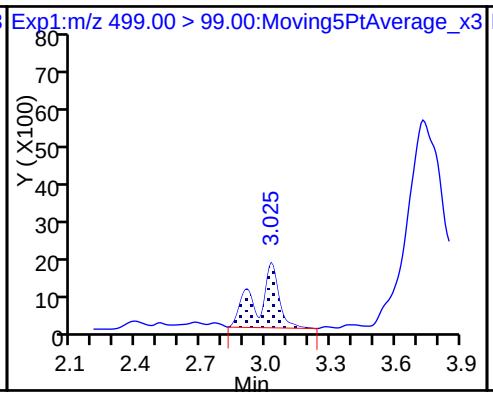
16 Perfluoroheptanesulfonic Acid



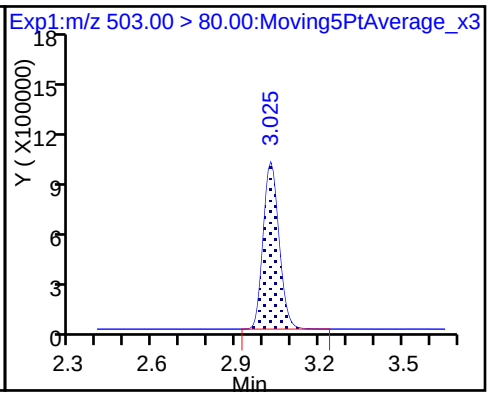
17 Perfluorooctane sulfonic acid



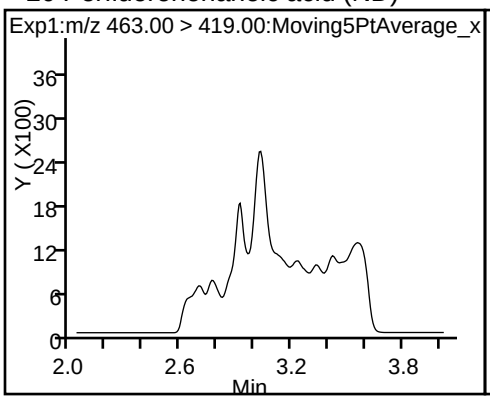
17 Perfluorooctane sulfonic acid



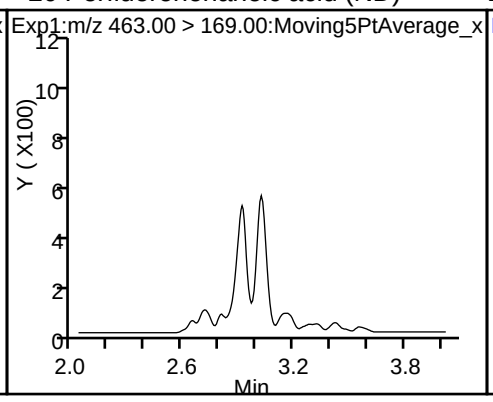
D 18 13C4 PFOS



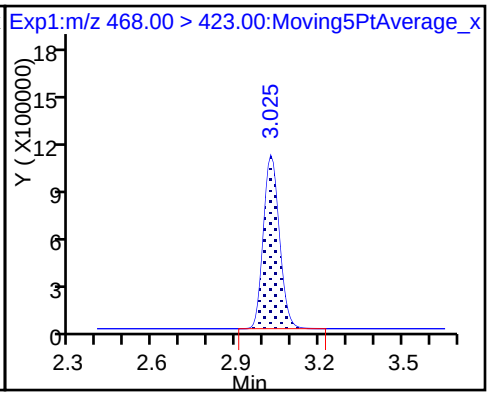
20 Perfluorononanoic acid (ND)



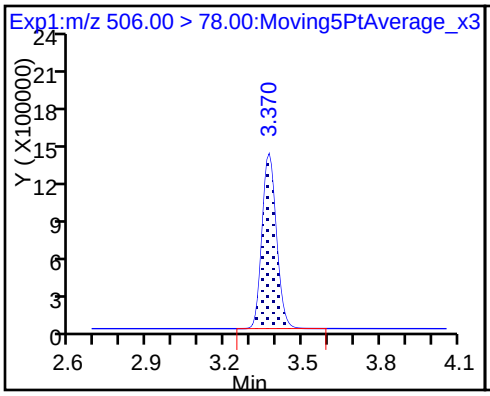
20 Perfluorononanoic acid (ND)



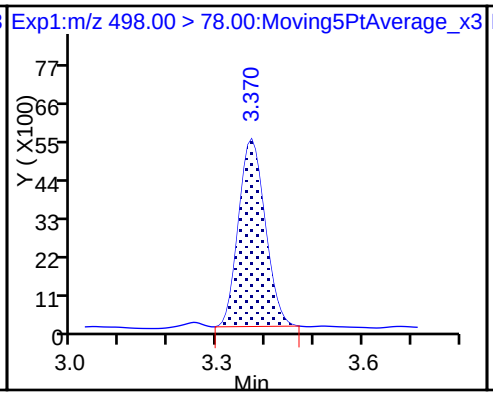
D 19 13C5 PFNA



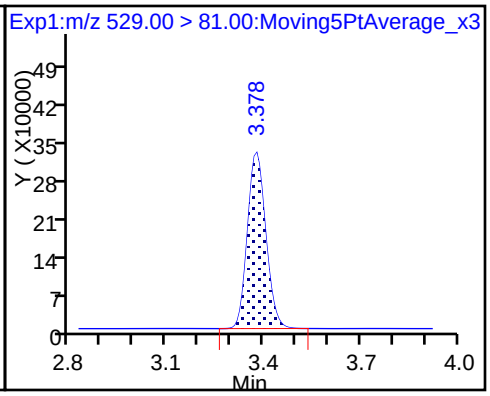
D 21 13C8 FOSA



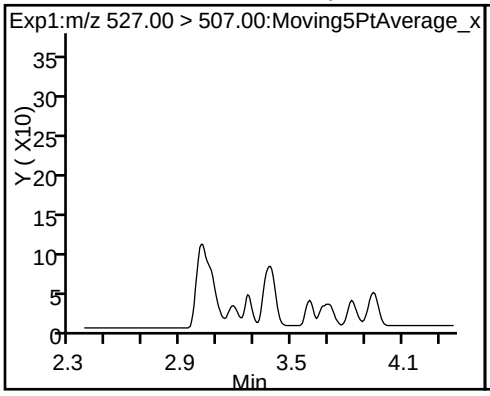
22 Perfluorooctane Sulfonamide



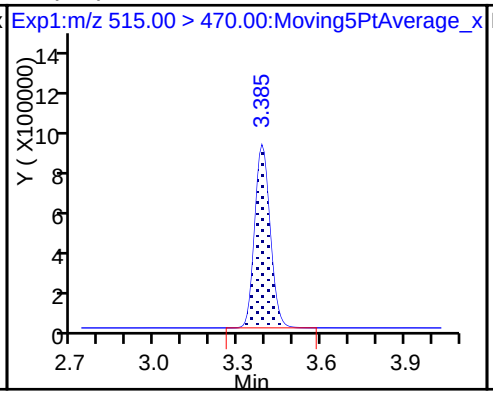
D 26 M2-8:2FTS



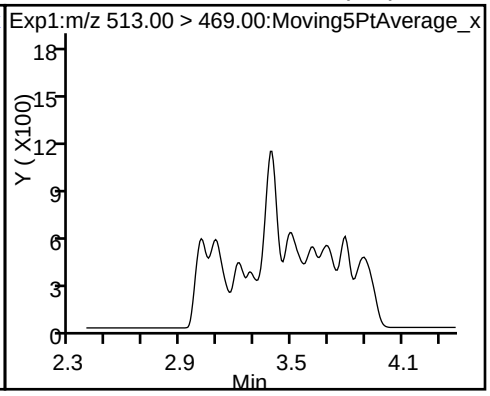
25 Sodium 1H,1H,2H,2H-perfluorodecane...



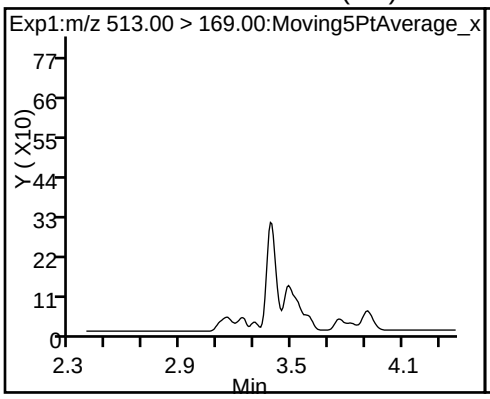
D 13C2 PFDA



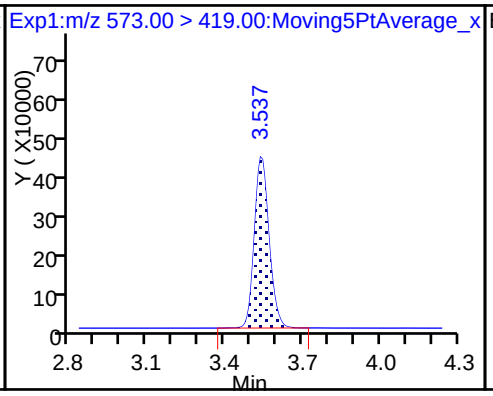
24 Perfluorodecanoic acid (ND)



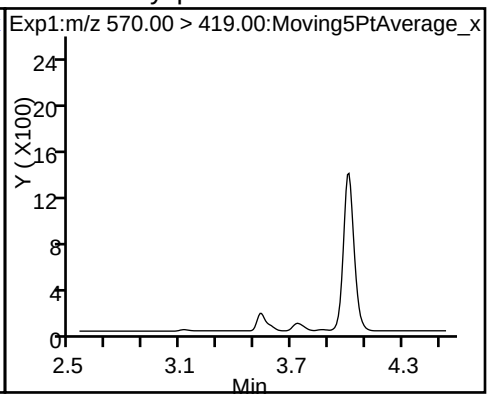
24 Perfluorodecanoic acid (ND)



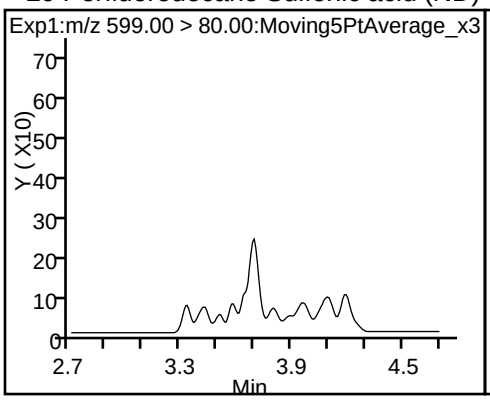
D 27 d3-NMeFOSAA



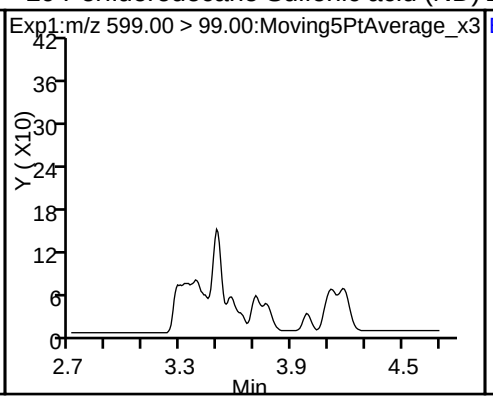
28 N-methyl perfluorooctane sulfonami (ND)



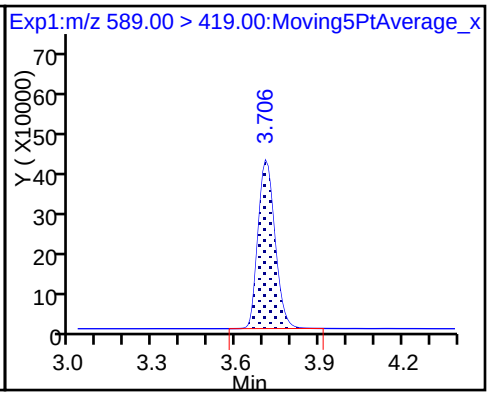
29 Perfluorodecane Sulfonic acid (ND)



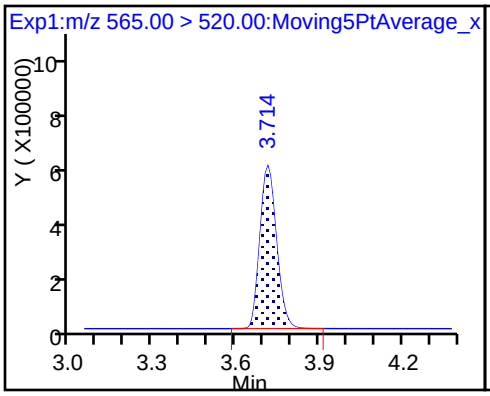
29 Perfluorodecane Sulfonic acid (ND)



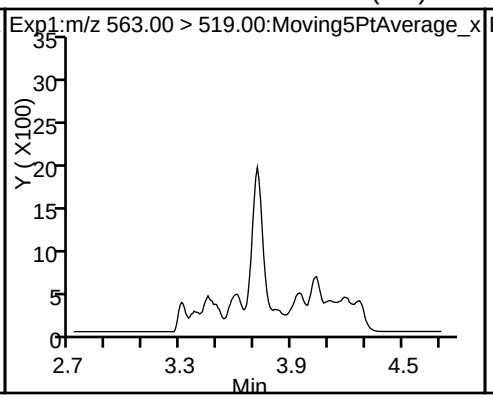
D 32 d5-NEtFOSAA



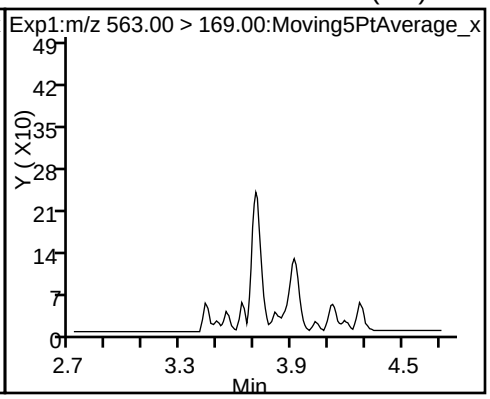
D 30 13C2 PFUnA



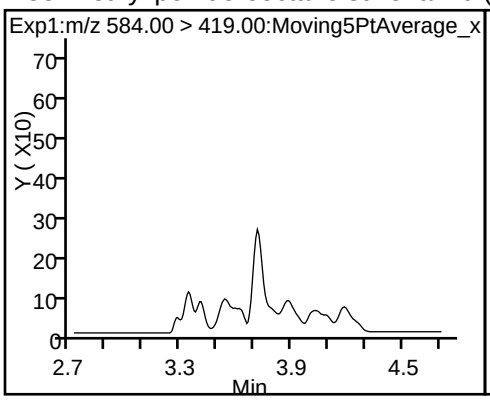
31 Perfluoroundecanoic acid (ND)



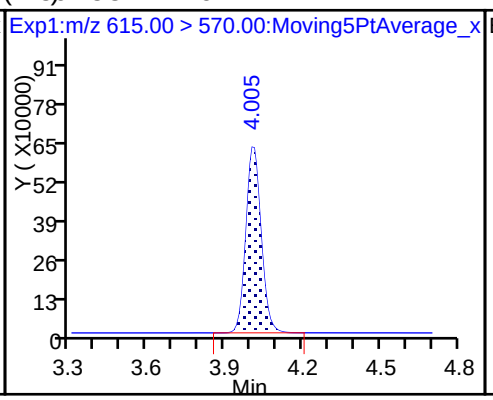
31 Perfluoroundecanoic acid (ND)



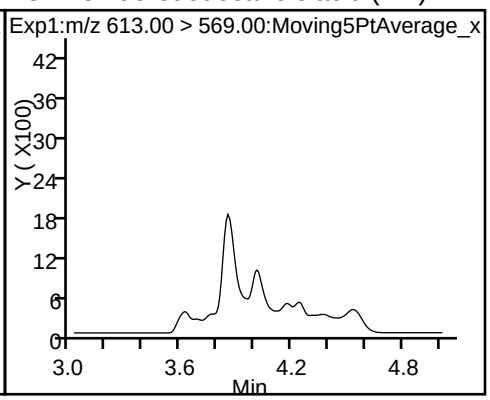
33 N-ethyl perfluorooctane sulfonamid (ND)



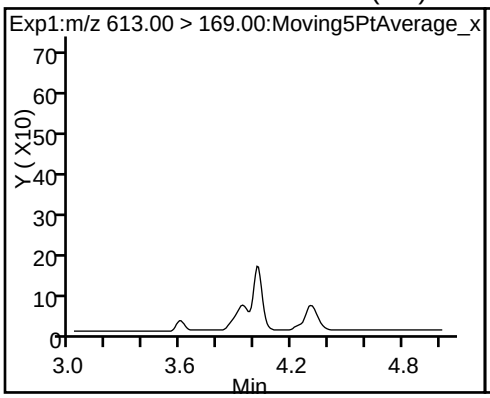
D 36 13C2 PFDoA



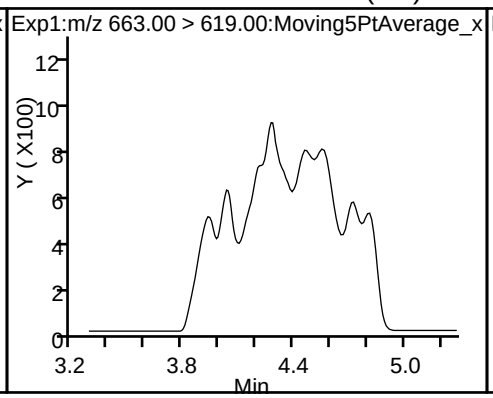
37 Perfluorododecanoic acid (ND)



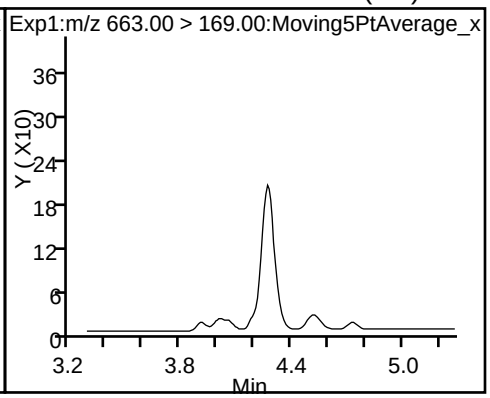
37 Perfluorododecanoic acid (ND)



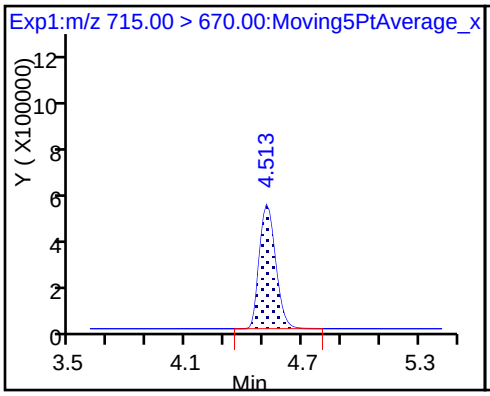
41 Perfluorotridecanoic acid (ND)



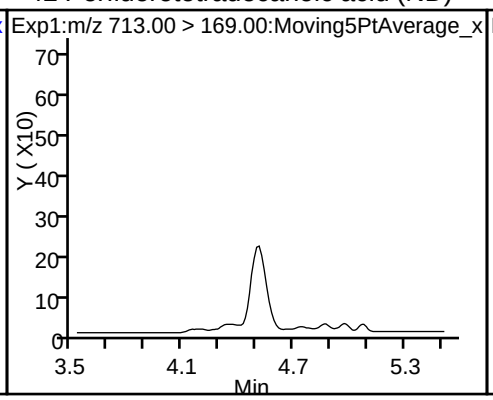
41 Perfluorotridecanoic acid (ND)



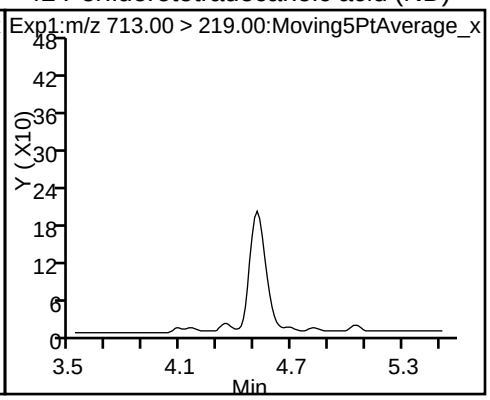
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

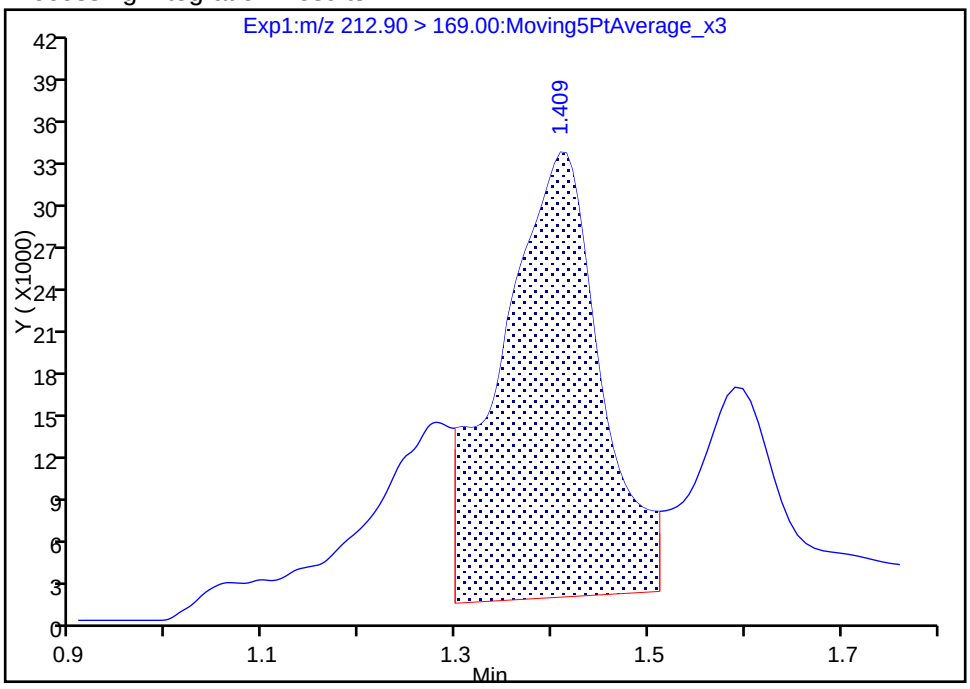
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_038.d				
Injection Date:	20-Dec-2017 09:23:52	Instrument ID:	A8_N		
Lims ID:	320-34182-A-10-A	Lab Sample ID:	320-34182-10		
Client ID:	FW-GA003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	28	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

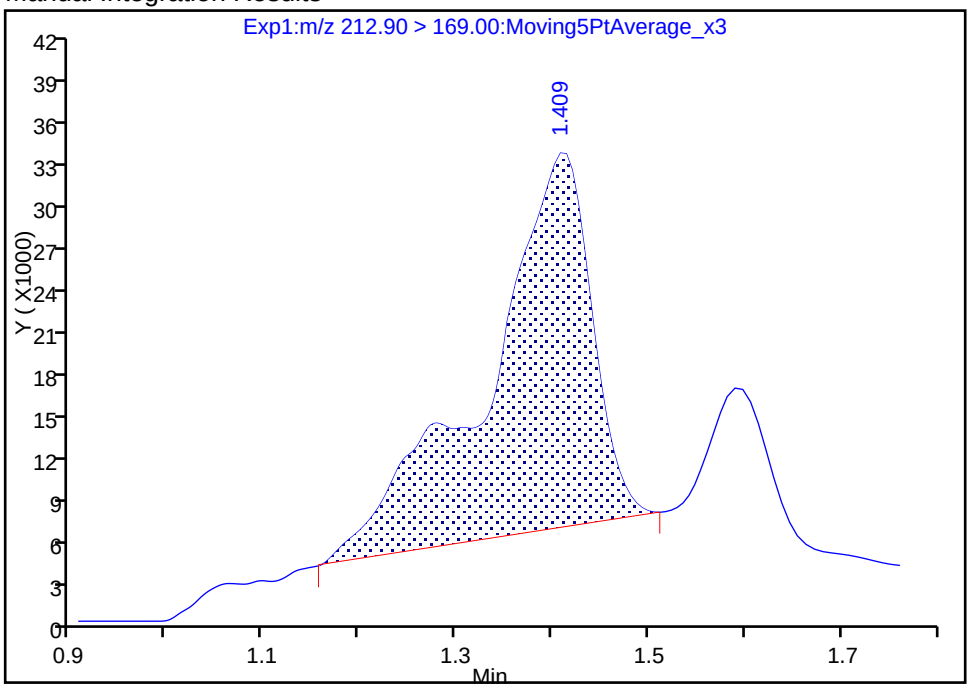
Processing Integration Results

RT: 1.41
Area: 226674
Amount: 0.085935
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 201679
Amount: 0.076459
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:56:09

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

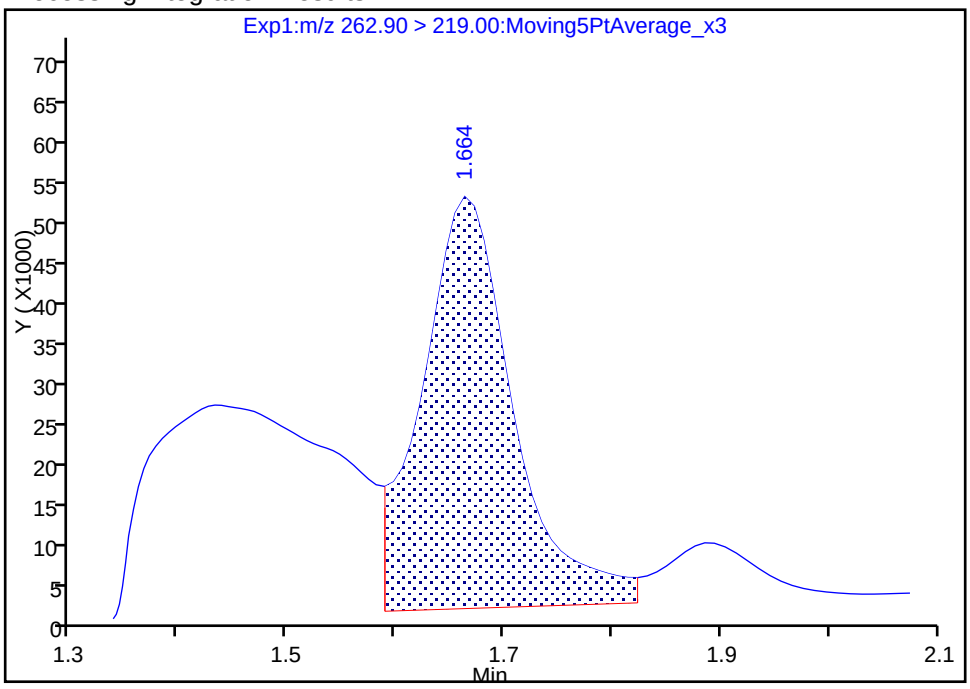
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_038.d				
Injection Date:	20-Dec-2017 09:23:52	Instrument ID:	A8_N		
Lims ID:	320-34182-A-10-A	Lab Sample ID:	320-34182-10		
Client ID:	FW-GA003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	28	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

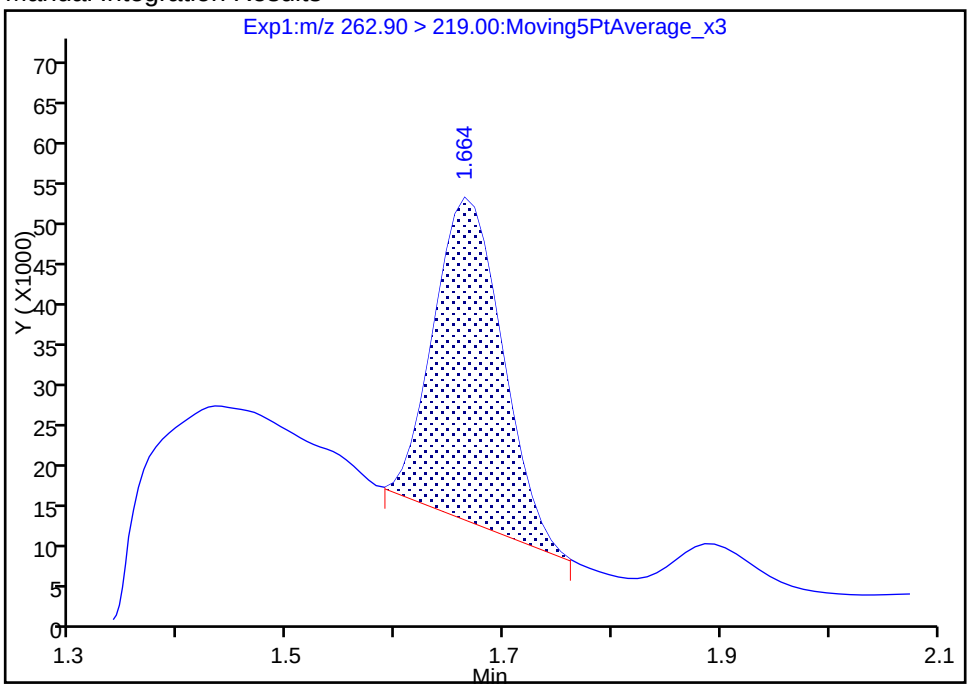
Processing Integration Results

RT: 1.66
Area: 300407
Amount: 0.131271
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 177460
Amount: 0.077546
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:56:25

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

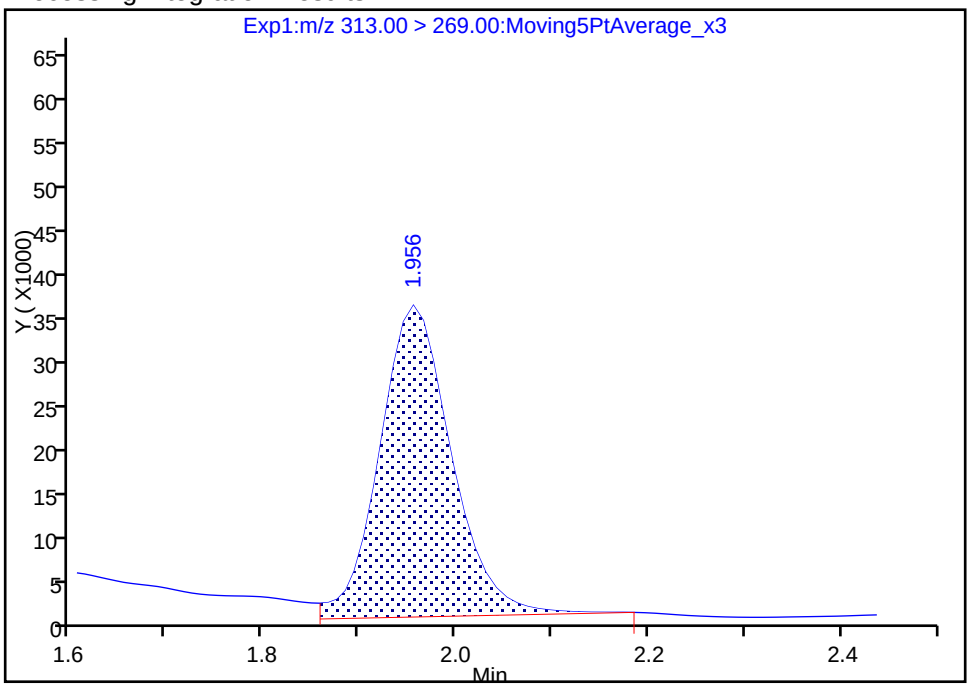
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_038.d				
Injection Date:	20-Dec-2017 09:23:52	Instrument ID:	A8_N		
Lims ID:	320-34182-A-10-A	Lab Sample ID:	320-34182-10		
Client ID:	FW-GA003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	28	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

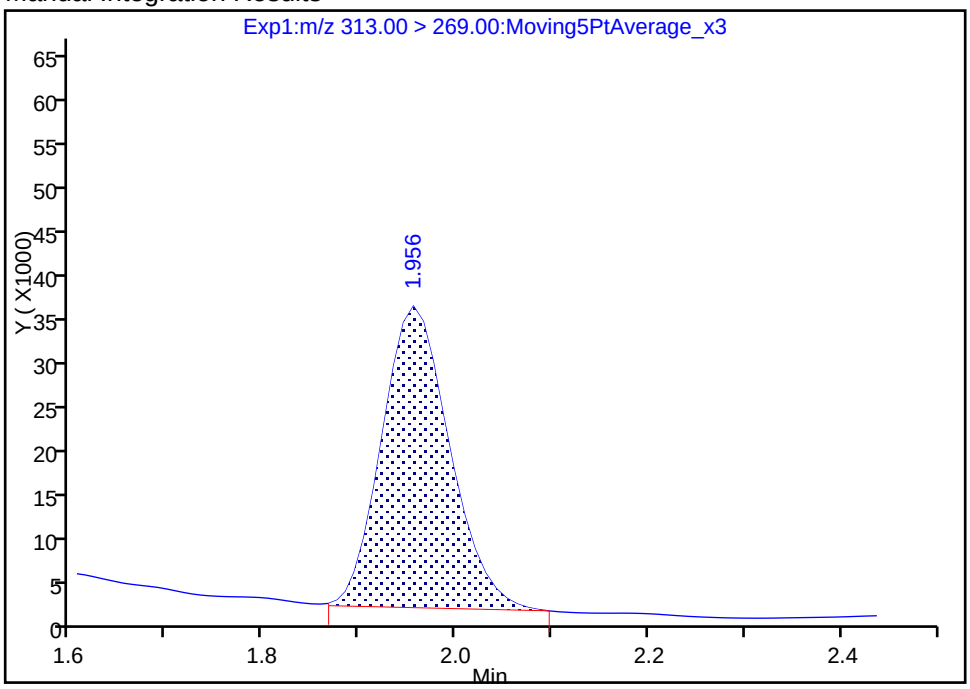
Processing Integration Results

RT: 1.96
Area: 183961
Amount: 0.089630
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 167827
Amount: 0.081769
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:56:50
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

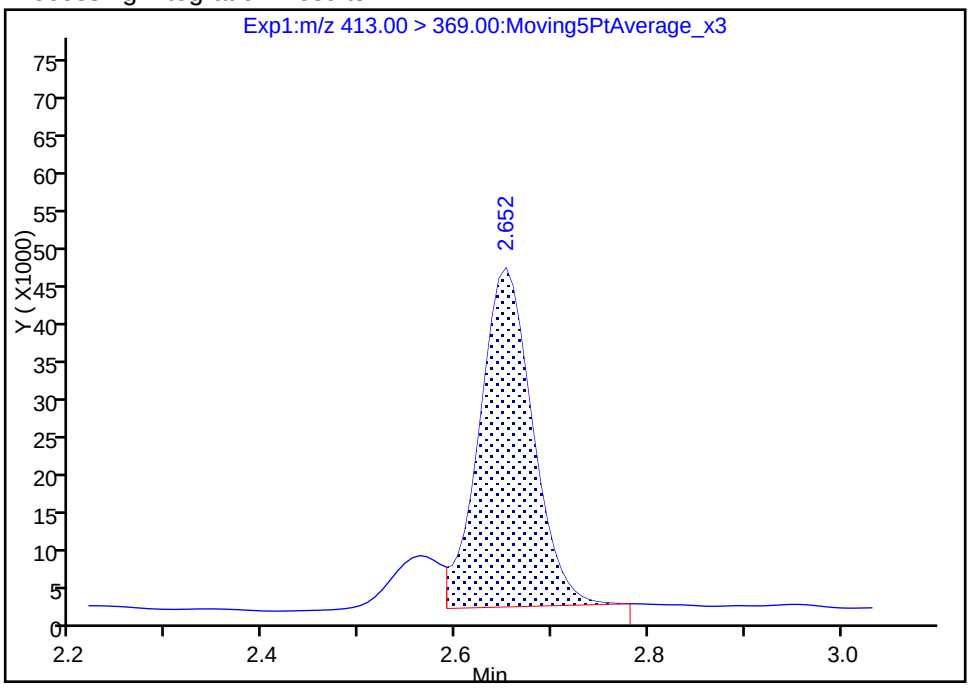
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_038.d				
Injection Date:	20-Dec-2017 09:23:52	Instrument ID:	A8_N		
Lims ID:	320-34182-A-10-A	Lab Sample ID:	320-34182-10		
Client ID:	FW-GA003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	28	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

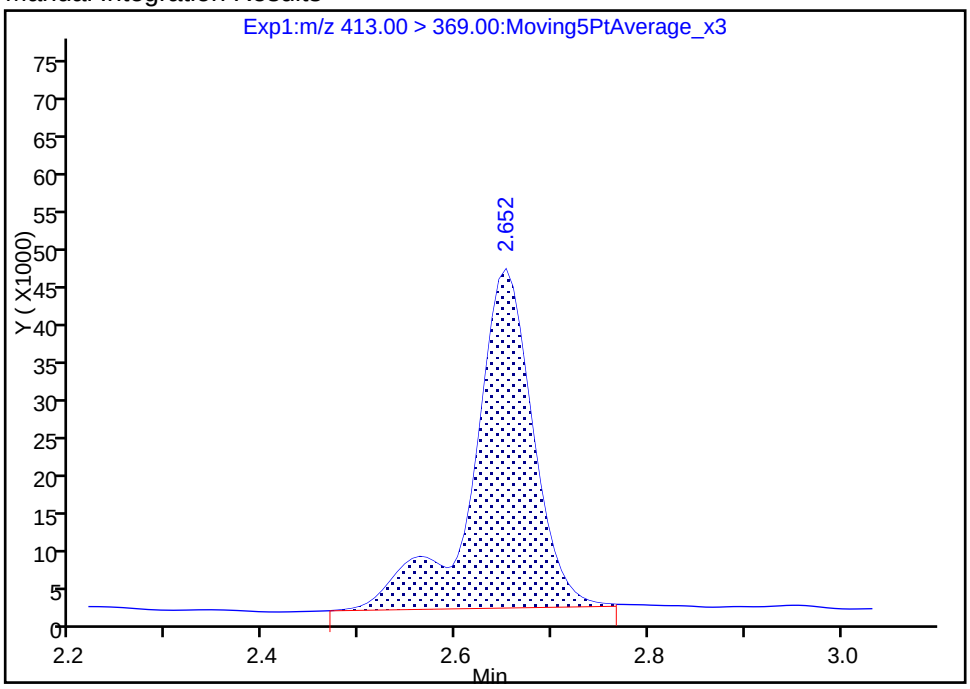
Processing Integration Results

RT: 2.65
Area: 169902
Amount: 0.072220
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 195369
Amount: 0.083045
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:57:17
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

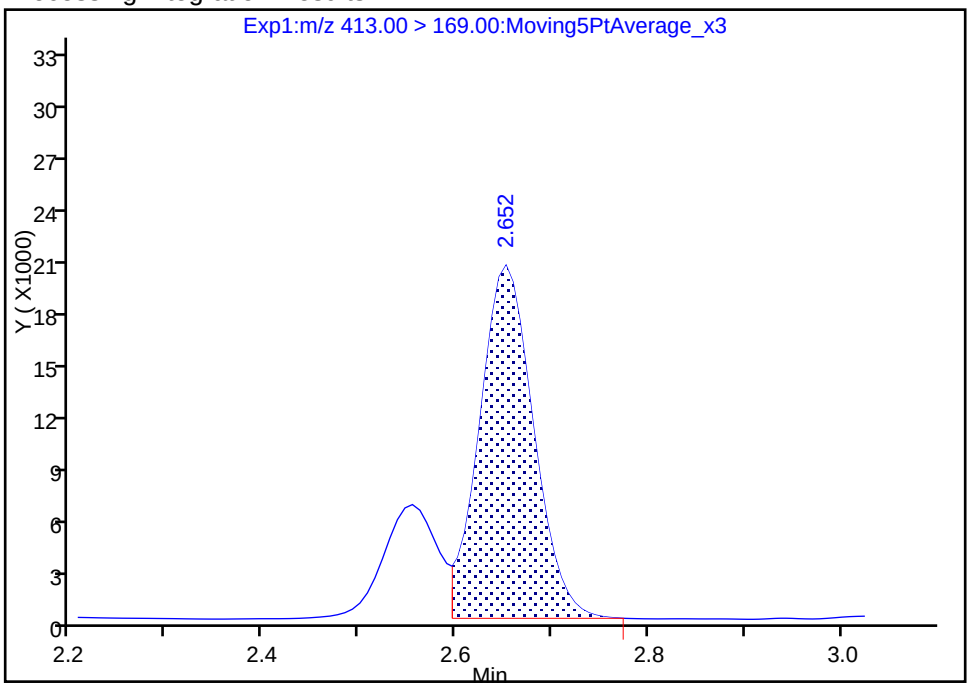
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_038.d				
Injection Date:	20-Dec-2017 09:23:52	Instrument ID:	A8_N		
Lims ID:	320-34182-A-10-A	Lab Sample ID:	320-34182-10		
Client ID:	FW-GA003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	28	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

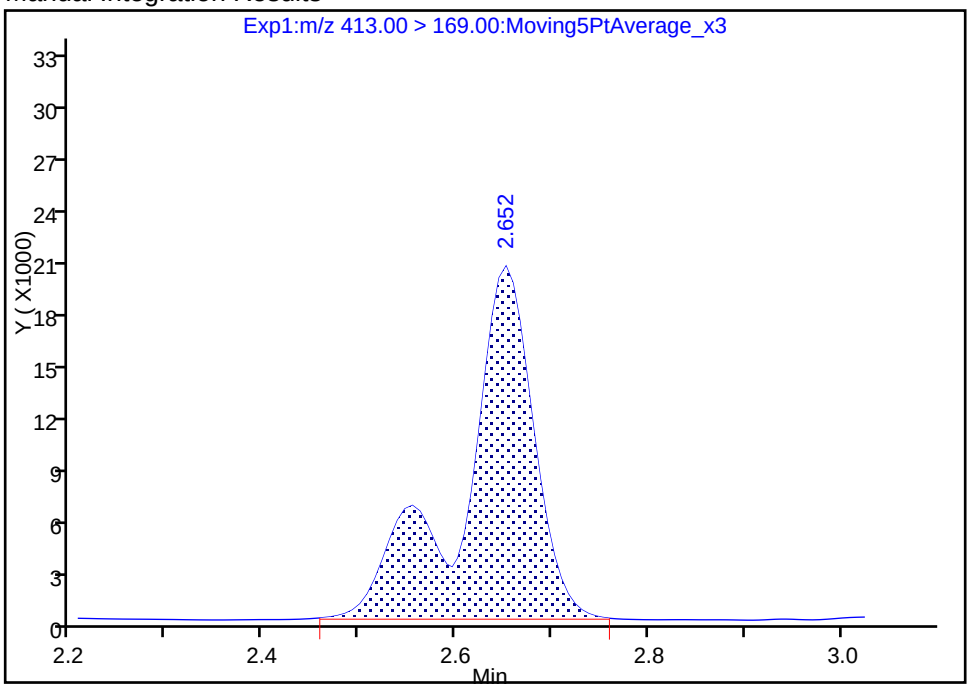
Processing Integration Results

RT: 2.65
Area: 78855
Amount: 0.072220
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 104302
Amount: 0.083045
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:57:24

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

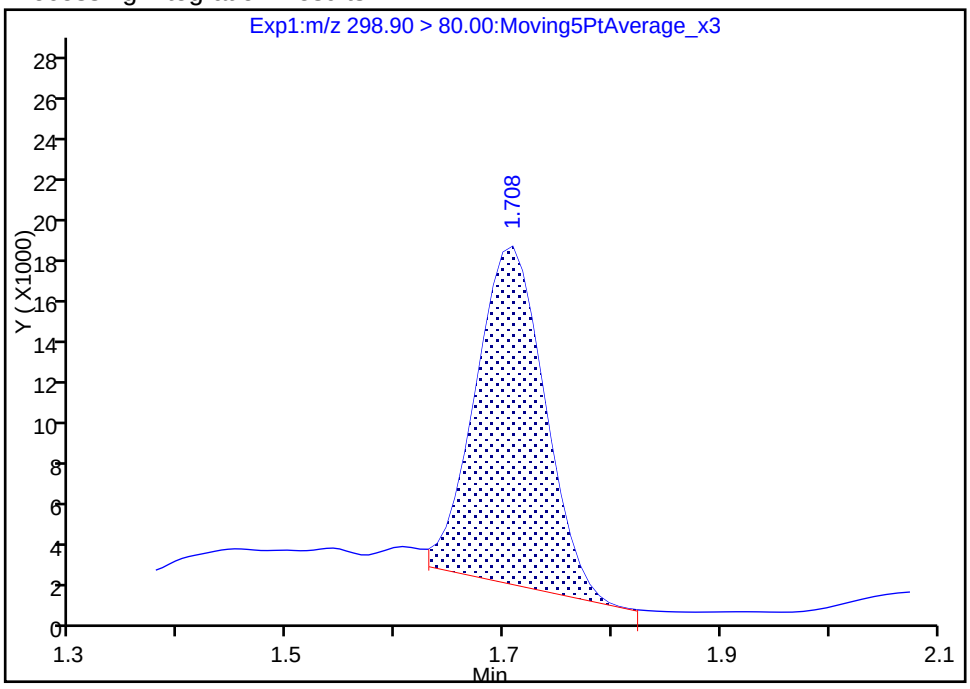
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_038.d				
Injection Date:	20-Dec-2017 09:23:52	Instrument ID:	A8_N		
Lims ID:	320-34182-A-10-A	Lab Sample ID:	320-34182-10		
Client ID:	FW-GA003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	28	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

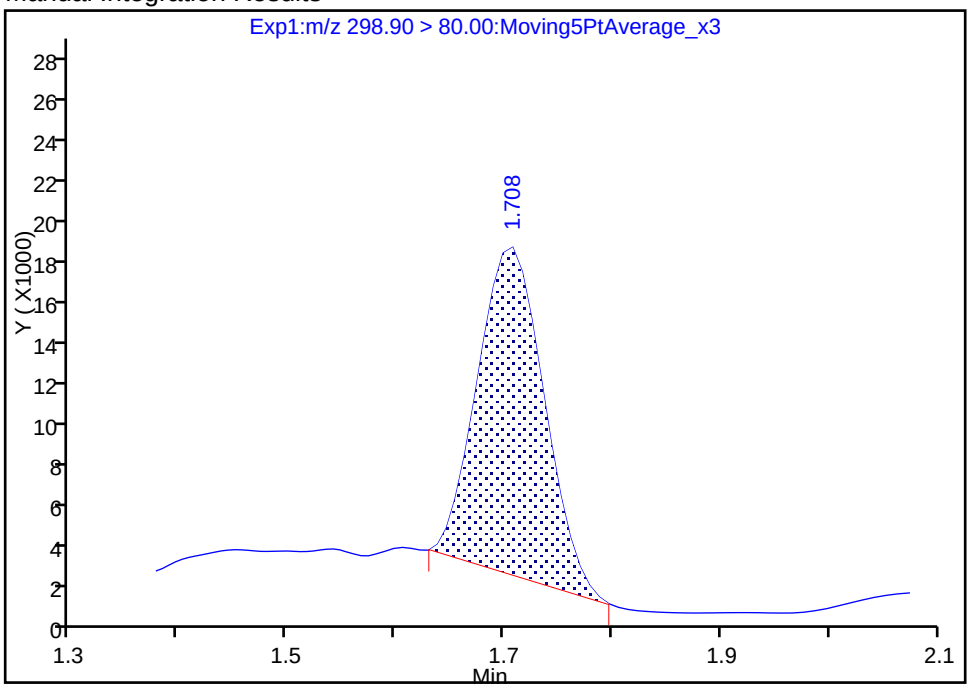
Processing Integration Results

RT: 1.71
Area: 72835
Amount: 0.024142
Amount Units: ng/ml



Manual Integration Results

RT: 1.71
Area: 68070
Amount: 0.022563
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:56:39

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-GA001-A | Lab Sample ID: 320-34182-11

Matrix: Water | Lab File ID: 2017.12.19LLC_039.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 11:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 256.8(mL) | Date Analyzed: 12/20/2017 09:31

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.63	J	1.95	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.09	J	1.95	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	1.16	J	1.95	0.56
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.84	J	1.95	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	1.31	J	1.95	0.83
375-95-1	Perfluorononanoic acid (PFNA)	0.26	U	1.95	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.30	U	1.95	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.07	U	1.95	1.07
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.95	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.95	1.27
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.95	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.36	J	1.95	0.19
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.69	J B	1.95	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	1.95	0.18
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.27		1.95	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.95	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	1.44	J B	1.95	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.02	U	19.5	3.02
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.85	U	19.5	1.85
27619-97-2	6:2FTS	1.95	U	19.5	1.95
39108-34-4	8:2FTS	1.95	U	19.5	1.95

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-GA001-A | Lab Sample ID: 320-34182-11

Matrix: Water | Lab File ID: 2017.12.19LLC_039.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 11:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 256.8(mL) | Date Analyzed: 12/20/2017 09:31

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	100		25-150
STL01893	13C5 PFPeA	126		25-150
STL00993	13C2 PFHxA	113		25-150
STL01892	13C4-PFHpA	116		25-150
STL00990	13C4 PFOA	107		25-150
STL00995	13C5 PFNA	112		25-150
STL00996	13C2 PFDA	118		25-150
STL00997	13C2 PFUnA	98		25-150
STL00998	13C2 PFDoA	95		25-150
STL02116	13C2-PFTeDA	93		25-150
STL02337	13C3-PFBS	112		25-150
STL00994	18O2 PFHxS	117		25-150
STL00991	13C4 PFOS	109		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	112		25-150
STL02117	d5-NEtFOSAA	112		25-150
STL02279	M2-6:2FTS	56		25-150
STL02280	M2-8:2FTS	144		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_039.d
Lims ID: 320-34182-A-11-A
Client ID: MW-GA001-A
Sample Type: Client
Inject. Date: 20-Dec-2017 09:31:43 ALS Bottle#: 29 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-11-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:00:41

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.535	7402670	2.50		100	24430	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.414	1.412	0.002	1.000	113178	0.0419			8.3	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.661	1.664	-0.003	0.628	5505072	3.16		126	39663	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.653	1.664	-0.011	0.995	68198	0.0280			10.7	M
D 47 13C3-PFBS										
301.90 > 83.00	1.697	1.699	-0.002	0.642	96019	2.61		112	1776	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.697	1.703	-0.006	1.000	28398	0.009198			8.6	M
298.90 > 99.00	1.706	1.703	0.003	1.005	14906		1.91(1.25-3.74)		29.4	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.954	1.949	0.005	1.000	62393	0.0298			60.0	
313.00 > 119.00	1.943	1.949	-0.006	0.995	7392		8.44(5.03-15.10)		98.5	
D 7 13C2 PFHxA										
315.00 > 270.00	1.954	1.949	0.005	0.739	5238298	2.83		113	42437	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.278	2.286	-0.008	0.994	44258	0.0215			62.0	
363.00 > 169.00	2.291	2.286	0.005	1.000	16760		2.64(1.13-3.40)		142	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.286	0.005	0.867	5005936	2.90		116	39082	
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.299	0.005	0.872	5931621	2.77		117	56944	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.299	0.005	1.000	118249	0.0434			166	
399.00 > 99.00	2.304	2.299	0.005	1.000	36256		3.26(1.50-4.49)		97.6	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.615	2.640	-0.025	0.997	11648	0.0180			546	
D 12 M2-6:2FTS										
429.00 > 81.00	2.623	2.640	-0.017	0.992	957885	1.33		56.2	10969	
* 62 13C2-PFOA										
415.00 > 370.00	2.644	2.643	0.001		5019870	2.50			43618	
D 14 13C4 PFOA										
417.00 > 372.00	2.644	2.647	-0.003	1.000	5581076	2.69		107	48840	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.651	2.649	0.002	1.003	79447	0.0337			71.8	M
413.00 > 169.00	2.651	2.649	0.002	1.003	46878		1.69(0.84-2.52)		345	M
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.024	3.025	-0.001	1.000	92714	0.0582			10.0	
499.00 > 99.00	3.016	3.025	-0.009	0.997	19099		4.85(2.31-6.93)		15.7	
D 18 13C4 PFOS										
503.00 > 80.00	3.024	3.025	-0.001	1.144	3581334	2.60		109	29903	
20 Perfluorononanoic acid										
463.00 > 419.00	3.024	3.026	-0.002	1.000	8659	0.005730			17.8	
463.00 > 169.00	3.024	3.026	-0.002	1.000	2032		4.26(1.90-5.69)		42.2	
D 19 13C5 PFNA										
468.00 > 423.00	3.024	3.026	-0.002	1.144	3898296	2.79		112	51238	
D 21 13C8 FOSA										
506.00 > 78.00	3.362	3.362	0.0	1.272	4681993	2.41		96.2	27911	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.362	3.365	-0.003	1.000	65473	0.0370			277	
D 26 M2-8:2FTS										
529.00 > 81.00	3.370	3.375	-0.005	1.274	1052483	3.44		144	2442	
D 23 13C2 PFDA										
515.00 > 470.00	3.377	3.387	-0.010	1.277	3298312	2.95		118	36004	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.536	3.541	-0.005	1.337	1446452	2.81		112	20632	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.695	3.711	-0.016	1.398	1484104	2.80		112	9538	
D 30 13C2 PFUnA										
565.00 > 520.00	3.704	3.717	-0.013	1.401	2118220	2.46		98.5	23441	
D 36 13C2 PFDoA										
615.00 > 570.00	4.003	4.015	-0.012	1.514	2172973	2.38		95.1	26962	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.522	-0.009	1.707	2327544	2.32		92.7	16154	

QC Flag Legend

Review Flags

M - Manually Integrated

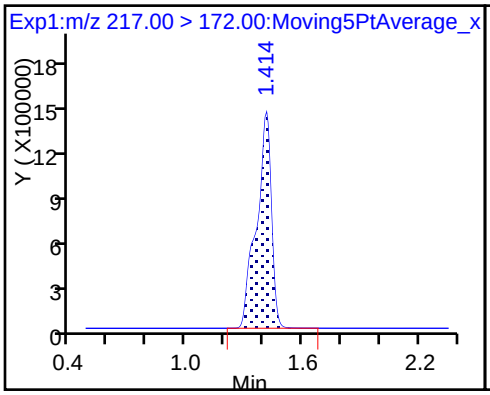
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TestAmerica Sacramento

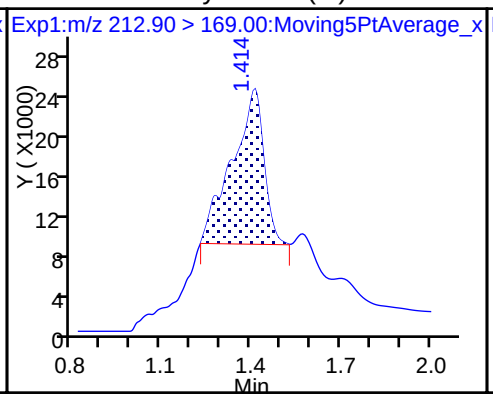
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Injection Date:	20-Dec-2017 09:31:43	Instrument ID:	A8_N		
Lims ID:	320-34182-A-11-A	Lab Sample ID:	320-34182-11		
Client ID:	MW-GA001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	29	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

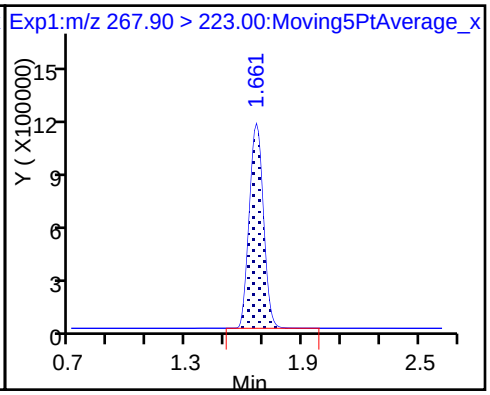
D 1 13C4 PFBA



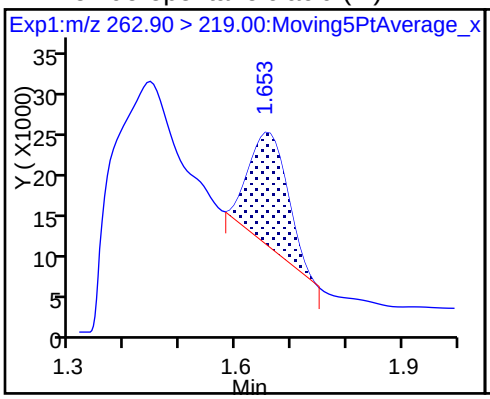
2 Perfluorobutyric acid (M)



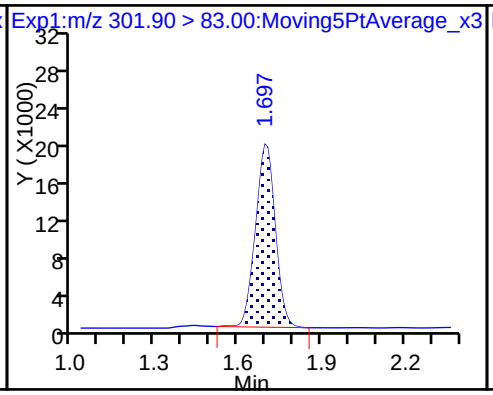
D 3 13C5-PFPeA



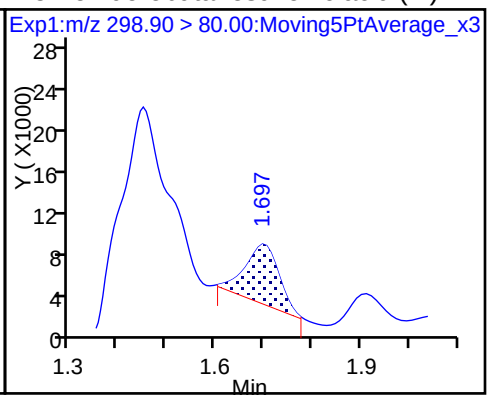
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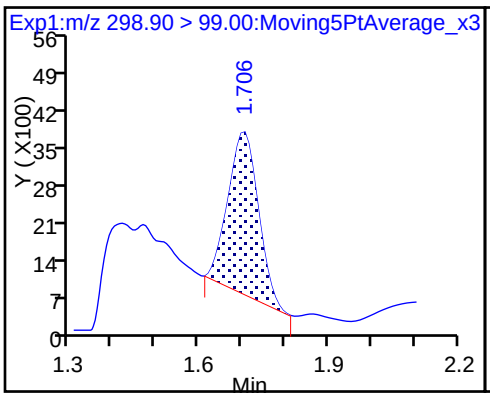
D 47 13C3-PFBS



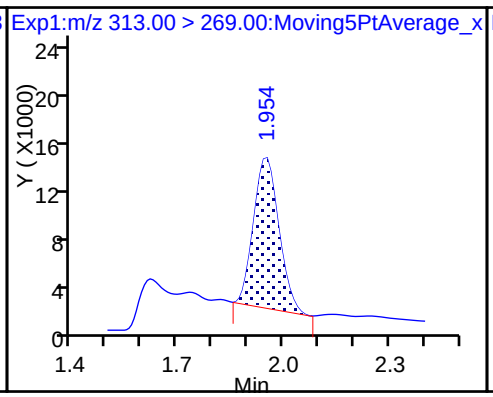
5 Perfluorobutanesulfonic acid (M)



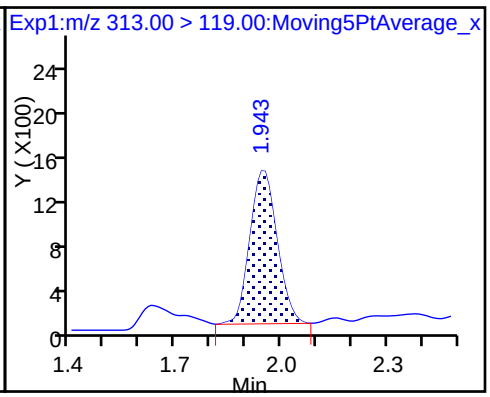
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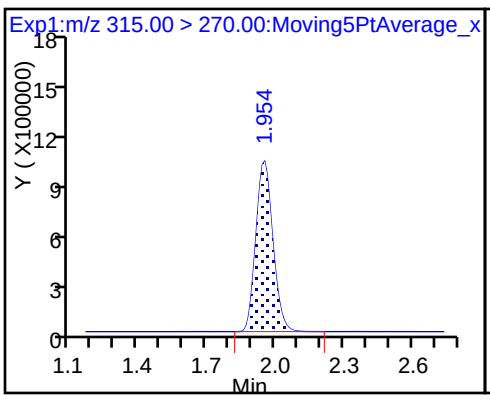
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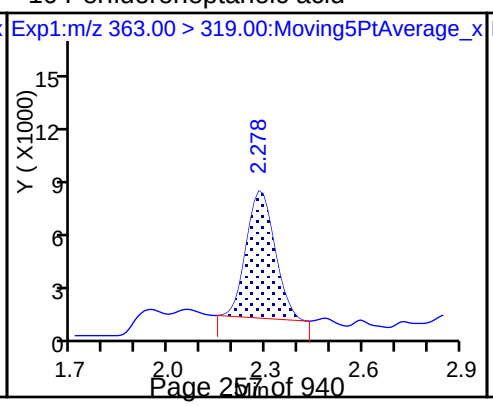
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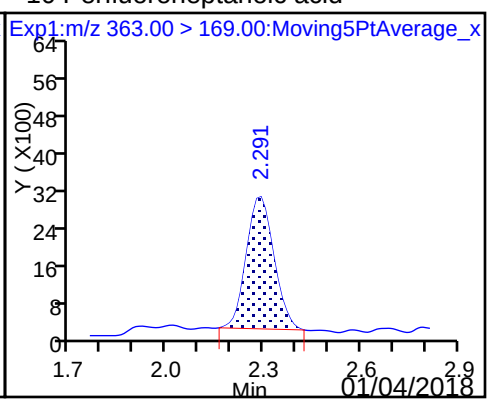
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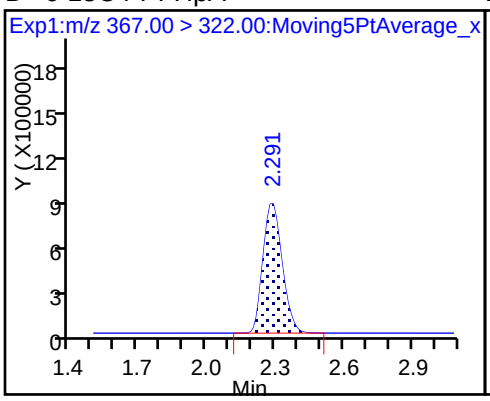
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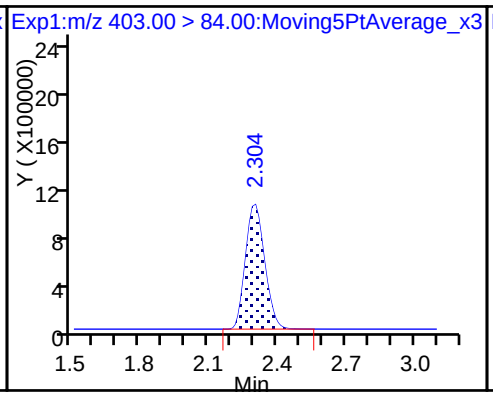
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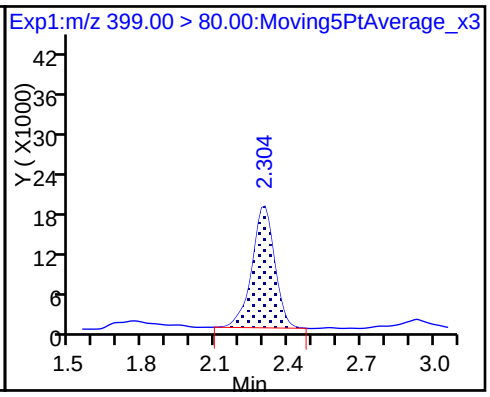
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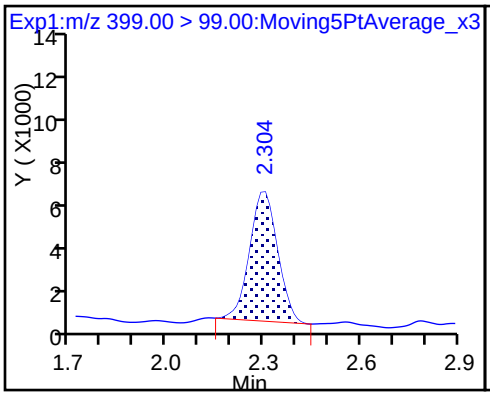
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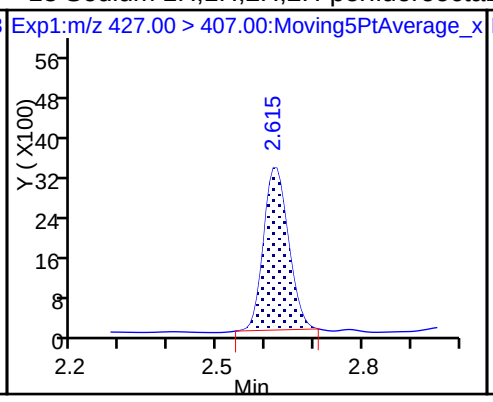
8 Perfluorohexanesulfonic acid



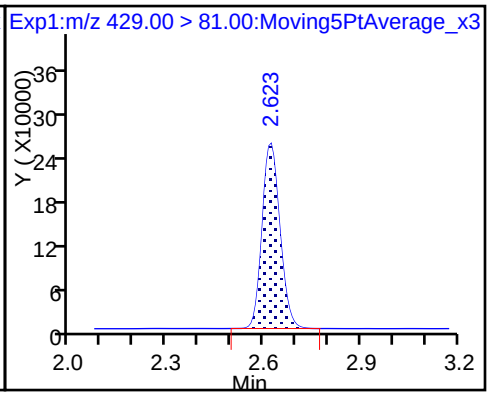
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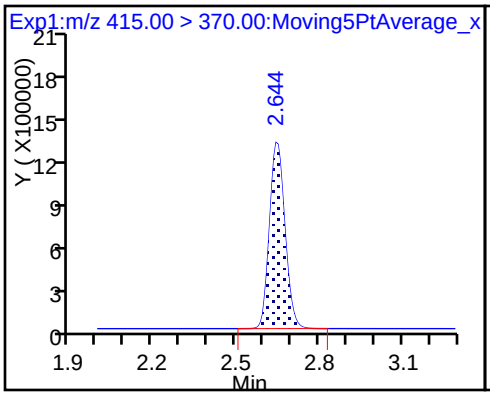
13 Sodium 1H,1H,2H,2H-perfluorooctane



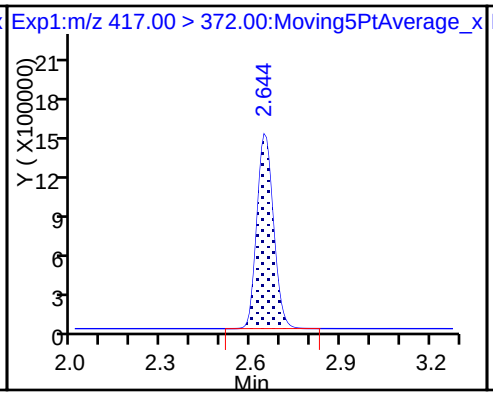
D 12 M2-6:2FTS



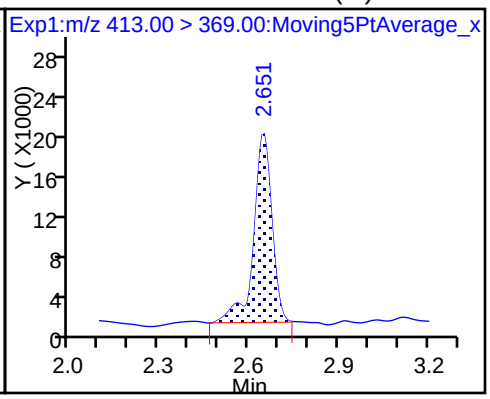
* 62 13C2-PFOA



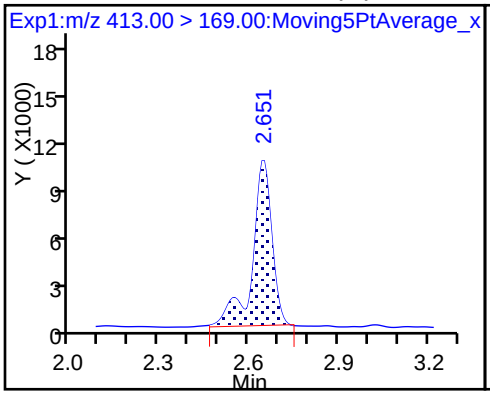
D 14 13C4 PFOA



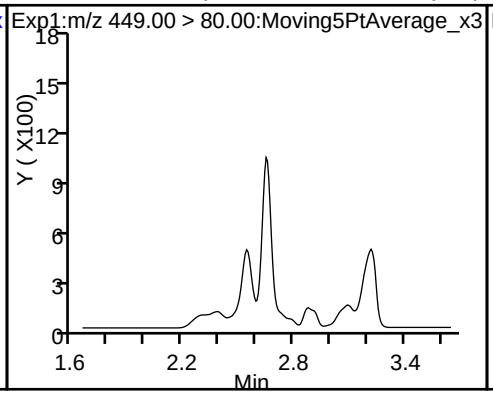
15 Perfluorooctanoic acid (M)



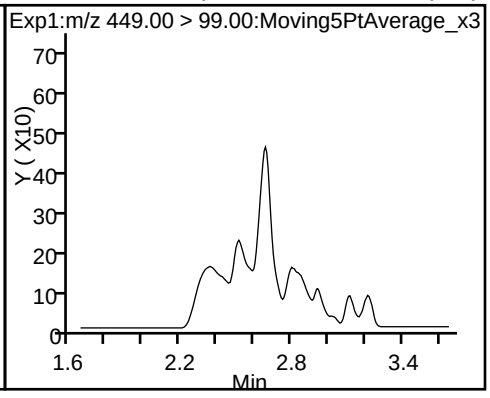
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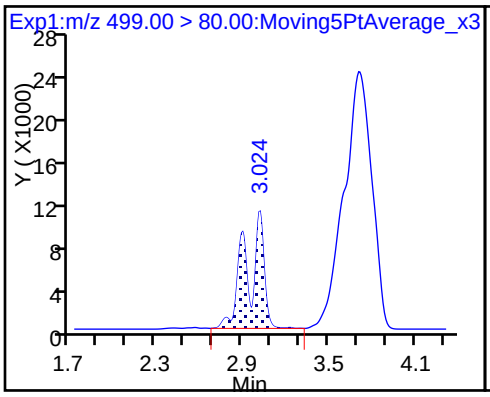
16 Perfluoroheptanesulfonic Acid (ND)



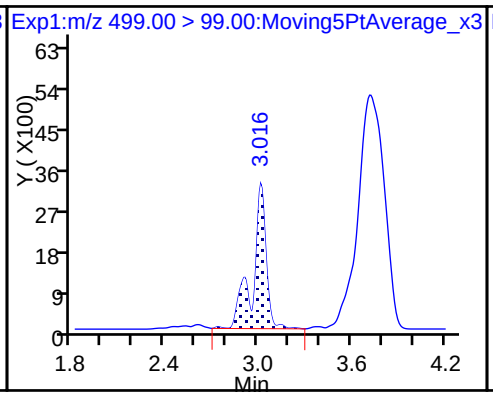
16 Perfluoroheptanesulfonic Acid (ND)



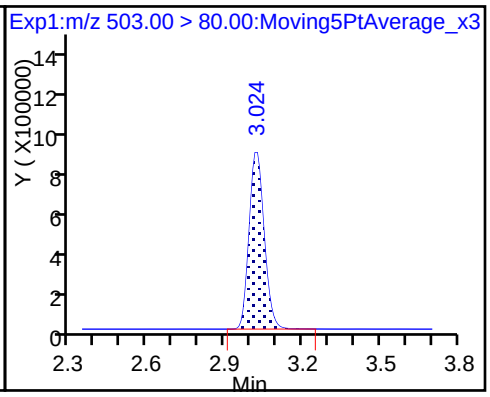
17 Perfluorooctane sulfonic acid



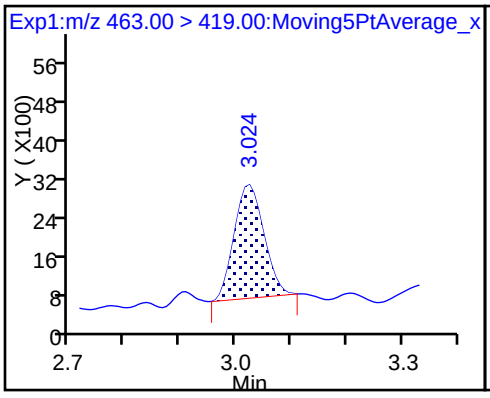
17 Perfluorooctane sulfonic acid



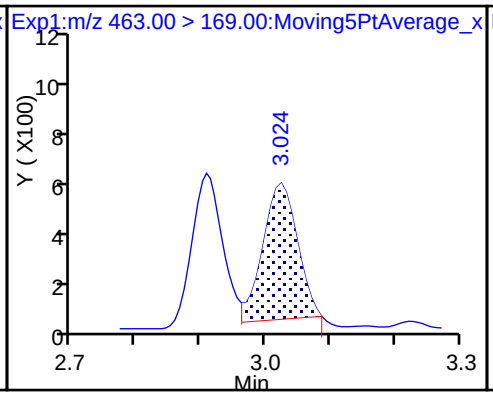
D 18 13C4 PFOS



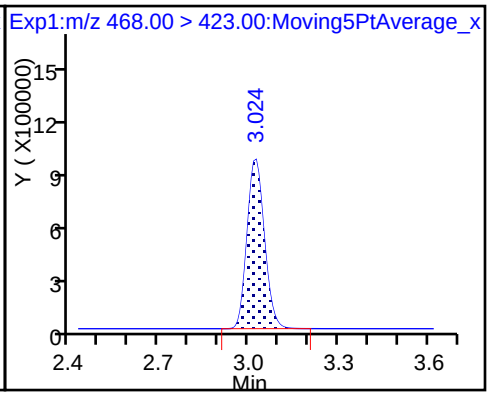
20 Perfluorononanoic acid



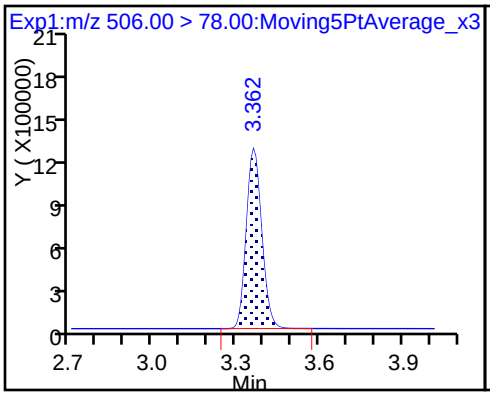
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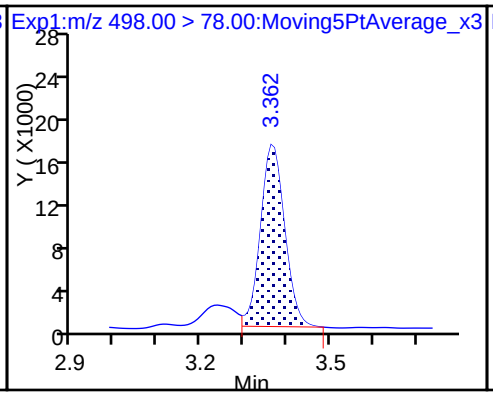
D 19 13C5 PFNA



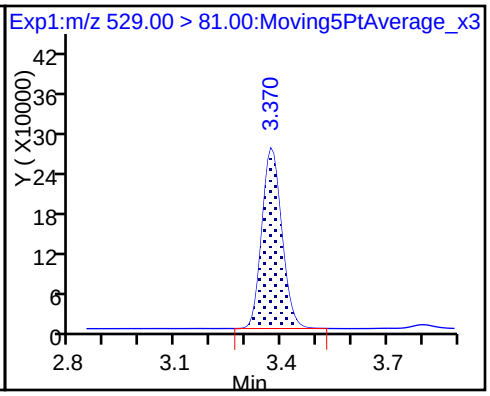
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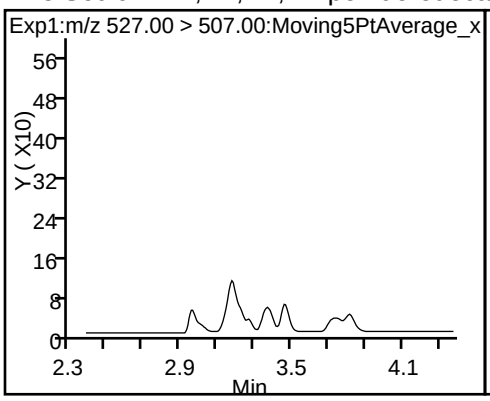
22 Perfluorooctane Sulfonamide



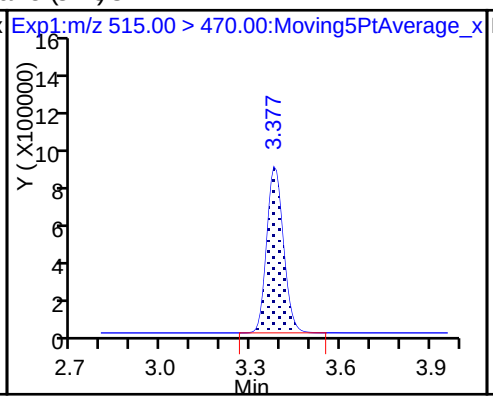
D 26 M2-8:2FTS



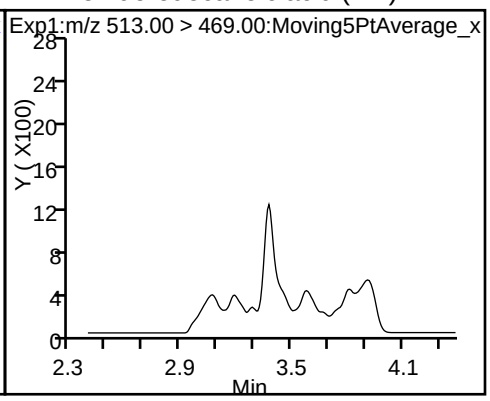
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



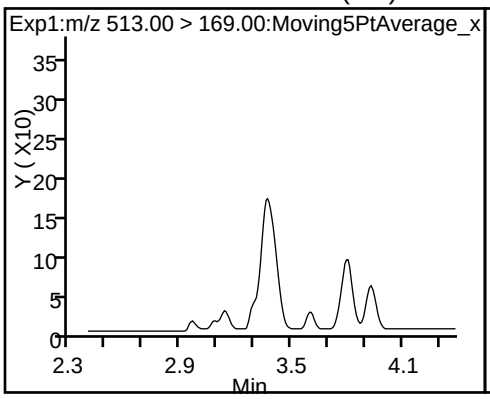
D 13C2 PFDA



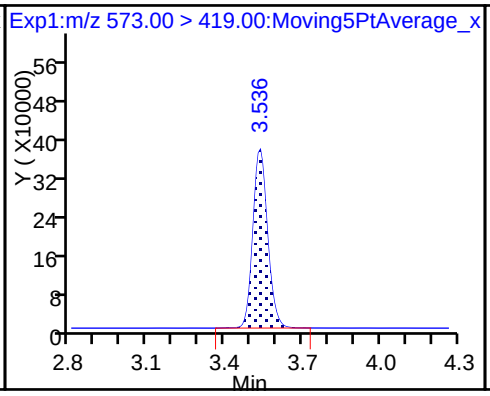
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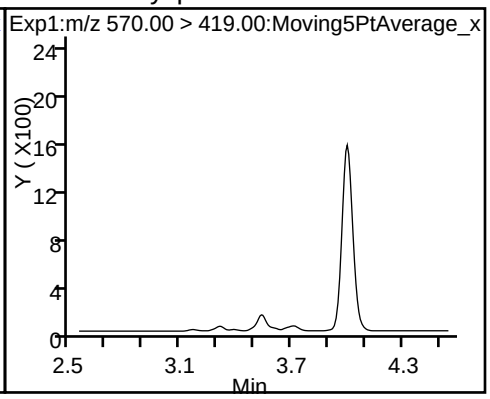
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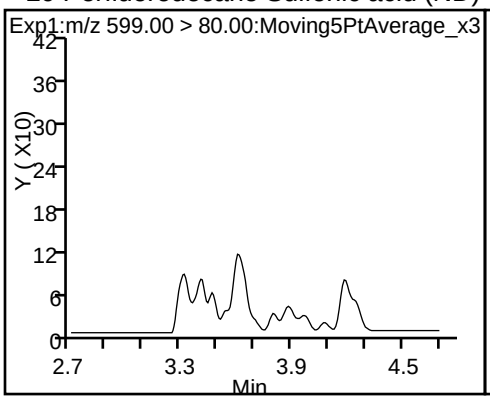
D 27 d3-NMeFOSAA



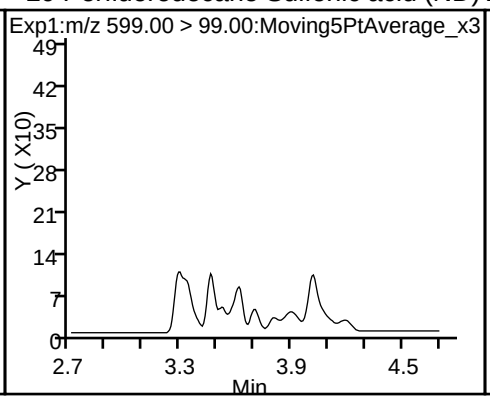
28 N-methyl perfluorooctane sulfonami (ND)



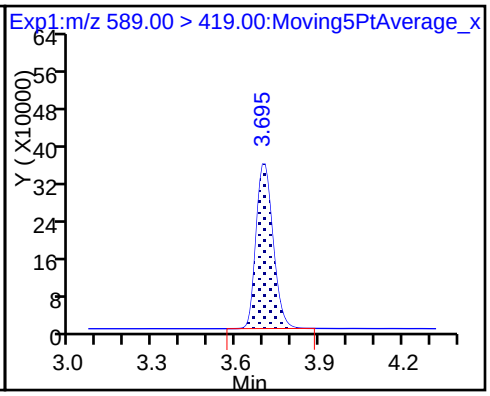
29 Perfluorodecane Sulfonic acid (ND)



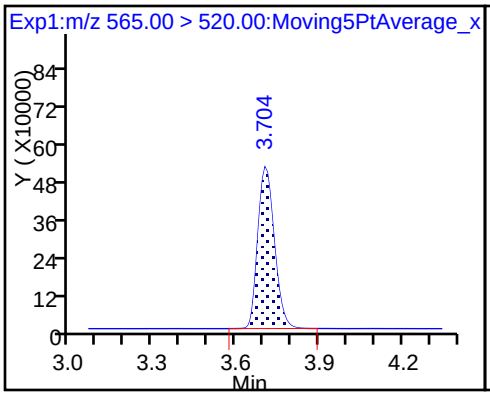
29 Perfluorodecane Sulfonic acid (ND)



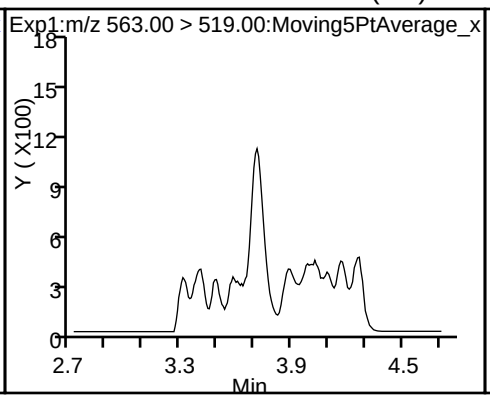
D 32 d5-NEtFOSAA



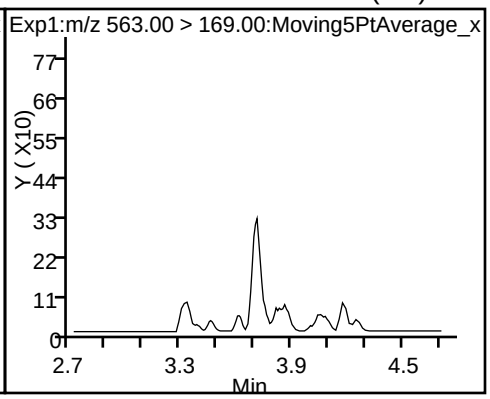
D 30 13C2 PFUnA



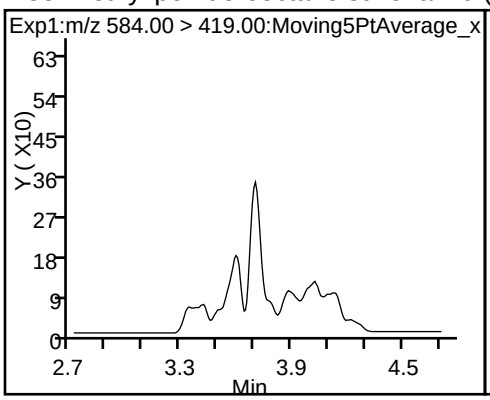
31 Perfluoroundecanoic acid (ND)



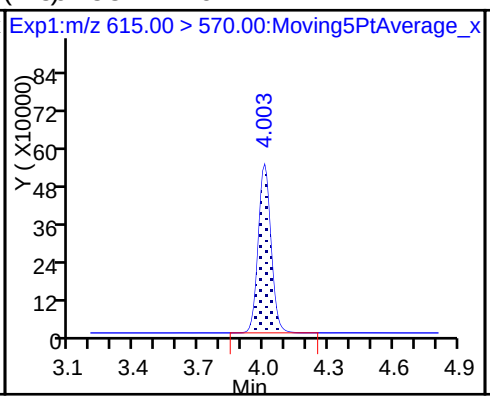
31 Perfluoroundecanoic acid (ND)



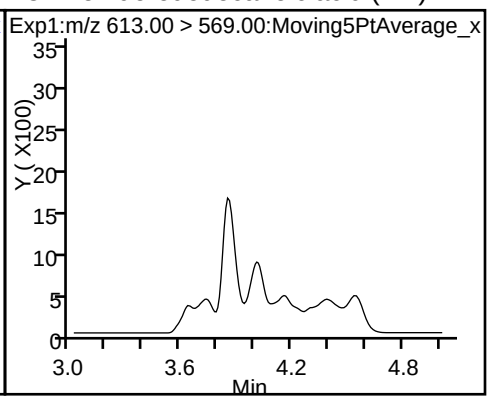
33 N-ethyl perfluorooctane sulfonamid (ND)



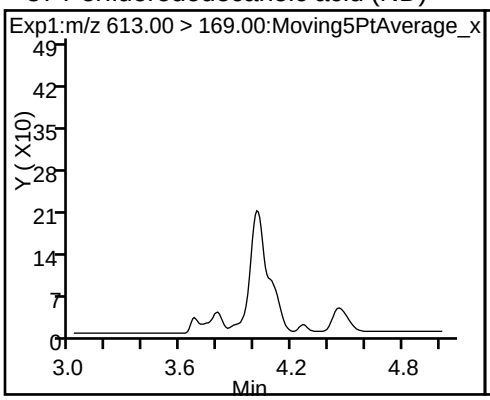
D 36 13C2 PFDoA



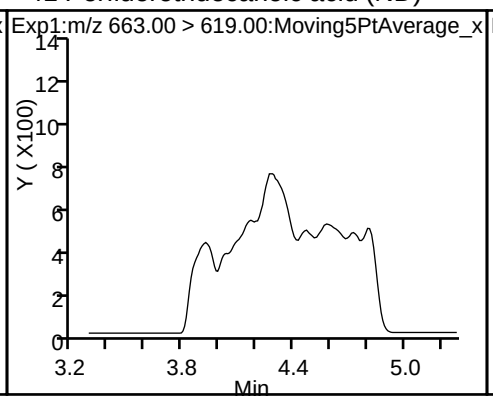
37 Perfluorododecanoic acid (ND)



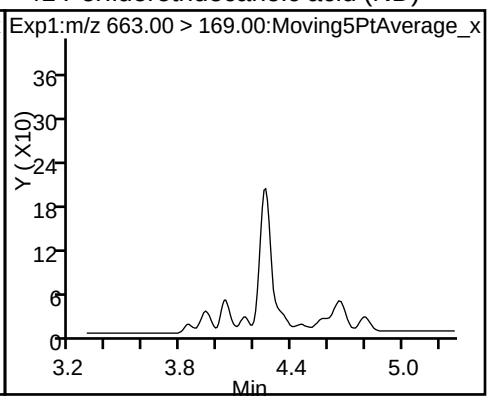
37 Perfluorododecanoic acid (ND)



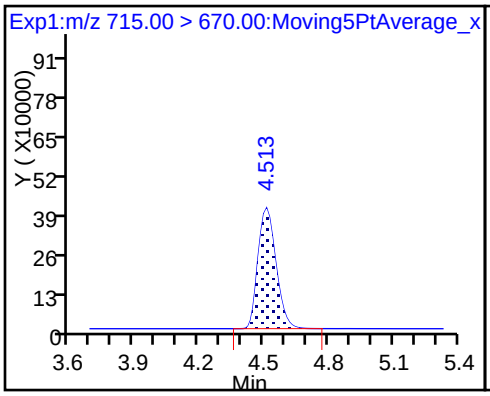
41 Perfluorotridecanoic acid (ND)



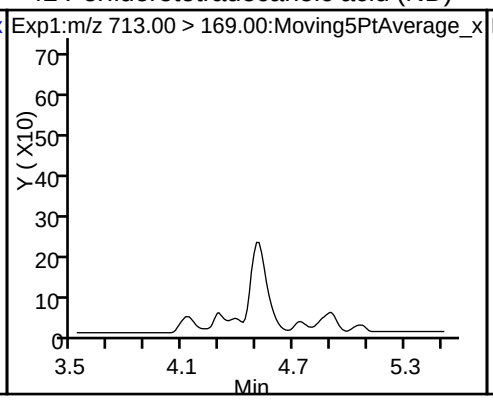
41 Perfluorotridecanoic acid (ND)



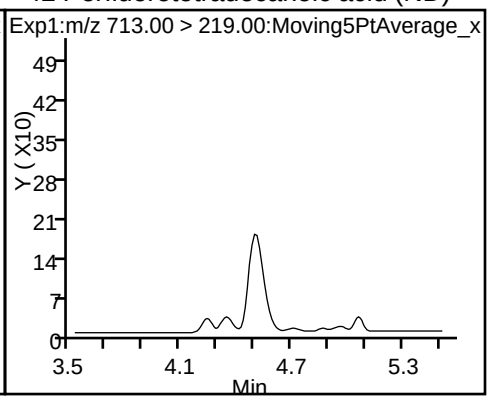
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

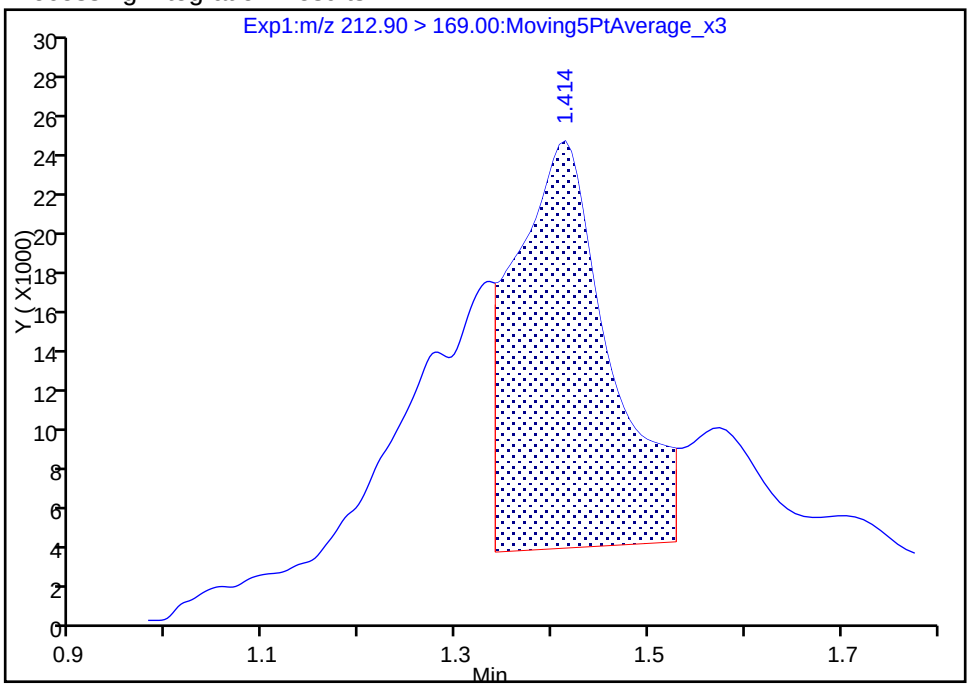
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_039.d				
Injection Date:	20-Dec-2017 09:31:43	Instrument ID:	A8_N		
Lims ID:	320-34182-A-11-A	Lab Sample ID:	320-34182-11		
Client ID:	MW-GA001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	29	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

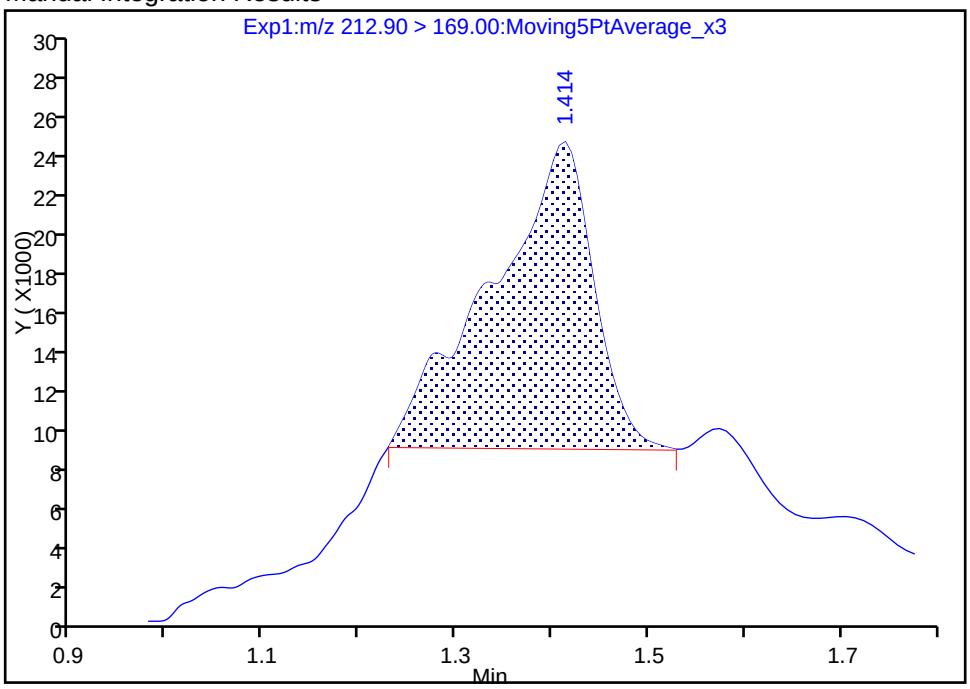
Processing Integration Results

RT: 1.41
Area: 138159
Amount: 0.051142
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 113178
Amount: 0.041895
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:58:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

TestAmerica Sacramento

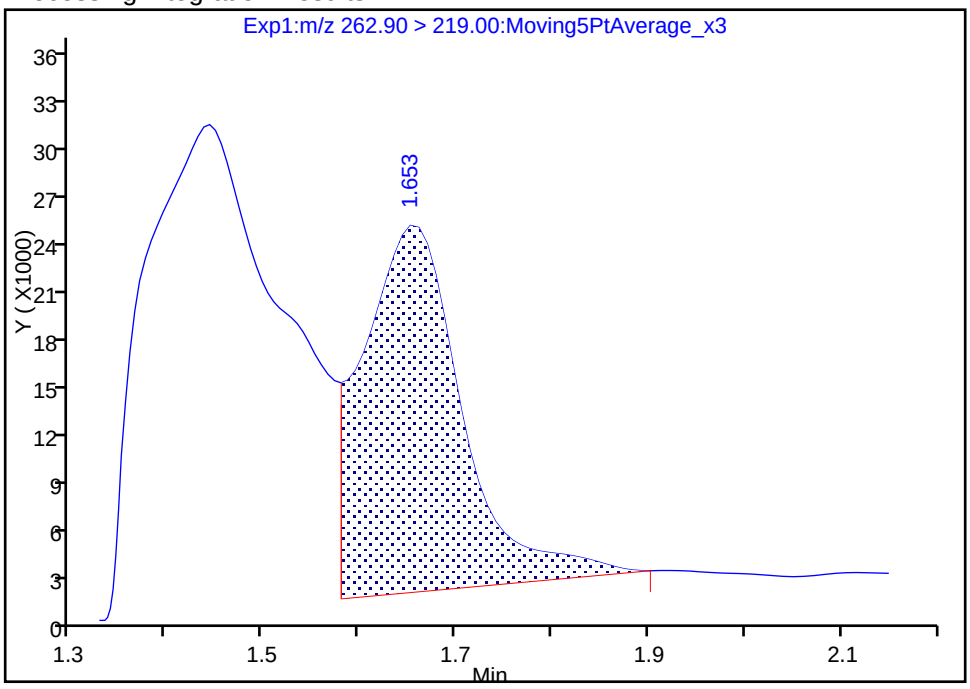
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_039.d				
Injection Date:	20-Dec-2017 09:31:43	Instrument ID:	A8_N		
Lims ID:	320-34182-A-11-A	Lab Sample ID:	320-34182-11		
Client ID:	MW-GA001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	29	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

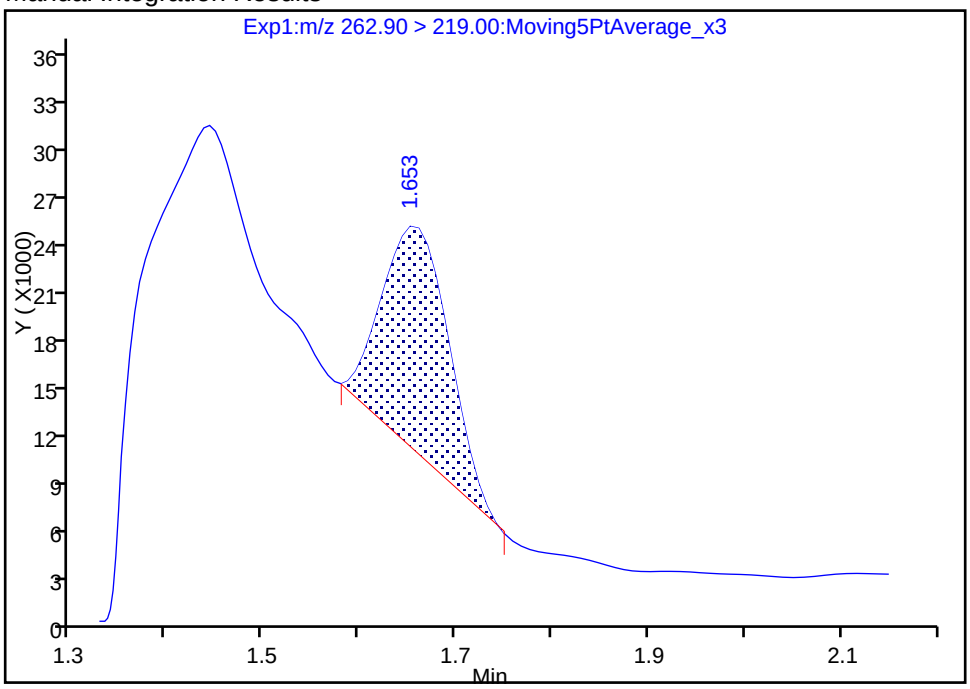
Processing Integration Results

RT: 1.65
Area: 166293
Amount: 0.068316
Amount Units: ng/ml



Manual Integration Results

RT: 1.65
Area: 68198
Amount: 0.028017
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:59:08
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

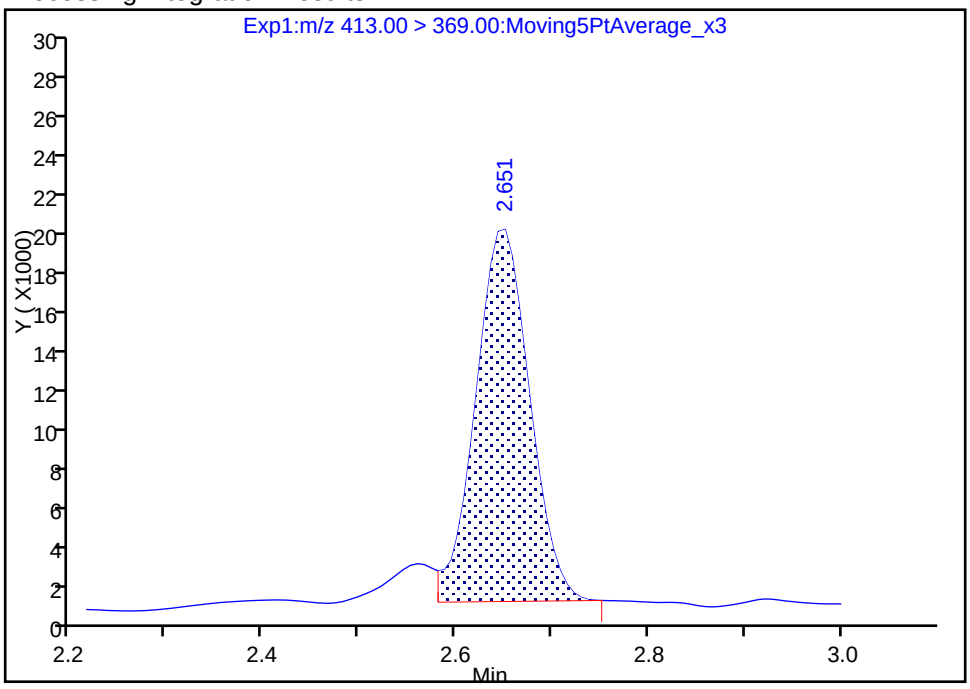
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_039.d				
Injection Date:	20-Dec-2017 09:31:43	Instrument ID:	A8_N		
Lims ID:	320-34182-A-11-A	Lab Sample ID:	320-34182-11		
Client ID:	MW-GA001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	29	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

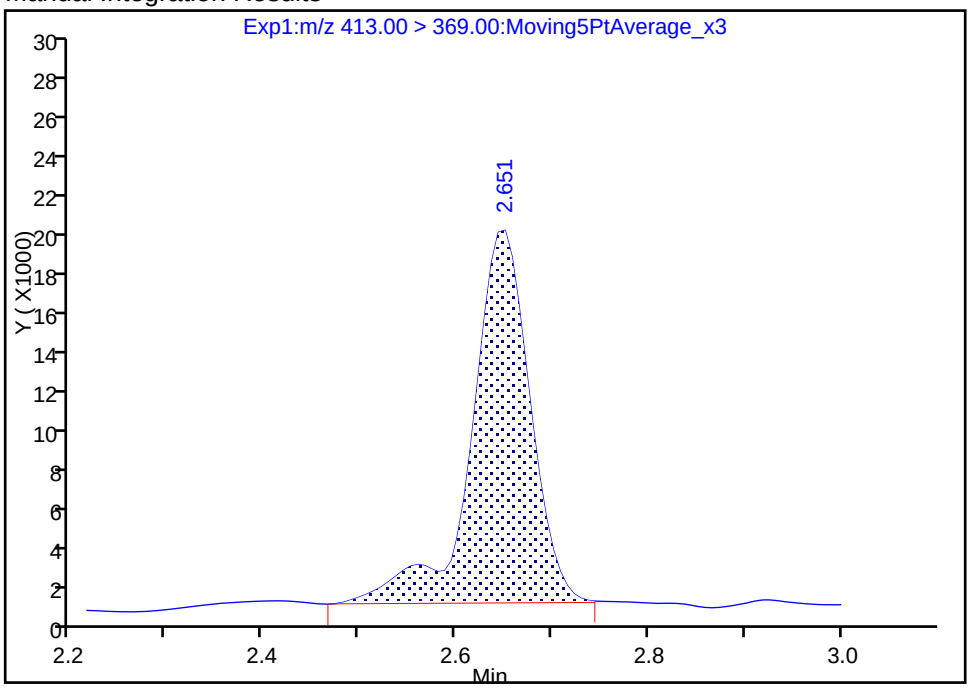
Processing Integration Results

RT: 2.65
Area: 72553
Amount: 0.030798
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 79447
Amount: 0.033724
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:59:48
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

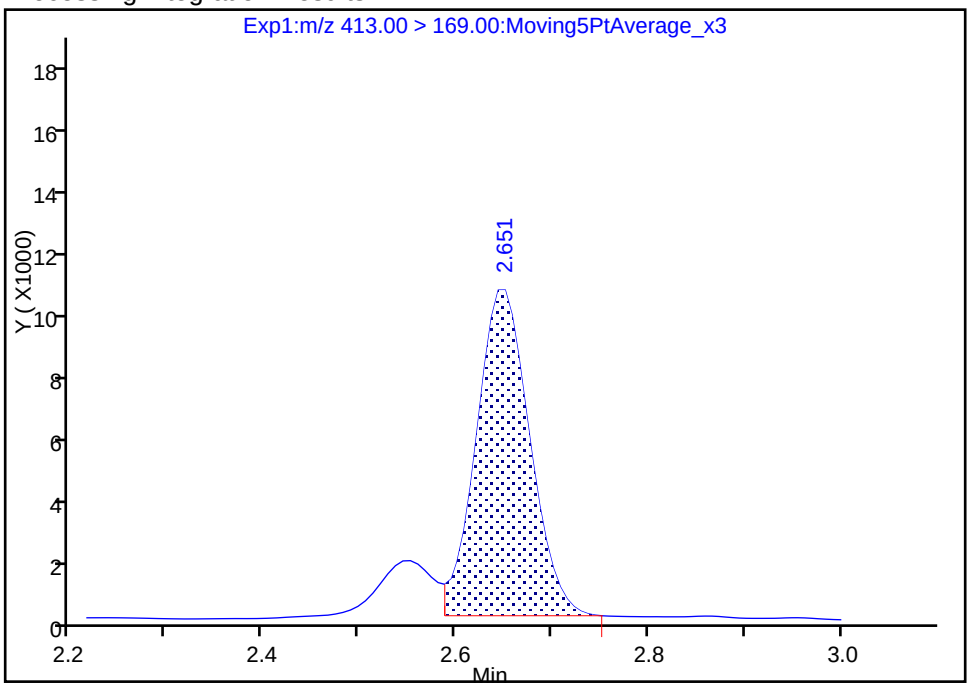
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_039.d				
Injection Date:	20-Dec-2017 09:31:43	Instrument ID:	A8_N		
Lims ID:	320-34182-A-11-A	Lab Sample ID:	320-34182-11		
Client ID:	MW-GA001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	29	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

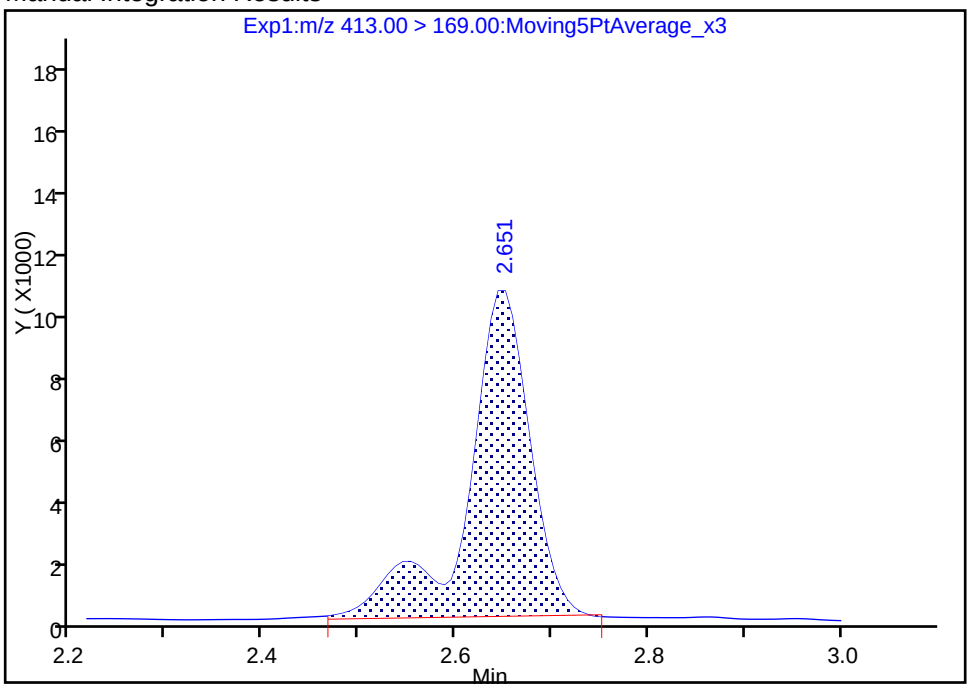
Processing Integration Results

RT: 2.65
Area: 39849
Amount: 0.030798
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 46878
Amount: 0.033724
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:59:52

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

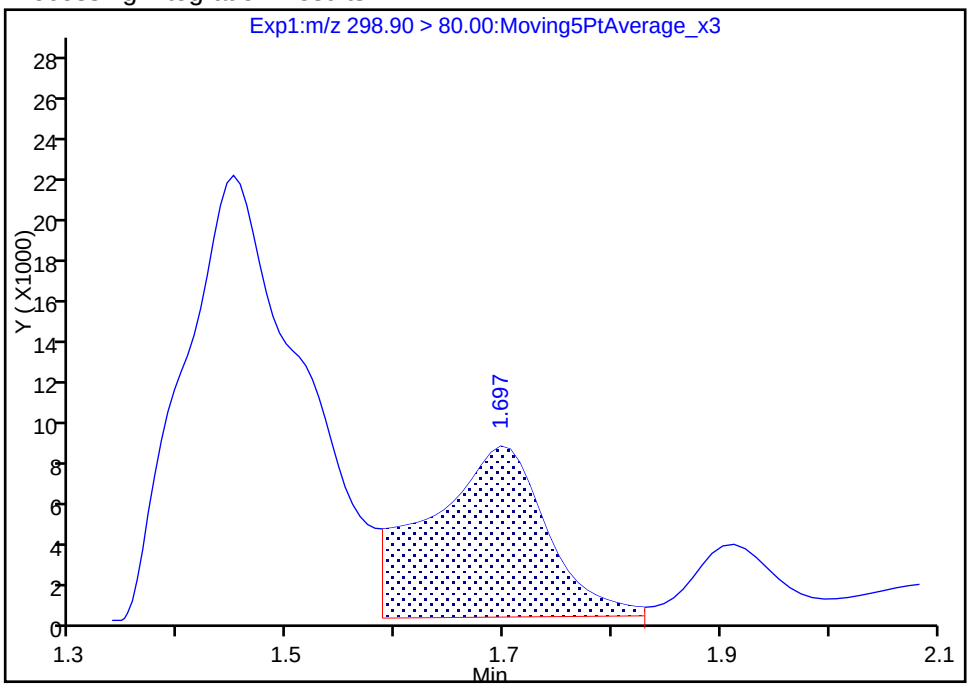
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_039.d				
Injection Date:	20-Dec-2017 09:31:43	Instrument ID:	A8_N		
Lims ID:	320-34182-A-11-A	Lab Sample ID:	320-34182-11		
Client ID:	MW-GA001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	29	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

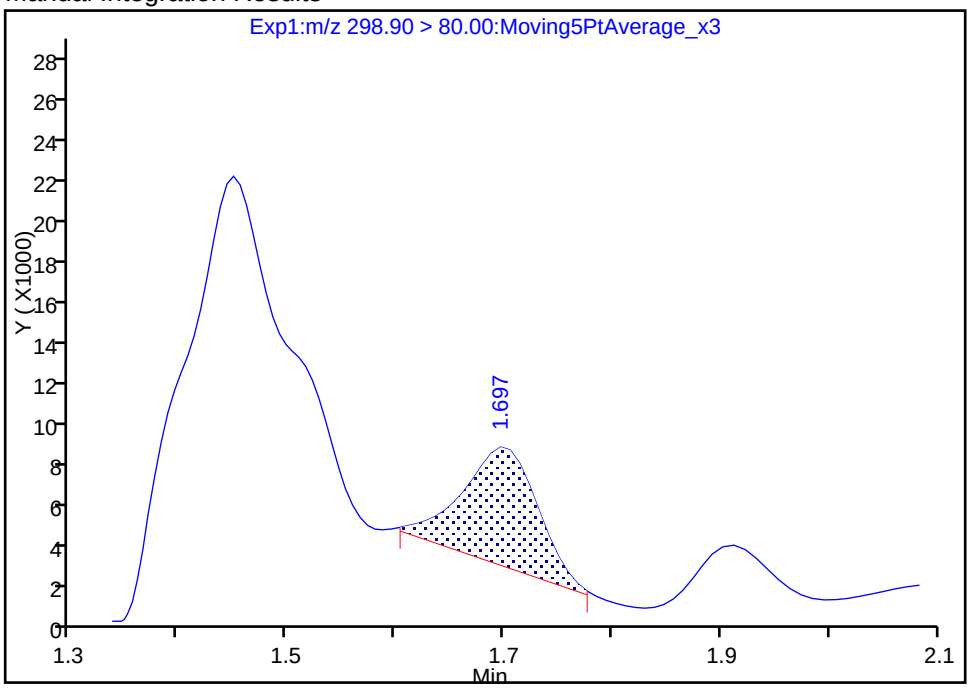
Processing Integration Results

RT: 1.70
Area: 63231
Amount: 0.020481
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 28398
Amount: 0.009198
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:59:25

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: Dupe | Lab Sample ID: 320-34182-12

Matrix: Water | Lab File ID: 2017.12.19LLC_040.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 00:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 256.6(mL) | Date Analyzed: 12/20/2017 09:39

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.63	J	1.95	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.07	J	1.95	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	1.27	J	1.95	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.79	J	1.95	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	1.26	J	1.95	0.83
375-95-1	Perfluorononanoic acid (PFNA)	0.26	U	1.95	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.30	U	1.95	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.07	U	1.95	1.07
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.95	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.95	1.27
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.95	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.40	J	1.95	0.19
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.77	J B	1.95	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.95	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.39		1.95	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.95	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.96	J B	1.95	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.02	U	19.5	3.02
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.85	U	19.5	1.85
27619-97-2	6:2FTS	1.95	U	19.5	1.95
39108-34-4	8:2FTS	1.95	U	19.5	1.95

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: Dupe | Lab Sample ID: 320-34182-12

Matrix: Water | Lab File ID: 2017.12.19LLC_040.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 00:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 256.6(mL) | Date Analyzed: 12/20/2017 09:39

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	93		25-150
STL01893	13C5 PFPeA	117		25-150
STL00993	13C2 PFHxA	107		25-150
STL01892	13C4-PFHpA	111		25-150
STL00990	13C4 PFOA	102		25-150
STL00995	13C5 PFNA	108		25-150
STL00996	13C2 PFDA	109		25-150
STL00997	13C2 PFUnA	99		25-150
STL00998	13C2 PFDoA	92		25-150
STL02116	13C2-PFTeDA	84		25-150
STL02337	13C3-PFBS	107		25-150
STL00994	18O2 PFHxS	107		25-150
STL00991	13C4 PFOS	107		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	112		25-150
STL02117	d5-NEtFOSAA	108		25-150
STL02279	M2-6:2FTS	58		25-150
STL02280	M2-8:2FTS	135		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_040.d
Lims ID: 320-34182-A-12-A
Client ID: Dupe
Sample Type: Client
Inject. Date: 20-Dec-2017 09:39:35 ALS Bottle#: 30 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-12-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:02:48

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.533	7438521	2.32		92.6	29485	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.418	1.412	0.006	1.004	113214	0.0417			8.1	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.658	1.664	-0.006	0.627	5541917	2.93		117	53181	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.658	1.664	-0.006	1.000	67384	0.0275			11.5	M
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.643	99211	2.48		107	1855	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.694	1.703	-0.009	0.995	32762	0.0103			6.6	M
298.90 > 99.00	1.694	1.703	-0.009	0.995	16410		2.00(1.25-3.74)		30.2	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.949	1.949	0.0	1.000	69722	0.0326			69.6	
313.00 > 119.00	1.949	1.949	0.0	1.000	7368		9.46(5.03-15.10)		102	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.736	5351127	2.67		107	46131	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.286	2.286	0.0	1.000	43672	0.0203			56.5	
363.00 > 169.00	2.286	2.286	0.0	1.000	14699		2.97(1.13-3.40)		125	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.864	5220891	2.78		111	38964	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.869	5898074	2.54		107	72176	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.299	0.0	1.000	122842	0.0453			173	
399.00 > 99.00	2.299	2.299	0.0	1.000	35294		3.48(1.50-4.49)		103	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.618	2.640	-0.022	1.000	13975	0.0191			725	
D 12 M2-6:2FTS										
429.00 > 81.00	2.618	2.640	-0.022	0.989	1082003	1.39		58.5	11725	
* 62 13C2-PFOA										
415.00 > 370.00	2.647	2.643	0.004		5447377	2.50			62110	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.647	0.0	1.000	5774717	2.56		102	68602	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.647	2.649	-0.002	1.000	78676	0.0323			66.0	
413.00 > 169.00	2.647	2.649	-0.002	1.000	49046		1.60(0.84-2.52)		339	M
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.020	3.025	-0.005	1.000	104487	0.0614			10.4	
499.00 > 99.00	3.020	3.025	-0.005	1.000	20874		5.01(2.31-6.93)		16.9	
D 18 13C4 PFOS										
503.00 > 80.00	3.020	3.025	-0.005	1.141	3824994	2.56		107	23489	
D 19 13C5 PFNA										
468.00 > 423.00	3.020	3.026	-0.006	1.141	4072316	2.69		108	40322	
D 21 13C8 FOSA										
506.00 > 78.00	3.366	3.362	0.004	1.271	5074546	2.40		96.1	27206	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.000	47213	0.0246			1553	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.274	1076028	3.24		135	2395	
D 23 13C2 PFDA										
515.00 > 470.00	3.381	3.387	-0.006	1.277	3310926	2.73		109	35765	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.541	-0.001	1.337	1569994	2.81		112	19149	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.711	-0.003	1.401	1551998	2.70		108	9684	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.401	2316650	2.48		99.3	29385	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.708	3.718	-0.010	1.000	4283	0.005109			21.1	
563.00 > 169.00	3.716	3.718	-0.002	1.002	1162		3.69(0.00-0.00)		79.8	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.015	-0.008	1.514	2287004	2.30		92.2	30234	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.706	2296286	2.11		84.3	17316	

QC Flag Legend

Review Flags

M - Manually Integrated

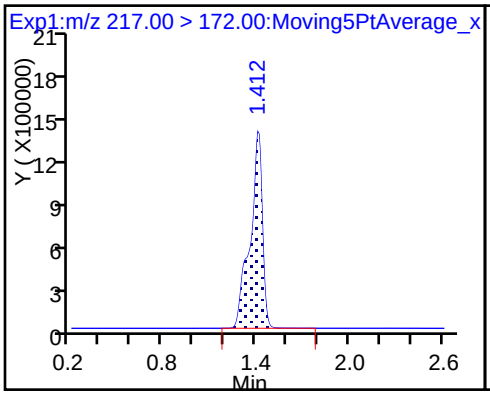
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TestAmerica Sacramento

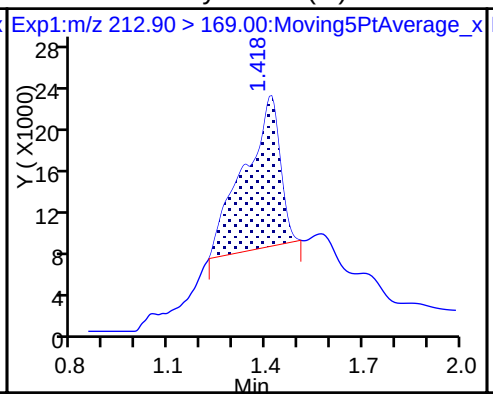
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Injection Date:	20-Dec-2017 09:39:35	Instrument ID:	A8_N		
Lims ID:	320-34182-A-12-A	Lab Sample ID:	320-34182-12		
Client ID:	Dupe				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	30	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

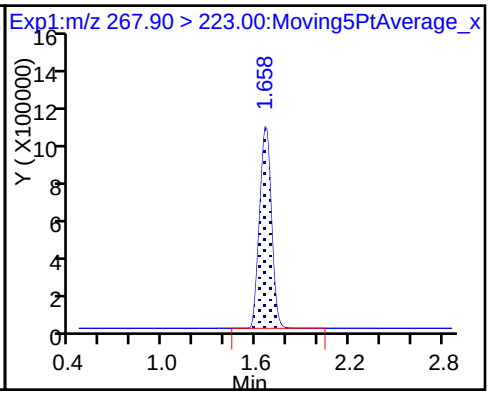
D 1 13C4 PFBA



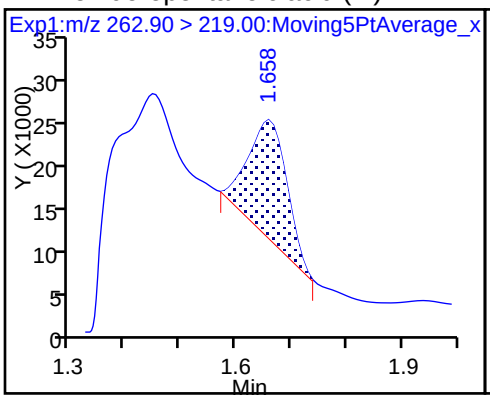
2 Perfluorobutyric acid (M)



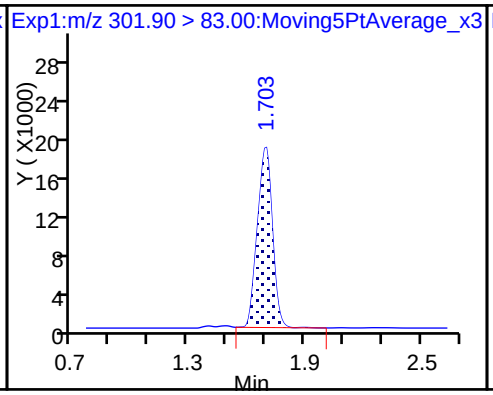
D 3 13C5-PFPeA



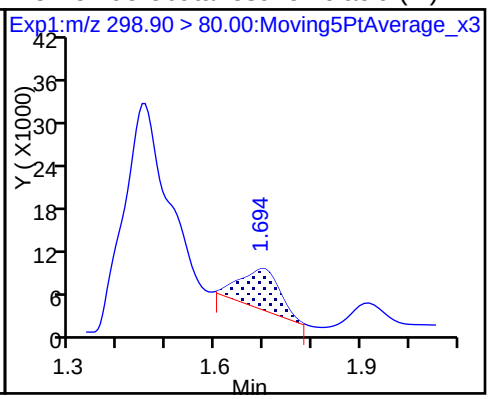
4 Perfluoropentanoic acid (M)



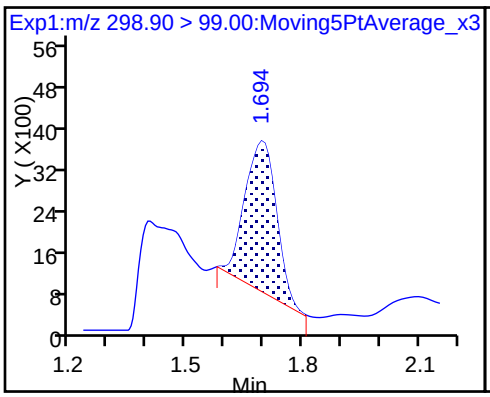
D 47 13C3-PFBS



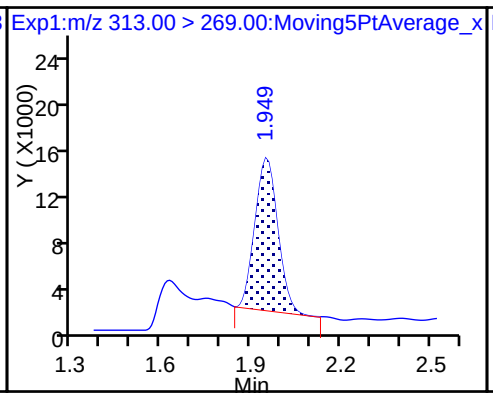
5 Perfluorobutanesulfonic acid (M)



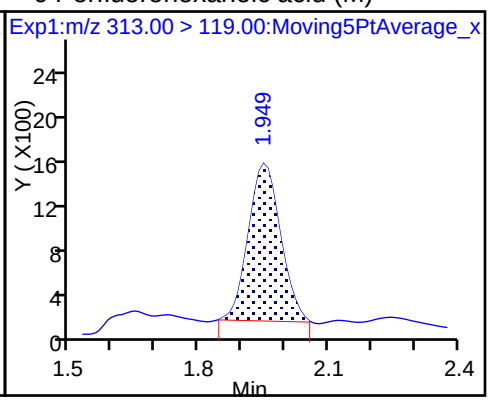
5 Perfluorobutanesulfonic acid



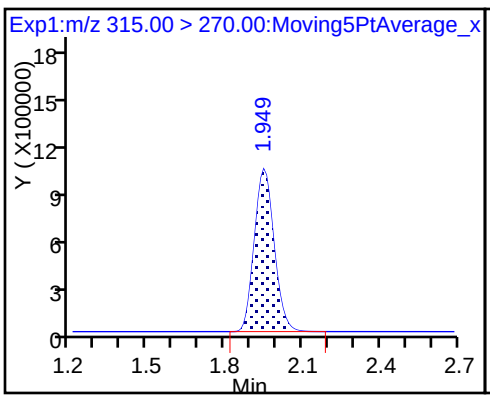
6 Perfluorohexanoic acid



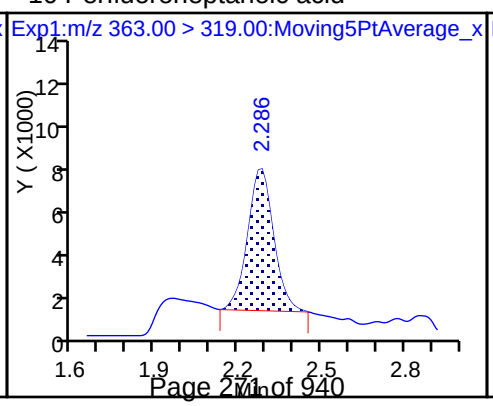
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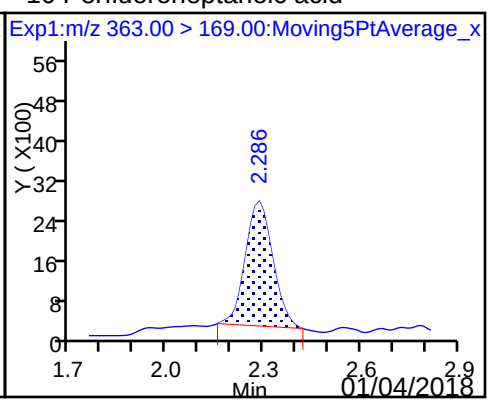
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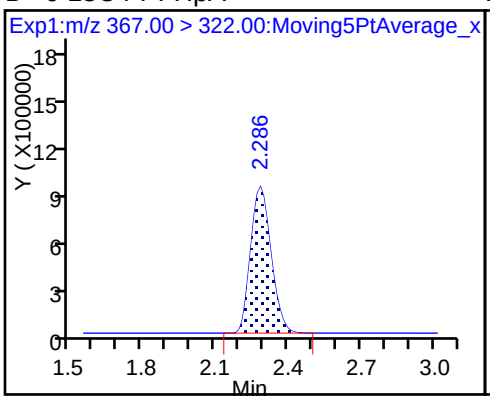
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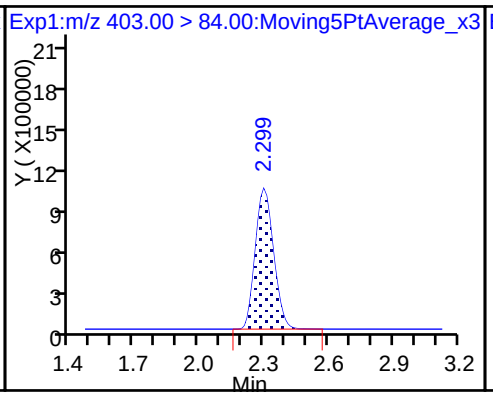
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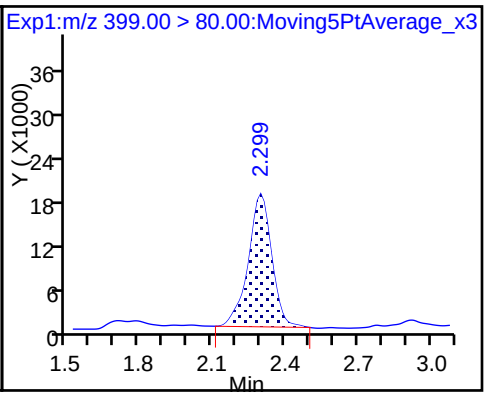
D 9 13C4-PFHpA



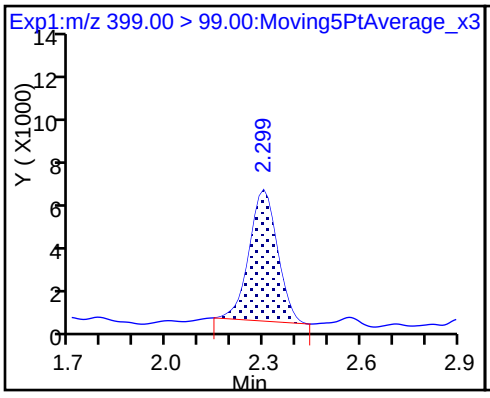
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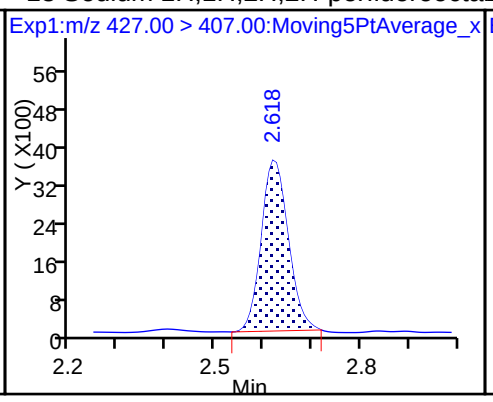
8 Perfluorohexanesulfonic acid



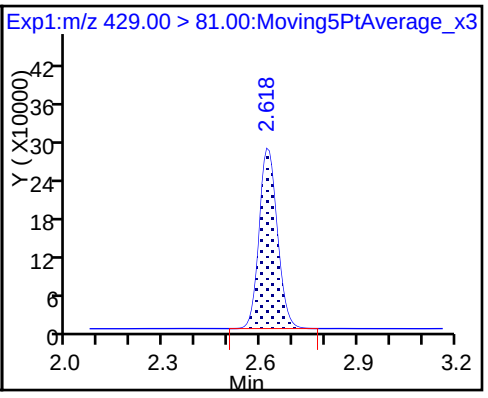
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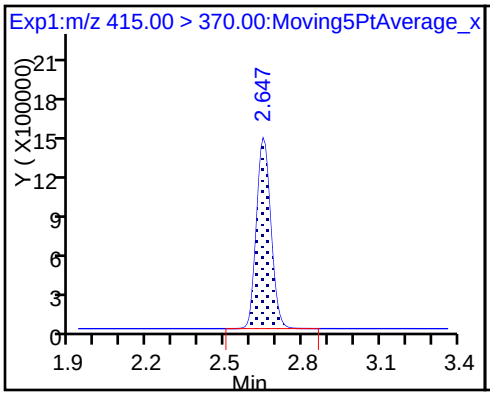
13 Sodium 1H,1H,2H,2H-perfluorooctane



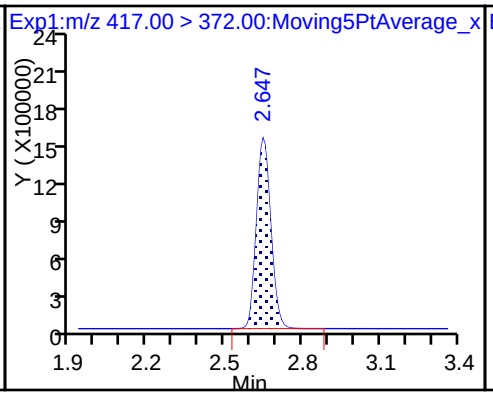
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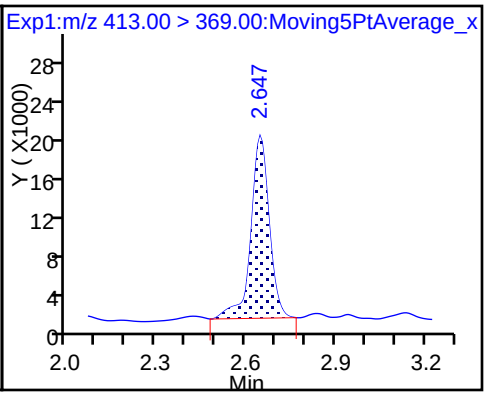
* 62 13C2-PFOA



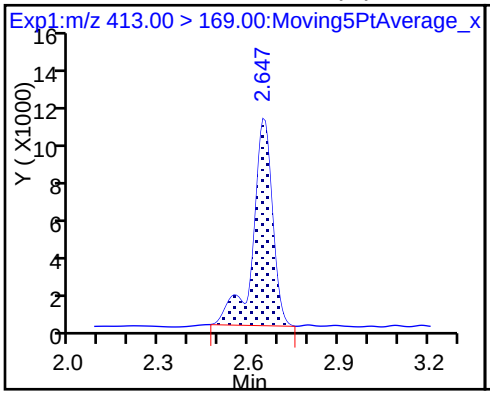
D 14 13C4 PFOA



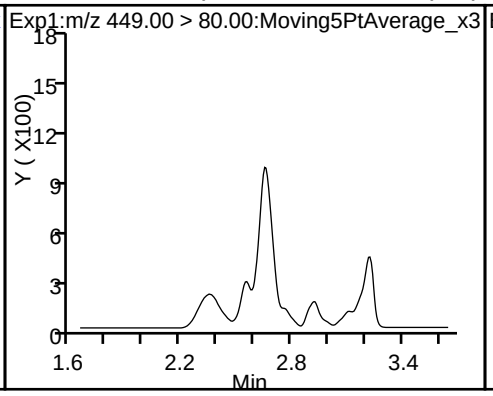
15 Perfluorooctanoic acid



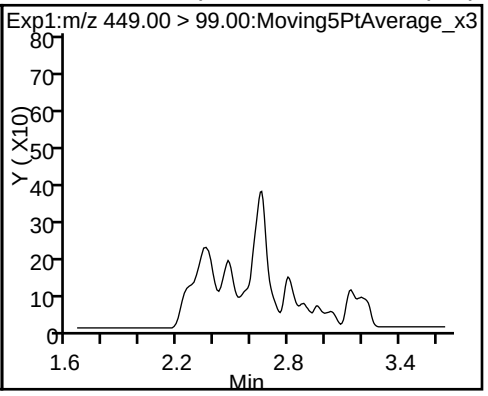
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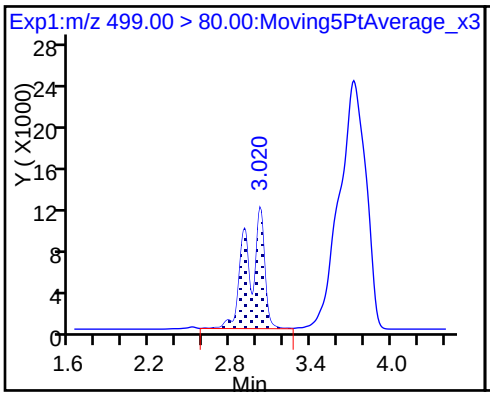
16 Perfluoroheptanesulfonic Acid (ND)



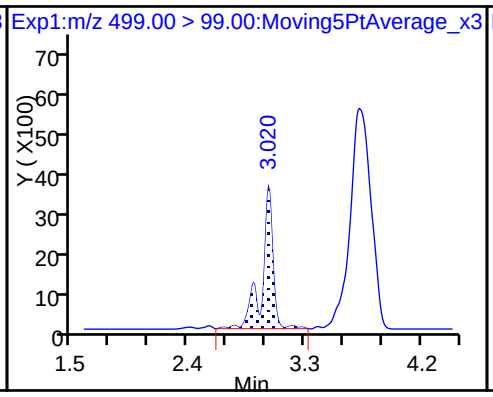
16 Perfluoroheptanesulfonic Acid (ND)



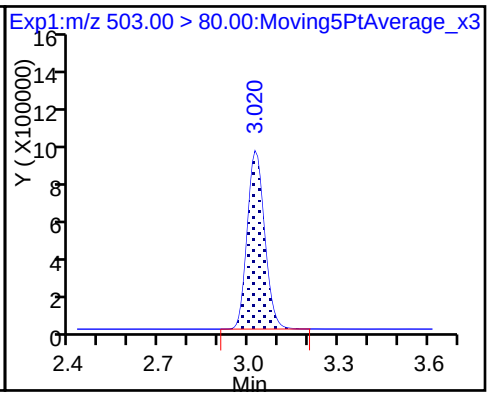
17 Perfluorooctane sulfonic acid



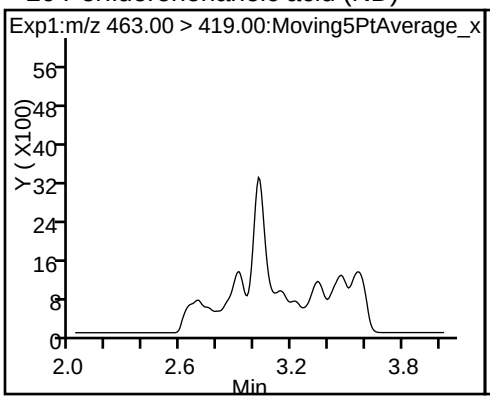
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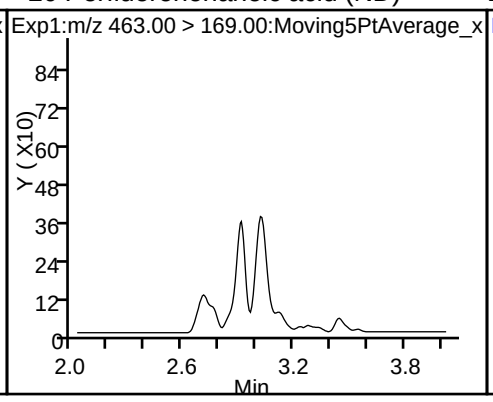
D 18 13C4 PFOS



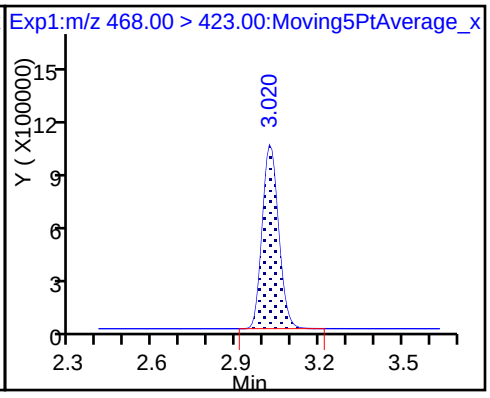
20 Perfluorononanoic acid (ND)



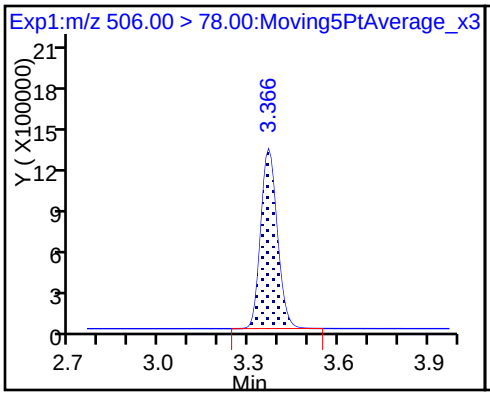
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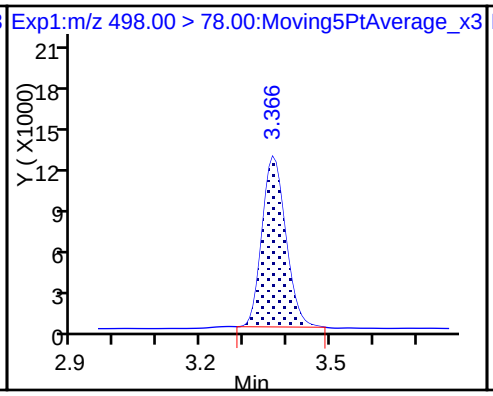
D 19 13C5 PFNA



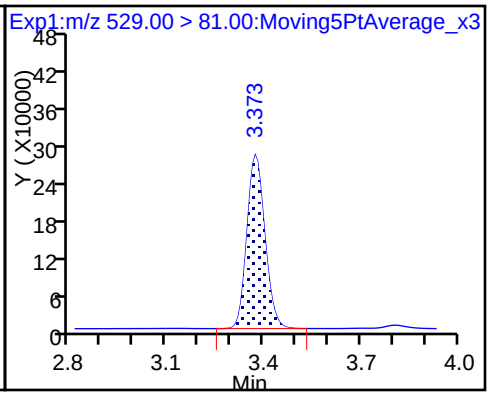
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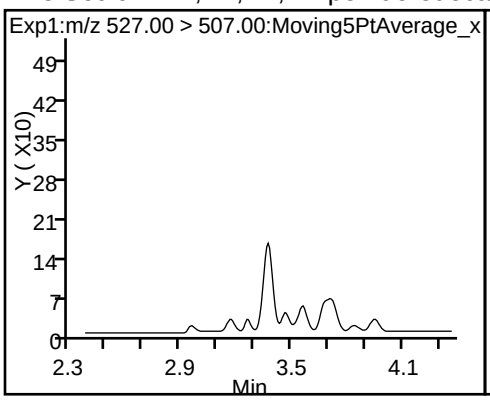
22 Perfluorooctane Sulfonamide



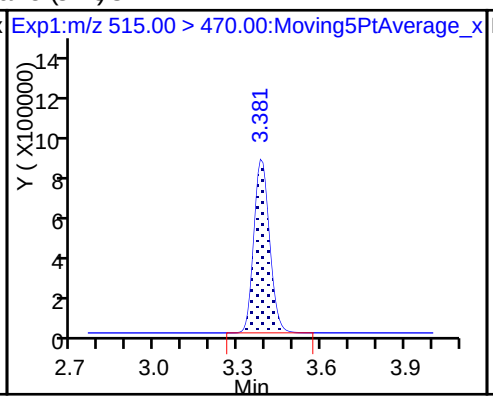
D 26 M2-8:2FTS



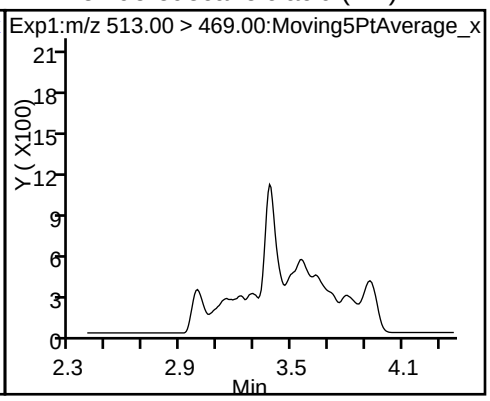
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



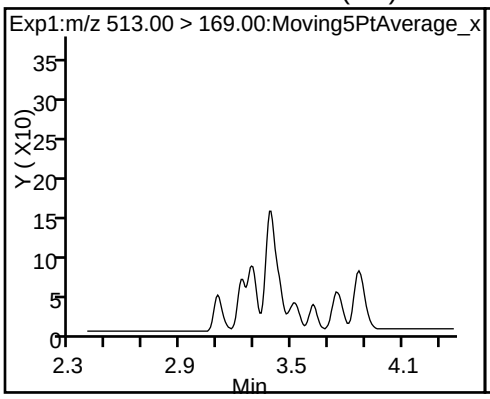
D 13C2 PFDA



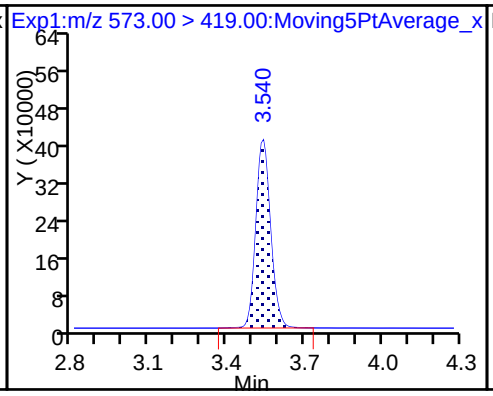
24 Perfluorodecanoic acid (ND)



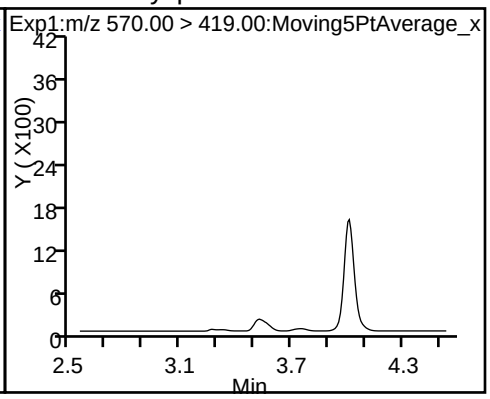
24 Perfluorodecanoic acid (ND)



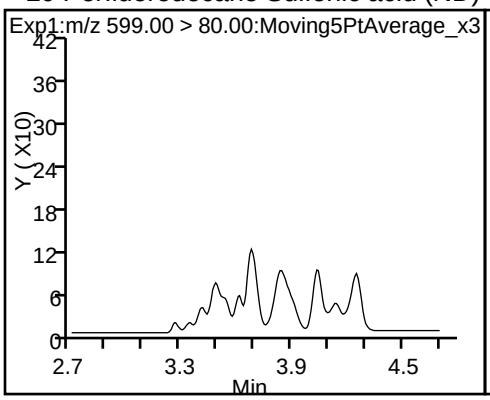
D 27 d3-NMeFOSAA



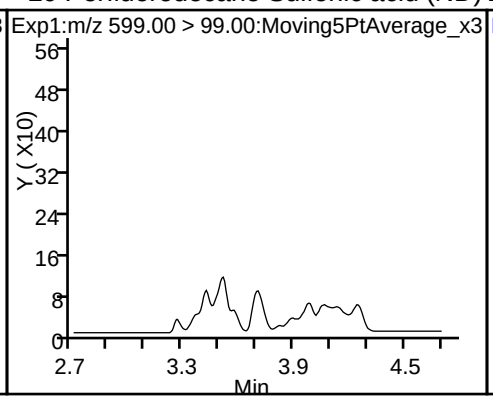
28 N-methyl perfluorooctane sulfonami (ND)



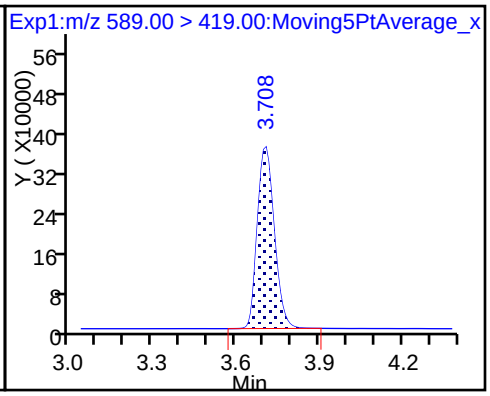
29 Perfluorodecane Sulfonic acid (ND)



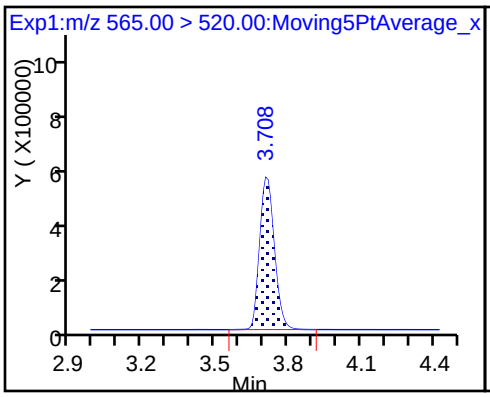
29 Perfluorodecane Sulfonic acid (ND)



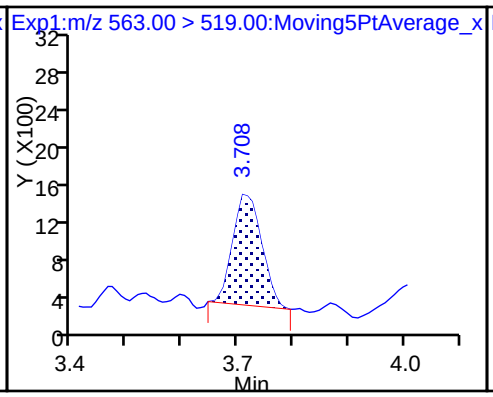
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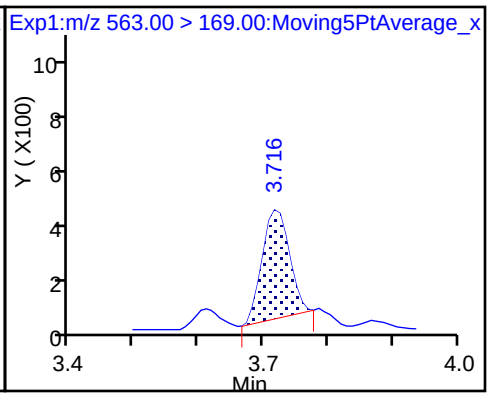
D 30 13C2 PFUnA



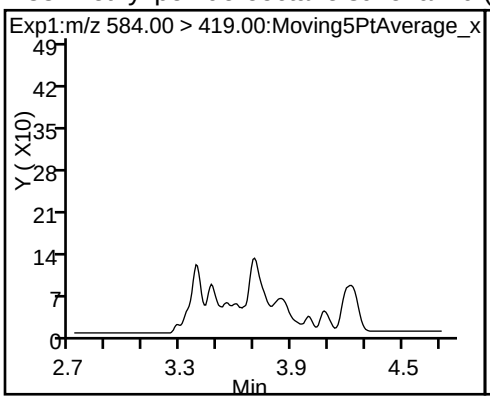
31 Perfluoroundecanoic acid



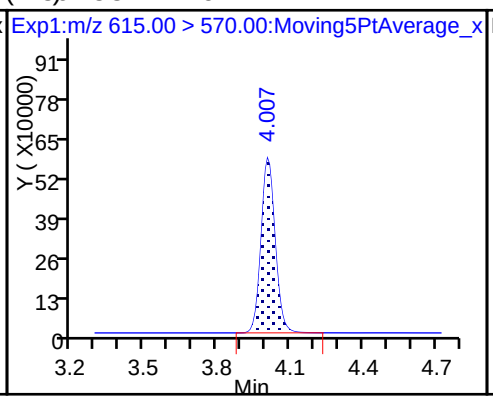
31 Perfluoroundecanoic acid



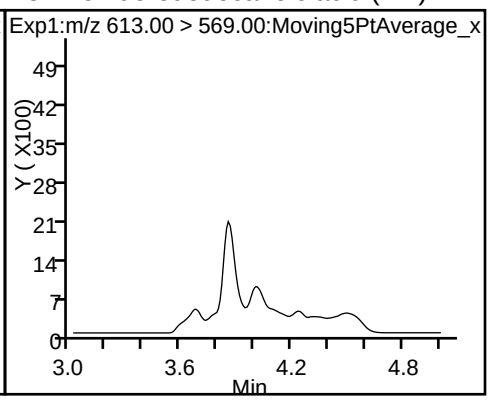
33 N-ethyl perfluorooctane sulfonamid (ND)



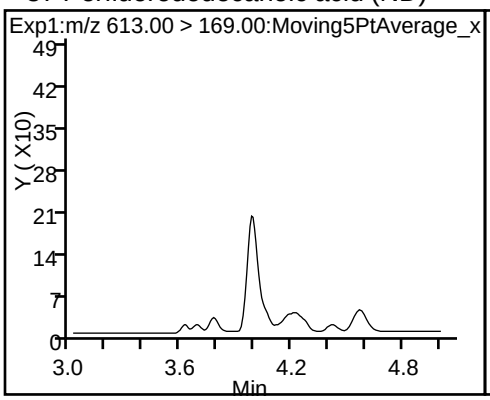
D 36 13C2 PFDoA



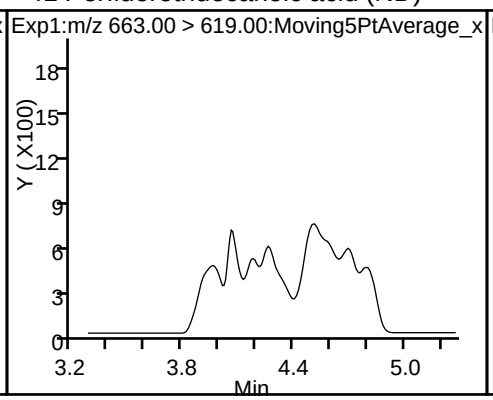
37 Perfluorododecanoic acid (ND)



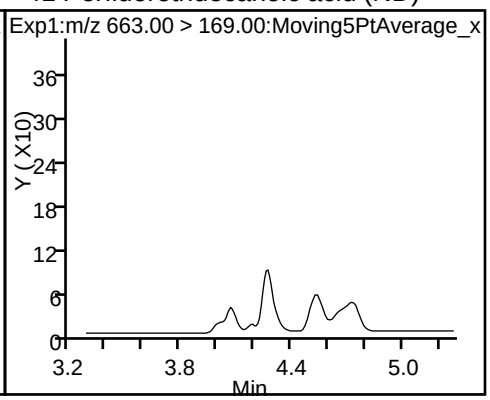
37 Perfluorododecanoic acid (ND)



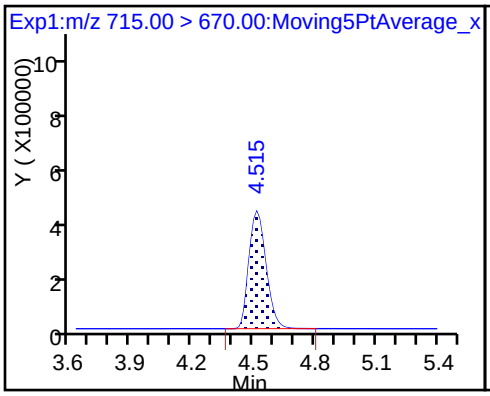
41 Perfluorotridecanoic acid (ND)



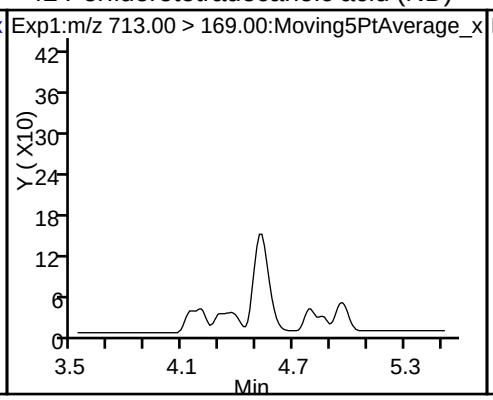
41 Perfluorotridecanoic acid (ND)



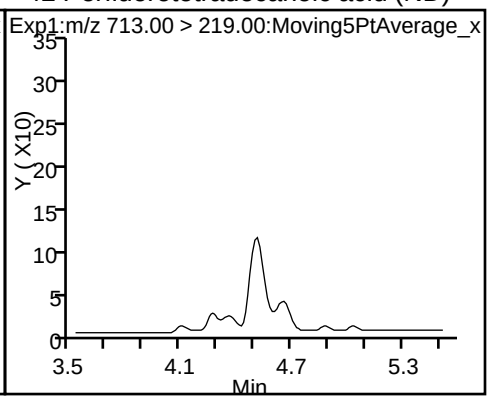
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

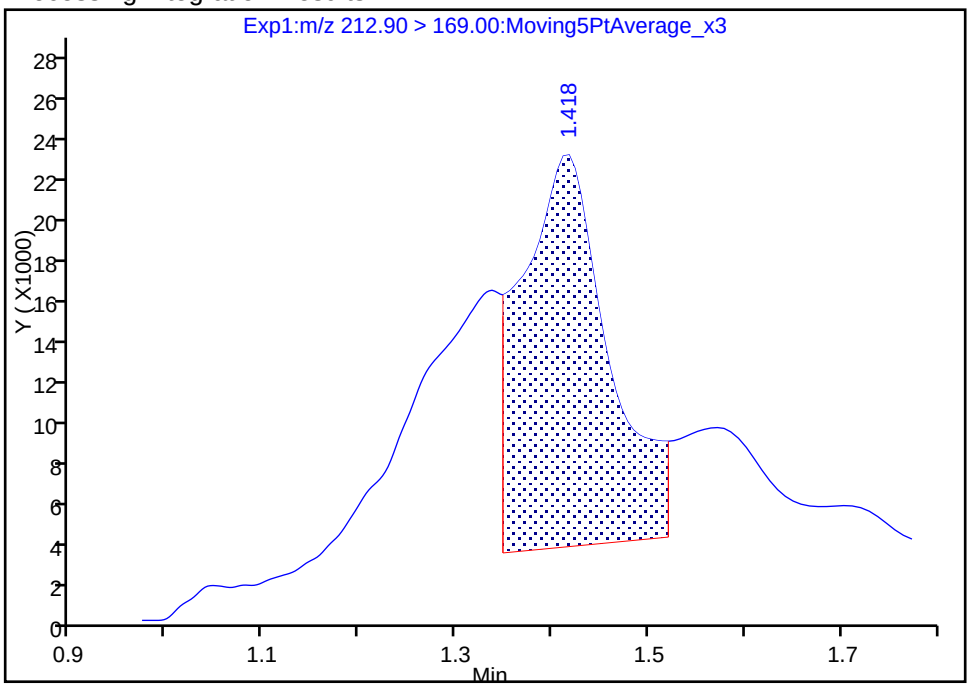
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_040.d				
Injection Date:	20-Dec-2017 09:39:35	Instrument ID:	A8_N		
Lims ID:	320-34182-A-12-A	Lab Sample ID:	320-34182-12		
Client ID:	Dupe				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	30	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

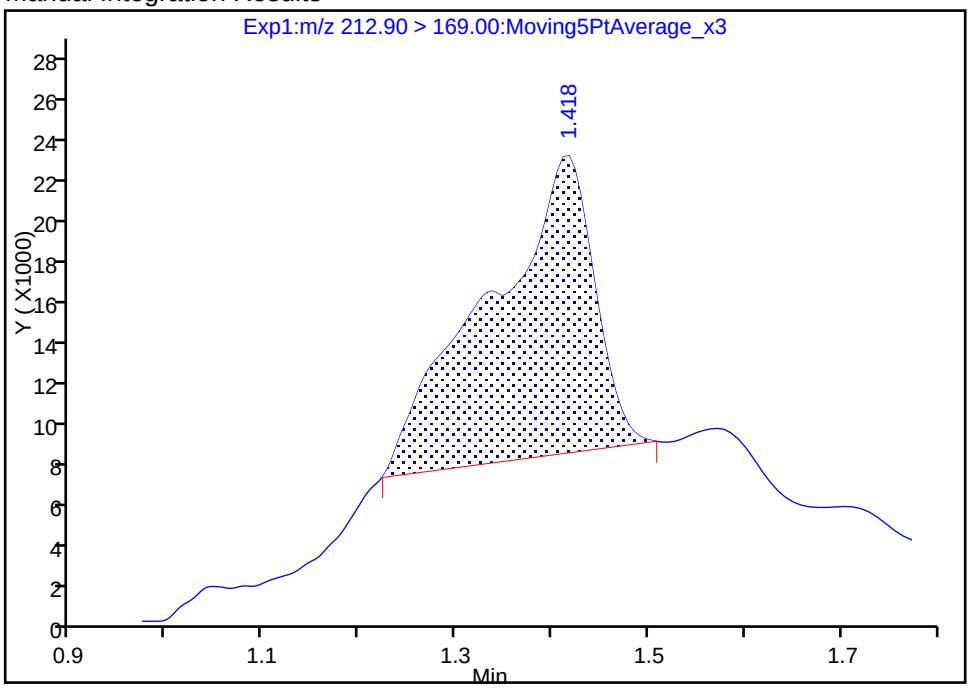
Processing Integration Results

RT: 1.42
Area: 121700
Amount: 0.044832
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 113214
Amount: 0.041706
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:01:03
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

TestAmerica Sacramento

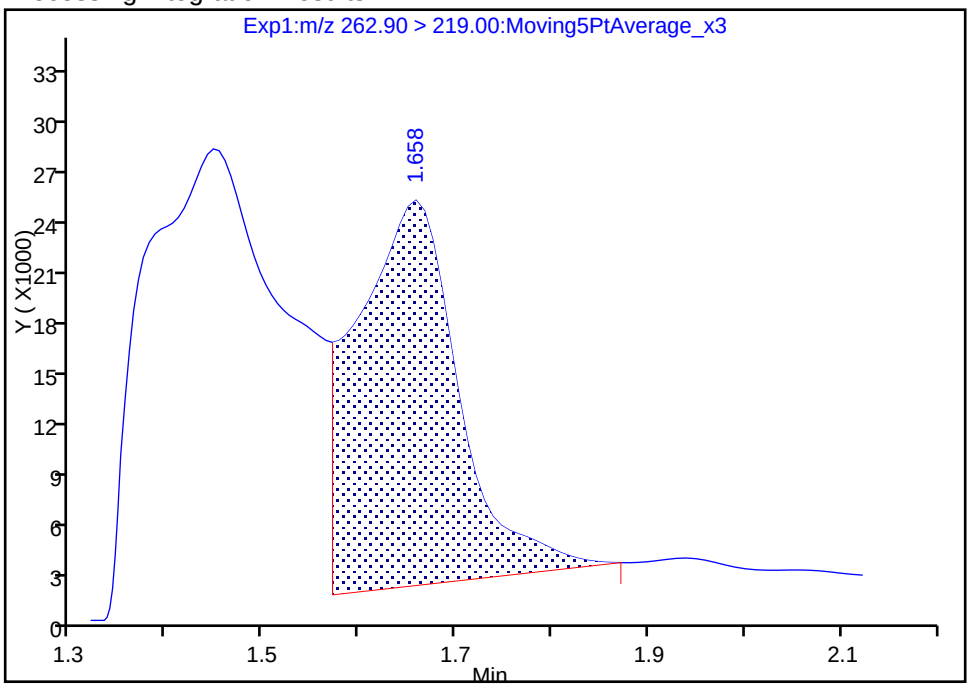
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_040.d				
Injection Date:	20-Dec-2017 09:39:35	Instrument ID:	A8_N		
Lims ID:	320-34182-A-12-A	Lab Sample ID:	320-34182-12		
Client ID:	Dupe				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	30	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

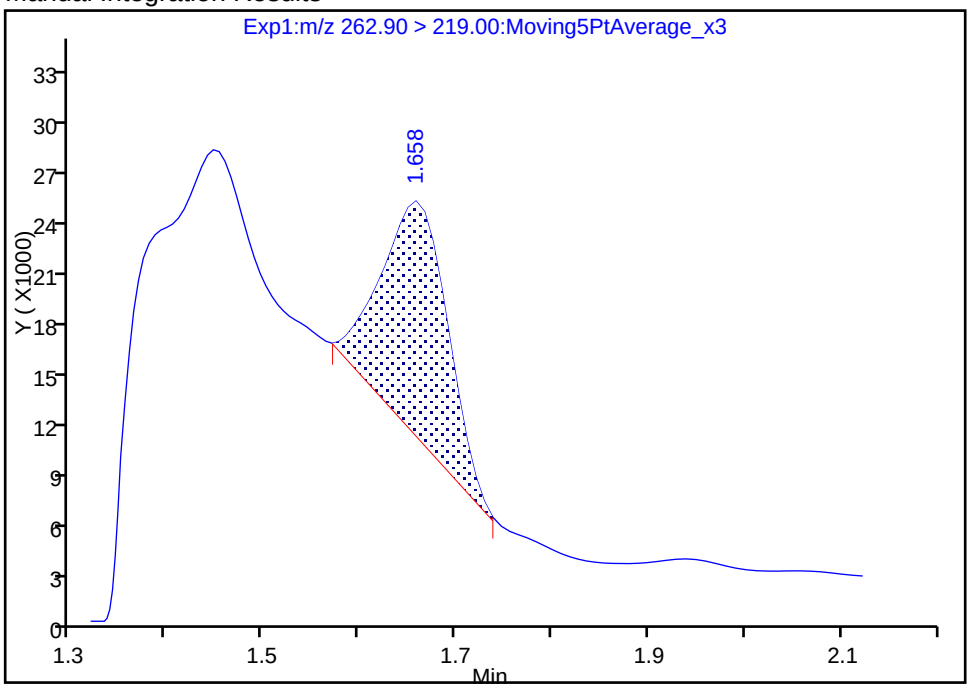
Processing Integration Results

RT: 1.66
Area: 170511
Amount: 0.069583
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 67384
Amount: 0.027498
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:01:21
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

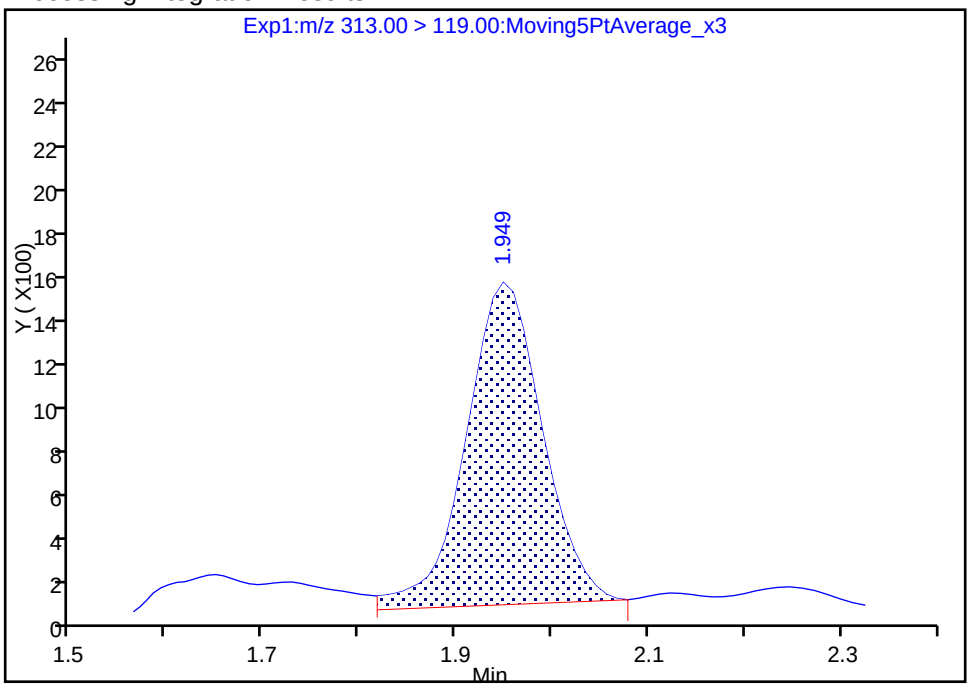
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_040.d				
Injection Date:	20-Dec-2017 09:39:35	Instrument ID:	A8_N		
Lims ID:	320-34182-A-12-A	Lab Sample ID:	320-34182-12		
Client ID:	Dupe				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	30	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

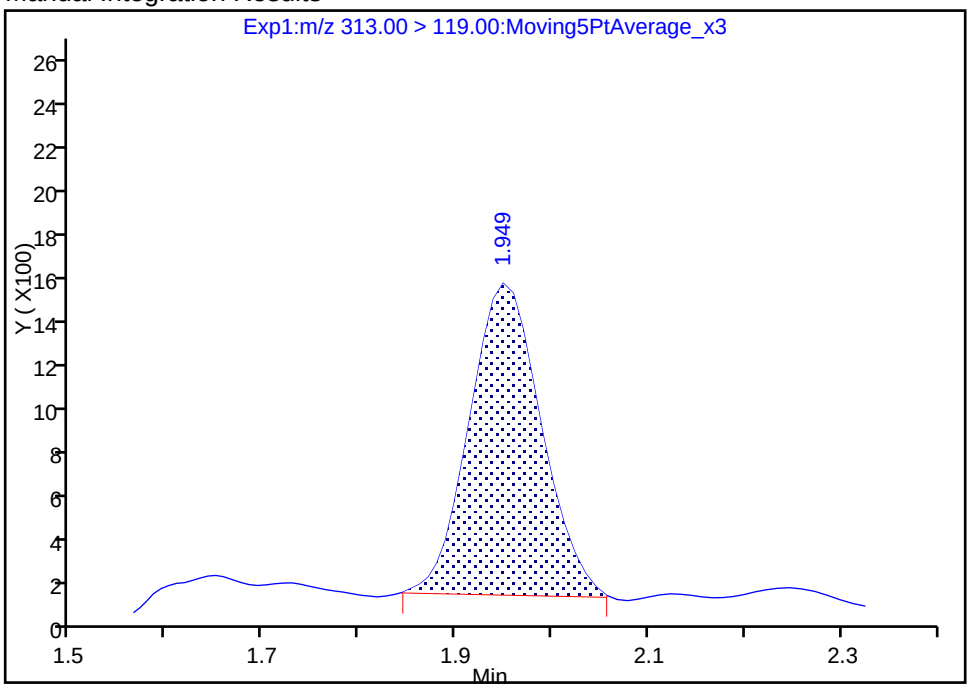
Processing Integration Results

RT: 1.95
Area: 8097
Amount: 0.032578
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 7368
Amount: 0.032578
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:01:49

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

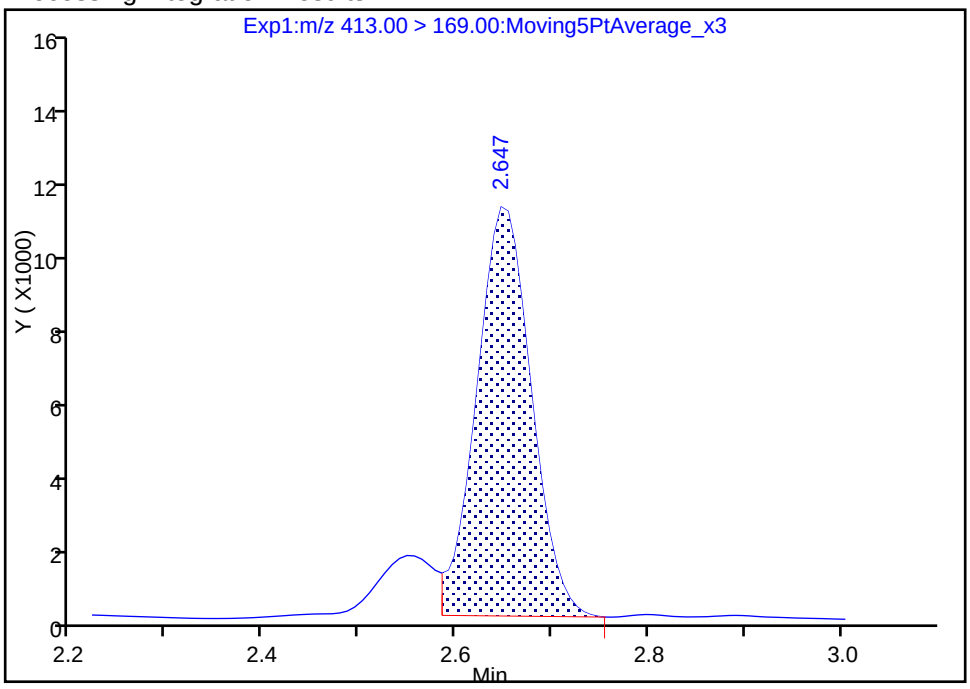
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_040.d				
Injection Date:	20-Dec-2017 09:39:35	Instrument ID:	A8_N		
Lims ID:	320-34182-A-12-A	Lab Sample ID:	320-34182-12		
Client ID:	Dupe				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	30	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

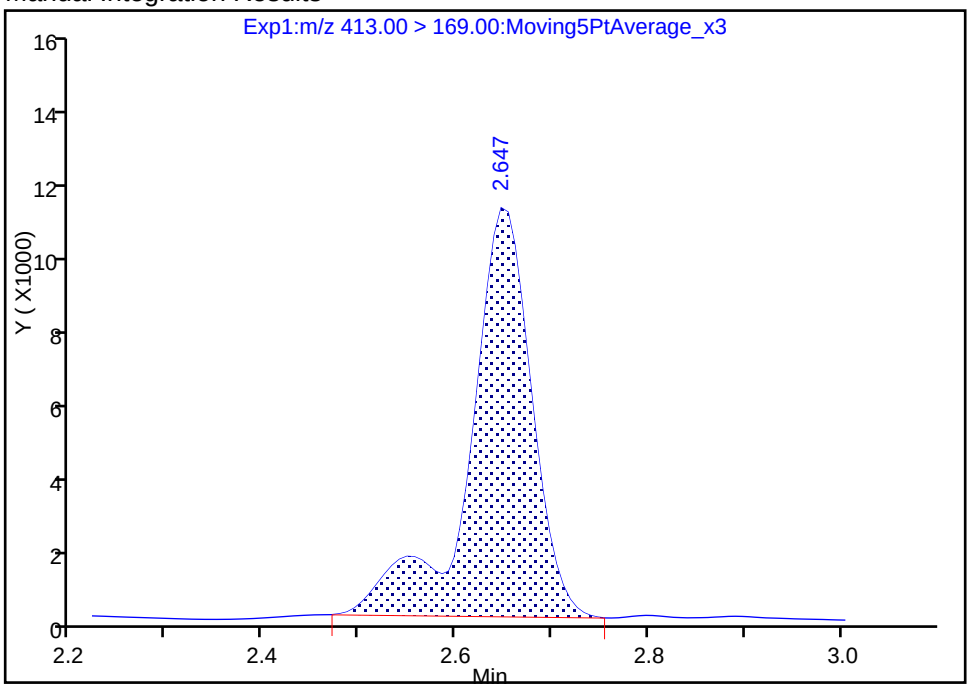
Processing Integration Results

RT: 2.65
Area: 42830
Amount: 0.032277
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 49046
Amount: 0.032277
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:02:14
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

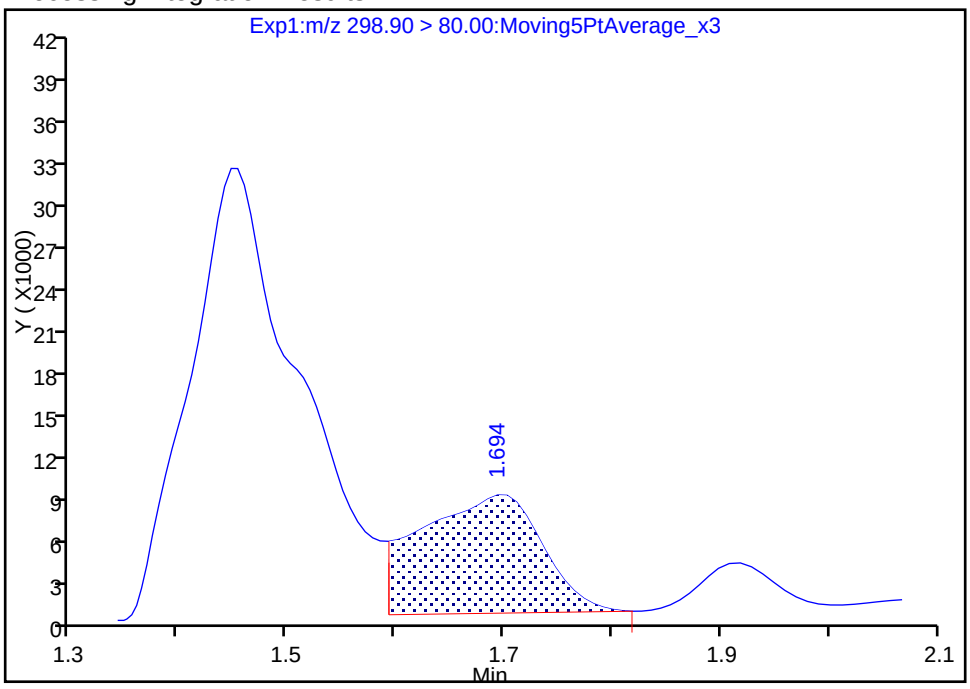
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_040.d				
Injection Date:	20-Dec-2017 09:39:35	Instrument ID:	A8_N		
Lims ID:	320-34182-A-12-A	Lab Sample ID:	320-34182-12		
Client ID:	Dupe				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	30	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

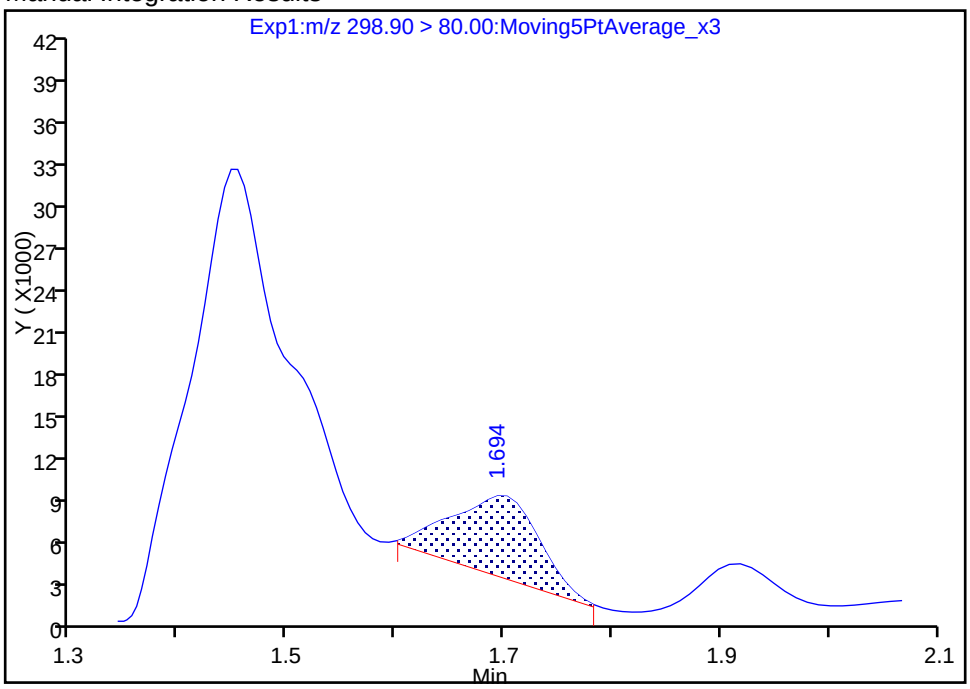
Processing Integration Results

RT: 1.69
Area: 65808
Amount: 0.020630
Amount Units: ng/ml



Manual Integration Results

RT: 1.69
Area: 32762
Amount: 0.010271
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:01:34

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-SP002-A | Lab Sample ID: 320-34182-13

Matrix: Water | Lab File ID: 2017.12.19LLC_041.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 13:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 259.9(mL) | Date Analyzed: 12/20/2017 09:47

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.02	J	1.92	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.47	U	1.92	0.47
307-24-4	Perfluorohexanoic acid (PFHxA)	0.56	U	1.92	0.56
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.94	J	1.92	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	0.82	U	1.92	0.82
375-95-1	Perfluorononanoic acid (PFNA)	0.26	U	1.92	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.30	U	1.92	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.06	U	1.92	1.06
307-55-1	Perfluorododecanoic acid (PFDoA)	0.53	U	1.92	0.53
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.25	U	1.92	1.25
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.92	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.19	U	1.92	0.19
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.45	J B	1.92	0.16
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	1.92	0.18
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.52	U	1.92	0.52
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.92	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	1.66	J B	1.92	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	2.98	U	19.2	2.98
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.83	U	19.2	1.83
27619-97-2	6:2FTS	1.92	U	19.2	1.92
39108-34-4	8:2FTS	1.92	U	19.2	1.92

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-SP002-A | Lab Sample ID: 320-34182-13

Matrix: Water | Lab File ID: 2017.12.19LLC_041.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 13:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 259.9(mL) | Date Analyzed: 12/20/2017 09:47

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	100		25-150
STL01893	13C5 PFPeA	122		25-150
STL00993	13C2 PFHxA	110		25-150
STL01892	13C4-PFHpA	109		25-150
STL00990	13C4 PFOA	101		25-150
STL00995	13C5 PFNA	108		25-150
STL00996	13C2 PFDA	120		25-150
STL00997	13C2 PFUnA	100		25-150
STL00998	13C2 PFDoA	106		25-150
STL02116	13C2-PFTeDA	110		25-150
STL02337	13C3-PFBS	115		25-150
STL00994	18O2 PFHxS	116		25-150
STL00991	13C4 PFOS	109		25-150
STL01056	13C8 FOSA	100		25-150
STL02118	d3-NMeFOSAA	116		25-150
STL02117	d5-NEtFOSAA	118		25-150
STL02279	M2-6:2FTS	57		25-150
STL02280	M2-8:2FTS	145		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_041.d
Lims ID: 320-34182-A-13-A
Client ID: MW-SP002-A
Sample Type: Client
Inject. Date: 20-Dec-2017 09:47:26 ALS Bottle#: 31 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-13-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:06:38

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.533	7611065	2.51		100	33789	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.420	1.412	0.008	1.004	73523	0.0265			6.0	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.627	5440745	3.04		122	55878	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.654	1.664	-0.010	0.995	23512	0.009773			4.4	M
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.640	101298	2.68		115	1562	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.698	1.703	-0.005	1.000	14845	0.004558			10.9	
298.90 > 99.00	1.698	1.703	-0.005	1.000	6659		2.23(1.25-3.74)		12.5	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.955	1.949	0.006	1.000	21852	0.0105			23.1	M
313.00 > 119.00	1.945	1.949	-0.004	0.995	2131		10.25(5.03-15.10)		27.8	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.949	0.006	0.737	5200828	2.74		110	41636	
10 Perfluoroheptanoic acid										R
363.00 > 319.00	2.266	2.286	-0.020	0.989	48686	0.0244			72.1	R
363.00 > 169.00	2.279	2.286	-0.007	0.994	5376		9.06(1.13-3.40)		40.4	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.286	0.006	0.864	4850954	2.74		109	41104	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.299	0.007	0.869	6028907	2.75		116	54142	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.299	0.007	1.000	32243	0.0116			60.3	
399.00 > 99.00	2.306	2.299	0.007	1.000	10607		3.04(1.50-4.49)		35.6	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.640	-0.016	1.000	12193	0.0183			619	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.640	-0.016	0.989	989392	1.34		56.6	11524	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.643	0.009		5148834	2.50			63020	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.647	0.005	1.000	5362203	2.52		101	48963	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.652	2.649	0.003	1.000	38288	0.0169			30.5	M
413.00 > 169.00	2.645	2.649	-0.004	0.997	20689		1.85(0.84-2.52)		154	M
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3691098	2.61		109	34146	
20 Perfluorononanoic acid										
463.00 > 419.00	3.025	3.026	-0.001	1.000	7431	0.004943			15.0	
463.00 > 169.00	3.017	3.026	-0.009	0.997	1831		4.06(1.90-5.69)		38.8	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.026	-0.001	1.141	3878278	2.71		108	45657	
D 21 13C8 FOSA										
506.00 > 78.00	3.364	3.362	0.002	1.268	4998289	2.50		100	28295	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.364	3.365	-0.001	1.000	81705	0.0432			3062	
D 26 M2-8:2FTS										
529.00 > 81.00	3.372	3.375	-0.003	1.271	1090387	3.47		145	3434	
D 23 13C2 PFDA										
515.00 > 470.00	3.387	3.387	0.0	1.277	3441726	3.01		120	38913	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.538	3.541	-0.003	1.334	1528656	2.90		116	21705	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.707	3.711	-0.004	1.398	1608908	2.96		118	10634	
D 30 13C2 PFUnA										
565.00 > 520.00	3.707	3.717	-0.010	1.398	2199600	2.49		99.7	21985	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.015	-0.009	1.510	2488410	2.65		106	26036	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.702	2821378	2.74		110	17477	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:26:08 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_041.d

Injection Date: 20-Dec-2017 09:47:26 Instrument ID: A8_N

Lims ID: 320-34182-A-13-A Lab Sample ID: 320-34182-13

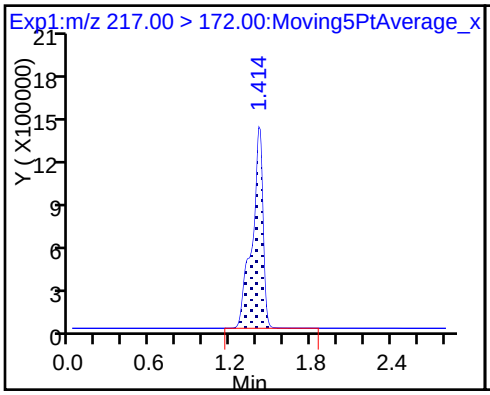
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Operator ID: SACINSTLCMS01 ALS Bottle#: 31 Worklist Smp#: 19

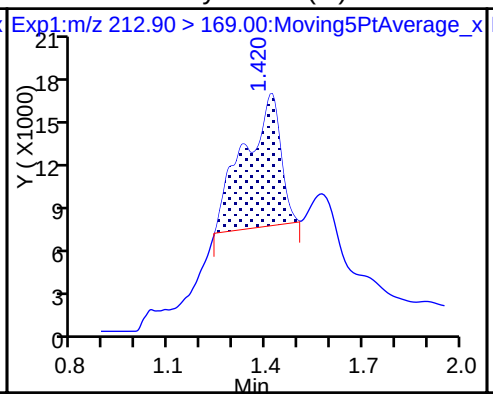
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

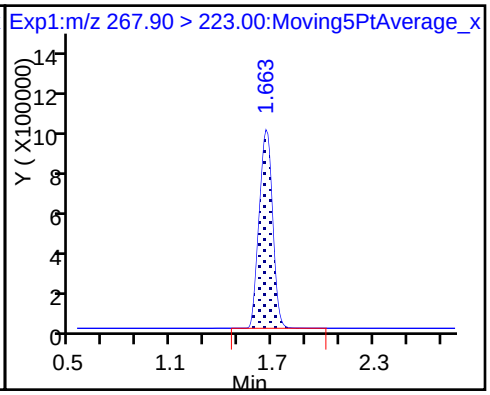
D 1 13C4 PFBA



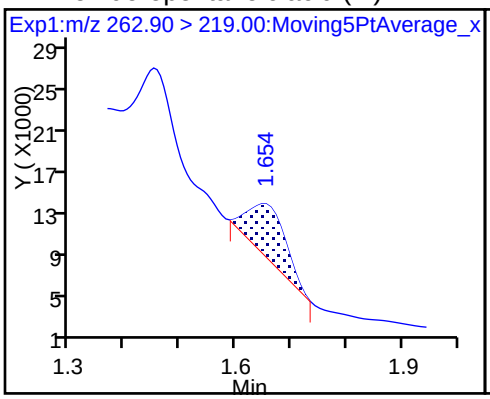
2 Perfluorobutyric acid (M)



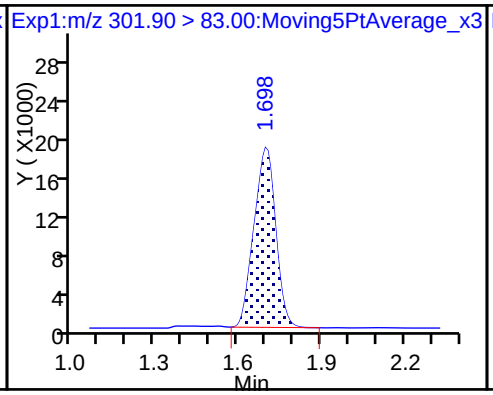
D 3 13C5-PFPeA



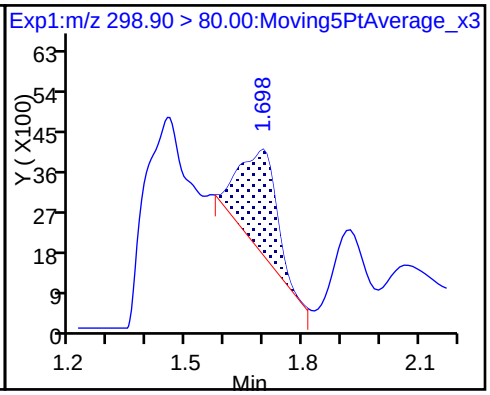
4 Perfluoropentanoic acid (M)



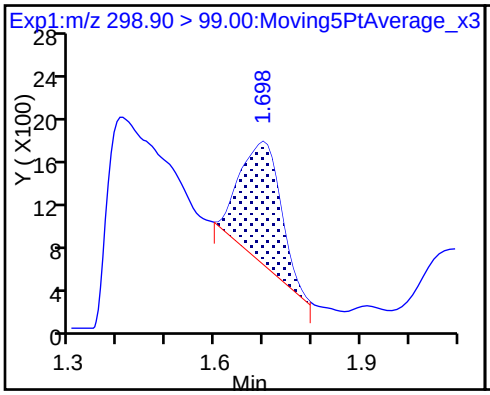
D 47 13C3-PFBS



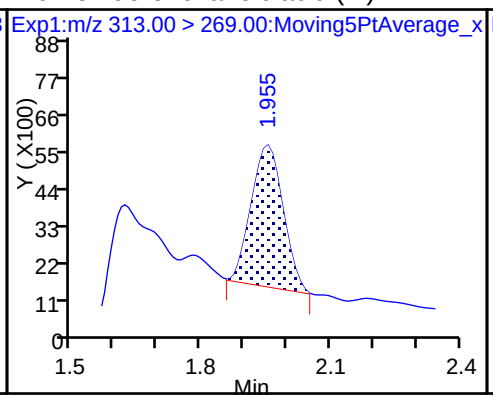
5 Perfluorobutanesulfonic acid



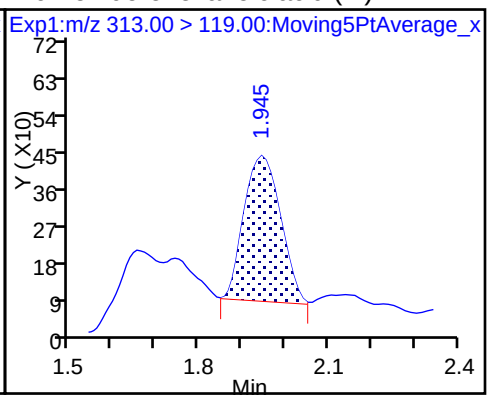
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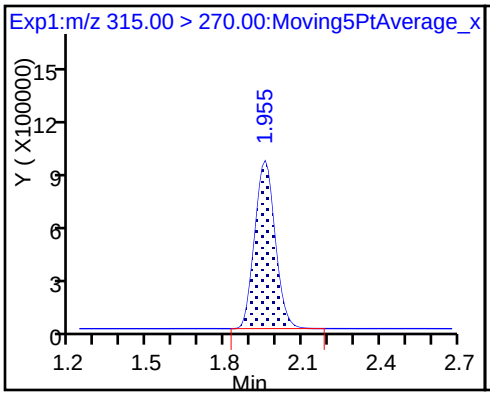
6 Perfluorohexanoic acid (M)



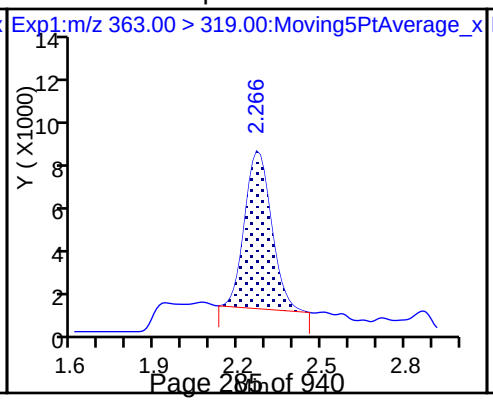
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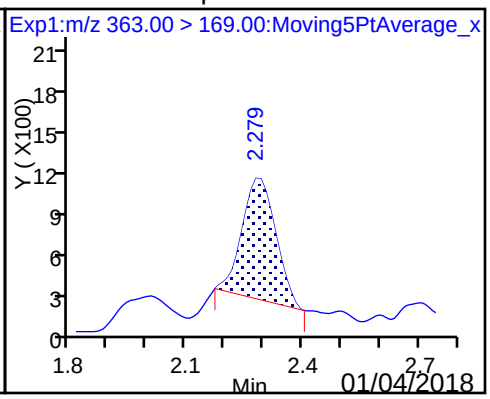
D 7 13C2 PFHxA



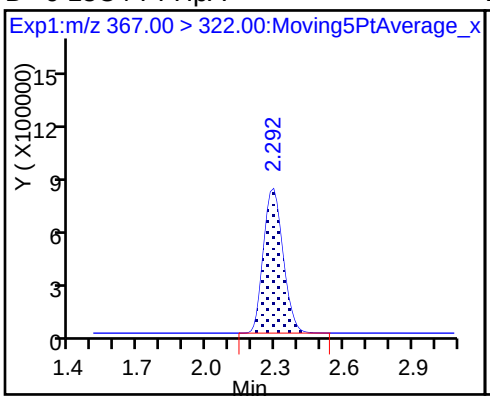
10 Perfluoroheptanoic acid



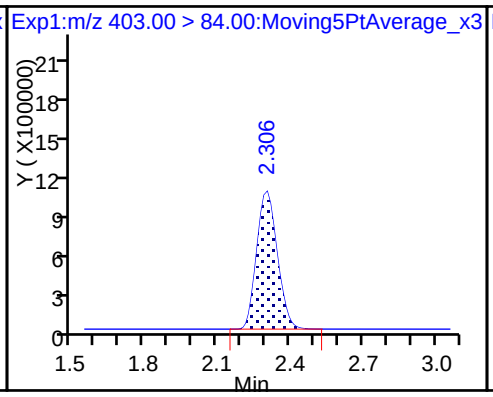
10 Perfluoroheptanoic acid



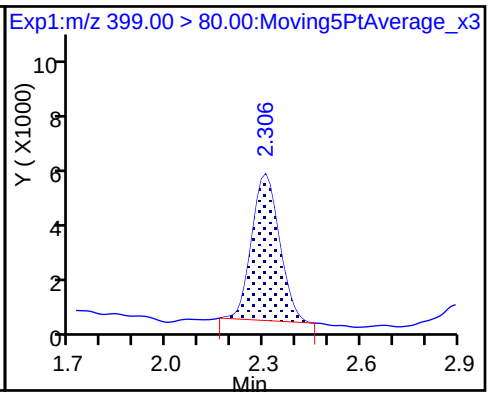
D 9 13C4-PFHpA



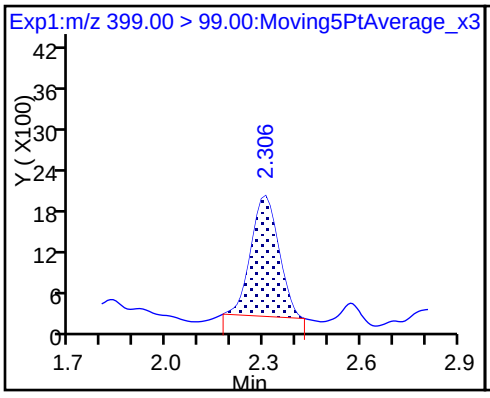
D 11 18O2 PFHxS



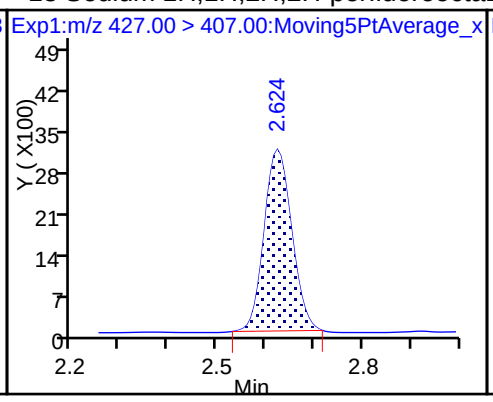
8 Perfluorohexanesulfonic acid



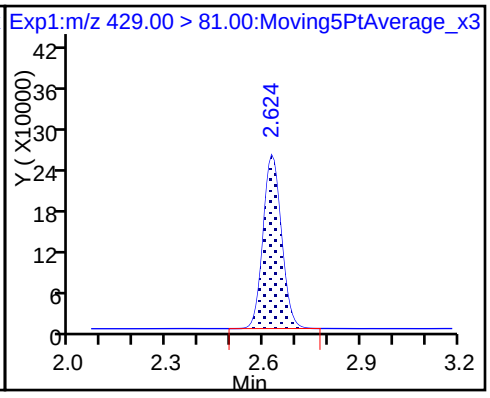
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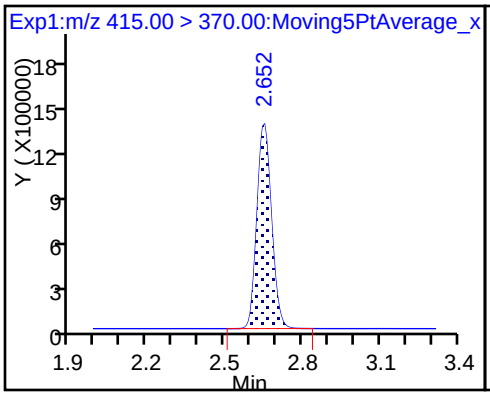
13 Sodium 1H,1H,2H,2H-perfluorooctane



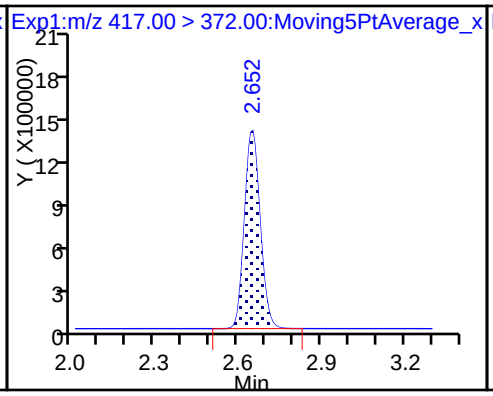
D 12 M2-6:2FTS



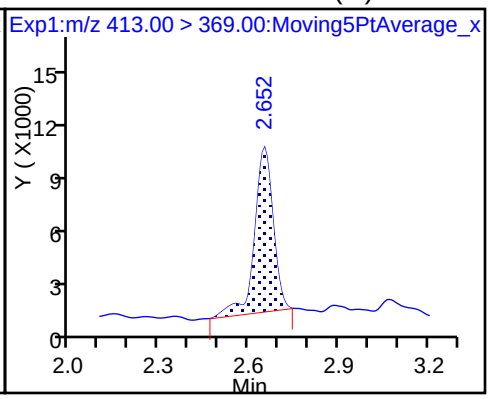
* 62 13C2-PFOA



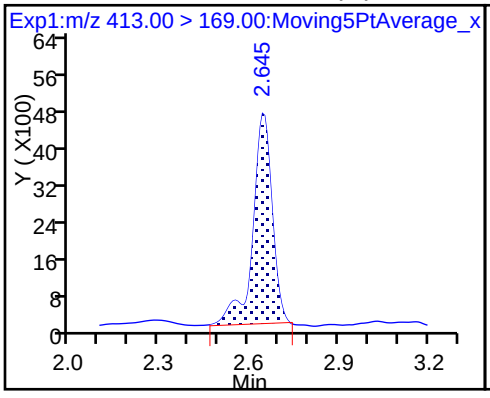
D 14 13C4 PFOA



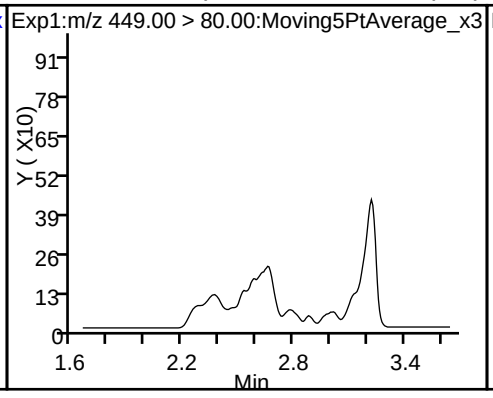
15 Perfluorooctanoic acid (M)



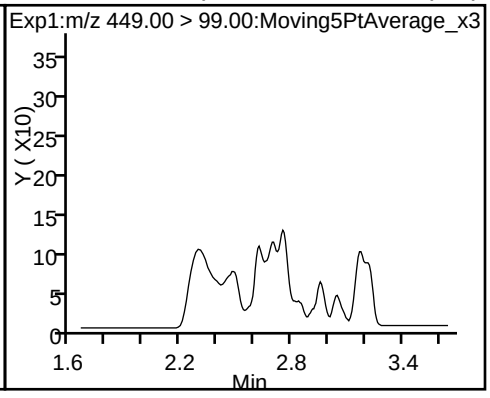
15 Perfluorooctanoic acid (M)



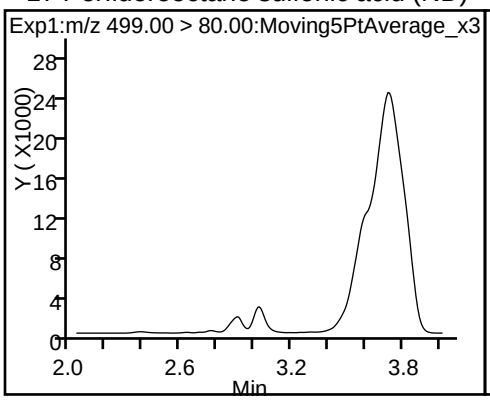
16 Perfluoroheptanesulfonic Acid (ND)



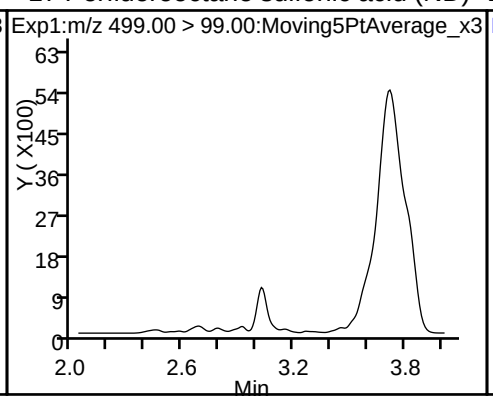
16 Perfluoroheptanesulfonic Acid (ND)



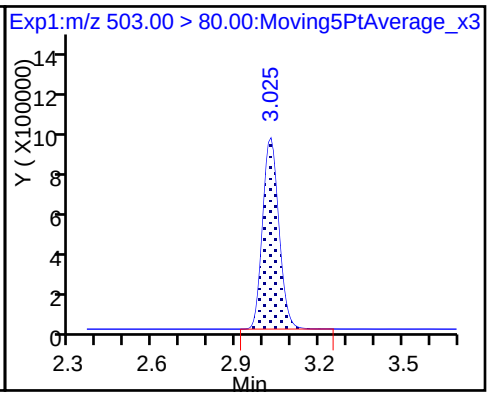
17 Perfluorooctane sulfonic acid (ND)



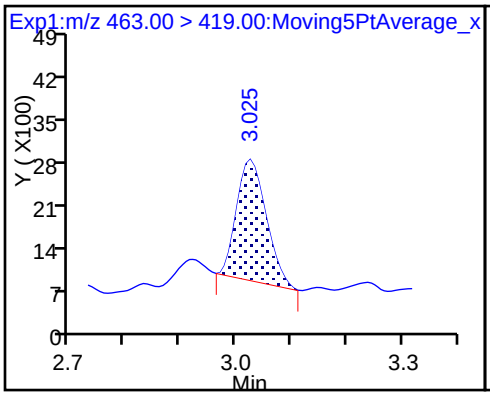
17 Perfluorooctane sulfonic acid (ND)



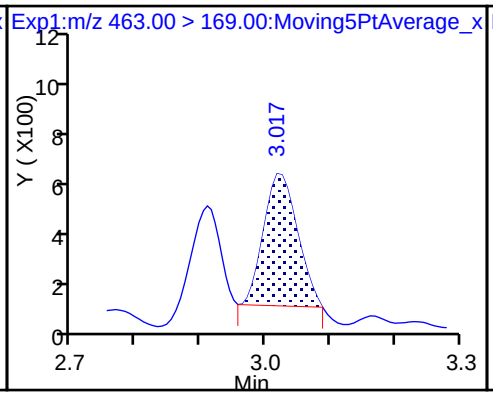
D 18 13C4 PFOS



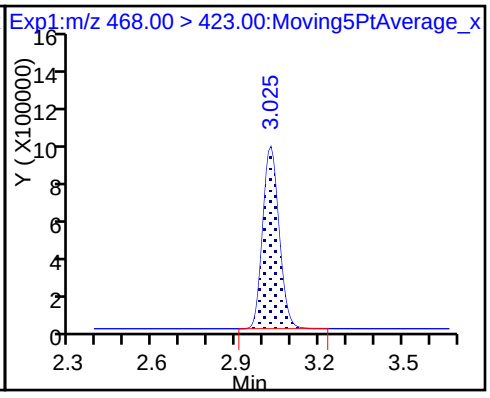
20 Perfluorononanoic acid



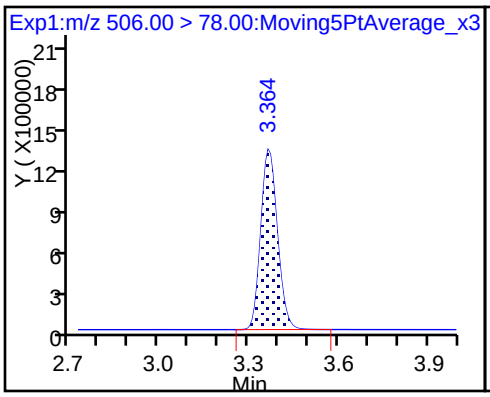
20 Perfluorononanoic acid



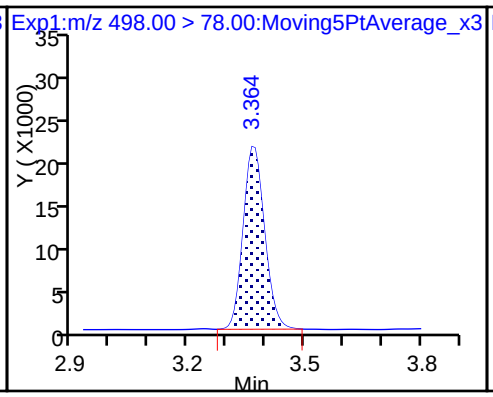
D 19 13C5 PFNA



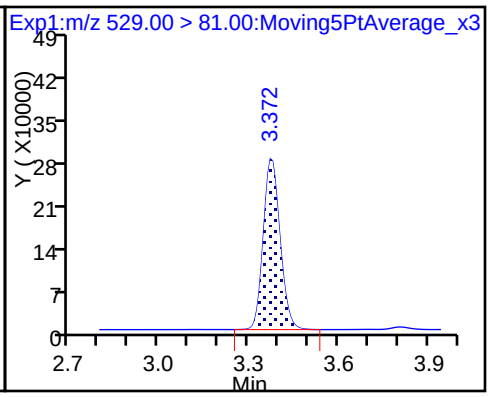
D 21 13C8 FOSA



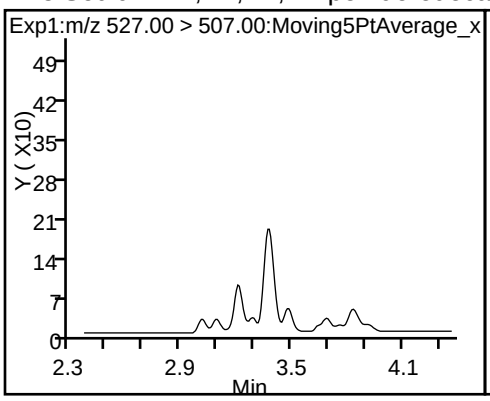
22 Perfluorooctane Sulfonamide



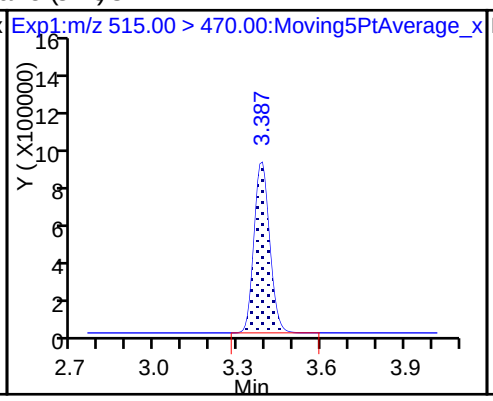
D 26 M2-8:2FTS



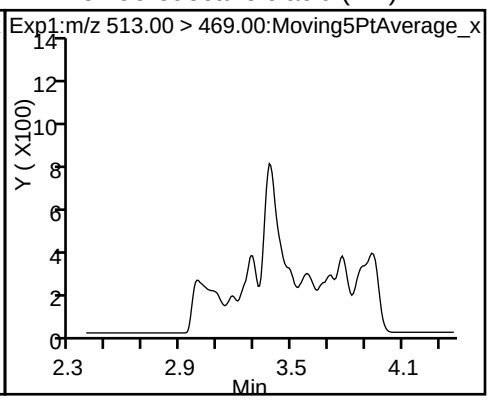
25 Sodium 1H,1H,2H,2H-perfluorodecane2(ND)



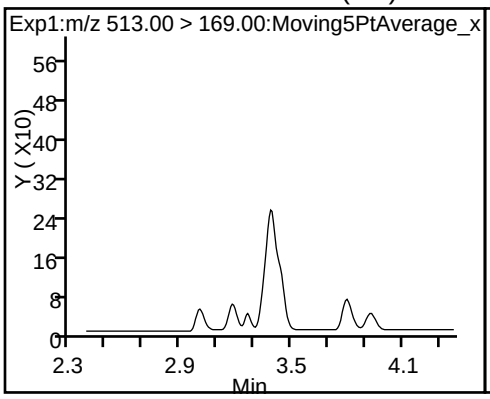
D 13C2 PFDA



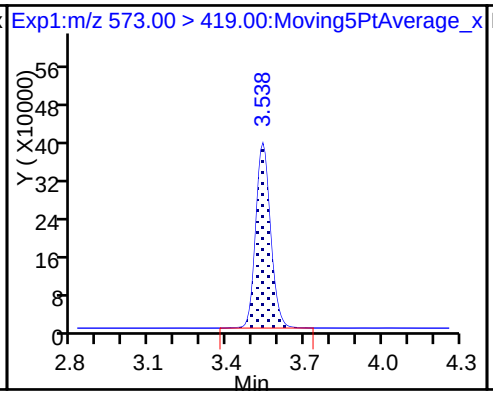
24 Perfluorodecanoic acid (ND)



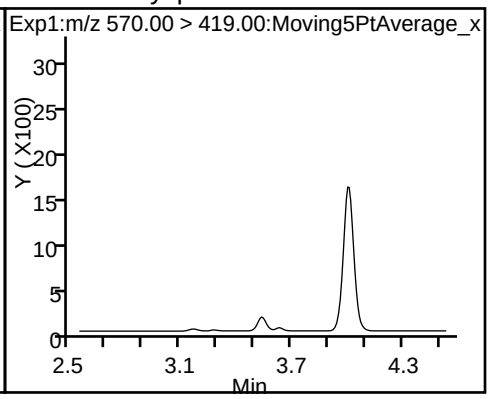
24 Perfluorodecanoic acid (ND)



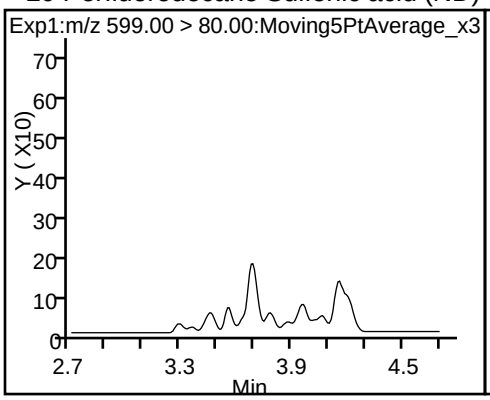
D 27 d3-NMeFOSAA



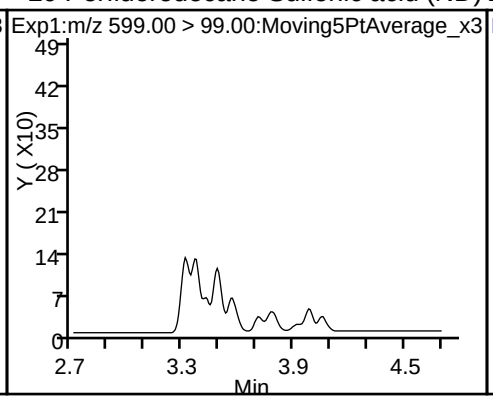
28 N-methyl perfluorooctane sulfonami (ND)



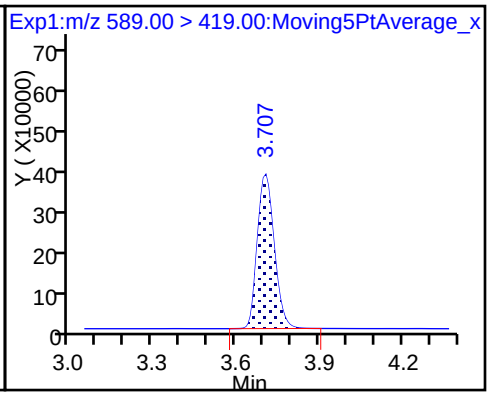
29 Perfluorodecane Sulfonic acid (ND)



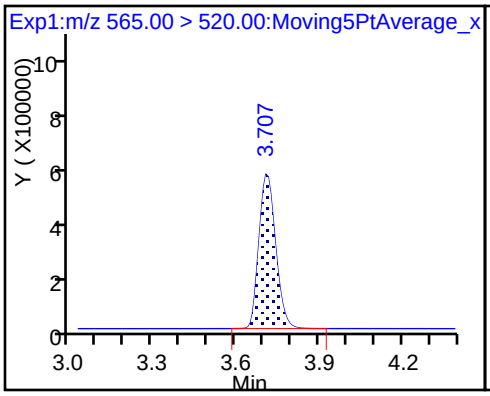
29 Perfluorodecane Sulfonic acid (ND)



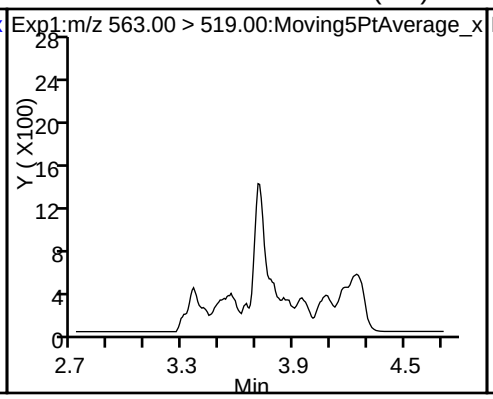
D 32 d5-NEtFOSAA



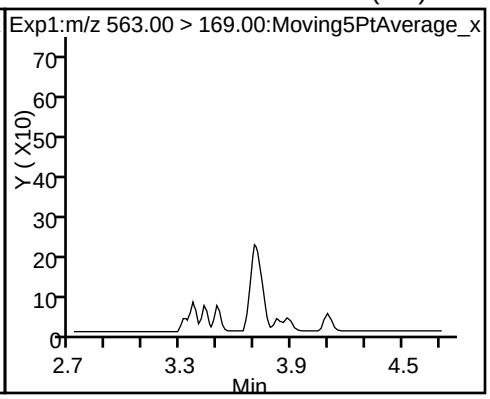
D 30 13C2 PFUnA



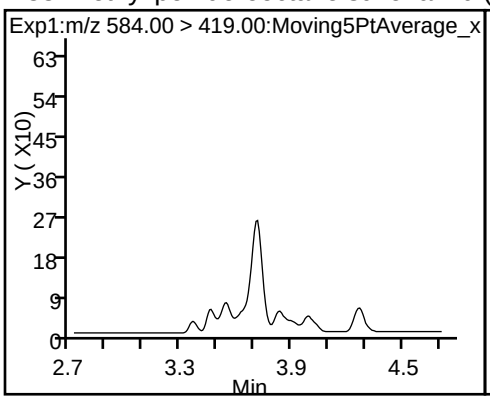
31 Perfluoroundecanoic acid (ND)



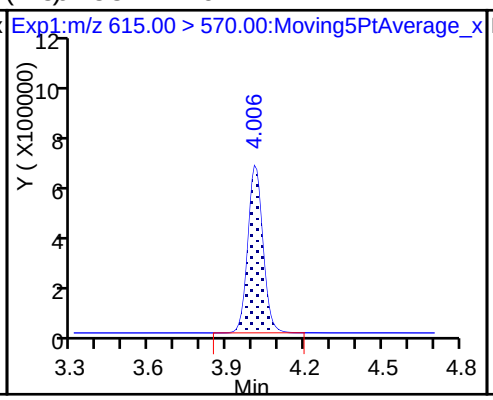
31 Perfluoroundecanoic acid (ND)



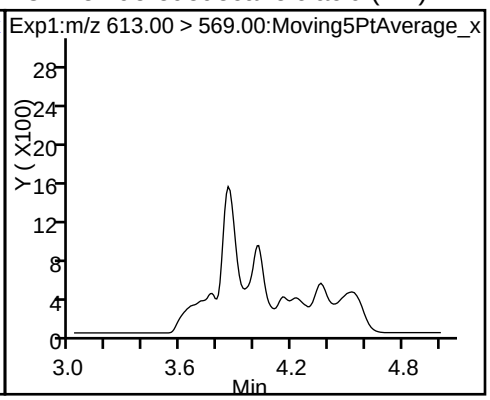
33 N-ethyl perfluorooctane sulfonamid (ND)



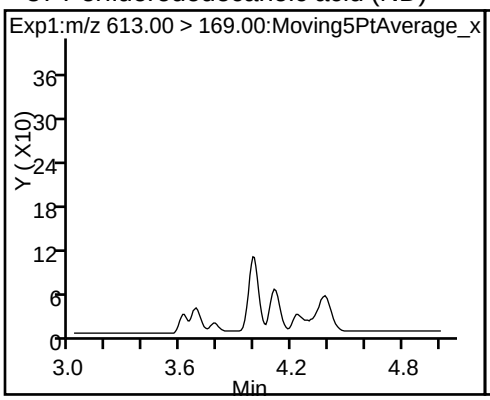
D 36 13C2 PFDoA



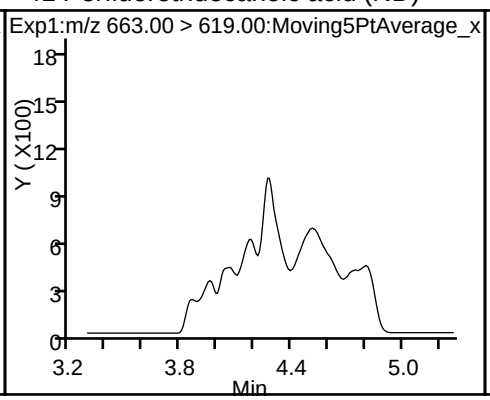
37 Perfluorododecanoic acid (ND)



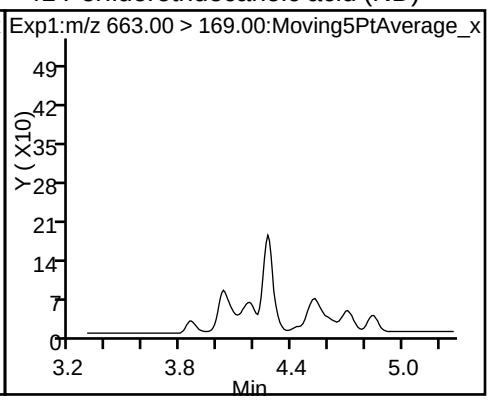
37 Perfluorododecanoic acid (ND)



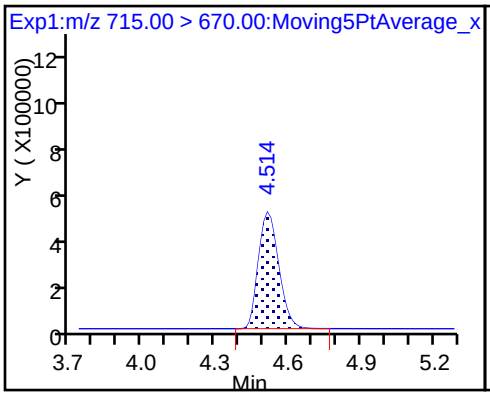
41 Perfluorotridecanoic acid (ND)



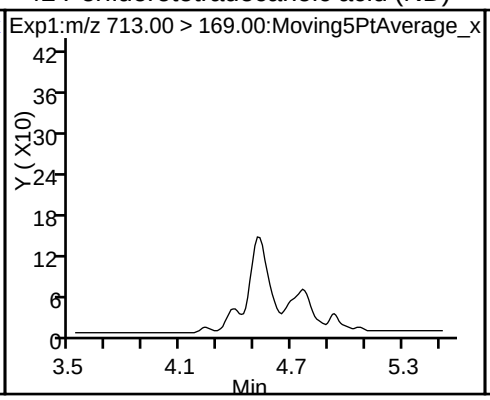
41 Perfluorotridecanoic acid (ND)



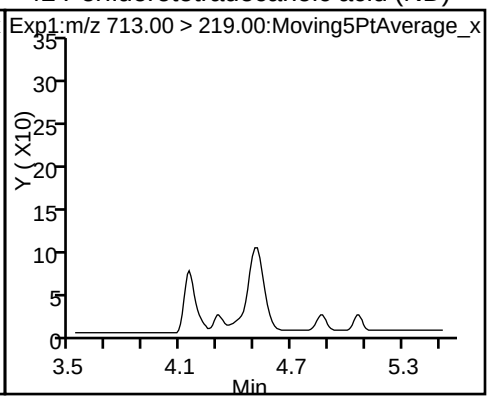
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

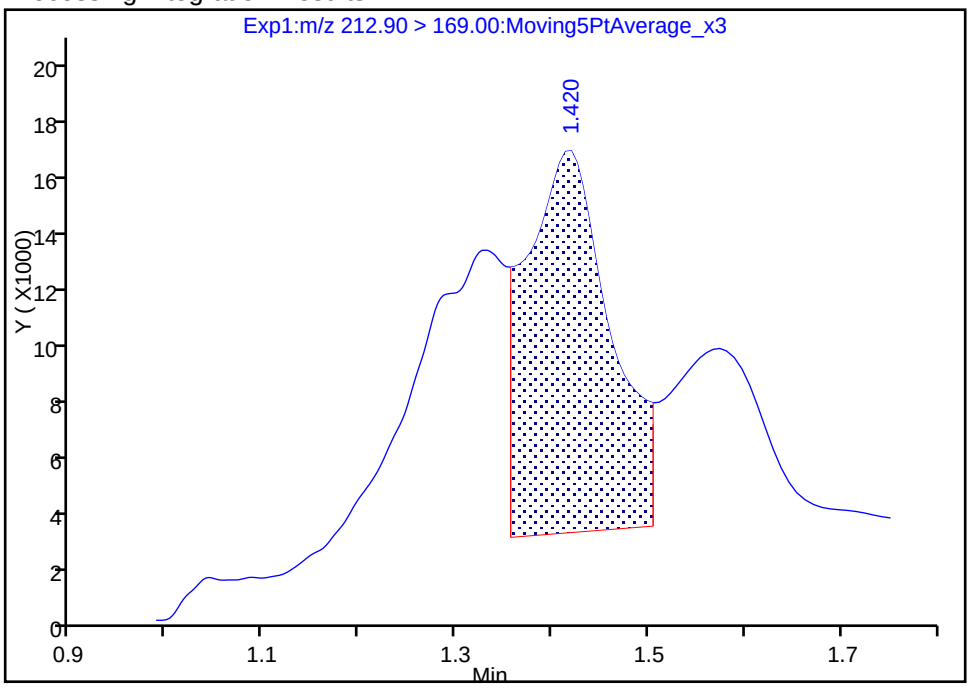
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_041.d				
Injection Date:	20-Dec-2017 09:47:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-13-A	Lab Sample ID:	320-34182-13		
Client ID:	MW-SP002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	31	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

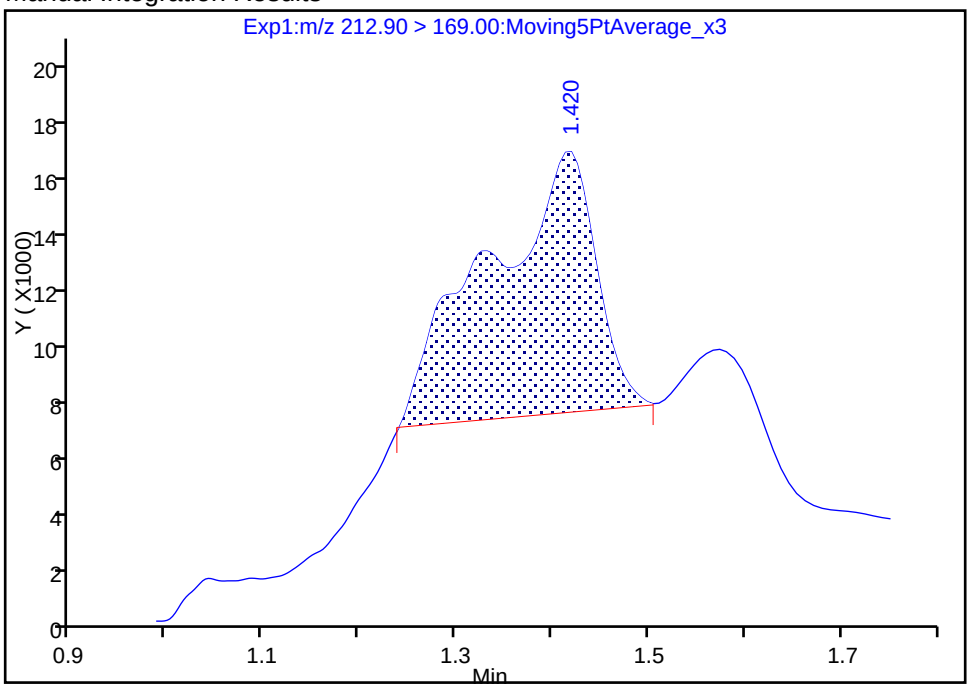
Processing Integration Results

RT: 1.42
Area: 83276
Amount: 0.029982
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 73523
Amount: 0.026471
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:04:26

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

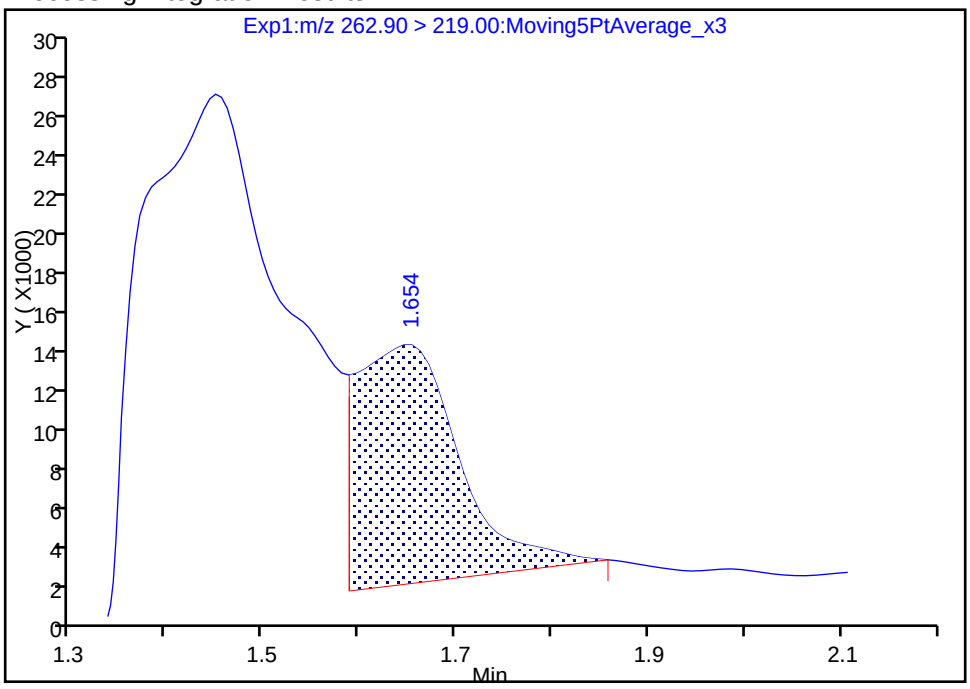
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_041.d				
Injection Date:	20-Dec-2017 09:47:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-13-A	Lab Sample ID:	320-34182-13		
Client ID:	MW-SP002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	31	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

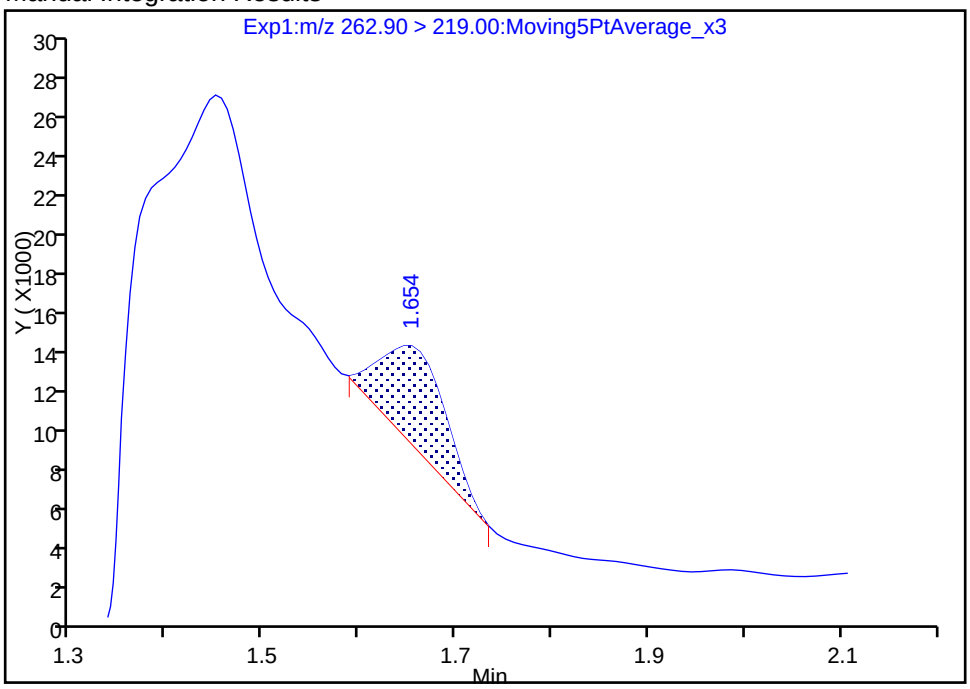
Processing Integration Results

RT: 1.65
Area: 89122
Amount: 0.037046
Amount Units: ng/ml



Manual Integration Results

RT: 1.65
Area: 23512
Amount: 0.009773
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:04:55
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

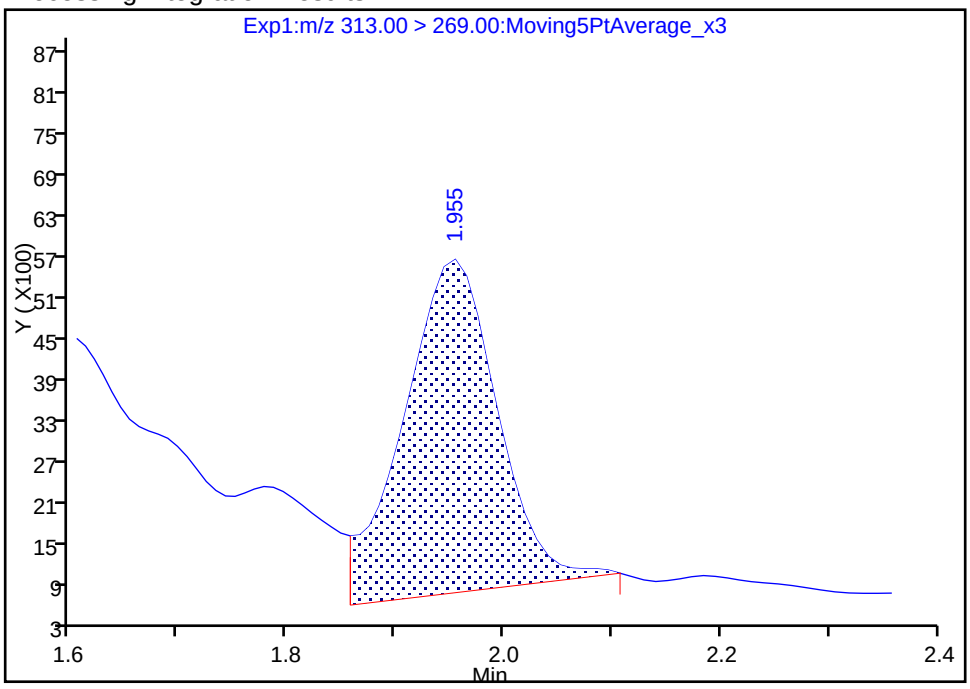
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_041.d				
Injection Date:	20-Dec-2017 09:47:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-13-A	Lab Sample ID:	320-34182-13		
Client ID:	MW-SP002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	31	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

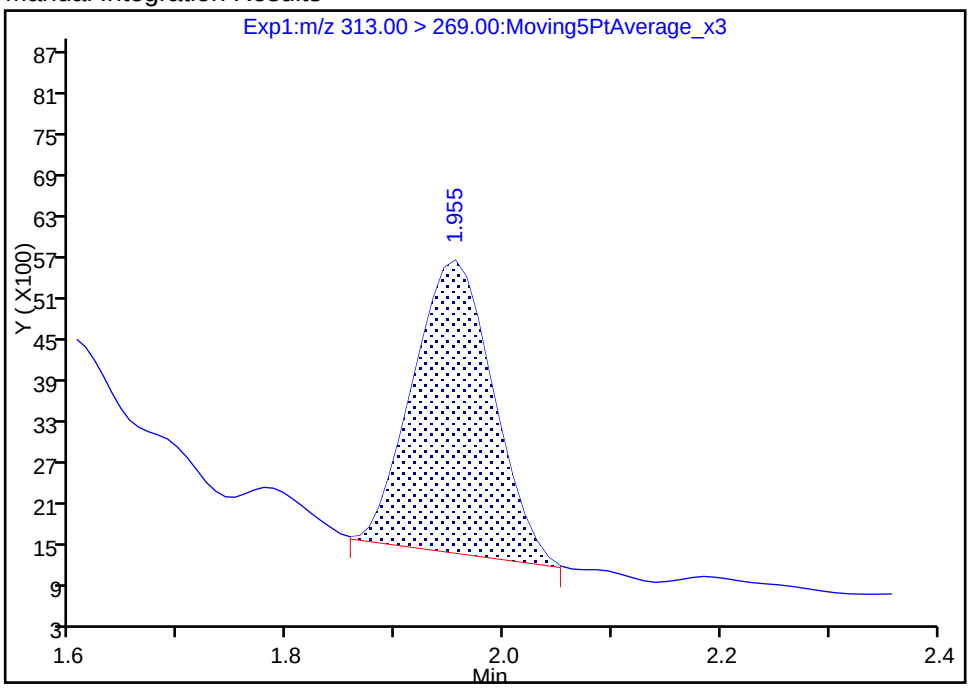
Processing Integration Results

RT: 1.95
Area: 29018
Amount: 0.013951
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 21852
Amount: 0.010506
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:05:11
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

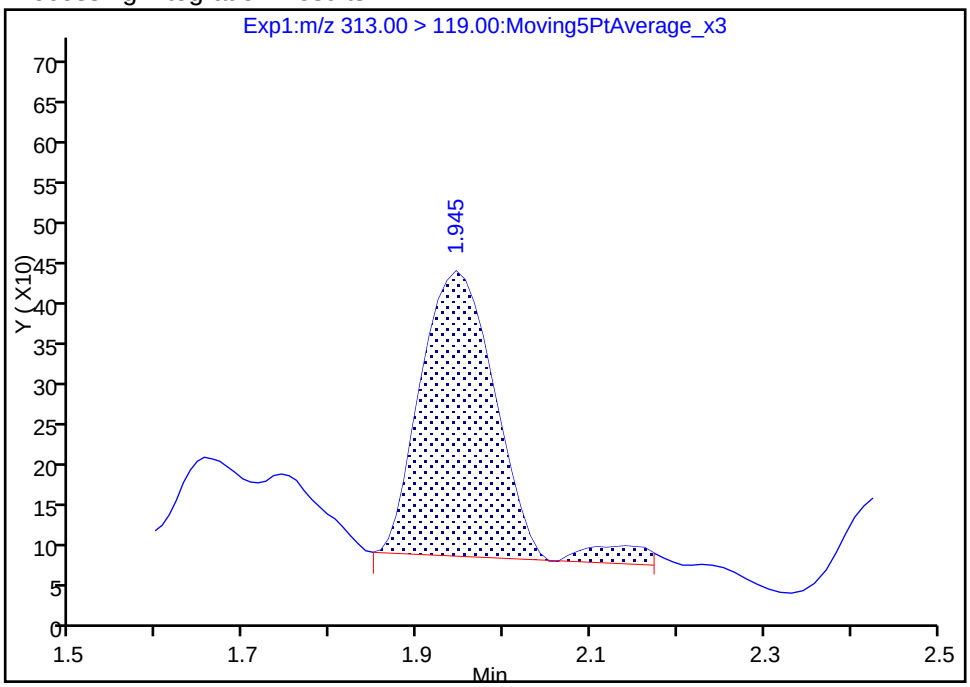
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_041.d				
Injection Date:	20-Dec-2017 09:47:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-13-A	Lab Sample ID:	320-34182-13		
Client ID:	MW-SP002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	31	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

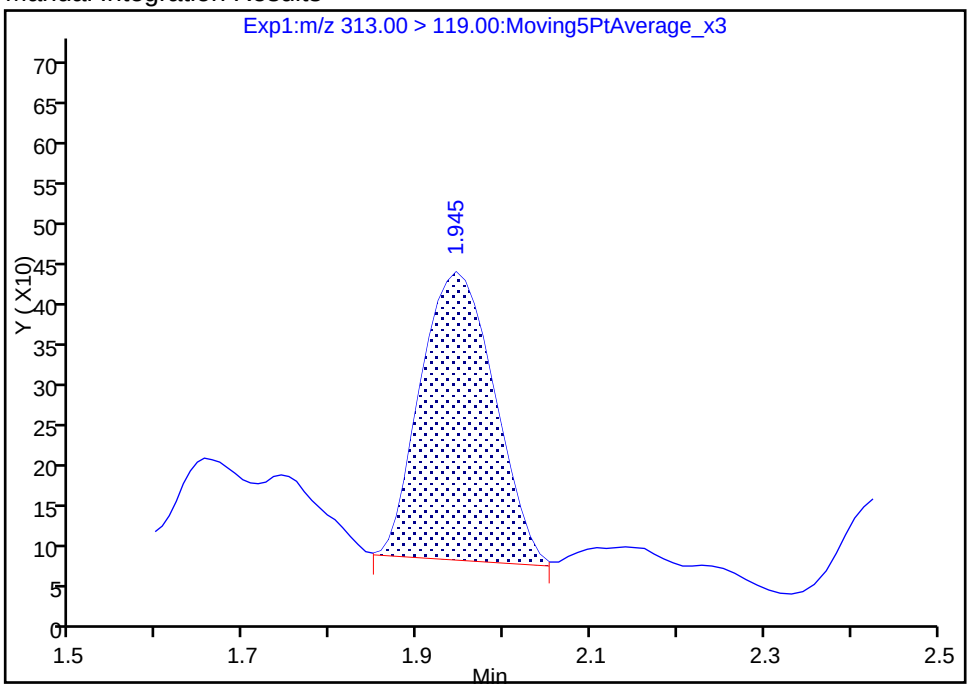
Processing Integration Results

RT: 1.94
Area: 2194
Amount: 0.013951
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 2131
Amount: 0.010506
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:05:20
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

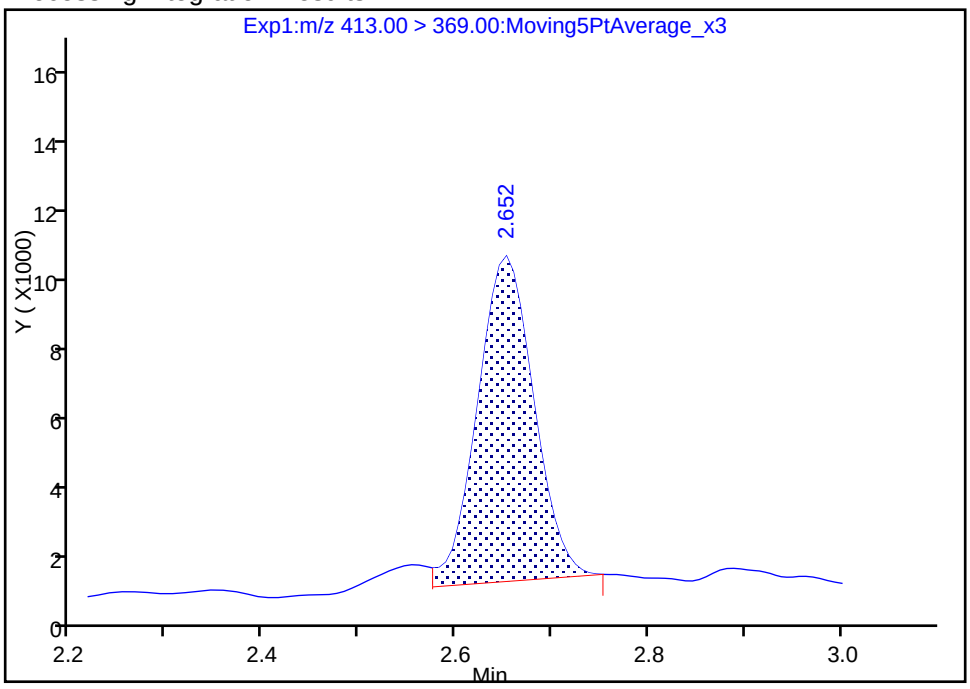
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_041.d				
Injection Date:	20-Dec-2017 09:47:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-13-A	Lab Sample ID:	320-34182-13		
Client ID:	MW-SP002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	31	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

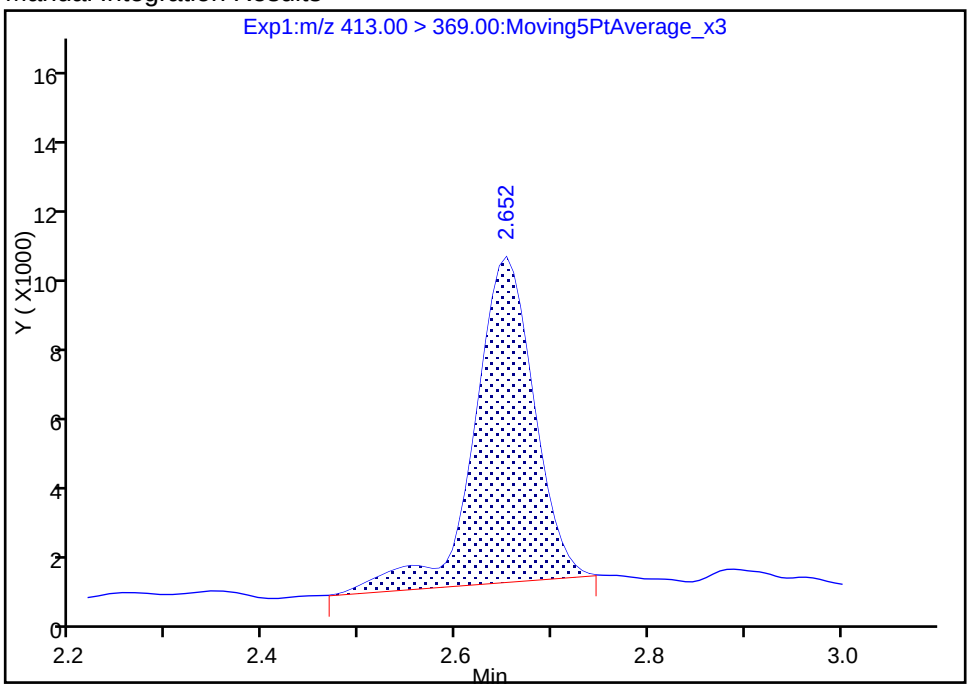
Processing Integration Results

RT: 2.65
Area: 35782
Amount: 0.015809
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 38288
Amount: 0.016916
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:05:43

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

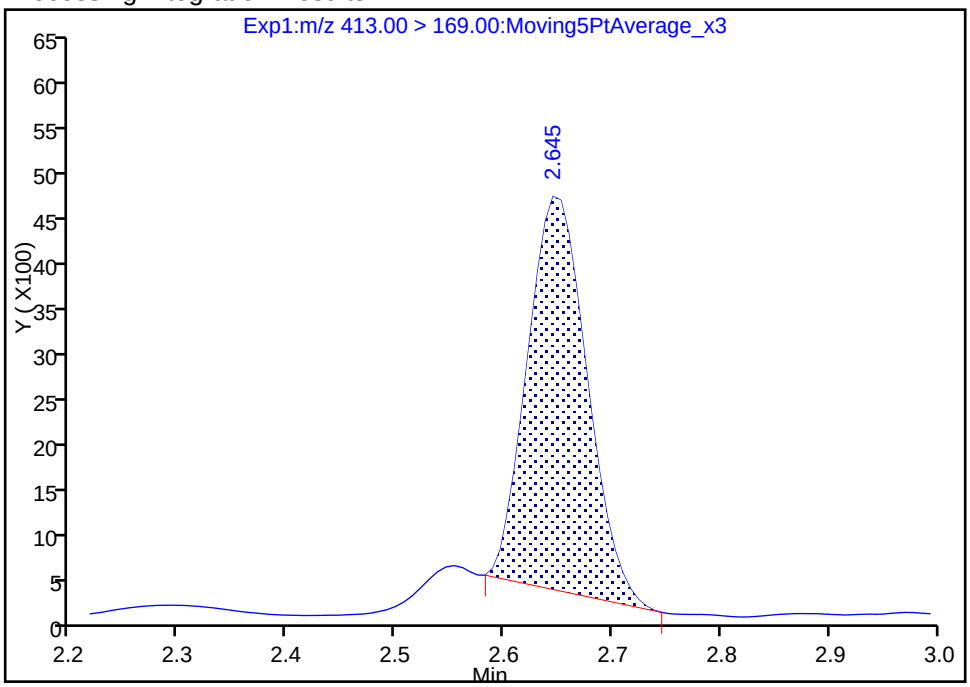
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_041.d				
Injection Date:	20-Dec-2017 09:47:26	Instrument ID:	A8_N		
Lims ID:	320-34182-A-13-A	Lab Sample ID:	320-34182-13		
Client ID:	MW-SP002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	31	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

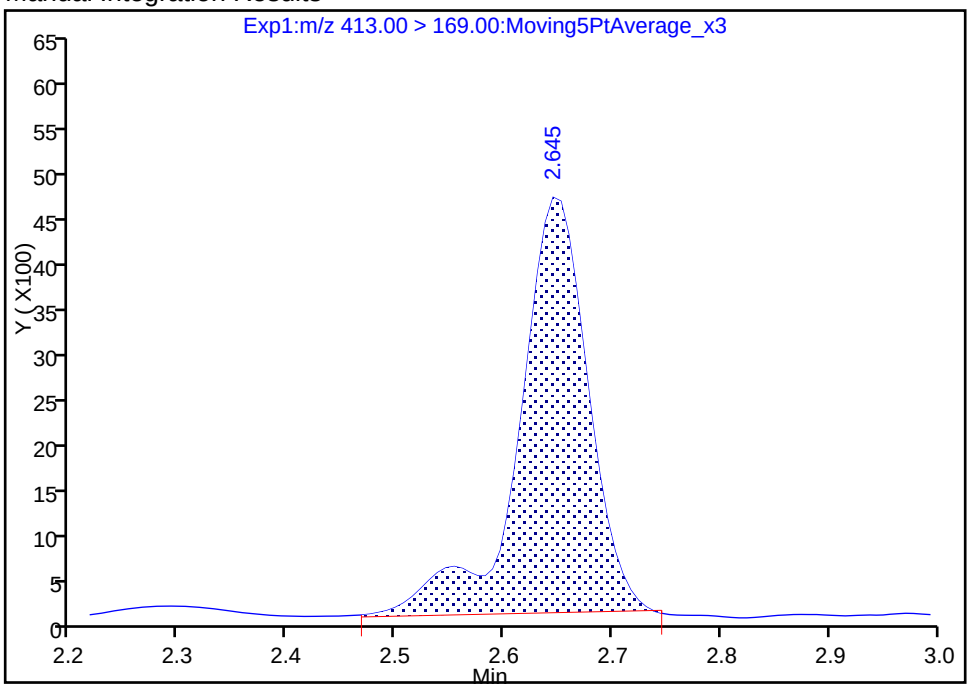
Processing Integration Results

RT: 2.65
Area: 16763
Amount: 0.015809
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 20689
Amount: 0.016916
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:05:50

Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-SP003-A | Lab Sample ID: 320-34182-14

Matrix: Water | Lab File ID: 2017.12.19LLC_042.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 13:30

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 255.7(mL) | Date Analyzed: 12/20/2017 09:55

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	4.62		1.96	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.30		1.96	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	2.75		1.96	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.92	J	1.96	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	4.16		1.96	0.83
375-95-1	Perfluorononanoic acid (PFNA)	0.75	J	1.96	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.30	U	1.96	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.08	U	1.96	1.08
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.96	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.96	1.27
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.18	J	1.96	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.89	B	1.96	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.96	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	4.91		1.96	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.96	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.03	U	19.6	3.03
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	19.6	1.86
27619-97-2	6:2FTS	1.96	U	19.6	1.96
39108-34-4	8:2FTS	1.96	U	19.6	1.96

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-SP003-A | Lab Sample ID: 320-34182-14

Matrix: Water | Lab File ID: 2017.12.19LLC_042.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 13:30

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 255.7(mL) | Date Analyzed: 12/20/2017 09:55

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	78		25-150
STL01893	13C5 PFPeA	110		25-150
STL00993	13C2 PFHxA	106		25-150
STL01892	13C4-PFHpA	108		25-150
STL00990	13C4 PFOA	100		25-150
STL00995	13C5 PFNA	110		25-150
STL00996	13C2 PFDA	119		25-150
STL00997	13C2 PFUnA	108		25-150
STL00998	13C2 PFDoA	102		25-150
STL02116	13C2-PFTeDA	106		25-150
STL02337	13C3-PFBS	105		25-150
STL00994	18O2 PFHxS	112		25-150
STL00991	13C4 PFOS	108		25-150
STL01056	13C8 FOSA	98		25-150
STL02118	d3-NMeFOSAA	127		25-150
STL02117	d5-NEtFOSAA	121		25-150
STL02279	M2-6:2FTS	72		25-150
STL02280	M2-8:2FTS	162	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d
Lims ID: 320-34182-A-14-A
Client ID: FW-SP003-A
Sample Type: Client
Inject. Date: 20-Dec-2017 09:55:18 ALS Bottle#: 32 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-14-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:10:17

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.533	6440206	1.95		78.2	18921	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.414	1.412	0.002	1.000	277844	0.1182			15.1	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.627	5342100	2.75		110	25805	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.663	1.664	-0.001	1.000	138834	0.0588			14.2	M
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.699	0.008	0.644	100423	2.45		105	957	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.707	1.703	0.004	1.000	97756	0.0303			31.7	M
298.90 > 99.00	1.698	1.703	-0.005	0.995	40230		2.43(1.25-3.74)		30.0	M
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.955	1.949	0.006	1.000	153166	0.0703			91.1	M
313.00 > 119.00	1.955	1.949	0.006	1.000	13349		11.47(5.03-15.10)		106	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.949	0.006	0.737	5450103	2.65		106	51845	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.292	2.286	0.006	1.000	105013	0.0491			81.8	
363.00 > 169.00	2.292	2.286	0.006	1.000	35671		2.94(1.13-3.40)		289	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.286	0.006	0.864	5194897	2.70		108	44327	
D 11 18O2 PFHxS										
403.00 > 84.00	2.305	2.299	0.006	0.869	6310500	2.65		112	63515	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.305	2.299	0.006	1.000	288108	0.0993			350	
399.00 > 99.00	2.305	2.299	0.006	1.000	85850		3.36(1.50-4.49)		164	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.640	-0.009	1.000	14165	0.0154			642	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.640	-0.009	0.992	1364768	1.71		71.9	15517	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.643	0.009		5586321	2.50			53622	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.647	0.005	1.000	5752642	2.49		99.6	53172	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.652	2.649	0.003	1.000	258023	0.1063			127	M
413.00 > 169.00	2.652	2.649	0.003	1.000	155662		1.66(0.84-2.52)		1075	M
16 Perfluoroheptanesulfonic Acid										M
449.00 > 80.00	2.667	2.654	0.013	1.000	9644	0.004066			56.2	
449.00 > 99.00	2.667	2.654	0.013	1.000	4030		2.39(1.94-5.82)		46.6	M
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.025	0.0	1.000	220025	0.1255			23.6	
499.00 > 99.00	3.025	3.025	0.0	1.000	39751		5.54(2.31-6.93)		34.9	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3940233	2.57		108	34116	
20 Perfluorononanoic acid										
463.00 > 419.00	3.033	3.026	0.007	1.003	31974	0.0192			52.0	
463.00 > 169.00	3.025	3.026	-0.001	1.000	6460		4.95(1.90-5.69)		98.6	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.026	-0.001	1.141	4287405	2.76		110	46291	
D 21 13C8 FOSA										
506.00 > 78.00	3.371	3.362	0.009	1.271	5316066	2.45		98.2	33640	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.371	3.365	0.006	1.000	16590	0.008252			473	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.375	0.003	1.274	1318617	3.87		162	13087	
D 23 13C2 PFDA										
515.00 > 470.00	3.386	3.387	-0.001	1.277	3682299	2.96		119	45778	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.545	3.541	0.004	1.336	1813159	3.17		127	25411	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.711	-0.005	1.397	1788958	3.03		121	12726	
D 30 13C2 PFUnA										
565.00 > 520.00	3.715	3.717	-0.002	1.401	2588138	2.70		108	31107	
31 Perfluoroundecanoic acid										M
563.00 > 519.00	3.715	3.718	-0.003	1.000	6568	0.007013			23.4	
563.00 > 169.00	3.706	3.718	-0.012	0.998	1698		3.87(0.00-0.00)		78.2	M
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.015	-0.002	1.513	2587729	2.54		102	26147	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.702	2969359	2.66		106	20430	

QC Flag Legend

Review Flags

M - Manually Integrated

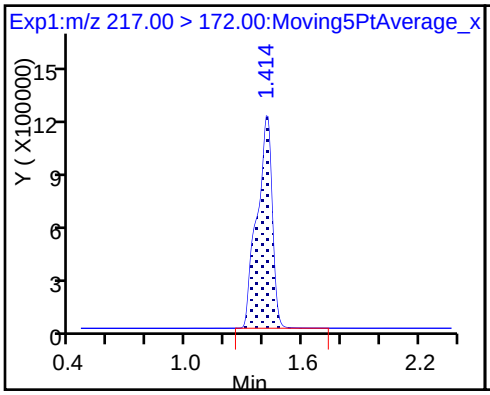
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TestAmerica Sacramento

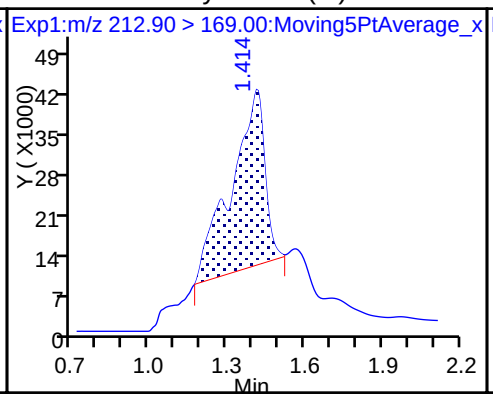
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Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

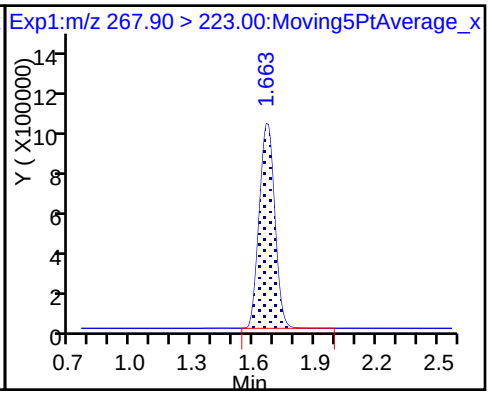
D 1 13C4 PFBA



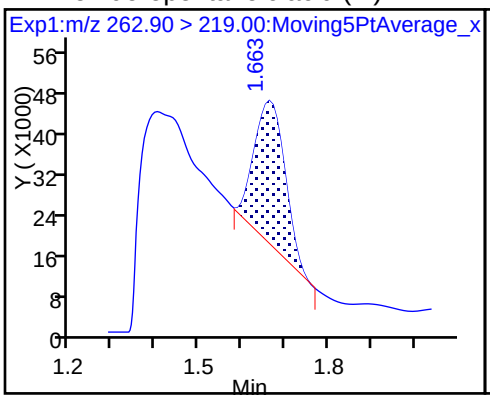
2 Perfluorobutyric acid (M)



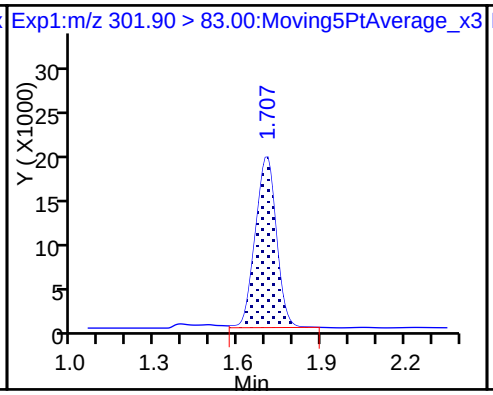
D 3 13C5-PFPeA



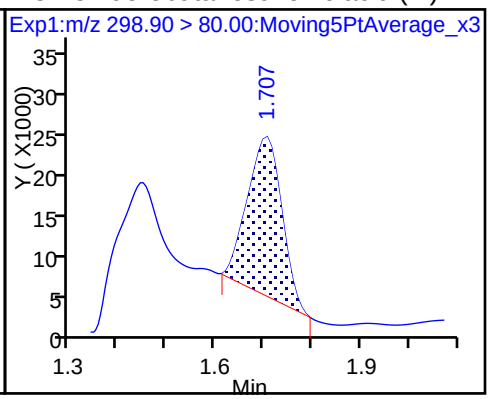
4 Perfluoropentanoic acid (M)



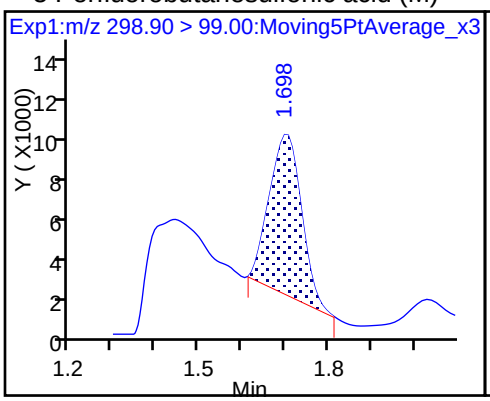
D 47 13C3-PFBS



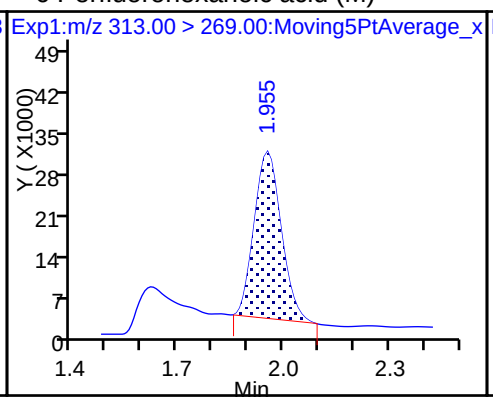
5 Perfluorobutanesulfonic acid (M)



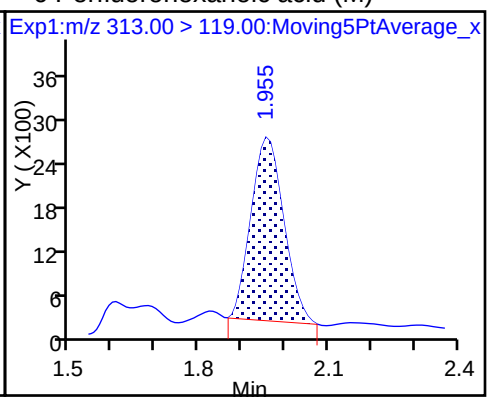
5 Perfluorobutanesulfonic acid (M)



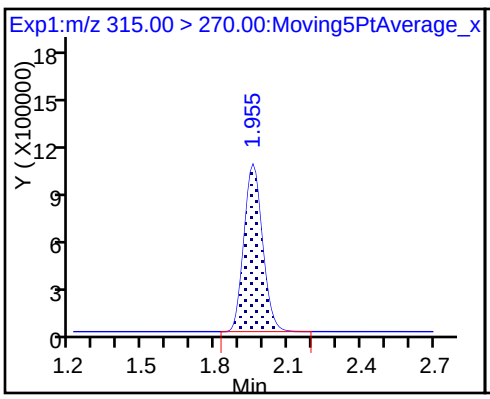
6 Perfluorohexanoic acid (M)



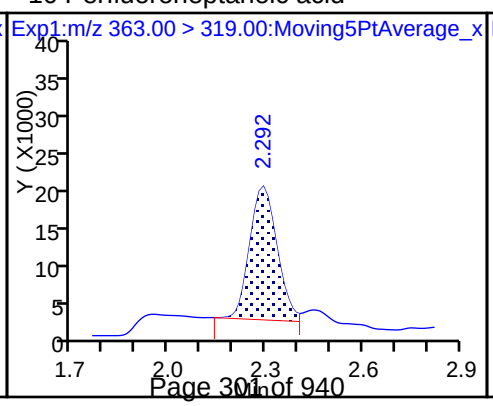
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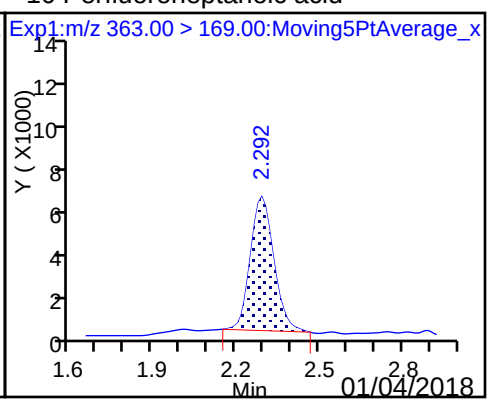
D 7 13C2 PFHxA



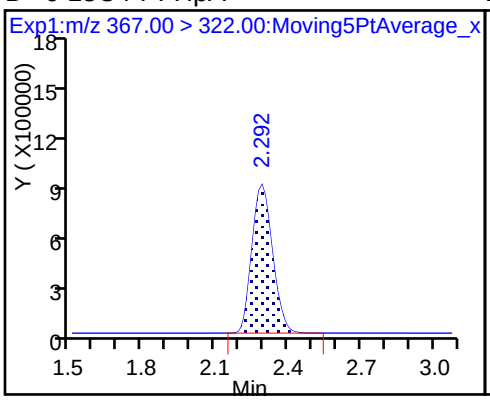
10 Perfluoroheptanoic acid



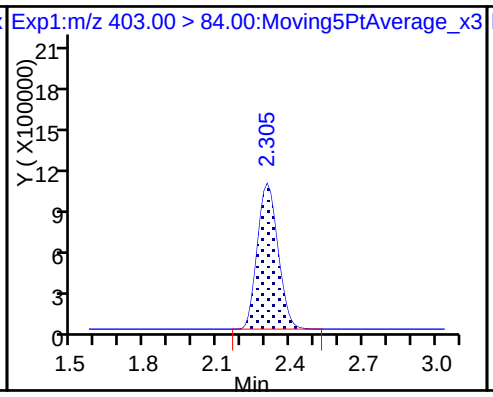
10 Perfluoroheptanoic acid



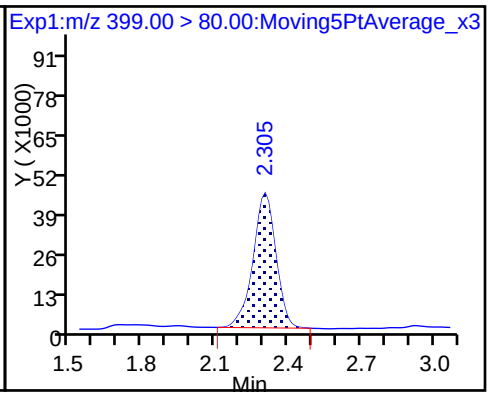
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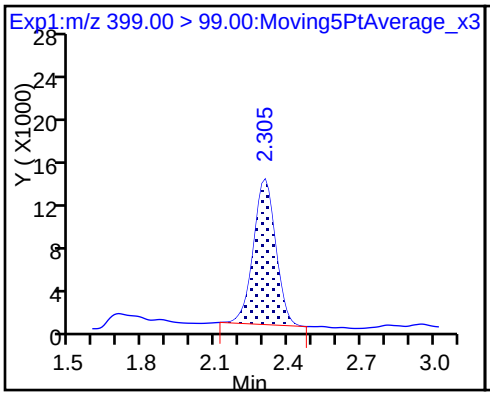
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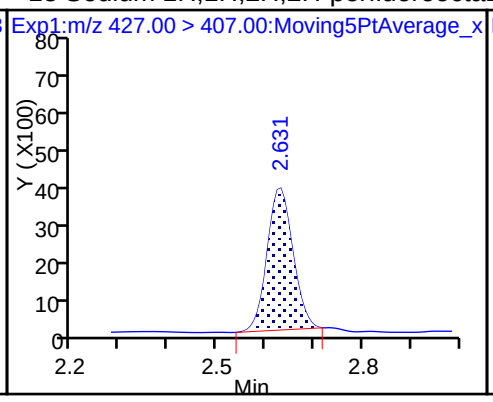
8 Perfluorohexanesulfonic acid



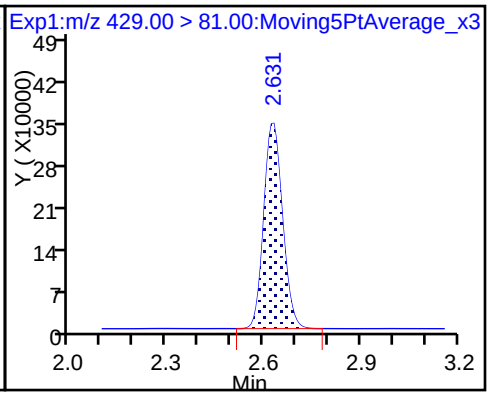
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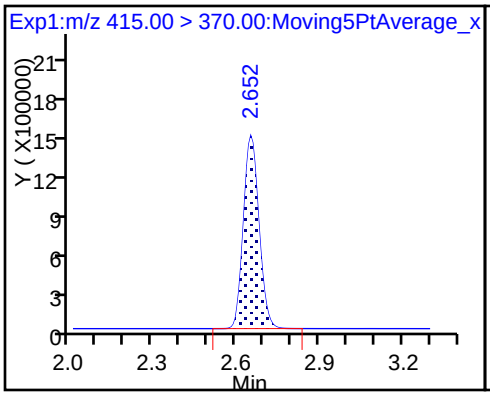
13 Sodium 1H,1H,2H,2H-perfluorooctane



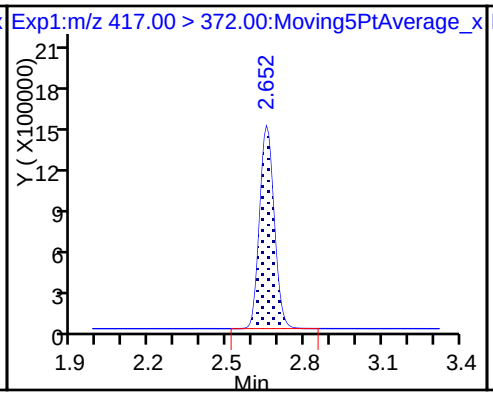
D 12 M2-6:2FTS



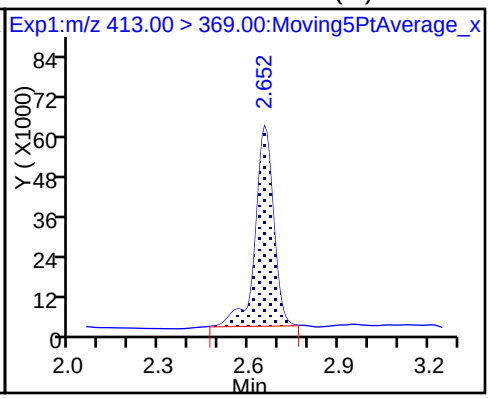
* 62 13C2-PFOA



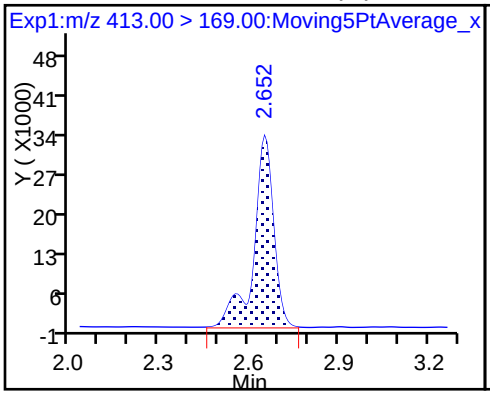
D 14 13C4 PFOA



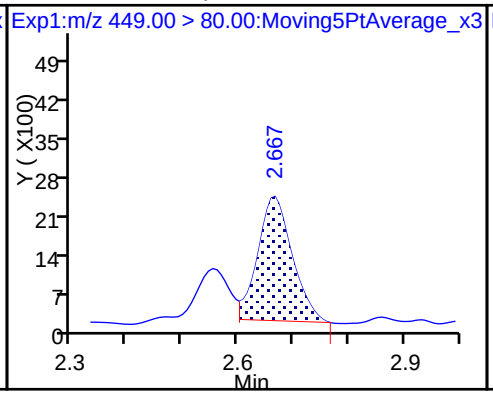
15 Perfluorooctanoic acid (M)



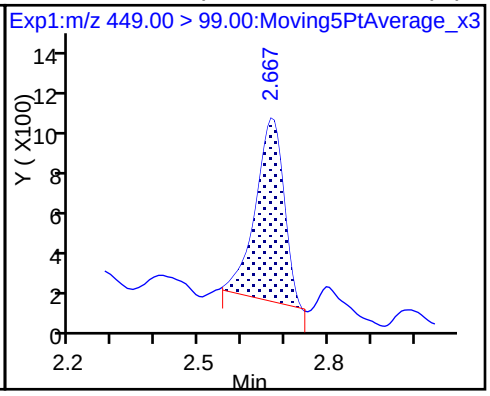
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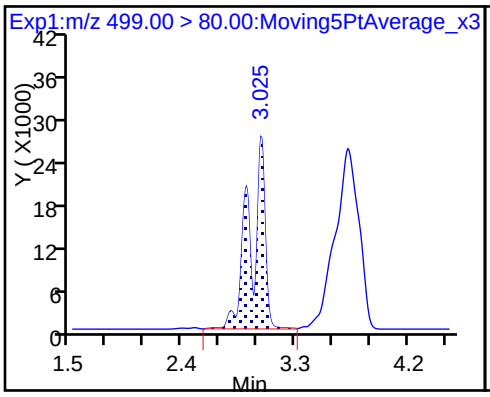
16 Perfluoroheptanesulfonic Acid



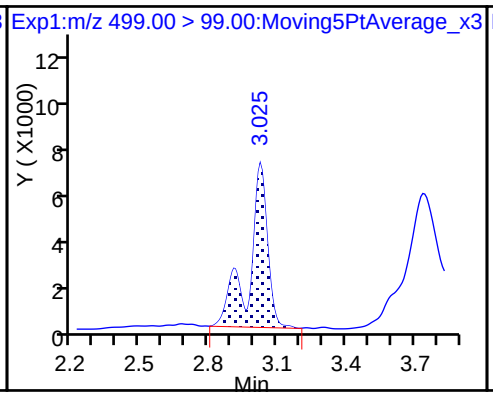
16 Perfluoroheptanesulfonic Acid (M)



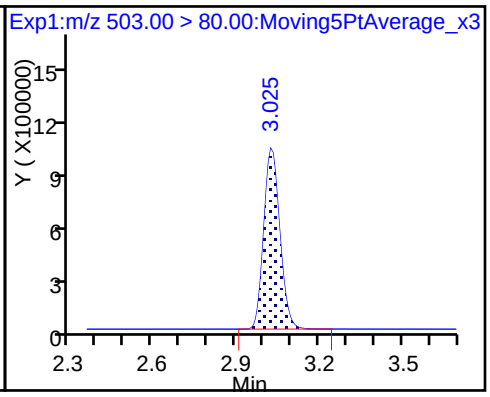
17 Perfluorooctane sulfonic acid



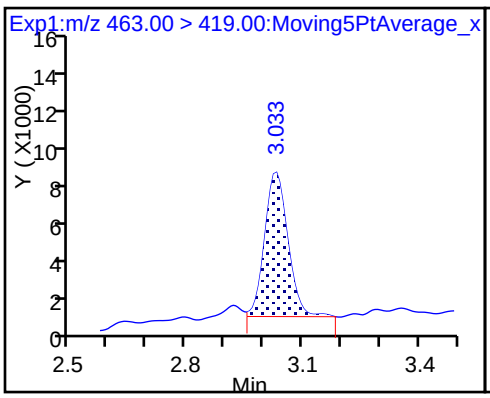
17 Perfluorooctane sulfonic acid



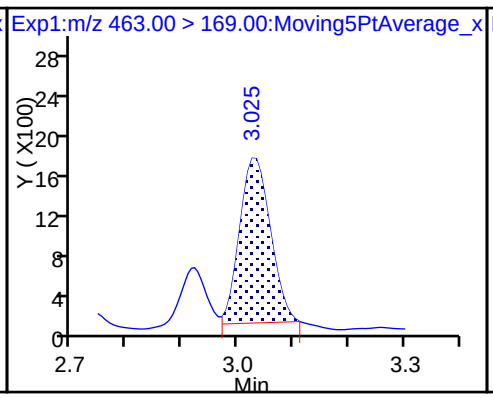
D 18 13C4 PFOS



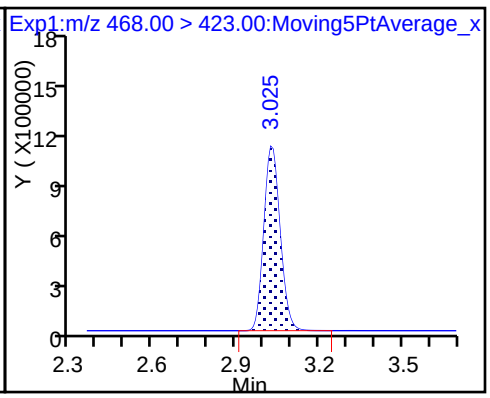
20 Perfluorononanoic acid



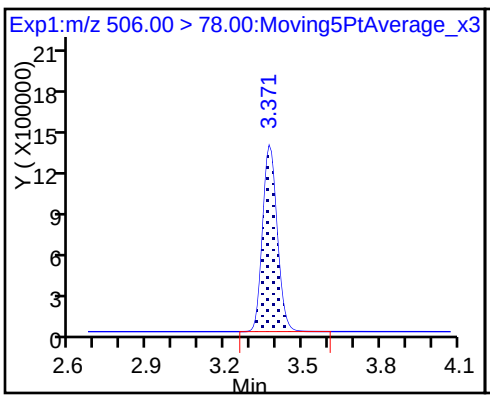
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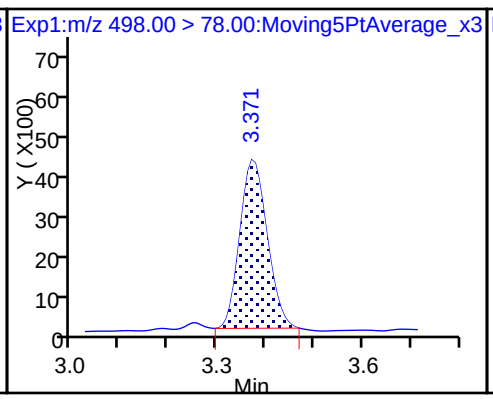
D 19 13C5 PFNA



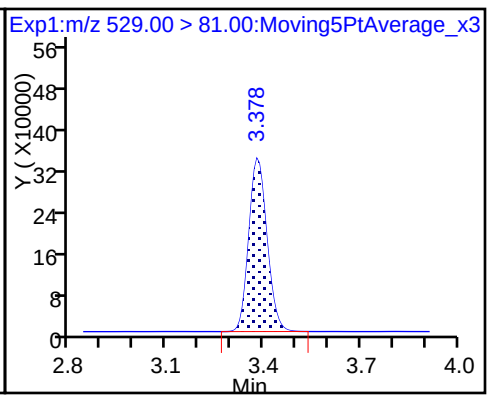
D 21 13C8 FOSA



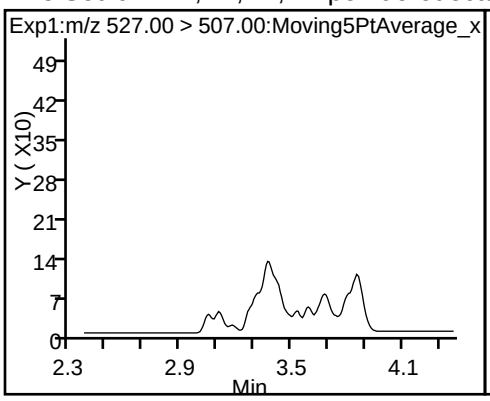
22 Perfluorooctane Sulfonamide



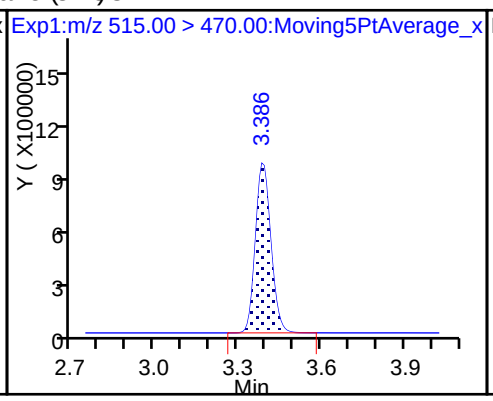
D 26 M2-8:2FTS



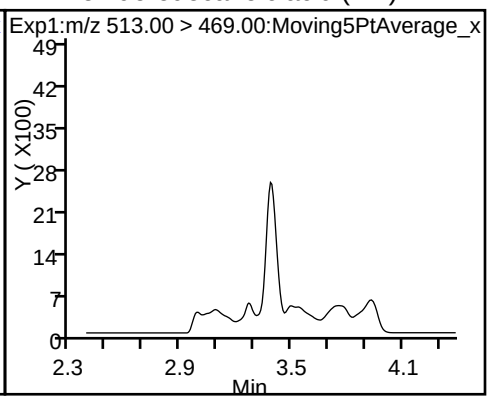
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



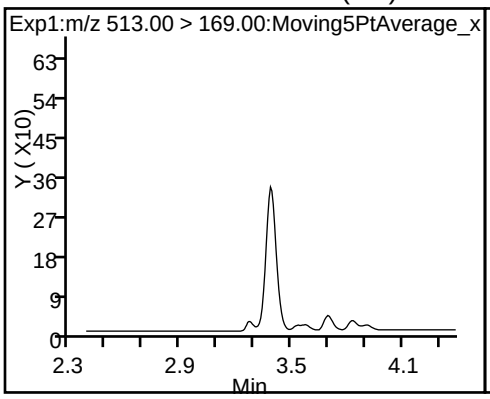
D 13C2 PFDA



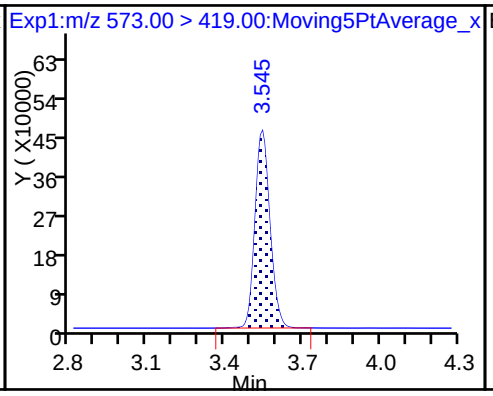
24 Perfluorodecanoic acid (ND)



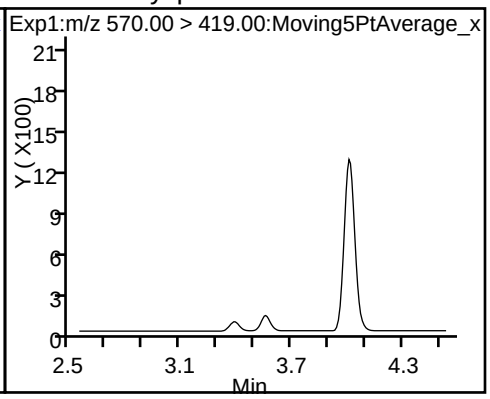
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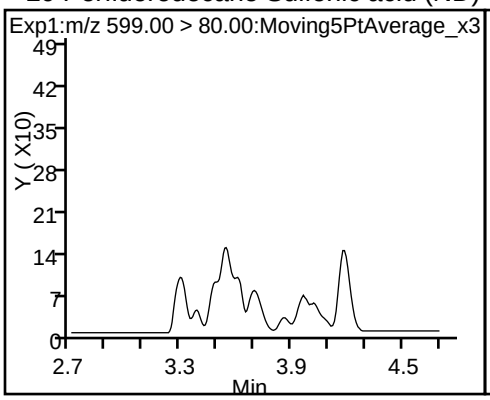
D 27 d3-NMeFOSAA



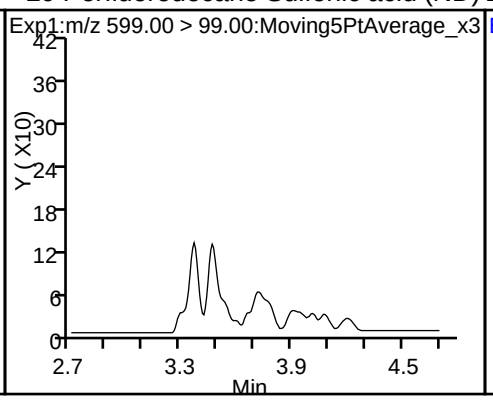
28 N-methyl perfluorooctane sulfonami (ND)



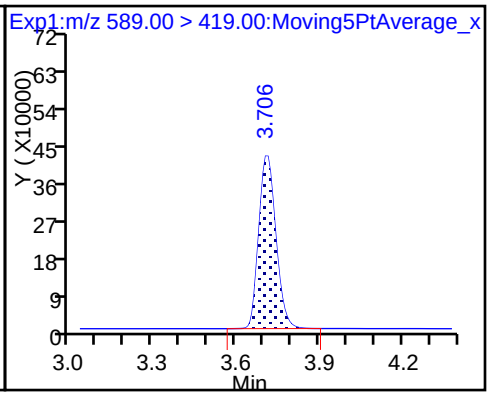
29 Perfluorodecane Sulfonic acid (ND)



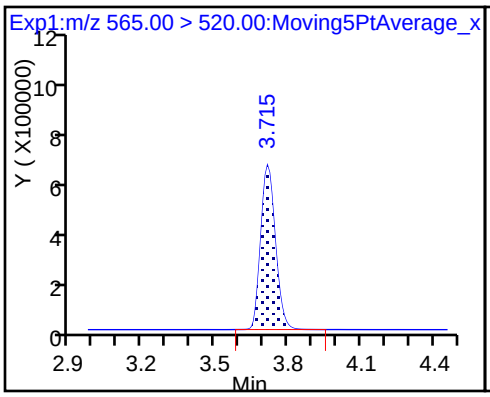
29 Perfluorodecane Sulfonic acid (ND)



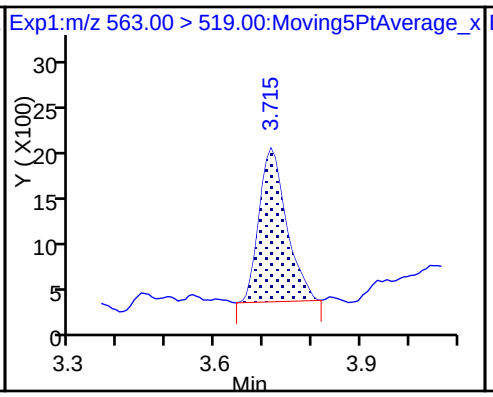
D 32 d5-NEtFOSAA



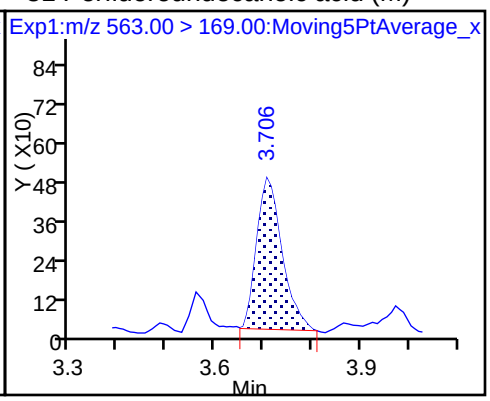
D 30 13C2 PFUnA



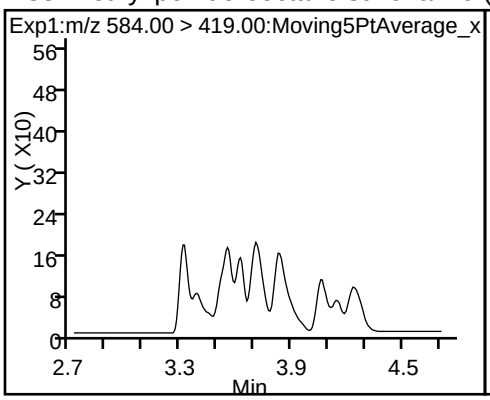
31 Perfluoroundecanoic acid



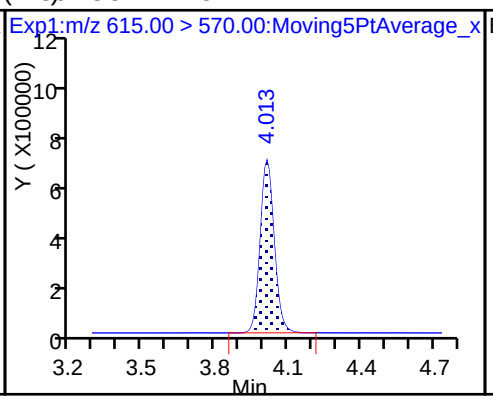
31 Perfluoroundecanoic acid (M)



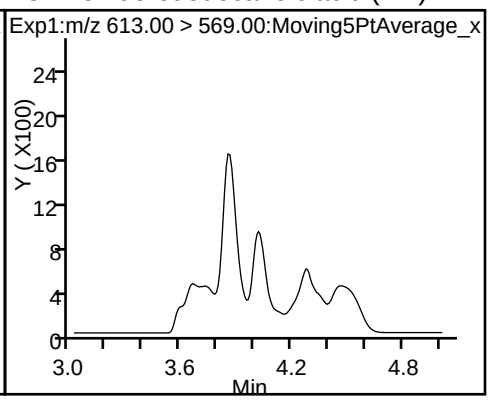
33 N-ethyl perfluorooctane sulfonamid (ND)



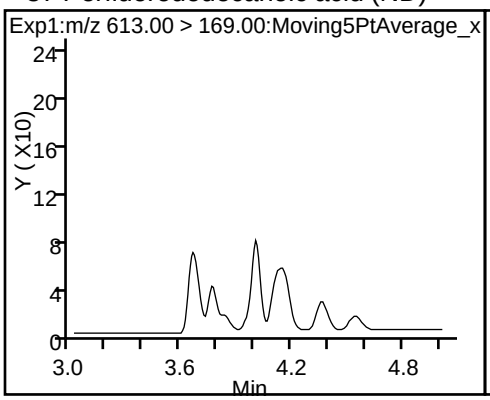
D 36 13C2 PFDoA



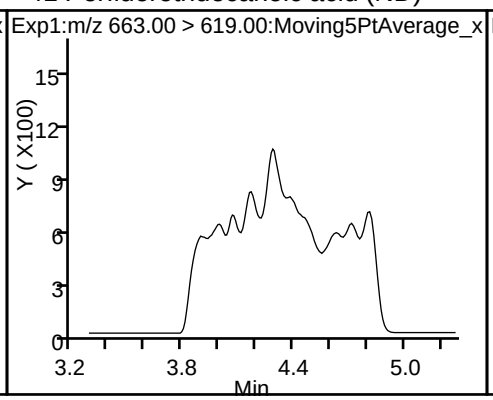
37 Perfluorododecanoic acid (ND)



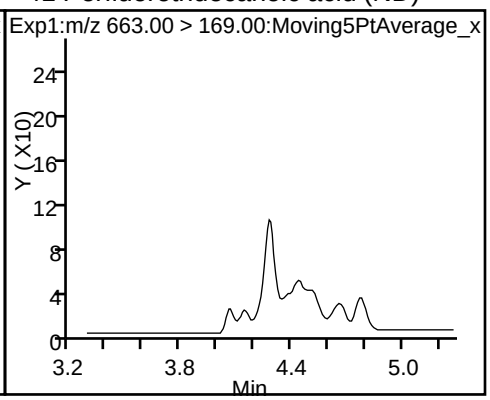
37 Perfluorododecanoic acid (ND)



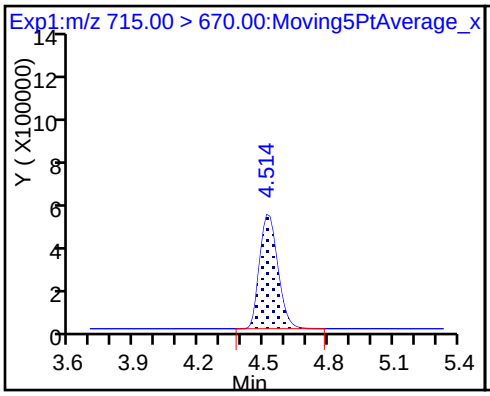
41 Perfluorotridecanoic acid (ND)



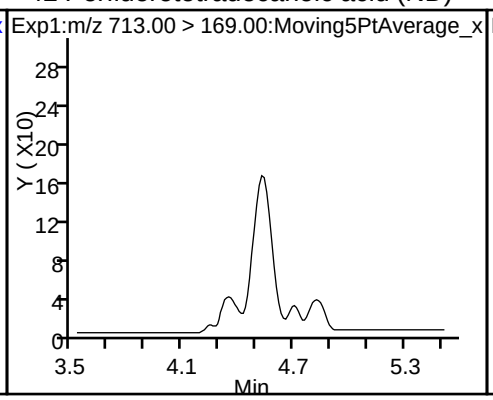
41 Perfluorotridecanoic acid (ND)



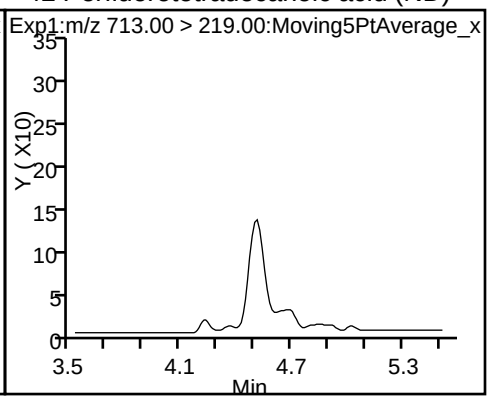
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

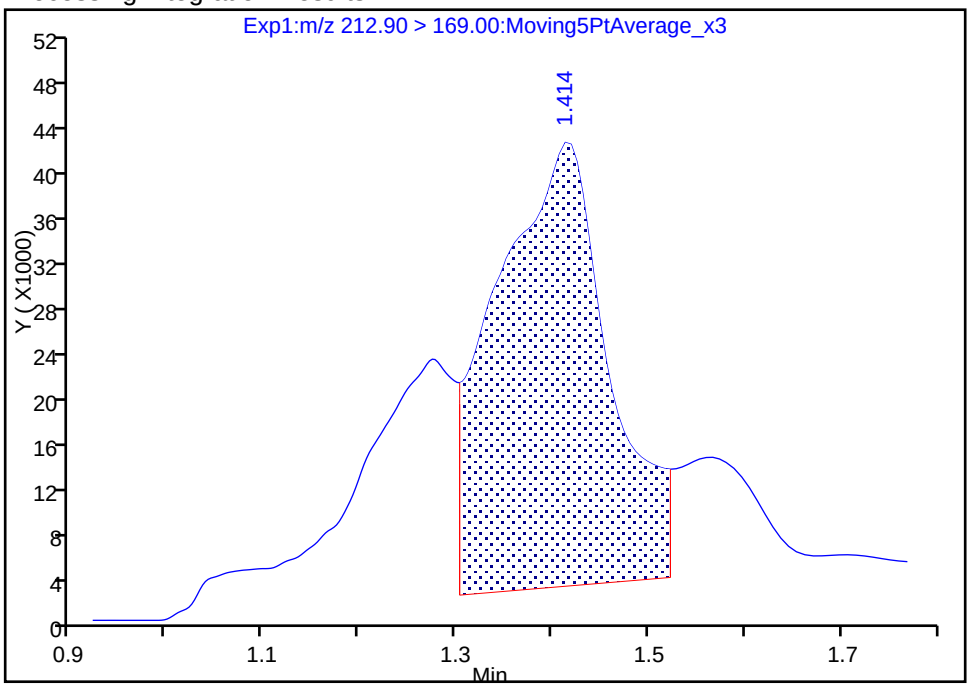
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

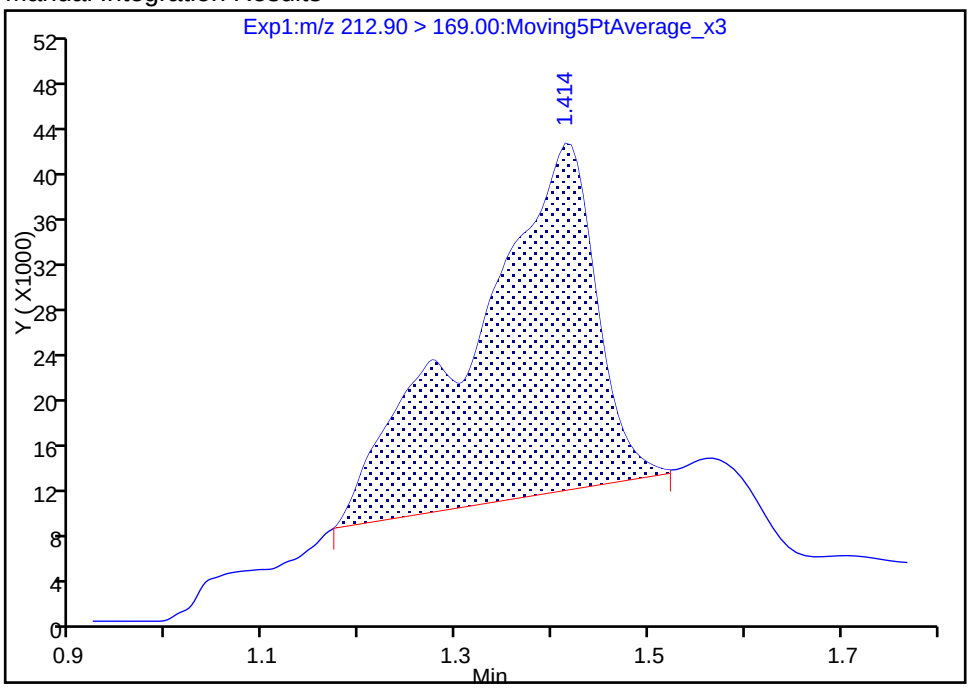
Processing Integration Results

RT: 1.41
Area: 324420
Amount: 0.138037
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 277844
Amount: 0.118219
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:07:02

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

TestAmerica Sacramento

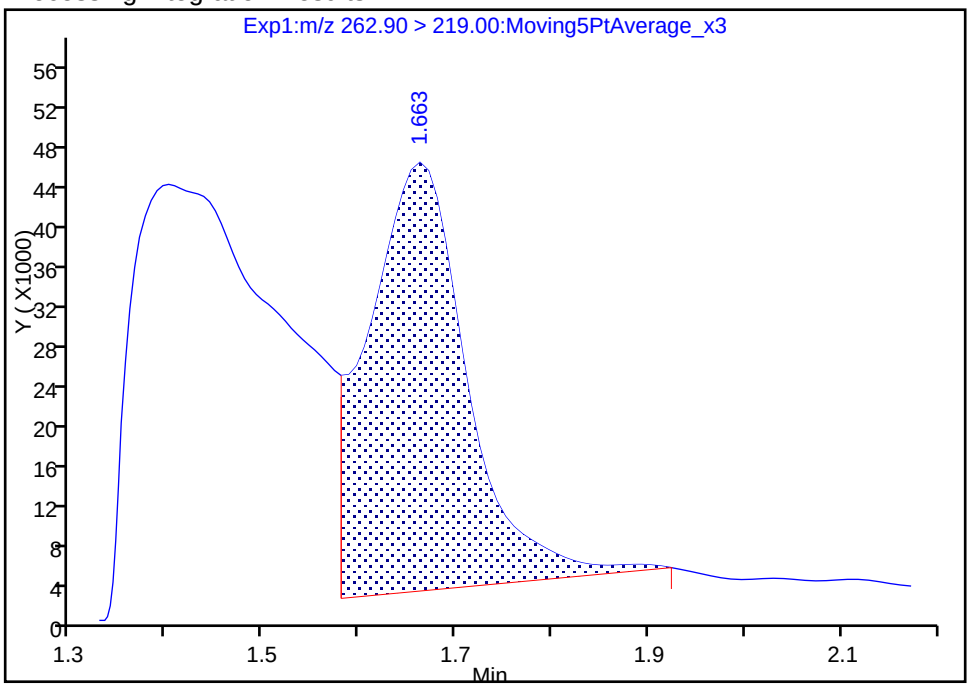
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

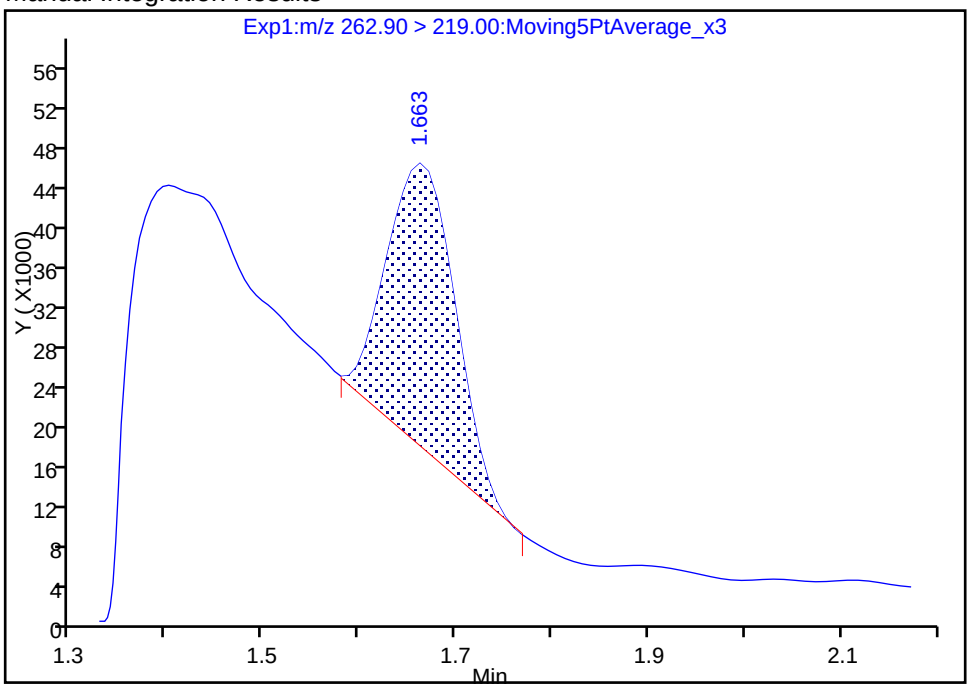
Processing Integration Results

RT: 1.66
Area: 304769
Amount: 0.129023
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 138834
Amount: 0.058775
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:07:25
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

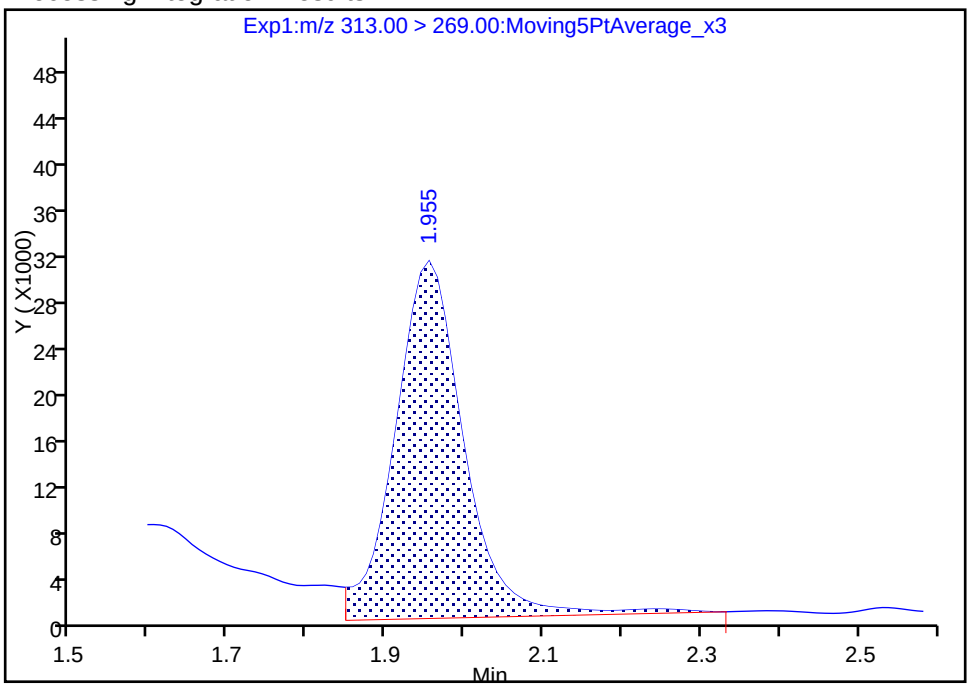
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

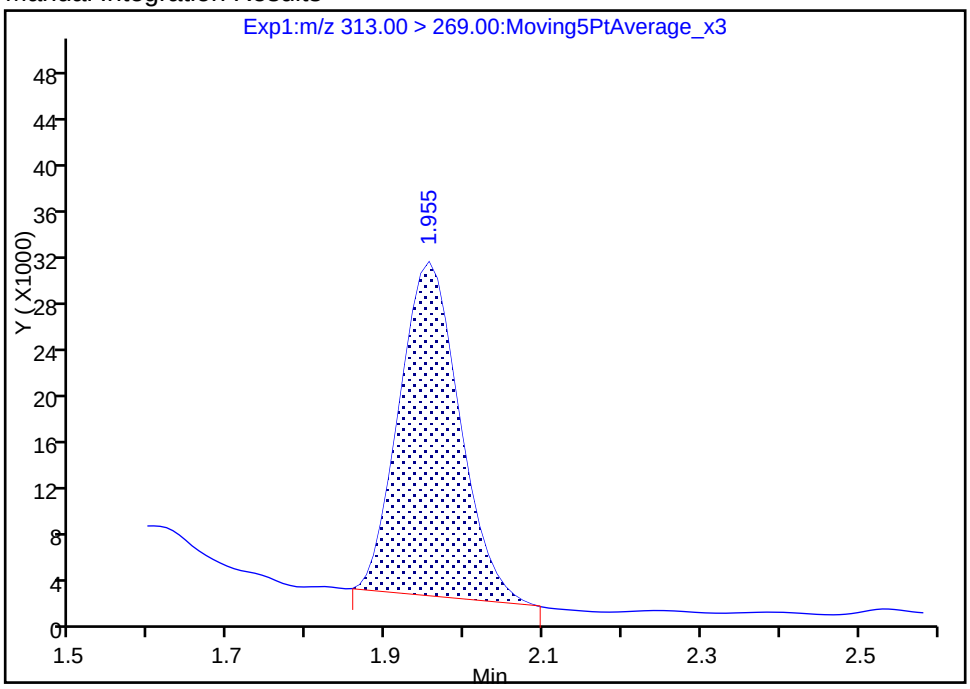
Processing Integration Results

RT: 1.95
Area: 187191
Amount: 0.085879
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 153166
Amount: 0.070269
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:08:08
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

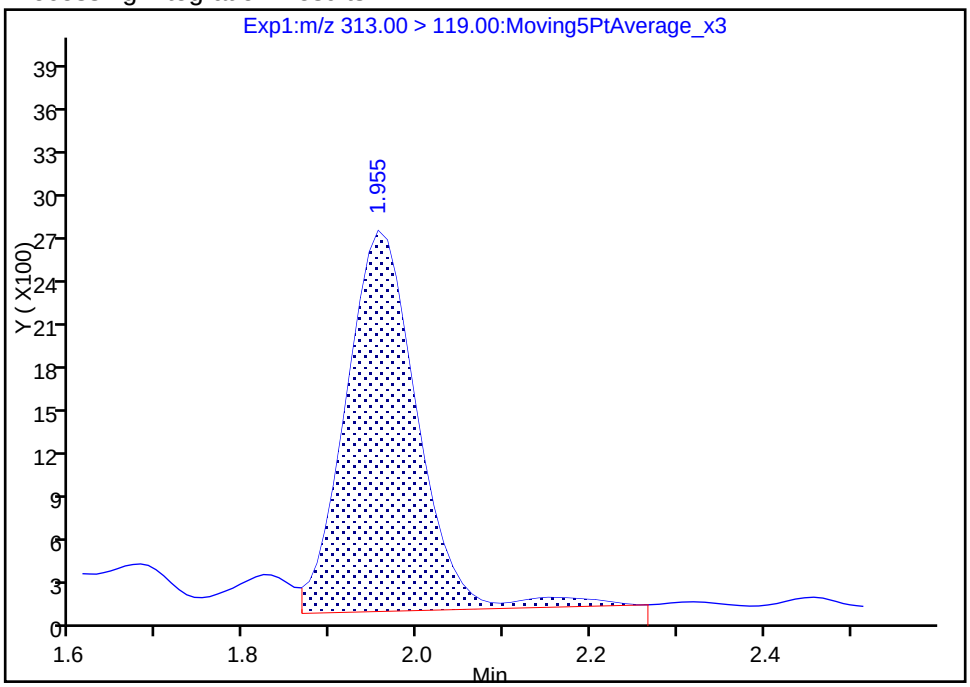
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

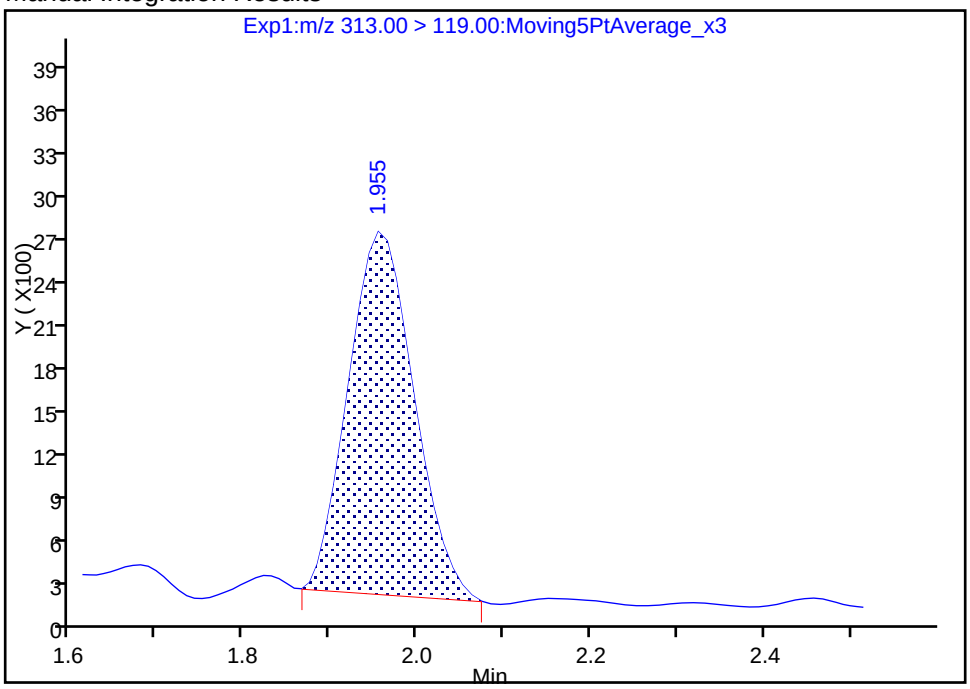
Processing Integration Results

RT: 1.95
Area: 15269
Amount: 0.085879
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 13349
Amount: 0.070269
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:08:18
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

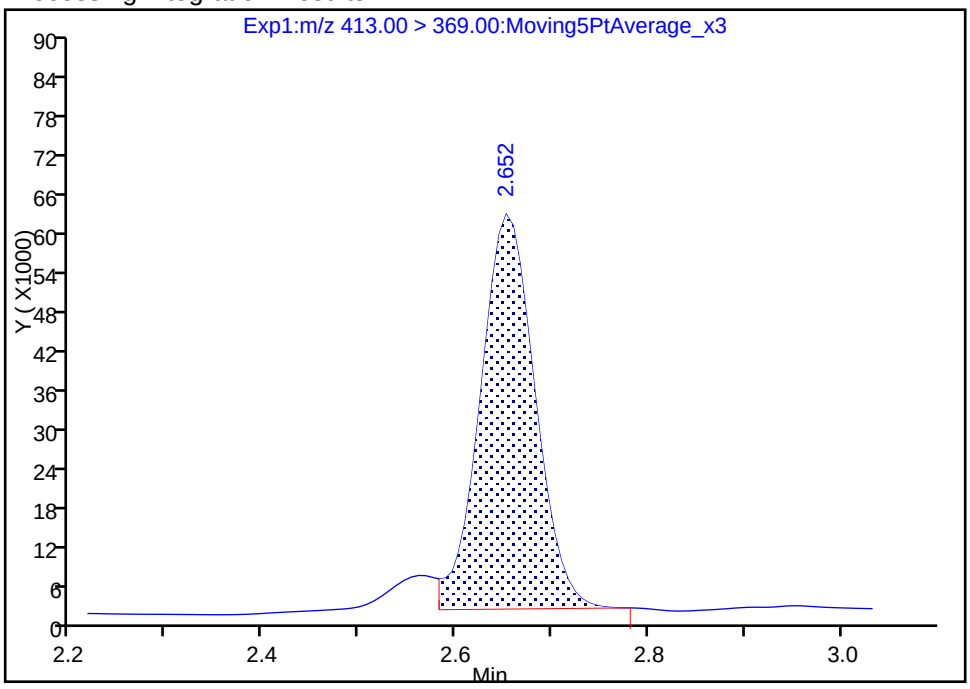
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

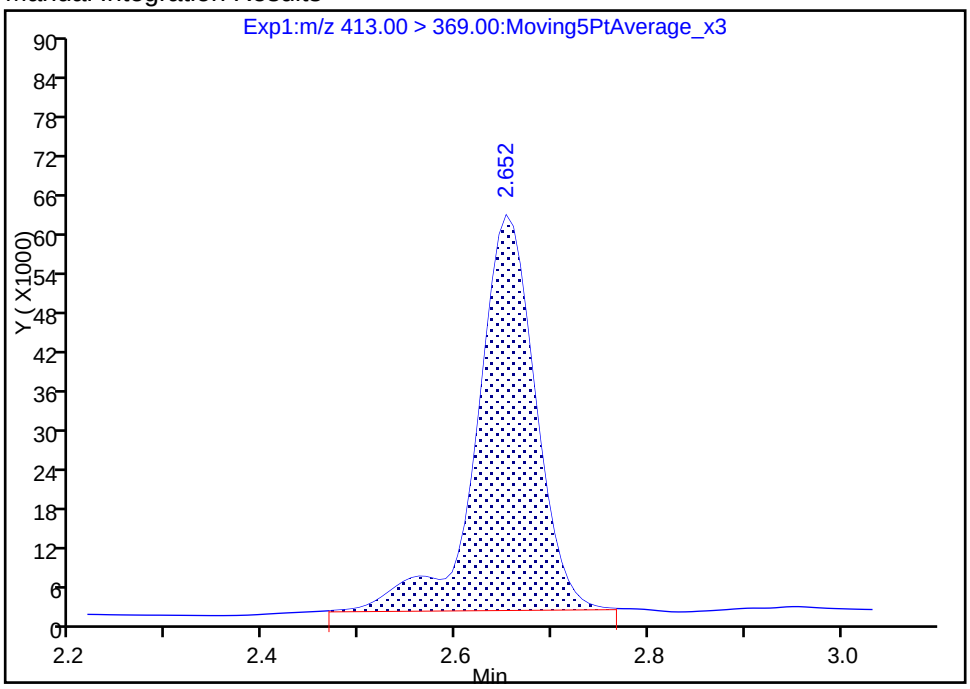
Processing Integration Results

RT: 2.65
Area: 238645
Amount: 0.098280
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 258023
Amount: 0.106260
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:08:44
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

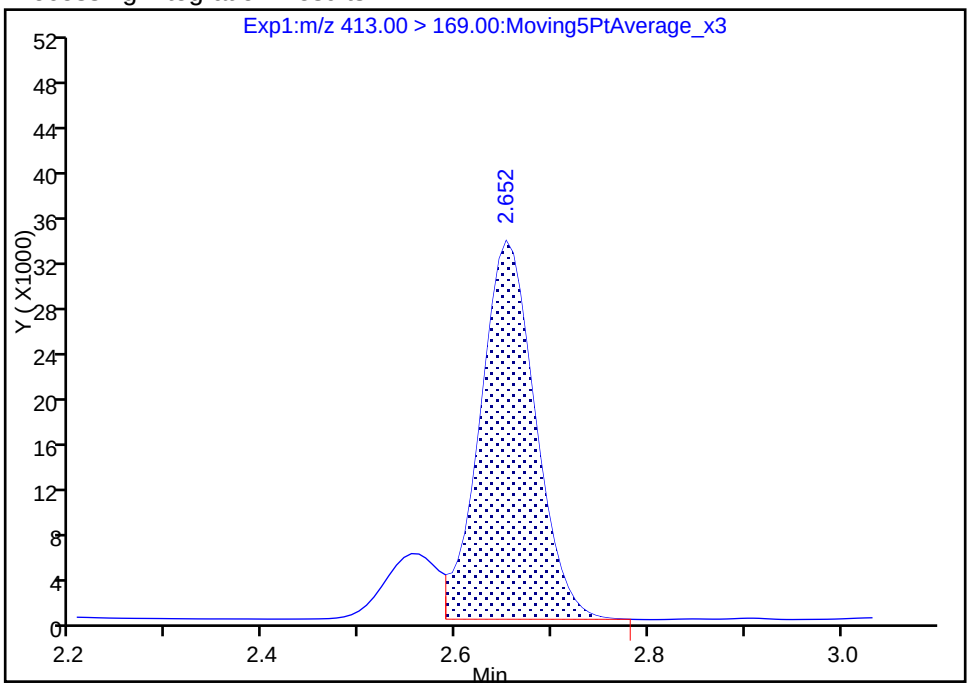
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

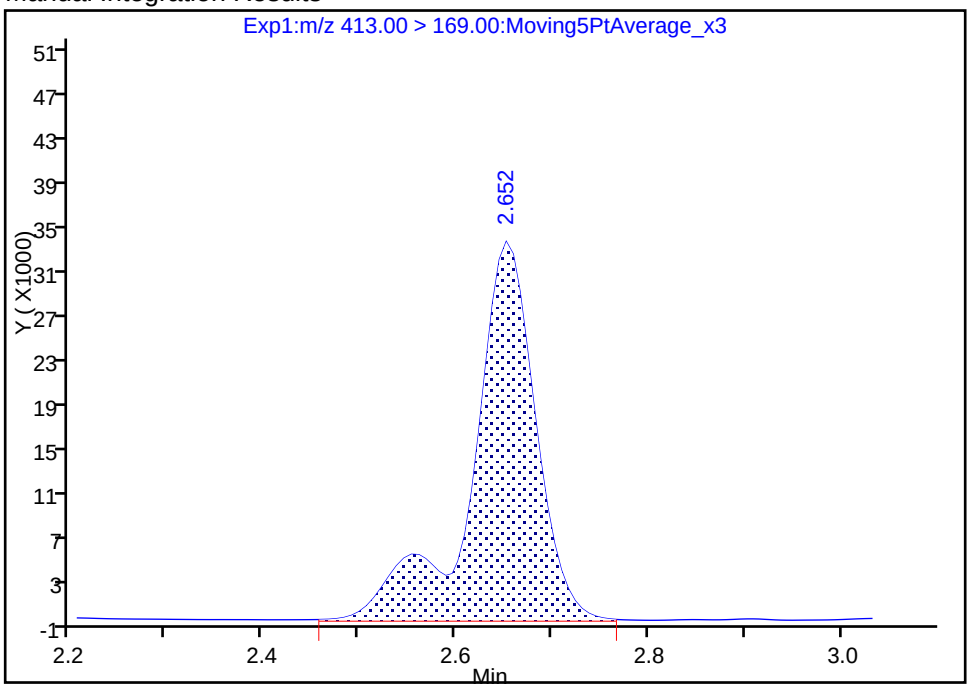
Processing Integration Results

RT: 2.65
Area: 131466
Amount: 0.098280
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 155662
Amount: 0.106260
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:08:58
Audit Action: Manually Integrated Audit Reason: Isomers

TestAmerica Sacramento

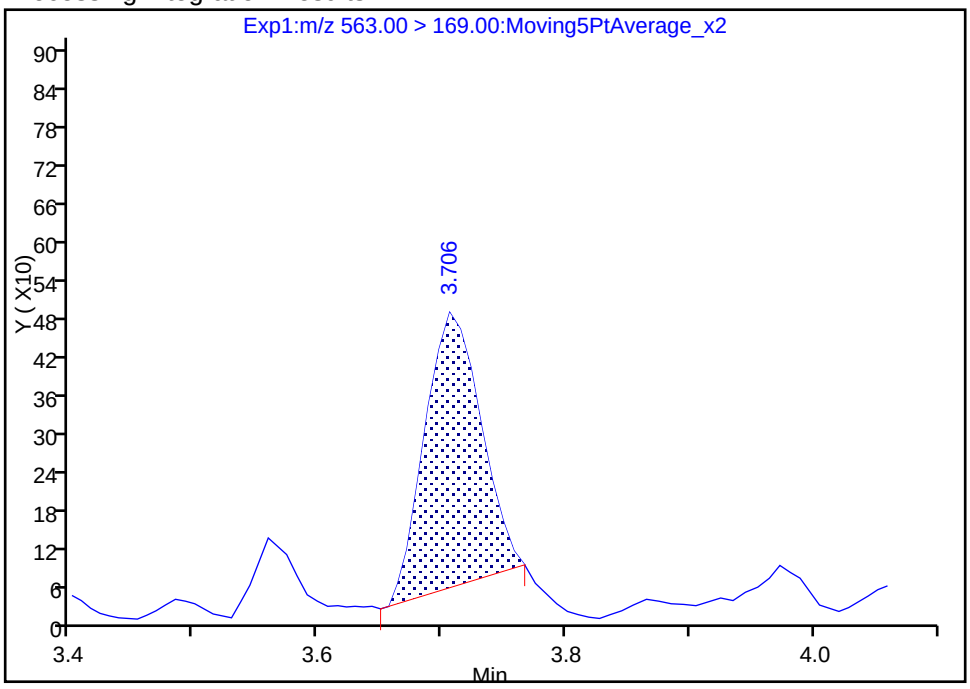
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

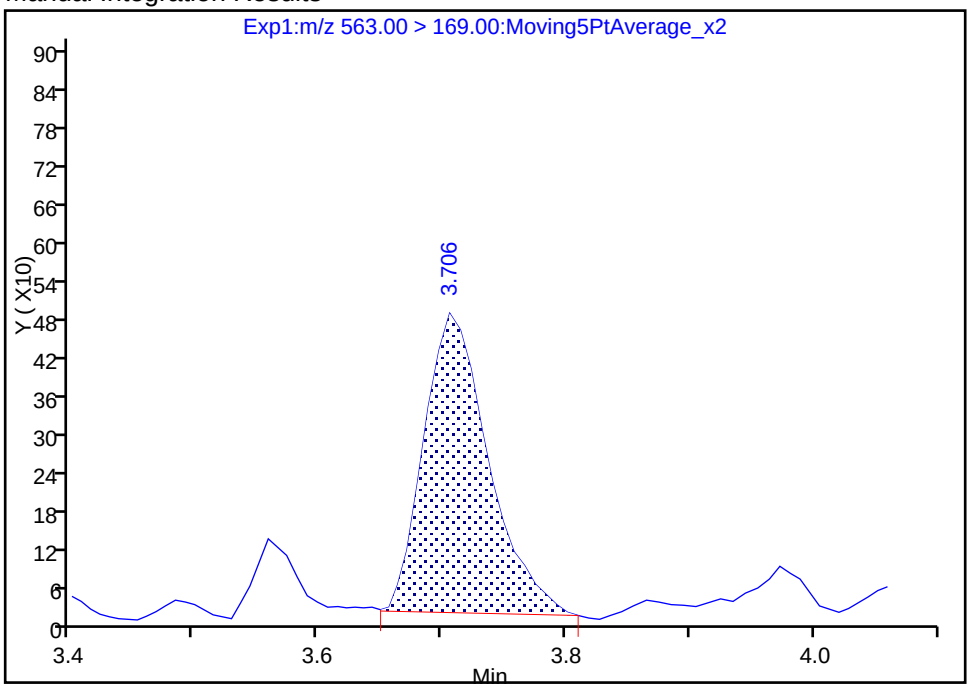
Processing Integration Results

RT: 3.71
Area: 1354
Amount: 0.007013
Amount Units: ng/ml



Manual Integration Results

RT: 3.71
Area: 1698
Amount: 0.007013
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:09:42
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

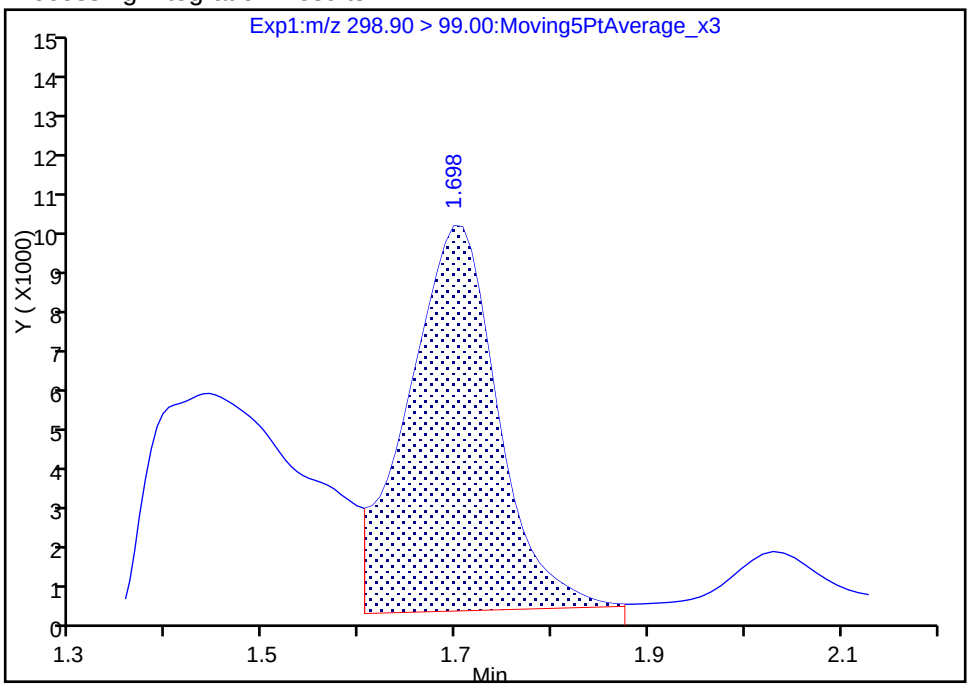
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

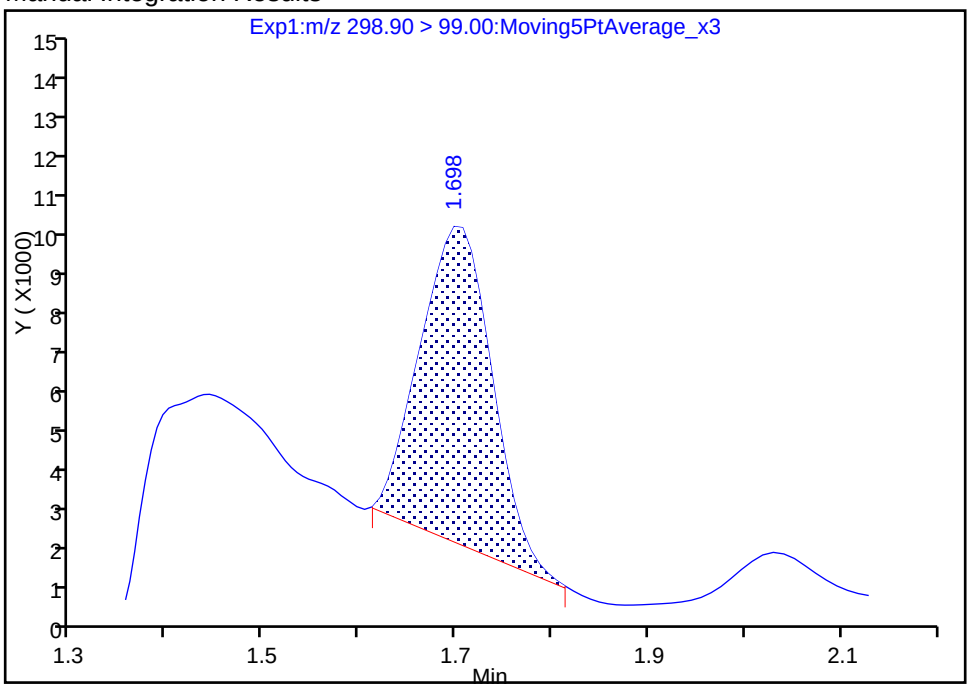
Processing Integration Results

RT: 1.70
Area: 60914
Amount: 0.046121
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 40230
Amount: 0.030276
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:07:49

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

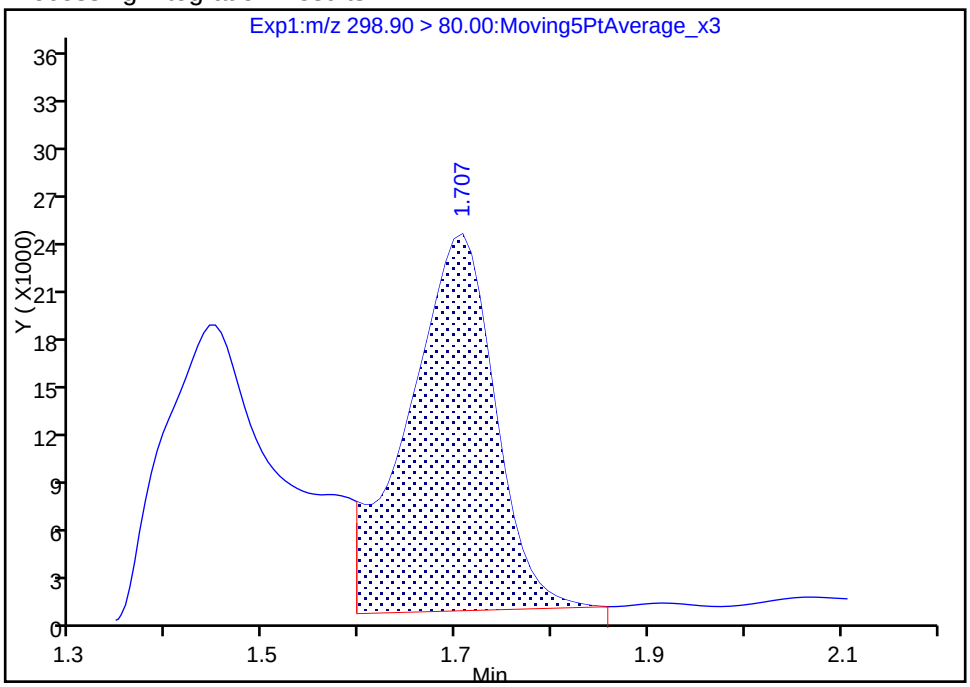
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

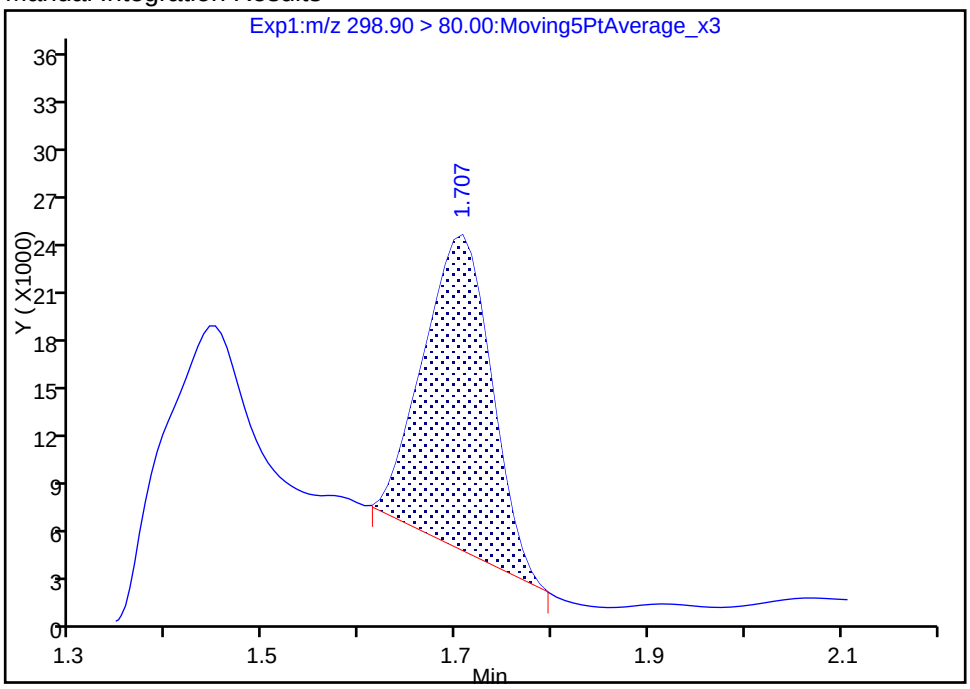
Processing Integration Results

RT: 1.71
Area: 148919
Amount: 0.046121
Amount Units: ng/ml



Manual Integration Results

RT: 1.71
Area: 97756
Amount: 0.030276
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:07:58
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

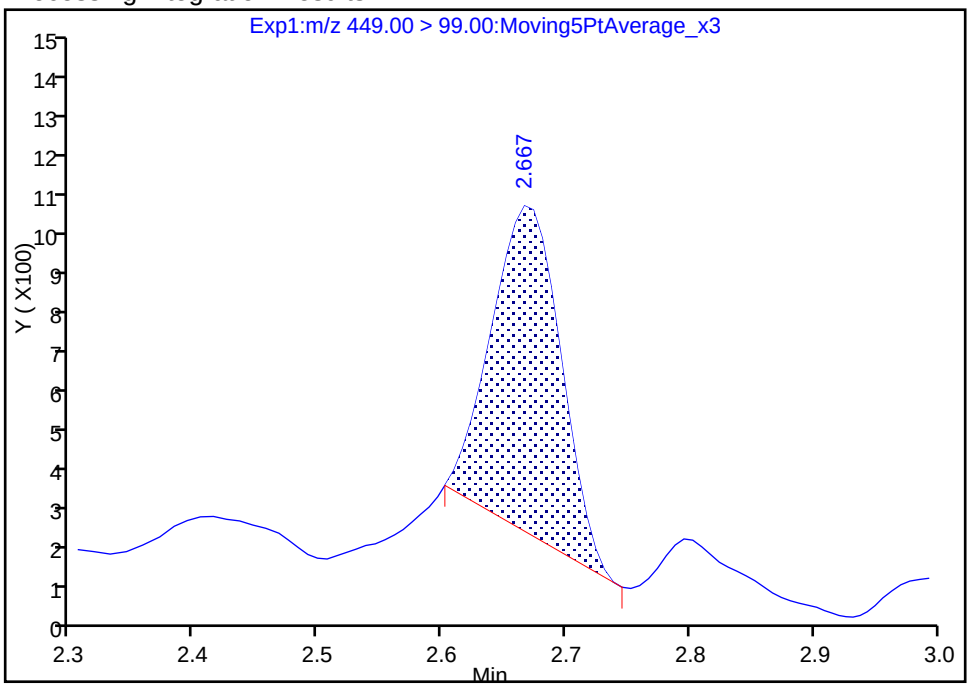
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_042.d				
Injection Date:	20-Dec-2017 09:55:18	Instrument ID:	A8_N		
Lims ID:	320-34182-A-14-A	Lab Sample ID:	320-34182-14		
Client ID:	FW-SP003-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

16 Perfluoroheptanesulfonic Acid, CAS: 375-92-8

Signal: 2

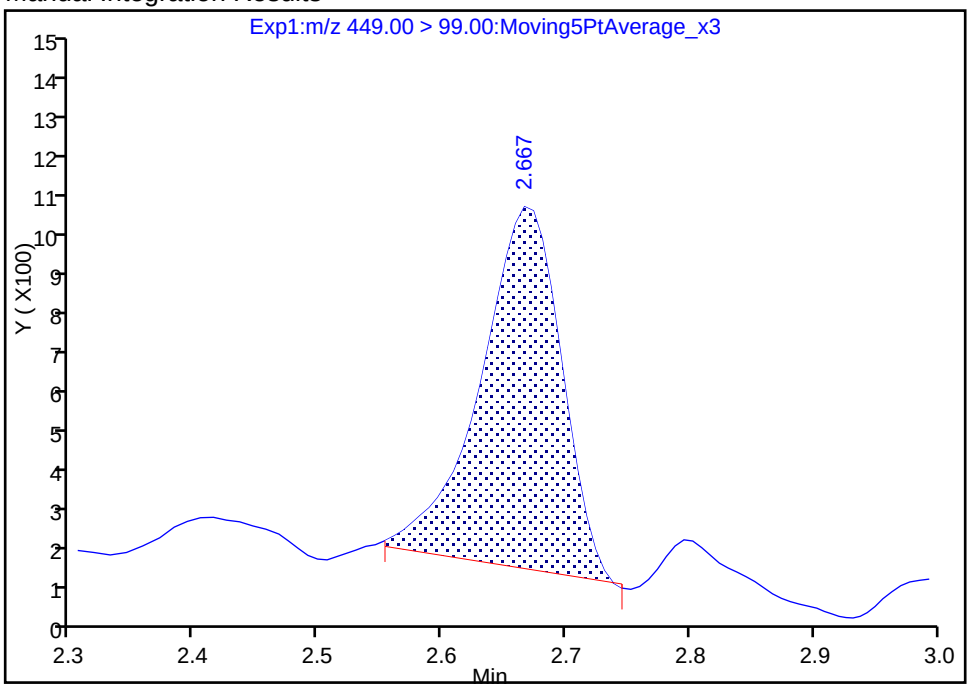
Processing Integration Results

RT: 2.67
Area: 3111
Amount: 0.004066
Amount Units: ng/ml



Manual Integration Results

RT: 2.67
Area: 4030
Amount: 0.004066
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:09:18

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-GA002-A | Lab Sample ID: 320-34182-15

Matrix: Water | Lab File ID: 2017.12.19LLC_043.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 12:15

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 240.8(mL) | Date Analyzed: 12/20/2017 10:03

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.74		2.08	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.97		2.08	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	4.54		2.08	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.71	J	2.08	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	3.20		2.08	0.88
375-95-1	Perfluorononanoic acid (PFNA)	0.30	J	2.08	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.08	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.14	U	2.08	1.14
307-55-1	Perfluorododecanoic acid (PFDoA)	0.57	U	2.08	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.35	U	2.08	1.35
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.08	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.94	J	2.08	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	11.3	B	2.08	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.44	J	2.08	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	17.4		2.08	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.08	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	2.59	B	2.08	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.22	U	20.8	3.22
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.97	U	20.8	1.97
27619-97-2	6:2FTS	3.29	J	20.8	2.08
39108-34-4	8:2FTS	2.08	U	20.8	2.08

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: MW-GA002-A | Lab Sample ID: 320-34182-15

Matrix: Water | Lab File ID: 2017.12.19LLC_043.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 12:15

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 240.8(mL) | Date Analyzed: 12/20/2017 10:03

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	102		25-150
STL01893	13C5 PFPeA	127		25-150
STL00993	13C2 PFHxA	115		25-150
STL01892	13C4-PFHpA	124		25-150
STL00990	13C4 PFOA	109		25-150
STL00995	13C5 PFNA	124		25-150
STL00996	13C2 PFDA	124		25-150
STL00997	13C2 PFUnA	110		25-150
STL00998	13C2 PFDoA	106		25-150
STL02116	13C2-PFTeDA	105		25-150
STL02337	13C3-PFBS	122		25-150
STL00994	18O2 PFHxS	120		25-150
STL00991	13C4 PFOS	120		25-150
STL01056	13C8 FOSA	105		25-150
STL02118	d3-NMeFOSAA	142		25-150
STL02117	d5-NEtFOSAA	132		25-150
STL02279	M2-6:2FTS	60		25-150
STL02280	M2-8:2FTS	177	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_043.d
Lims ID: 320-34182-A-15-A
Client ID: MW-GA002-A
Sample Type: Client
Inject. Date: 20-Dec-2017 10:03:11 ALS Bottle#: 33 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-15-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:12:26

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.417	1.411	0.006	0.534	7254974	2.55		102	29073	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.417	1.412	0.005	1.000	174800	0.0660			14.8	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.666	1.664	0.002	0.628	5336690	3.18		127	53075	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.666	1.664	0.002	1.000	168746	0.0715			24.7	M
D 47 13C3-PFBS										
301.90 > 83.00	1.702	1.699	0.003	0.642	100382	2.83		122	1394	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.711	1.703	0.008	1.005	150756	0.0467			31.5	M
298.90 > 99.00	1.711	1.703	0.008	1.005	63150		2.39(1.25-3.74)		125	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.959	1.949	0.009	1.000	223299	0.1094			181	M
313.00 > 119.00	1.959	1.949	0.009	1.000	19388		11.52(5.03-15.10)		267	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.959	1.949	0.009	0.739	5105665	2.87		115	53369	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.284	2.286	-0.002	0.994	87021	0.0411			126	
363.00 > 169.00	2.284	2.286	-0.002	0.994	34148		2.55(1.13-3.40)		295	
D 9 13C4-PFHpA										
367.00 > 322.00	2.297	2.286	0.011	0.866	5140265	3.09		124	40725	
D 11 18O2 PFHxS										
403.00 > 84.00	2.311	2.299	0.012	0.871	5835773	2.83		120	37884	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.311	2.299	0.012	1.000	730315	0.2723			882	
399.00 > 99.00	2.311	2.299	0.012	1.000	231685		3.15(1.50-4.49)		560	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.630	2.640	-0.010	1.000	52810	0.0793			2056	
D 12 M2-6:2FTS										
429.00 > 81.00	2.630	2.640	-0.010	0.992	987127	1.43		60.2	8118	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.643	0.009		4830387	2.50			47236	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.647	0.005	1.000	5432658	2.72		109	55012	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.659	2.649	0.010	1.003	176781	0.0771			162	M
413.00 > 169.00	2.652	2.649	0.003	1.000	102890		1.72(0.84-2.52)		784	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.659	2.654	0.005	1.000	24105	0.0105			98.3	
449.00 > 99.00	2.659	2.654	0.005	1.000	6408		3.76(1.94-5.82)		84.3	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.025	0.0	1.000	711613	0.4194			72.4	
499.00 > 99.00	3.025	3.025	0.0	1.000	139267		5.11(2.31-6.93)		128	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3813502	2.88		120	25394	
20 Perfluorononanoic acid										
463.00 > 419.00	3.033	3.026	0.007	1.003	11602	0.007164			19.4	
463.00 > 169.00	3.033	3.026	0.007	1.003	3184		3.64(1.90-5.69)		51.1	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.026	-0.001	1.141	4178063	3.11		124	37146	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.362	0.008	1.271	4902853	2.62		105	25195	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.365	0.005	1.000	115821	0.0625			3059	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.375	0.003	1.274	1247156	4.24		177	2054	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.387	-0.002	1.277	3324823	3.09		124	47919	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.541	0.003	1.337	1760411	3.55		142	16765	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.711	-0.005	1.397	1681548	3.29		132	17173	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.401	2276598	2.75		110	22685	
D 36 13C2 PFDoA										
615.00 > 570.00	4.012	4.015	-0.003	1.513	2334500	2.65		106	24630	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.702	2535981	2.63		105	17500	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:26:17 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_043.d

Injection Date: 20-Dec-2017 10:03:11 Instrument ID: A8_N

Lims ID: 320-34182-A-15-A Lab Sample ID: 320-34182-15

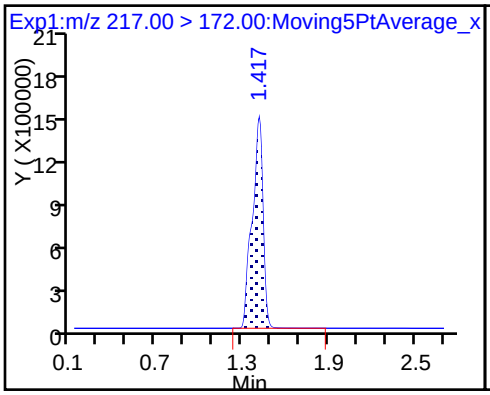
Client ID: MW-GA002-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 33 Worklist Smp#: 21

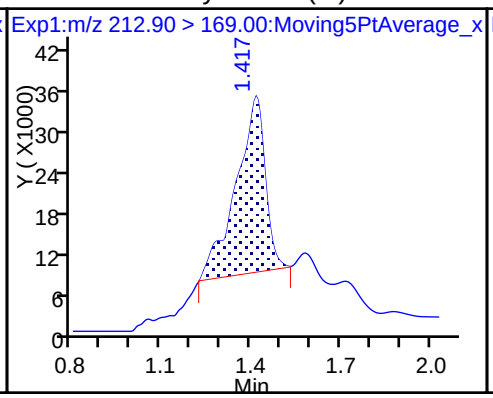
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

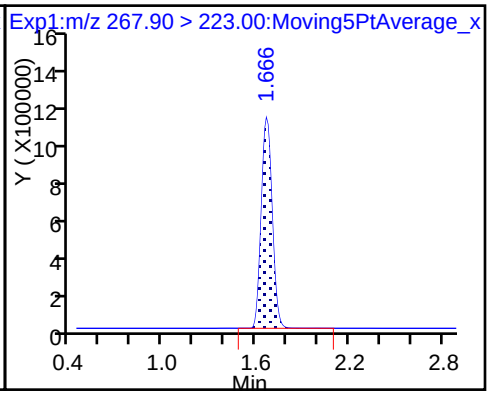
D 1 13C4 PFBA



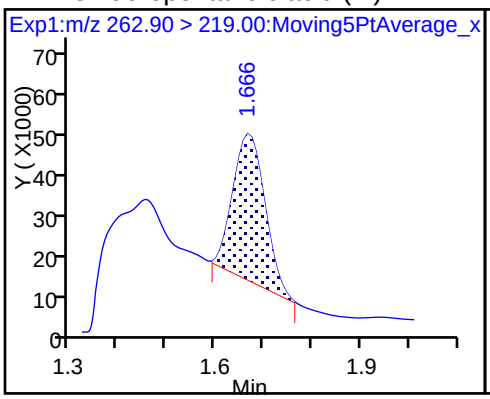
2 Perfluorobutyric acid (M)



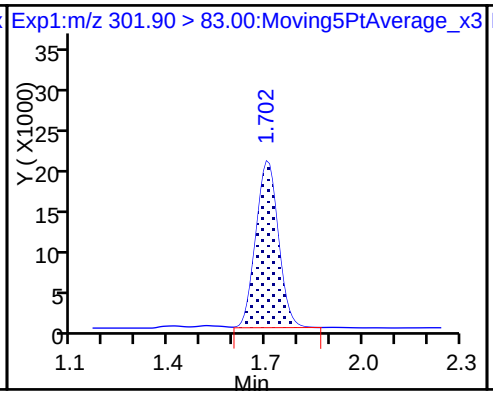
D 3 13C5-PFPeA



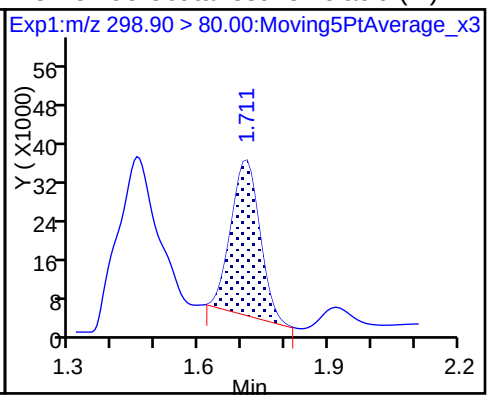
4 Perfluoropentanoic acid (M)



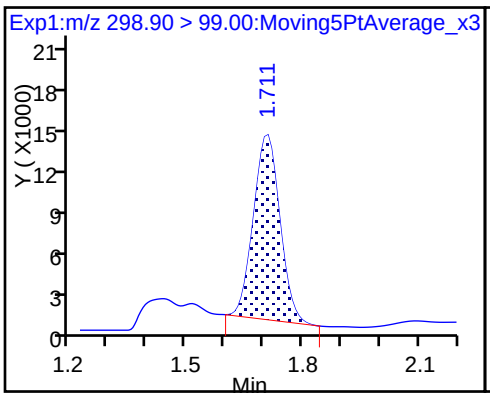
D 47 13C3-PFBS



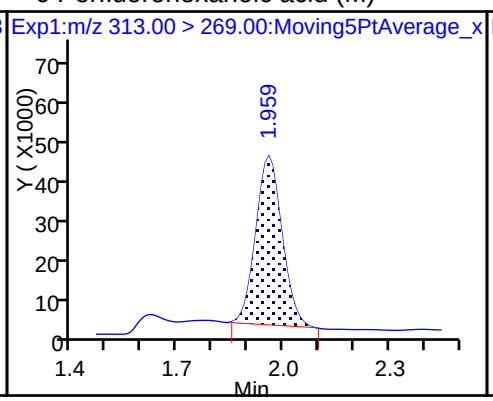
5 Perfluorobutanesulfonic acid (M)



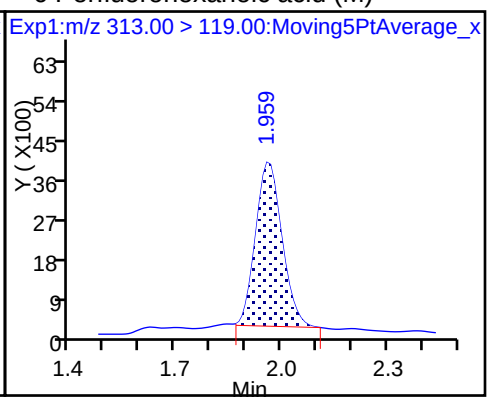
5 Perfluorobutanesulfonic acid



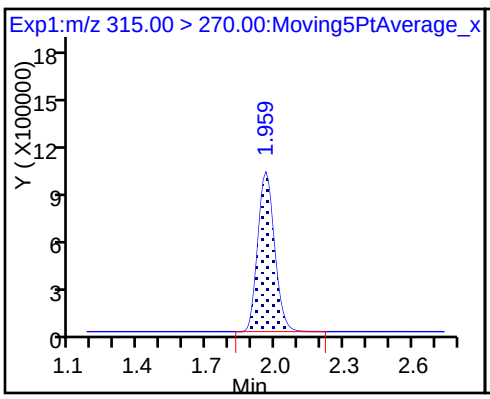
6 Perfluorohexanoic acid (M)



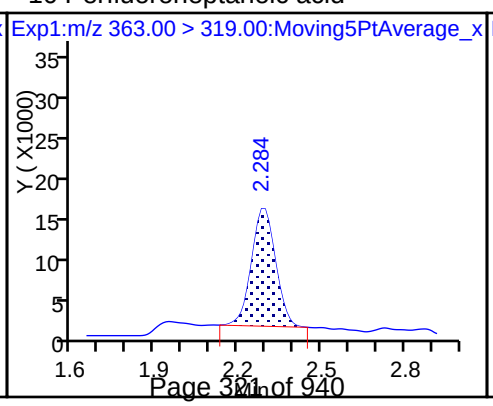
6 Perfluorohexanoic acid (M)



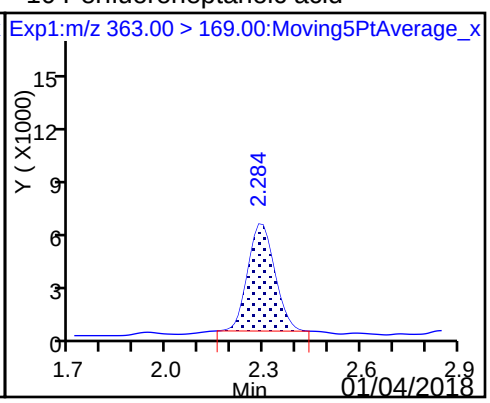
D 7 13C2 PFHxA



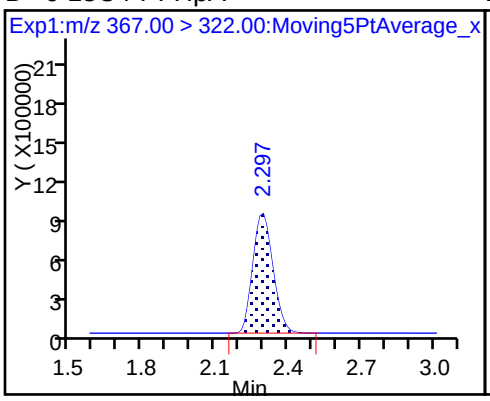
10 Perfluoroheptanoic acid



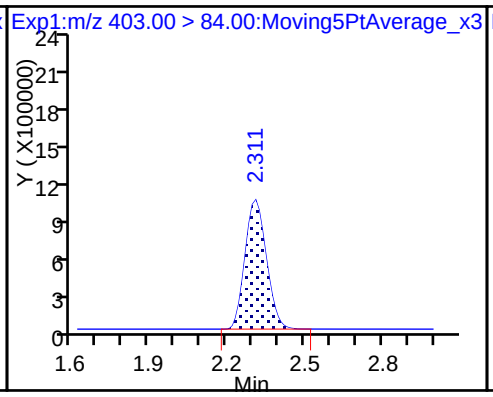
10 Perfluoroheptanoic acid



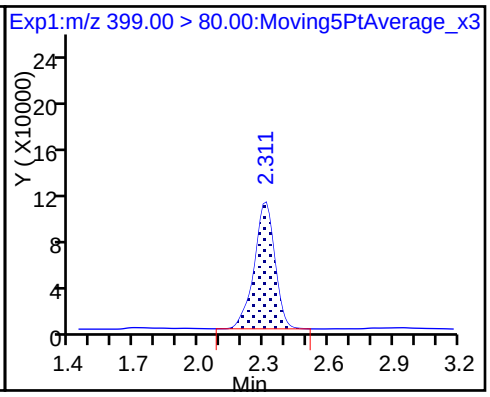
D 9 13C4-PFHpA



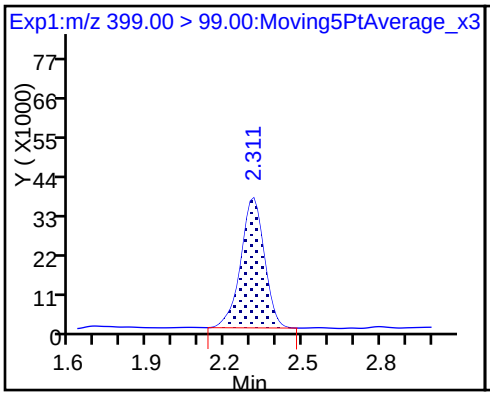
D 11 18O2 PFHxS



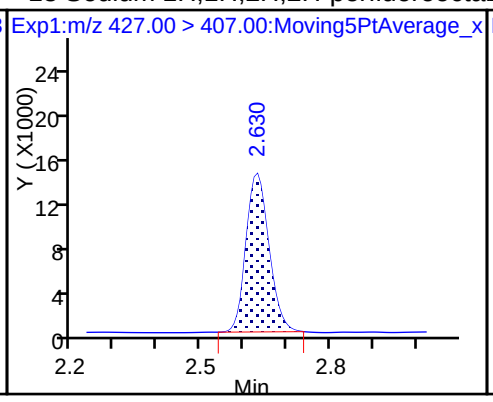
8 Perfluorohexanesulfonic acid



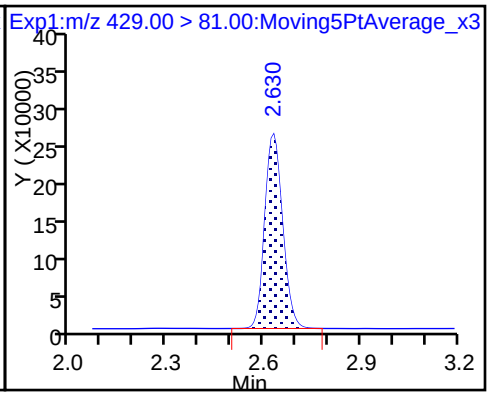
8 Perfluorohexanesulfonic acid



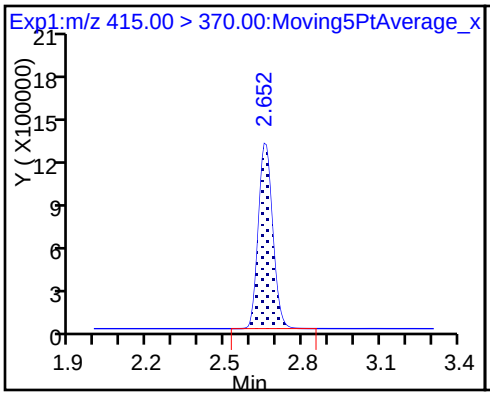
13 Sodium 1H,1H,2H,2H-perfluorooctane



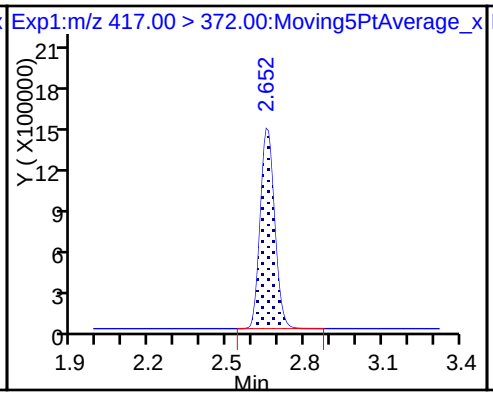
D 12 M2-6:2FTS



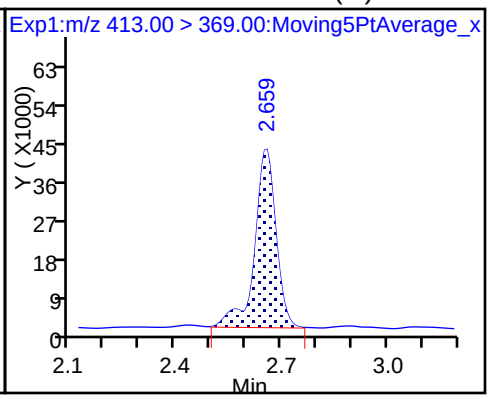
* 62 13C2-PFOA



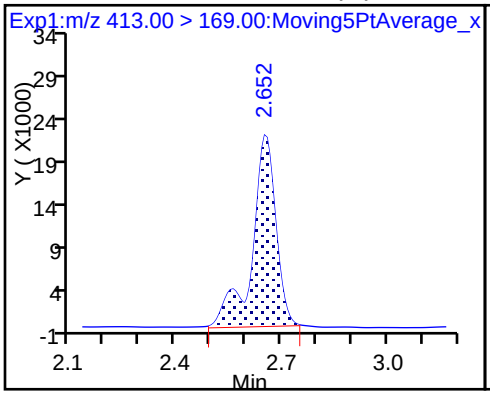
D 14 13C4 PFOA



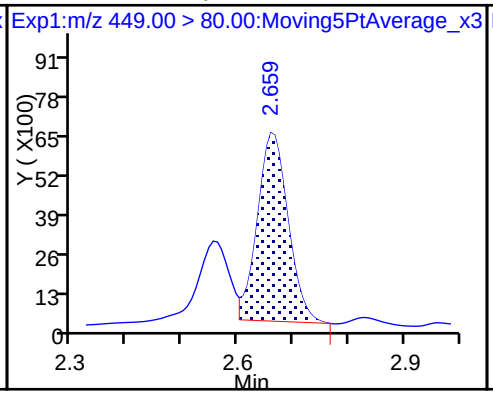
15 Perfluorooctanoic acid (M)



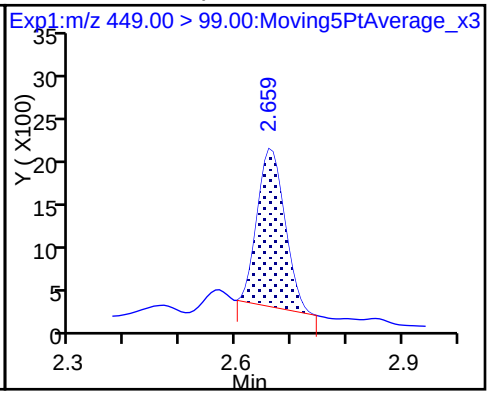
15 Perfluorooctanoic acid (M)



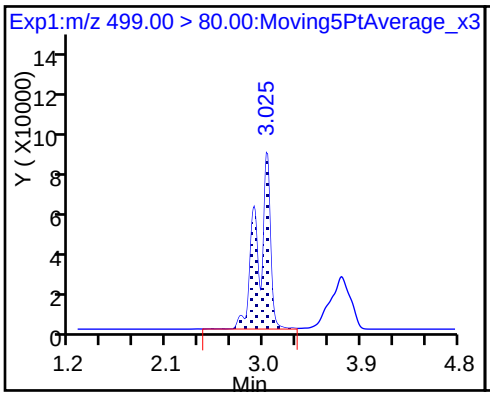
16 Perfluoroheptanesulfonic Acid



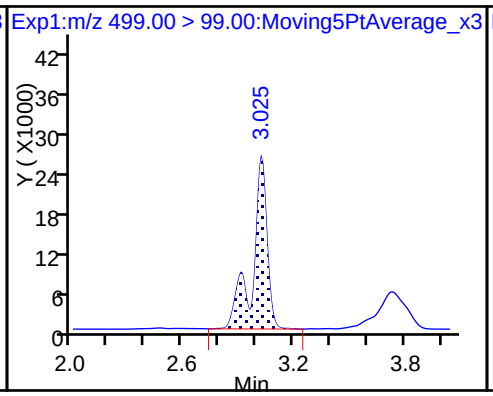
16 Perfluoroheptanesulfonic Acid



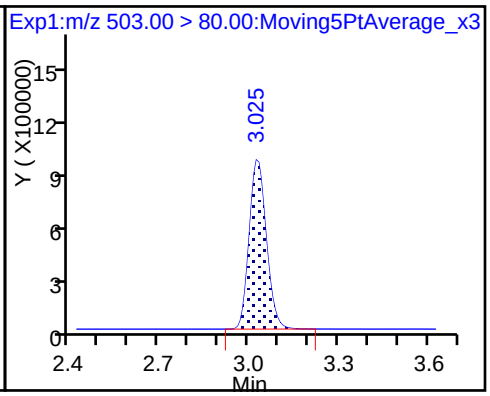
17 Perfluorooctane sulfonic acid



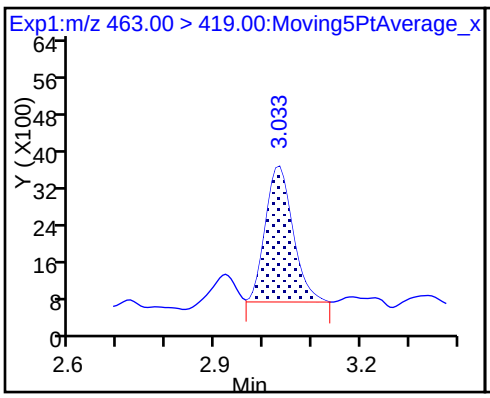
17 Perfluorooctane sulfonic acid



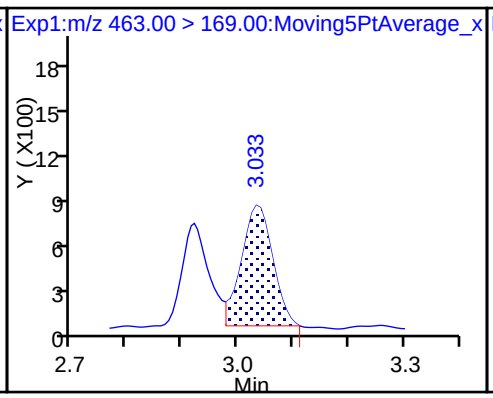
D 18 13C4 PFOS



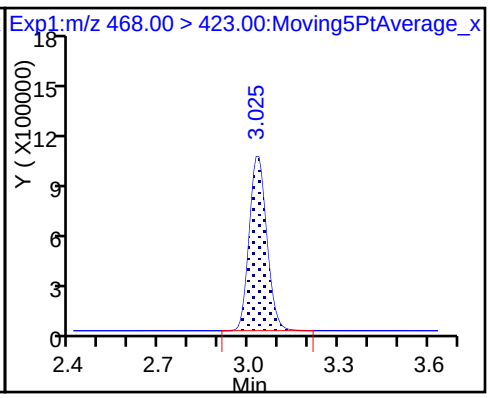
20 Perfluorononanoic acid



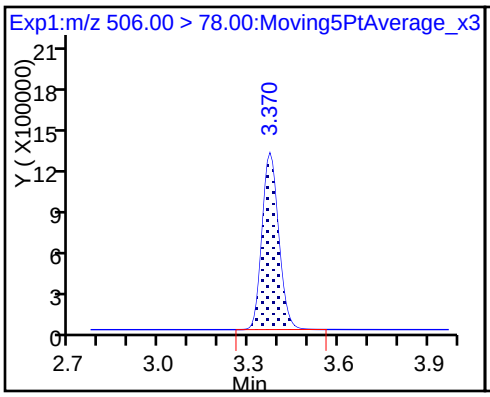
20 Perfluorononanoic acid



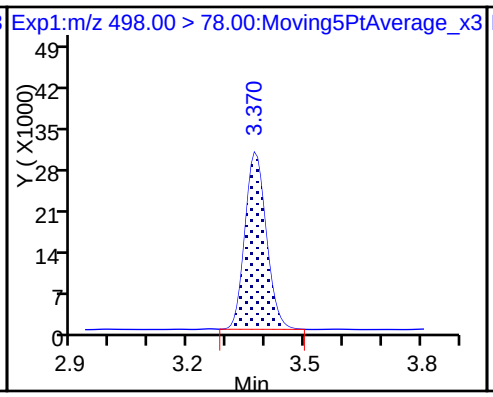
D 19 13C5 PFNA



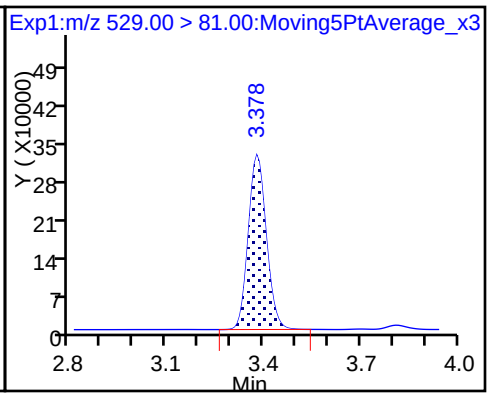
D 21 13C8 FOSA



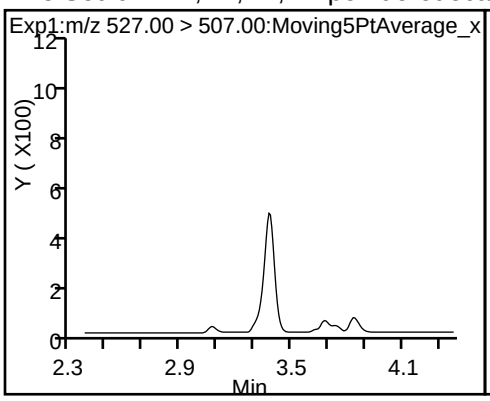
22 Perfluorooctane Sulfonamide



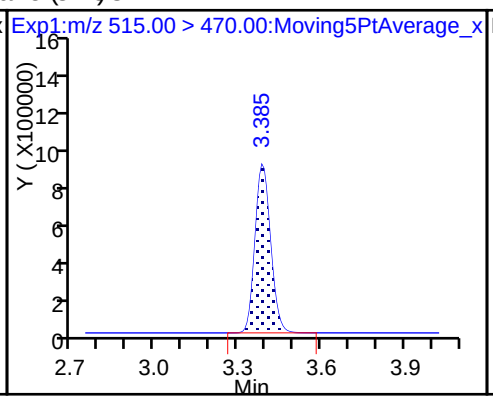
D 26 M2-8:2FTS



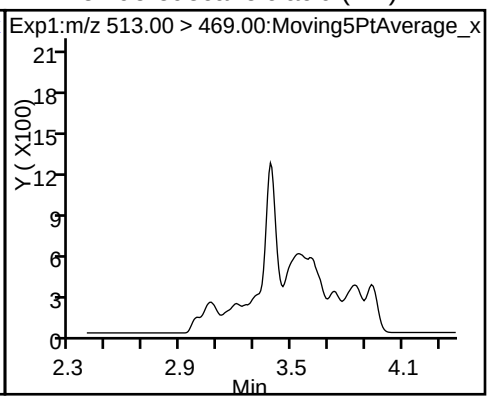
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



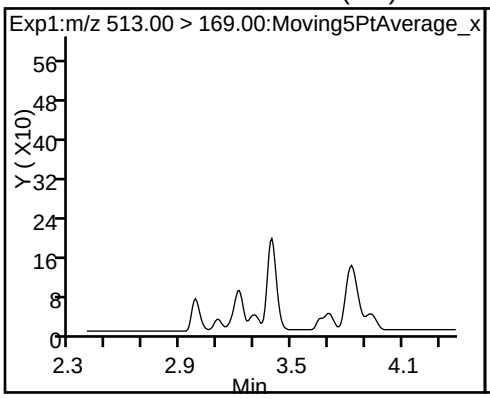
D 13C2 PFDA



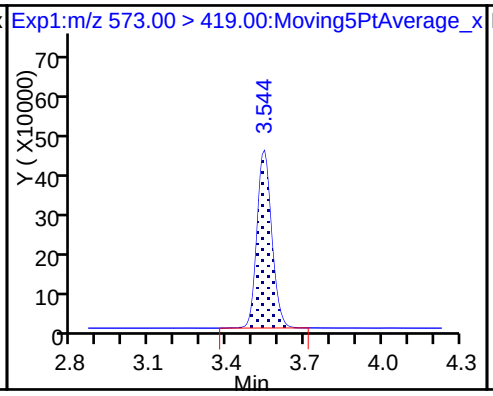
24 Perfluorodecanoic acid (ND)



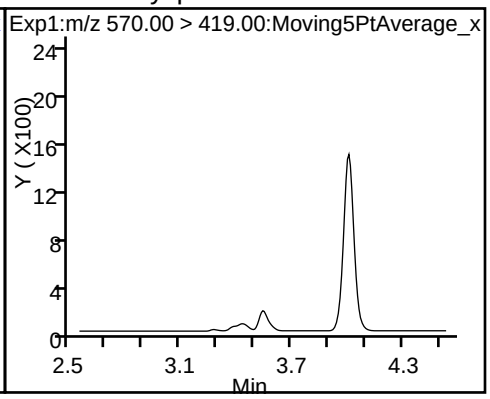
24 Perfluorodecanoic acid (ND)



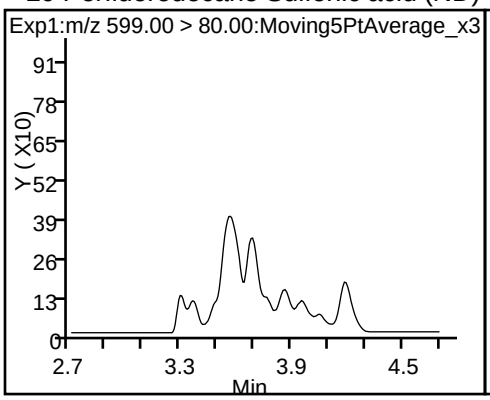
D 27 d3-NMeFOSAA



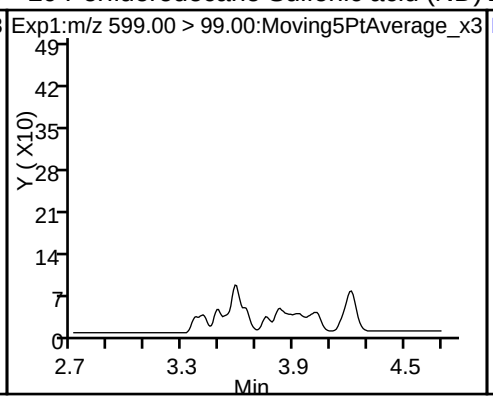
28 N-methyl perfluorooctane sulfonami (ND)



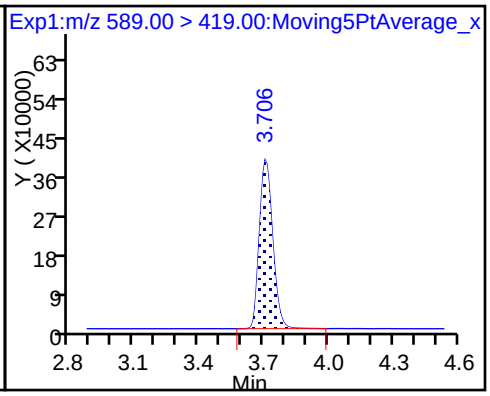
29 Perfluorodecane Sulfonic acid (ND)



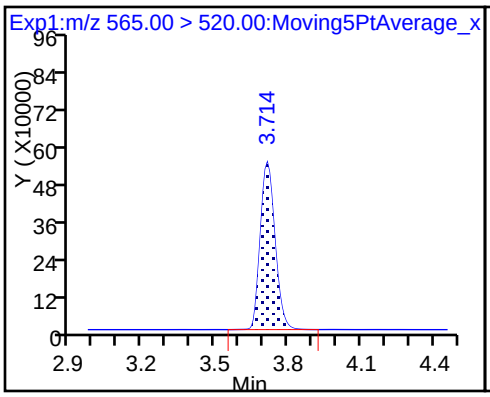
29 Perfluorodecane Sulfonic acid (ND)



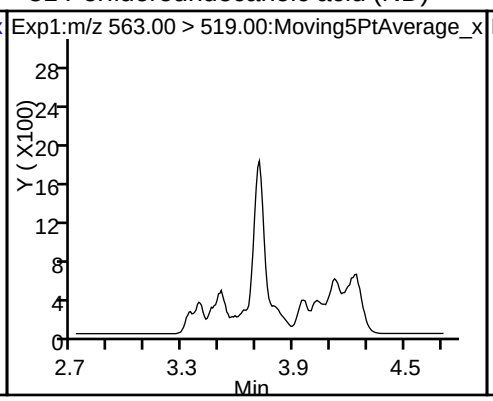
D 32 d5-NEtFOSAA



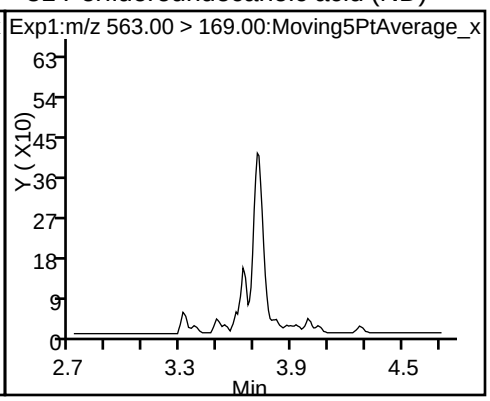
D 30 13C2 PFUnA



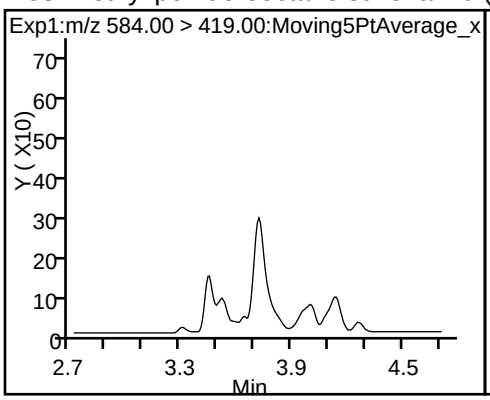
31 Perfluoroundecanoic acid (ND)



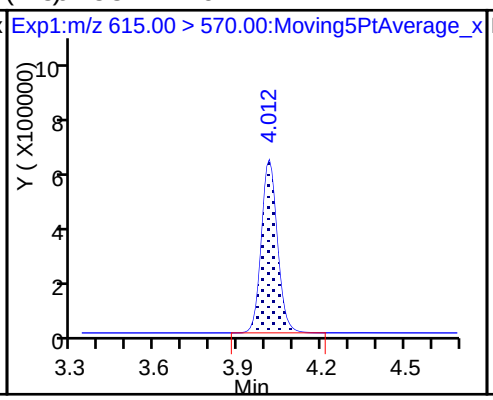
31 Perfluoroundecanoic acid (ND)



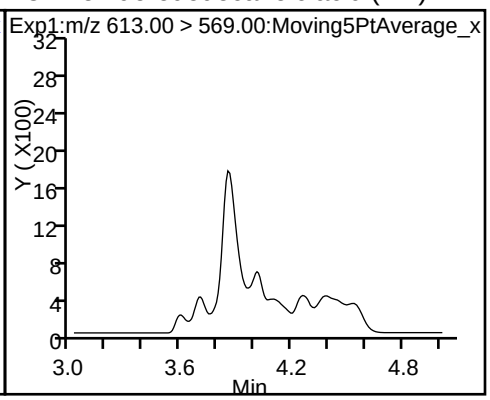
33 N-ethyl perfluorooctane sulfonamid (ND)



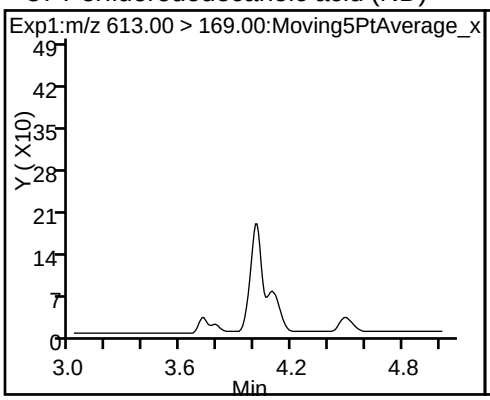
D 36 13C2 PFDoA



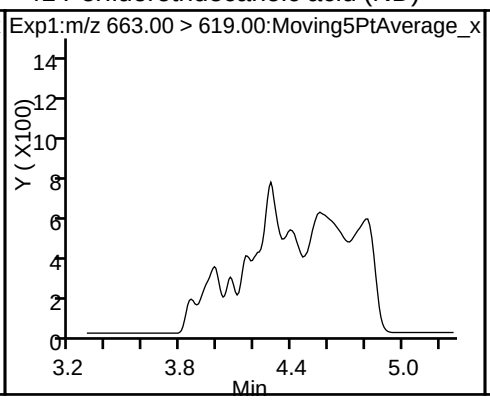
37 Perfluorododecanoic acid (ND)



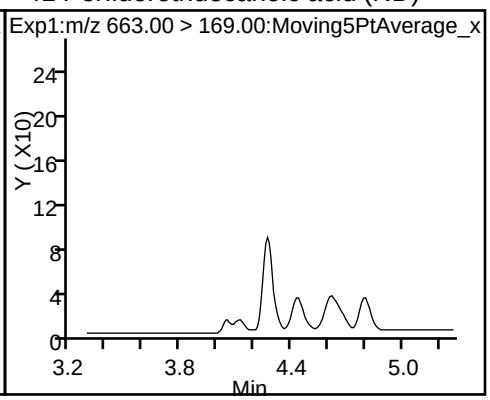
37 Perfluorododecanoic acid (ND)



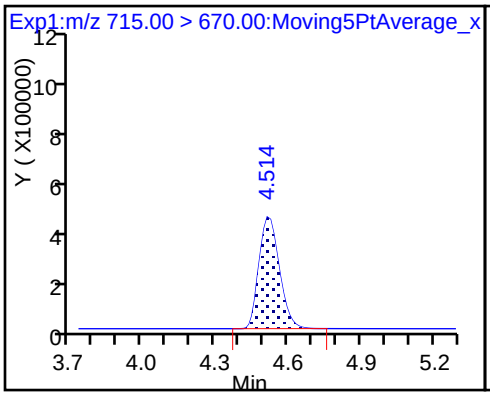
41 Perfluorotridecanoic acid (ND)



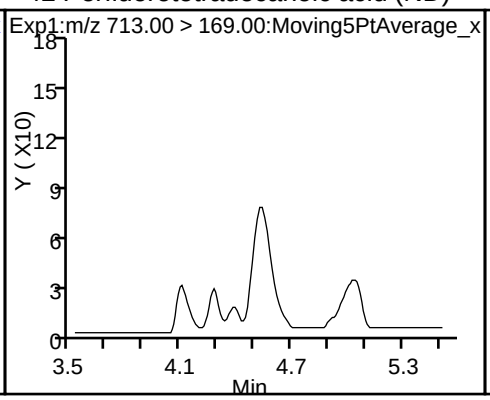
41 Perfluorotridecanoic acid (ND)



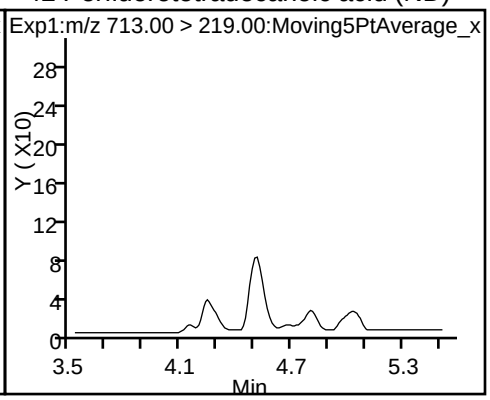
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

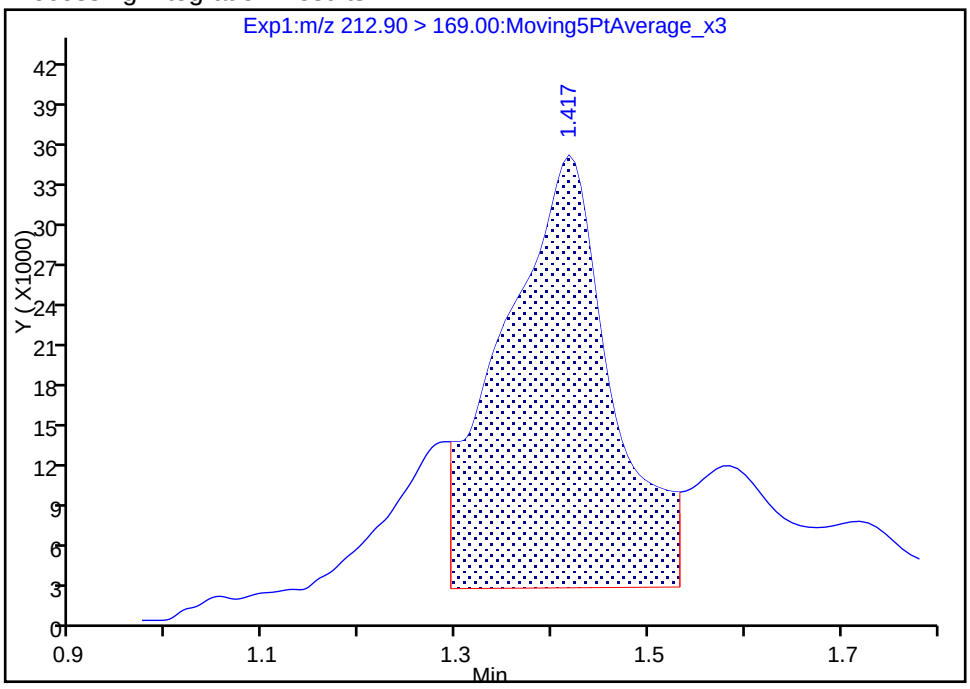
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Injection Date:	20-Dec-2017 10:03:11	Instrument ID:	A8_N		
Lims ID:	320-34182-A-15-A	Lab Sample ID:	320-34182-15		
Client ID:	MW-GA002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	33	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

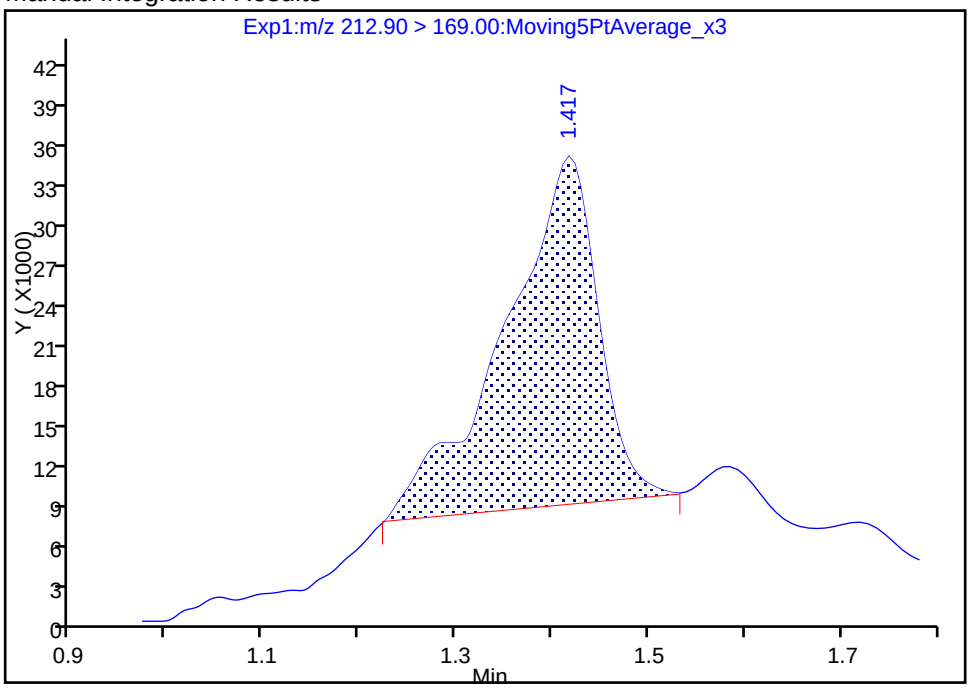
Processing Integration Results

RT: 1.42
Area: 250399
Amount: 0.094577
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 174800
Amount: 0.066023
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:10:35

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

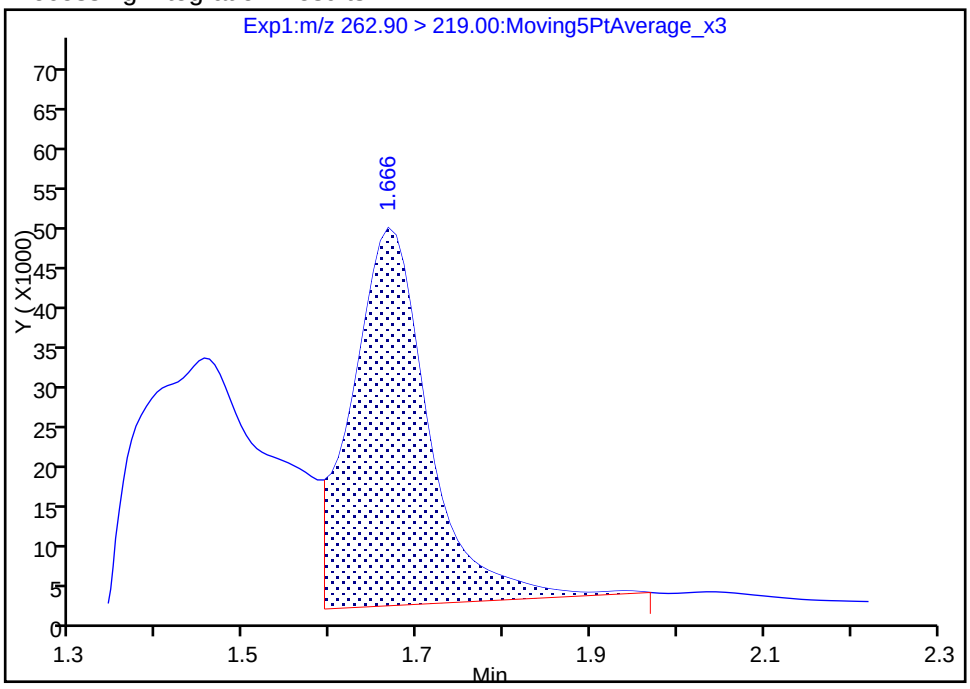
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Injection Date:	20-Dec-2017 10:03:11	Instrument ID:	A8_N		
Lims ID:	320-34182-A-15-A	Lab Sample ID:	320-34182-15		
Client ID:	MW-GA002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	33	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

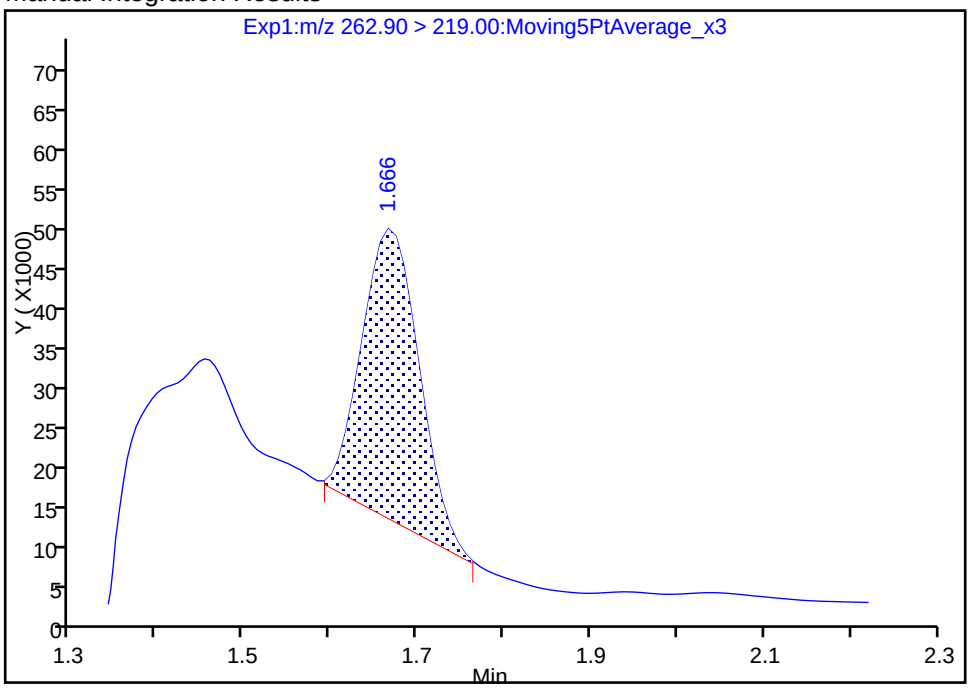
Processing Integration Results

RT: 1.67
Area: 293003
Amount: 0.124168
Amount Units: ng/ml



Manual Integration Results

RT: 1.67
Area: 168746
Amount: 0.071511
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:10:58

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

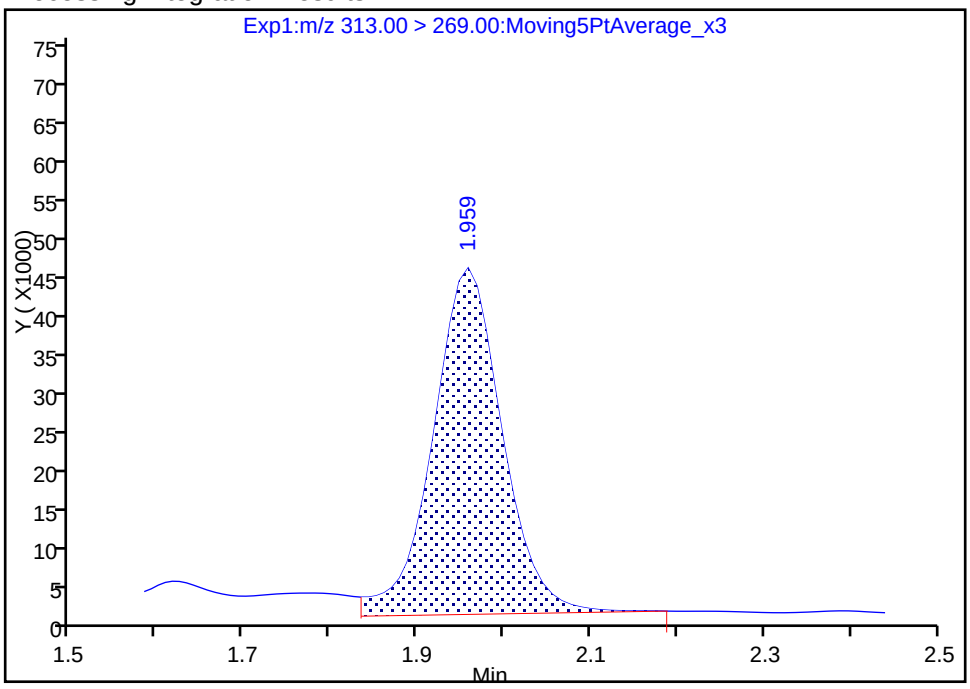
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_043.d				
Injection Date:	20-Dec-2017 10:03:11	Instrument ID:	A8_N		
Lims ID:	320-34182-A-15-A	Lab Sample ID:	320-34182-15		
Client ID:	MW-GA002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	33	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

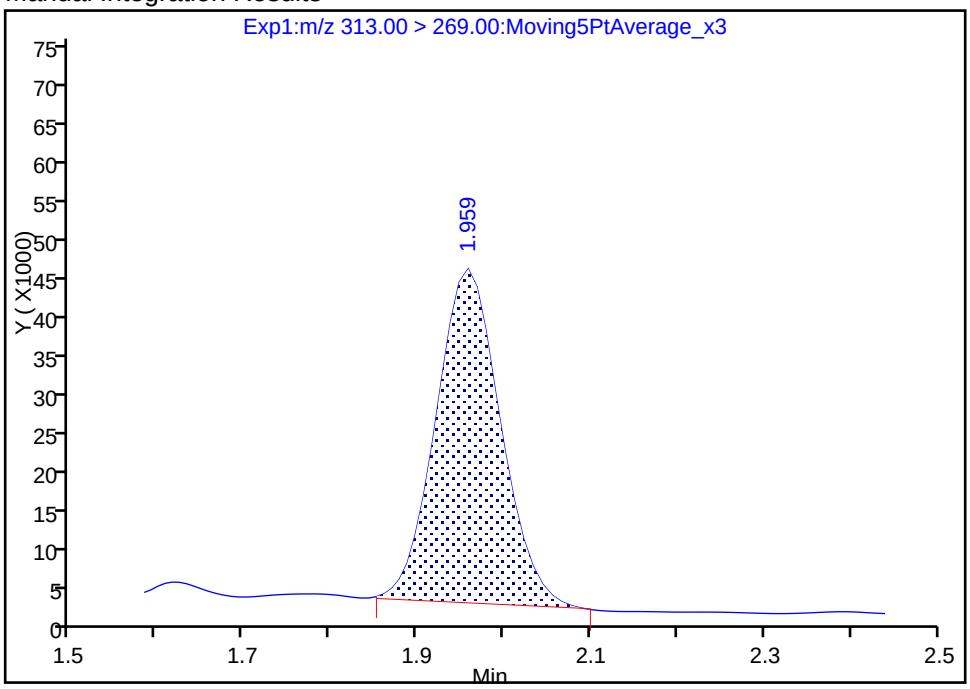
Processing Integration Results

RT: 1.96
Area: 248791
Amount: 0.121839
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 223299
Amount: 0.109355
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:11:21

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_043.d

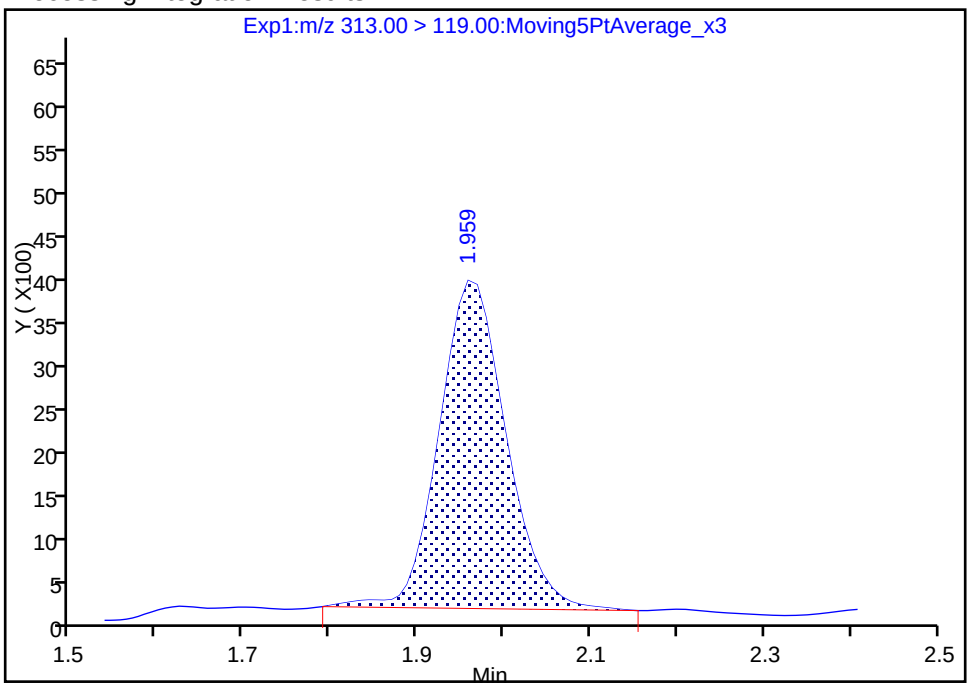
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Lims ID:	320-34182-A-15-A	Lab Sample ID:	320-34182-15		
Client ID:	MW-GA002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	33	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

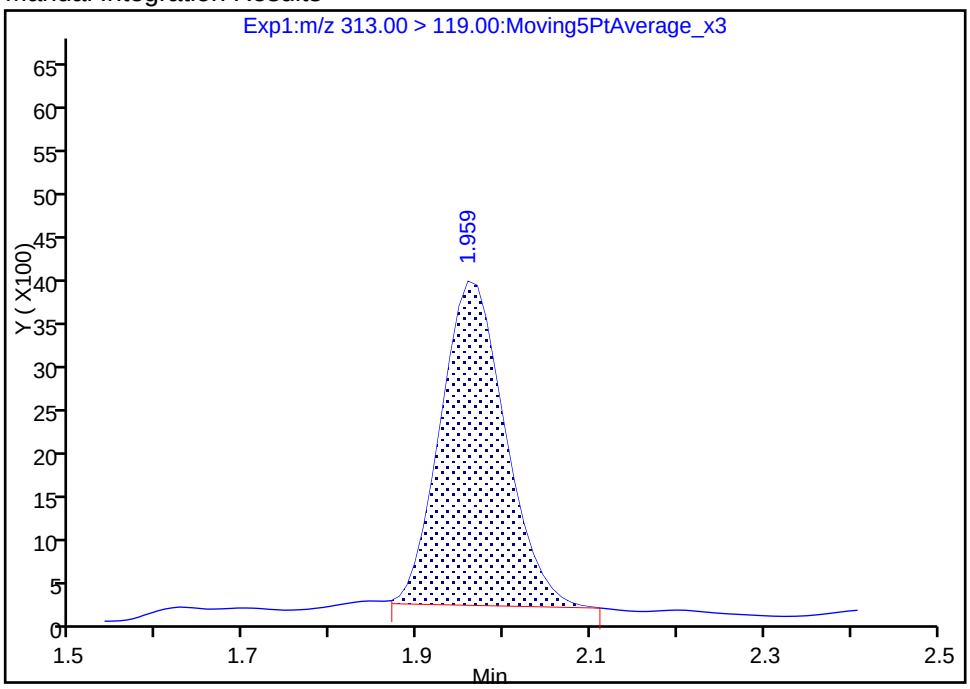
Processing Integration Results

RT: 1.96
Area: 20336
Amount: 0.121839
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 19388
Amount: 0.109355
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:11:27

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

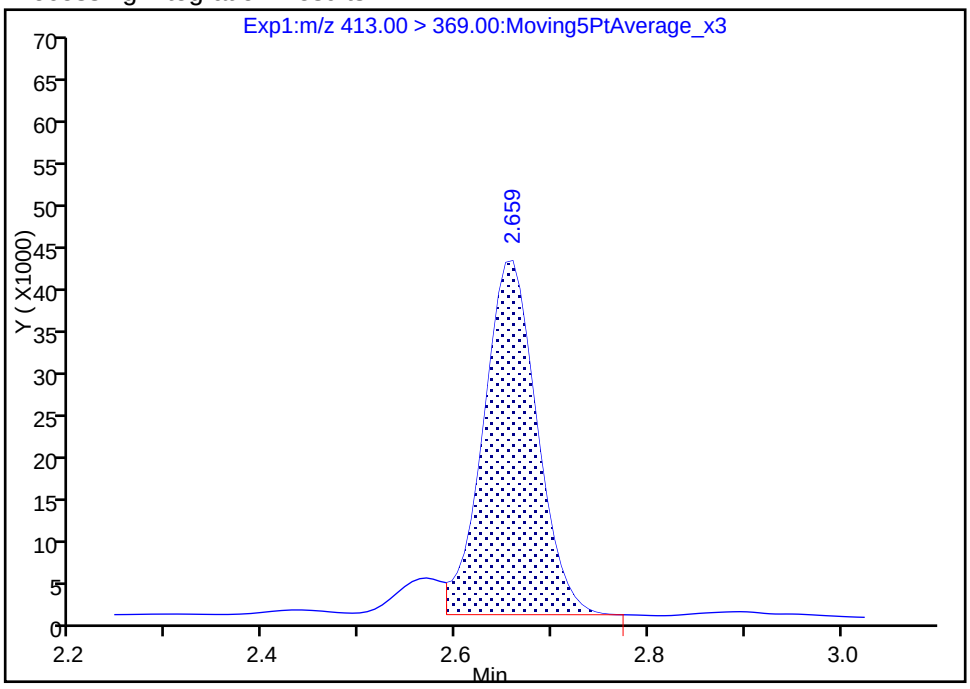
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Lims ID:	320-34182-A-15-A	Lab Sample ID:	320-34182-15		
Client ID:	MW-GA002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	33	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

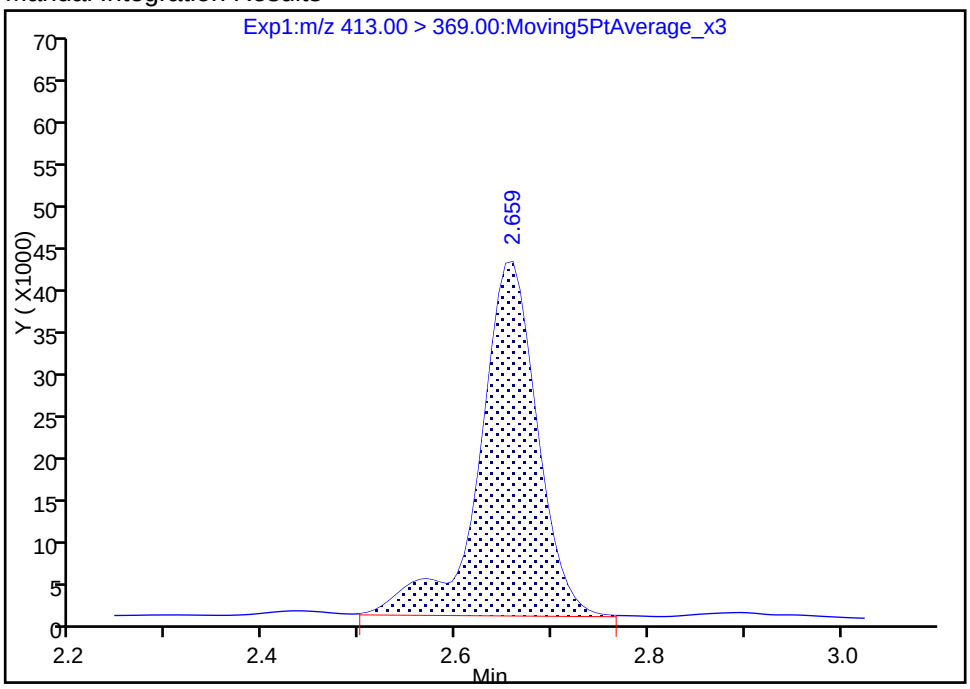
Processing Integration Results

RT: 2.66
Area: 161901
Amount: 0.070602
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 176781
Amount: 0.077091
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:11:53

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

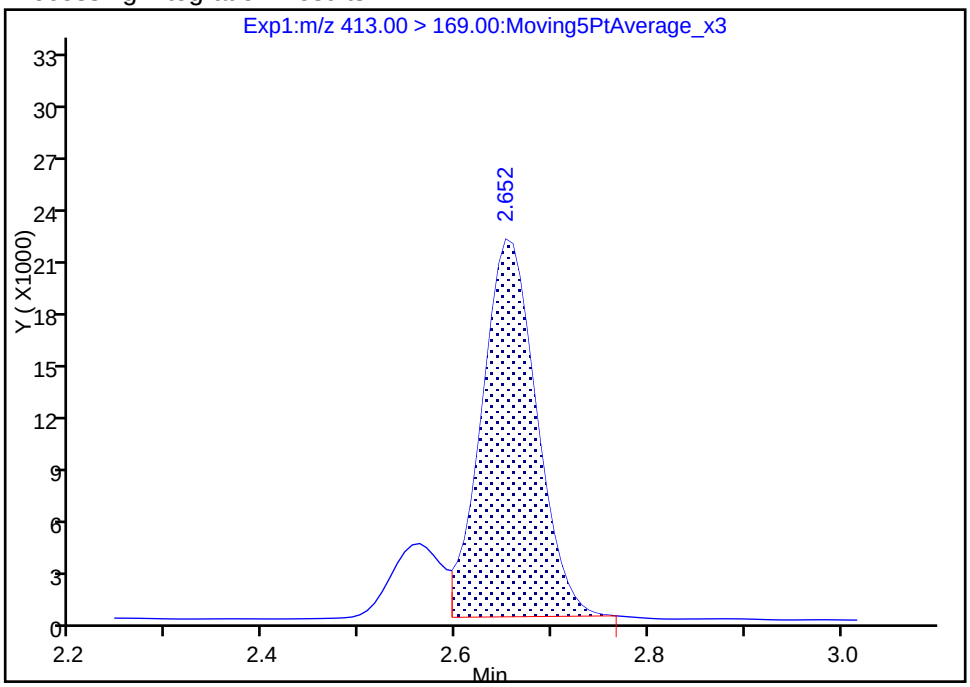
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Injection Date:	20-Dec-2017 10:03:11	Instrument ID:	A8_N		
Lims ID:	320-34182-A-15-A	Lab Sample ID:	320-34182-15		
Client ID:	MW-GA002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	33	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

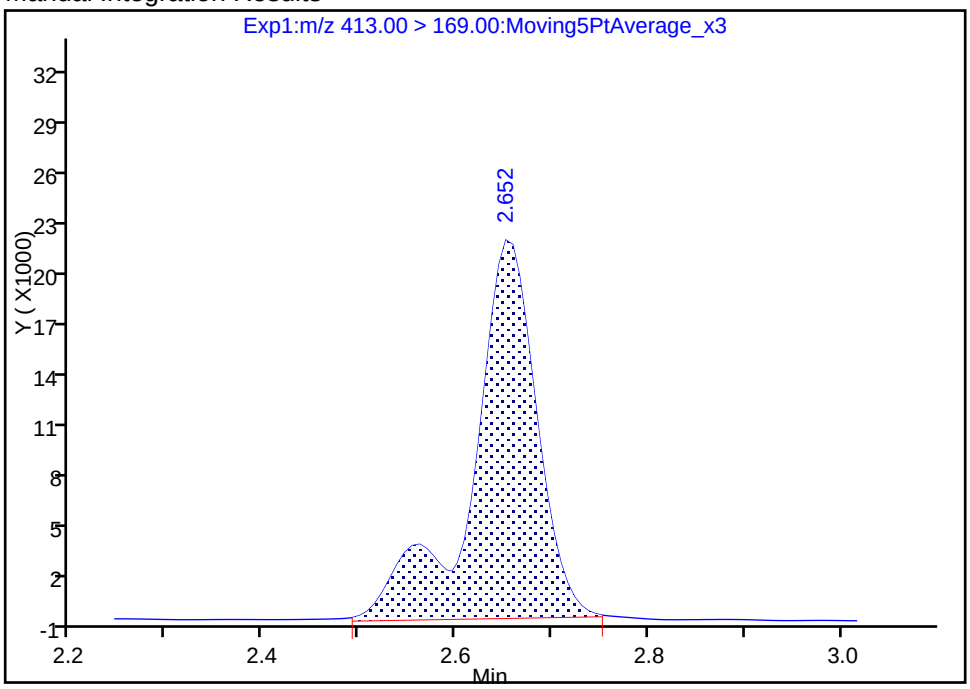
Processing Integration Results

RT: 2.65
Area: 86128
Amount: 0.070602
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 102890
Amount: 0.077091
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:11:59

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

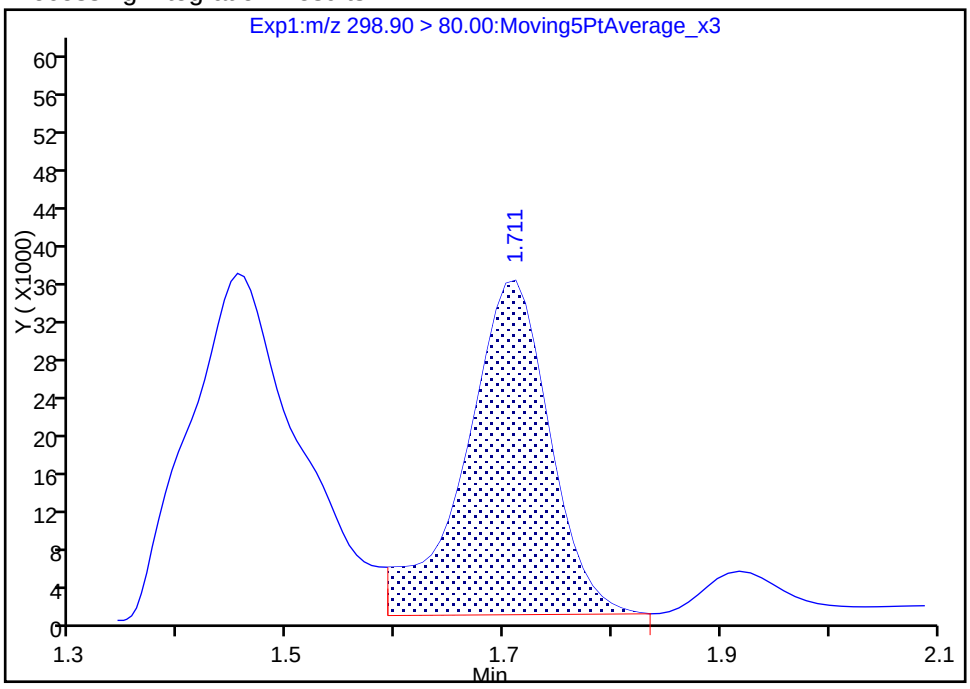
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Injection Date:	20-Dec-2017 10:03:11	Instrument ID:	A8_N		
Lims ID:	320-34182-A-15-A	Lab Sample ID:	320-34182-15		
Client ID:	MW-GA002-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	33	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

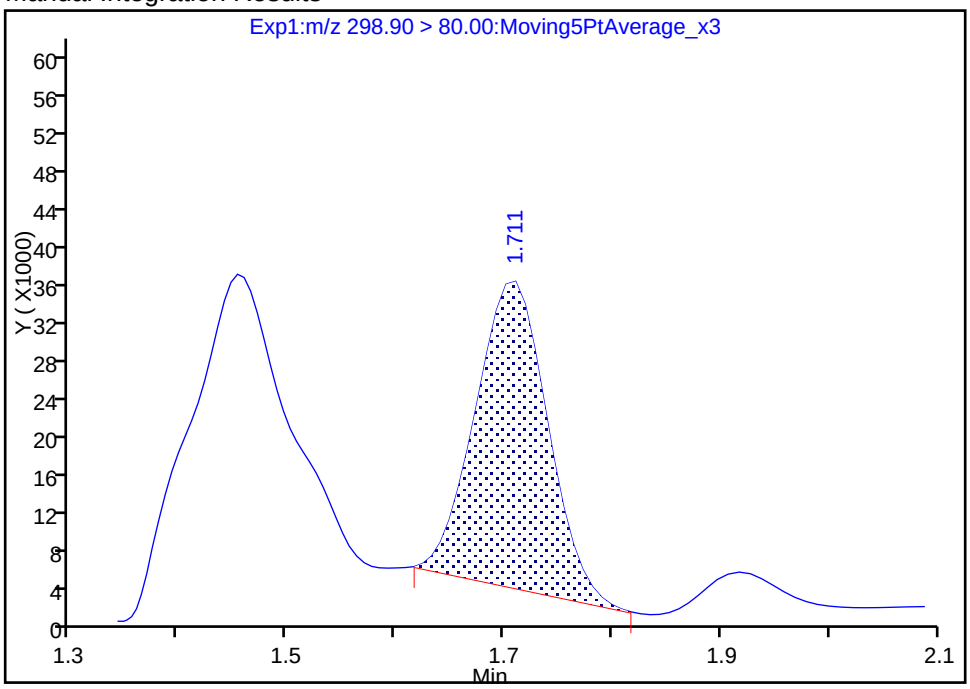
Processing Integration Results

RT: 1.71
Area: 190394
Amount: 0.058990
Amount Units: ng/ml



Manual Integration Results

RT: 1.71
Area: 150756
Amount: 0.046709
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:11:09

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-GA004-A | Lab Sample ID: 320-34182-16

Matrix: Water | Lab File ID: 2017.12.19LLC_044.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 14:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.8(mL) | Date Analyzed: 12/20/2017 10:11

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	4.28		1.99	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	7.39		1.99	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	16.7		1.99	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.77		1.99	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	2.61		1.99	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	1.99	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	1.99	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	1.99	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	1.99	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	1.99	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.99	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	16.9		1.99	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	28.2	B	1.99	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.82	J	1.99	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	25.7		1.99	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.99	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.56	J B	1.99	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.09	U	19.9	3.09
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.89	U	19.9	1.89
27619-97-2	6:2FTS	1.99	U	19.9	1.99
39108-34-4	8:2FTS	1.99	U	19.9	1.99

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-GA004-A | Lab Sample ID: 320-34182-16

Matrix: Water | Lab File ID: 2017.12.19LLC_044.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 14:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.8(mL) | Date Analyzed: 12/20/2017 10:11

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	91		25-150
STL01893	13C5 PFPeA	115		25-150
STL00993	13C2 PFHxA	108		25-150
STL01892	13C4-PFHpA	112		25-150
STL00990	13C4 PFOA	104		25-150
STL00995	13C5 PFNA	116		25-150
STL00996	13C2 PFDA	122		25-150
STL00997	13C2 PFUnA	106		25-150
STL00998	13C2 PFDoA	101		25-150
STL02116	13C2-PFTeDA	107		25-150
STL02337	13C3-PFBS	104		25-150
STL00994	18O2 PFHxS	115		25-150
STL00991	13C4 PFOS	109		25-150
STL01056	13C8 FOSA	101		25-150
STL02118	d3-NMeFOSAA	118		25-150
STL02117	d5-NEtFOSAA	111		25-150
STL02279	M2-6:2FTS	66		25-150
STL02280	M2-8:2FTS	162	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_044.d
Lims ID: 320-34182-A-16-A
Client ID: FW-GA004-A
Sample Type: Client
Inject. Date: 20-Dec-2017 10:11:03 ALS Bottle#: 34 Worklist Smp#: 22
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-16-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:15:19

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.532	6686048	2.27		90.7	22751	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.418	1.412	0.006	1.004	261640	0.1072			27.4	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.667	1.664	0.003	0.628	4974096	2.87		115	35921	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.667	1.664	0.003	1.000	407759	0.1854			65.6	
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.642	88999	2.43		104	1734	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.703	1.703	0.0	1.000	1214587	0.4245			1521	
298.90 > 99.00	1.703	1.703	0.0	1.000	541242		2.24(1.25-3.74)		849	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.949	1.949	0.0	0.995	835708	0.4192			685	
313.00 > 119.00	1.960	1.949	0.011	1.000	64067		13.04(5.03-15.10)		1049	
D 7 13C2 PFHxA										
315.00 > 270.00	1.960	1.949	0.011	0.738	4984666	2.71		108	45402	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.286	2.286	0.0	1.000	137190	0.0694			138	M
363.00 > 169.00	2.286	2.286	0.0	1.000	50190		2.73(1.13-3.40)		443	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.861	4799486	2.79		112	38006	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.866	5788554	2.72		115	50464	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.299	0.0	1.000	1882865	0.7078			2321	
399.00 > 99.00	2.299	2.299	0.0	1.000	629383		2.99(1.50-4.49)		1283	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.626	2.640	-0.014	1.000	24353	0.0322			1320	
D 12 M2-6:2FTS										
429.00 > 81.00	2.626	2.640	-0.014	0.989	1119814	1.57		66.0	12443	
* 62 13C2-PFOA										
415.00 > 370.00	2.654	2.643	0.011		4998628	2.50			50941	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.647	0.0	0.997	5384476	2.60		104	53036	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.654	2.649	0.005	1.003	149056	0.0656			78.5	M
413.00 > 169.00	2.654	2.649	0.005	1.003	92019		1.62(0.84-2.52)		706	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.662	2.654	0.008	1.000	44112	0.0206			106	
449.00 > 99.00	2.654	2.654	0.0	0.997	14431		3.06(1.94-5.82)		128	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.020	3.025	-0.005	1.000	1022898	0.6454			95.7	
499.00 > 99.00	3.020	3.025	-0.005	1.000	213147		4.80(2.31-6.93)		173	
D 18 13C4 PFOS										
503.00 > 80.00	3.020	3.025	-0.005	1.138	3562620	2.60		109	27967	
D 19 13C5 PFNA										
468.00 > 423.00	3.020	3.026	-0.006	1.138	4036450	2.90		116	37531	
D 21 13C8 FOSA										
506.00 > 78.00	3.366	3.362	0.004	1.268	4916489	2.54		101	25833	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.000	26275	0.0141			803	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.271	1180213	3.87		162	12144	
D 23 13C2 PFDA										
515.00 > 470.00	3.381	3.387	-0.006	1.274	3394103	3.05		122	46659	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.541	-0.008	1.331	1510534	2.95		118	17437	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.394	1460071	2.76		111	8616	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.397	2280520	2.66		106	36402	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.716	3.718	-0.002	1.005	2951	0.005185			70.9	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.015	-0.008	1.509	2297216	2.52		101	32336	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.701	2684306	2.69		107	20163	

QC Flag Legend

Review Flags

M - Manually Integrated

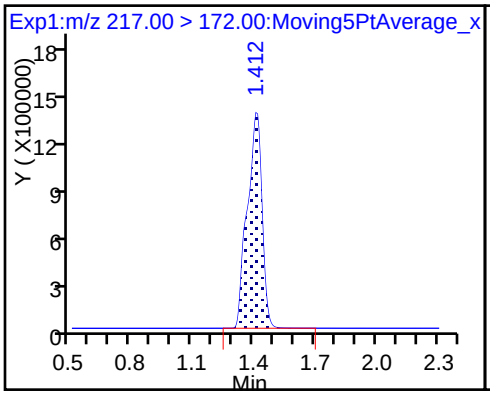
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TestAmerica Sacramento

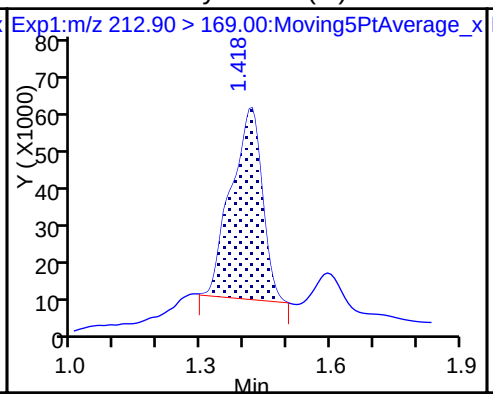
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Injection Date:	20-Dec-2017 10:11:03	Instrument ID:	A8_N		
Lims ID:	320-34182-A-16-A	Lab Sample ID:	320-34182-16		
Client ID:	FW-GA004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

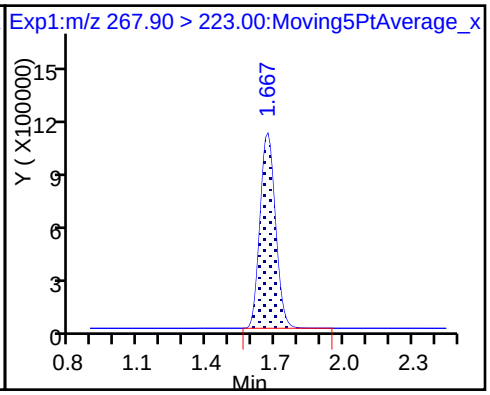
D 1 13C4 PFBA



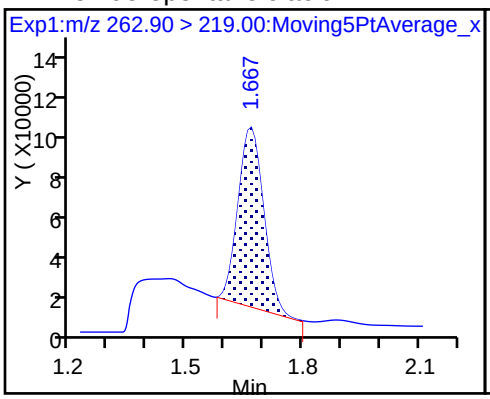
2 Perfluorobutyric acid (M)



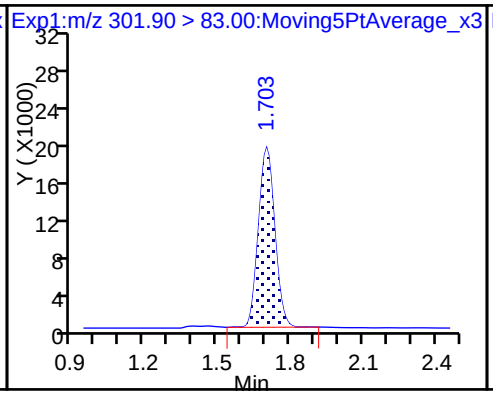
D 3 13C5-PFPeA



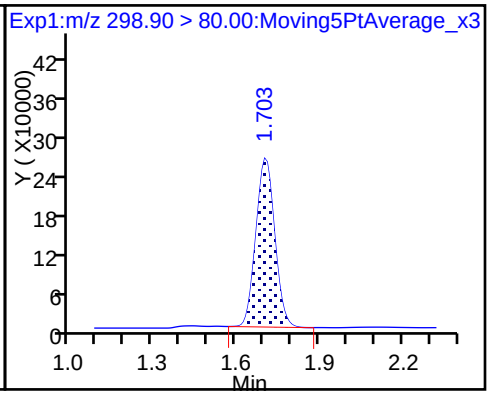
4 Perfluoropentanoic acid



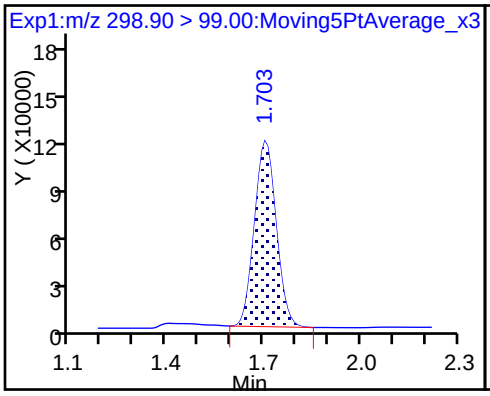
D 47 13C3-PFBS



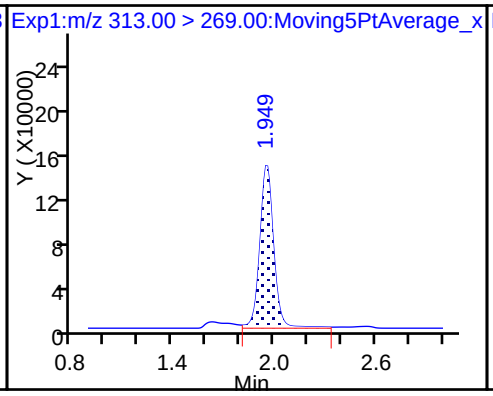
5 Perfluorobutanesulfonic acid



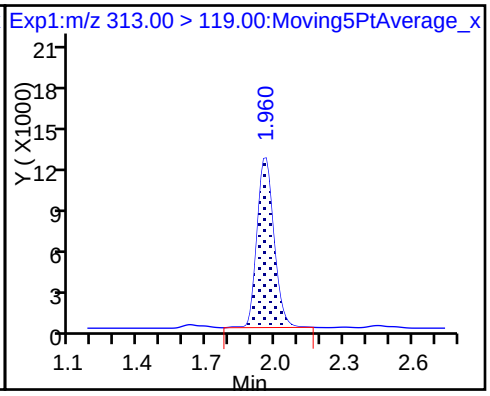
5 Perfluorobutanesulfonic acid



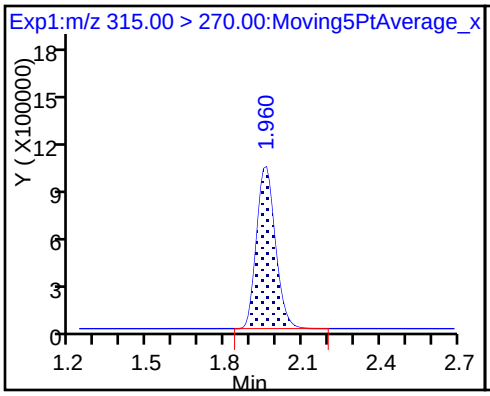
6 Perfluorohexanoic acid



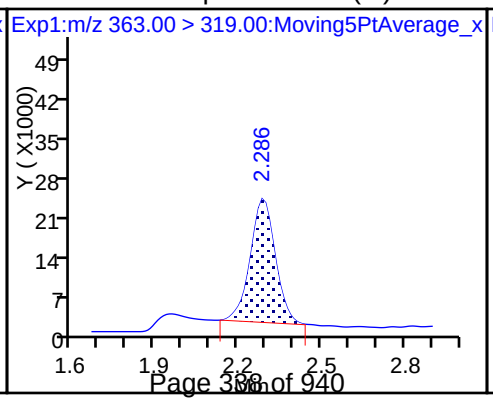
6 Perfluorohexanoic acid



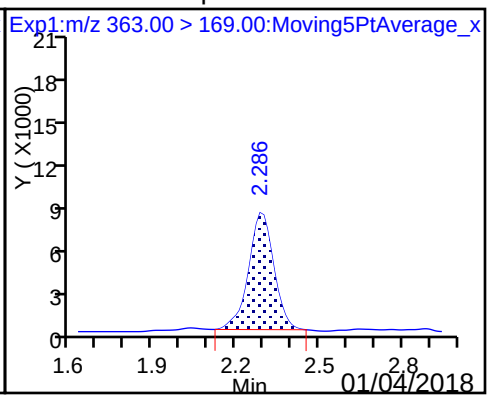
D 7 13C2 PFHxA



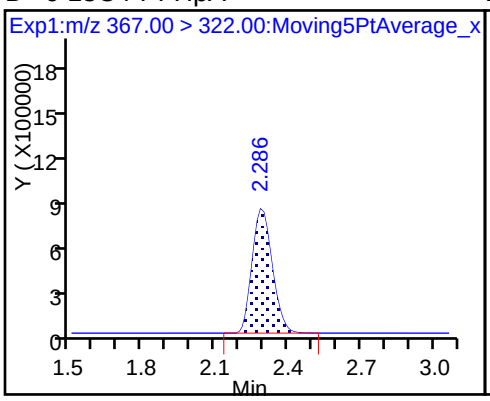
10 Perfluoroheptanoic acid (M)



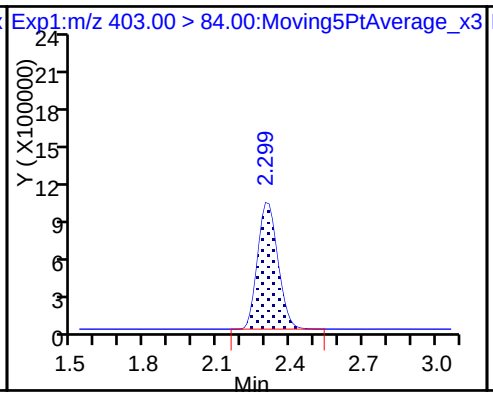
10 Perfluoroheptanoic acid



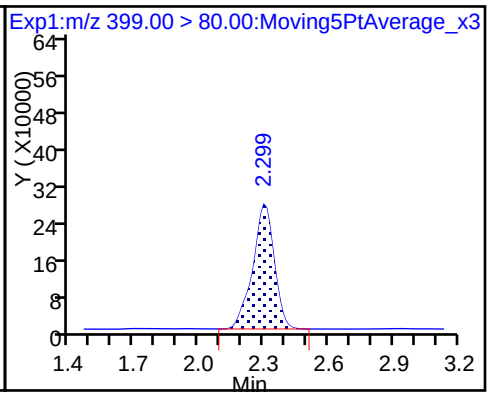
D 9 13C4-PFHpA



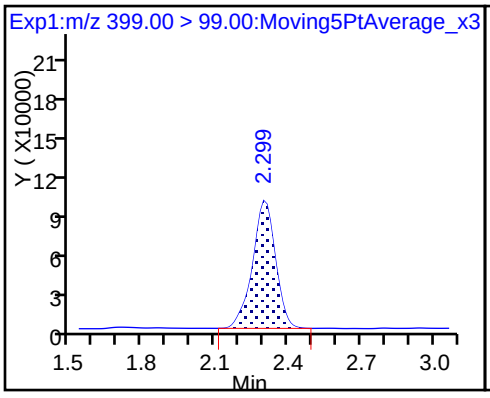
D 11 18O2 PFHxS



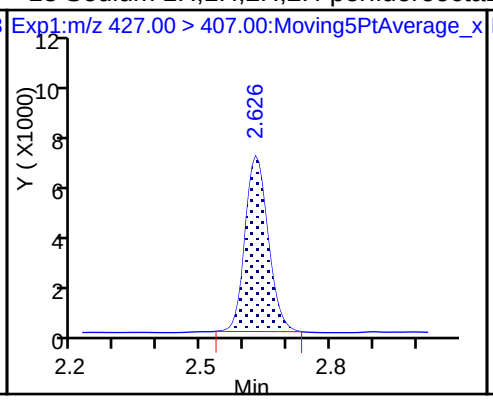
8 Perfluorohexanesulfonic acid



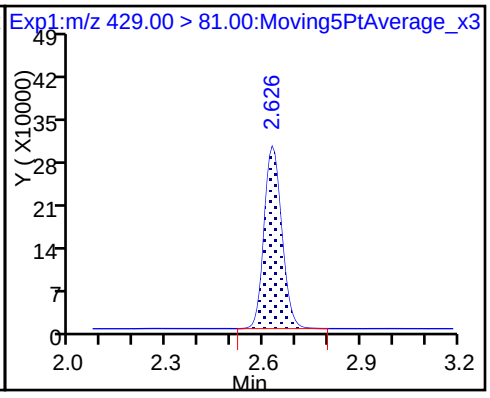
8 Perfluorohexanesulfonic acid



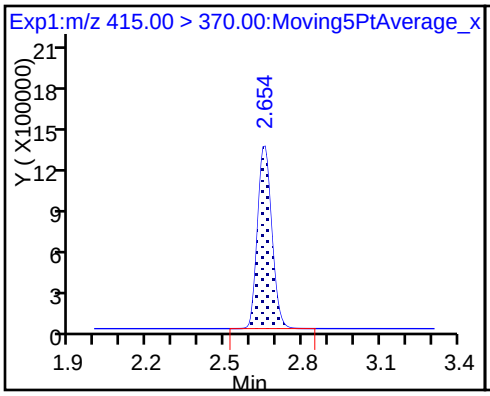
13 Sodium 1H,1H,2H,2H-perfluorooctane



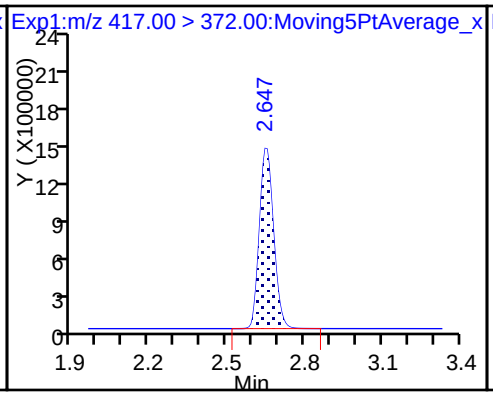
D 12 M2-6:2FTS



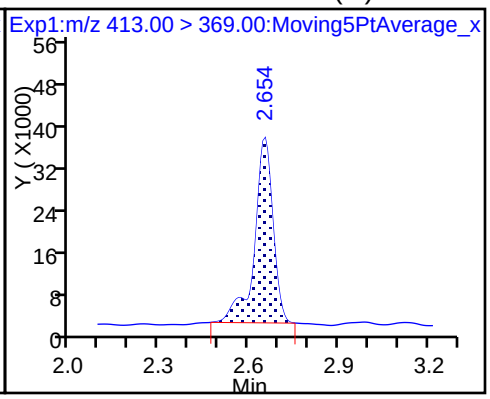
* 62 13C2-PFOA



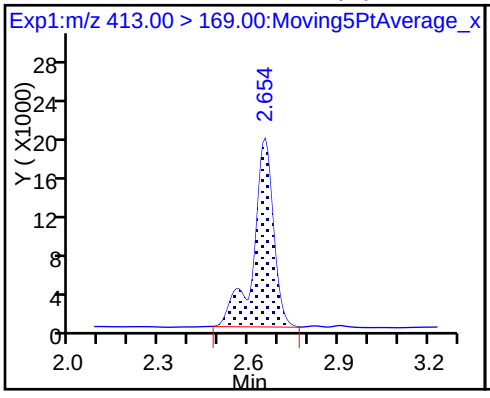
D 14 13C4 PFOA



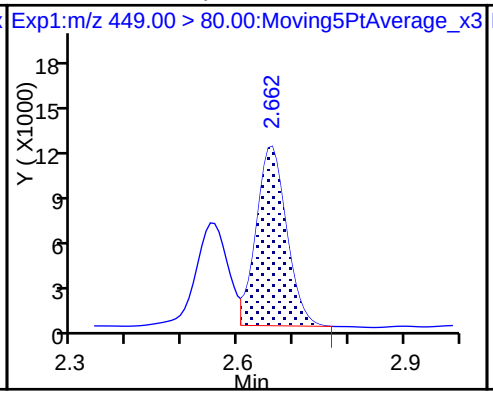
15 Perfluorooctanoic acid (M)



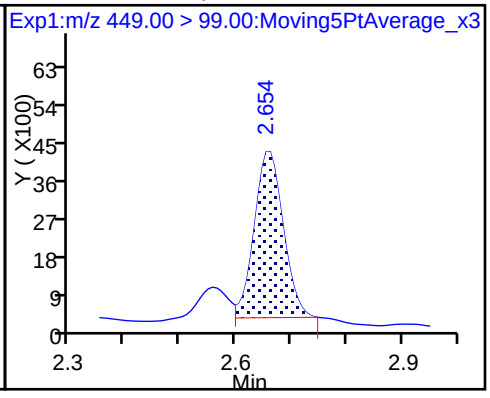
15 Perfluorooctanoic acid (M)



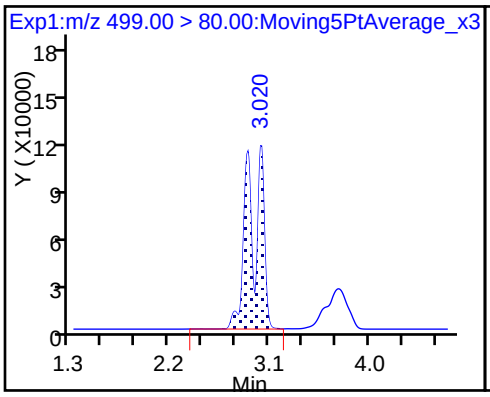
16 Perfluoroheptanesulfonic Acid



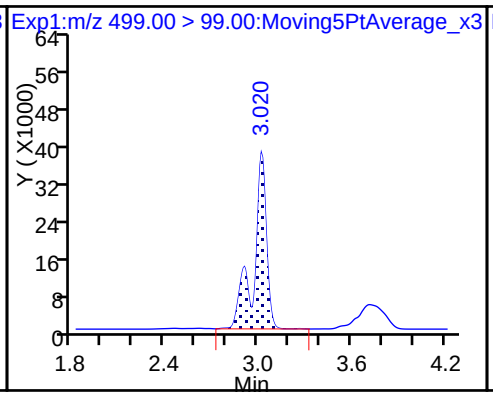
16 Perfluoroheptanesulfonic Acid



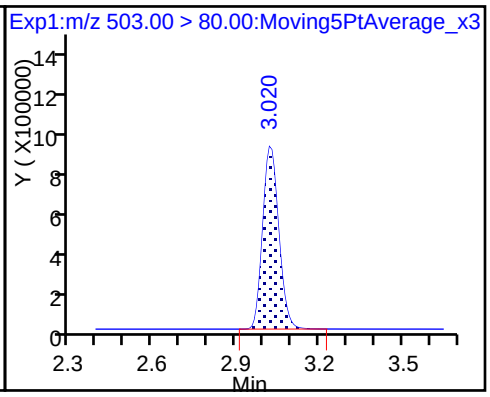
17 Perfluorooctane sulfonic acid



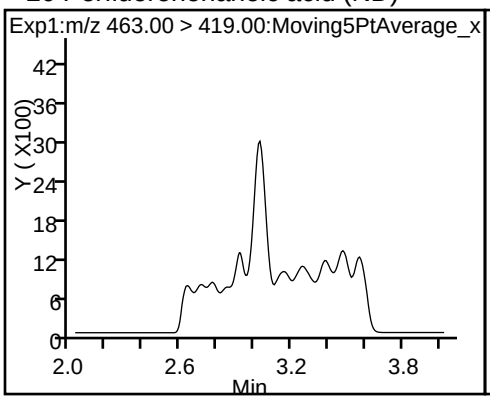
17 Perfluorooctane sulfonic acid



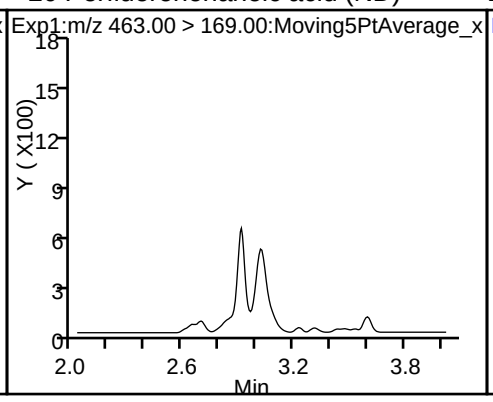
D 18 13C4 PFOS



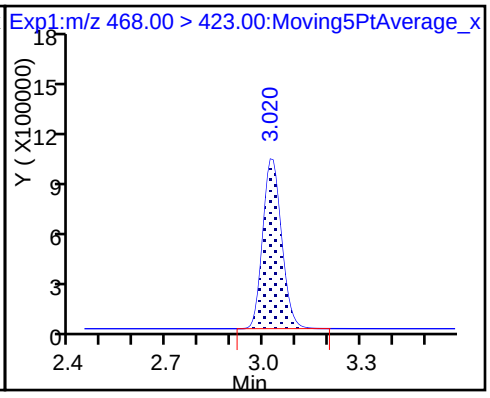
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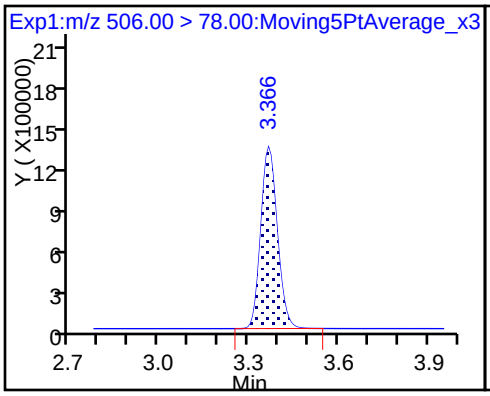
20 Perfluorononanoic acid (ND)



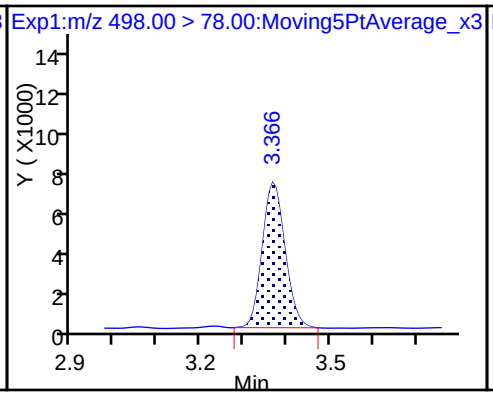
D 19 13C5 PFNA



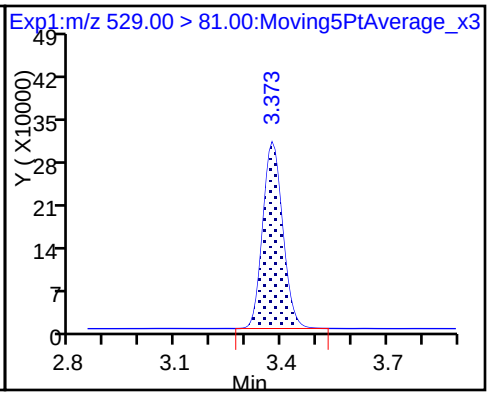
D 21 13C8 FOSA



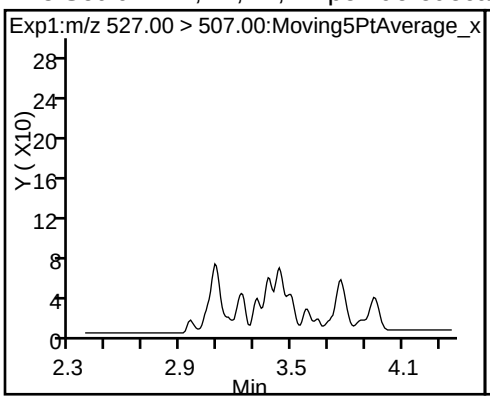
22 Perfluorooctane Sulfonamide



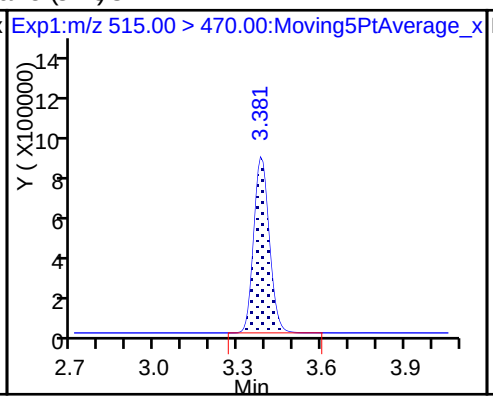
D 26 M2-8:2FTS



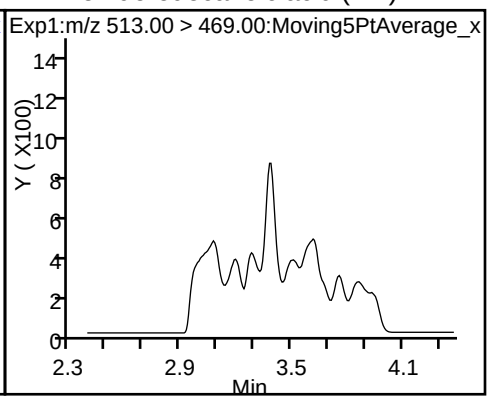
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



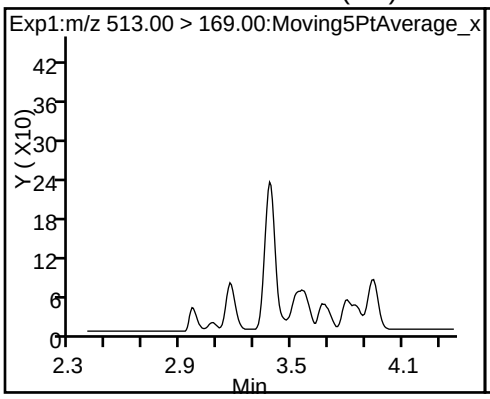
D 13C2 PFDA



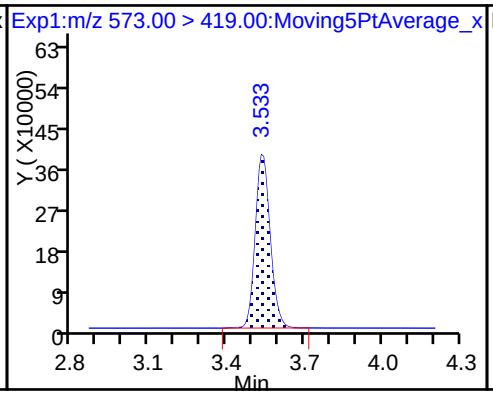
24 Perfluorodecanoic acid (ND)



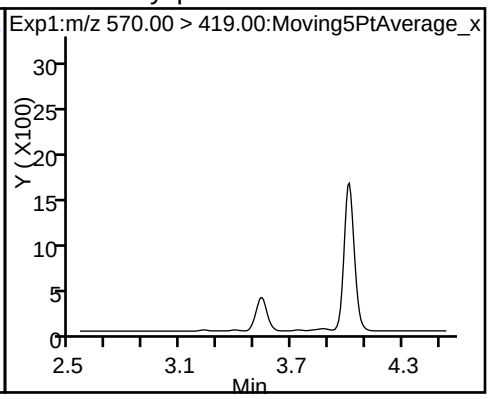
24 Perfluorodecanoic acid (ND)



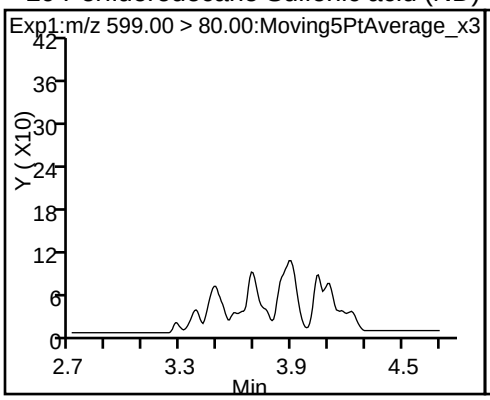
D 27 d3-NMeFOSAA



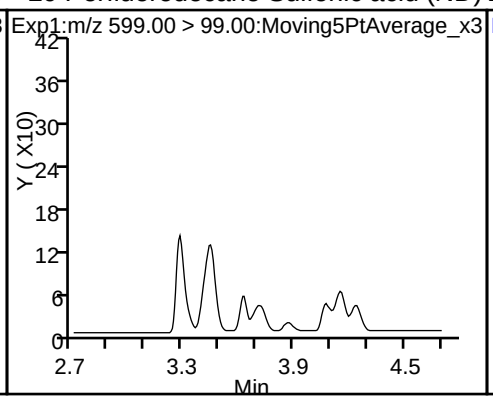
28 N-methyl perfluorooctane sulfonami (ND)



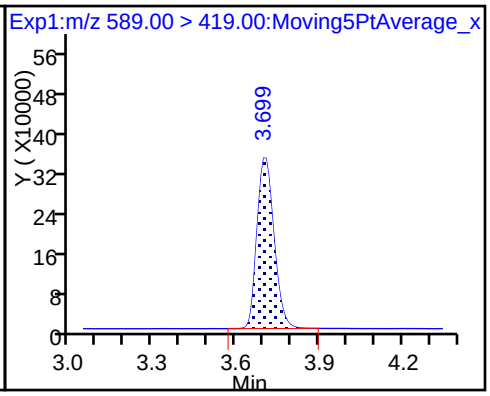
29 Perfluorodecane Sulfonic acid (ND)



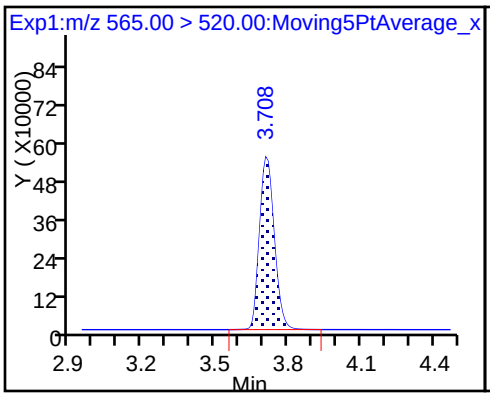
29 Perfluorodecane Sulfonic acid (ND)



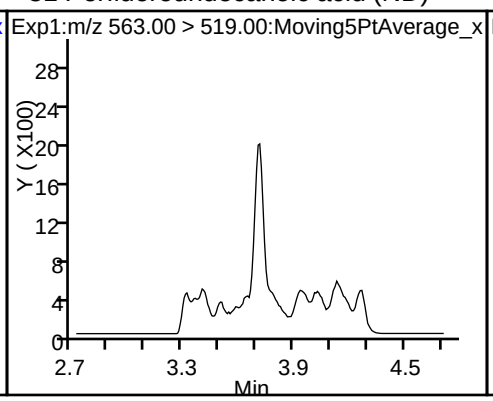
D 32 d5-NEtFOSAA



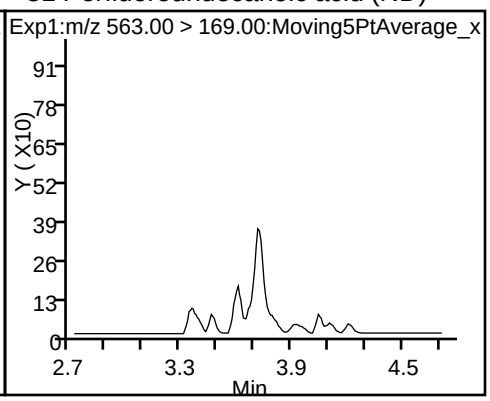
D 30 13C2 PFUnA



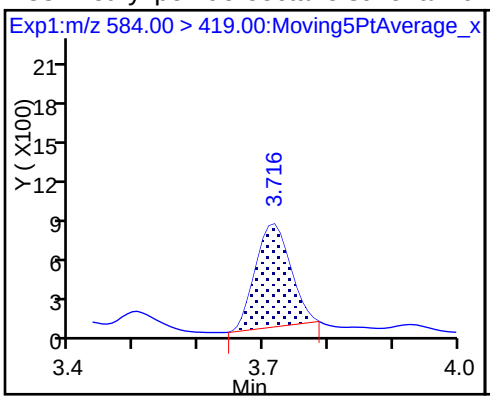
31 Perfluoroundecanoic acid (ND)



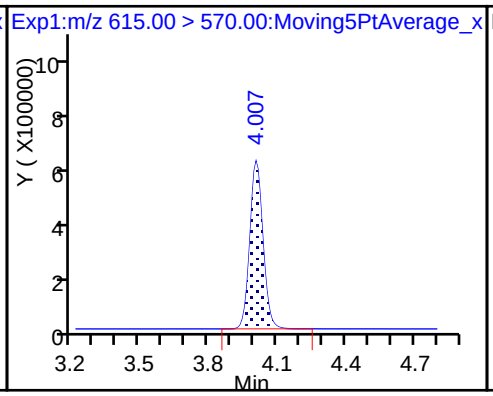
31 Perfluoroundecanoic acid (ND)



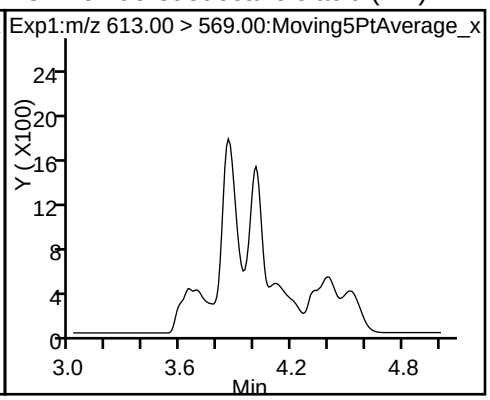
33 N-ethyl perfluorooctane sulfonamid



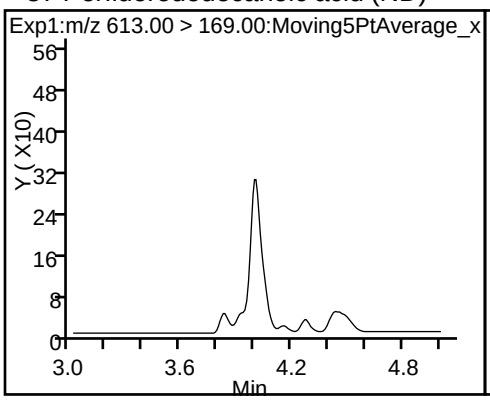
D 36 13C2 PFDoA



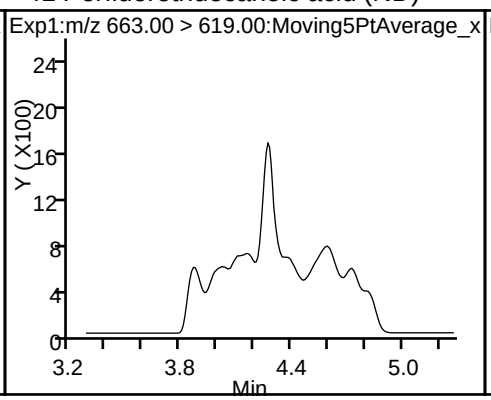
37 Perfluorododecanoic acid (ND)



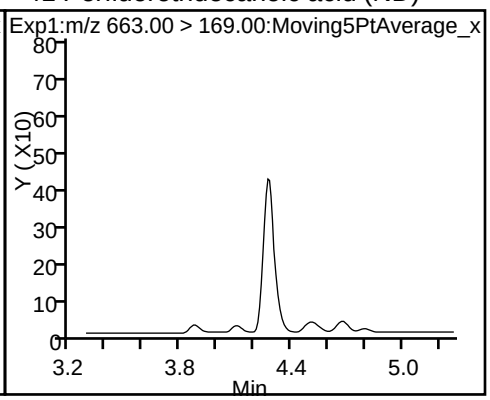
37 Perfluorododecanoic acid (ND)



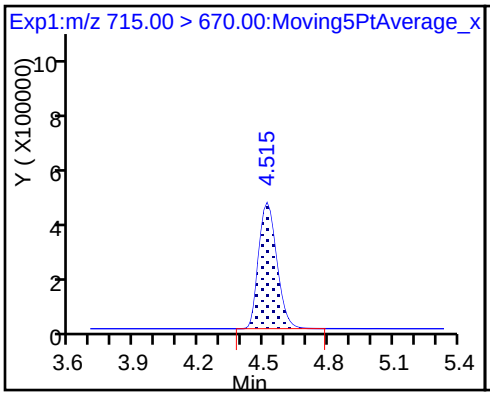
41 Perfluorotridecanoic acid (ND)



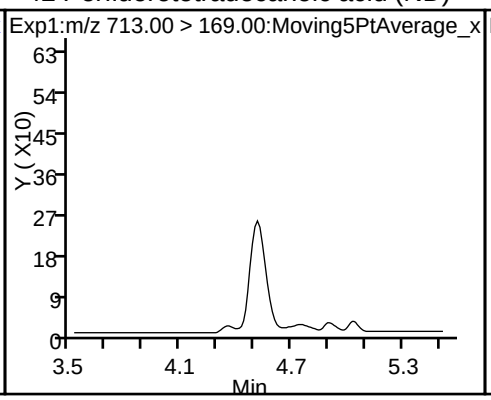
41 Perfluorotridecanoic acid (ND)



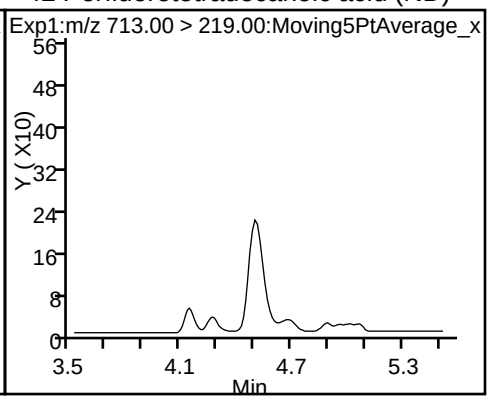
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

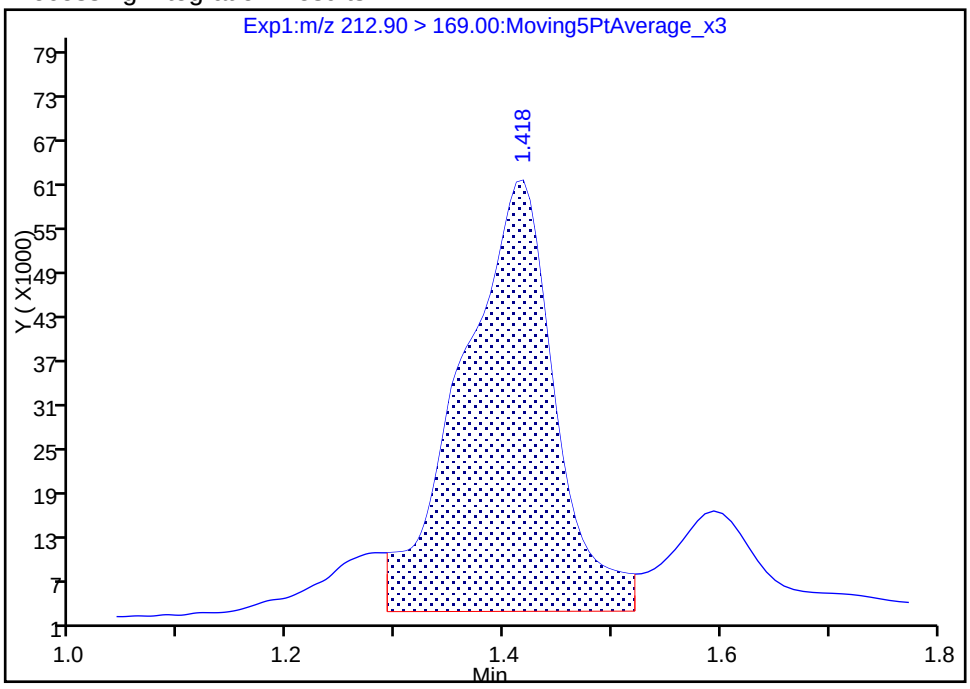
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_044.d				
Injection Date:	20-Dec-2017 10:11:03	Instrument ID:	A8_N		
Lims ID:	320-34182-A-16-A	Lab Sample ID:	320-34182-16		
Client ID:	FW-GA004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

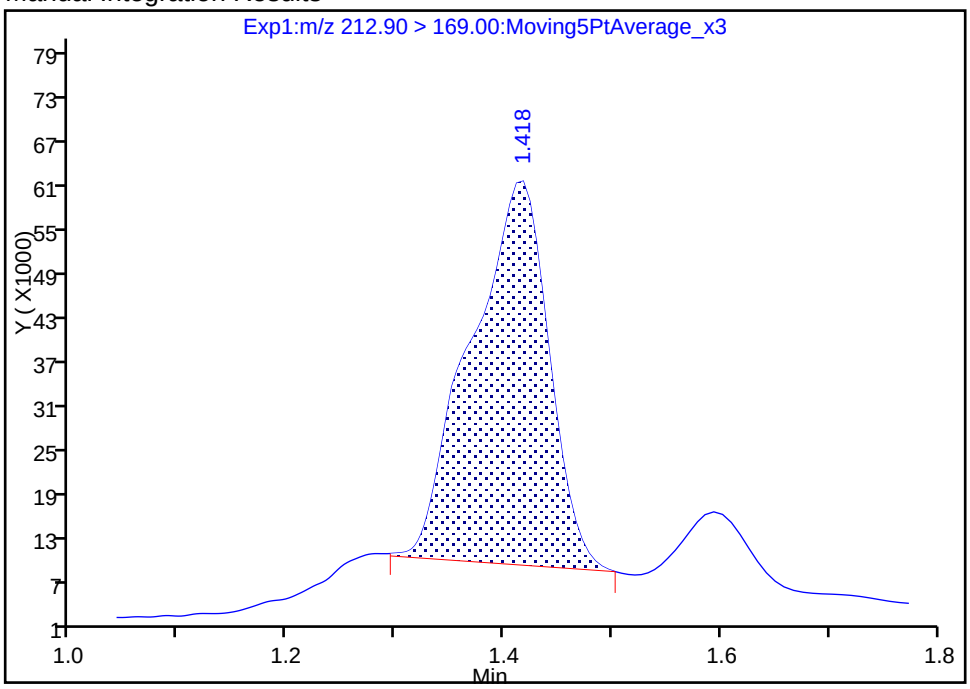
Processing Integration Results

RT: 1.42
Area: 351152
Amount: 0.143917
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 261640
Amount: 0.107231
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:13:18
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

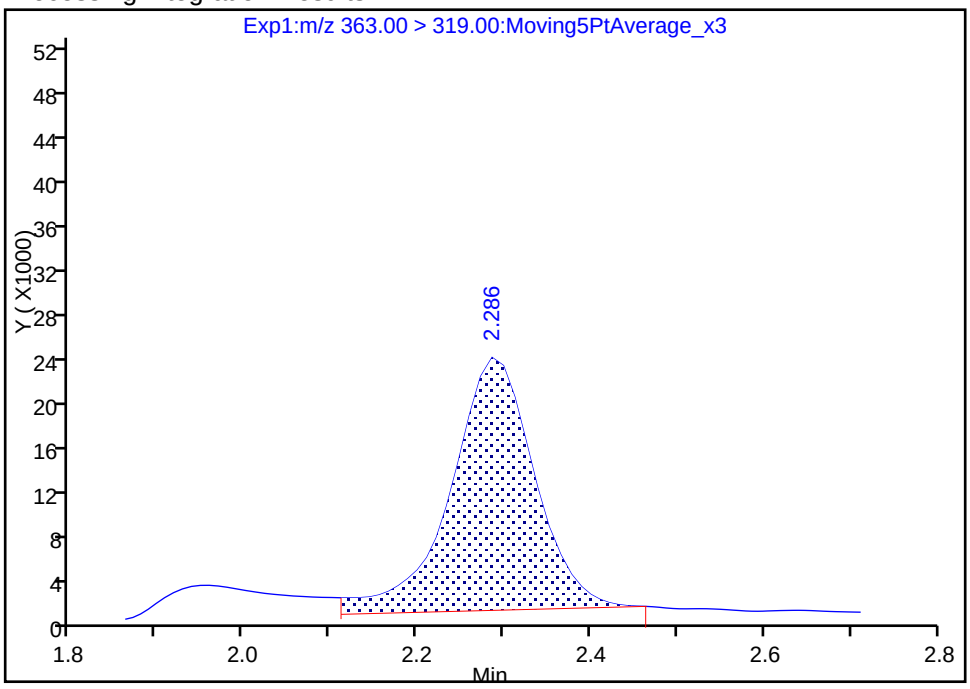
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Injection Date:	20-Dec-2017 10:11:03	Instrument ID:	A8_N		
Lims ID:	320-34182-A-16-A	Lab Sample ID:	320-34182-16		
Client ID:	FW-GA004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

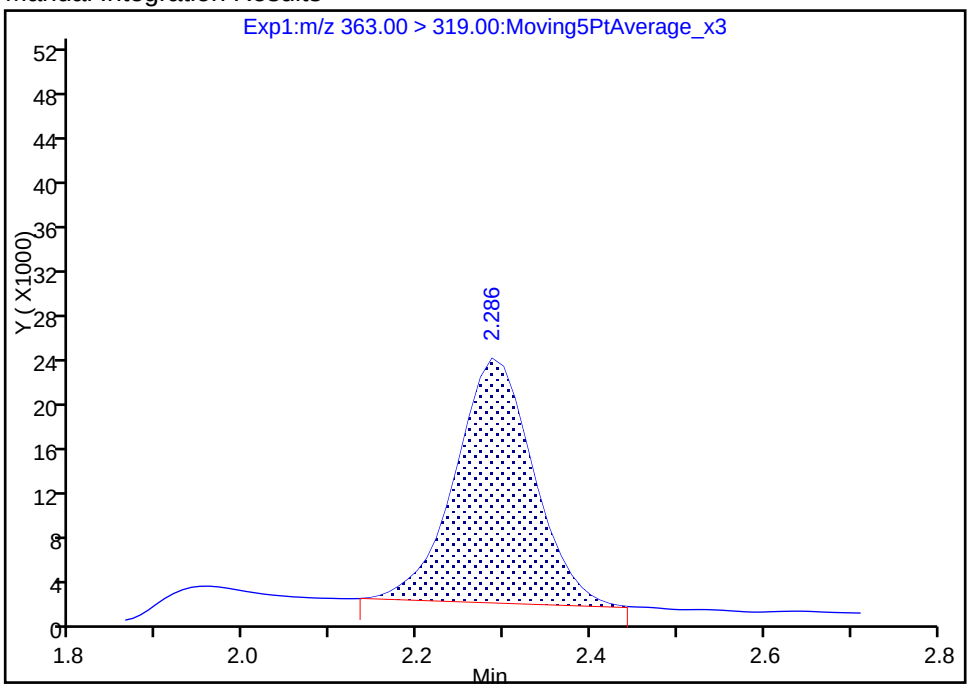
Processing Integration Results

RT: 2.29
Area: 152835
Amount: 0.077320
Amount Units: ng/ml



Manual Integration Results

RT: 2.29
Area: 137190
Amount: 0.069405
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:13:41

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

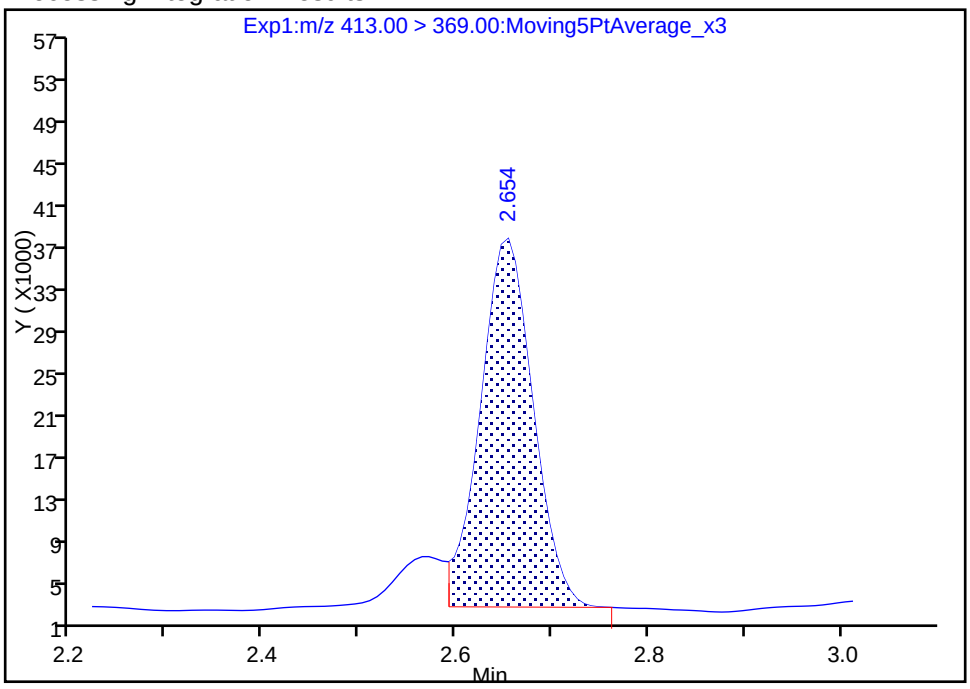
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_044.d				
Injection Date:	20-Dec-2017 10:11:03	Instrument ID:	A8_N		
Lims ID:	320-34182-A-16-A	Lab Sample ID:	320-34182-16		
Client ID:	FW-GA004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

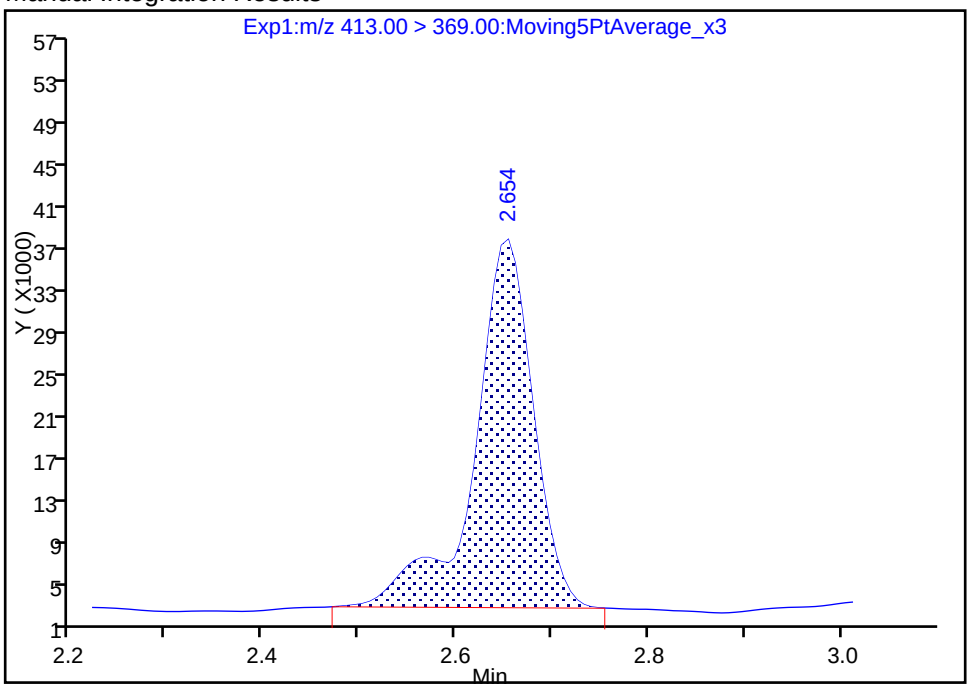
Processing Integration Results

RT: 2.65
Area: 132528
Amount: 0.058310
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 149056
Amount: 0.065582
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:14:03
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

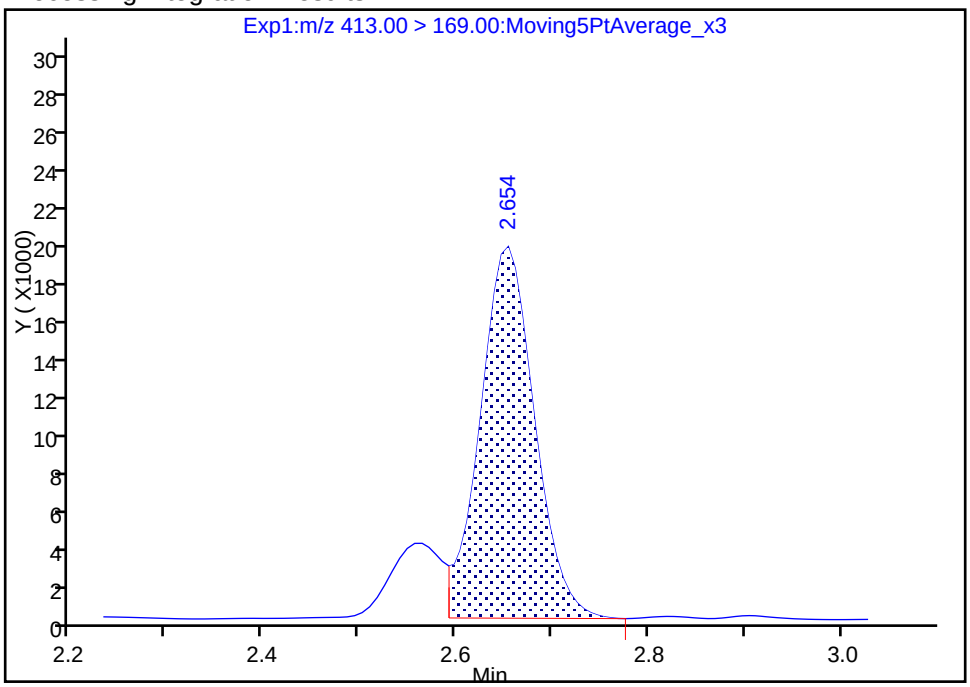
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_044.d				
Injection Date:	20-Dec-2017 10:11:03	Instrument ID:	A8_N		
Lims ID:	320-34182-A-16-A	Lab Sample ID:	320-34182-16		
Client ID:	FW-GA004-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

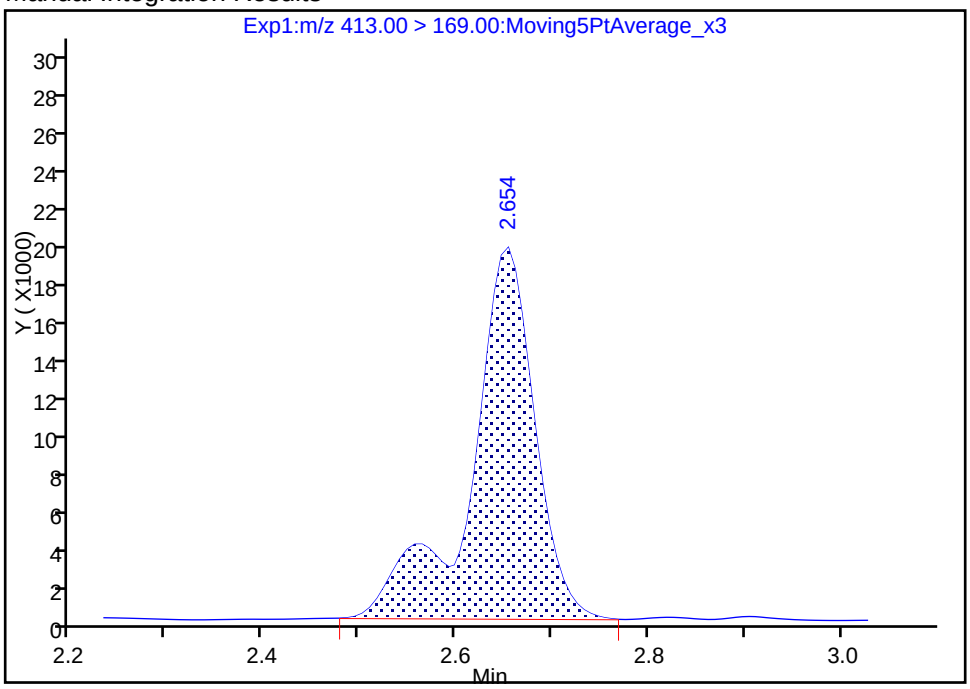
Processing Integration Results

RT: 2.65
Area: 77317
Amount: 0.058310
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 92019
Amount: 0.065582
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:14:29

Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FB001 | Lab Sample ID: 320-34182-17

Matrix: Water | Lab File ID: 2017.12.19LLC_046.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 13:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 249.1(mL) | Date Analyzed: 12/20/2017 10:26

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.01	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.01	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.01	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.01	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.01	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.01	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.01	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.01	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.01	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.01	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.01	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.01	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.01	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.01	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.01	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.01	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.01	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.11	U	20.1	3.11
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.91	U	20.1	1.91
27619-97-2	6:2FTS	2.01	U	20.1	2.01
39108-34-4	8:2FTS	2.01	U	20.1	2.01

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FB001 | Lab Sample ID: 320-34182-17

Matrix: Water | Lab File ID: 2017.12.19LLC_046.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 13:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 249.1(mL) | Date Analyzed: 12/20/2017 10:26

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	112		25-150
STL01893	13C5 PFPeA	113		25-150
STL00993	13C2 PFHxA	108		25-150
STL01892	13C4-PFHpA	115		25-150
STL00990	13C4 PFOA	103		25-150
STL00995	13C5 PFNA	113		25-150
STL00996	13C2 PFDA	119		25-150
STL00997	13C2 PFUnA	114		25-150
STL00998	13C2 PFDoA	112		25-150
STL02116	13C2-PFTeDA	132		25-150
STL02337	13C3-PFBS	107		25-150
STL00994	18O2 PFHxS	115		25-150
STL00991	13C4 PFOS	117		25-150
STL01056	13C8 FOSA	103		25-150
STL02118	d3-NMeFOSAA	133		25-150
STL02117	d5-NEtFOSAA	134		25-150
STL02279	M2-6:2FTS	68		25-150
STL02280	M2-8:2FTS	172	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_046.d
Lims ID: 320-34182-A-17-A
Client ID: FB001
Sample Type: Client
Inject. Date: 20-Dec-2017 10:26:47 ALS Bottle#: 35 Worklist Smp#: 24
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-17-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:26:25 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:16:48

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.412	1.411	0.001	0.535	8733343	2.81		112	19887	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.412	1.412	0.0	1.000	26334	0.008263			4.3	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.660	1.664	-0.004	0.628	5190849	2.83		113	142125	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.660	1.664	-0.004	1.000	10590	0.004614			6.2	
D 47 13C3-PFBS										
301.90 > 83.00	1.695	1.699	-0.004	0.642	96155	2.48		107	3131	
D 7 13C2 PFHxA										
315.00 > 270.00	1.951	1.949	0.002	0.738	5252142	2.70		108	45604	
D 9 13C4-PFHpA										
367.00 > 322.00	2.276	2.286	-0.010	0.862	5232797	2.88		115	42220	
D 11 18O2 PFHxS										
403.00 > 84.00	2.289	2.299	-0.010	0.866	6105271	2.72		115	56968	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.289	2.299	-0.010	1.000	20009	0.007131			73.3	
399.00 > 99.00	2.303	2.299	0.004	1.006	6901		2.90(1.50-4.49)		37.5	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.614	2.640	-0.026	1.000	13348	0.0163			668	
D 12 M2-6:2FTS										
429.00 > 81.00	2.614	2.640	-0.026	0.989	1211996	1.61		67.7	25596	
* 62 13C2-PFOA										
415.00 > 370.00	2.642	2.643	-0.001		5272658	2.50			66870	
D 14 13C4 PFOA										
417.00 > 372.00	2.642	2.647	-0.005	1.000	5603533	2.57		103	49263	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.642	2.649	-0.007	1.000	13642	0.005768			5.1	
413.00 > 169.00	2.642	2.649	-0.007	1.000	6662		2.05(0.84-2.52)		52.8	
D 18 13C4 PFOS										
503.00 > 80.00	3.014	3.025	-0.011	1.141	4048348	2.80		117	30258	
D 19 13C5 PFNA										
468.00 > 423.00	3.014	3.026	-0.012	1.141	4132496	2.82		113	48354	
D 21 13C8 FOSA										
506.00 > 78.00	3.360	3.362	-0.002	1.272	5256160	2.57		103	27939	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.360	3.365	-0.005	1.000	12383	0.006230			359	
D 26 M2-8:2FTS										
529.00 > 81.00	3.367	3.375	-0.008	1.274	1324807	4.12		172	16347	
D 23 13C2 PFDA										
515.00 > 470.00	3.383	3.387	-0.005	1.280	3501529	2.99		119	45187	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.535	3.541	-0.006	1.338	1792594	3.32		133	19765	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.702	3.711	-0.009	1.401	1873181	3.36		134	10701	
D 30 13C2 PFUnA										
565.00 > 520.00	3.702	3.717	-0.015	1.401	2567623	2.84		114	28176	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.702	3.718	-0.016	1.000	2655	0.003636			59.1	
D 36 13C2 PFDoA										
615.00 > 570.00	4.002	4.015	-0.013	1.515	2697904	2.81		112	24966	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.505	4.522	-0.017	1.705	3481330	3.30		132	25030	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:26:33 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_046.d

Injection Date: 20-Dec-2017 10:26:47 Instrument ID: A8_N

Lims ID: 320-34182-A-17-A Lab Sample ID: 320-34182-17

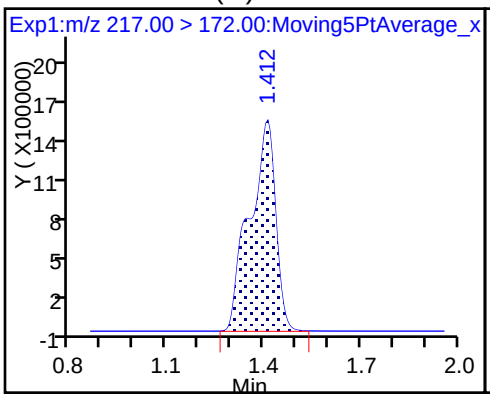
Client ID: FB001

Operator ID: SACINSTLCMS01 ALS Bottle#: 35 Worklist Smp#: 24

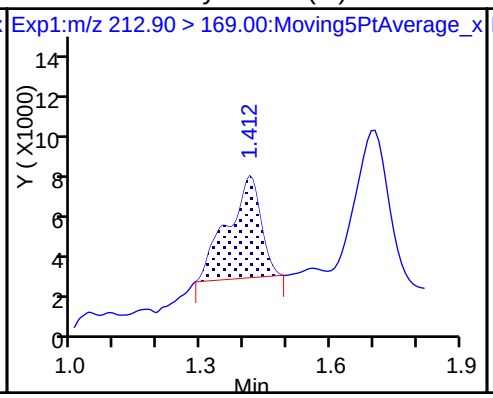
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

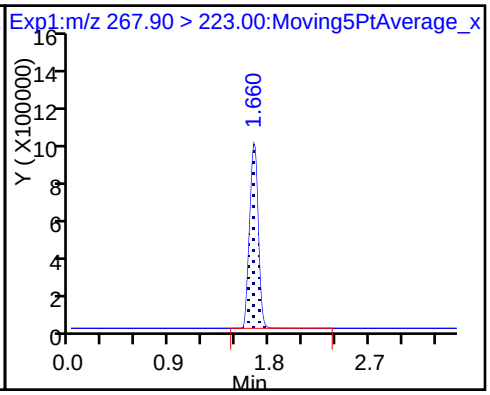
D 1 13C4 PFBA (M)



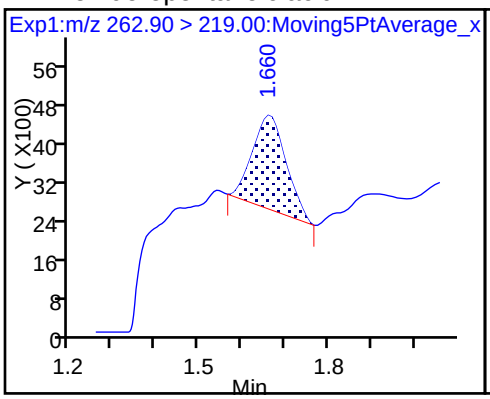
2 Perfluorobutyric acid (M)



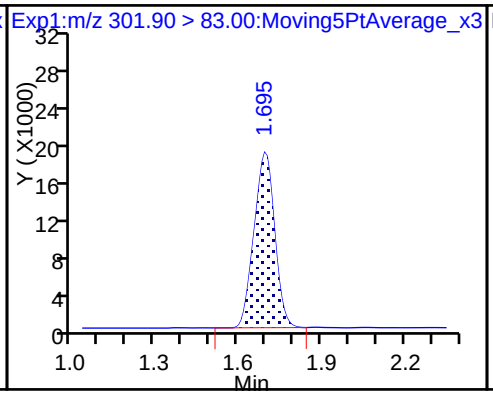
D 3 13C5-PFPeA



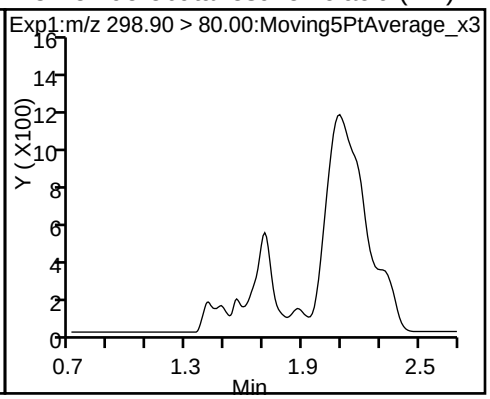
4 Perfluoropentanoic acid



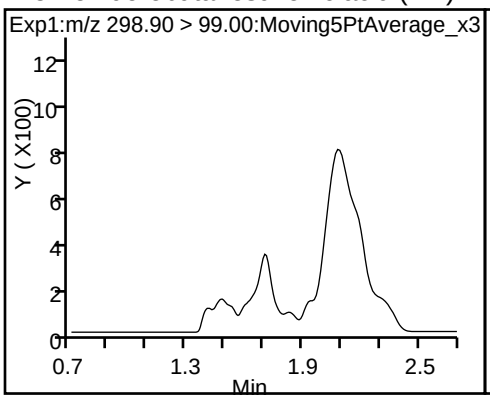
D 47 13C3-PFBS



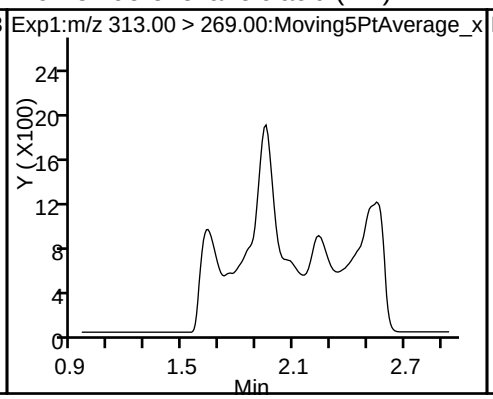
5 Perfluorobutanesulfonic acid (ND)



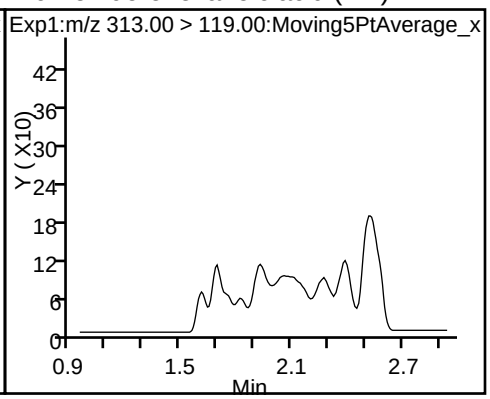
5 Perfluorobutanesulfonic acid (ND)



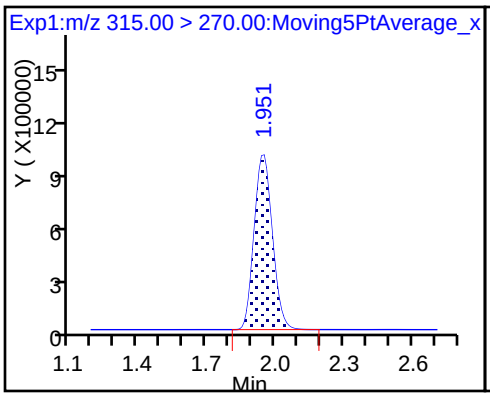
6 Perfluorohexanoic acid (ND)



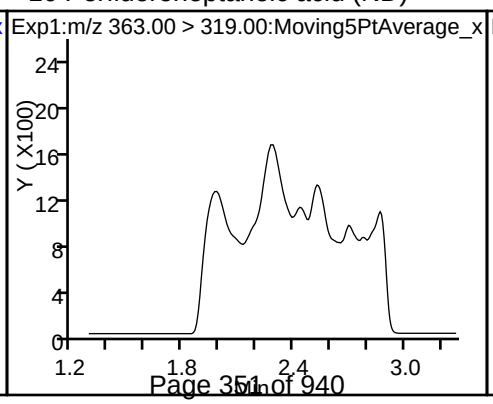
6 Perfluorohexanoic acid (ND)



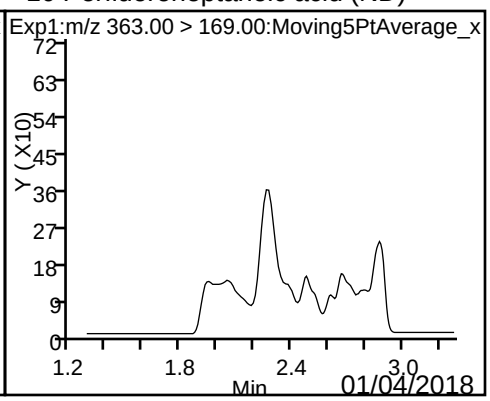
D 7 13C2 PFHxA



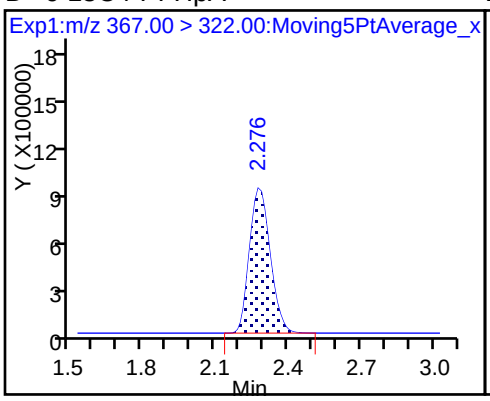
10 Perfluoroheptanoic acid (ND)



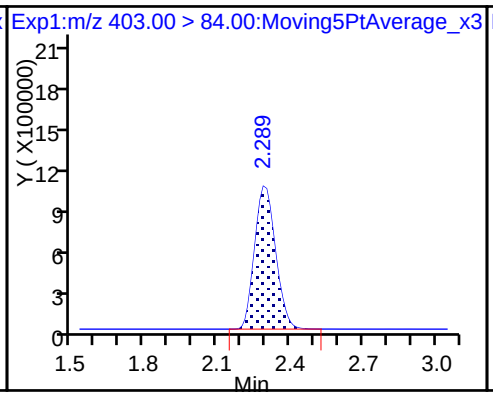
10 Perfluoroheptanoic acid (ND)



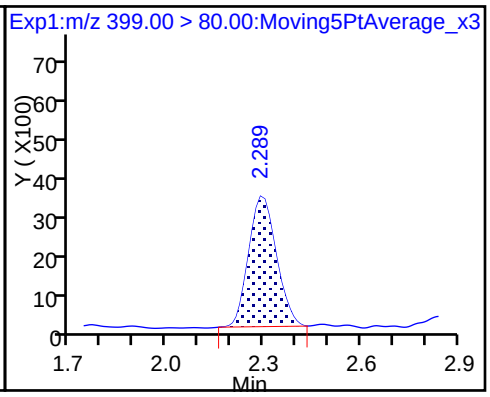
D 9 13C4-PFHpA



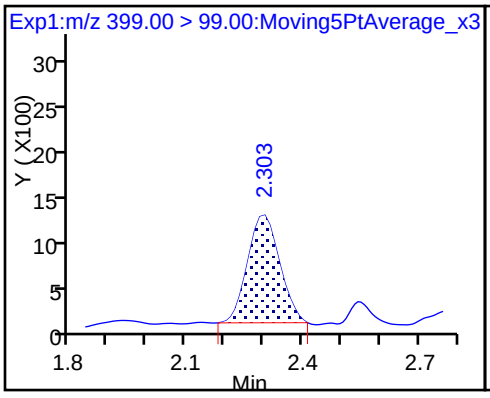
D 11 18O2 PFHxS



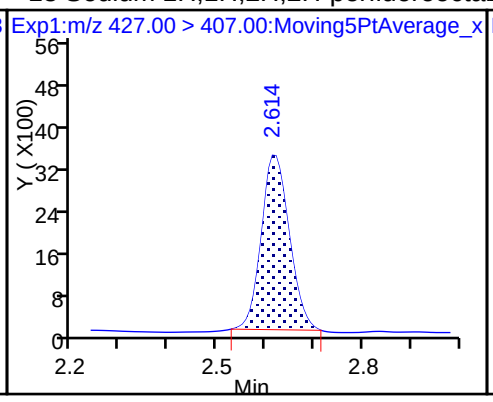
8 Perfluorohexanesulfonic acid



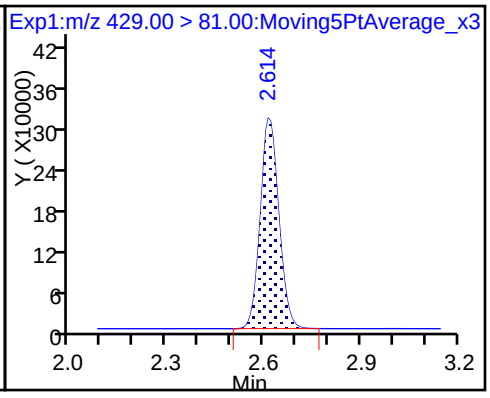
8 Perfluorohexanesulfonic acid



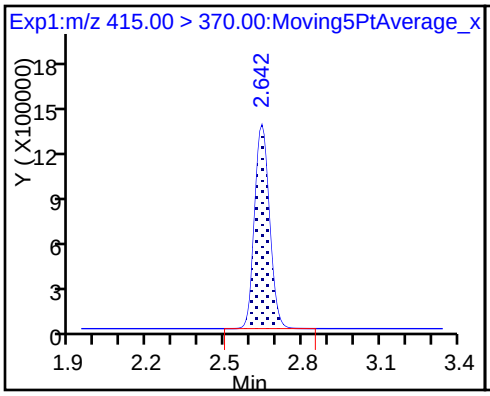
13 Sodium 1H,1H,2H,2H-perfluorooctane



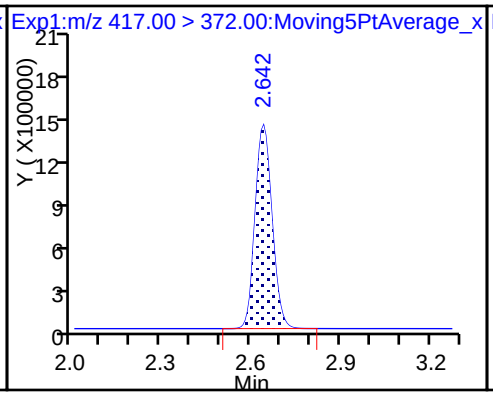
D 12 M2-6:2FTS



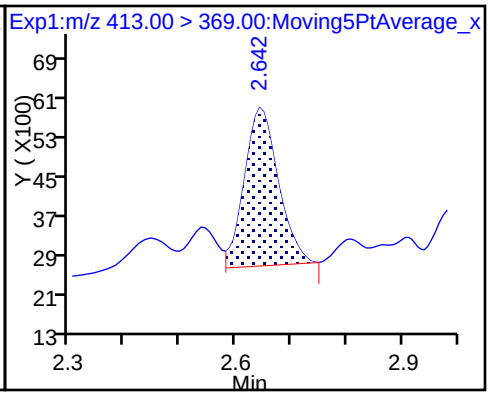
* 62 13C2-PFOA



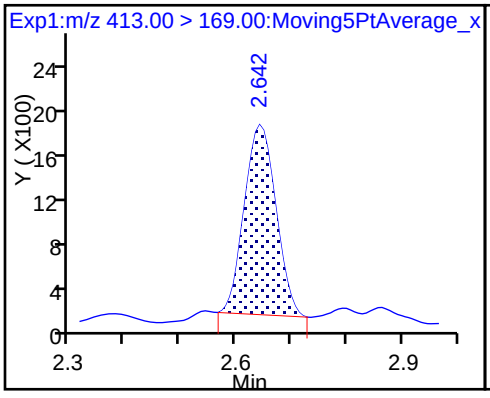
D 14 13C4 PFOA



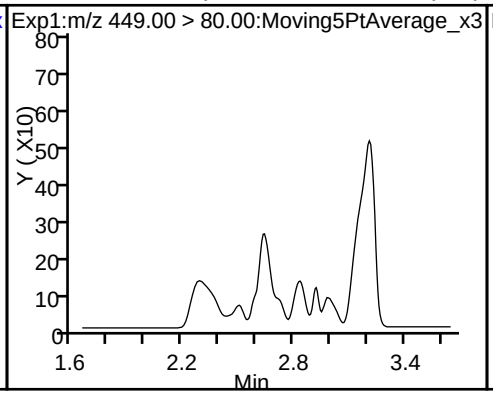
15 Perfluorooctanoic acid



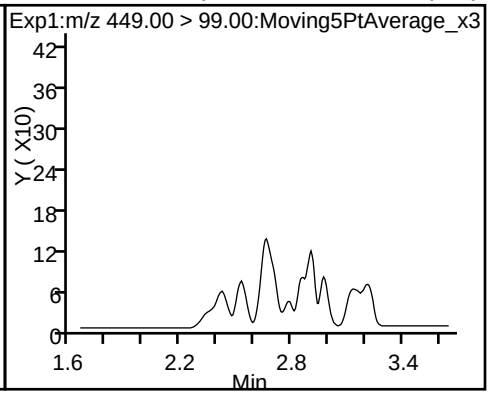
15 Perfluorooctanoic acid



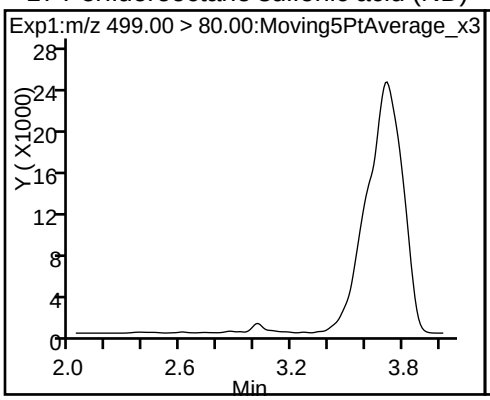
16 Perfluoroheptanesulfonic Acid (ND)



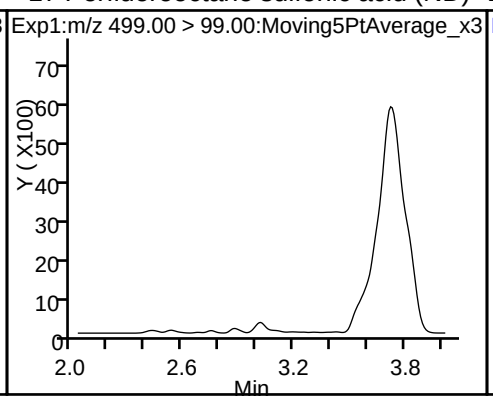
16 Perfluoroheptanesulfonic Acid (ND)



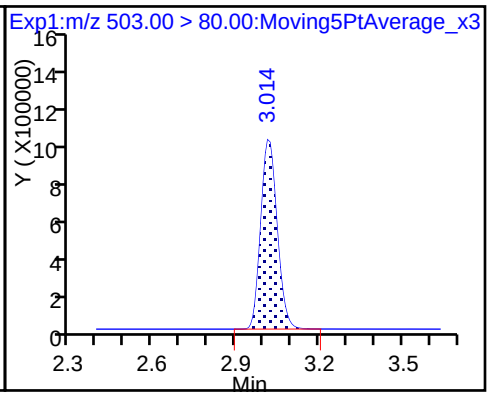
17 Perfluorooctane sulfonic acid (ND)



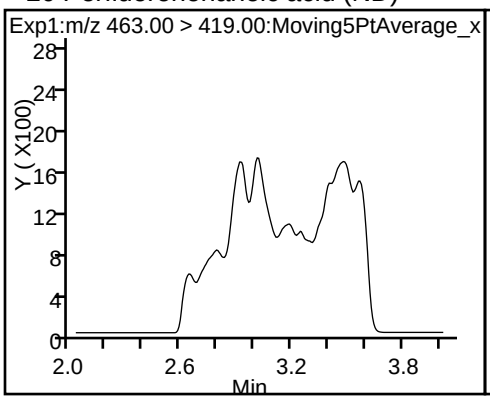
17 Perfluorooctane sulfonic acid (ND)



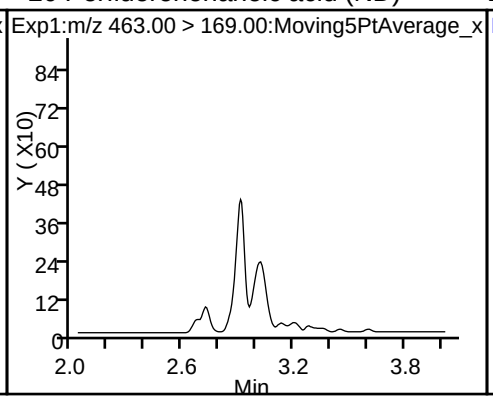
D 18 13C4 PFOS



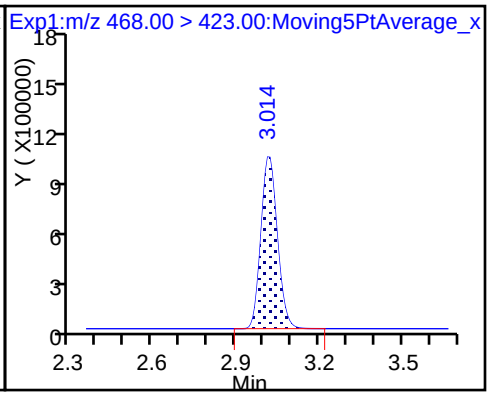
20 Perfluorononanoic acid (ND)



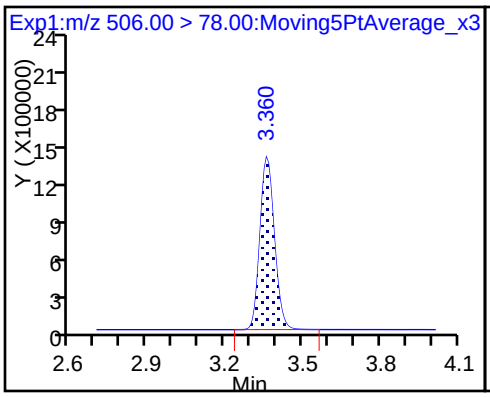
20 Perfluorononanoic acid (ND)



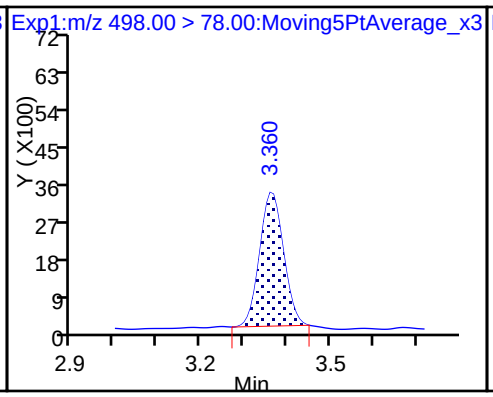
D 19 13C5 PFNA



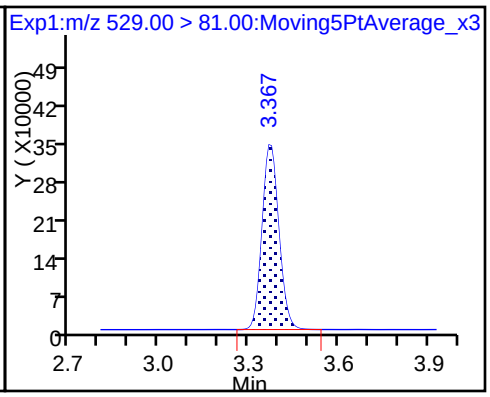
D 21 13C8 FOSA



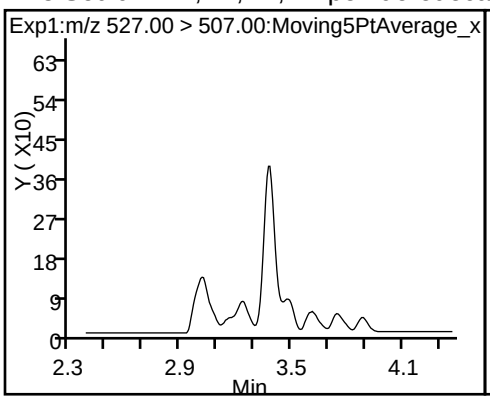
22 Perfluorooctane Sulfonamide



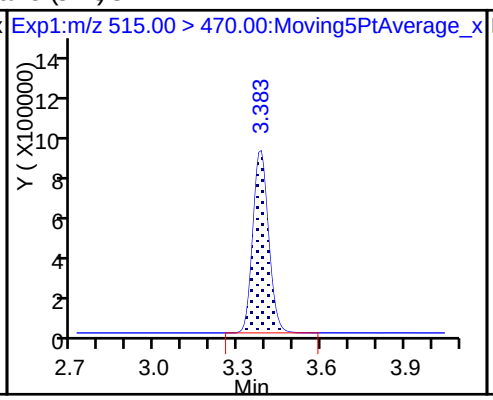
D 26 M2-8:2FTS



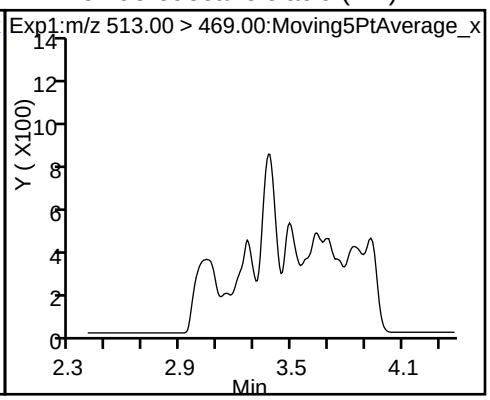
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



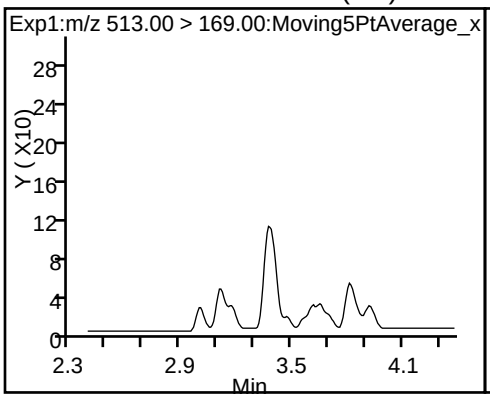
D 23 13C2 PFDA



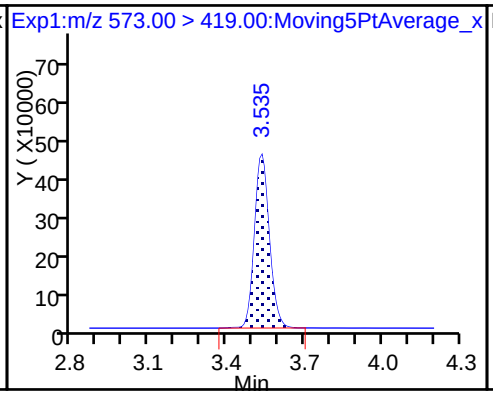
24 Perfluorodecanoic acid (ND)



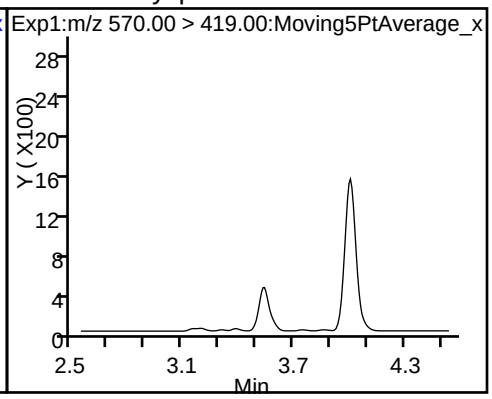
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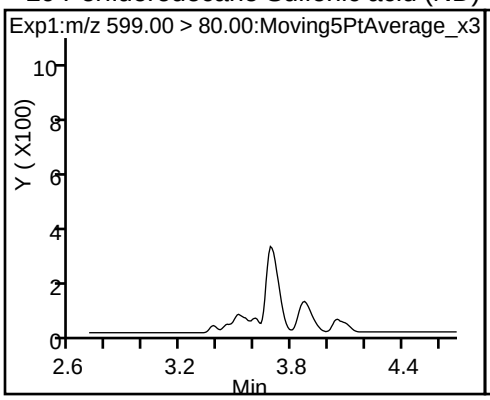
D 27 d3-NMeFOSAA



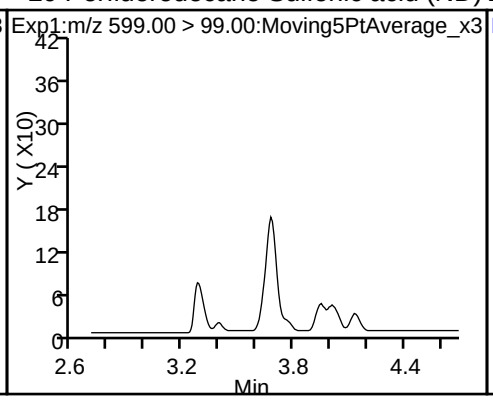
28 N-methyl perfluorooctane sulfonami (ND)



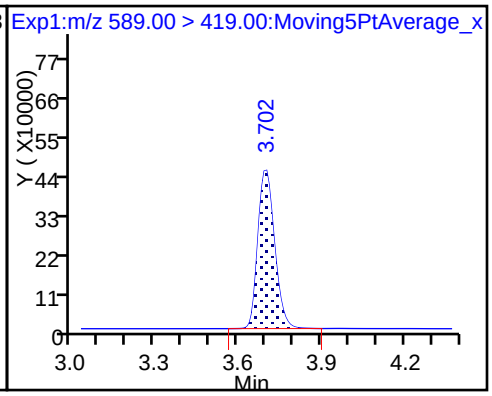
29 Perfluorodecane Sulfonic acid (ND)



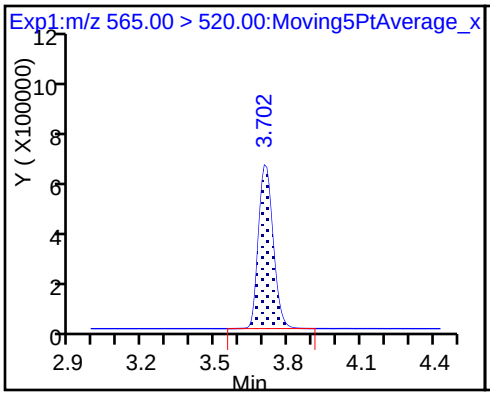
29 Perfluorodecane Sulfonic acid (ND)



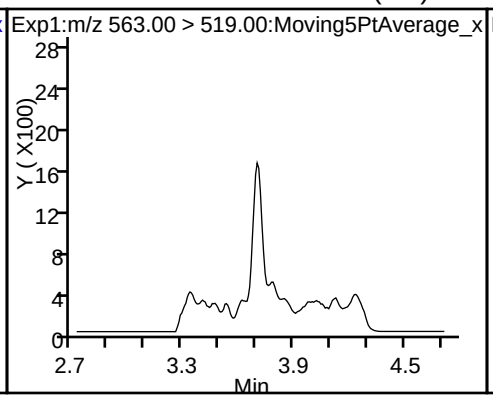
D 32 d5-NEtFOSAA



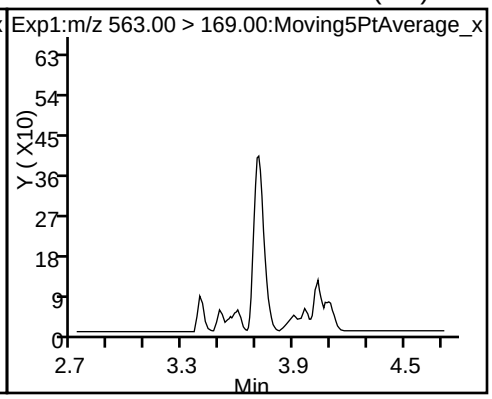
D 30 13C2 PFUnA



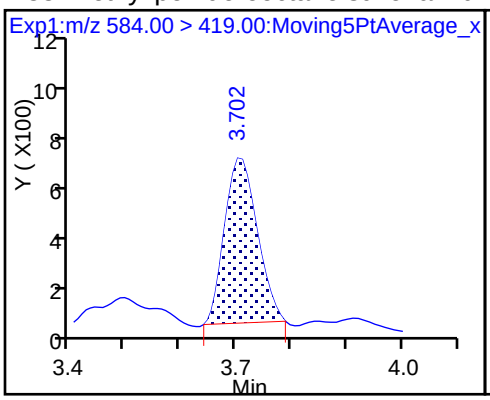
31 Perfluoroundecanoic acid (ND)



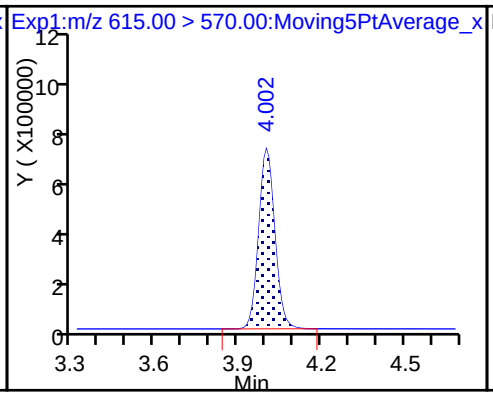
31 Perfluoroundecanoic acid (ND)



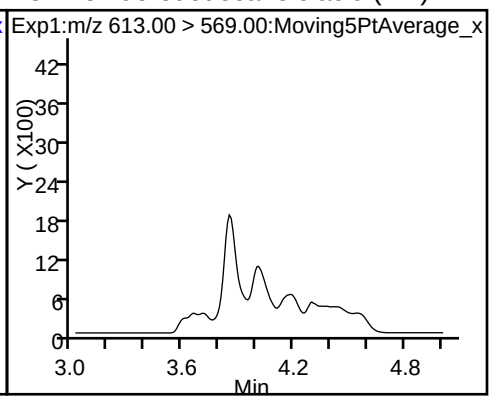
33 N-ethyl perfluorooctane sulfonamid



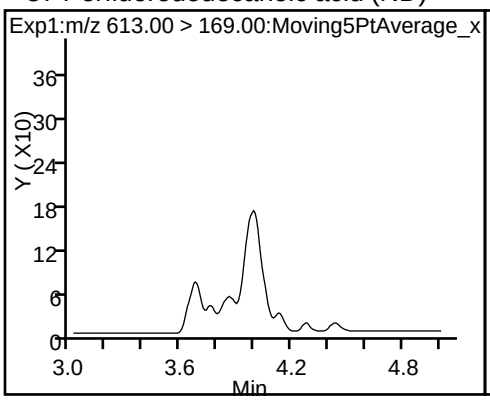
D 36 13C2 PFDoA



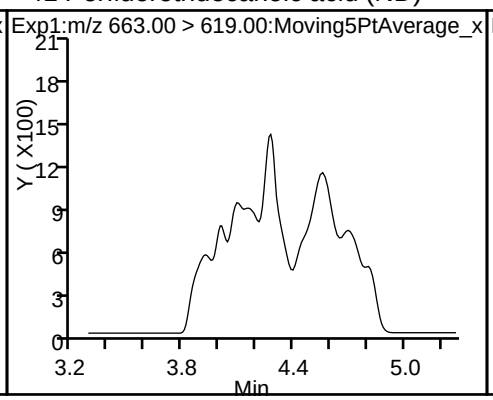
37 Perfluorododecanoic acid (ND)



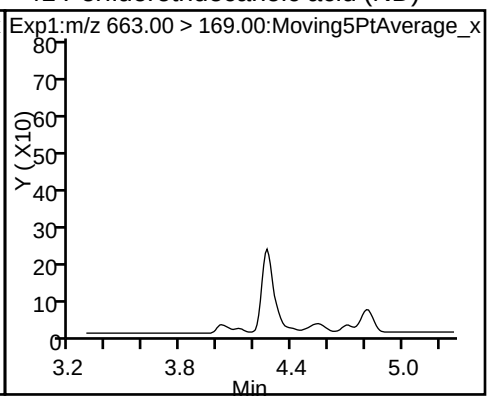
37 Perfluorododecanoic acid (ND)



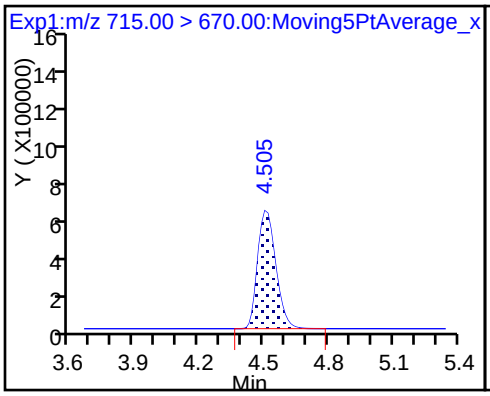
41 Perfluorotridecanoic acid (ND)



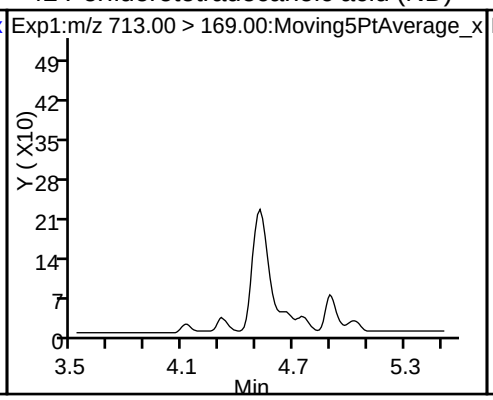
41 Perfluorotridecanoic acid (ND)



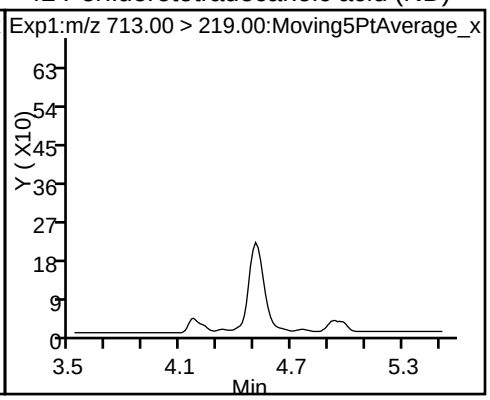
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

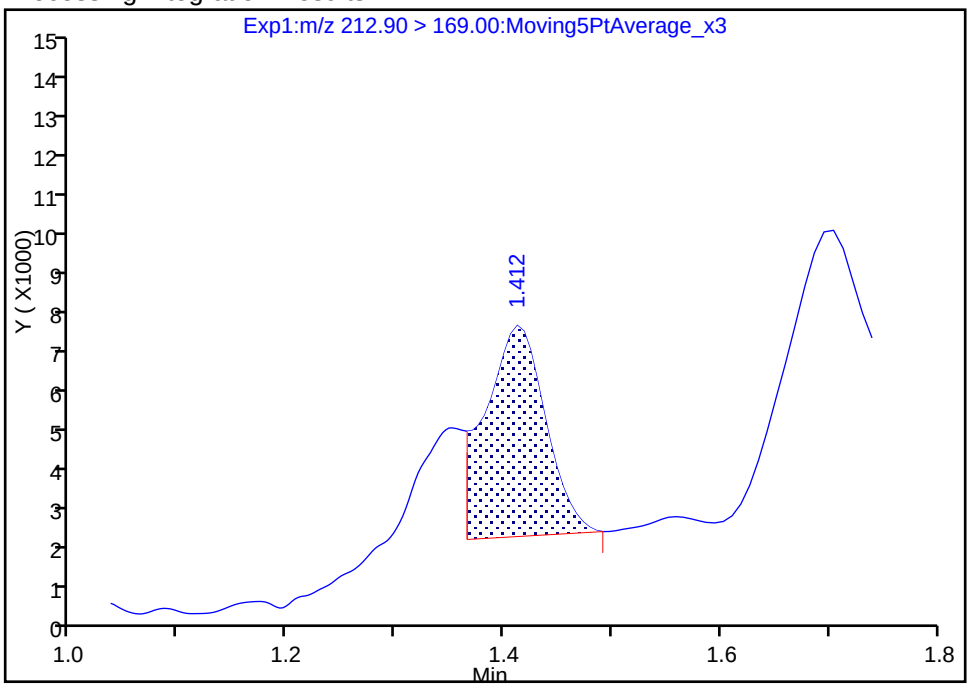
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_046.d				
Injection Date:	20-Dec-2017 10:26:47	Instrument ID:	A8_N		
Lims ID:	320-34182-A-17-A	Lab Sample ID:	320-34182-17		
Client ID:	FB001				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	35	Worklist Smp#:	24
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

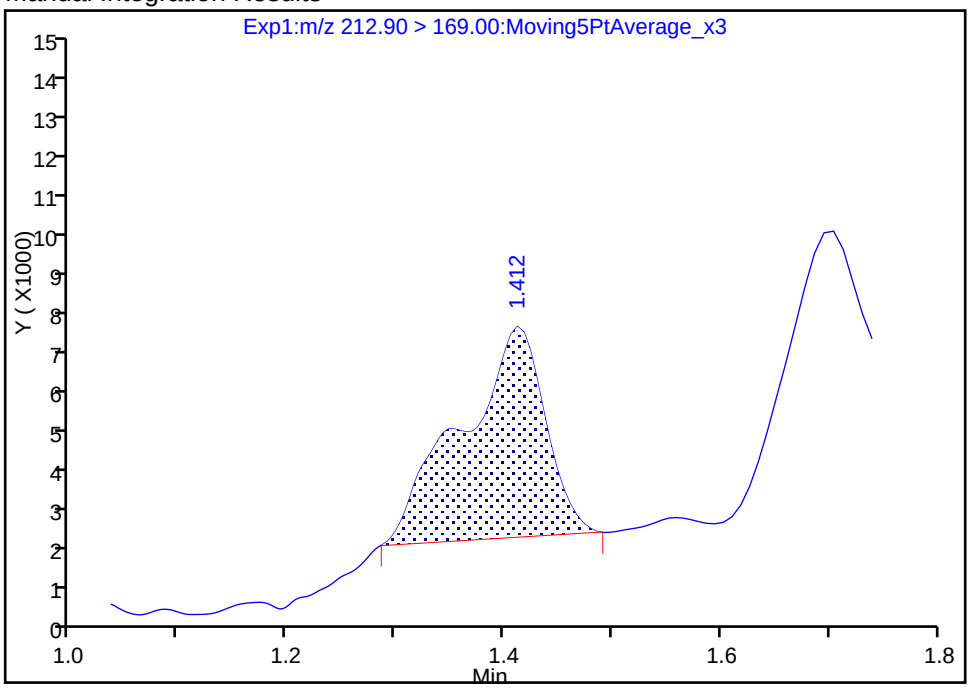
Processing Integration Results

RT: 1.41
Area: 18771
Amount: 0.005890
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 26334
Amount: 0.008263
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:15:54

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

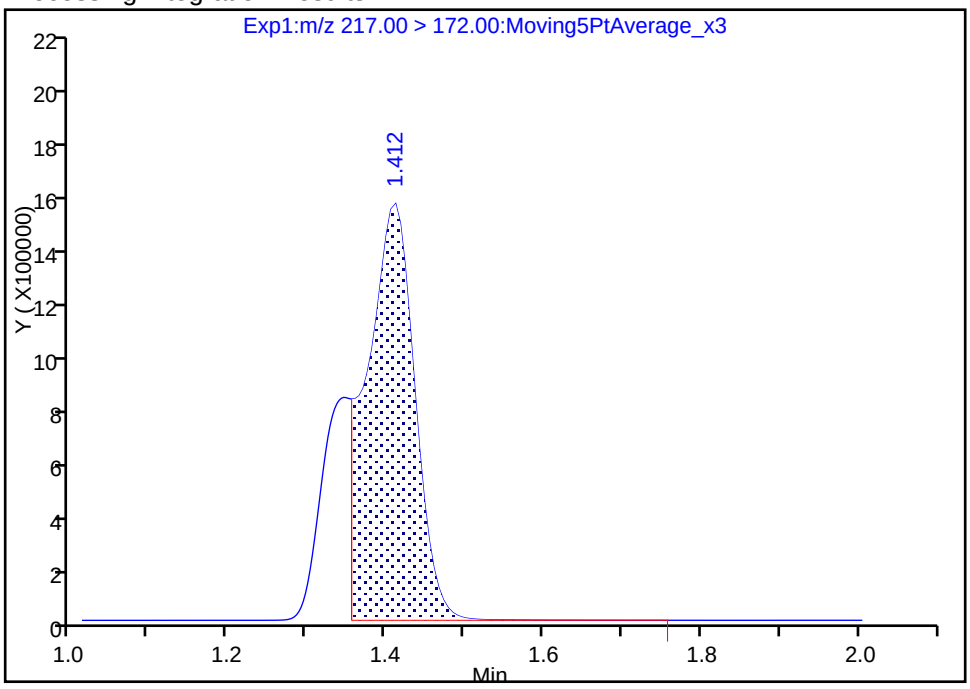
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_046.d				
Injection Date:	20-Dec-2017 10:26:47	Instrument ID:	A8_N		
Lims ID:	320-34182-A-17-A	Lab Sample ID:	320-34182-17		
Client ID:	FB001				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	35	Worklist Smp#:	24
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

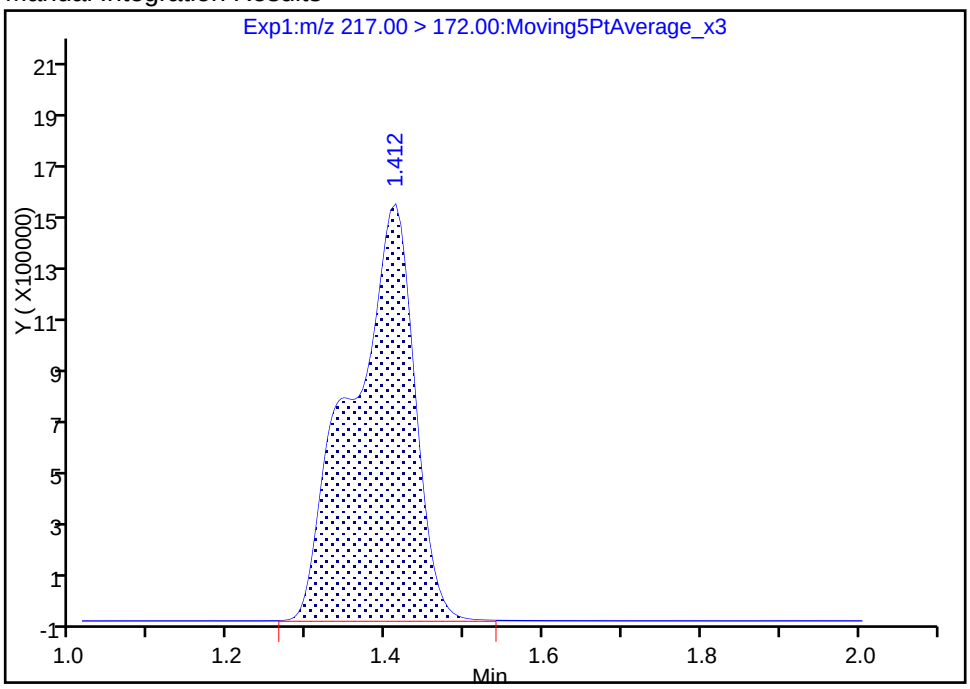
Processing Integration Results

RT: 1.41
Area: 6564841
Amount: 2.111195
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 8733343
Amount: 2.808566
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:15:43

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: EB001 | Lab Sample ID: 320-34182-18

Matrix: Water | Lab File ID: 2017.12.19LLC_047.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.1(mL) | Date Analyzed: 12/20/2017 10:34

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.51	J B	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: EB001 | Lab Sample ID: 320-34182-18

Matrix: Water | Lab File ID: 2017.12.19LLC_047.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.1(mL) | Date Analyzed: 12/20/2017 10:34

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	114		25-150
STL01893	13C5 PFPeA	115		25-150
STL00993	13C2 PFHxA	115		25-150
STL01892	13C4-PFHpA	120		25-150
STL00990	13C4 PFOA	108		25-150
STL00995	13C5 PFNA	119		25-150
STL00996	13C2 PFDA	128		25-150
STL00997	13C2 PFUnA	110		25-150
STL00998	13C2 PFDoA	108		25-150
STL02116	13C2-PFTeDA	125		25-150
STL02337	13C3-PFBS	114		25-150
STL00994	18O2 PFHxS	111		25-150
STL00991	13C4 PFOS	118		25-150
STL01056	13C8 FOSA	105		25-150
STL02118	d3-NMeFOSAA	136		25-150
STL02117	d5-NEtFOSAA	128		25-150
STL02279	M2-6:2FTS	67		25-150
STL02280	M2-8:2FTS	184	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_047.d
Lims ID: 320-34182-A-18-A
Client ID: EB001
Sample Type: Client
Inject. Date: 20-Dec-2017 10:34:39 ALS Bottle#: 36 Worklist Smp#: 25
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-18-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:26:25 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:18:09

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.411	1.411	0.0	0.533	8628457	2.85		114	19000	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.418	1.412	0.006	1.004	22145	0.007033			4.8	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.667	1.664	0.003	0.630	5135797	2.88		115	56923	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.650	1.664	-0.014	0.990	11195	0.004930			6.2	
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.643	99785	2.65		114	2669	
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.736	5428277	2.87		115	52386	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.864	5302993	3.00		120	40681	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.869	5757608	2.63		111	56848	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.299	0.0	1.000	19044	0.007197			61.5	
399.00 > 99.00	2.299	2.299	0.0	1.000	6423		2.96(1.50-4.49)		24.3	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.618	2.640	-0.022	1.000	12878	0.0165			545	
D 12 M2-6:2FTS										
429.00 > 81.00	2.618	2.640	-0.022	0.989	1159626	1.58		66.6	20583	
* 62 13C2-PFOA										
415.00 > 370.00	2.647	2.643	0.004		5127488	2.50			61439	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.647	0.0	1.000	5736394	2.70		108	60595	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.647	2.649	-0.002	1.000	14305	0.005908			5.2	
413.00 > 169.00	2.647	2.649	-0.002	1.000	5659		2.53(0.84-2.52)		48.5	
D 18 13C4 PFOS										
503.00 > 80.00	3.020	3.025	-0.005	1.141	3981757	2.83		118	28940	
D 19 13C5 PFNA										
468.00 > 423.00	3.020	3.026	-0.006	1.141	4236004	2.97		119	57696	
D 21 13C8 FOSA										
506.00 > 78.00	3.366	3.362	0.004	1.271	5229636	2.63		105	24251	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.000	25287	0.0128			931	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.274	1378790	4.41		184	11877	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.387	0.001	1.280	3636302	3.19		128	31471	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.541	-0.001	1.337	1783420	3.39		136	28677	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.548	3.547	0.001	1.002	3067	0.004171			25.8	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.711	-0.003	1.401	1736734	3.21		128	15259	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.401	2419114	2.75		110	31932	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.708	3.718	-0.010	1.000	5213	0.005955			25.3	
563.00 > 169.00	3.708	3.718	-0.010	1.000	1615		3.23(0.00-0.00)		87.2	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.716	3.718	-0.002	1.002	4759	0.007030			80.3	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.015	-0.008	1.514	2528660	2.71		108	20429	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.014	4.016	-0.002	1.002	5351	0.005510			17.7	
613.00 > 169.00	4.007	4.016	-0.009	1.000	1920		2.79(2.13-6.40)		104	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.272	4.285	-0.013	1.000	5775	0.004981			14.5	
663.00 > 169.00	4.280	4.285	-0.005	1.002	2038		2.83(1.25-3.76)		104	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.706	3214050	3.13		125	22391	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:26:36 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_047.d

Injection Date: 20-Dec-2017 10:34:39 Instrument ID: A8_N

Lims ID: 320-34182-A-18-A Lab Sample ID: 320-34182-18

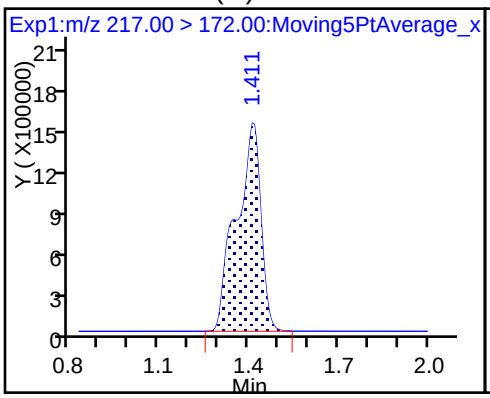
Client ID: EB001

Operator ID: SACINSTLCMS01 ALS Bottle#: 36 Worklist Smp#: 25

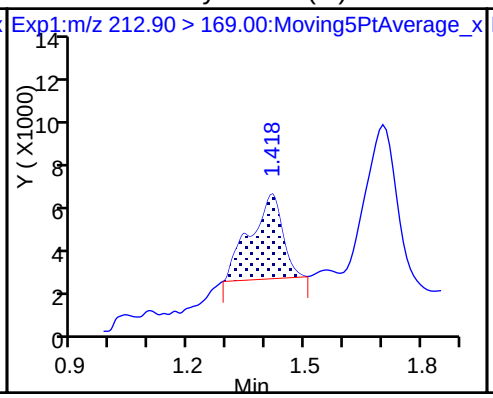
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

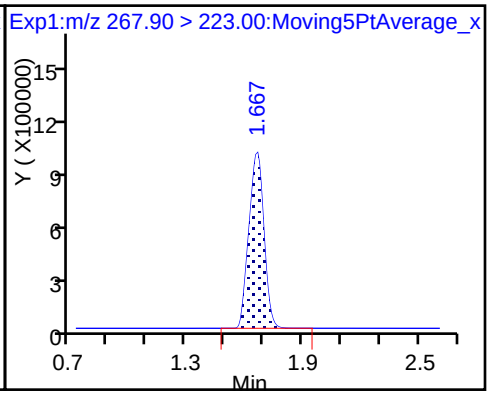
D 1 13C4 PFBA (M)



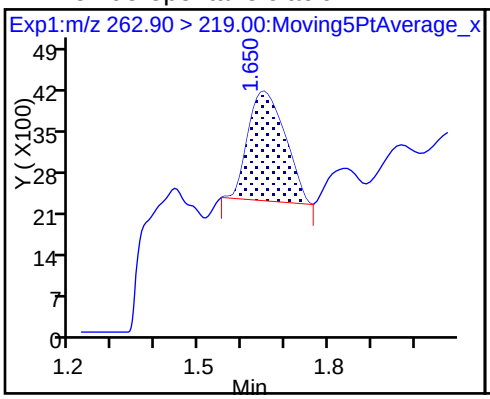
2 Perfluorobutyric acid (M)



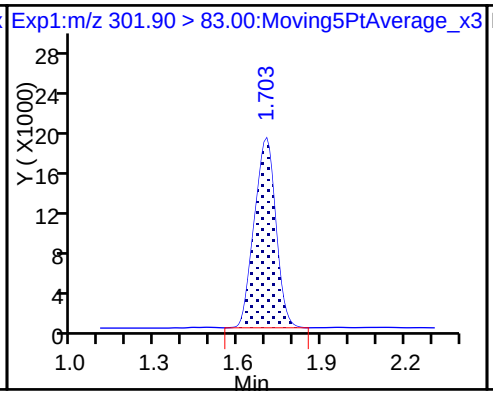
D 3 13C5-PFPeA



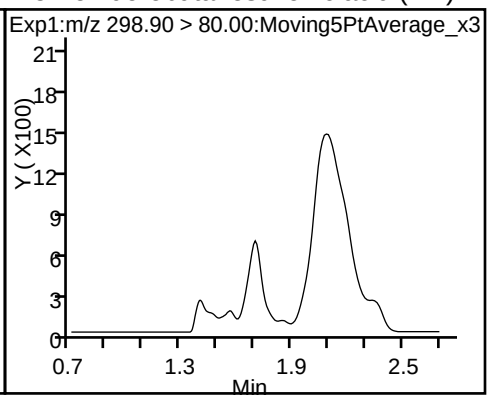
4 Perfluoropentanoic acid



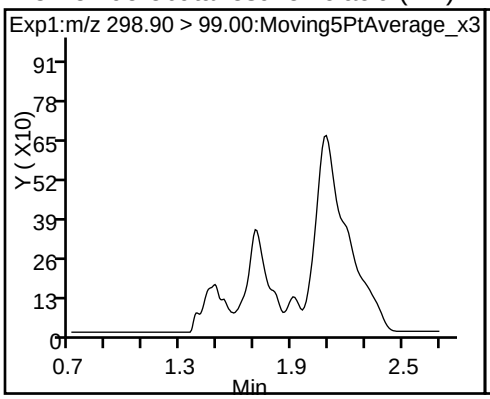
D 47 13C3-PFBS



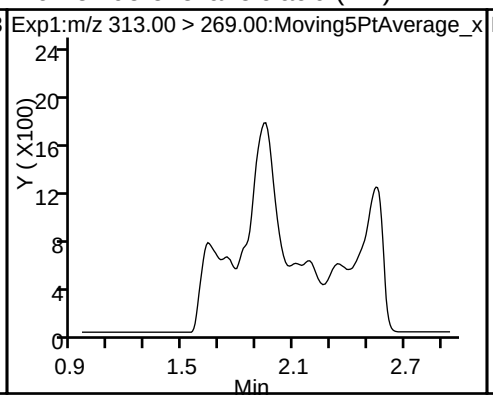
5 Perfluorobutanesulfonic acid (ND)



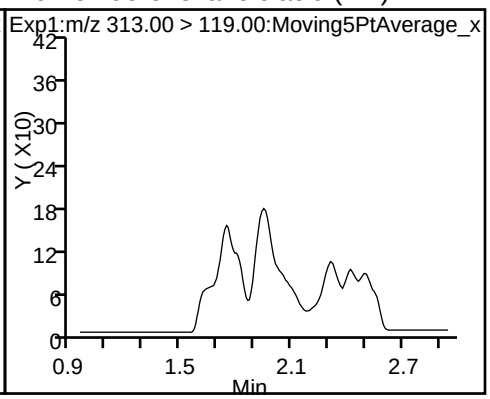
5 Perfluorobutanesulfonic acid (ND)



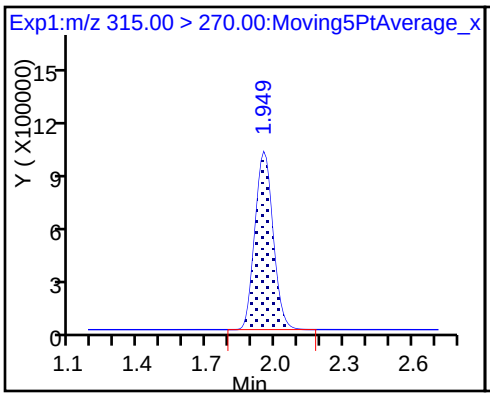
6 Perfluorohexanoic acid (ND)



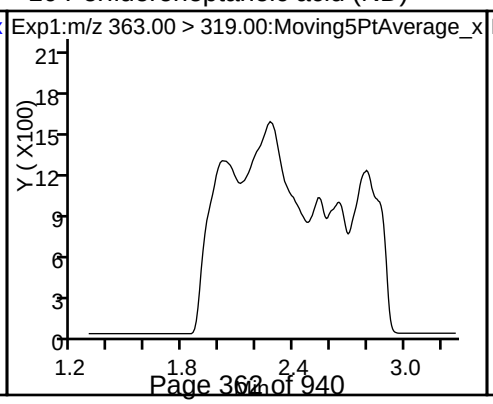
6 Perfluorohexanoic acid (ND)



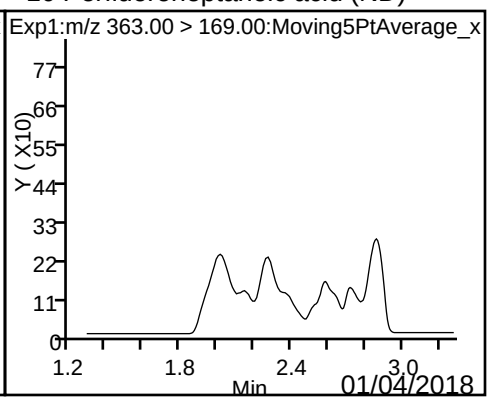
D 7 13C2 PFHxA



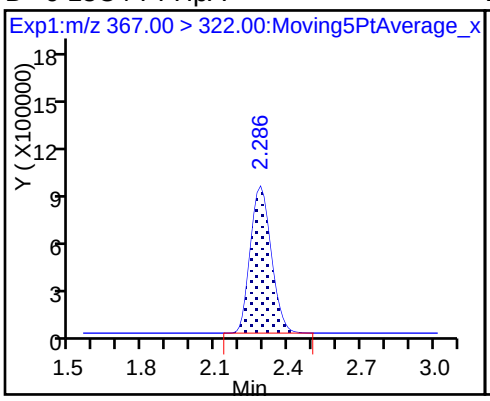
10 Perfluoroheptanoic acid (ND)



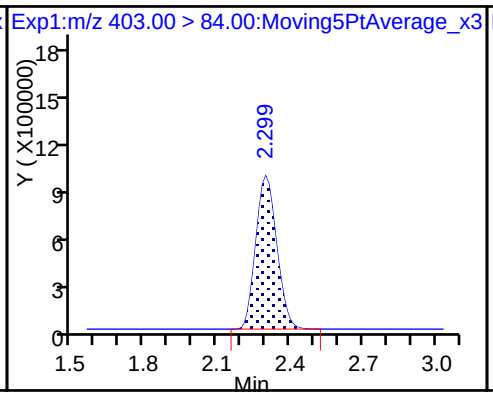
10 Perfluoroheptanoic acid (ND)



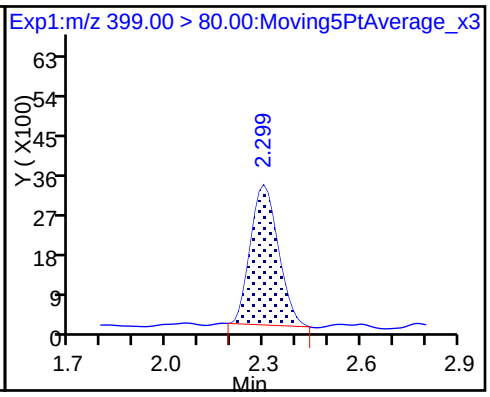
D 9 13C4-PFHpA



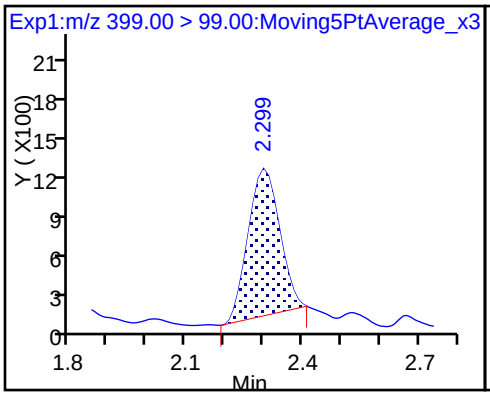
D 11 18O2 PFHxS



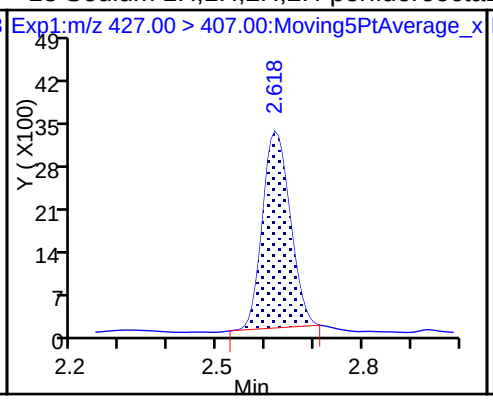
8 Perfluorohexanesulfonic acid



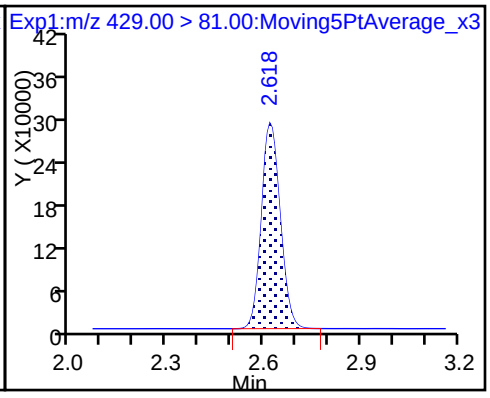
8 Perfluorohexanesulfonic acid



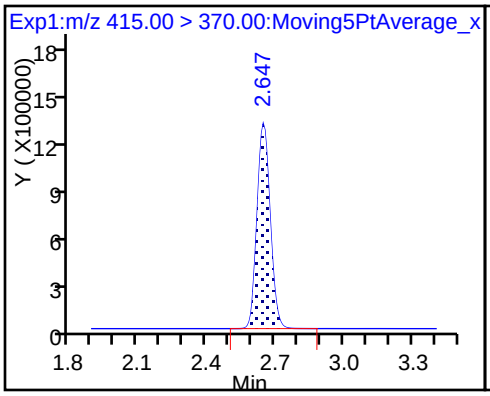
13 Sodium 1H,1H,2H,2H-perfluorooctane



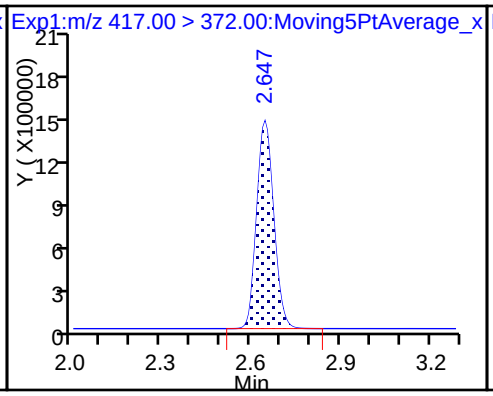
D 12 M2-6:2FTS



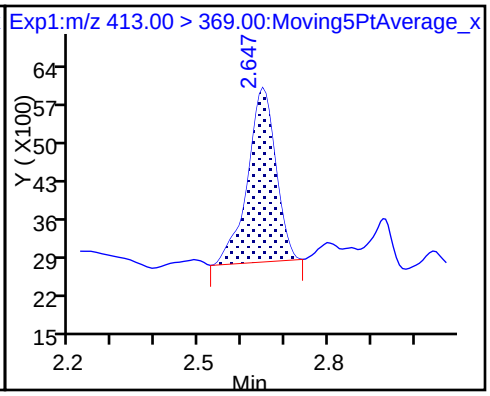
* 62 13C2-PFOA



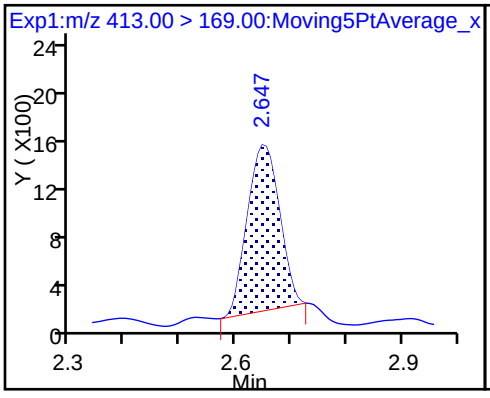
D 14 13C4 PFOA



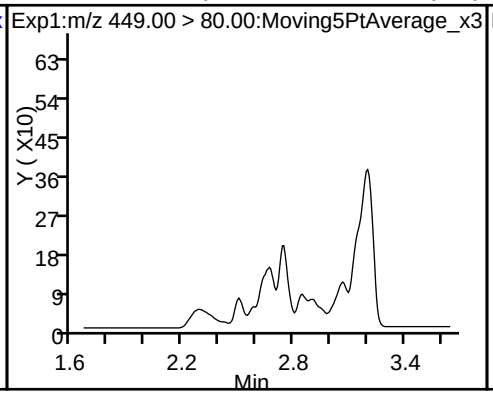
15 Perfluorooctanoic acid



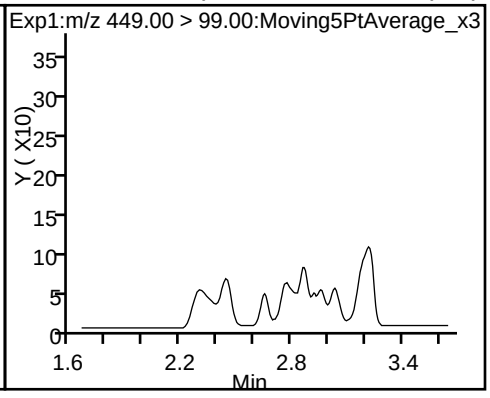
15 Perfluorooctanoic acid



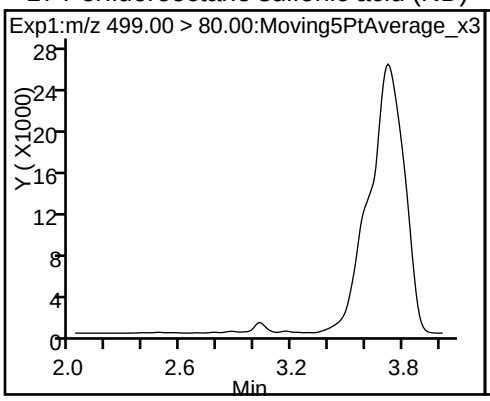
16 Perfluoroheptanesulfonic Acid (ND)



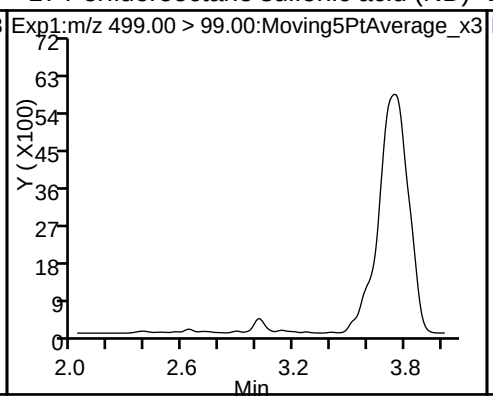
16 Perfluoroheptanesulfonic Acid (ND)



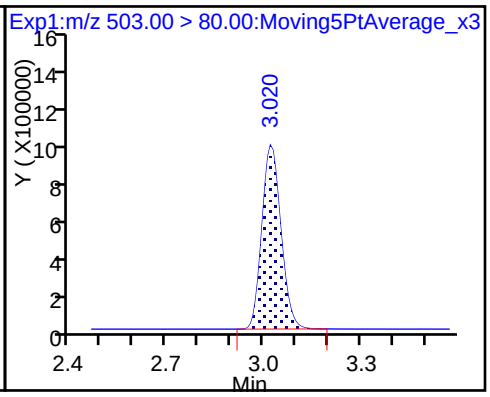
17 Perfluorooctane sulfonic acid (ND)



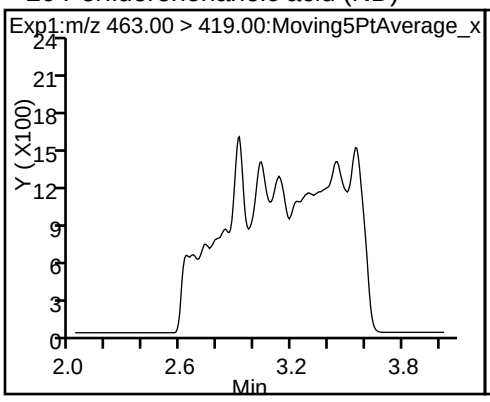
17 Perfluorooctane sulfonic acid (ND)



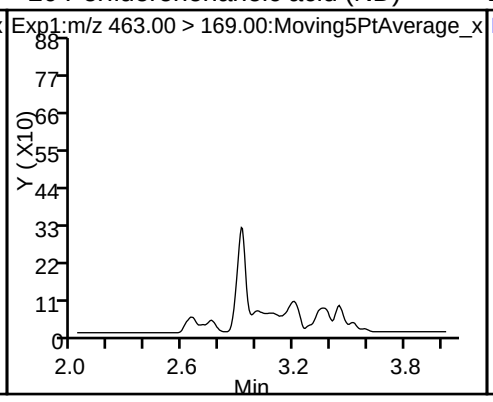
D 18 13C4 PFOS



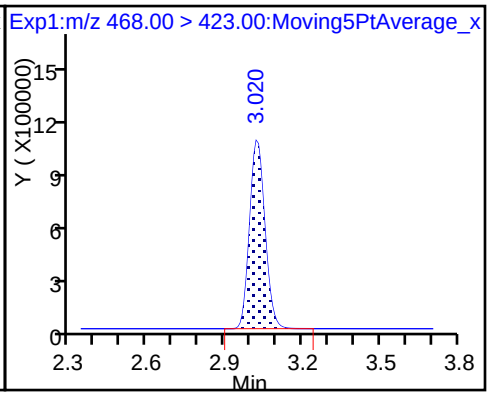
20 Perfluorononanoic acid (ND)



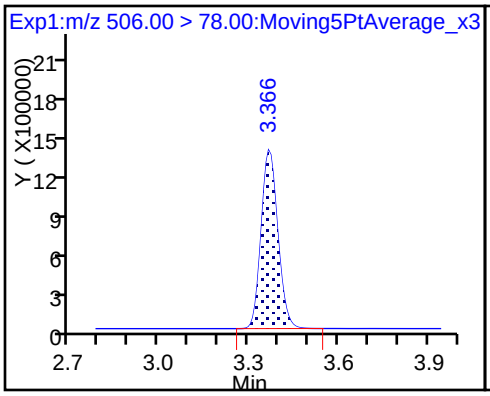
20 Perfluorononanoic acid (ND)



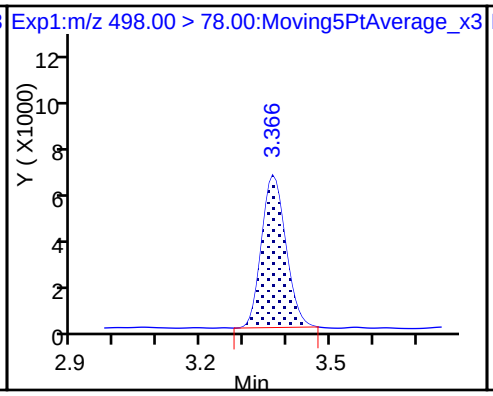
D 19 13C5 PFNA



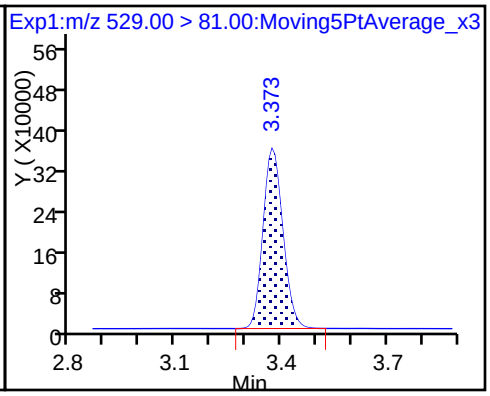
D 21 13C8 FOSA



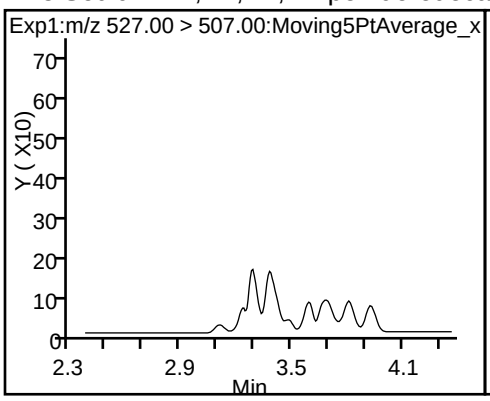
22 Perfluorooctane Sulfonamide



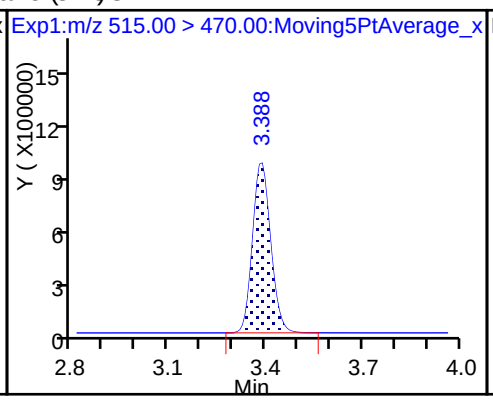
D 26 M2-8:2FTS



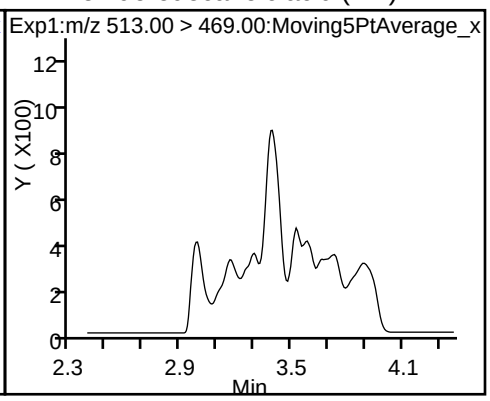
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



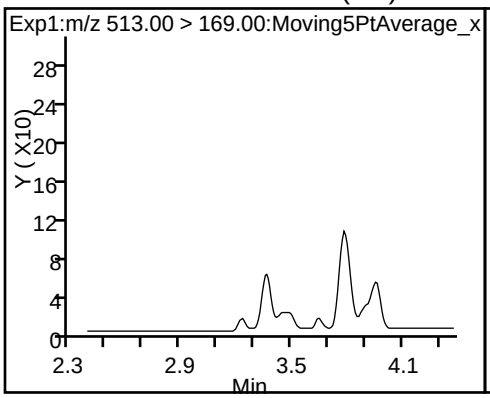
D 13C2 PFDA



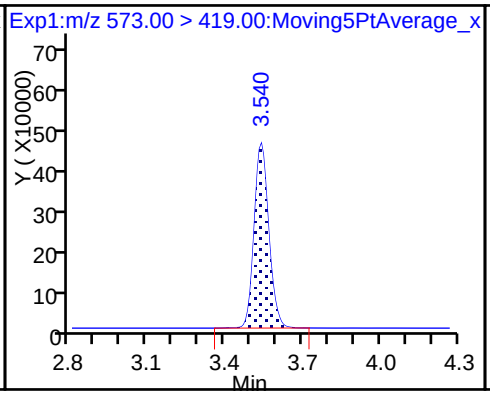
24 Perfluorodecanoic acid (ND)



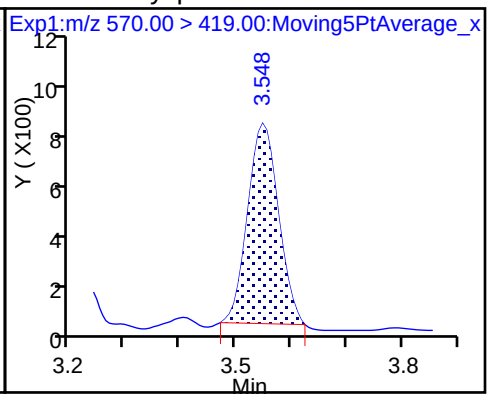
24 Perfluorodecanoic acid (ND)



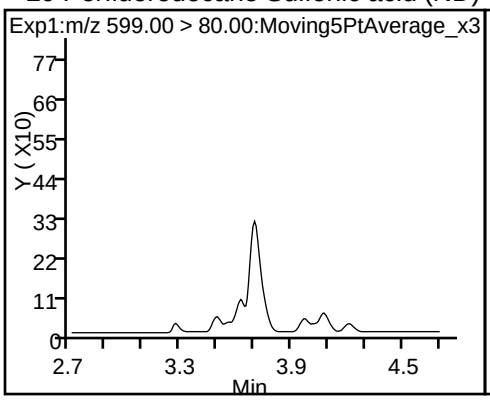
D 27 d3-NMeFOSAA



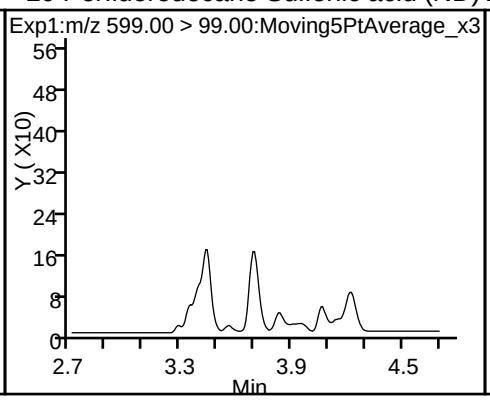
28 N-methyl perfluorooctane sulfonami



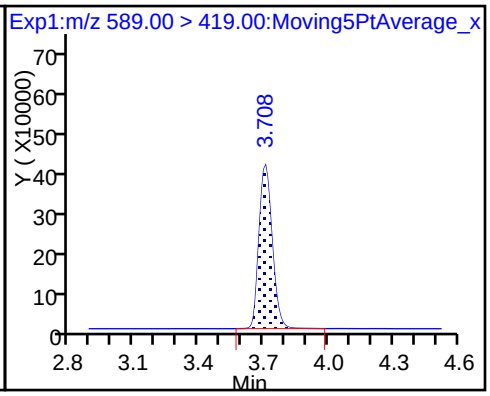
29 Perfluorodecane Sulfonic acid (ND)



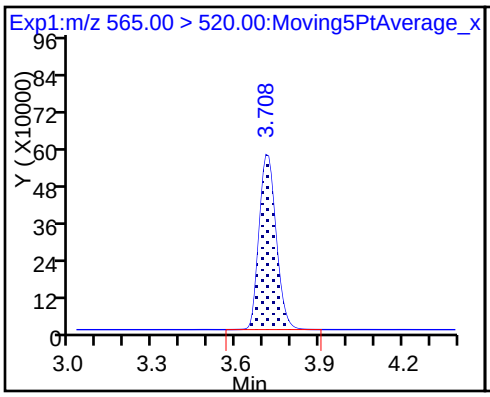
29 Perfluorodecane Sulfonic acid (ND)



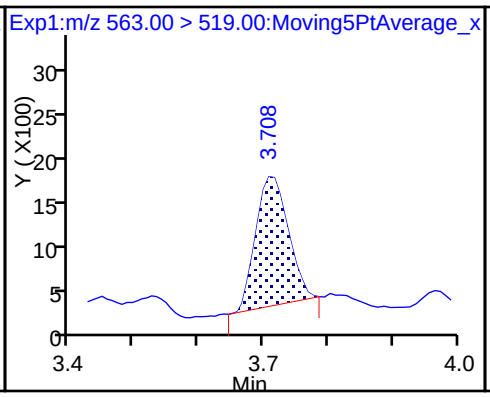
D 32 d5-NEtFOSAA



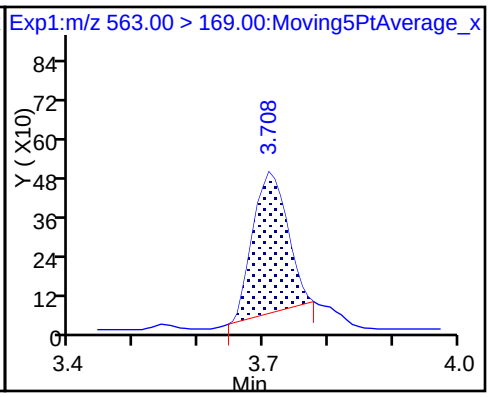
D 30 13C2 PFUnA



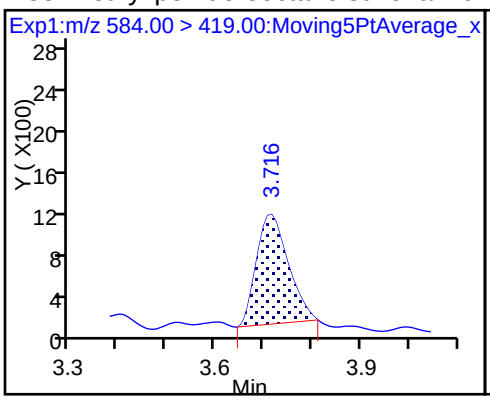
31 Perfluoroundecanoic acid



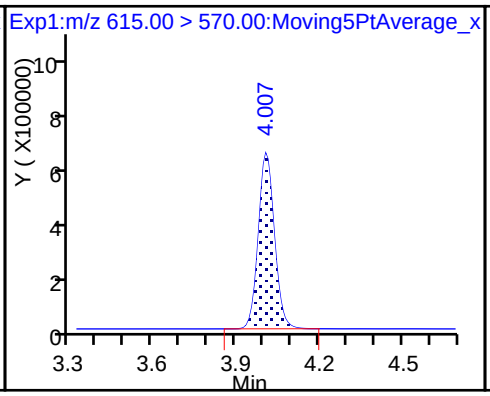
31 Perfluoroundecanoic acid



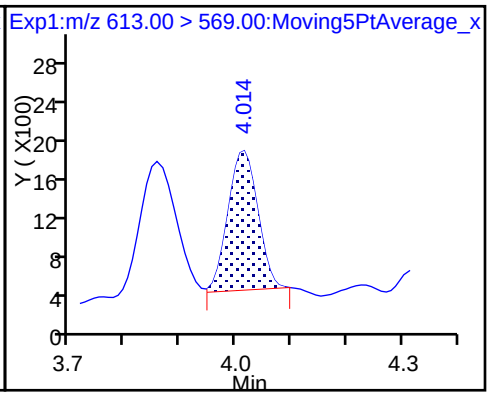
33 N-ethyl perfluorooctane sulfonamid



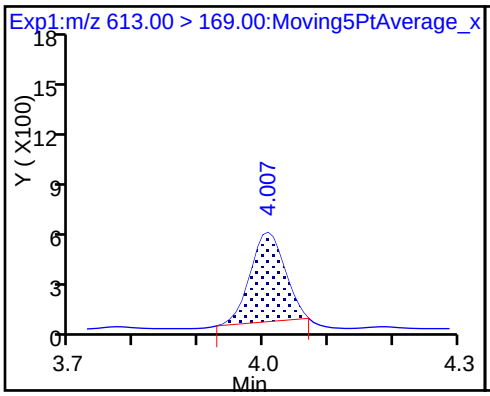
D 36 13C2 PFDoA



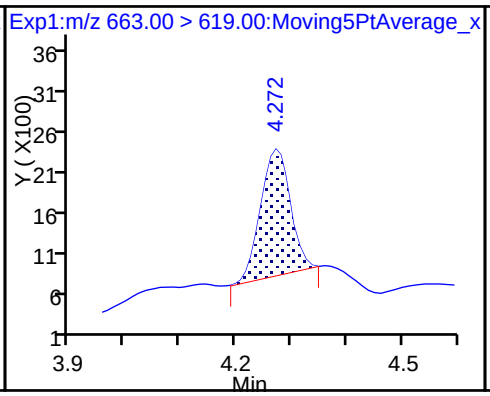
37 Perfluorododecanoic acid



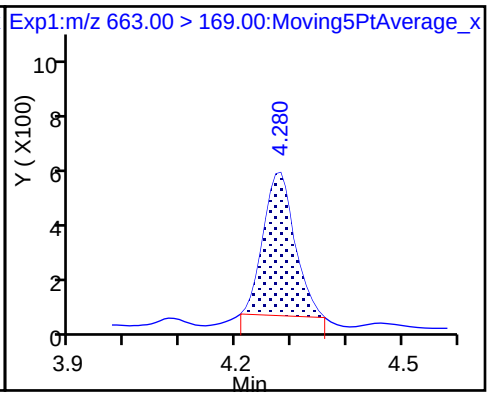
37 Perfluorododecanoic acid



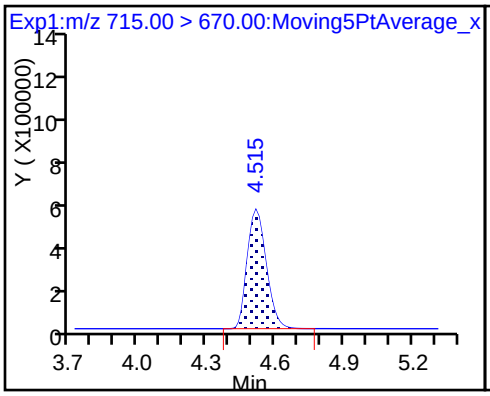
41 Perfluorotridecanoic acid



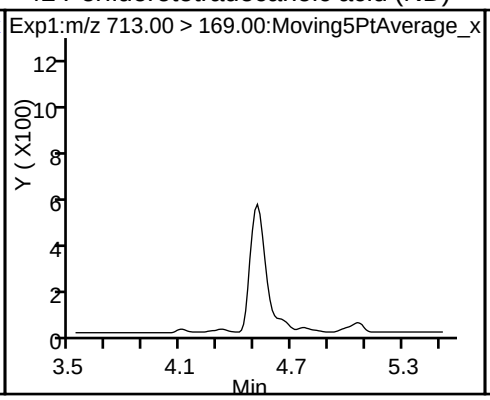
41 Perfluorotridecanoic acid



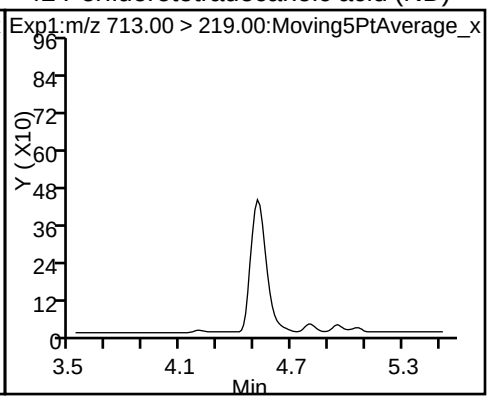
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

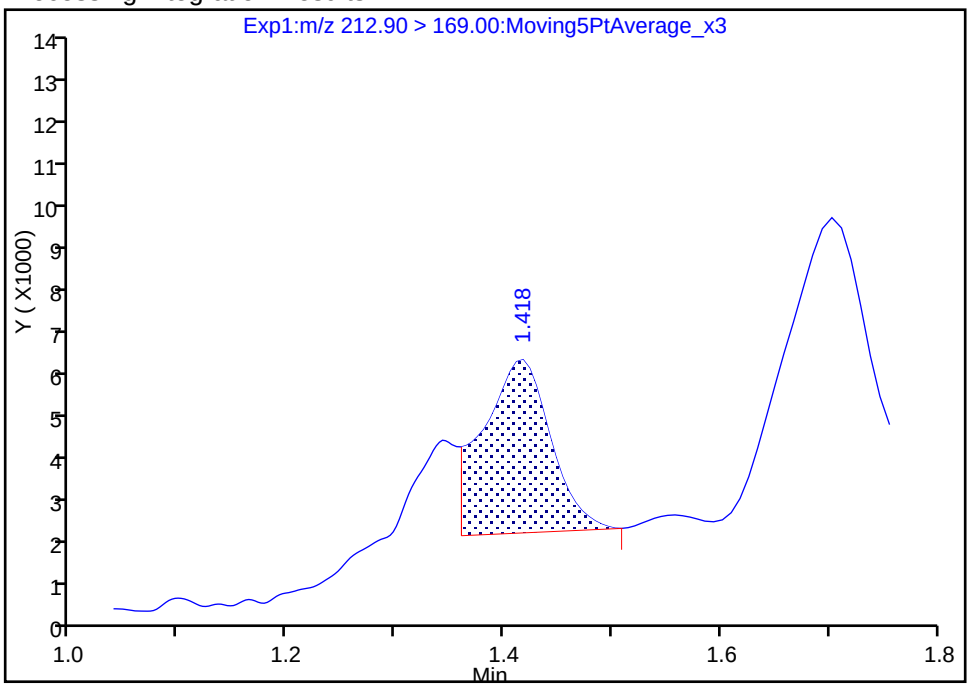
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Injection Date:	20-Dec-2017 10:34:39	Instrument ID:	A8_N		
Lims ID:	320-34182-A-18-A	Lab Sample ID:	320-34182-18		
Client ID:	EB001				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	36	Worklist Smp#:	25
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

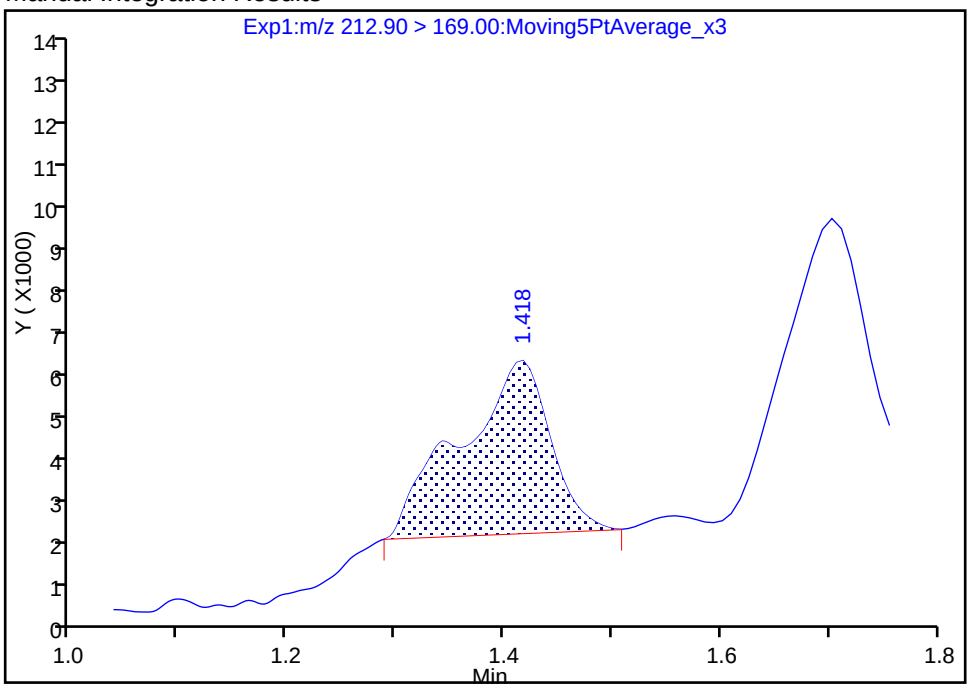
Processing Integration Results

RT: 1.42
Area: 16532
Amount: 0.005250
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 22145
Amount: 0.007033
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:17:19

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

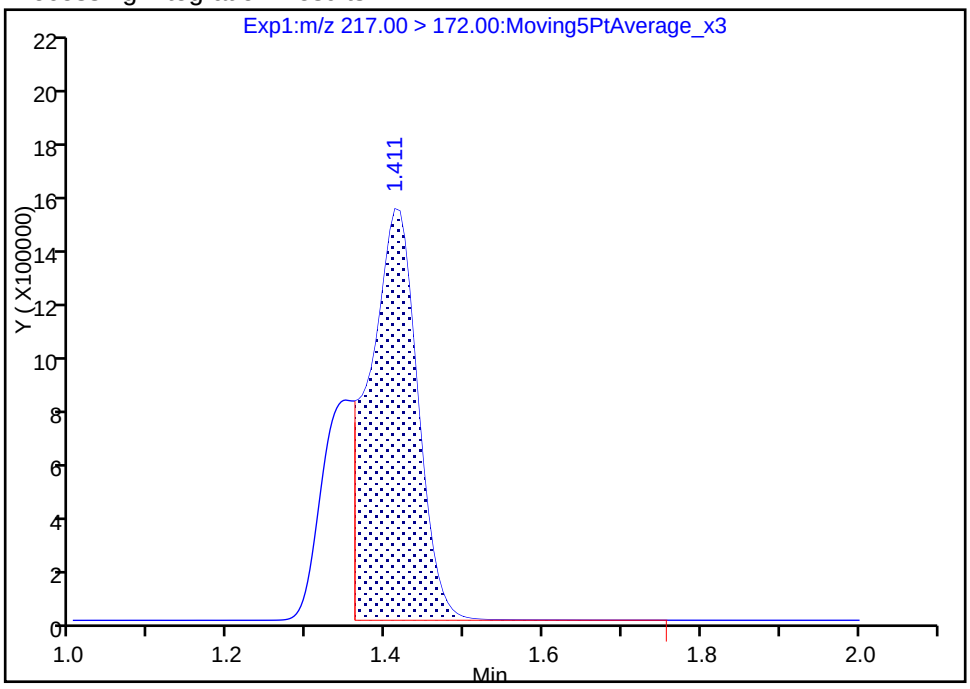
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Injection Date:	20-Dec-2017 10:34:39	Instrument ID:	A8_N		
Lims ID:	320-34182-A-18-A	Lab Sample ID:	320-34182-18		
Client ID:	EB001				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	36	Worklist Smp#:	25
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

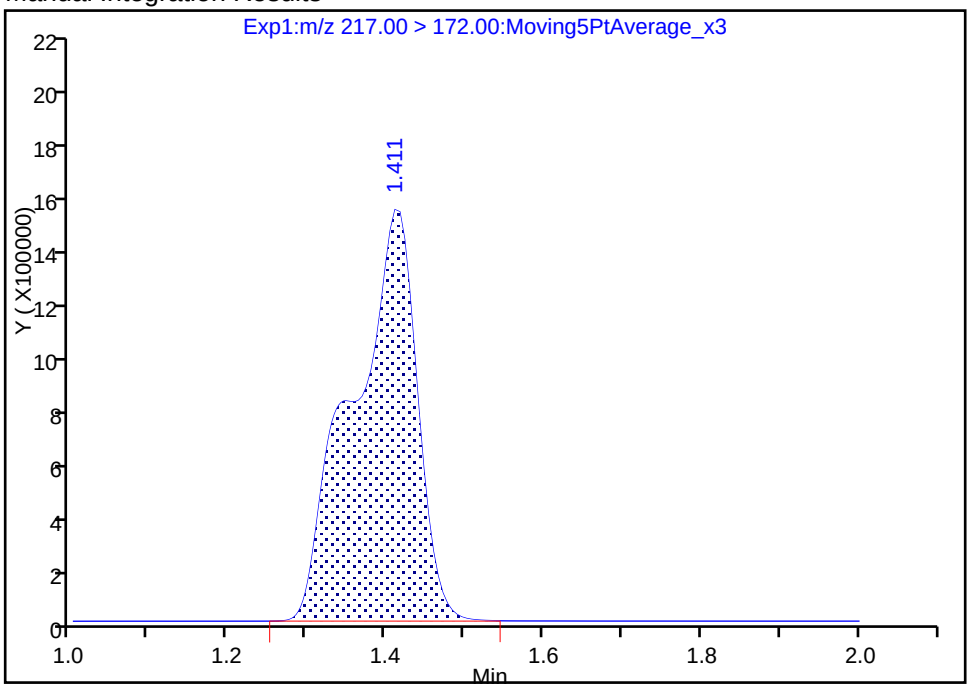
Processing Integration Results

RT: 1.41
Area: 6336342
Amount: 2.095404
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 8628457
Amount: 2.853397
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:17:09

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FB002 | Lab Sample ID: 320-34182-19

Matrix: Water | Lab File ID: 2017.12.19LLC_048.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 13:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.2(mL) | Date Analyzed: 12/20/2017 10:42

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.24	J B	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FB002 | Lab Sample ID: 320-34182-19

Matrix: Water | Lab File ID: 2017.12.19LLC_048.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 13:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.2(mL) | Date Analyzed: 12/20/2017 10:42

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	108		25-150
STL01893	13C5 PFPeA	109		25-150
STL00993	13C2 PFHxA	110		25-150
STL01892	13C4-PFHpA	111		25-150
STL00990	13C4 PFOA	103		25-150
STL00995	13C5 PFNA	112		25-150
STL00996	13C2 PFDA	119		25-150
STL00997	13C2 PFUnA	107		25-150
STL00998	13C2 PFDoA	106		25-150
STL02116	13C2-PFTeDA	115		25-150
STL02337	13C3-PFBS	104		25-150
STL00994	18O2 PFHxS	110		25-150
STL00991	13C4 PFOS	112		25-150
STL01056	13C8 FOSA	99		25-150
STL02118	d3-NMeFOSAA	133		25-150
STL02117	d5-NEtFOSAA	127		25-150
STL02279	M2-6:2FTS	68		25-150
STL02280	M2-8:2FTS	170	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_048.d
Lims ID: 320-34182-A-19-A
Client ID: FB002
Sample Type: Client
Inject. Date: 20-Dec-2017 10:42:31 ALS Bottle#: 37 Worklist Smp#: 26
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-19-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:26:25 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:22:06

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.414	1.411	0.003	0.534	8564745	2.70		108	19445	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.420	1.412	0.008	1.004	18413	0.005891			2.8	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.664	0.008	0.632	5112995	2.73		109	52918	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.663	1.664	-0.001	0.995	7813	0.003456			4.2	M
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.642	95651	2.42		104	4416	
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.949	0.006	0.739	5449773	2.75		110	52931	
D 9 13C4-PFHpA										
367.00 > 322.00	2.280	2.286	-0.006	0.862	5126244	2.76		111	38922	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.299	0.007	0.872	5967091	2.60		110	47491	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.299	0.007	1.000	16756	0.006110			54.9	
399.00 > 99.00	2.293	2.299	-0.006	0.994	6603		2.54(1.50-4.49)		37.5	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.640	-0.016	1.000	14372	0.0170			609	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.640	-0.016	0.992	1252679	1.63		68.5	24409	
* 62 13C2-PFOA										
415.00 > 370.00	2.646	2.643	0.003		5384254	2.50			59368	
D 14 13C4 PFOA										
417.00 > 372.00	2.646	2.647	-0.001	1.000	5734352	2.57		103	60213	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.653	2.649	0.004	1.003	11094	0.004583			4.6	
413.00 > 169.00	2.653	2.649	0.004	1.003	5207		2.13(0.84-2.52)		51.2	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.144	3944205	2.67		112	36276	
D 19 13C5 PFNA										
468.00 > 423.00	3.026	3.026	0.0	1.144	4183650	2.80		112	60788	
D 21 13C8 FOSA										
506.00 > 78.00	3.365	3.362	0.003	1.272	5149446	2.47		98.7	30132	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.365	0.0	1.000	10784	0.005538			346	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.275	1336666	4.07		170	17988	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.387	0.001	1.281	3572220	2.98		119	35389	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.541	-0.001	1.338	1831446	3.32		133	26284	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.707	3.711	-0.004	1.401	1800801	3.17		127	8235	
D 30 13C2 PFUnA										
565.00 > 520.00	3.716	3.717	-0.001	1.405	2469105	2.68		107	30912	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.015	-0.009	1.514	2591322	2.64		106	30767	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.706	3087265	2.87		115	31326	

QC Flag Legend

Review Flags

M - Manually Integrated

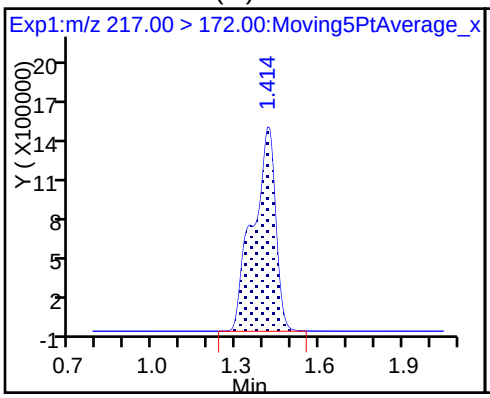
Report Date: 27-Dec-2017 17:26:39 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

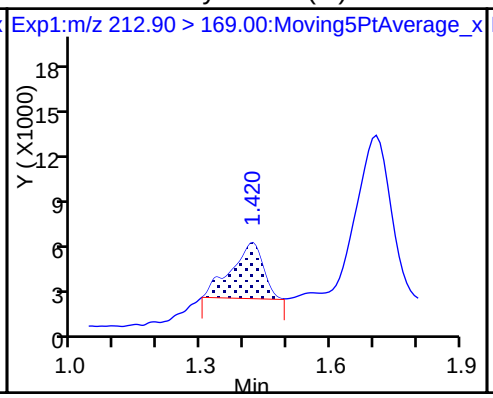
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_048.d

Injection Date:	20-Dec-2017 10:42:31	Instrument ID:	A8_N		
Lims ID:	320-34182-A-19-A	Lab Sample ID:	320-34182-19		
Client ID:	FB002				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	37	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

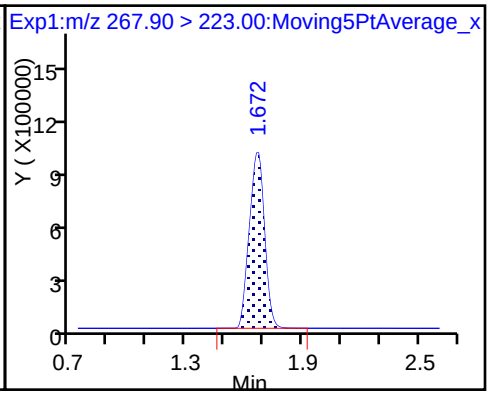
D 1 13C4 PFBA (M)



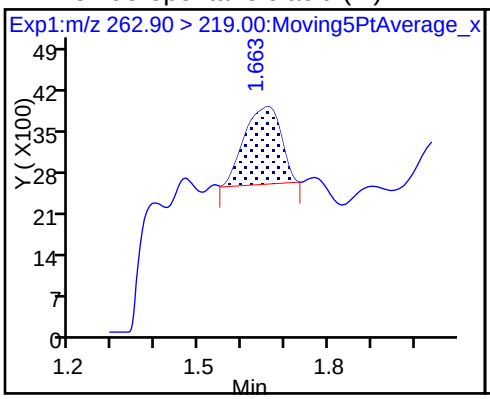
2 Perfluorobutyric acid (M)



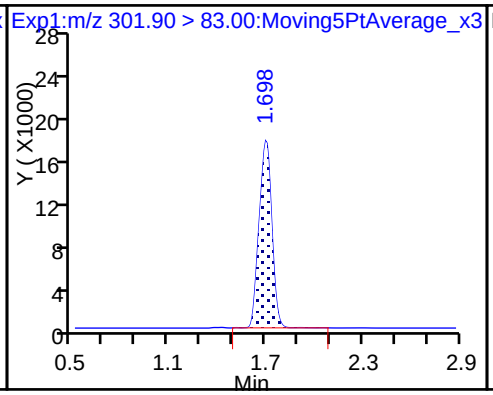
D 3 13C5-PFPeA



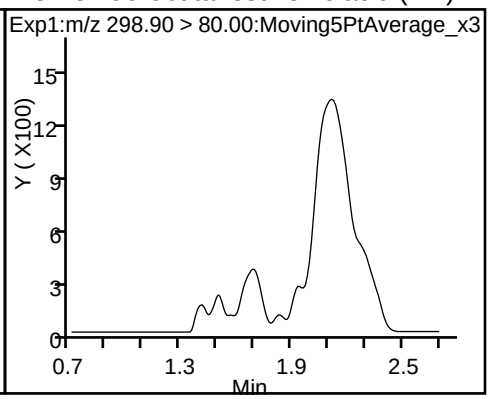
4 Perfluoropentanoic acid (M)



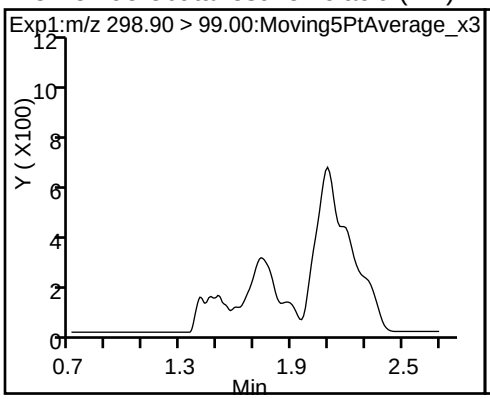
D 47 13C3-PFBS



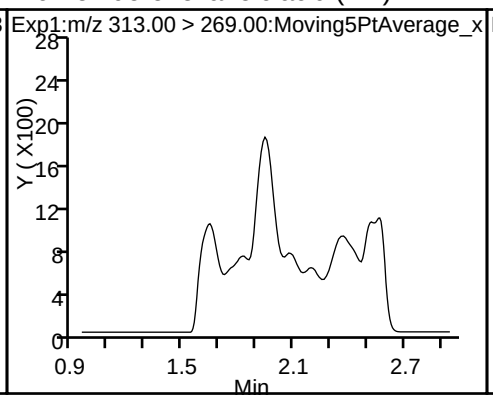
5 Perfluorobutanesulfonic acid (ND)



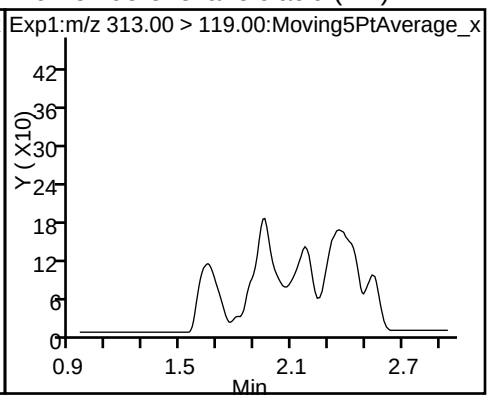
5 Perfluorobutanesulfonic acid (ND)



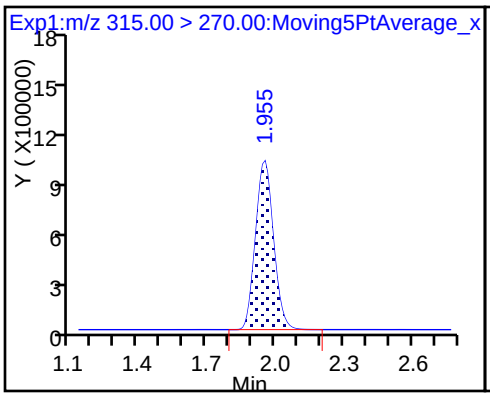
6 Perfluorohexanoic acid (ND)



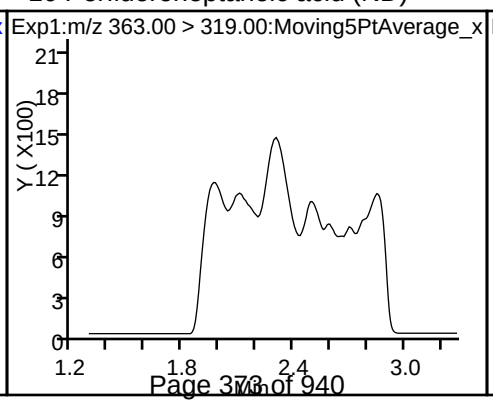
6 Perfluorohexanoic acid (ND)



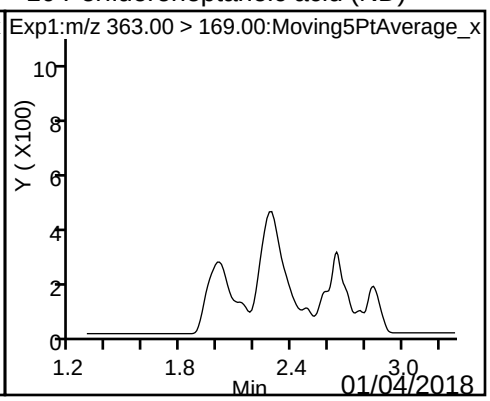
D 7 13C2 PFHxA



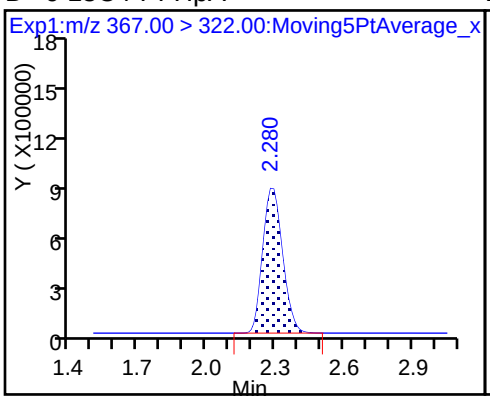
10 Perfluoroheptanoic acid (ND)



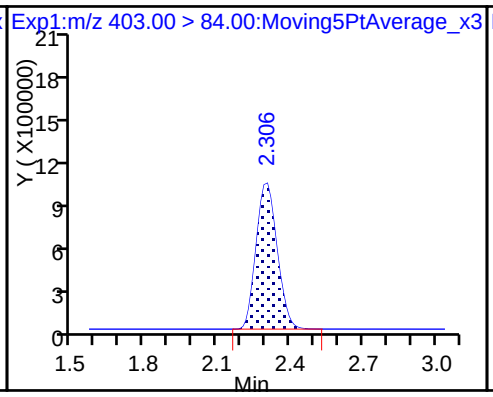
10 Perfluoroheptanoic acid (ND)



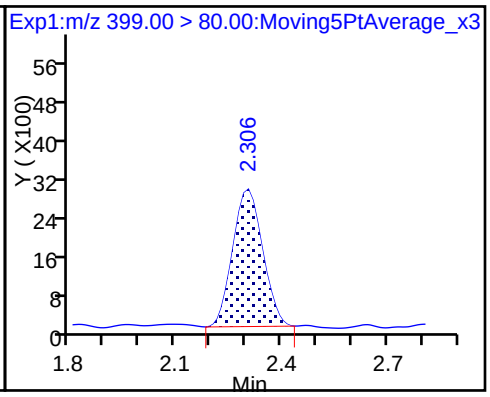
D 9 13C4-PFHpA



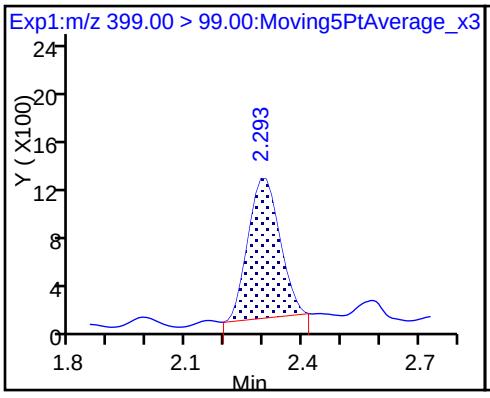
D 11 18O2 PFHxS



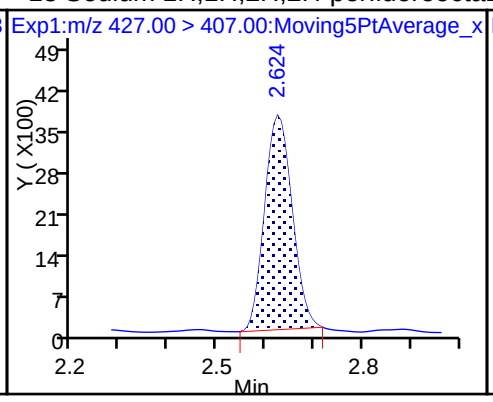
8 Perfluorohexanesulfonic acid



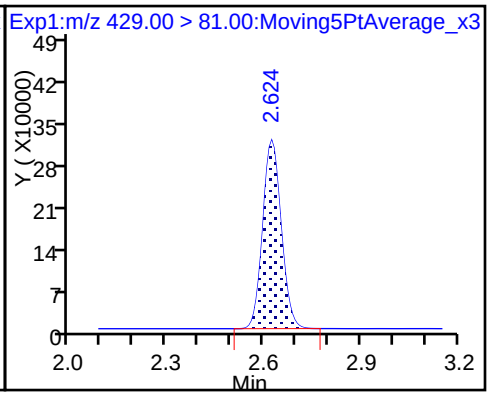
8 Perfluorohexanesulfonic acid



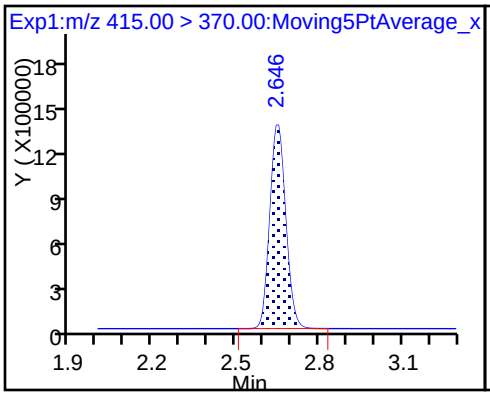
13 Sodium 1H,1H,2H,2H-perfluorooctane



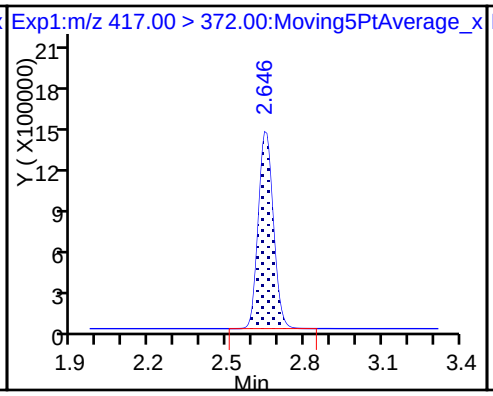
D 12 M2-6:2FTS



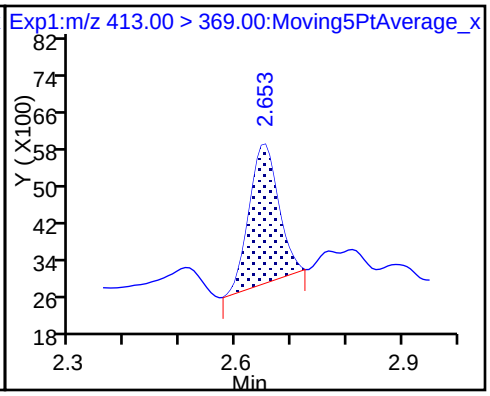
* 62 13C2-PFOA



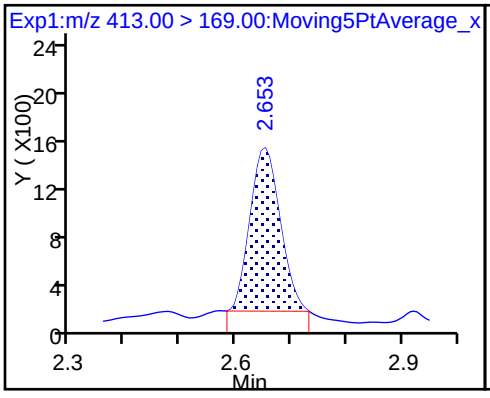
D 14 13C4 PFOA



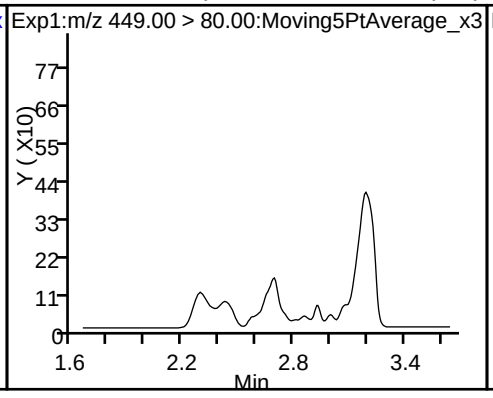
15 Perfluorooctanoic acid



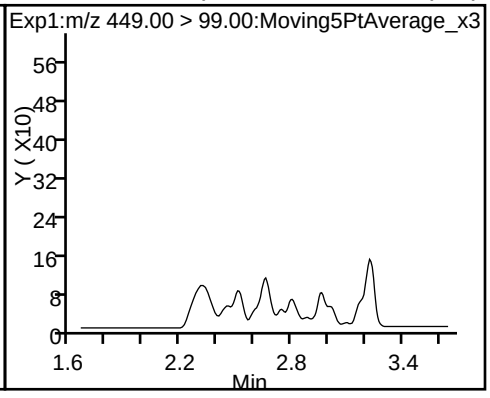
15 Perfluorooctanoic acid



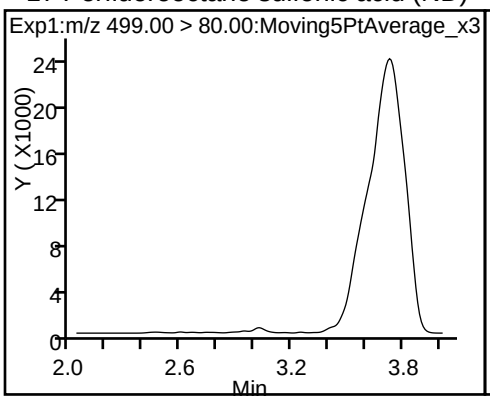
16 Perfluoroheptanesulfonic Acid (ND)



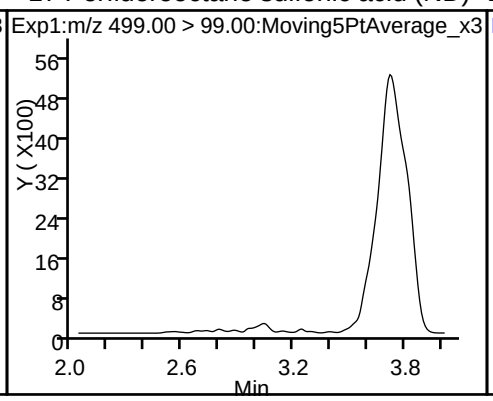
16 Perfluoroheptanesulfonic Acid (ND)



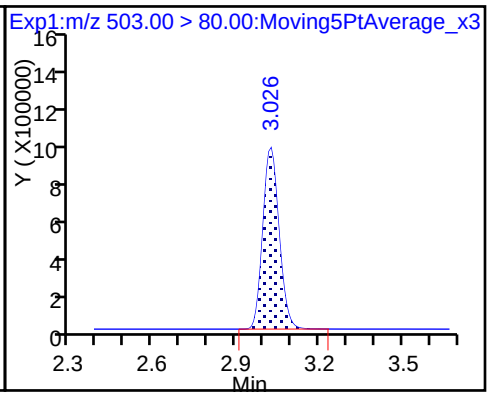
17 Perfluorooctane sulfonic acid (ND)



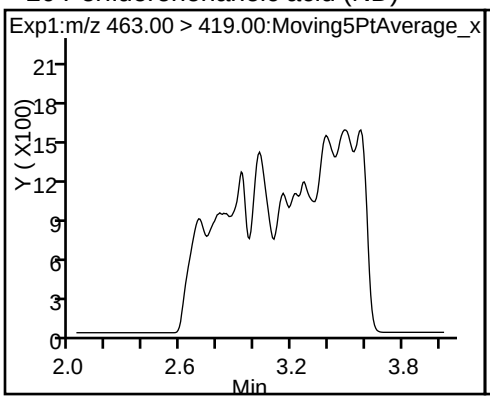
17 Perfluorooctane sulfonic acid (ND)



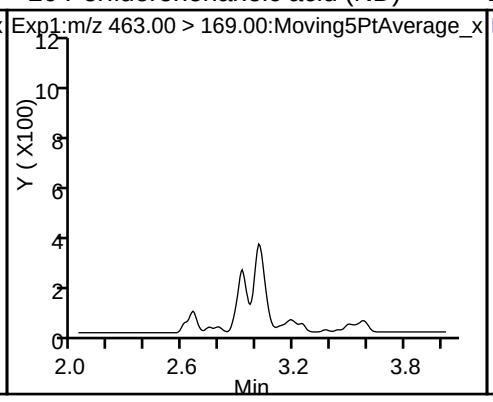
D 18 13C4 PFOS



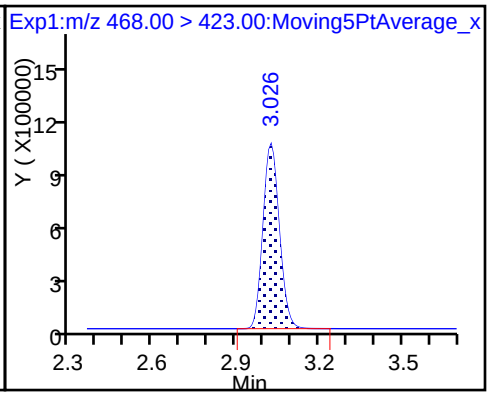
20 Perfluorononanoic acid (ND)



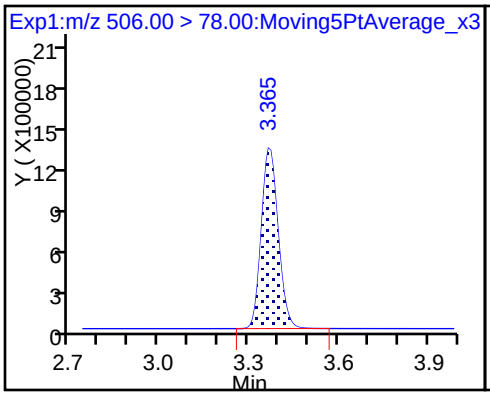
20 Perfluorononanoic acid (ND)



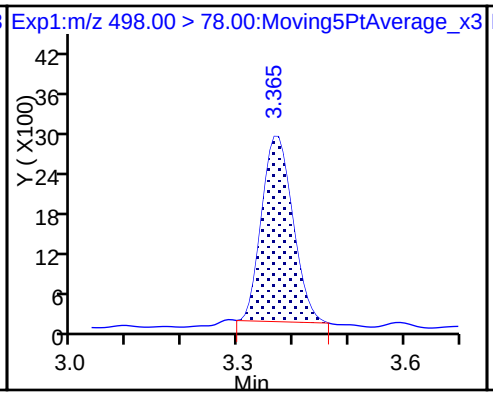
D 19 13C5 PFNA



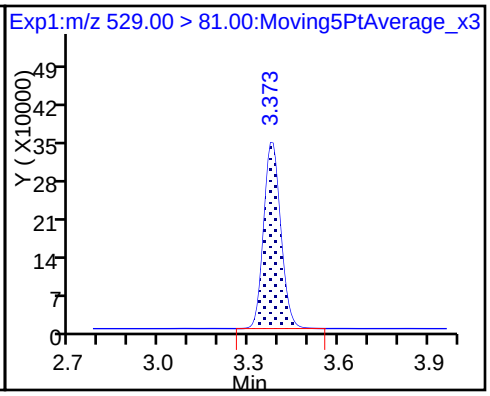
D 21 13C8 FOSA



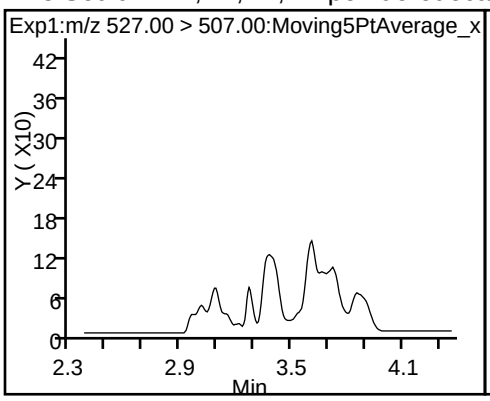
22 Perfluorooctane Sulfonamide



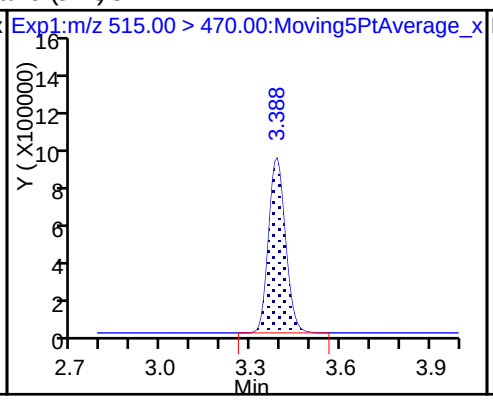
D 26 M2-8:2FTS



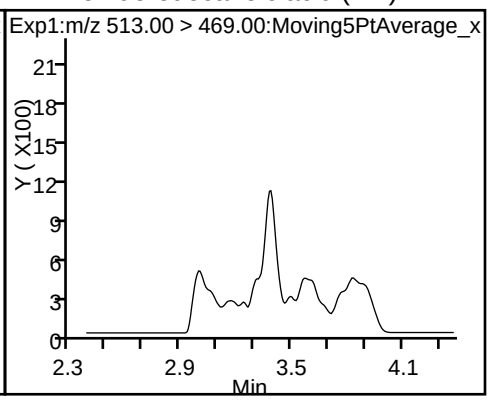
25 Sodium 1H,1H,2H,2H-perfluorodecane2(ND)



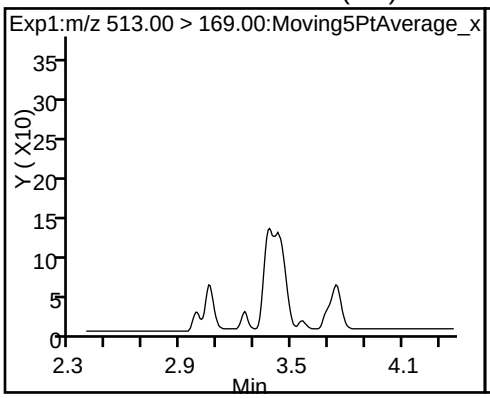
D 13C2 PFDA



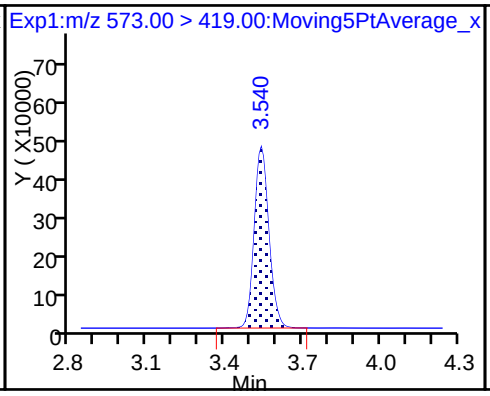
24 Perfluorodecanoic acid (ND)



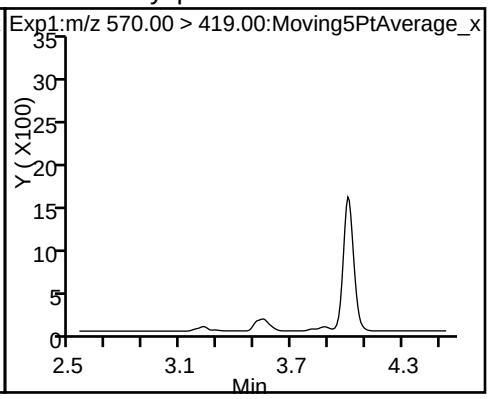
24 Perfluorodecanoic acid (ND)



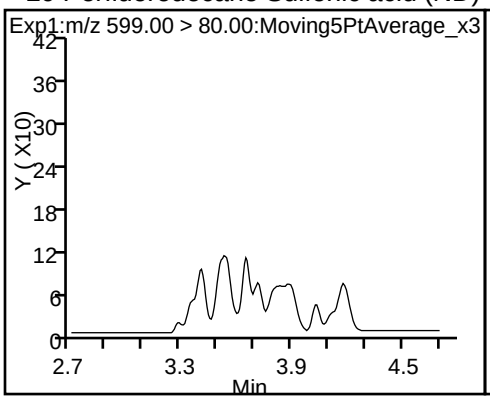
D 27 d3-NMeFOSAA



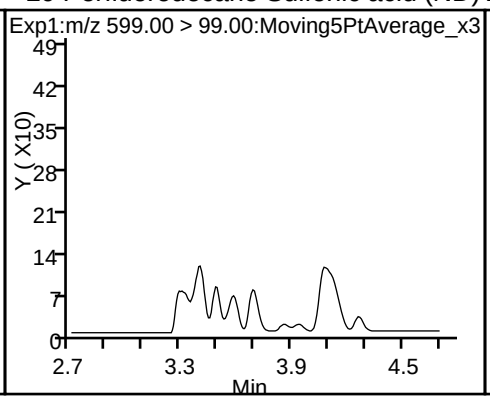
28 N-methyl perfluorooctane sulfonami (ND)



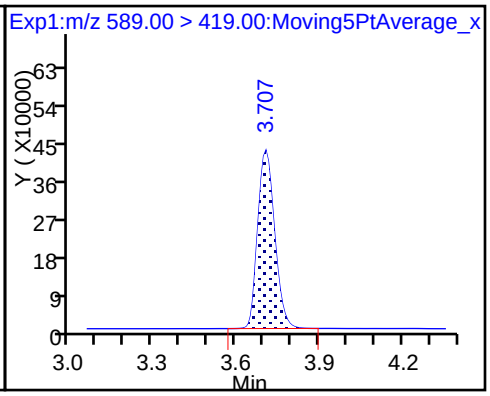
29 Perfluorodecane Sulfonic acid (ND)



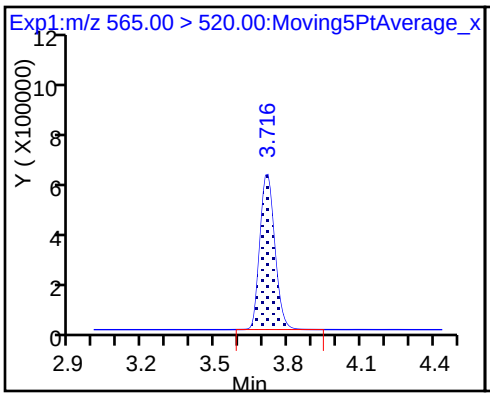
29 Perfluorodecane Sulfonic acid (ND)



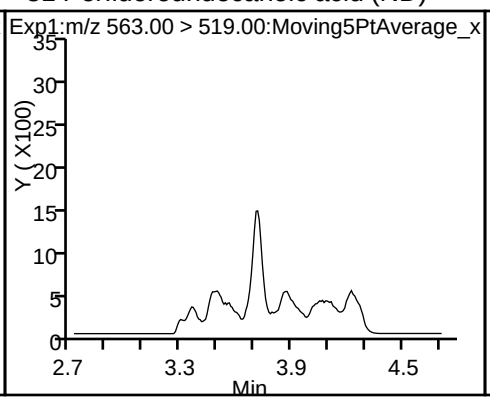
D 32 d5-NEtFOSAA



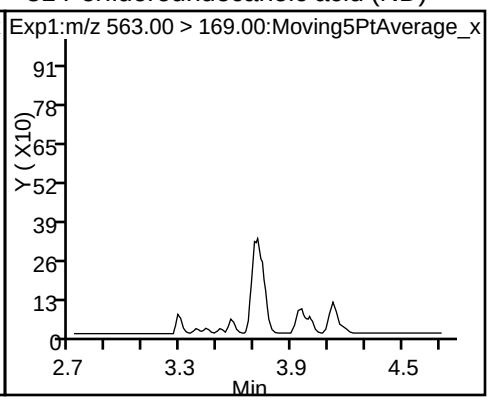
D 30 13C2 PFUnA



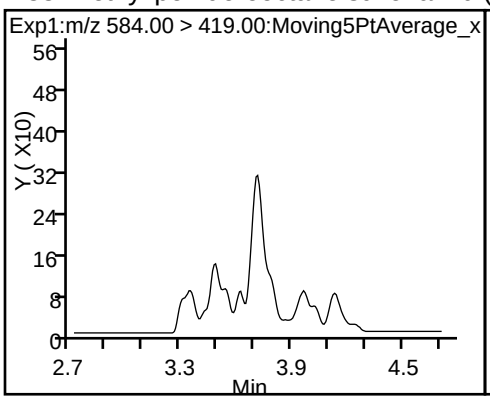
31 Perfluoroundecanoic acid (ND)



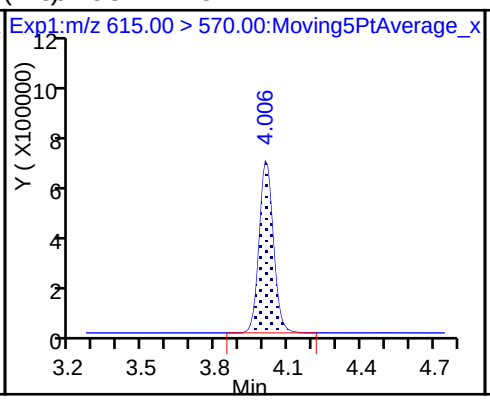
31 Perfluoroundecanoic acid (ND)



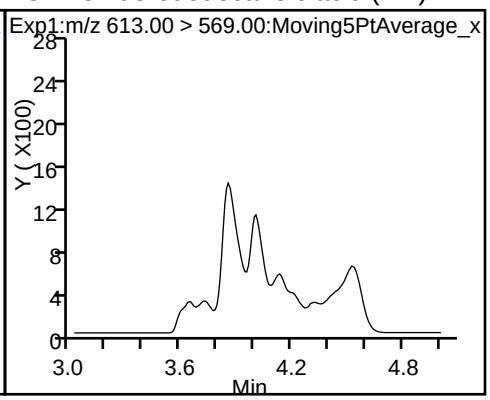
33 N-ethyl perfluorooctane sulfonamid (ND)



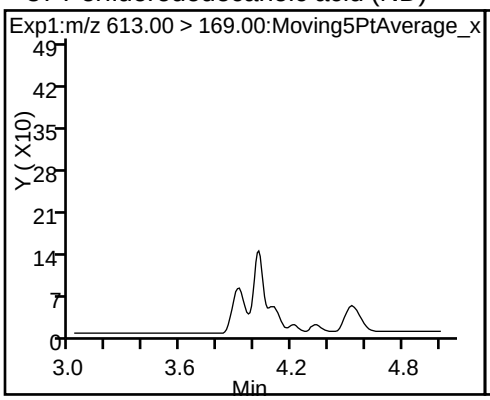
D 36 13C2 PFDoA



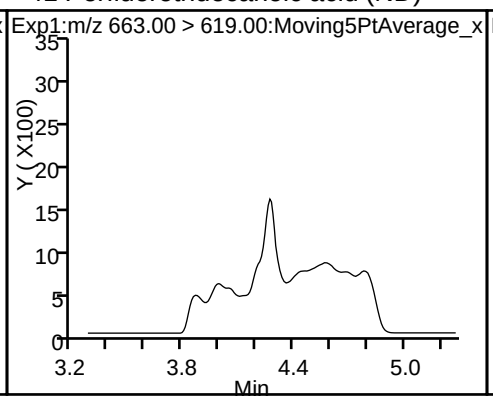
37 Perfluorododecanoic acid (ND)



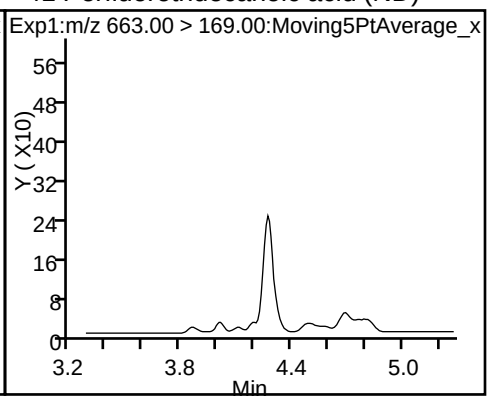
37 Perfluorododecanoic acid (ND)



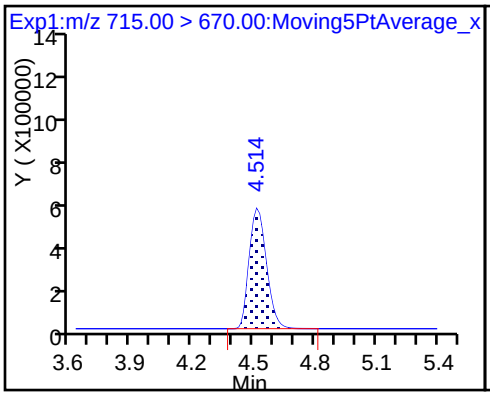
41 Perfluorotridecanoic acid (ND)



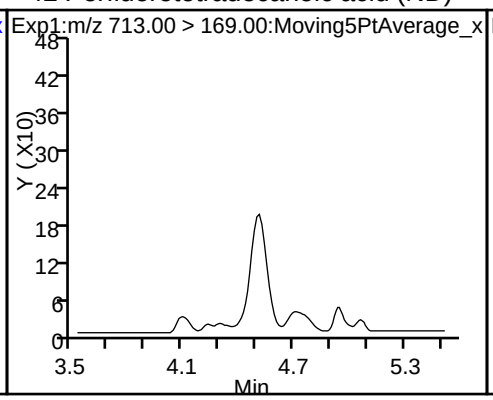
41 Perfluorotridecanoic acid (ND)



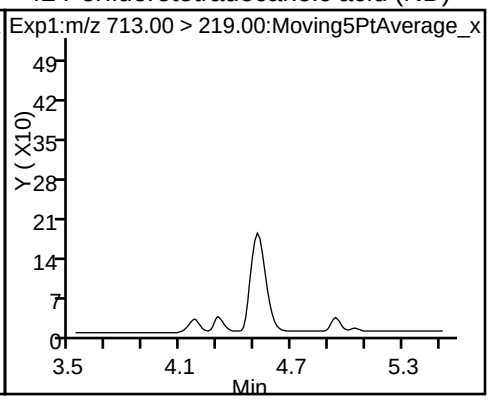
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

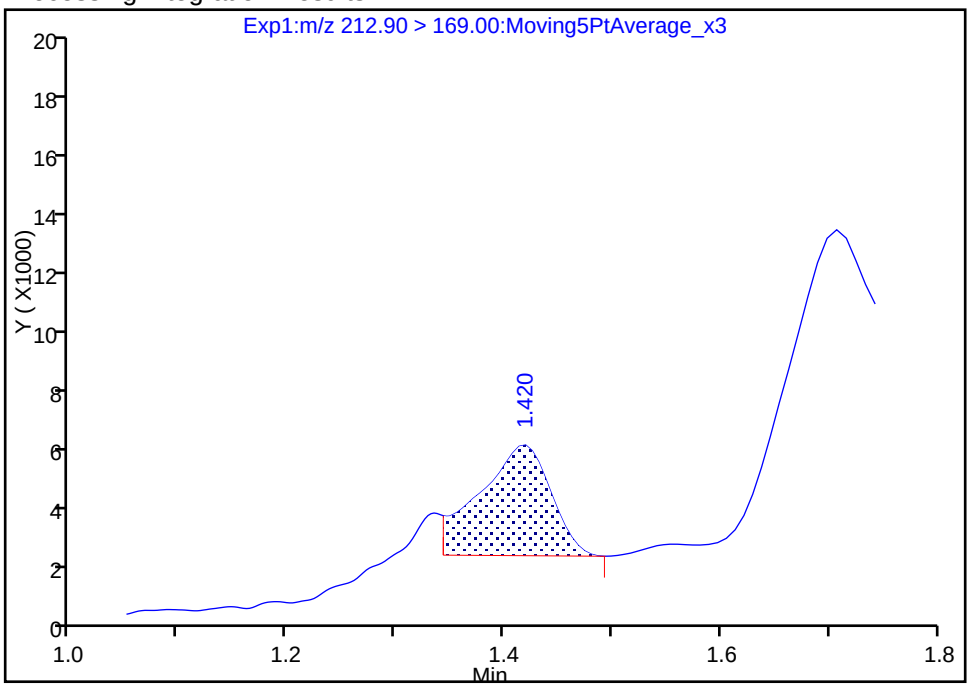
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_048.d				
Injection Date:	20-Dec-2017 10:42:31	Instrument ID:	A8_N		
Lims ID:	320-34182-A-19-A	Lab Sample ID:	320-34182-19		
Client ID:	FB002				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	37	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

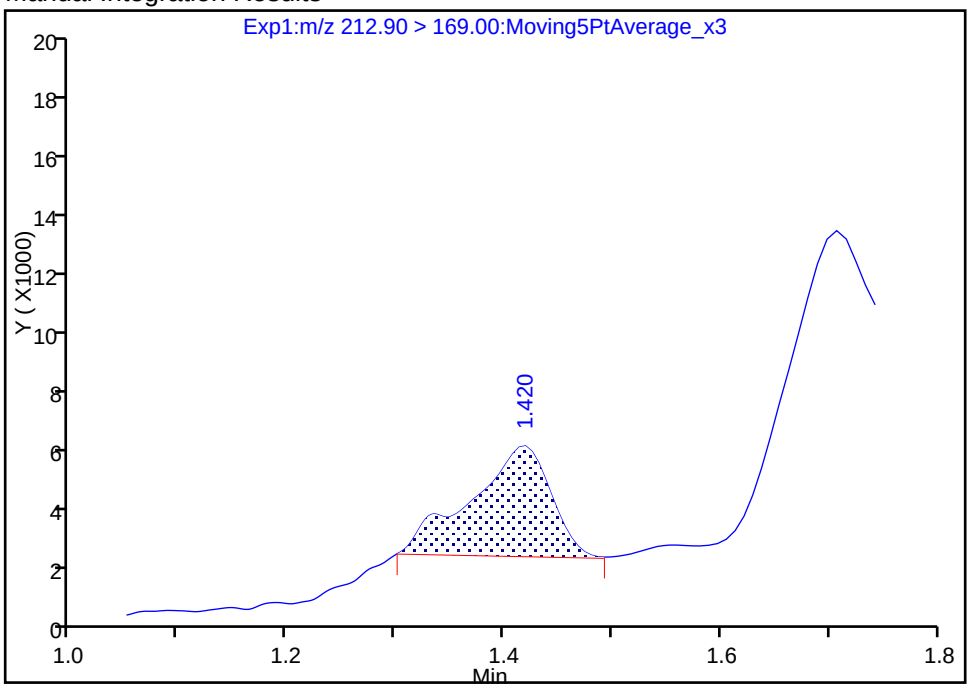
Processing Integration Results

RT: 1.42
Area: 16344
Amount: 0.005229
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 18413
Amount: 0.005891
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:19:10

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

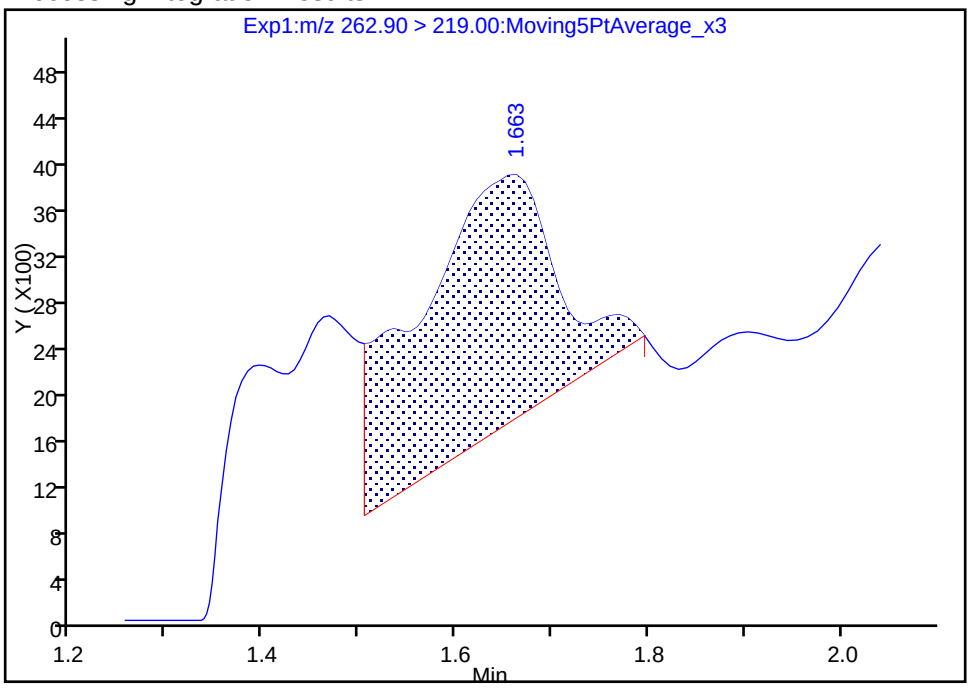
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_048.d				
Injection Date:	20-Dec-2017 10:42:31	Instrument ID:	A8_N		
Lims ID:	320-34182-A-19-A	Lab Sample ID:	320-34182-19		
Client ID:	FB002				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	37	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

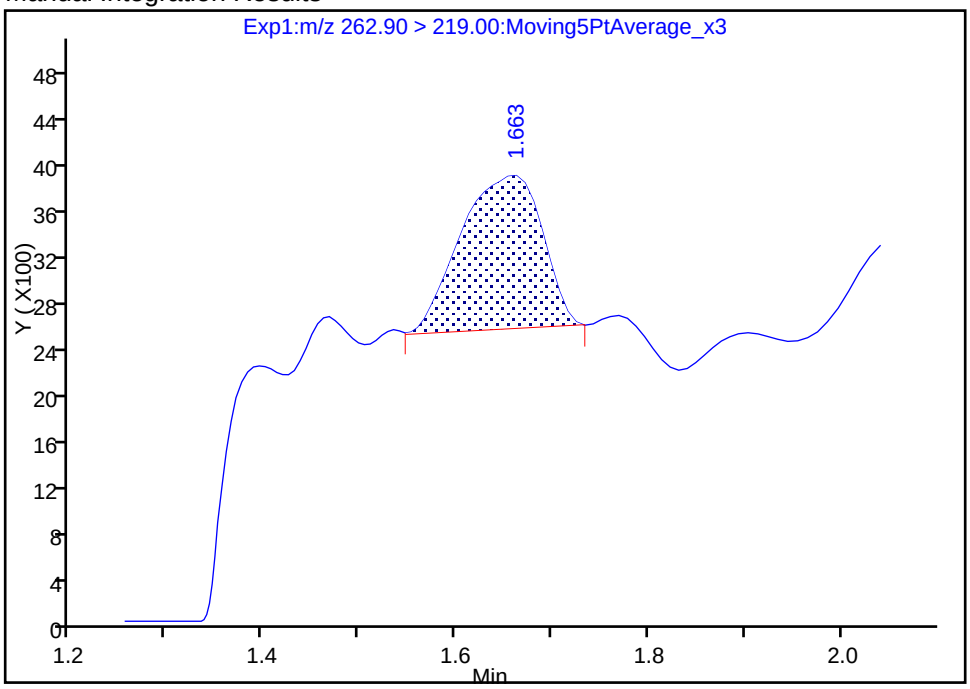
Processing Integration Results

RT: 1.66
Area: 22627
Amount: 0.010008
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 7813
Amount: 0.003456
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:19:24

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

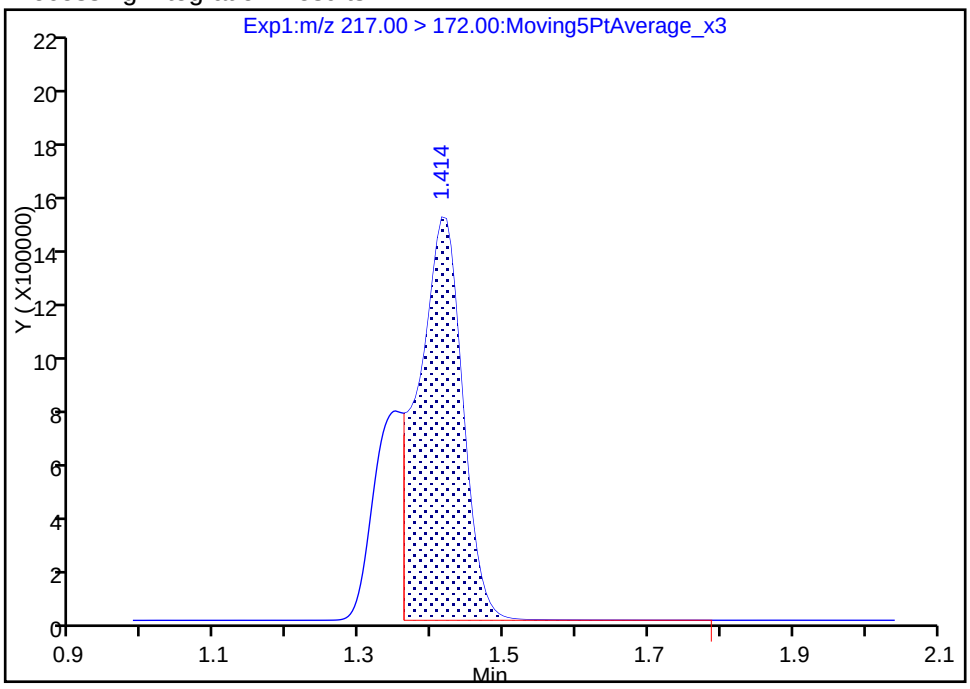
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_048.d				
Injection Date:	20-Dec-2017 10:42:31	Instrument ID:	A8_N		
Lims ID:	320-34182-A-19-A	Lab Sample ID:	320-34182-19		
Client ID:	FB002				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	37	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

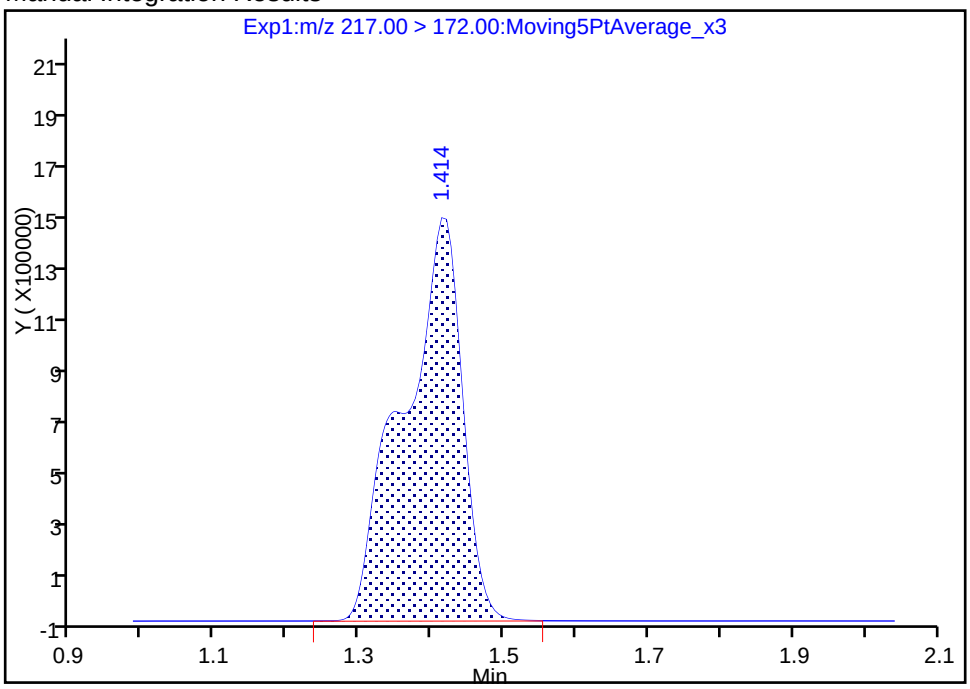
Processing Integration Results

RT: 1.41
Area: 6348124
Amount: 1.999188
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 8564745
Amount: 2.697259
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:18:59

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: EB002 | Lab Sample ID: 320-34182-20

Matrix: Water | Lab File ID: 2017.12.19LLC_049.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 249.3(mL) | Date Analyzed: 12/20/2017 10:50

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.01	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.01	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.01	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.01	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.01	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.01	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.01	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.01	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.01	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.01	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.01	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.01	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.01	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.01	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.01	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.01	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.01	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.11	U	20.1	3.11
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.91	U	20.1	1.91
27619-97-2	6:2FTS	2.01	U	20.1	2.01
39108-34-4	8:2FTS	2.01	U	20.1	2.01

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: EB002 | Lab Sample ID: 320-34182-20

Matrix: Water | Lab File ID: 2017.12.19LLC_049.d

Analysis Method: 537 (modified) | Date Collected: 12/06/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 249.3(mL) | Date Analyzed: 12/20/2017 10:50

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	106		25-150
STL01893	13C5 PFPeA	108		25-150
STL00993	13C2 PFHxA	107		25-150
STL01892	13C4-PFHpA	110		25-150
STL00990	13C4 PFOA	105		25-150
STL00995	13C5 PFNA	110		25-150
STL00996	13C2 PFDA	124		25-150
STL00997	13C2 PFUnA	113		25-150
STL00998	13C2 PFDoA	112		25-150
STL02116	13C2-PFTeDA	130		25-150
STL02337	13C3-PFBS	104		25-150
STL00994	18O2 PFHxS	104		25-150
STL00991	13C4 PFOS	111		25-150
STL01056	13C8 FOSA	99		25-150
STL02118	d3-NMeFOSAA	129		25-150
STL02117	d5-NEtFOSAA	130		25-150
STL02279	M2-6:2FTS	66		25-150
STL02280	M2-8:2FTS	171	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_049.d
Lims ID: 320-34182-A-20-A
Client ID: EB002
Sample Type: Client
Inject. Date: 20-Dec-2017 10:50:30 ALS Bottle#: 38 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-20-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:26:25 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 17:24:06

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.413	1.411	0.002	0.535	8398781	2.66		106	19781	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.413	1.412	0.001	1.000	13641	0.004451			1.7	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.661	1.664	-0.003	0.629	5038861	2.70		108	53278	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.661	1.664	-0.003	1.000	9948	0.004465			4.6	
D 47 13C3-PFBS										
301.90 > 83.00	1.697	1.699	-0.002	0.642	94999	2.41		104	2121	
D 7 13C2 PFHxA										
315.00 > 270.00	1.943	1.949	-0.006	0.735	5306258	2.69		107	44334	
D 9 13C4-PFHpA										
367.00 > 322.00	2.278	2.286	-0.008	0.862	5067295	2.74		110	33503	
D 11 18O2 PFHxS										
403.00 > 84.00	2.291	2.299	-0.008	0.867	5599846	2.45		104	51388	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.299	0.005	1.006	18558	0.007211			56.4	
399.00 > 99.00	2.304	2.299	0.005	1.006	6743		2.75(1.50-4.49)		26.2	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.614	2.640	-0.026	0.997	10388	0.0128			309	
D 12 M2-6:2FTS										
429.00 > 81.00	2.621	2.640	-0.019	0.992	1205883	1.57		66.2	22911	
* 62 13C2-PFOA										
415.00 > 370.00	2.642	2.643	-0.001		5363927	2.50			49198	
D 14 13C4 PFOA										
417.00 > 372.00	2.642	2.647	-0.005	1.000	5852682	2.64		105	55724	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.642	2.649	-0.007	1.000	17902	0.007246			5.4	
413.00 > 169.00	2.649	2.649	0.0	1.003	5446		3.29(0.84-2.52)		50.2	
D 18 13C4 PFOS										
503.00 > 80.00	3.015	3.025	-0.010	1.141	3895425	2.65		111	36467	
D 19 13C5 PFNA										
468.00 > 423.00	3.015	3.026	-0.011	1.141	4098439	2.75		110	35472	
D 21 13C8 FOSA										
506.00 > 78.00	3.362	3.362	0.0	1.272	5133551	2.47		98.7	30656	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.362	3.365	-0.003	1.000	10132	0.005219			300	
D 26 M2-8:2FTS										
529.00 > 81.00	3.370	3.375	-0.005	1.275	1341826	4.10		171	13412	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.387	-0.002	1.281	3703138	3.10		124	50678	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.536	3.541	-0.005	1.338	1771016	3.22		129	20355	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.704	3.711	-0.007	1.402	1840785	3.25		130	10744	
D 30 13C2 PFUnA										
565.00 > 520.00	3.713	3.717	-0.004	1.405	2597845	2.83		113	33147	
D 36 13C2 PFDoA										
615.00 > 570.00	4.011	4.015	-0.004	1.518	2730420	2.79		112	37701	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.522	-0.009	1.708	3489264	3.25		130	24151	

QC Flag Legend

Review Flags

M - Manually Integrated

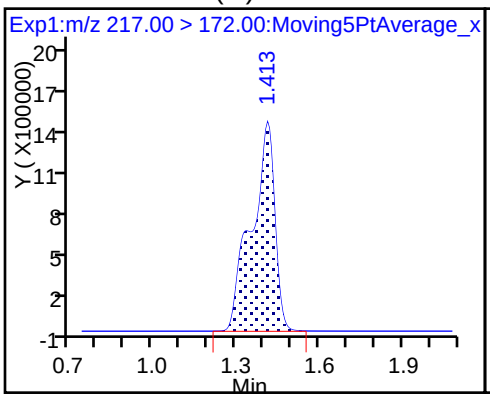
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TestAmerica Sacramento

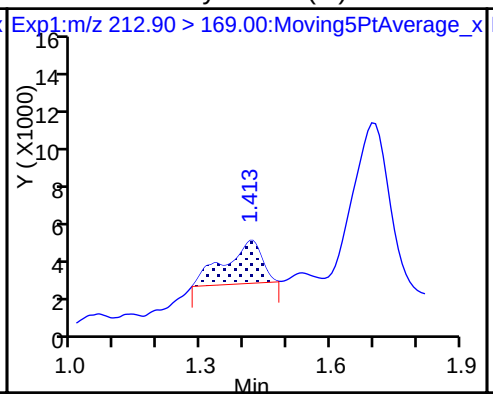
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Injection Date:	20-Dec-2017 10:50:30	Instrument ID:	A8_N		
Lims ID:	320-34182-A-20-A	Lab Sample ID:	320-34182-20		
Client ID:	EB002				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	38	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

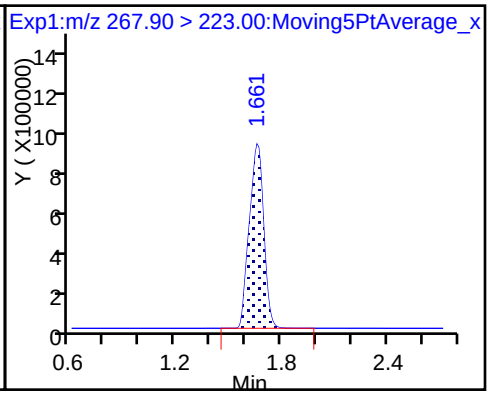
D 1 13C4 PFBA (M)



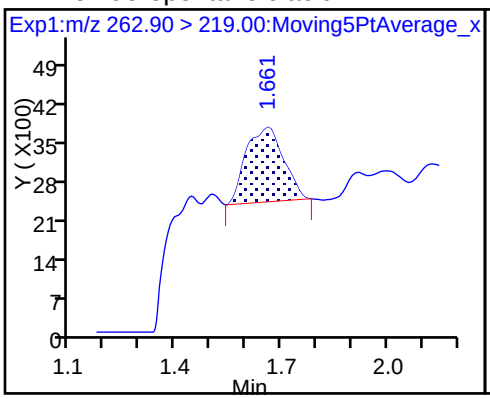
2 Perfluorobutyric acid (M)



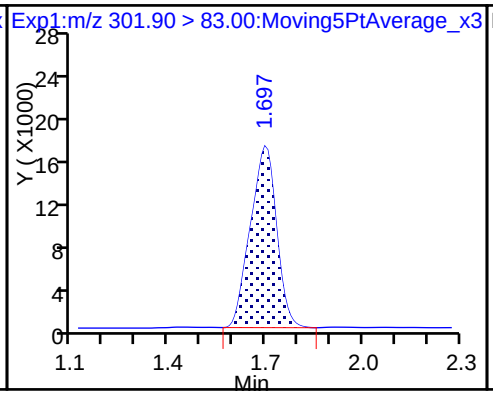
D 3 13C5-PFPeA



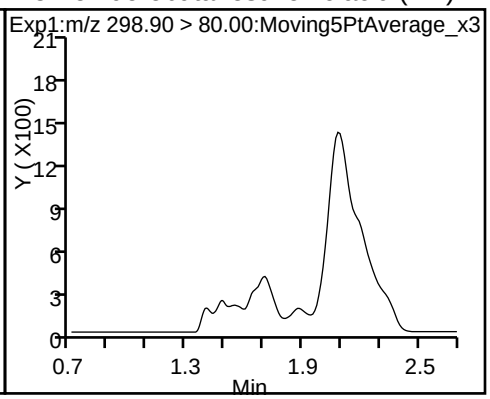
4 Perfluoropentanoic acid



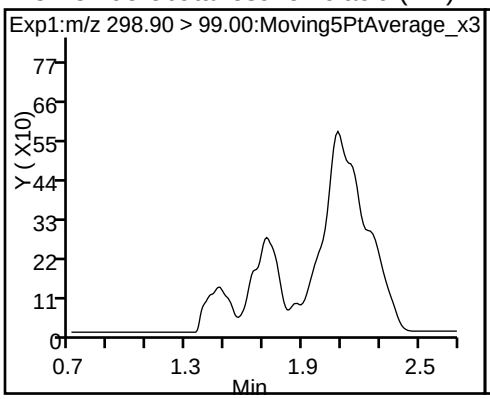
D 47 13C3-PFBS



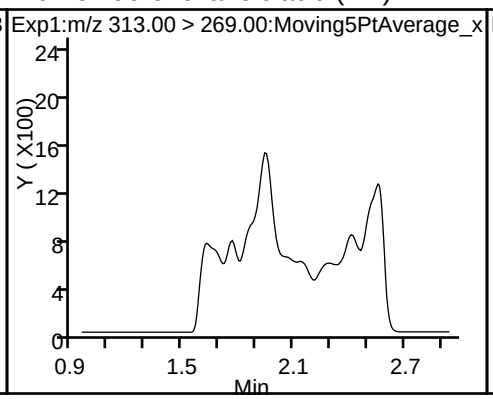
5 Perfluorobutanesulfonic acid (ND)



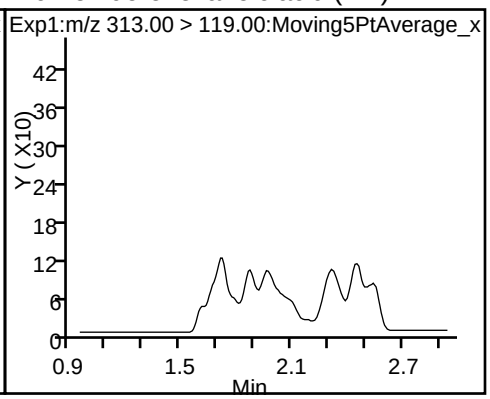
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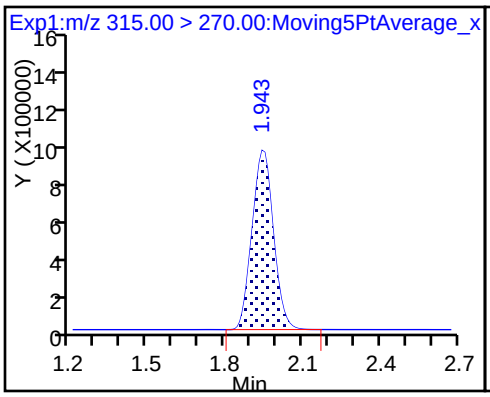
6 Perfluorohexanoic acid (ND)



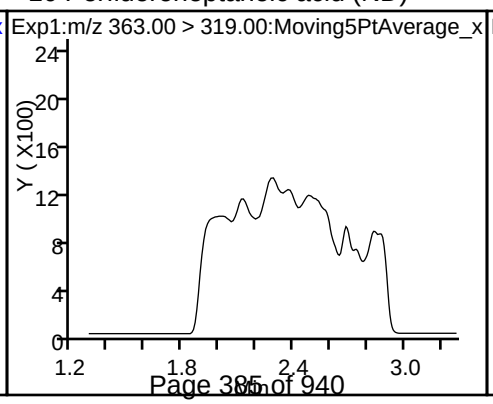
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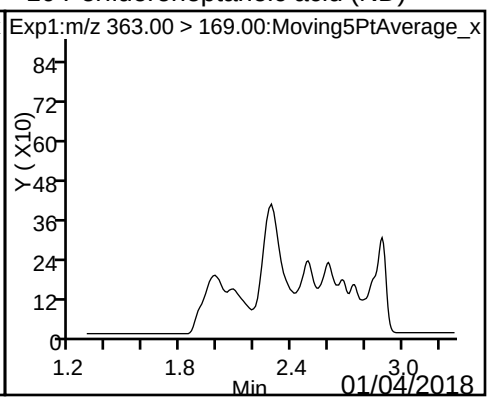
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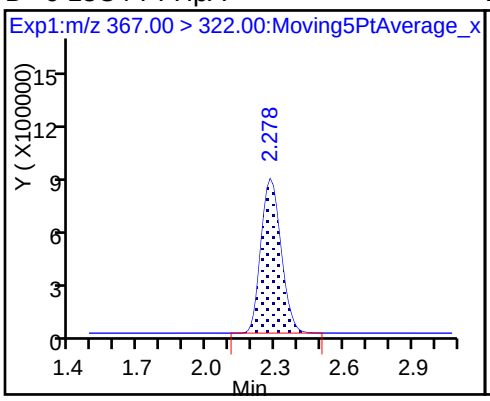
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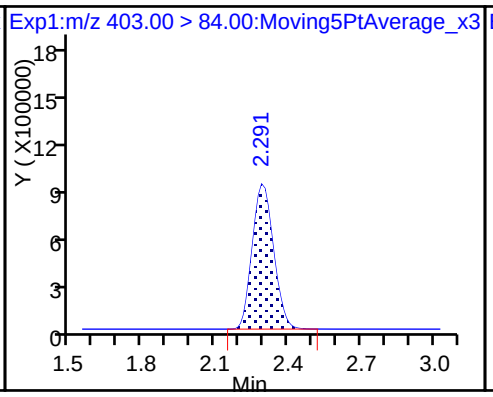
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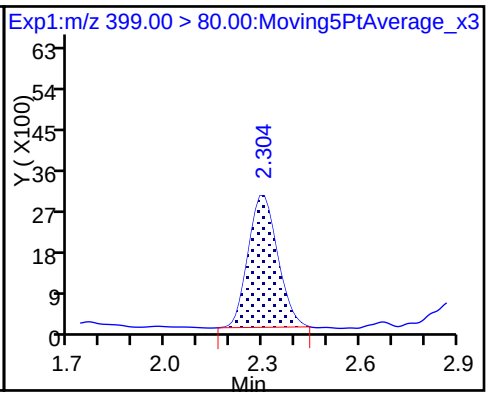
D 9 13C4-PFHpA



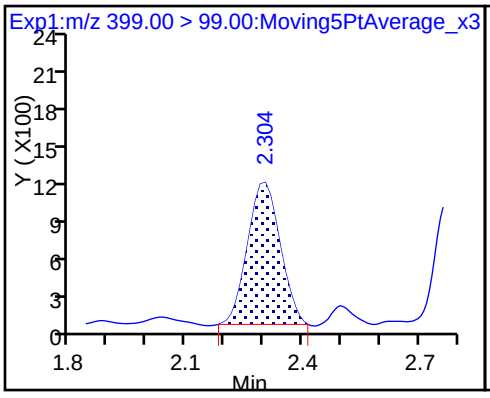
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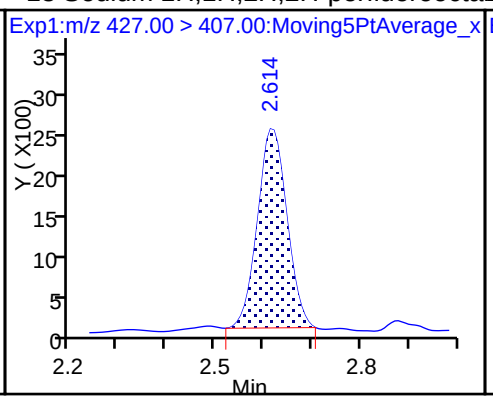
8 Perfluorohexanesulfonic acid



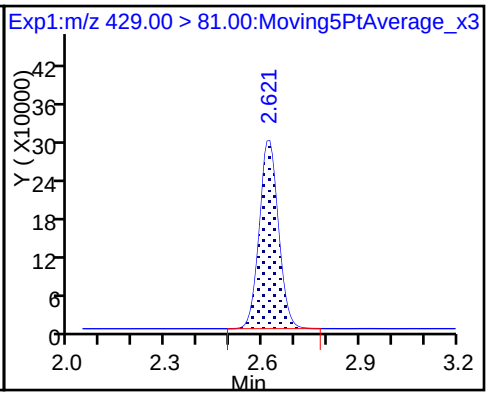
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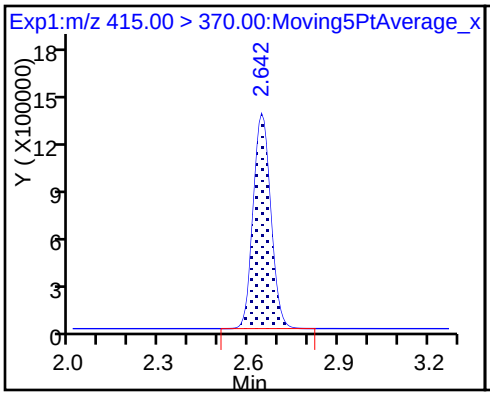
13 Sodium 1H,1H,2H,2H-perfluorooctane



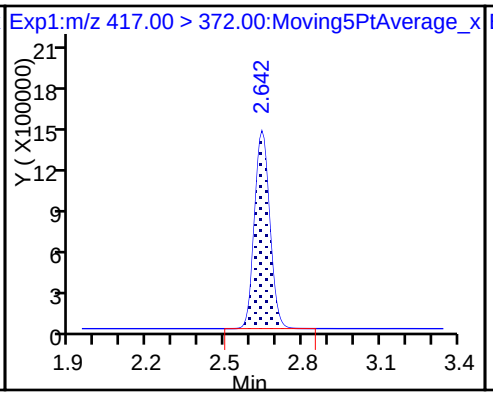
D 12 M2-6:2FTS



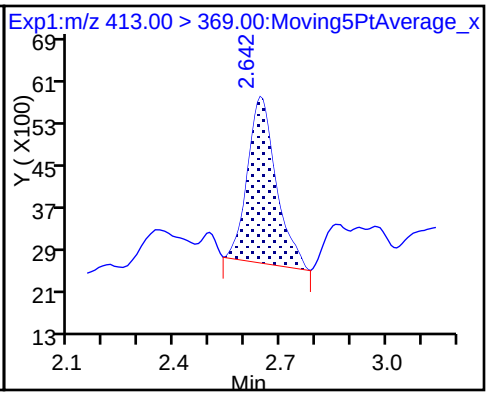
* 62 13C2-PFOA



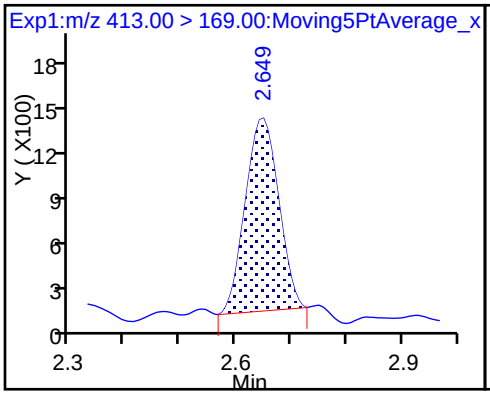
D 14 13C4 PFOA



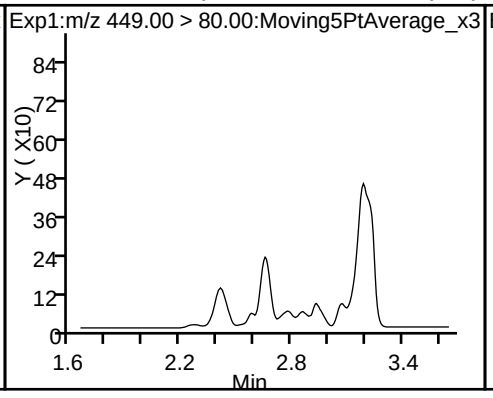
15 Perfluorooctanoic acid



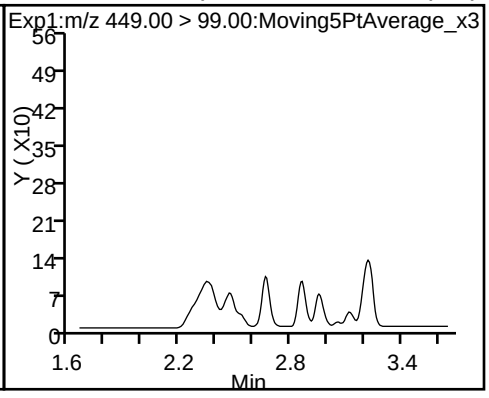
15 Perfluorooctanoic acid



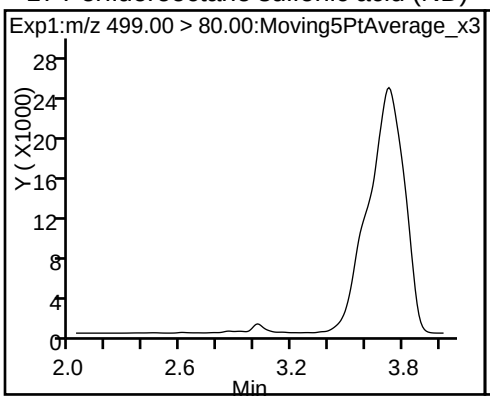
16 Perfluoroheptanesulfonic Acid (ND)



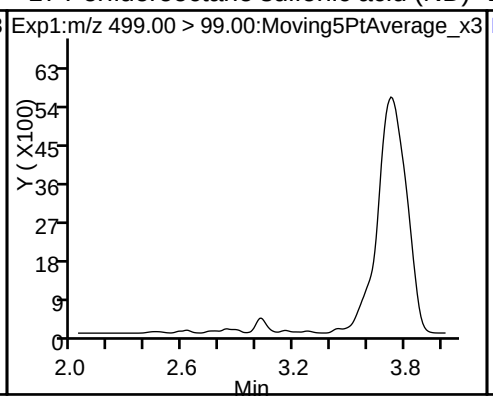
16 Perfluoroheptanesulfonic Acid (ND)



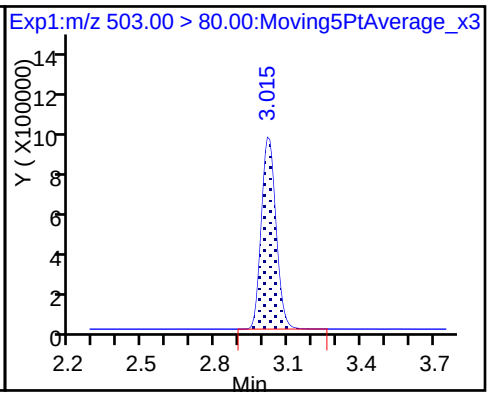
17 Perfluorooctane sulfonic acid (ND)



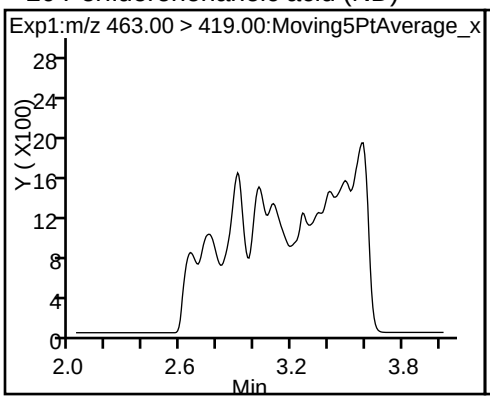
17 Perfluorooctane sulfonic acid (ND)



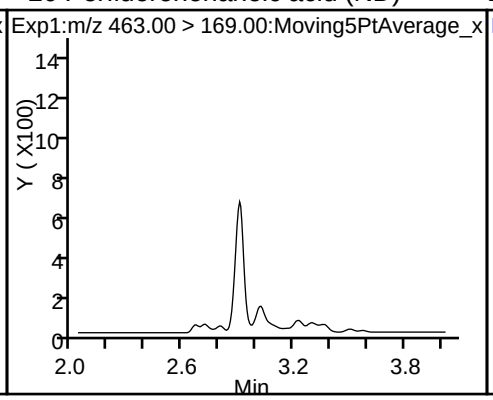
D 18 13C4 PFOS



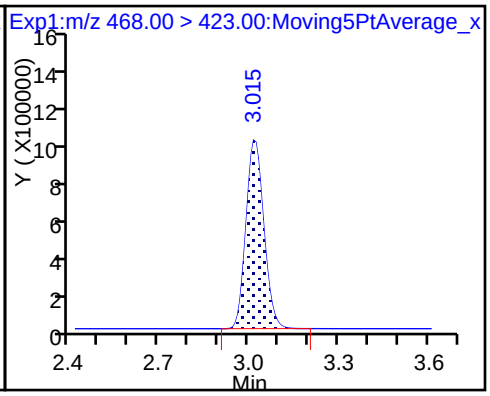
20 Perfluorononanoic acid (ND)



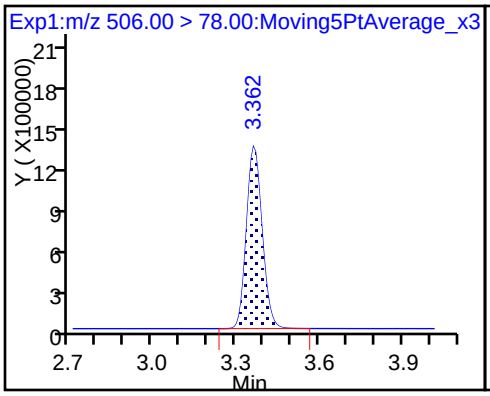
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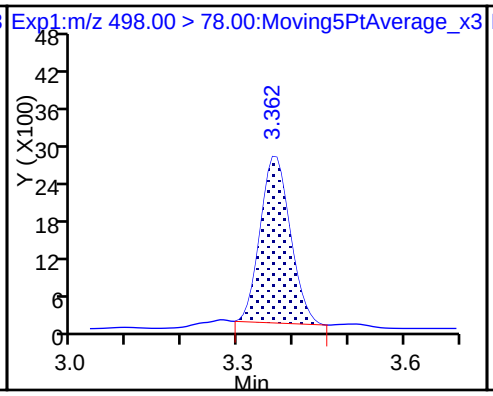
D 19 13C5 PFNA



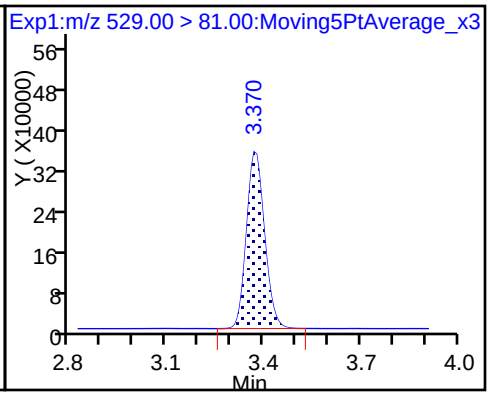
D 21 13C8 FOSA



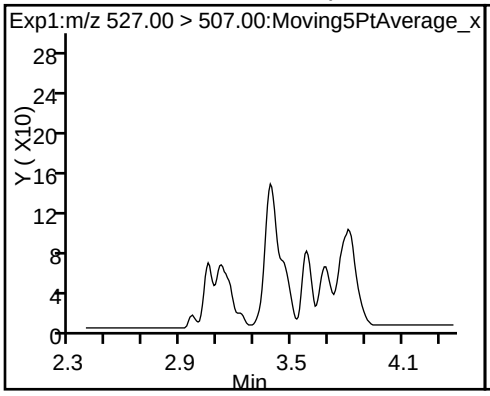
22 Perfluorooctane Sulfonamide



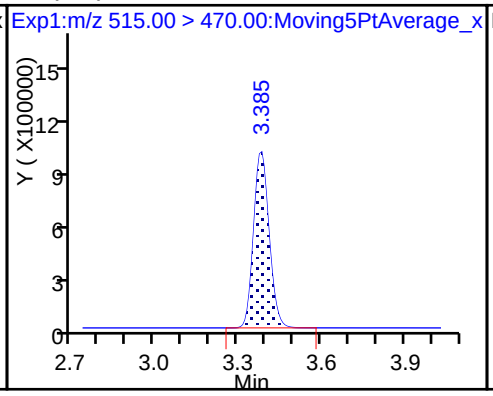
D 26 M2-8:2FTS



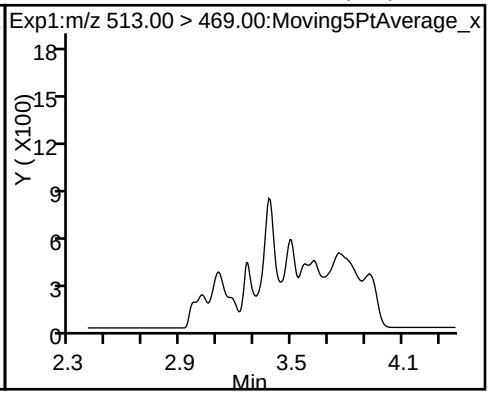
25 Sodium 1H,1H,2H,2H-perfluorodecane...



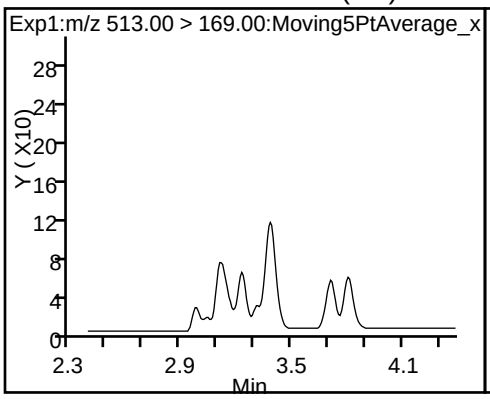
D 13C2 PFDA



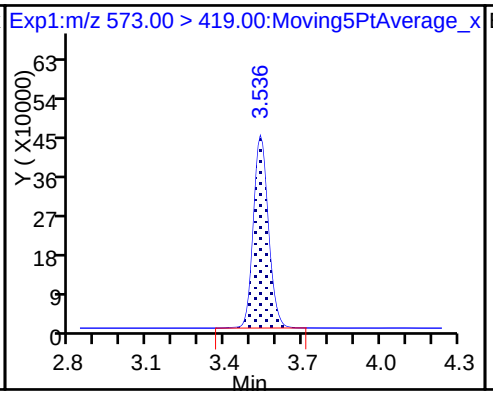
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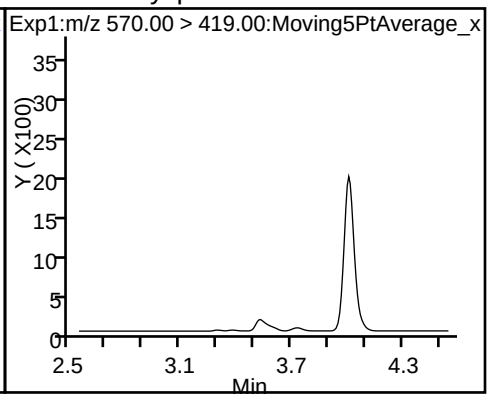
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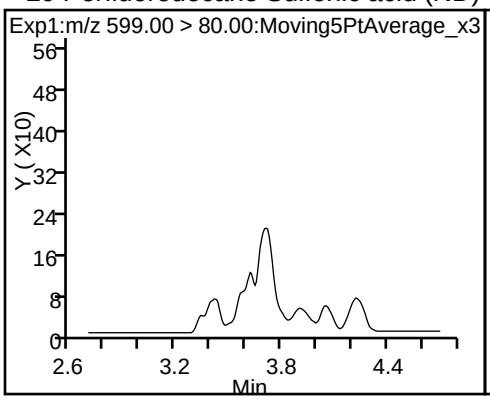
D 27 d3-NMeFOSAA



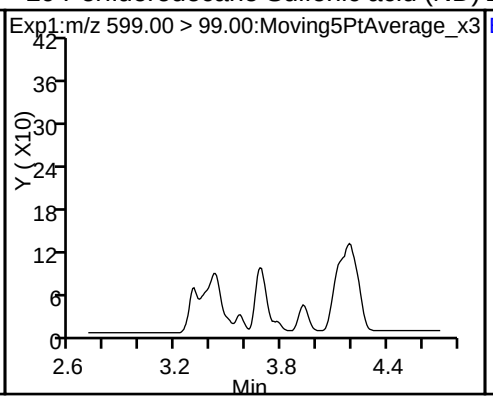
28 N-methyl perfluorooctane sulfonami (ND)



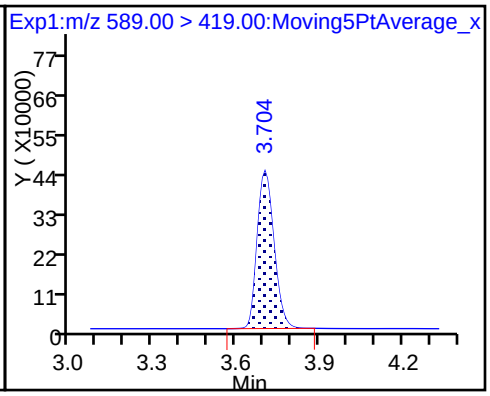
29 Perfluorodecane Sulfonic acid (ND)



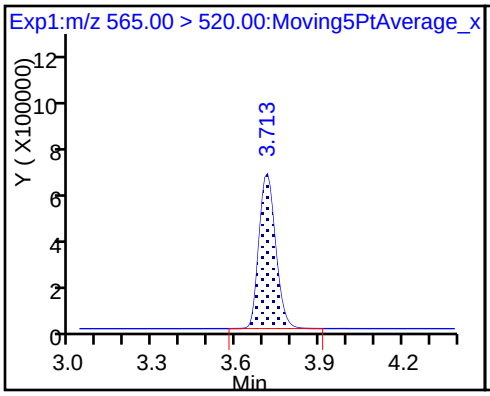
29 Perfluorodecane Sulfonic acid (ND)



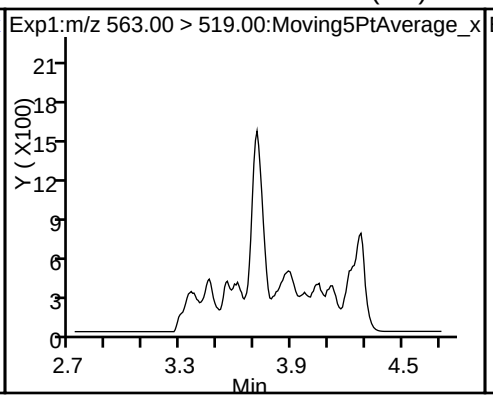
D 32 d5-NEtFOSAA



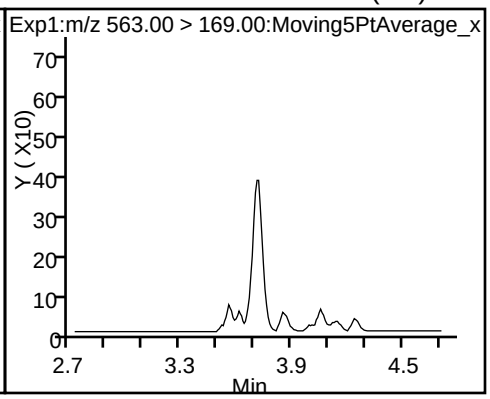
D 30 13C2 PFUnA



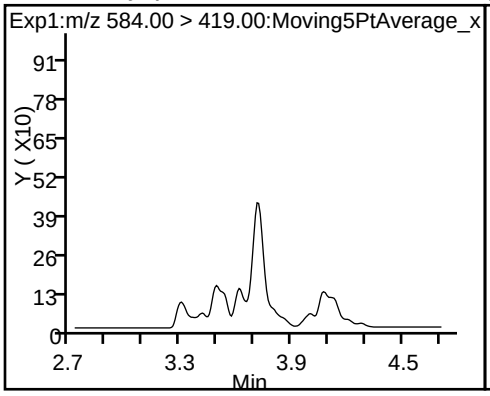
31 Perfluoroundecanoic acid (ND)



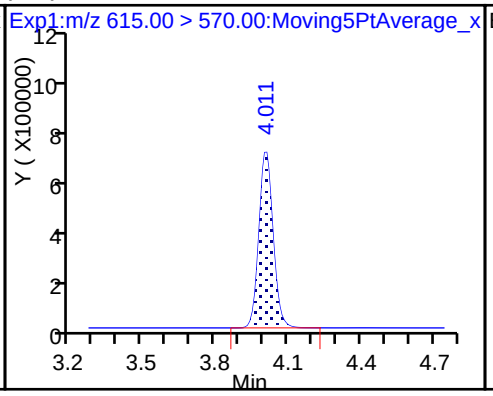
31 Perfluoroundecanoic acid (ND)



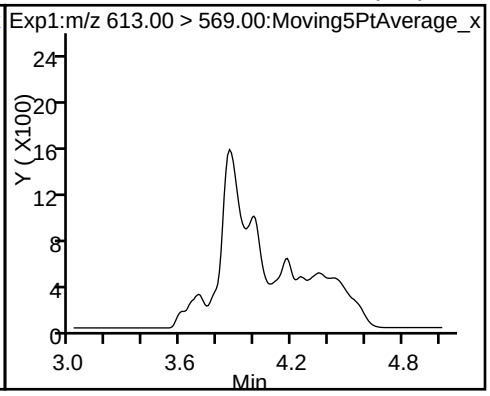
33 N-ethyl perfluorooctane sulfonamid (ND)



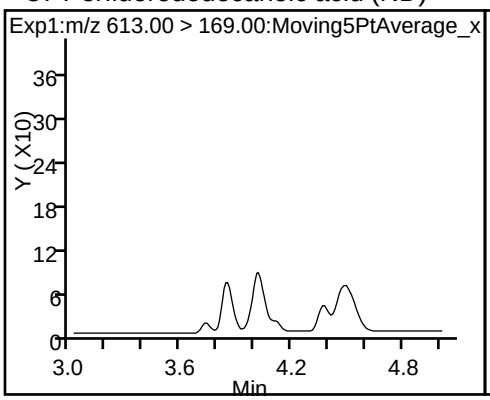
D 36 13C2 PFDoA



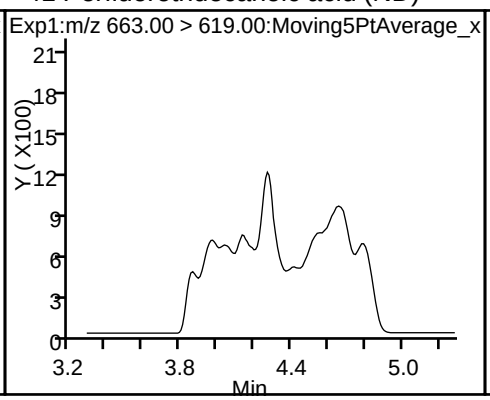
37 Perfluorododecanoic acid (ND)



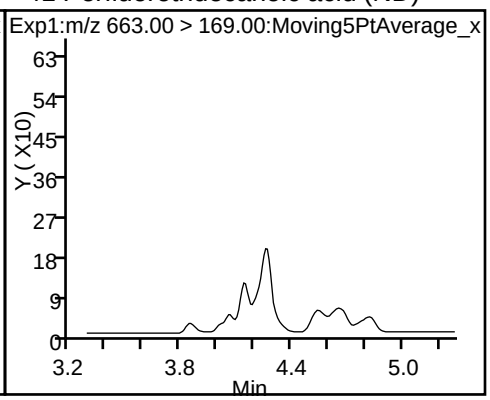
37 Perfluorododecanoic acid (ND)



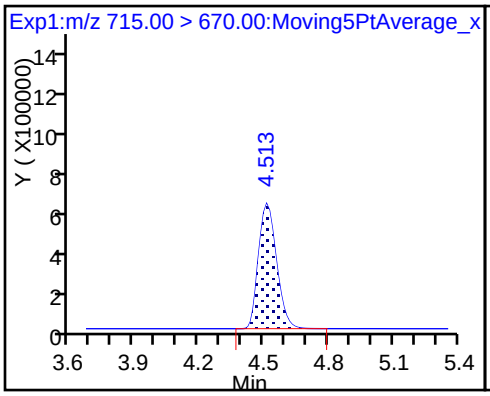
41 Perfluorotridecanoic acid (ND)



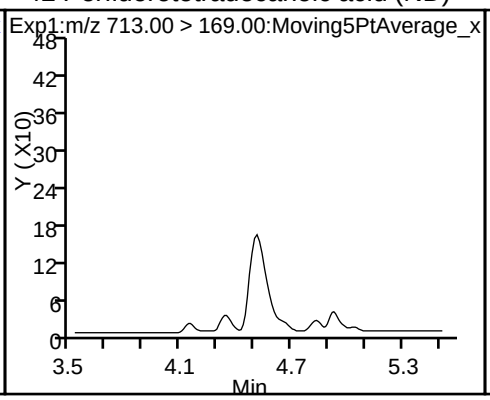
41 Perfluorotridecanoic acid (ND)



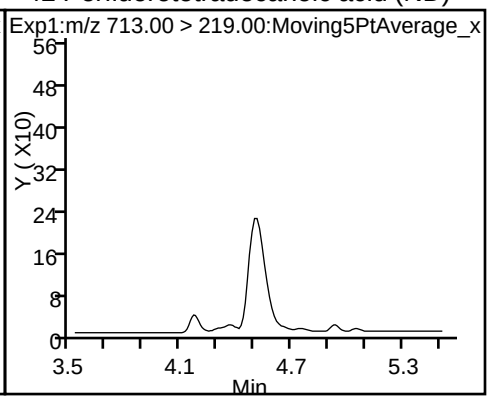
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

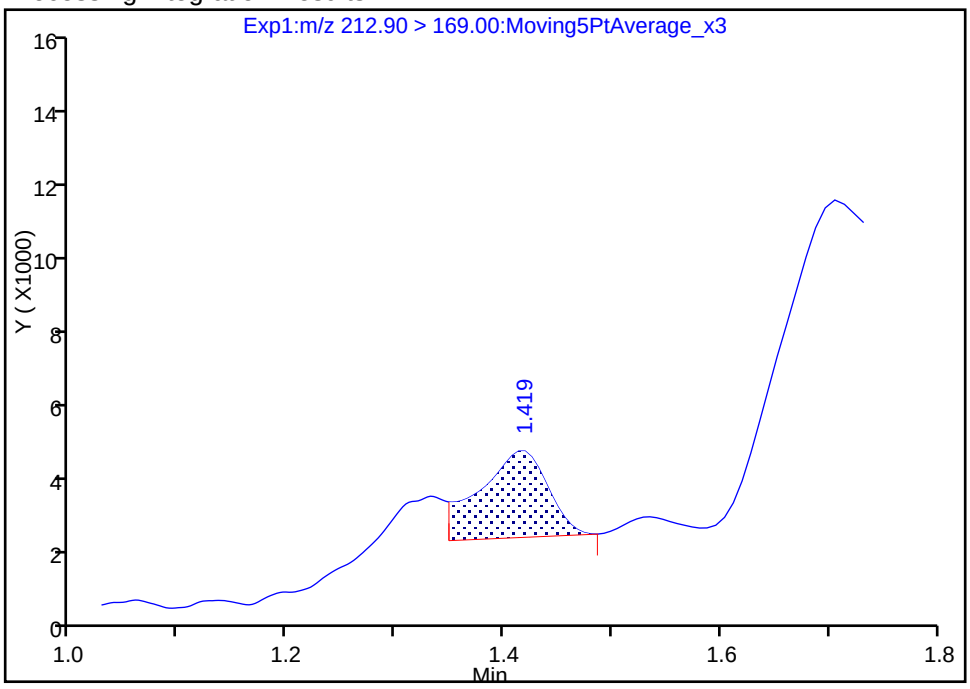
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_049.d				
Injection Date:	20-Dec-2017 10:50:30	Instrument ID:	A8_N		
Lims ID:	320-34182-A-20-A	Lab Sample ID:	320-34182-20		
Client ID:	EB002				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	38	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

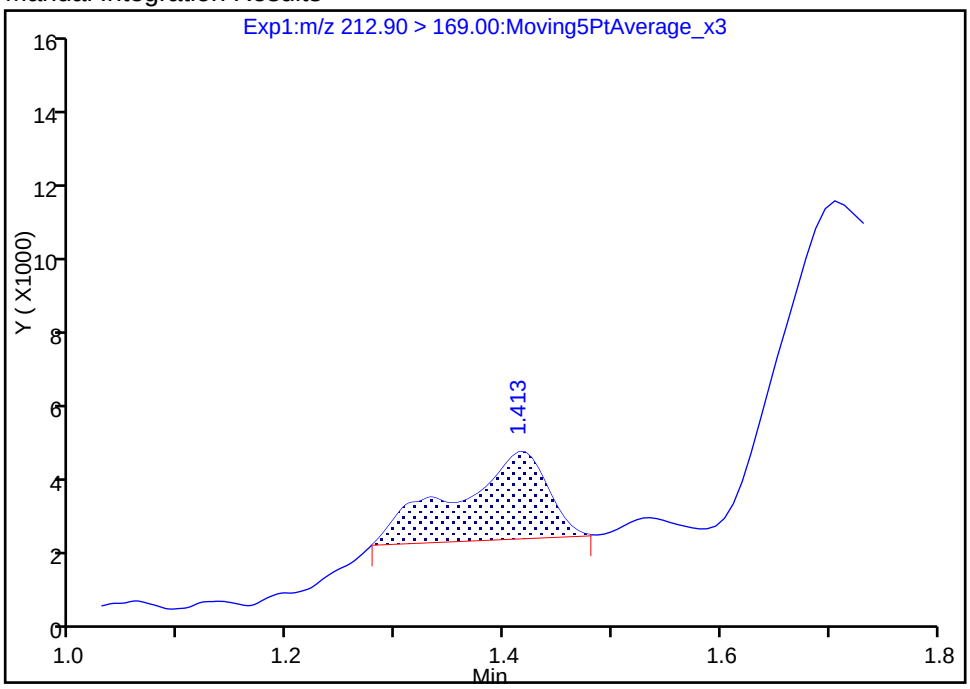
Processing Integration Results

RT: 1.42
Area: 9919
Amount: 0.003236
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 13641
Amount: 0.004451
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:22:58

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

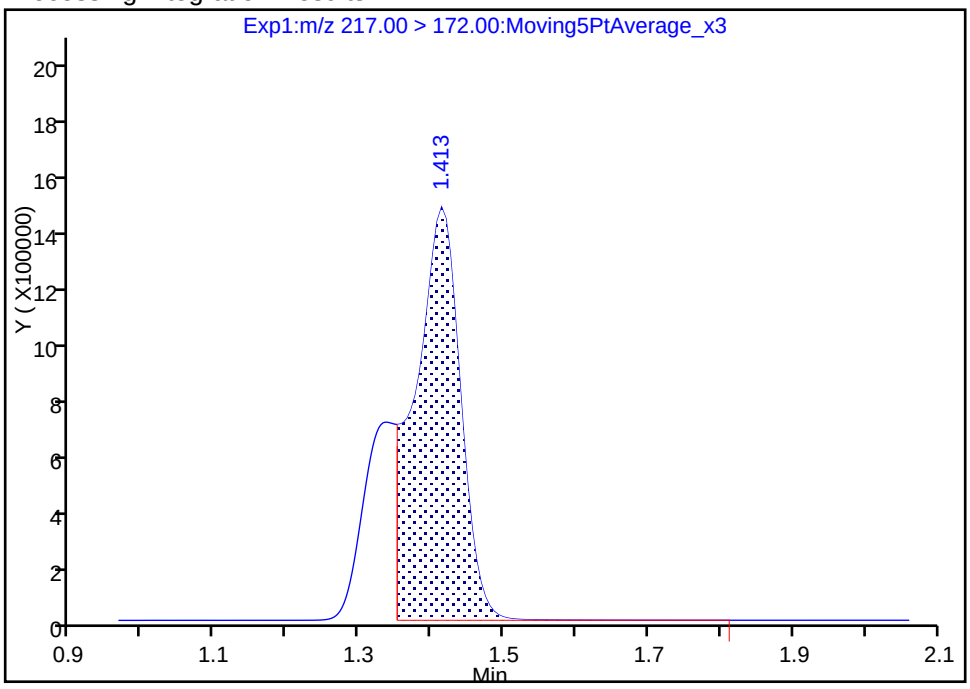
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_049.d				
Injection Date:	20-Dec-2017 10:50:30	Instrument ID:	A8_N		
Lims ID:	320-34182-A-20-A	Lab Sample ID:	320-34182-20		
Client ID:	EB002				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	38	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

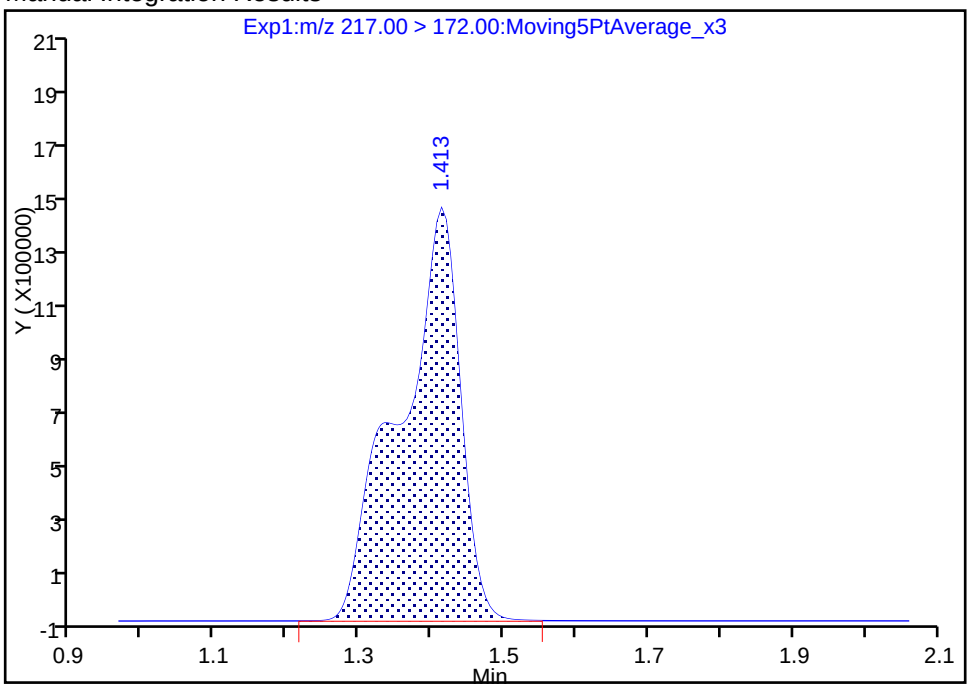
Processing Integration Results

RT: 1.41
Area: 6213280
Amount: 1.964137
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 8398781
Amount: 2.655016
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 17:22:38

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FB003 | Lab Sample ID: 320-34182-21

Matrix: Water | Lab File ID: 2017.12.19LLC_020.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 13:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 247.3(mL) | Date Analyzed: 12/20/2017 07:01

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.42	J	2.02	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.50	U	2.02	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	0.59	U	2.02	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.02	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.86	U	2.02	0.86
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.02	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.02	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.11	U	2.02	1.11
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.02	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.31	U	2.02	1.31
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.02	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.02	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.28	J B	2.02	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.02	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.55	U	2.02	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.02	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.02	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.13	U	20.2	3.13
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.92	U	20.2	1.92
27619-97-2	6:2FTS	2.02	U	20.2	2.02
39108-34-4	8:2FTS	2.02	U	20.2	2.02

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FB003 | Lab Sample ID: 320-34182-21

Matrix: Water | Lab File ID: 2017.12.19LLC_020.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 13:00

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 247.3(mL) | Date Analyzed: 12/20/2017 07:01

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	114		25-150
STL01893	13C5 PFPeA	115		25-150
STL00993	13C2 PFHxA	114		25-150
STL01892	13C4-PFHpA	111		25-150
STL00990	13C4 PFOA	112		25-150
STL00995	13C5 PFNA	129		25-150
STL00996	13C2 PFDA	124		25-150
STL00997	13C2 PFUnA	117		25-150
STL00998	13C2 PFDoA	117		25-150
STL02116	13C2-PFTeDA	166	*	25-150
STL02337	13C3-PFBS	107		25-150
STL00994	18O2 PFHxS	118		25-150
STL00991	13C4 PFOS	119		25-150
STL01056	13C8 FOSA	105		25-150
STL02118	d3-NMeFOSAA	138		25-150
STL02117	d5-NEtFOSAA	138		25-150
STL02279	M2-6:2FTS	72		25-150
STL02280	M2-8:2FTS	184	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_020.d
Lims ID: 320-34182-A-21-A
Client ID: FB003
Sample Type: Client
Inject. Date: 20-Dec-2017 07:01:59 ALS Bottle#: 13 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-21-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 14:50:01 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 14:41:06

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.408	1.411	-0.003	0.534	8555244	2.86		114	32554	
2 Perfluorobutyric acid										
212.90 > 169.00	1.414	1.412	0.002	1.004	32529	0.0104			6.2	
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.630	5047310	2.86		115	56073	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.663	1.664	-0.001	1.000	6369	0.002854			4.3	
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.644	92921	2.50		107	2555	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.944	1.949	-0.005	1.000	6868	0.003216			15.2	
313.00 > 119.00	1.934	1.949	-0.015	0.995	630		10.90(5.03-15.10)		17.2	M
D 7 13C2 PFHxA										
315.00 > 270.00	1.944	1.949	-0.005	0.737	5340134	2.86		114	51795	
D 9 13C4-PFHpA										
367.00 > 322.00	2.279	2.286	-0.007	0.864	4865006	2.78		111	34289	
D 11 18O2 PFHxS										
403.00 > 84.00	2.292	2.299	-0.007	0.869	6021470	2.78		118	53828	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.292	2.299	-0.007	1.000	19119	0.006909			66.7	
399.00 > 99.00	2.292	2.299	-0.007	1.000	6099		3.13(1.50-4.49)		28.9	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.609	2.640	-0.031	1.000	8076	0.009585			362	
D 12 M2-6:2FTS										
429.00 > 81.00	2.609	2.640	-0.031	0.989	1248719	1.72		72.5	29203	
* 62 13C2-PFOA										
415.00 > 370.00	2.638	2.643	-0.005		5072450	2.50			46971	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFOA										
417.00 > 372.00	2.638	2.647	-0.009	1.000	5876173	2.80		112	55296	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.645	2.649	-0.004	1.003	10701	0.004314			4.3	
413.00 > 169.00	2.638	2.649	-0.011	1.000	6718		1.59(0.84-2.52)		59.2	
D 18 13C4 PFOS										
503.00 > 80.00	3.009	3.025	-0.016	1.141	3952254	2.84		119	33721	
D 19 13C5 PFNA										
468.00 > 423.00	3.017	3.026	-0.009	1.144	4531029	3.21		129	52986	
D 21 13C8 FOSA										
506.00 > 78.00	3.356	3.362	-0.006	1.272	5145361	2.62		105	34087	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.364	3.365	-0.001	1.002	12526	0.006437			162	
D 26 M2-8:2FTS										
529.00 > 81.00	3.364	3.375	-0.011	1.275	1359164	4.40		184	15267	
D 23 13C2 PFDA										
515.00 > 470.00	3.379	3.387	-0.008	1.281	3484193	3.09		124	45190	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.530	3.541	-0.011	1.338	1797786	3.46		138	21931	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.698	3.711	-0.013	1.402	1846872	3.45		138	11647	
D 30 13C2 PFUnA										
565.00 > 520.00	3.698	3.717	-0.019	1.402	2548451	2.93		117	38123	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.707	3.718	-0.011	1.002	5509	0.005973			21.0	
563.00 > 169.00	3.698	3.718	-0.020	1.000	2108		2.61(0.00-0.00)		230	
D 36 13C2 PFDoA										
615.00 > 570.00	3.998	4.015	-0.017	1.516	2708460	2.93		117	29302	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.501	4.522	-0.021	1.706	4203859	4.14		166	29157	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 14:50:11 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_020.d

Injection Date: 20-Dec-2017 07:01:59 Instrument ID: A8_N

Lims ID: 320-34182-A-21-A Lab Sample ID: 320-34182-21

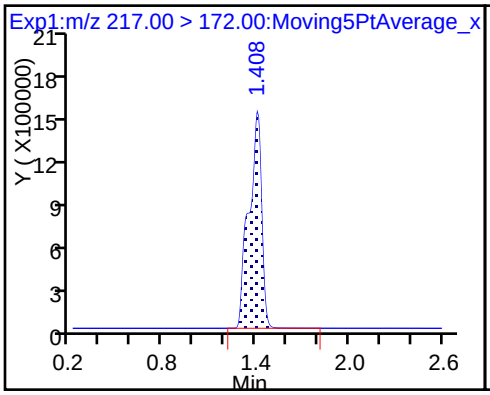
Client ID: FB003

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 5

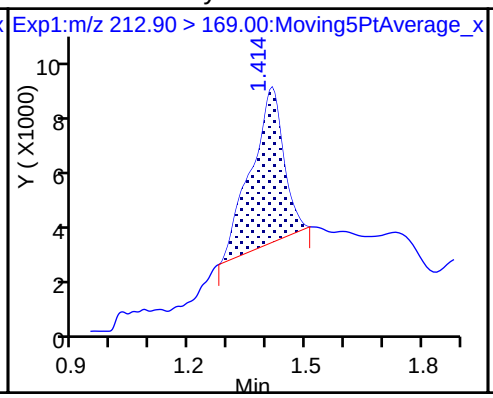
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

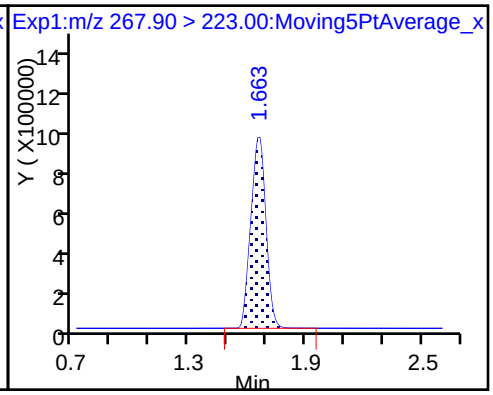
D 1 13C4 PFBA



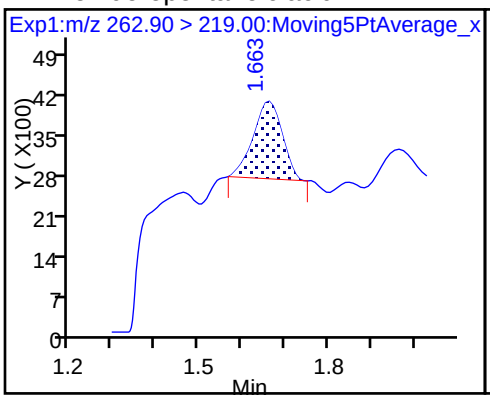
2 Perfluorobutyric acid



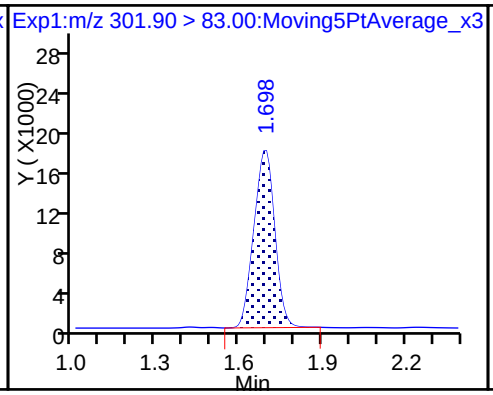
D 3 13C5-PFPeA



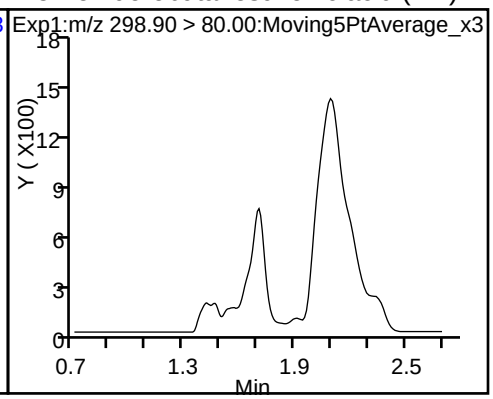
4 Perfluoropentanoic acid



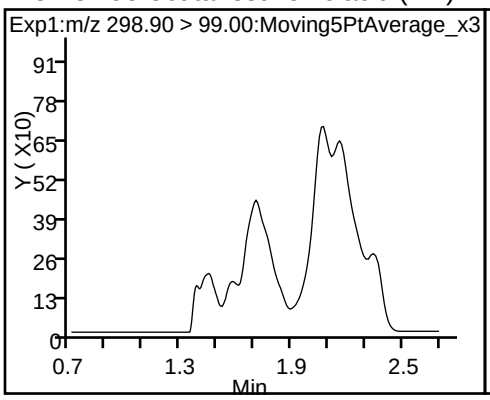
D 47 13C3-PFBS



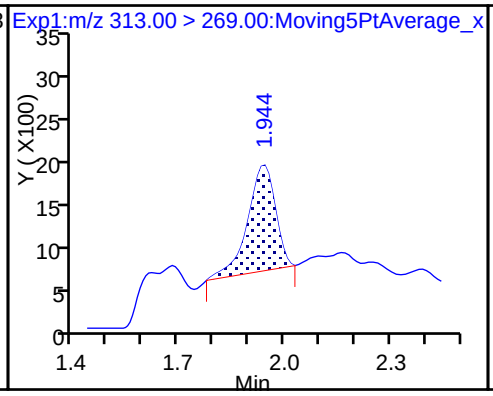
5 Perfluorobutanesulfonic acid (ND)



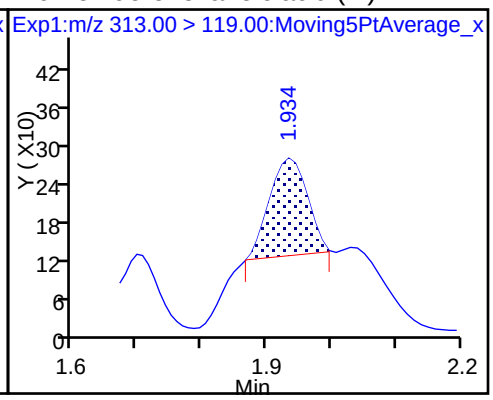
5 Perfluorobutanesulfonic acid (ND)



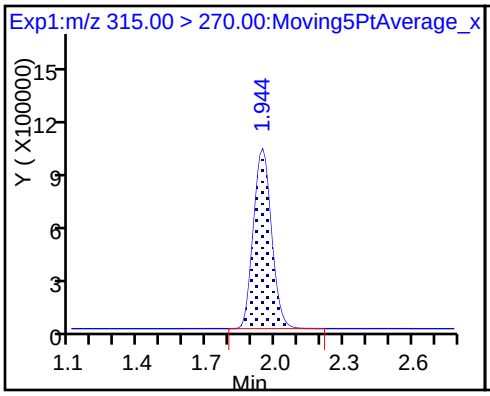
6 Perfluorohexanoic acid



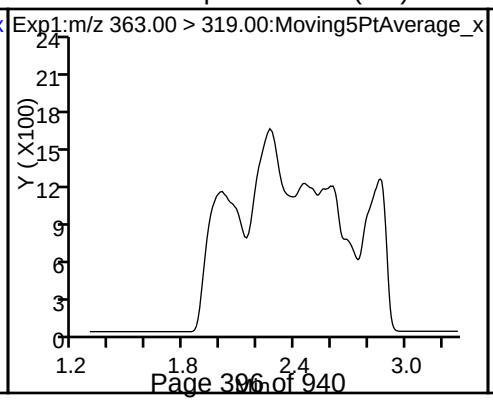
6 Perfluorohexanoic acid (M)



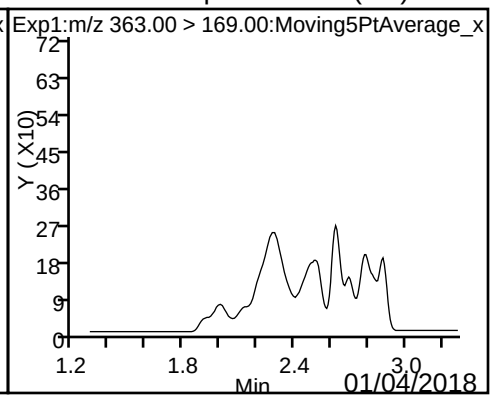
D 7 13C2 PFHxA



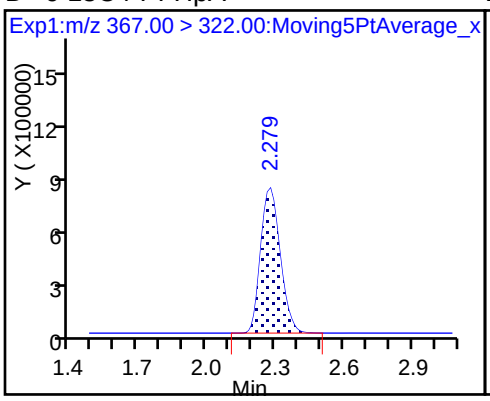
10 Perfluoroheptanoic acid (ND)



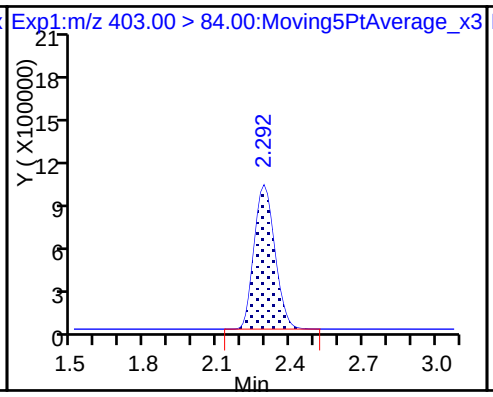
10 Perfluoroheptanoic acid (ND)



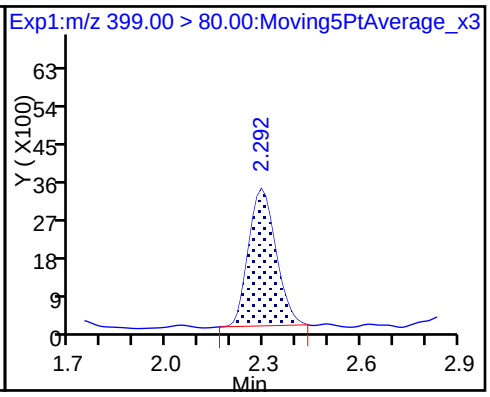
D 9 13C4-PFHpA



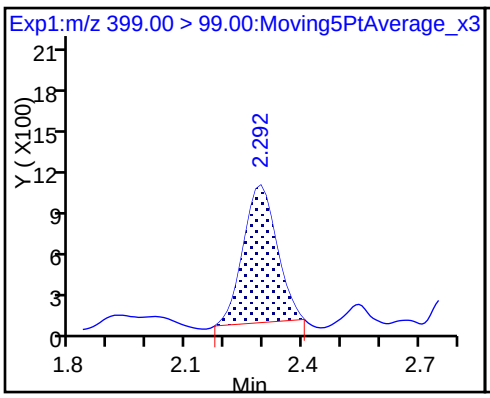
D 11 18O2 PFHxS



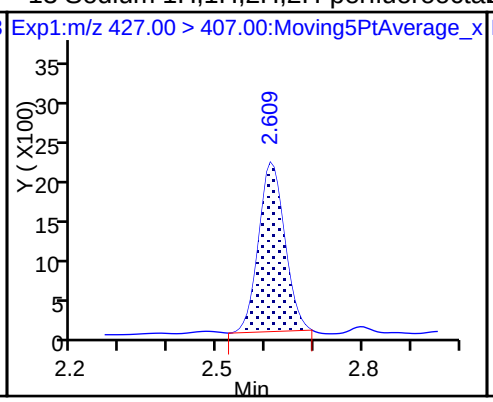
8 Perfluorohexanesulfonic acid



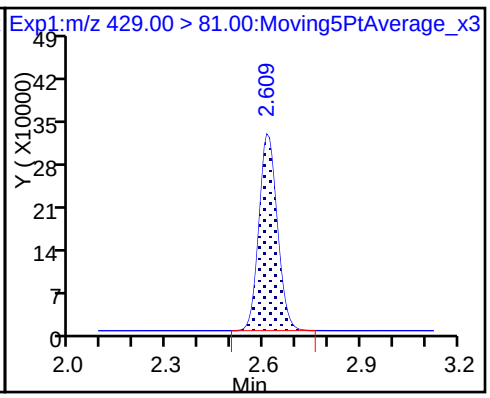
8 Perfluorohexanesulfonic acid



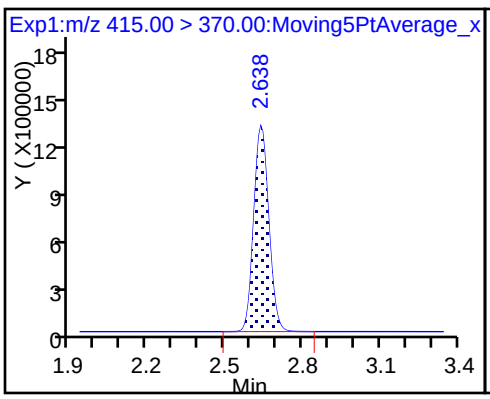
13 Sodium 1H,1H,2H,2H-perfluorooctane



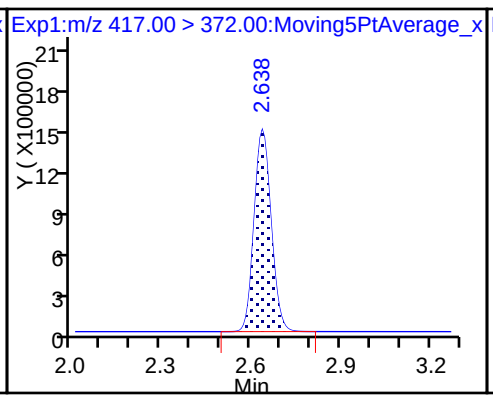
D 12 M2-6:2FTS



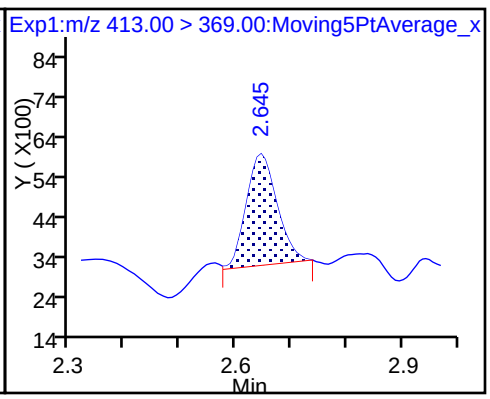
* 62 13C2-PFOA



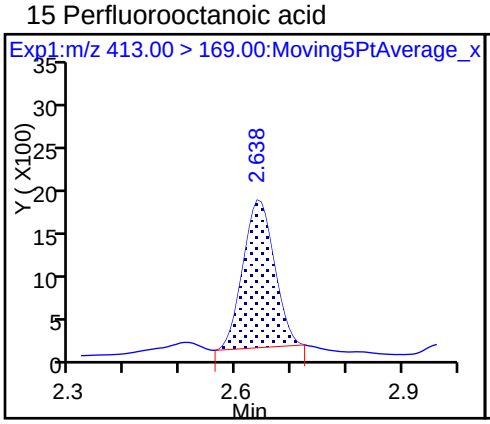
D 14 13C4 PFOA



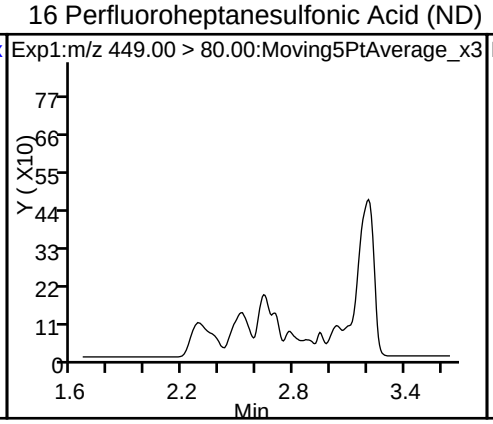
15 Perfluorooctanoic acid



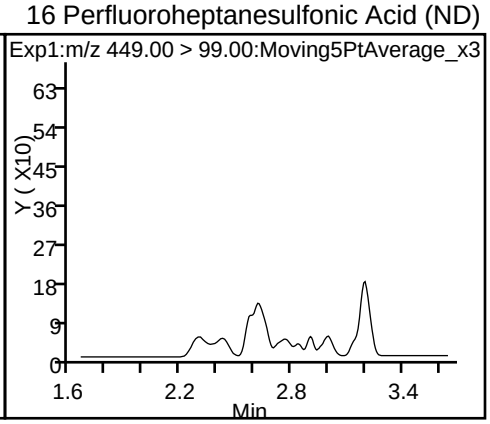
15 Perfluorooctanoic acid



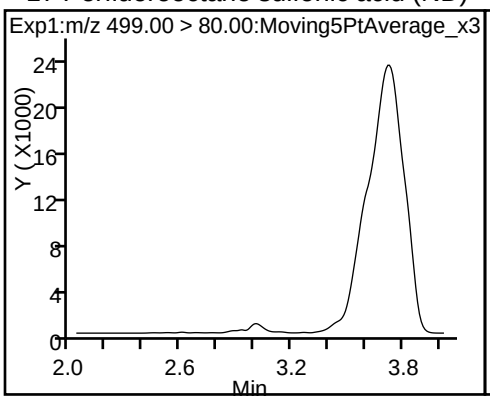
16 Perfluoroheptanesulfonic Acid (ND)



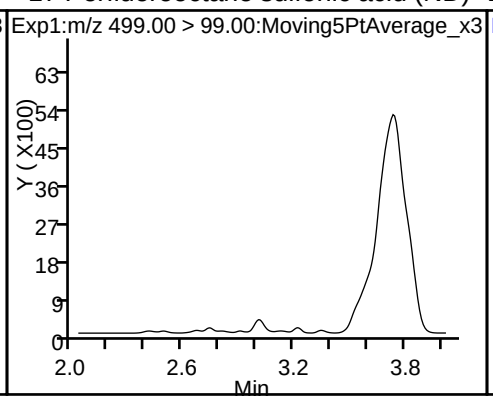
16 Perfluoroheptanesulfonic Acid (ND)



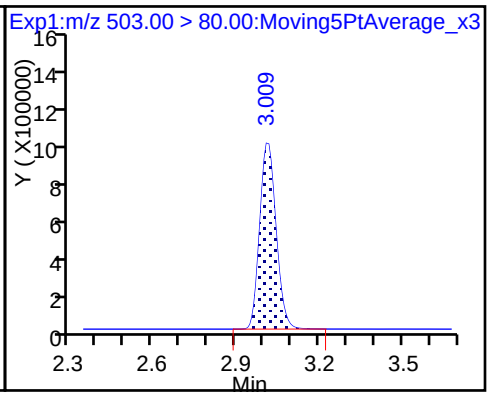
17 Perfluorooctane sulfonic acid (ND)



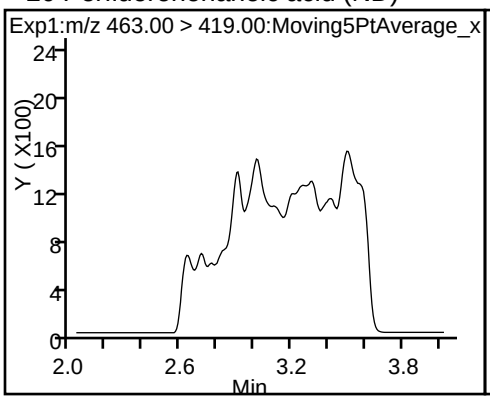
17 Perfluorooctane sulfonic acid (ND)



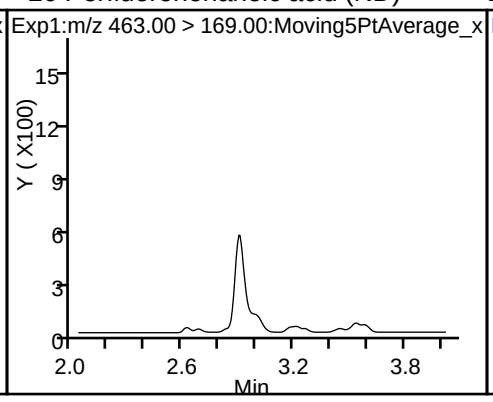
D 18 13C4 PFOS



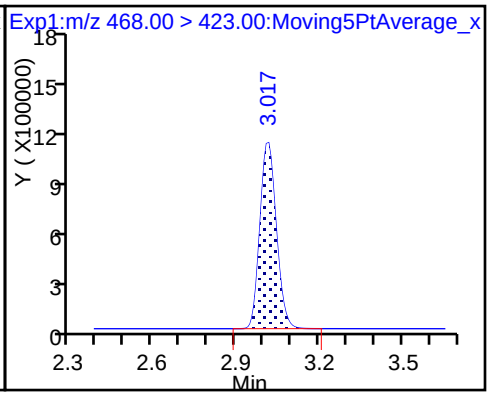
20 Perfluorononanoic acid (ND)



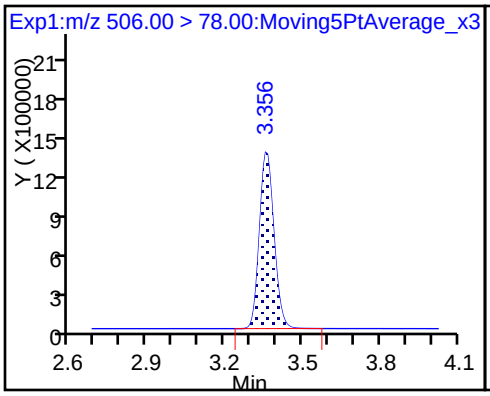
20 Perfluorononanoic acid (ND)



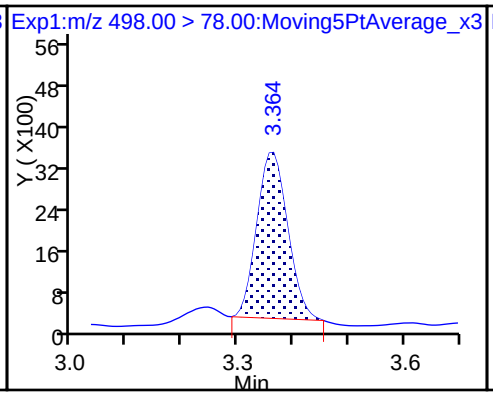
D 19 13C5 PFNA



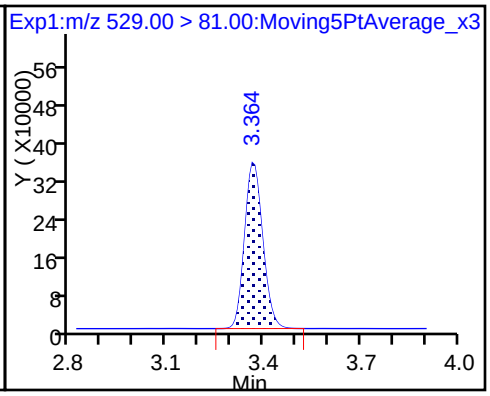
D 21 13C8 FOSA



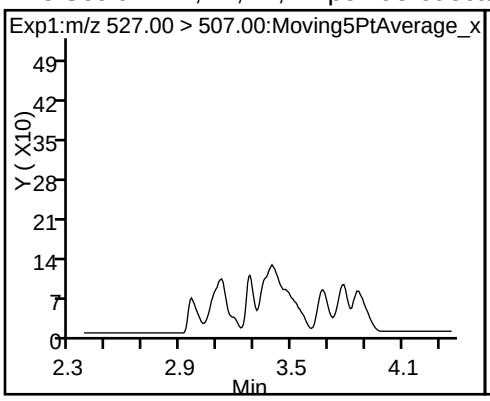
22 Perfluorooctane Sulfonamide



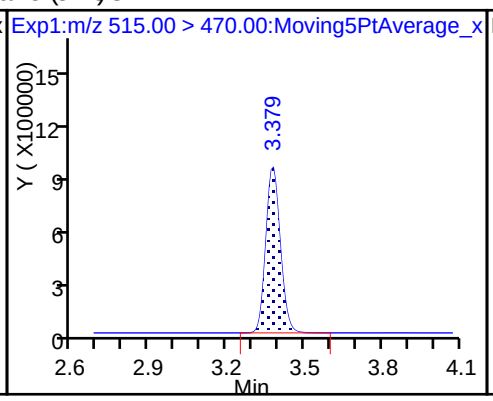
D 26 M2-8:2FTS



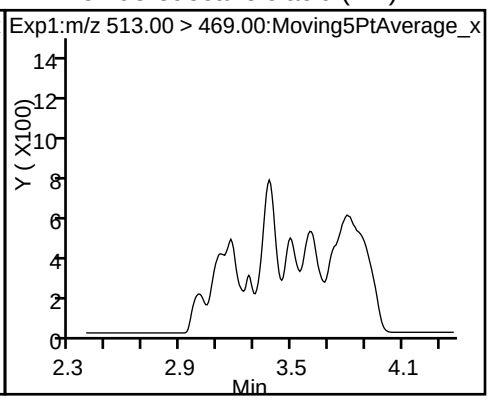
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



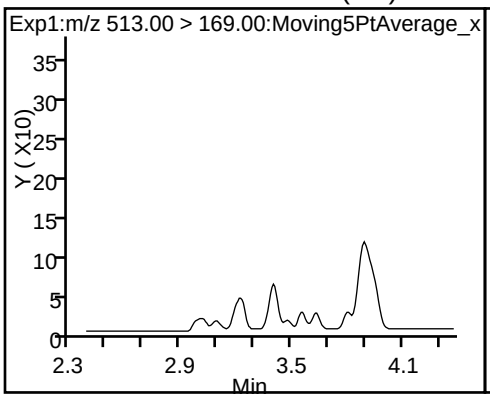
D 23 13C2 PFDA



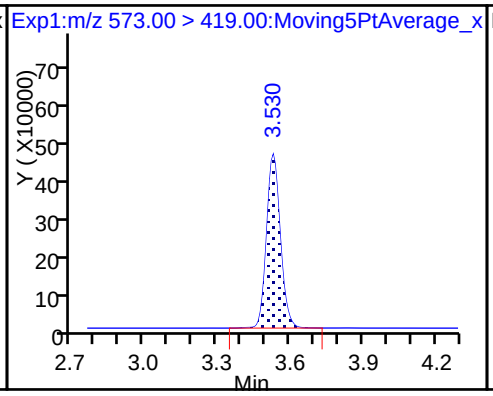
24 Perfluorodecanoic acid (ND)



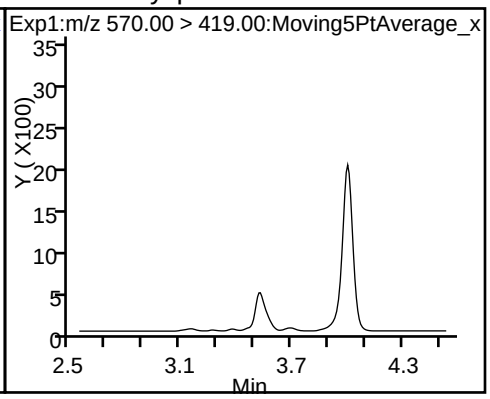
24 Perfluorodecanoic acid (ND)



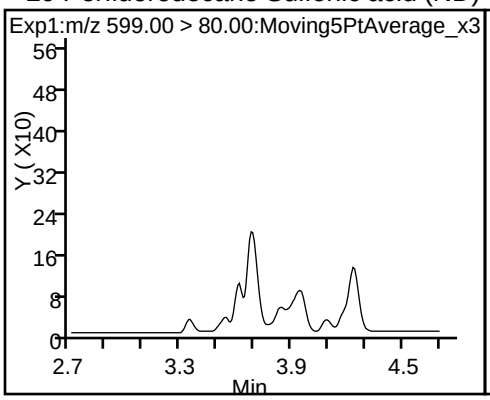
D 27 d3-NMeFOSAA



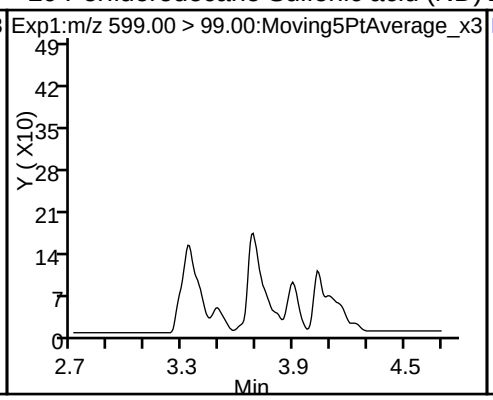
28 N-methyl perfluorooctane sulfonami (ND)



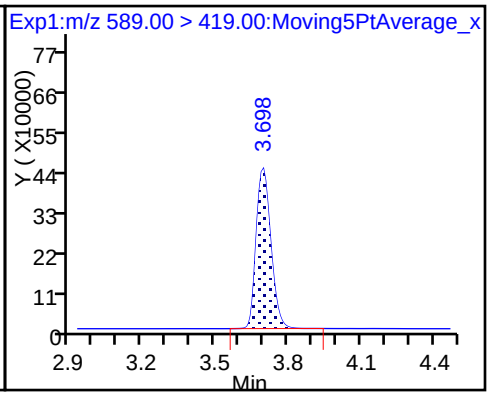
29 Perfluorodecane Sulfonic acid (ND)



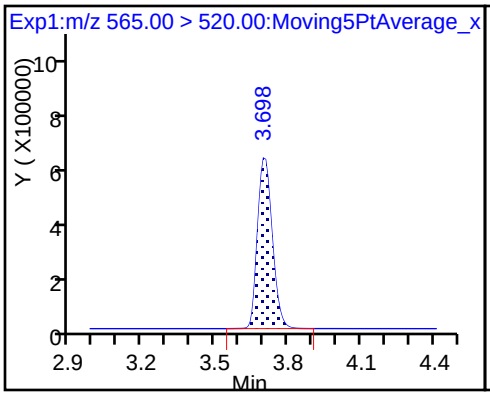
29 Perfluorodecane Sulfonic acid (ND)



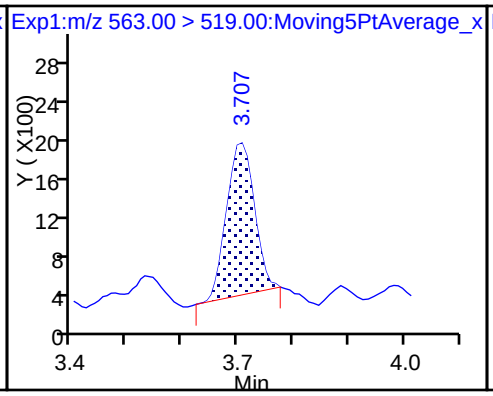
D 32 d5-NEtFOSAA



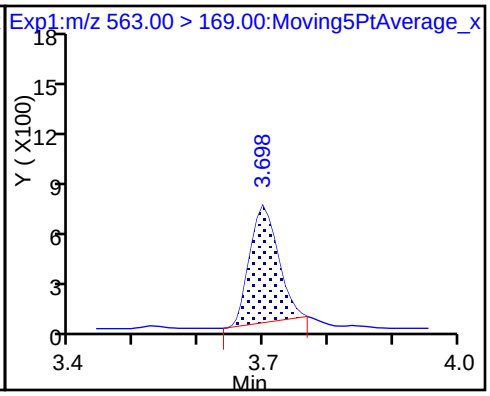
D 30 13C2 PFUnA



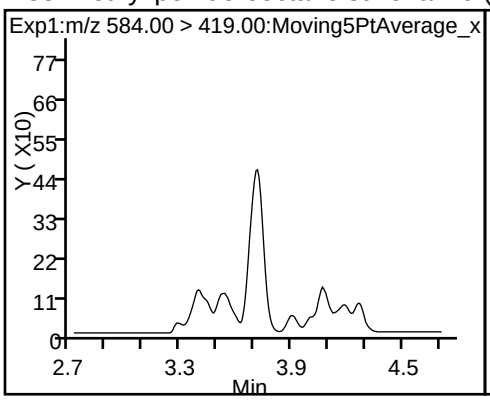
31 Perfluoroundecanoic acid



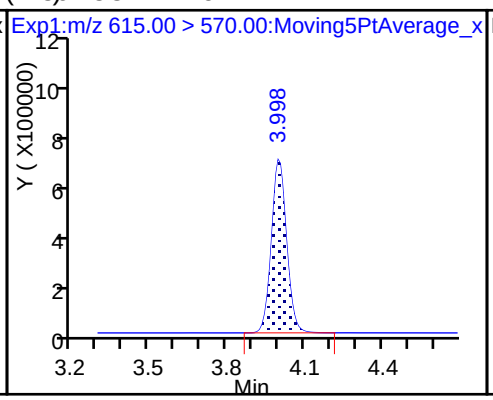
31 Perfluoroundecanoic acid



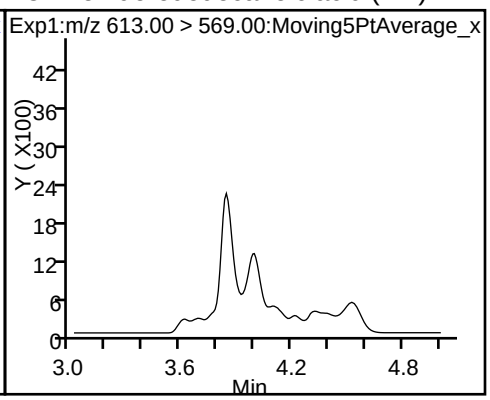
33 N-ethyl perfluorooctane sulfonamid (ND)



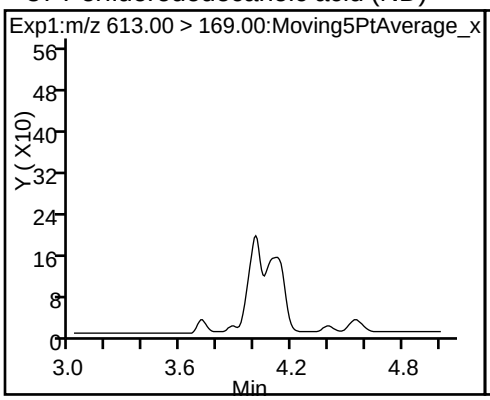
D 36 13C2 PFDoA



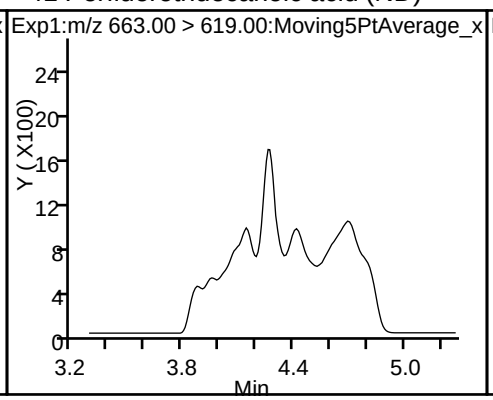
37 Perfluorododecanoic acid (ND)



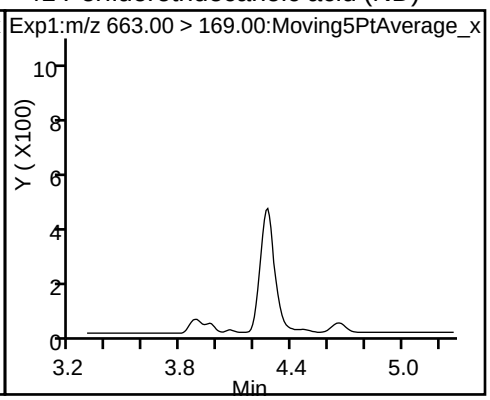
37 Perfluorododecanoic acid (ND)



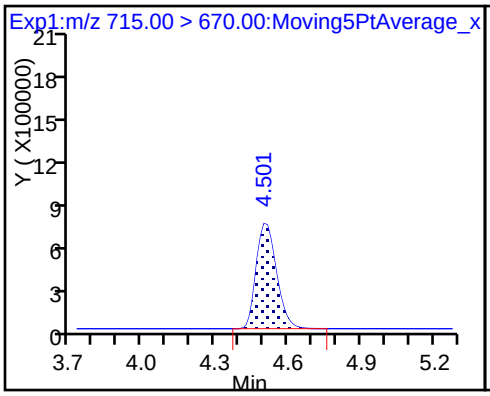
41 Perfluorotridecanoic acid (ND)



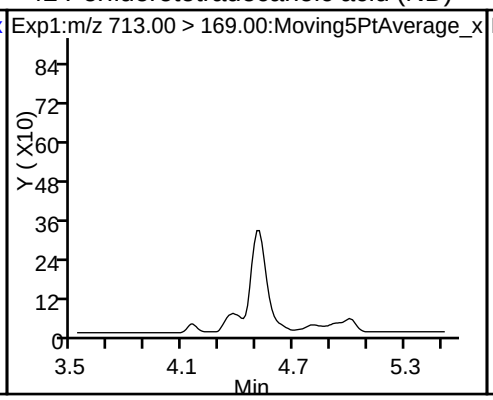
41 Perfluorotridecanoic acid (ND)



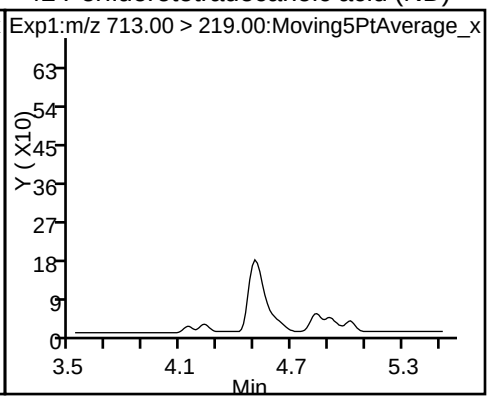
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

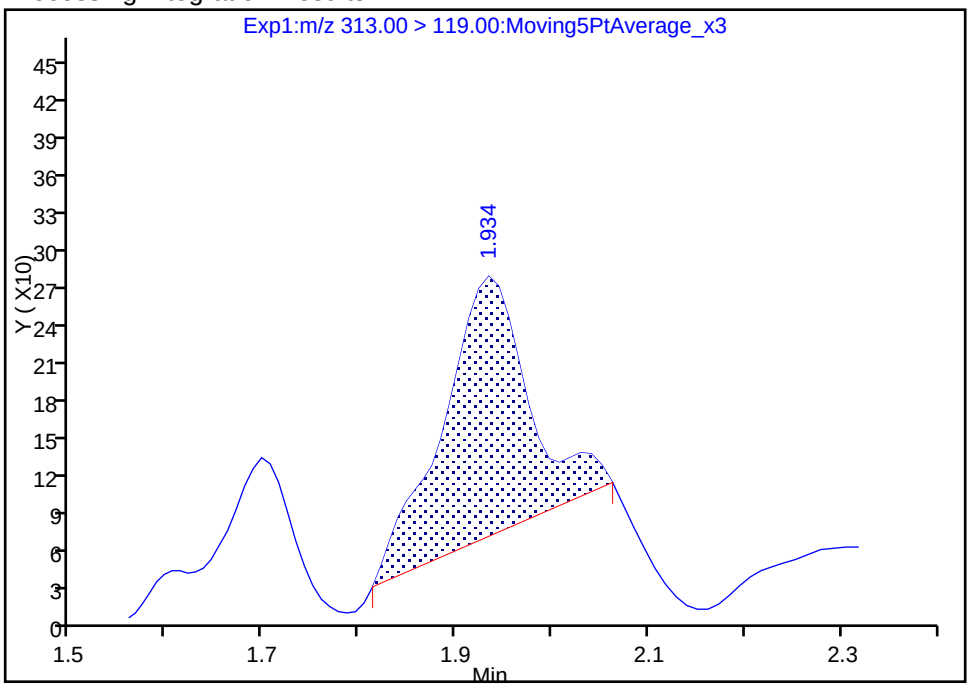
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_020.d				
Injection Date:	20-Dec-2017 07:01:59	Instrument ID:	A8_N		
Lims ID:	320-34182-A-21-A	Lab Sample ID:	320-34182-21		
Client ID:	FB003				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	13	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

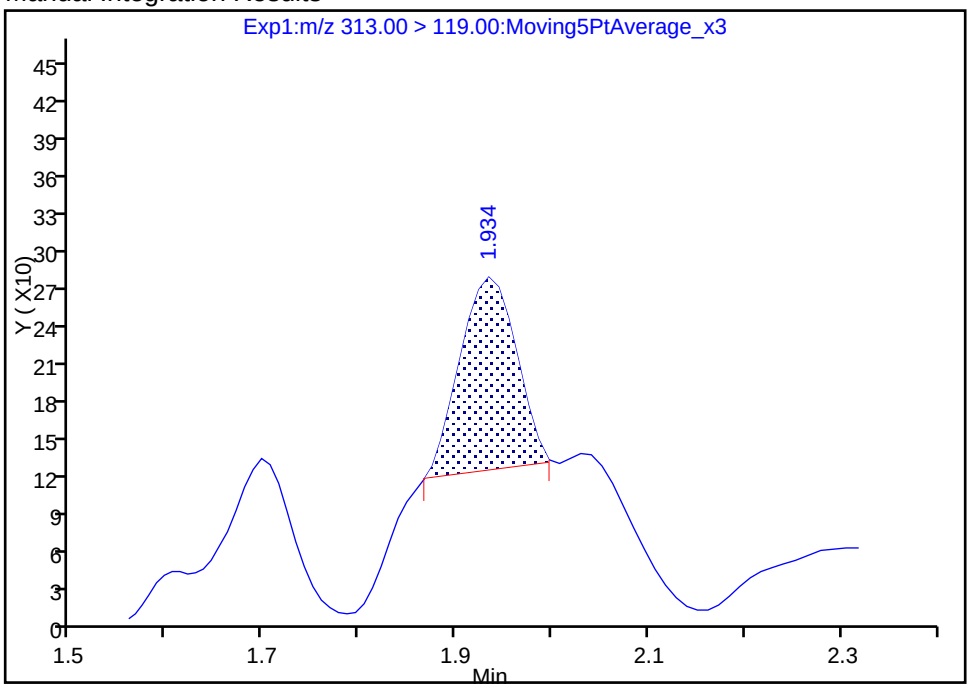
Processing Integration Results

RT: 1.93
Area: 1302
Amount: 0.003216
Amount Units: ng/ml



Manual Integration Results

RT: 1.93
Area: 630
Amount: 0.003216
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:40:11

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: EB003 | Lab Sample ID: 320-34182-22

Matrix: Water | Lab File ID: 2017.12.19LLC_021.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 250.2(mL) | Date Analyzed: 12/20/2017 07:09

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: EB003 | Lab Sample ID: 320-34182-22

Matrix: Water | Lab File ID: 2017.12.19LLC_021.d

Analysis Method: 537 (modified) | Date Collected: 12/08/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 250.2(mL) | Date Analyzed: 12/20/2017 07:09

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	115		25-150
STL01893	13C5 PFPeA	118		25-150
STL00993	13C2 PFHxA	116		25-150
STL01892	13C4-PFHpA	114		25-150
STL00990	13C4 PFOA	109		25-150
STL00995	13C5 PFNA	119		25-150
STL00996	13C2 PFDA	132		25-150
STL00997	13C2 PFUnA	122		25-150
STL00998	13C2 PFDoA	122		25-150
STL02116	13C2-PFTeDA	137		25-150
STL02337	13C3-PFBS	114		25-150
STL00994	18O2 PFHxS	120		25-150
STL00991	13C4 PFOS	122		25-150
STL01056	13C8 FOSA	110		25-150
STL02118	d3-NMeFOSAA	142		25-150
STL02117	d5-NEtFOSAA	141		25-150
STL02279	M2-6:2FTS	70		25-150
STL02280	M2-8:2FTS	182	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_021.d
Lims ID: 320-34182-A-22-A
Client ID: EB003
Sample Type: Client
Inject. Date: 20-Dec-2017 07:09:56 ALS Bottle#: 14 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-22-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 14:50:01 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 14:42:38

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.412	1.411	0.001	0.535	8571083	2.87		115	18235	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.412	1.412	0.0	1.000	20409	0.006525			3.0	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.660	1.664	-0.004	0.629	5178372	2.95		118	61280	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.660	1.664	-0.004	1.000	9482	0.004141			5.4	
D 47 13C3-PFBS										
301.90 > 83.00	1.696	1.699	-0.003	0.642	98771	2.66		114	3095	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.940	1.949	-0.009	0.995	6779	0.003123			14.4	M
313.00 > 119.00	1.940	1.949	-0.009	0.995	1233		5.50(5.03-15.10)		30.1	
D 7 13C2 PFHxA										
315.00 > 270.00	1.951	1.949	0.002	0.739	5428349	2.91		116	55306	
D 9 13C4-PFHpA										
367.00 > 322.00	2.275	2.286	-0.011	0.861	4950521	2.84		114	37523	
D 11 18O2 PFHxS										
403.00 > 84.00	2.288	2.299	-0.011	0.866	6141604	2.85		120	54048	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.301	2.299	0.002	1.006	20917	0.007411			69.6	
399.00 > 99.00	2.301	2.299	0.002	1.006	5751		3.64(1.50-4.49)		37.8	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.620	2.640	-0.020	1.003	8353	0.0102			441	
D 12 M2-6:2FTS										
429.00 > 81.00	2.612	2.640	-0.028	0.989	1209852	1.67		70.4	33769	
* 62 13C2-PFOA										
415.00 > 370.00	2.641	2.643	-0.002		5060344	2.50			42773	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFOA										
417.00 > 372.00	2.641	2.647	-0.006	1.000	5684130	2.71		109	76009	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.641	2.649	-0.008	1.000	10894	0.004540			3.9	
413.00 > 169.00	2.641	2.649	-0.008	1.000	6156		1.77(0.84-2.52)		59.0	
D 18 13C4 PFOS										
503.00 > 80.00	3.014	3.025	-0.011	1.141	4046397	2.92		122	38761	
D 19 13C5 PFNA										
468.00 > 423.00	3.014	3.026	-0.012	1.141	4174010	2.97		119	42188	
D 21 13C8 FOSA										
506.00 > 78.00	3.367	3.362	0.005	1.275	5373907	2.74		110	34703	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.367	3.365	0.002	1.000	8839	0.004349			255	
D 26 M2-8:2FTS										
529.00 > 81.00	3.375	3.375	0.0	1.278	1346218	4.36		182	18457	
D 23 13C2 PFDA										
515.00 > 470.00	3.382	3.387	-0.005	1.281	3725444	3.31		132	38779	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.535	3.541	-0.006	1.338	1837216	3.54		142	20350	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.702	3.711	-0.009	1.402	1889514	3.53		141	10420	
D 30 13C2 PFUnA										
565.00 > 520.00	3.702	3.717	-0.015	1.402	2653905	3.06		122	37408	
D 36 13C2 PFDoA										
615.00 > 570.00	4.002	4.015	-0.013	1.515	2813909	3.05		122	32156	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.505	4.522	-0.017	1.706	3463134	3.42		137	24901	

QC Flag Legend

Review Flags

M - Manually Integrated

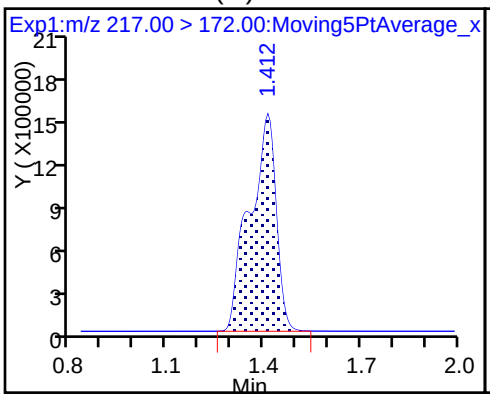
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TestAmerica Sacramento

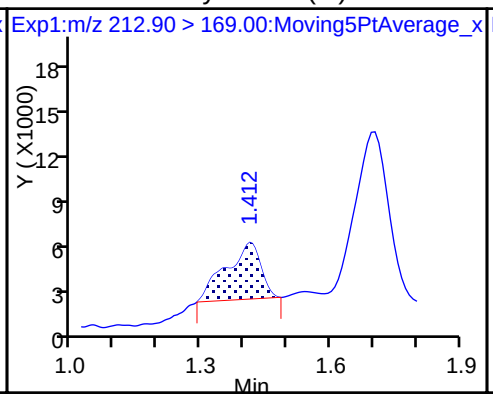
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Injection Date:	20-Dec-2017 07:09:56	Instrument ID:	A8_N		
Lims ID:	320-34182-A-22-A	Lab Sample ID:	320-34182-22		
Client ID:	EB003				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	14	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

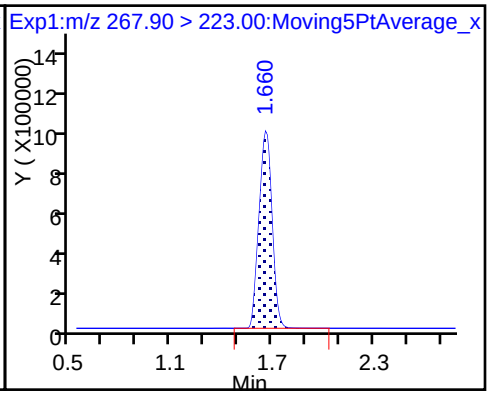
D 1 13C4 PFBA (M)



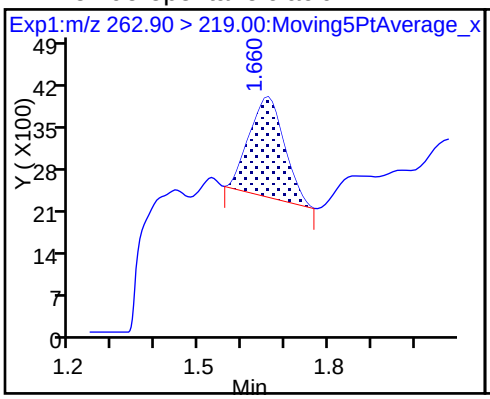
2 Perfluorobutyric acid (M)



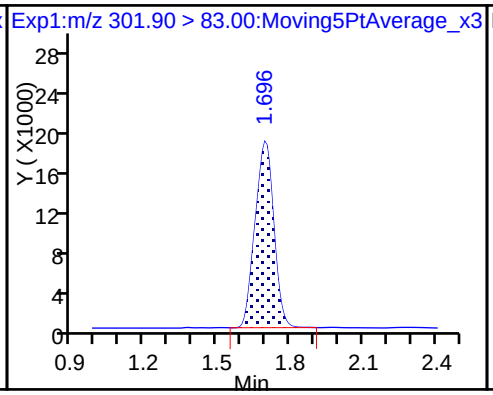
D 3 13C5-PFPeA



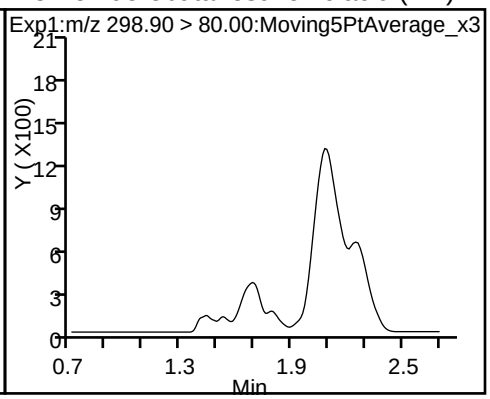
4 Perfluoropentanoic acid



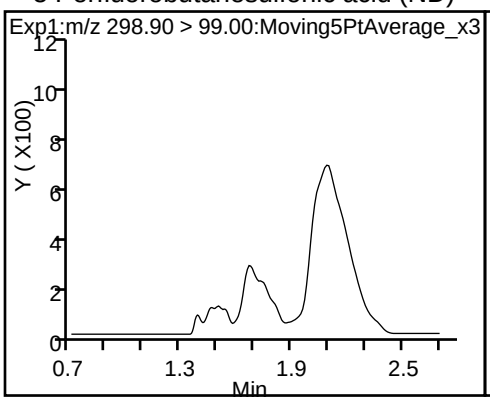
D 47 13C3-PFBS



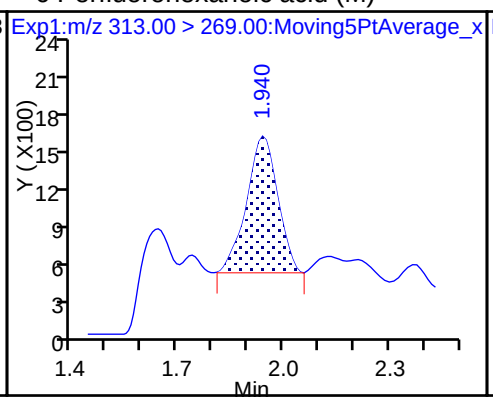
5 Perfluorobutanesulfonic acid (ND)



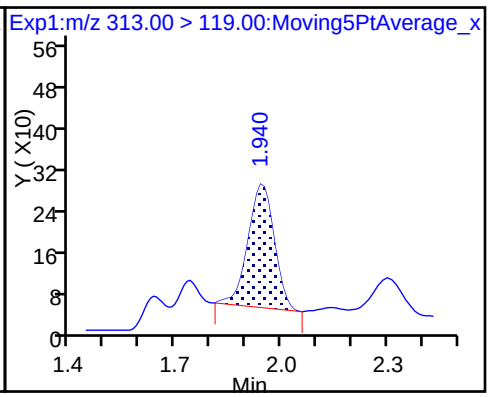
5 Perfluorobutanesulfonic acid (ND)



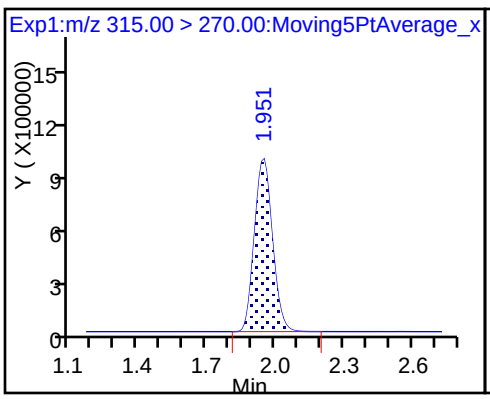
6 Perfluorohexanoic acid (M)



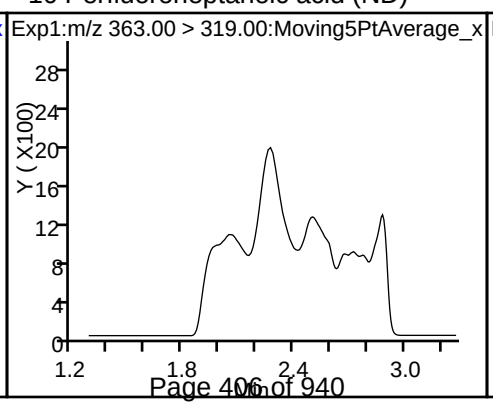
6 Perfluorohexanoic acid



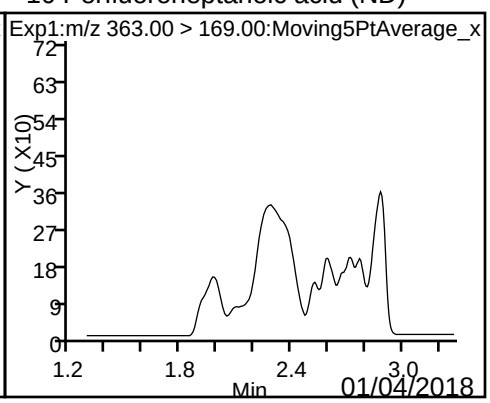
D 7 13C2 PFHxA



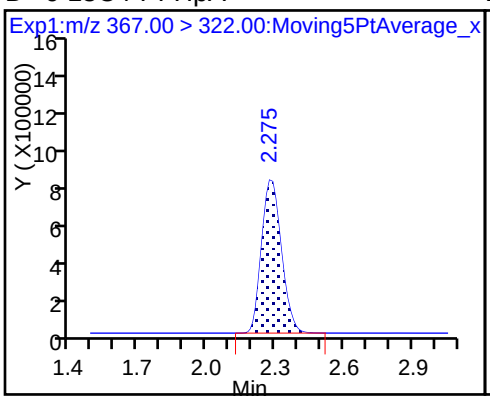
10 Perfluoroheptanoic acid (ND)



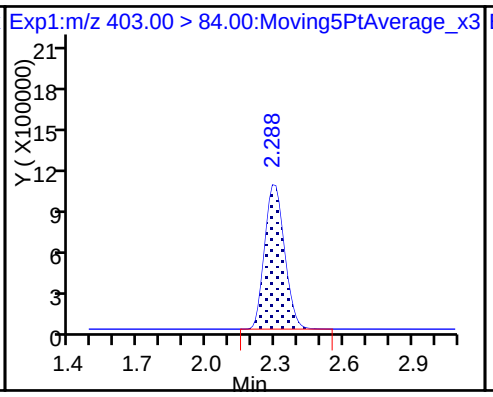
10 Perfluoroheptanoic acid (ND)



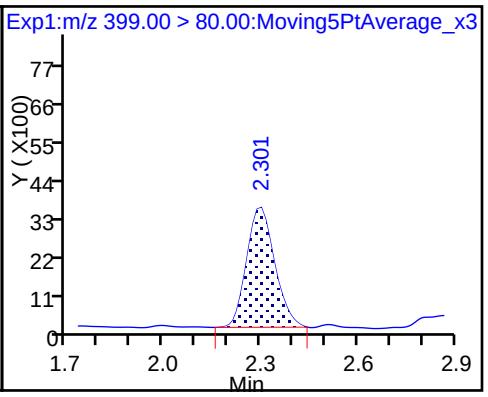
D 9 13C4-PFHpA



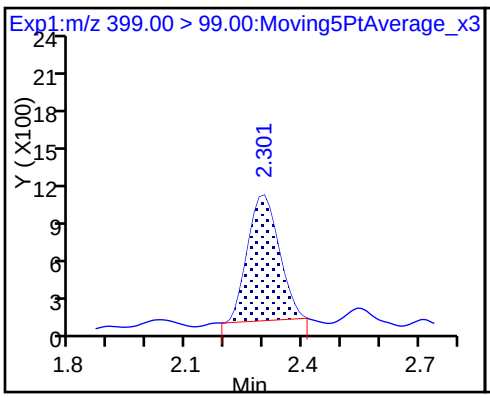
D 11 18O2 PFHxS



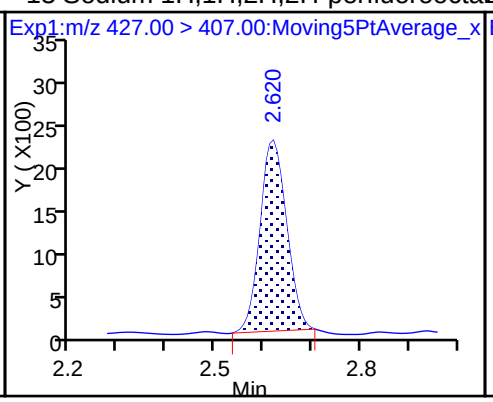
8 Perfluorohexanesulfonic acid



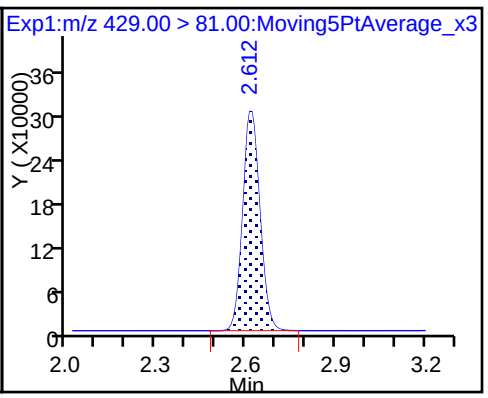
8 Perfluorohexanesulfonic acid



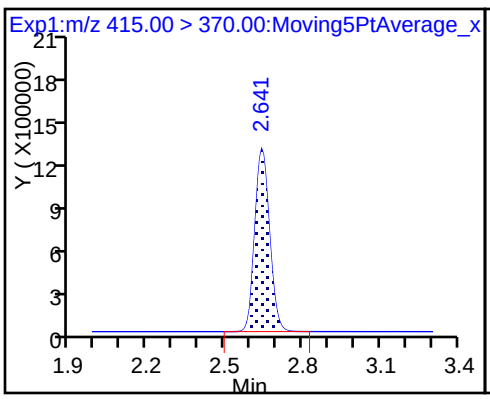
13 Sodium 1H,1H,2H,2H-perfluorooctane



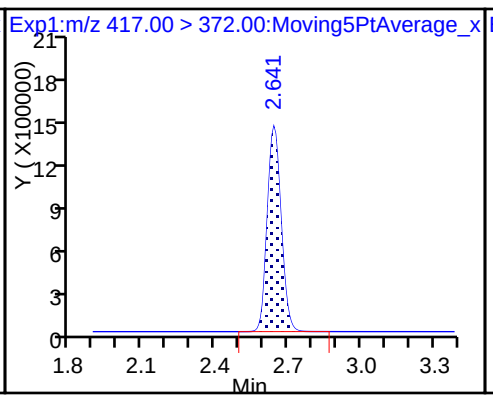
D 12 M2-6:2FTS



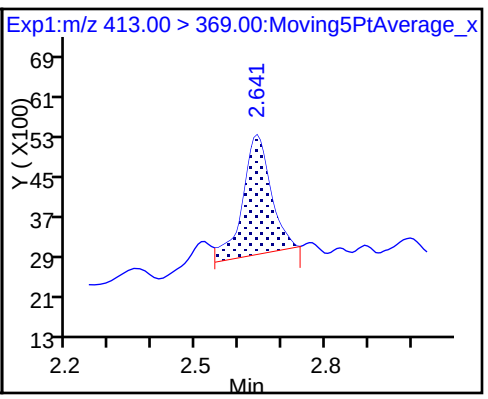
* 62 13C2-PFOA



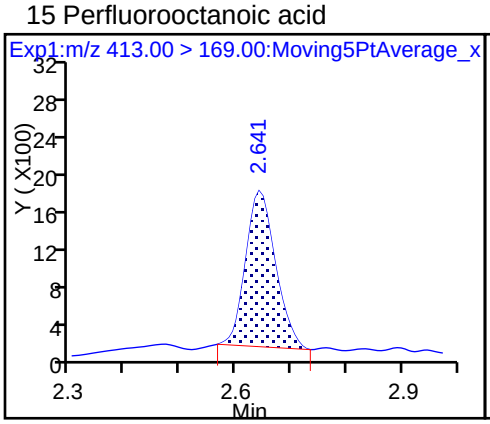
D 14 13C4 PFOA



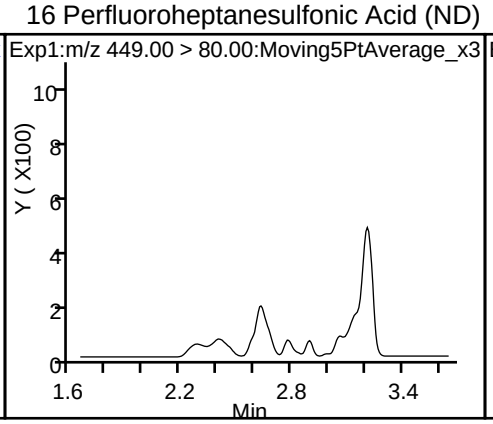
15 Perfluorooctanoic acid



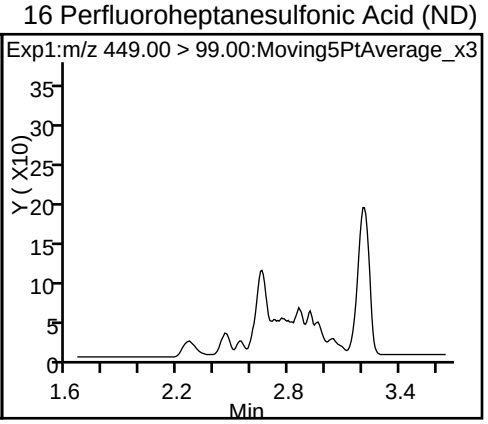
15 Perfluorooctanoic acid



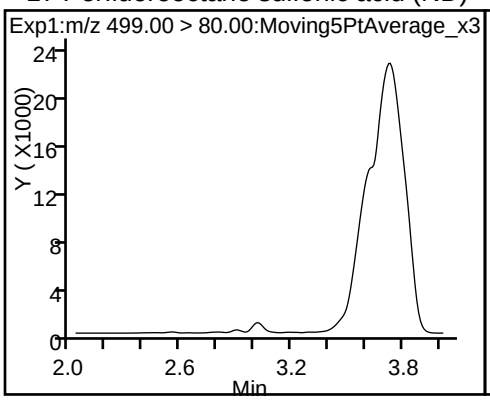
16 Perfluoroheptanesulfonic Acid (ND)



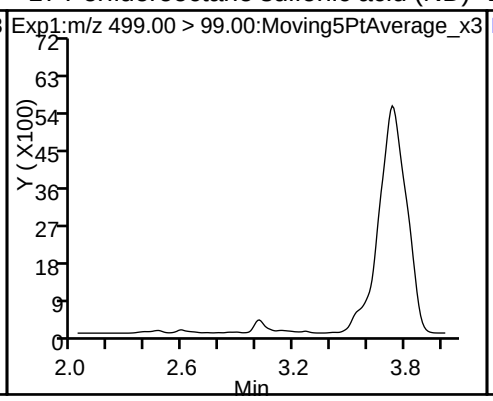
16 Perfluoroheptanesulfonic Acid (ND)



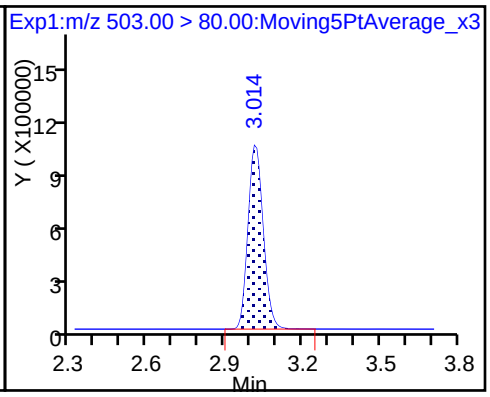
17 Perfluorooctane sulfonic acid (ND)



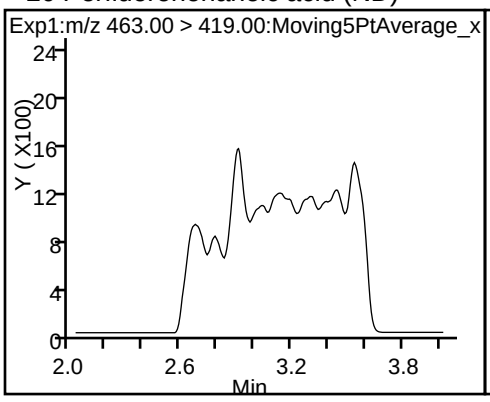
17 Perfluorooctane sulfonic acid (ND)



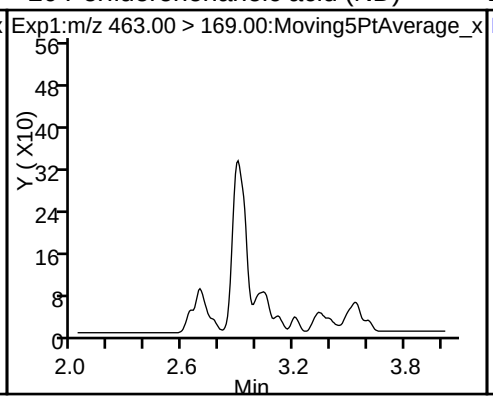
D 18 13C4 PFOS



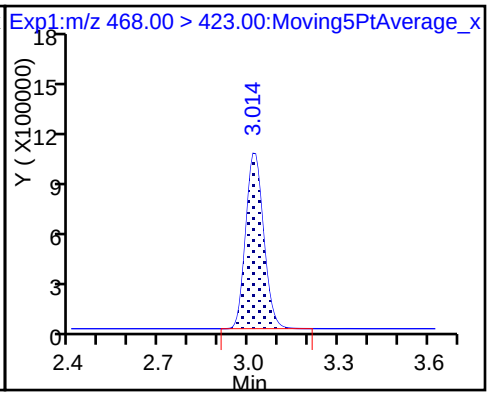
20 Perfluorononanoic acid (ND)



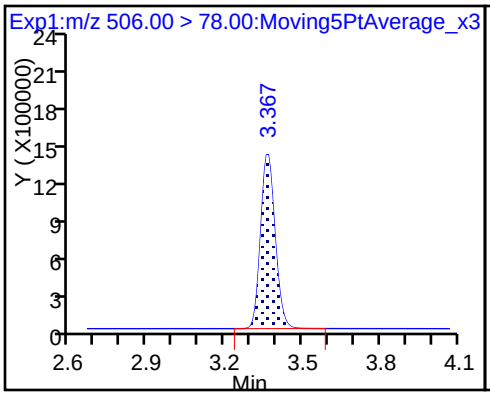
20 Perfluorononanoic acid (ND)



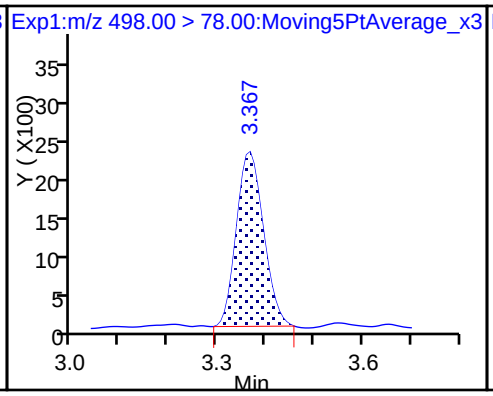
D 19 13C5 PFNA



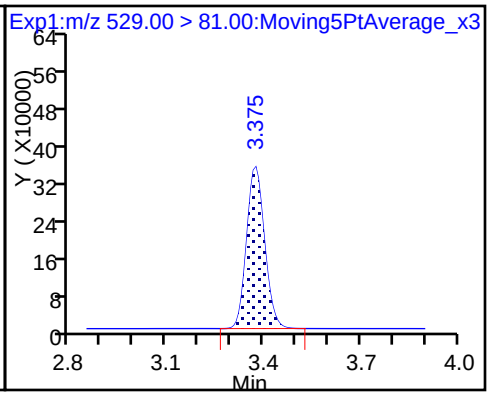
D 21 13C8 FOSA



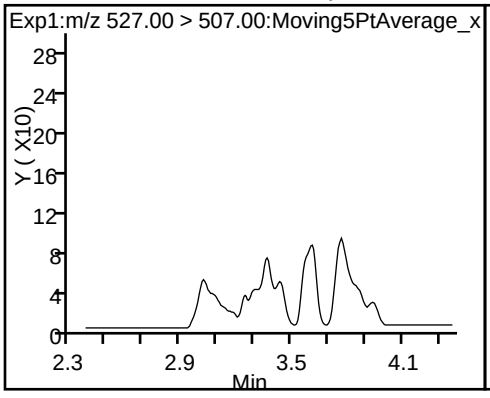
22 Perfluorooctane Sulfonamide



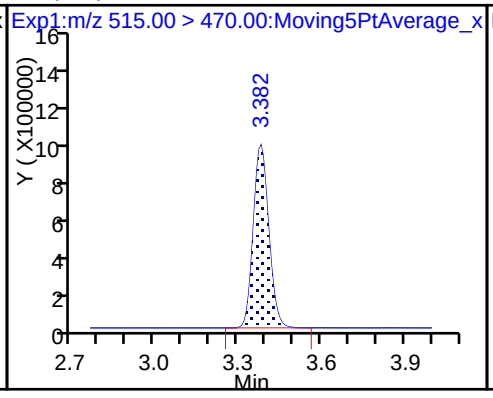
D 26 M2-8:2FTS



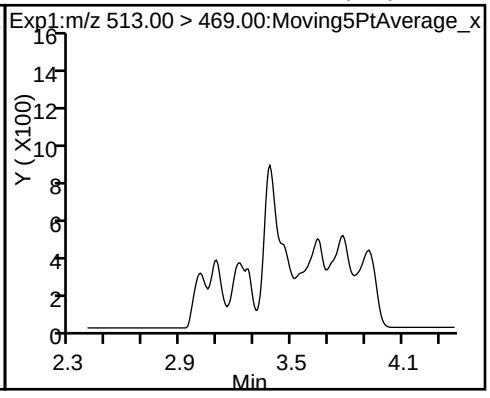
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



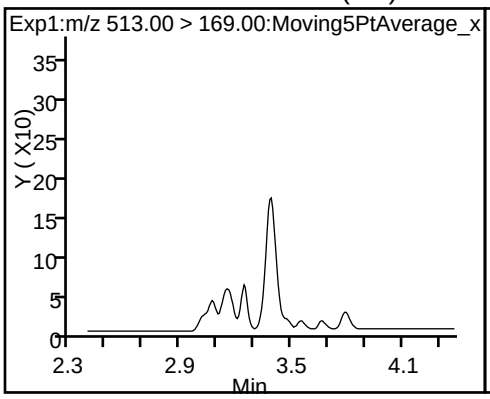
D 13C2 PFDA



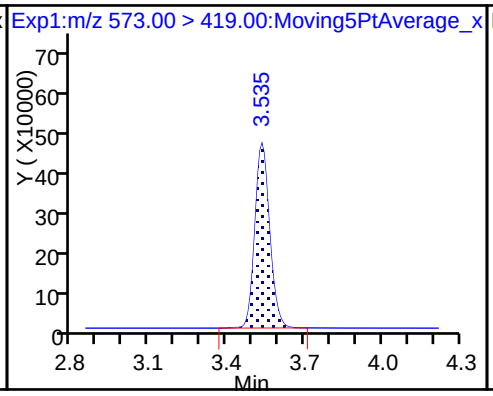
24 Perfluorodecanoic acid (ND)



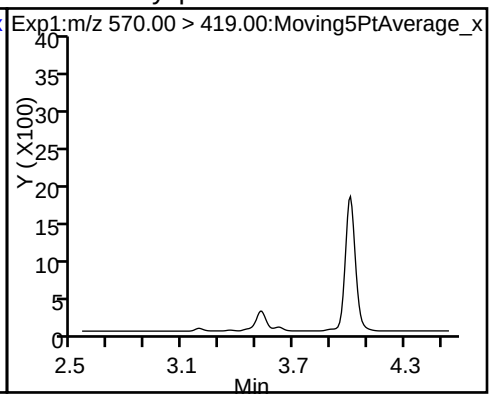
24 Perfluorodecanoic acid (ND)



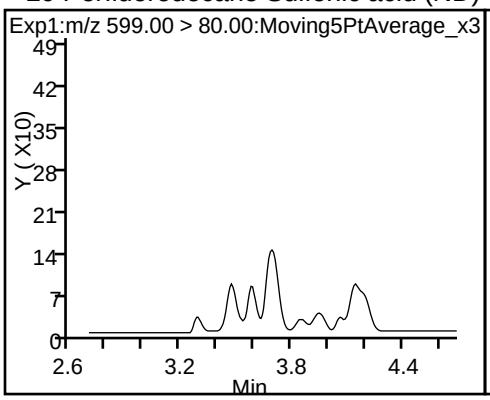
D 27 d3-NMeFOSAA



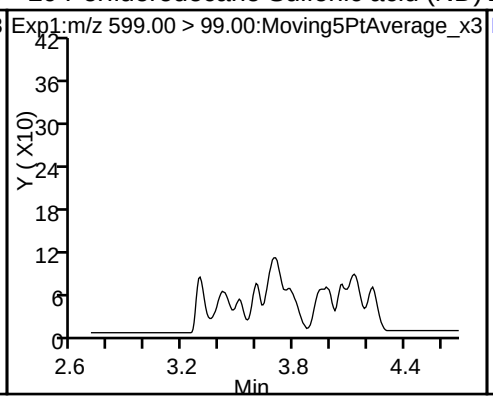
28 N-methyl perfluorooctane sulfonami (ND)



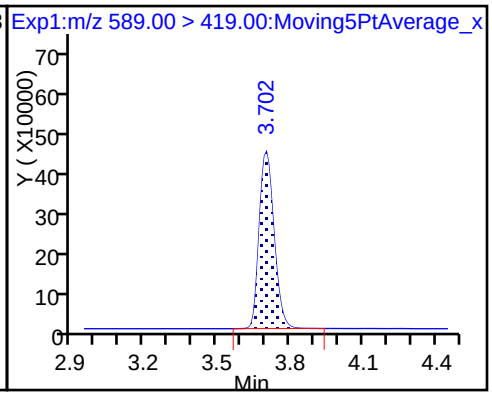
29 Perfluorodecane Sulfonic acid (ND)



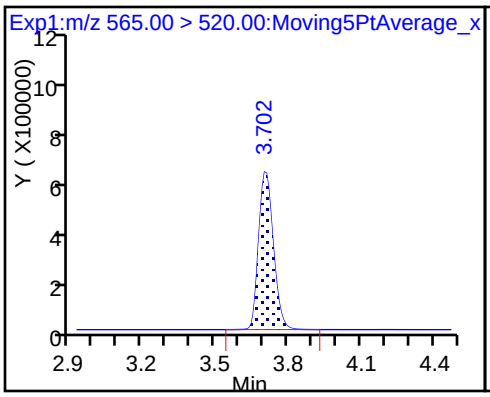
29 Perfluorodecane Sulfonic acid (ND)



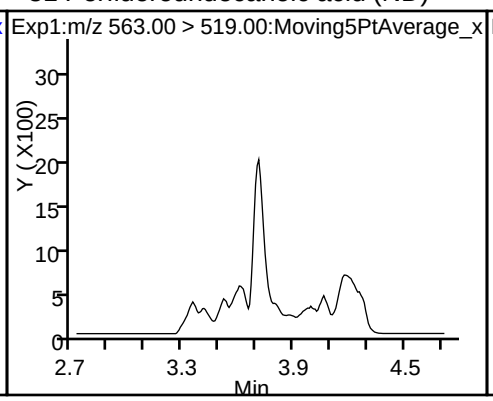
D 32 d5-NEtFOSAA



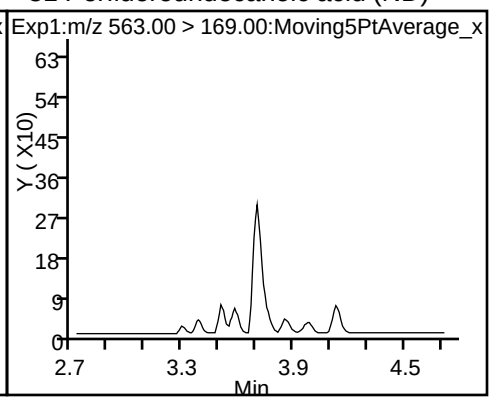
D 30 13C2 PFUnA



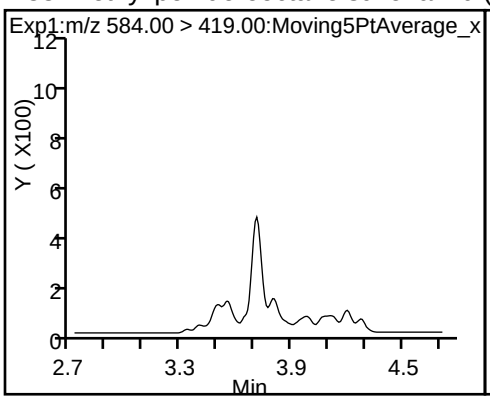
31 Perfluoroundecanoic acid (ND)



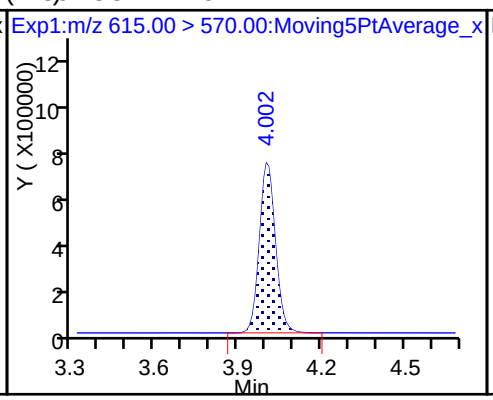
31 Perfluoroundecanoic acid (ND)



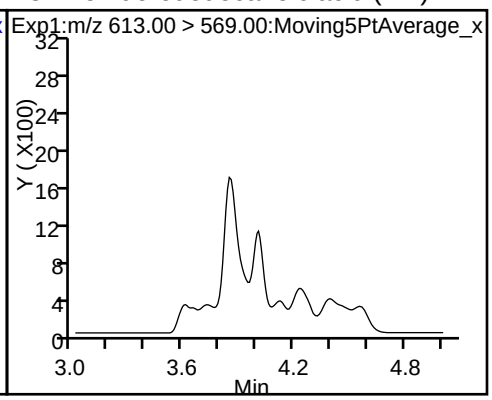
33 N-ethyl perfluorooctane sulfonamid (ND)



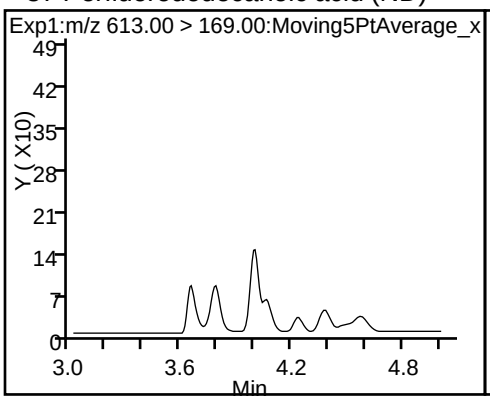
D 36 13C2 PFDoA



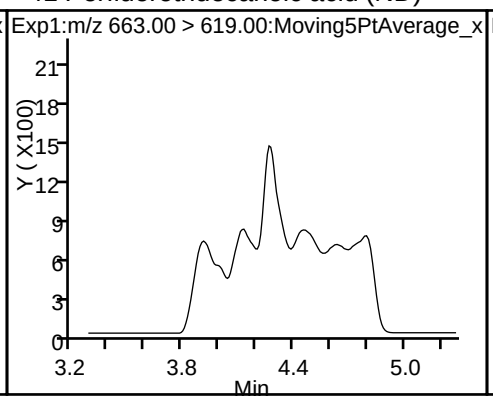
37 Perfluorododecanoic acid (ND)



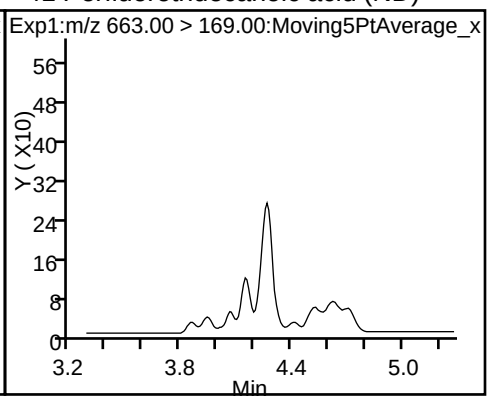
37 Perfluorododecanoic acid (ND)



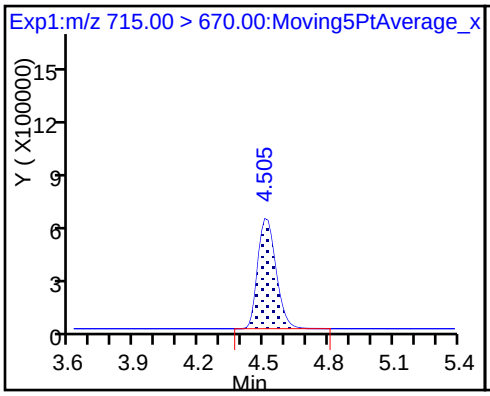
41 Perfluorotridecanoic acid (ND)



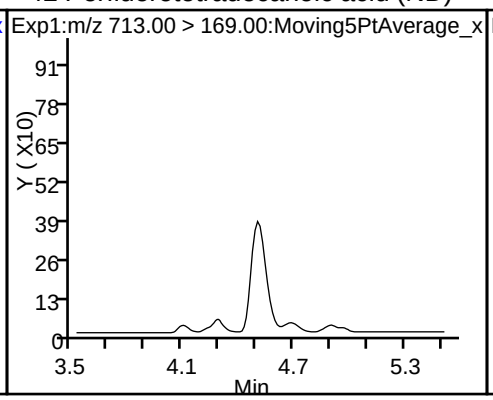
41 Perfluorotridecanoic acid (ND)



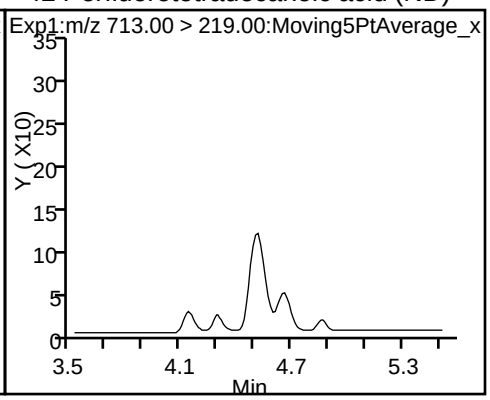
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

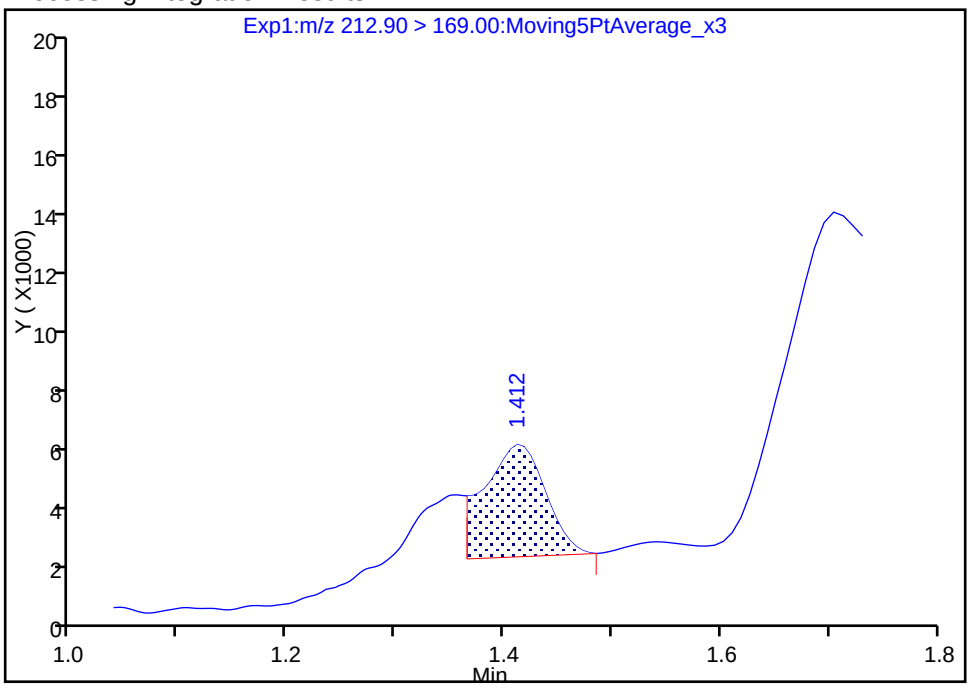
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_021.d				
Injection Date:	20-Dec-2017 07:09:56	Instrument ID:	A8_N		
Lims ID:	320-34182-A-22-A	Lab Sample ID:	320-34182-22		
Client ID:	EB003				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	14	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

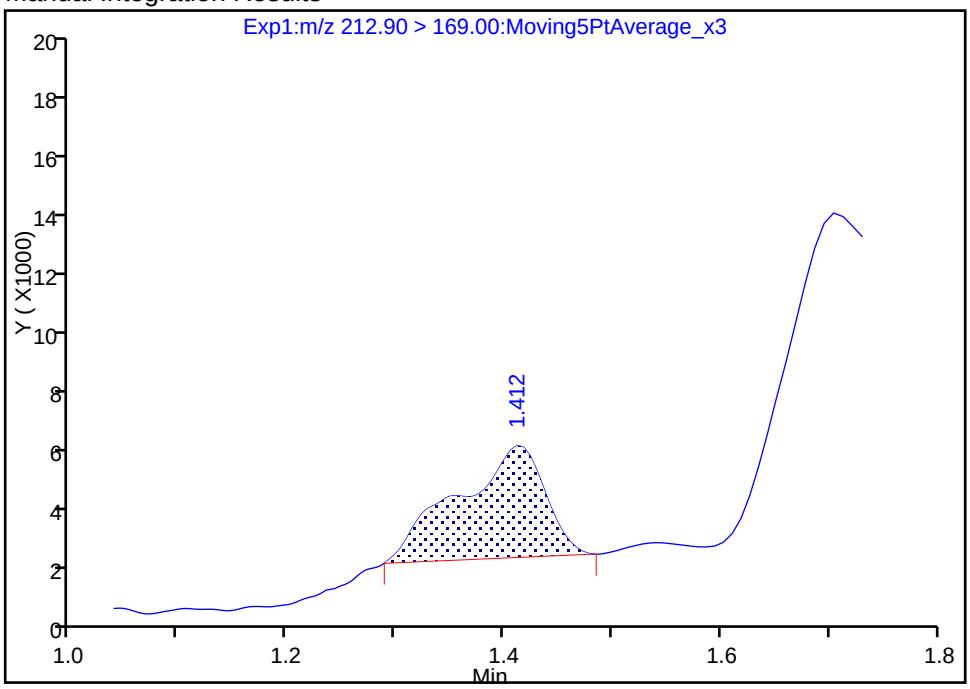
Processing Integration Results

RT: 1.41
Area: 14179
Amount: 0.004533
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 20409
Amount: 0.006525
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:41:44
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

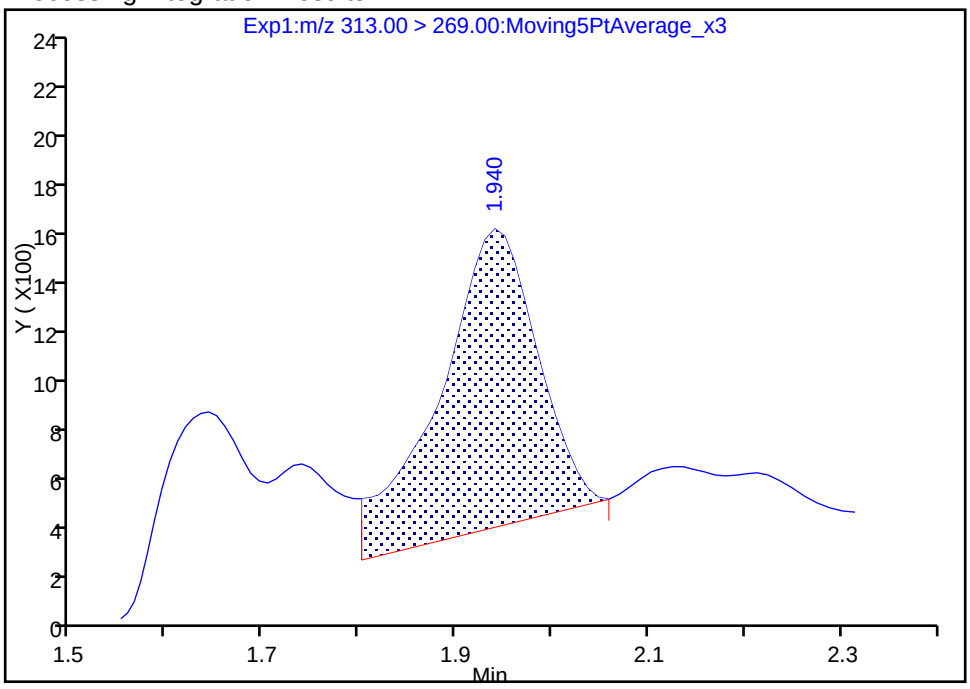
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_021.d				
Injection Date:	20-Dec-2017 07:09:56	Instrument ID:	A8_N		
Lims ID:	320-34182-A-22-A	Lab Sample ID:	320-34182-22		
Client ID:	EB003				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	14	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

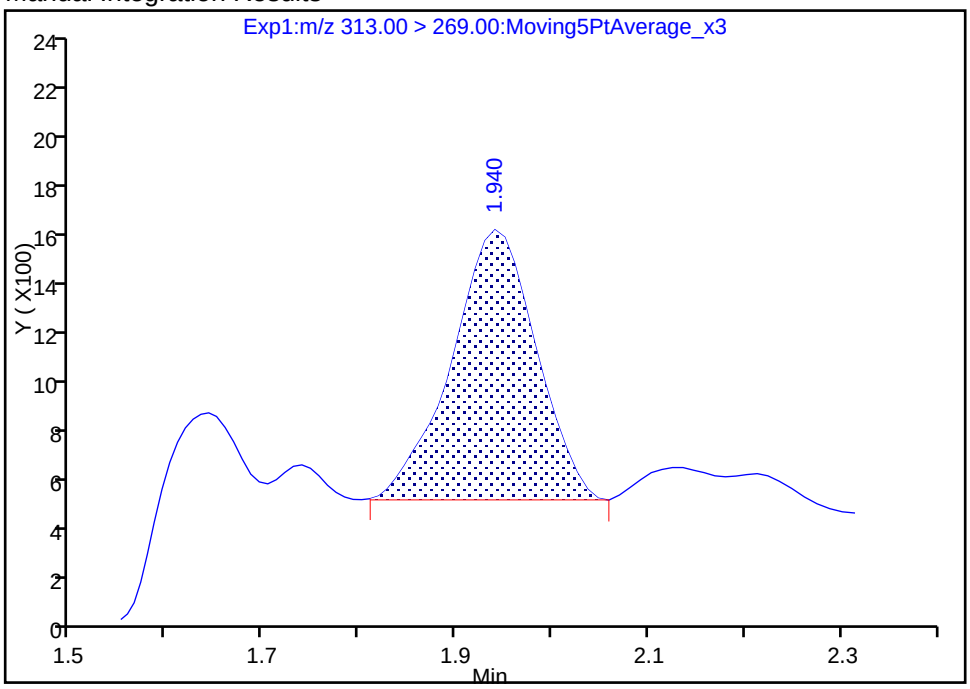
Processing Integration Results

RT: 1.94
Area: 8723
Amount: 0.004018
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 6779
Amount: 0.003123
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:42:03
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

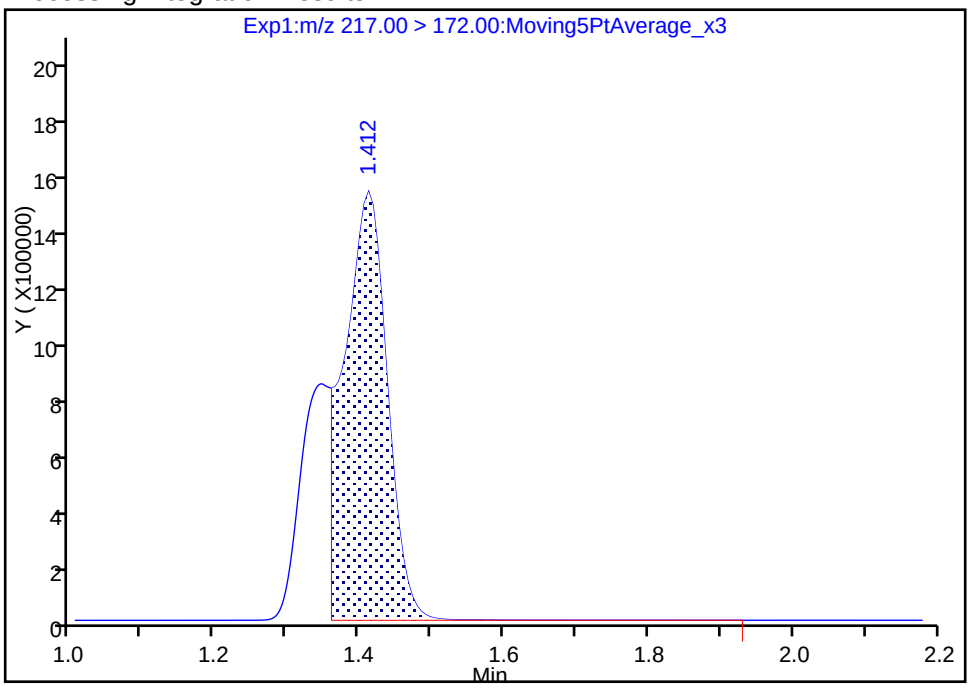
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_021.d				
Injection Date:	20-Dec-2017 07:09:56	Instrument ID:	A8_N		
Lims ID:	320-34182-A-22-A	Lab Sample ID:	320-34182-22		
Client ID:	EB003				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	14	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

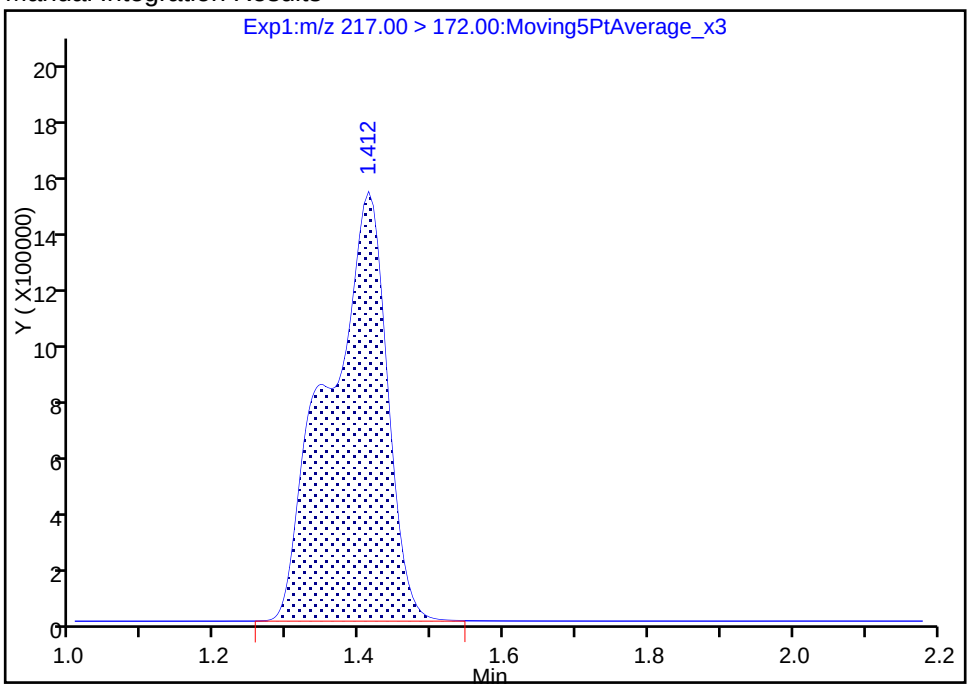
Processing Integration Results

RT: 1.41
Area: 6199272
Amount: 2.077277
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 8571083
Amount: 2.872033
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:41:32

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 199988

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/14/2017 15:52 Calibration End Date: 12/14/2017 16:55 Calibration ID: 36847

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-199988/2	2017.12.14ICAL_002.d
Level 2	IC 320-199988/3	2017.12.14ICAL_003.d
Level 3	IC 320-199988/4	2017.12.14ICAL_004.d
Level 4	IC 320-199988/5	2017.12.14ICAL_005.d
Level 5	IC 320-199988/10	2017.12.14ICAL_010.d
Level 6	IC 320-199988/6	2017.12.14ICAL_006.d
Level 7	IC 320-199988/7	2017.12.14ICAL_007.d
Level 8	IC 320-199988/8	2017.12.14ICAL_008.d
Level 9	IC 320-199988/9	2017.12.14ICAL_009.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Perfluorobutanoic acid (PFBA)	0.8732 0.9385	0.9049 0.9287	0.9227 0.9046	0.9256 0.8153		AveID		0.9017				4.5		35.0			
Perfluoropentanoic acid (PFPeA)	1.2174 1.0978	1.1862 1.1093	1.0993 1.0999	1.1069 0.9822		AveID		1.1124				6.3		35.0			
Perfluorobutanesulfonic acid (PFBS)	70.259 76.105	75.729 75.832	79.352 71.844	78.364 59.136		AveID		73.328				8.8		50.0			
4:2 FTS	+++++ 0.4515	0.4214 0.5839	0.4247 +++++	0.4562 +++++		AveID		0.4676				14.3		50.0			
Perfluorohexanoic acid (PFHxA)	0.9384 1.0346	1.0766 0.9836	0.9731 1.0024	0.9803 0.9009		AveID		0.9862				5.5		35.0			
Perfluoroheptanoic acid (PFHpA)	1.1597 1.0736	0.9861 1.0585	1.0271 0.9926	1.0620 0.9326		AveID		1.0365				6.6		35.0			
Perfluorohexanesulfonic acid (PFHxS)	1.4307 1.0157	1.2608 1.0481	1.0693 1.0454	1.0157 0.9481		AveID		1.1042				14.5		35.0			
6:2FTS	1.4094 1.5713	1.6460 1.5147	1.6456 1.5881	1.6381 +++++		AveID		1.5733				5.5		35.0			
Perfluorooctanoic acid (PFOA)	1.2178 1.0553	1.0864 1.0716	1.0888 0.9788	1.0614 0.9453		AveID		1.0632				7.6		35.0			
Perfluoroheptanesulfonic Acid (PFHpS)	1.4474 1.5474	1.4514 1.4957	1.5658 1.4564	1.5207 1.3130		AveID		1.4747				5.4		50.0			
Perfluorooctanesulfonic acid (PFOS)	1.0177 1.0810	1.0443 1.0714	1.0864 1.0959	1.0645 1.0418		AveID		1.0629				2.5		35.0			
Perfluorononanoic acid (PFNA)	1.0386 1.0325	0.9669 0.9768	1.0282 0.9857	1.0452 0.8975		AveID		0.9964				5.0		35.0			
Perfluorooctane Sulfonamide (FOSA)	0.9733 0.9785	0.9833 0.9823	0.9502 0.9288	0.9830 0.7901		AveID		0.9462				7.0		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 199988

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/14/2017 15:52 Calibration End Date: 12/14/2017 16:55 Calibration ID: 36847

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
8:2FTS	1.1561 1.2508	1.2550 1.2053	1.2355 1.2227	1.2399 1.1723		AveID		1.2172				3.0		35.0			
Perfluorodecanoic acid (PFDA)	0.9300 0.9984	0.9322 1.0008	0.9916 1.0025	0.9983 0.8773		AveID		0.9664				4.9		35.0			
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.9031 1.0995	1.0283 1.0794	1.0221 1.1187	1.1049 0.9972		AveID		1.0441				6.9		35.0			
Perfluorodecanesulfonic acid (PFDS)	0.6294 0.6132	0.5828 0.5830	0.5921 0.5811	0.6003 0.5695		AveID		0.5939				3.3		50.0			
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.8812 0.9790	0.9274 0.9871	0.9828 0.9991	0.9715 0.9927		AveID		0.9651				4.2		35.0			
Perfluoroundecanoic acid (PFUnA)	1.0492 0.8750	0.9419 0.8898	0.8490 0.9354	0.8447 0.8746		AveID		0.9075				7.4		35.0			
MeFOSA	0.9495 1.0477	1.0161 1.0260	1.0139 1.0134	1.0282 0.9247		AveID		1.0024				4.2		50.0			
Perfluorododecanoic acid (PFDoA)	0.8420 0.9620	0.9969 1.0104	0.9451 1.0579	1.0084 0.9662		AveID		0.9736				6.6		35.0			
N-EtFOSA-M	0.9074 1.0855	0.9221 1.0629	1.0620 1.0670	1.0969 1.0577		AveID		1.0327				7.2		35.0			
Perfluorotridecanoic Acid (PFTriA)	1.0697 1.0869	1.0906 1.1290	1.1100 1.1697	1.1544 1.0199		AveID		1.1038				4.4		50.0			
Perfluorotetradecanoic acid (PFTeA)	0.2435 0.2383	0.2546 0.2490	0.2550 0.2427	0.2559 0.2602		AveID		0.2499				3.1		50.0			
Perfluoro-n-hexadecanoic acid (PFHxDA)	1.7048 0.9396	1.2477 0.8996	1.0414 0.8688	0.9231 0.7451		L2ID	0.0204	0.8786							0.9930		0.9900
Perfluoro-n-octadecanoic acid (PFODA)	1.1126 1.1581	1.1087 1.1702	1.2012 1.1396	1.2127 0.9206		AveID		1.1280				8.1		50.0			
13C4 PFBA	1.4805 1.4212	1.4354 1.4814	1.4190 1.4735	1.4416 1.5503		Ave		1.4628				3.0		50.0			
13C5 PFPeA	0.8766 0.8526	0.8418 0.8629	0.8407 0.8642	0.8358 0.9191		Ave		0.8617				3.1		50.0			
13C3-PFBS	0.0189 0.0181	0.0181 0.0183	0.0175 0.0183	0.0182 0.0204		Ave		0.0185				4.7		50.0			
M2-4:2FTS					0.0973	Ave		0.0973						50.0			
13C2 PFHxA	0.8991 0.8617	0.8792 0.9221	0.8765 0.8931	0.9041 0.9660		Ave		0.9002				3.6		50.0			
13C4-PFHpA	0.8630 0.8118	0.8567 0.8410	0.8407 0.8352	0.8295 0.8782		Ave		0.8445				2.5		50.0			
18O2 PFHxS	1.0567 1.0413	1.0518 1.0422	1.0654 1.0257	1.0464 1.0823		Ave		1.0515				1.6		50.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 199988

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/14/2017 15:52 Calibration End Date: 12/14/2017 16:55 Calibration ID: 36847

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
M2-6:2FTS	0.4196 0.4824	0.4961 0.4015	0.5225 0.3856	0.5049 +++++		Ave		0.4590				12.0		50.0			
13C4 PFOA	1.0597 1.0260	1.0523 1.0021	1.0066 1.0166	1.0436 0.9581		Ave		1.0206				3.2		50.0			
13C4 PFOS	0.6774 0.6441	0.6651 0.6797	0.6498 0.6537	0.6606 0.6742		Ave		0.6631				2.0		50.0			
13C5 PFNA	0.7015 0.6539	0.6776 0.6924	0.6510 0.6776	0.6593 0.6929		Ave		0.6758				2.9		50.0			
13C8 FOSA	0.9805 0.9216	0.9356 0.9525	0.9442 0.9302	0.9503 0.9883		Ave		0.9504				2.5		50.0			
M2-8:2FTS	0.1477 0.1447	0.1427 0.1553	0.1452 0.1588	0.1490 0.1744		Ave		0.1522				6.9		50.0			
13C2 PFDA	0.5519 0.5381	0.5270 0.5547	0.5245 0.5503	0.5547 0.6035		Ave		0.5506				4.5		50.0			
d3-NMeFOSAA	0.2604 0.2549	0.2578 0.2647	0.2509 0.2661	0.2515 0.2939		Ave		0.2625				5.3		50.0			
d5-NEtFOSAA	0.2743 0.2567	0.2650 0.2645	0.2550 0.2526	0.2659 0.2591		Ave		0.2616				2.7		50.0			
13C2 PFUnA	0.4231 0.4125	0.3970 0.4361	0.4142 0.4181	0.4200 0.4291		Ave		0.4188				2.8		50.0			
d-N-MeFOSA-M	0.2786 0.2606	0.2654 0.2764	0.2648 0.2929	0.2606 0.3299		Ave		0.2786				8.4		50.0			
13C2 PFDoA	0.4697 0.4511	0.4573 0.4456	0.4400 0.4251	0.4387 0.4540		Ave		0.4477				3.0		50.0			
d-N-EtFOSA-M	0.2528 0.2462	0.2520 0.2630	0.2469 0.2667	0.2485 0.2860		Ave		0.2578				5.3		50.0			
13C2-PFTeDA	0.4901 0.4952	0.4790 0.4982	0.4687 0.4886	0.4885 0.4757		Ave		0.4855				2.1		50.0			
13C2-PFHxDA	0.9353 0.8751	0.9084 0.8733	0.8645 0.8340	0.9121 0.9175		Ave		0.8900				3.8		50.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 199988

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/14/2017 15:52 Calibration End Date: 12/14/2017 16:55 Calibration ID: 36847

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-199988/2	2017.12.14ICAL_002.d
Level 2	IC 320-199988/3	2017.12.14ICAL_003.d
Level 3	IC 320-199988/4	2017.12.14ICAL_004.d
Level 4	IC 320-199988/5	2017.12.14ICAL_005.d
Level 5	IC 320-199988/10	2017.12.14ICAL_010.d
Level 6	IC 320-199988/6	2017.12.14ICAL_006.d
Level 7	IC 320-199988/7	2017.12.14ICAL_007.d
Level 8	IC 320-199988/8	2017.12.14ICAL_008.d
Level 9	IC 320-199988/9	2017.12.14ICAL_009.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorobutanoic acid (PFBA)		AveID	74392 7746814	158249 15381830	793581 28700316	3090470 49420094		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoropentanoic acid (PFPeA)		AveID	61413 5436044	121653 10701627	560152 20466520	2142448 35298554		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorobutanesulfonic acid (PFBS)		AveID	67711 7079075	148001 13712842	745803 24976975	2923644 41750244		0.0221 2.21	0.0442 4.42	0.221 8.84	0.884 17.7	
4:2 FTS		AveID	+++++ 1181616	23793 2448157	125605 +++++	498303 +++++		+++++ 2.34	0.0467 4.67	0.234 +++++	0.934 +++++	
Perfluorohexanoic acid (PFHxA)		AveID	48556 5177959	115321 10140951	516953 19276718	2052791 34026563		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroheptanoic acid (PFHpA)		AveID	57593 5061592	102931 9952472	523316 17850833	2040277 32023056		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorohexanesulfonic acid (PFHxS)		AveID	79170 5589957	147022 11114182	628334 21011008	2240009 36510815		0.0228 2.28	0.0455 4.55	0.228 9.10	0.910 18.2	
6:2FTS		AveID	32265 4173348	94318 6446185	493994 12501676	1816008 +++++		0.0237 2.37	0.0474 4.74	0.237 9.48	0.948 +++++	
Perfluorooctanoic acid (PFOA)		AveID	74267 6288354	139282 12005487	664330 21425345	2565408 35409971		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroheptanesulfonic Acid (PFHpS)		AveID	53716 5510579	111971 10821490	587067 19516780	2214859 32947015		0.0238 2.38	0.0476 4.76	0.238 9.52	0.952 19.0	
Perfluorooctanesulfonic acid (PFOS)		AveID	36817 3752802	78532 7556177	397062 14315958	1511404 25482673		0.0232 2.32	0.0464 4.64	0.232 9.28	0.928 18.6	
Perfluorononanoic acid (PFNA)		AveID	41928 3921608	79821 7561124	405678 14382186	1596131 24313505		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorooctane Sulfonamide (FOSA)		AveID	54916 5237533	112083 10460648	543794 18602053	2163477 30528810		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
8:2FTS		AveID	9415 1006926	20897 2004582	104155 4005486	409945 7656436		0.0240 2.40	0.0479 4.79	0.240 9.58	0.958 19.2	

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 199988

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/14/2017 15:52 Calibration End Date: 12/14/2017 16:55 Calibration ID: 36847

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorodecanoic acid (PFDA)		AveID	29539 3120364	59856 6207557	315236 11878885	1282349 20700325		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)		AveID	13536 1628068	32295 3194509	155423 6408861	643480 11459094		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorodecanesulfonic acid (PFDS)		AveID	23651 2211386	45529 4271524	224818 7885511	885300 14469714		0.0241 2.41	0.0482 4.82	0.241 9.64	0.964 19.3	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)		AveID	13912 1459440	29947 2918773	151917 5433878	598278 10058695		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroundecanoic acid (PFUnA)		AveID	25546 2096337	45561 4338960	213173 8421362	821719 14673943		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
MeFOSA		AveID	15225 1585685	32859 3171304	162702 6390964	620438 11928602		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorododecanoic acid (PFDoA)		AveID	22759 2520689	55543 5033656	252044 9684102	1024451 17150579		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-EtFOSA-M		AveID	13203 1552335	28314 3126044	158928 6126410	631383 11827494		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorotridecanoic Acid (PFTriA)		AveID	28913 2847913	60766 5624317	296005 10708089	1172821 18102371		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorotetradecanoic acid (PFTeA)		AveID	6868 685395	14857 1387109	72426 2553613	289450 4839276		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoro-n-hexadecanoic acid (PFHxDA)		L2ID	91760 4775816	138082 8784105	545644 15600811	1949984 26731483		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoro-n-octadecanoic acid (PFODA)		AveID	59885 5886423	122697 11426082	629381 20463340	2561749 33026158		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
13C4 PFBA	13PFOA	Ave	8519754 8254609	8743813 8281403	8600312 7932108	8346841 7576680		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C5 PFPeA	13PFOA	Ave	5044594 4951824	5127910 4823648	5095577 4652087	4839061 4492210		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C3-PFBS	13PFOA	Ave	101389 97857	102803 95121	98877 91436	98125 92842		2.33 2.33	2.33 2.33	2.33 2.33	2.33 2.33	
M2-4:2FTS	13PFOA	Ave					520857					2.34
13C2 PFHxA	13PFOA	Ave	5174365 5004702	5355991 5154860	5312653 4807490	5234897 4721402		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C4-PFHpA	13PFOA	Ave	4966258 4714810	5218966 4701313	5095268 4496164	4802767 4292178		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
18O2 PFHxS	13PFOA	Ave	5752605 5721252	6061138 5511888	6108701 5223265	5731587 5004021		2.37 2.37	2.37 2.37	2.37 2.37	2.37 2.37	
M2-6:2FTS	13PFOA	Ave	2294060 2661632	2871195 2132417	3008269 1972137	2777334 +++++		2.38 2.38	2.38 2.38	2.38 2.38	2.38 +++++	
13C4 PFOA	13PFOA	Ave	6098530 5958852	6410213 5601855	6101236 5472310	6042499 4682422		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 199988

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/14/2017 15:52 Calibration End Date: 12/14/2017 16:55 Calibration ID: 36847

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
13C4 PFOS	13PF	Ave	3726715	3873442	3765173	3656571		2.39	2.39	2.39	2.39	
	OA		3576232	3632697	3364334	3149884		2.39	2.39	2.39	2.39	
13C5 PFNA	13PF	Ave	4036934	4127641	3945653	3817610		2.50	2.50	2.50	2.50	
	OA		3798000	3870530	3647795	3386319		2.50	2.50	2.50	2.50	
13C8 FOSA	13PF	Ave	5642400	5699209	5722686	5502448		2.50	2.50	2.50	2.50	
	OA		5352591	5324779	5007254	4829966		2.50	2.50	2.50	2.50	
M2-8:2FTS	13PF	Ave	814379	832531	842989	826584		2.40	2.40	2.40	2.40	
	OA		805003	831573	818951	816414		2.40	2.40	2.40	2.40	
13C2 PFDA	13PF	Ave	3176082	3210389	3179040	3211449		2.50	2.50	2.50	2.50	
	OA		3125298	3101150	2962231	2949487		2.50	2.50	2.50	2.50	
d3-NMeFOSAA	13PF	Ave	1498791	1570241	1520693	1456007		2.50	2.50	2.50	2.50	
	OA		1480753	1479742	1432256	1436387		2.50	2.50	2.50	2.50	
d5-NEtFOSAA	13PF	Ave	1578685	1614490	1545787	1539604		2.50	2.50	2.50	2.50	
	OA		1490805	1478428	1359649	1266524		2.50	2.50	2.50	2.50	
13C2 PFUnA	13PF	Ave	2434810	2418614	2510724	2431848		2.50	2.50	2.50	2.50	
	OA		2395817	2438040	2250686	2097264		2.50	2.50	2.50	2.50	
d-N-MeFOSA-M	13PF	Ave	1603457	1616850	1604706	1508614		2.50	2.50	2.50	2.50	
	OA		1513451	1545427	1576560	1612541		2.50	2.50	2.50	2.50	
13C2 PFDoA	13PF	Ave	2703017	2785823	2666735	2539810		2.50	2.50	2.50	2.50	
	OA		2620258	2490930	2288557	2218719		2.50	2.50	2.50	2.50	
d-N-EtFOSA-M	13PF	Ave	1455007	1535279	1496552	1439049		2.50	2.50	2.50	2.50	
	OA		1430038	1470478	1435413	1397810		2.50	2.50	2.50	2.50	
13C2-PFTeDA	13PF	Ave	2820379	2917905	2840465	2828239		2.50	2.50	2.50	2.50	
	OA		2876204	2785323	2630360	2324795		2.50	2.50	2.50	2.50	
13C2-PFHxDA	13PF	Ave	5382413	5533473	5239488	5281068		2.50	2.50	2.50	2.50	
	OA		5082731	4882215	4489310	4484274		2.50	2.50	2.50	2.50	

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution
L2ID = Linear 1/conc^2 IsoDil

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_002.d
Lims ID: IC L1 Full
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Dec-2017 15:52:32 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L1-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:00 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: phomsophat Date: 14-Dec-2017 19:07:42

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.399	1.406	-0.007	0.532	8519754	2.53		101	28634	
2 Perfluorobutyric acid										
212.90 > 169.00	1.399	1.408	-0.009	1.000	74392	0.0242		96.8	15.0	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.650	1.656	-0.006	1.000	61413	0.0274		109	80.3	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.650	1.656	-0.006	0.627	5044594	2.54		102	42303	
D 47 13C3-PFBS										
301.90 > 83.00	1.685	1.690	-0.005	0.640	101389	2.38		102	3592	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.685	1.692	-0.007	1.000	67711	0.0212		95.8	361	
298.90 > 99.00	1.685	1.692	-0.007	1.000	29580		2.29(1.25-3.74)	95.8	249	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.889	1.902	-0.013	1.000	9293	0.0206		88.1	508	
D 7 13C2 PFHxA										
315.00 > 270.00	1.939	1.938	0.001	0.736	5174365	2.50		99.9	48800	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.939	1.939	0.0	1.000	48556	0.0238		95.1	100	M
313.00 > 119.00	1.939	1.939	0.0	1.000	5560		8.73(5.03-15.10)	95.1	113	M
D 9 13C4-PFHpA										
367.00 > 322.00	2.273	2.272	0.001	0.863	4966258	2.55		102	34171	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.273	2.273	0.0	1.000	57593	0.0280		112	124	
363.00 > 169.00	2.273	2.273	0.0	1.000	23003		2.50(1.13-3.40)	112	183	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.286	2.285	0.001	1.000	79170	0.0295		130	721	
399.00 > 99.00	2.286	2.285	0.001	1.000	24701		3.21(1.50-4.49)	130	284	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.286	2.286	0.0	0.868	5752605	2.38		100	27266	
D 12 M2-6:2FTS										
429.00 > 81.00	2.618	2.625	-0.007	0.995	2294060	2.17		91.4	58997	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.618	2.625	-0.007	1.000	32265	0.0212		89.6	759	
D 14 13C4 PFOA										
417.00 > 372.00	2.633	2.637	-0.004	1.000	6098530	2.60		104	54113	
* 62 13C2-PFOA										
415.00 > 370.00	2.633	2.638	-0.005		5754768	2.50			38868	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.640	2.640	0.0	1.003	74267	0.0286		115	161	
413.00 > 169.00	2.640	2.640	0.0	1.003	39244		1.89(0.84-2.52)	115	258	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.640	2.644	-0.004	1.000	53716	0.0234		98.2	1997	
449.00 > 99.00	2.640	2.644	-0.004	1.000	14380		3.74(1.94-5.82)	98.2	537	
D 18 13C4 PFOS										
503.00 > 80.00	3.012	3.014	-0.002	1.144	3726715	2.44		102	27923	
D 19 13C5 PFNA										
468.00 > 423.00	3.012	3.015	-0.003	1.144	4036934	2.60		104	35336	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.012	3.015	-0.003	1.000	36817	0.0222		95.8	132	
499.00 > 99.00	3.012	3.015	-0.003	1.000	8377		4.40(2.31-6.93)	95.8	93.8	
20 Perfluorononanoic acid										
463.00 > 419.00	3.012	3.017	-0.005	1.000	41928	0.0261		104	286	
463.00 > 169.00	3.012	3.017	-0.005	1.000	9595		4.37(1.90-5.69)	104	301	
D 21 13C8 FOSA										
506.00 > 78.00	3.350	3.354	-0.004	1.273	5642400	2.58		103	38054	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.350	3.356	-0.006	1.000	54916	0.0257		103	1889	
D 26 M2-8:2FTS										
529.00 > 81.00	3.365	3.368	-0.003	1.278	814379	2.32		97.0	14310	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.365	3.369	-0.004	1.000	9415	0.0227		95.0	622	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.373	3.379	-0.006	1.000	29539	0.0241		96.2	324	
513.00 > 169.00	3.373	3.379	-0.006	1.000	5967		4.95(2.36-7.09)	96.2	248	
D 23 13C2 PFDA										
515.00 > 470.00	3.373	3.379	-0.006	1.281	3176082	2.51		100	34427	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.535	-0.002	1.342	1498791	2.48		99.2	18383	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.533	3.538	-0.005	1.000	13536	0.0216		86.5	123	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.692	-0.002	1.000	23651	0.0255		106	1433	
599.00 > 99.00	3.690	3.692	-0.002	1.000	6083		3.89(1.39-4.16)	106	372	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.704	-0.005	1.405	1578685	2.62		105	5738	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.709	-0.001	1.408	2434810	2.53		101	30011	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.710	-0.002	1.002	13912	0.0228		91.3	538	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.708	3.711	-0.003	1.000	25546	0.0289		116	297	
563.00 > 169.00	3.708	3.711	-0.003	1.000	5446		4.69(0.00-0.00)	116	386	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.847	3.850	-0.003	1.461	1603457	2.50		100	3681	
35 MeFOSA										
512.00 > 169.00	3.847	3.856	-0.009	1.000	15225	0.0237		94.7	677	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.006	4.008	-0.002	1.000	22759	0.0216		86.5	92.1	
613.00 > 169.00	4.006	4.008	-0.002	1.000	5945		3.83(2.13-6.40)	86.5	389	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.008	-0.002	1.522	2703017	2.62		105	37270	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.038	4.039	-0.001	1.534	1455007	2.45		98.1	3540	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.046	4.047	-0.001	1.002	13203	0.0220		87.9	539	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.272	4.275	-0.003	1.000	28913	0.0242		96.9	277	
663.00 > 169.00	4.272	4.275	-0.003	1.000	9068		3.19(1.25-3.76)	96.9	515	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.519	-0.005	1.000	6868	0.0244		97.4	402	
713.00 > 219.00	4.501	4.519	-0.018	0.997	5545		1.24(0.71-2.13)	97.4	338	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.519	-0.005	1.715	2820379	2.52		101	22982	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.935	-0.003	1.000	91760	0.0253		101	76.6	
813.00 > 169.00	4.932	4.935	-0.003	1.000	16057		5.71(2.86-8.58)	101	545	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.935	-0.003	1.873	5382413	2.63		105	13800	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.289	5.299	-0.010	1.000	59885	0.0247		98.6	21.9	
913.00 > 169.00	5.289	5.299	-0.010	1.000	7280		8.23(0.00-0.00)	98.6	151	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFC_LL1_00002 Amount Added: 1.00 Units: mL

Report Date: 15-Dec-2017 09:54:01 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_002.d

Injection Date: 14-Dec-2017 15:52:32 Instrument ID: A8_N

Lims ID: IC L1 Full

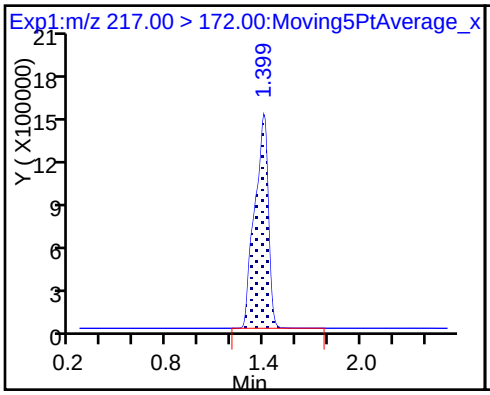
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Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2

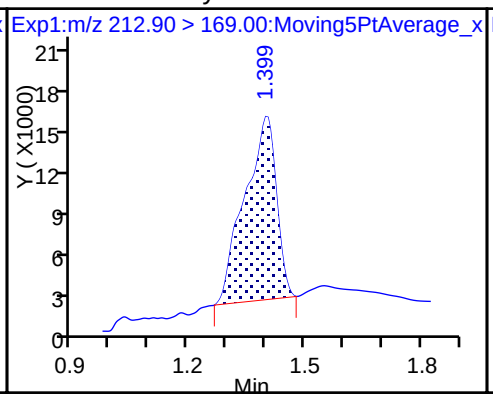
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

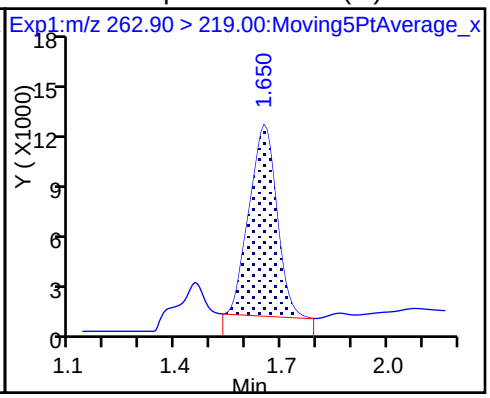
D 1 13C4 PFBA



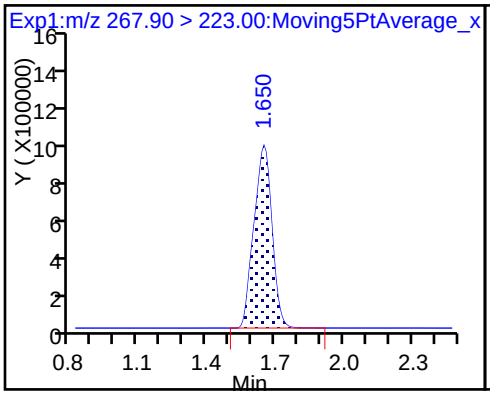
2 Perfluorobutyric acid



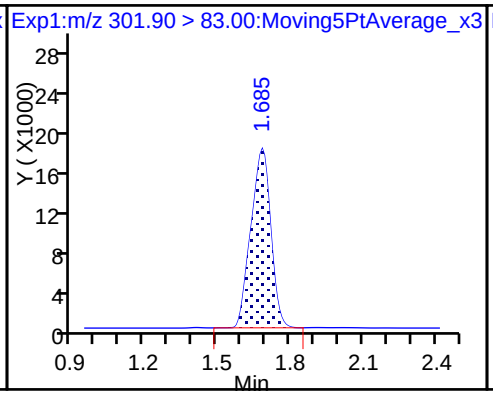
4 Perfluoropentanoic acid (M)



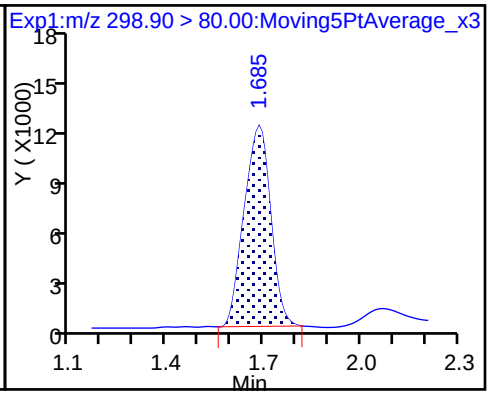
D 3 13C5-PFPeA



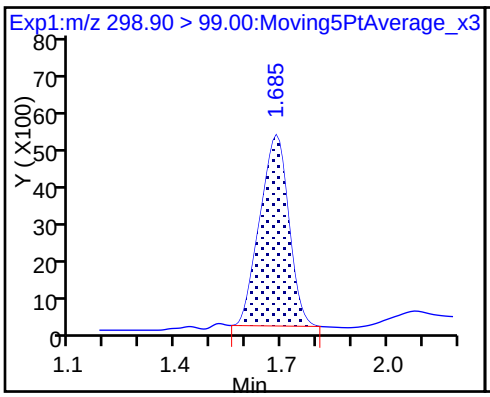
D 47 13C3-PFBS



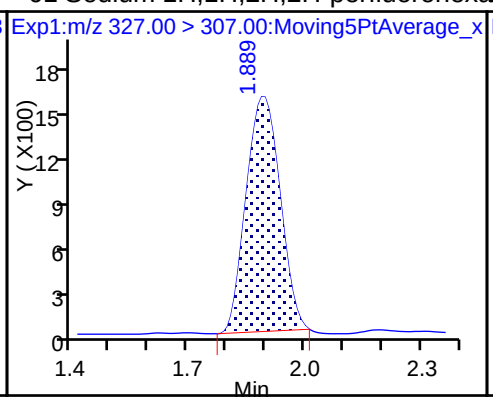
5 Perfluorobutanesulfonic acid



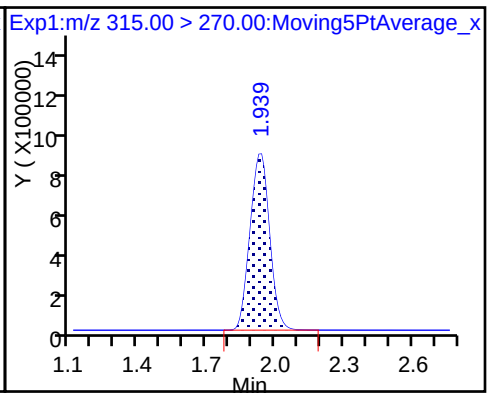
5 Perfluorobutanesulfonic acid



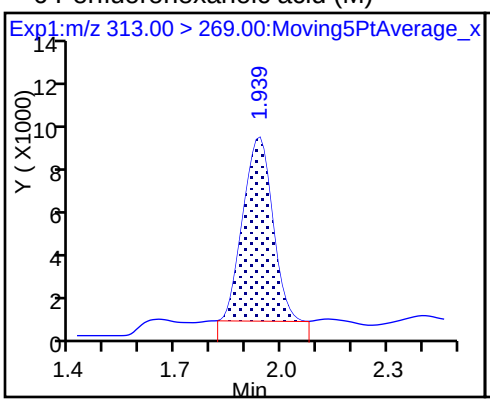
61 Sodium 1H,1H,2H,2H-perfluorohexa



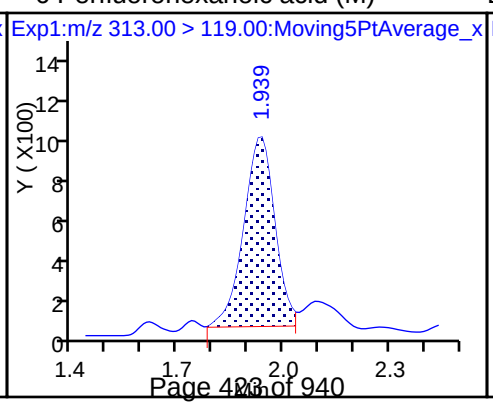
D 7 13C2 PFHxA



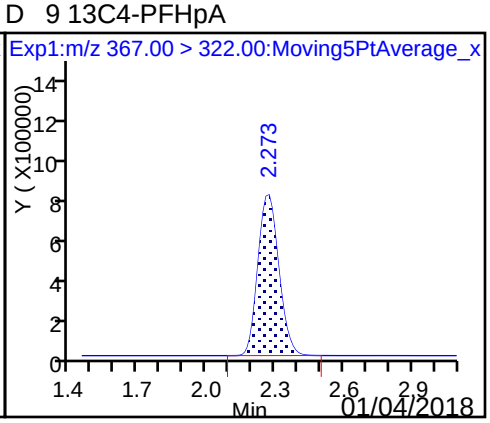
6 Perfluorohexanoic acid (M)



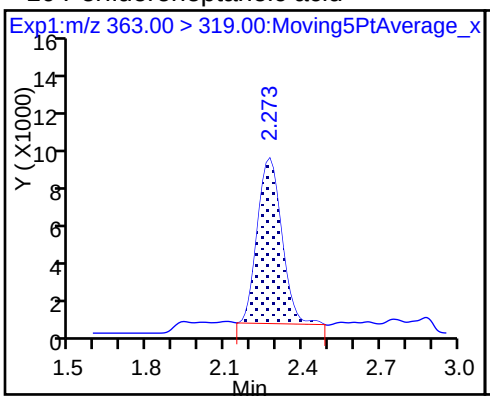
6 Perfluorohexanoic acid (M)



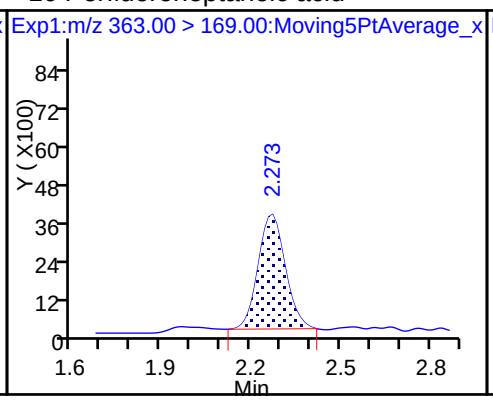
D 9 13C4-PFHpA



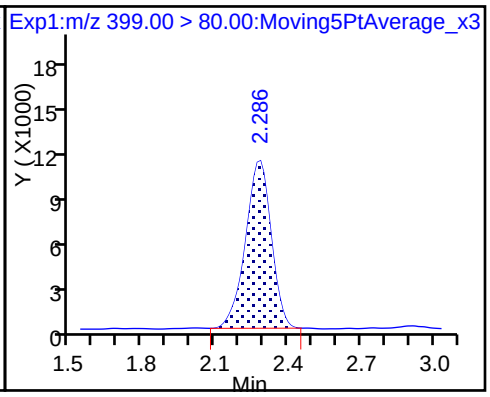
10 Perfluoroheptanoic acid



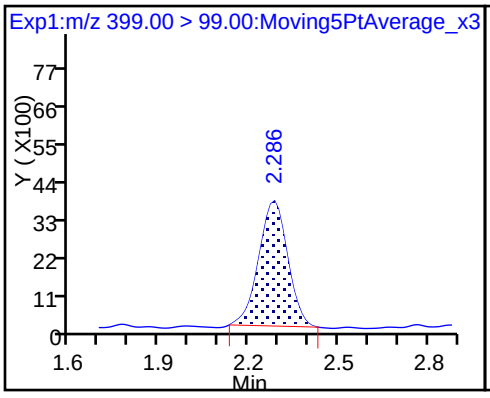
10 Perfluoroheptanoic acid



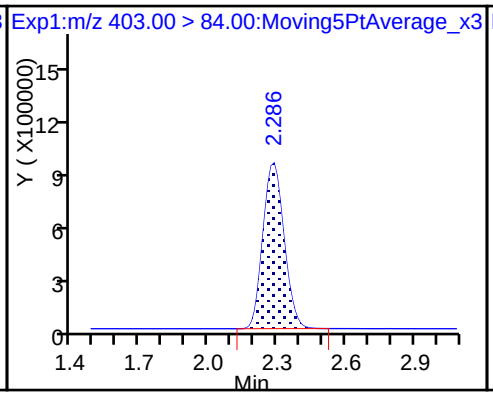
8 Perfluorohexanesulfonic acid



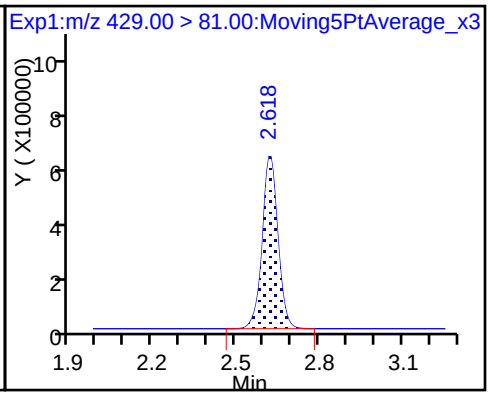
8 Perfluorohexanesulfonic acid



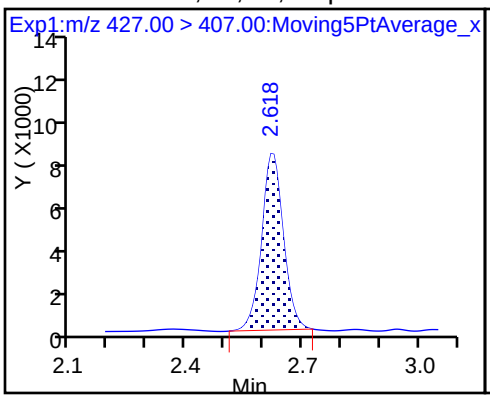
D 11 18O2 PFHxS



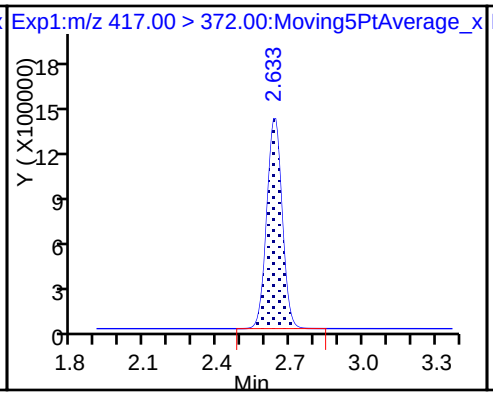
D 12 M2-6:2FTS



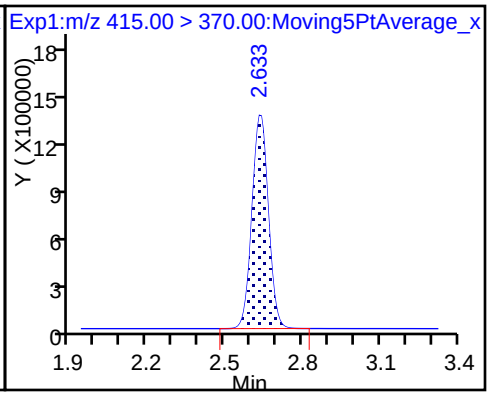
13 Sodium 1H,1H,2H,2H-perfluorooctane



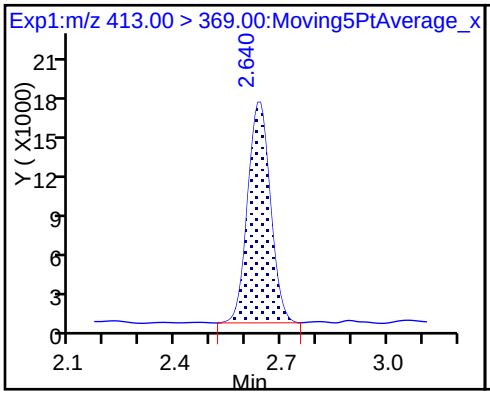
D 14 13C4 PFOA



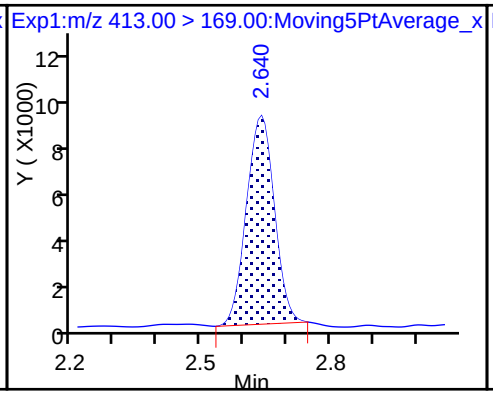
* 62 13C2-PFOA



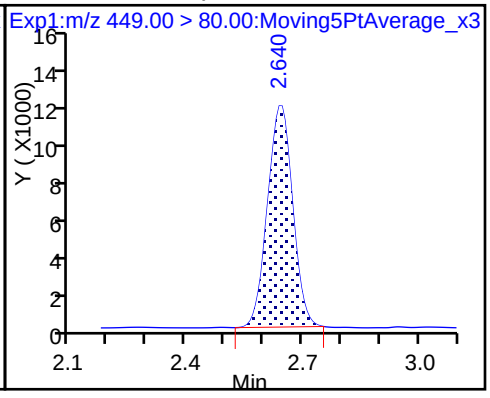
15 Perfluorooctanoic acid



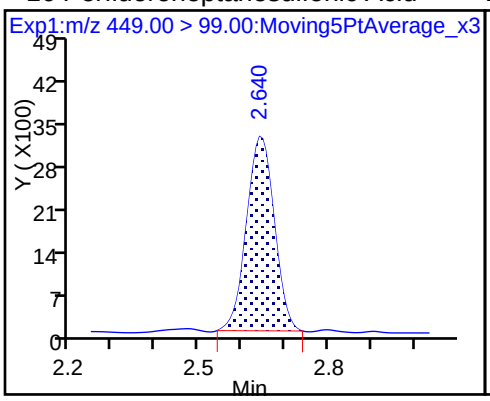
15 Perfluorooctanoic acid



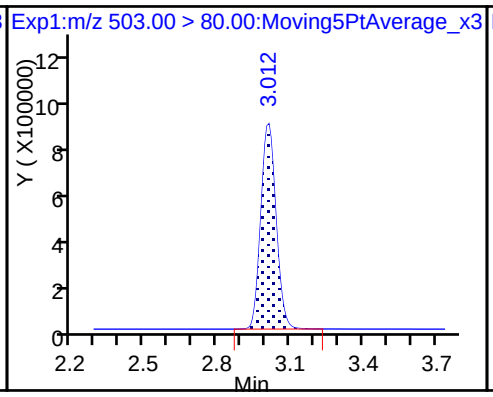
16 Perfluoroheptanesulfonic Acid



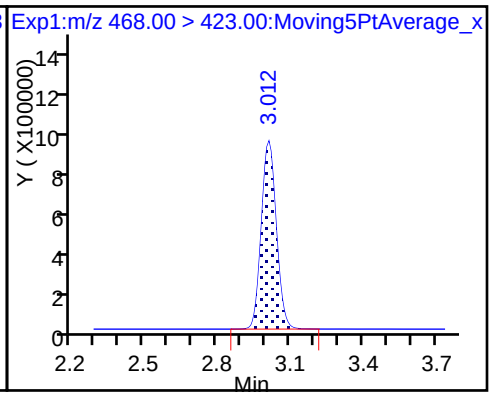
16 Perfluoroheptanesulfonic Acid



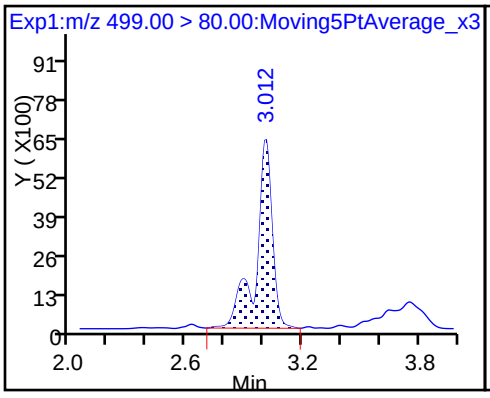
D 18 13C4 PFOS



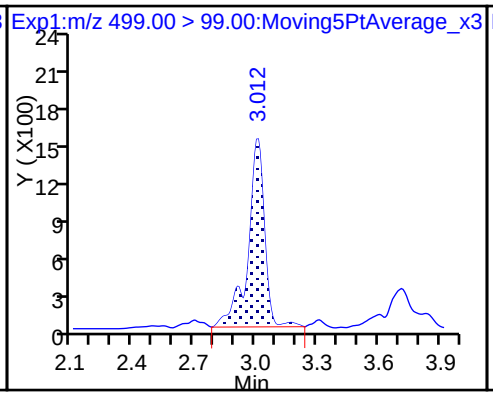
D 19 13C5 PFNA



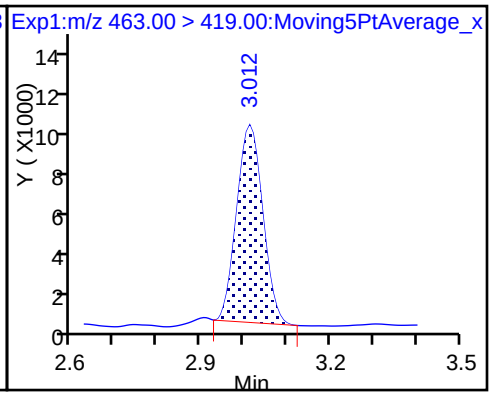
17 Perfluorooctane sulfonic acid



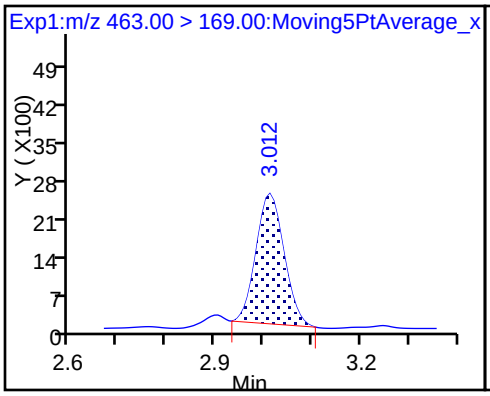
17 Perfluorooctane sulfonic acid



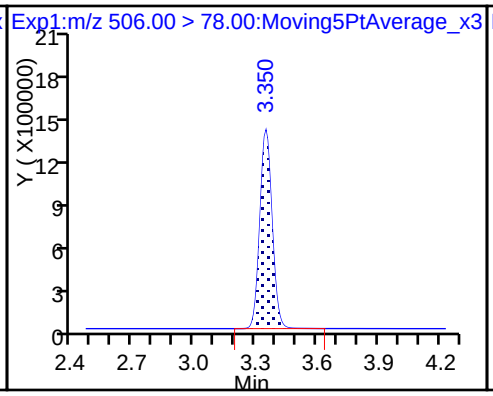
20 Perfluorononanoic acid



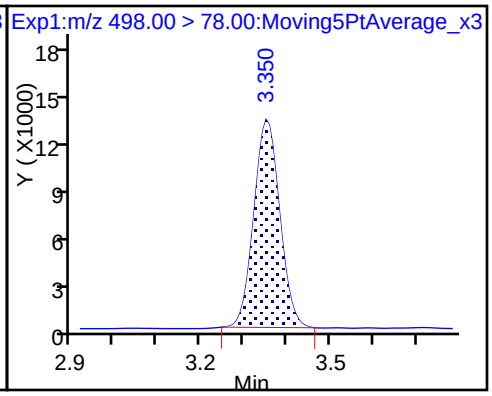
20 Perfluorononanoic acid



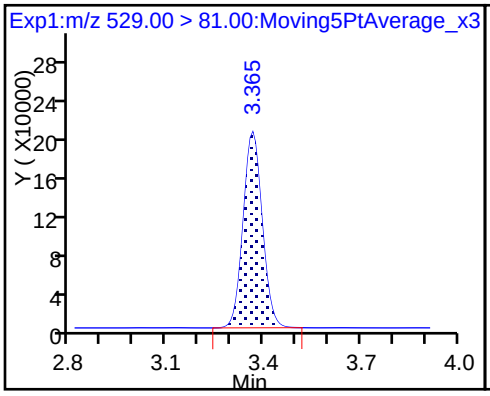
D 21 13C8 FOSA



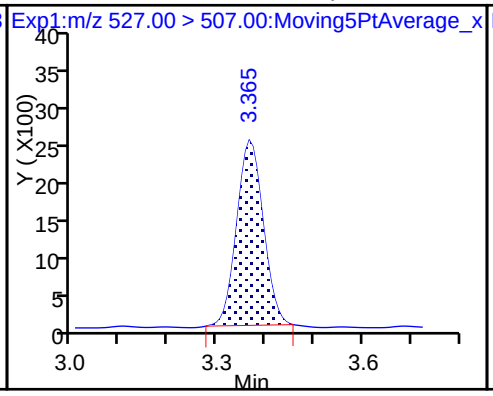
22 Perfluorooctane Sulfonamide



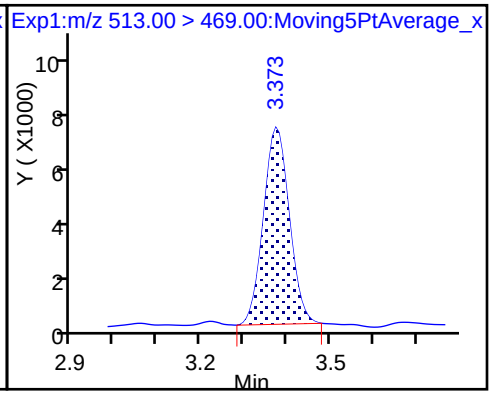
D 26 M2-8:2FTS



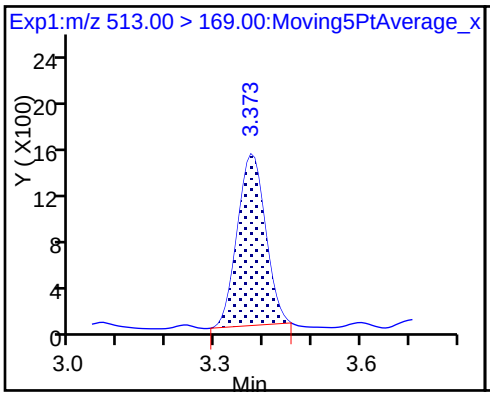
25 Sodium 1H,1H,2H,2H-perfluorodecan



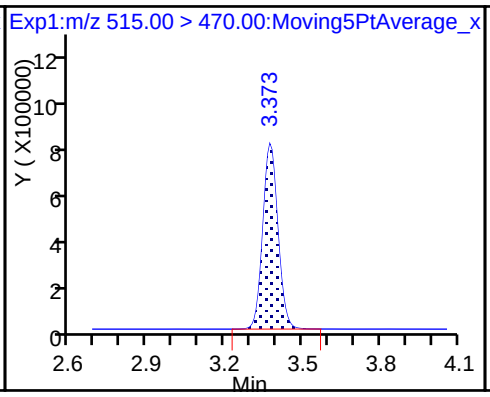
24 Perfluorodecanoic acid



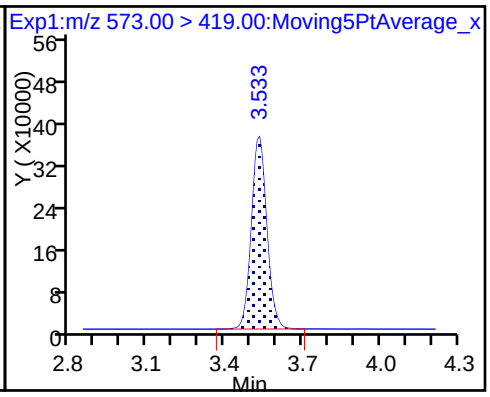
24 Perfluorodecanoic acid



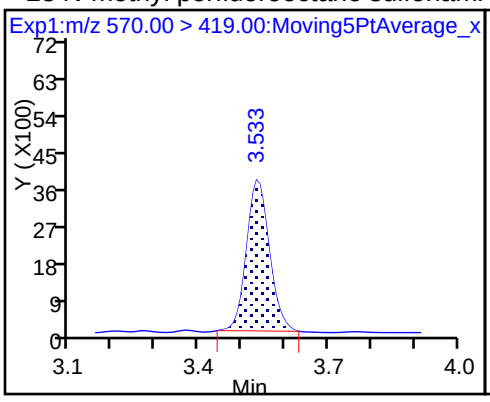
D 23 13C2 PFDA



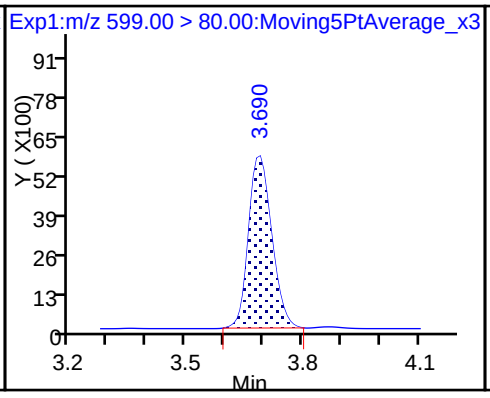
D 27 d3-NMeFOSAA



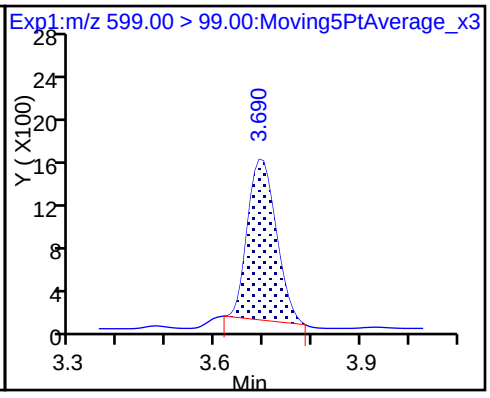
28 N-methyl perfluorooctane sulfonami



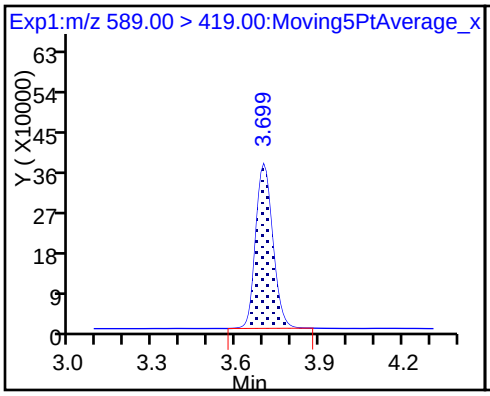
29 Perfluorodecane Sulfonic acid



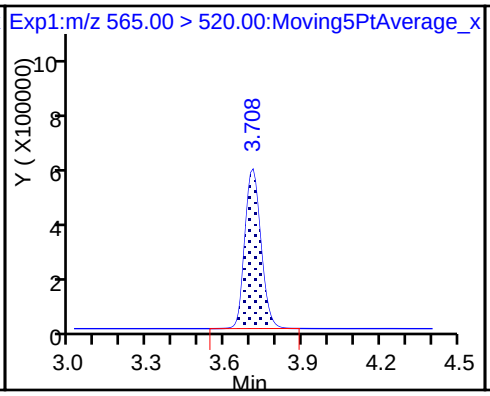
29 Perfluorodecane Sulfonic acid



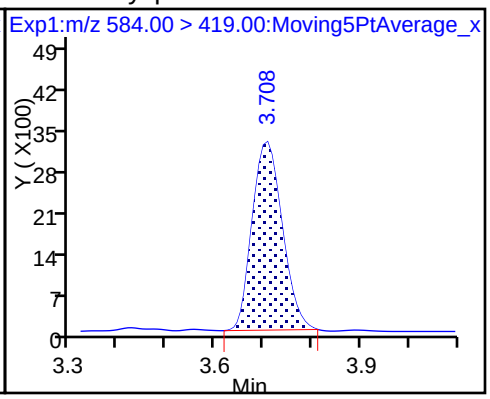
D 32 d5-NEtFOSAA



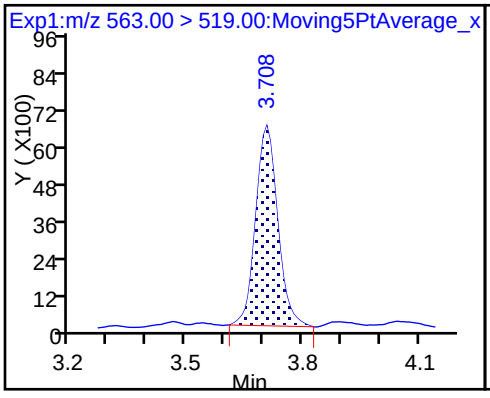
D 30 13C2 PFUnA



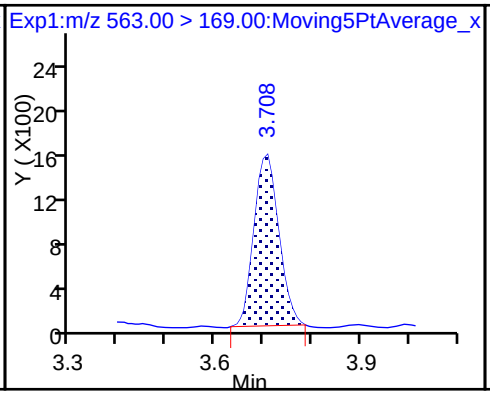
33 N-ethyl perfluorooctane sulfonamid



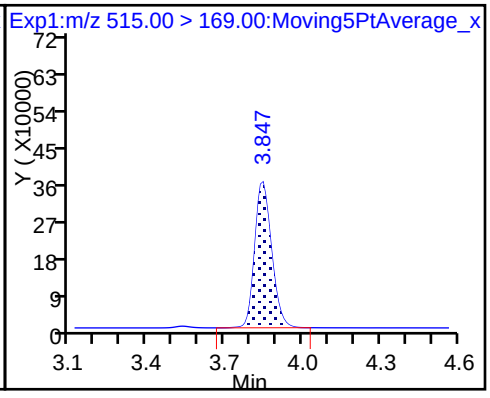
31 Perfluoroundecanoic acid



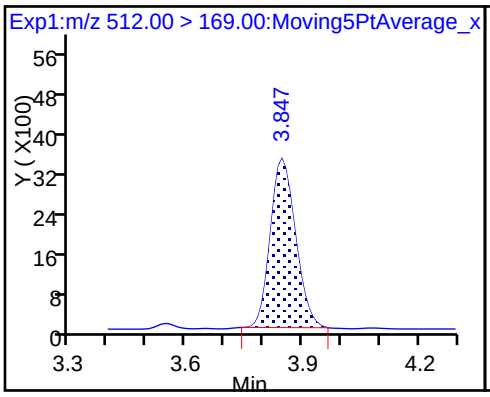
31 Perfluoroundecanoic acid



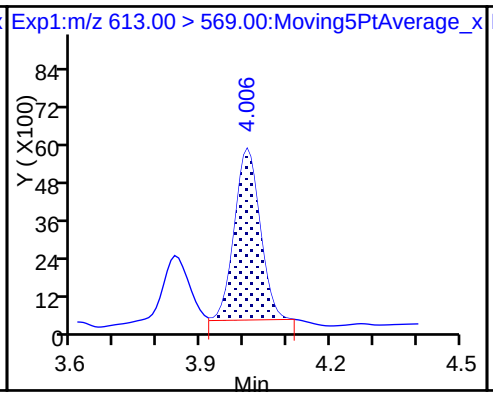
D 34 d-N-MeFOSA-M



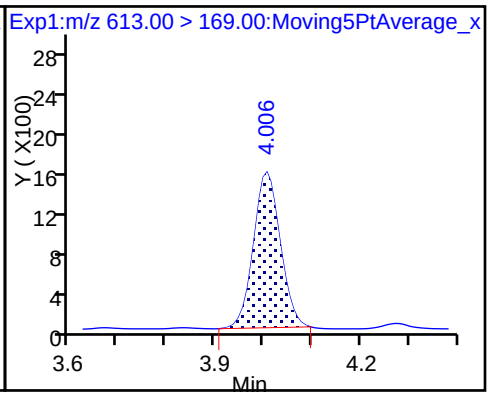
35 MeFOSA



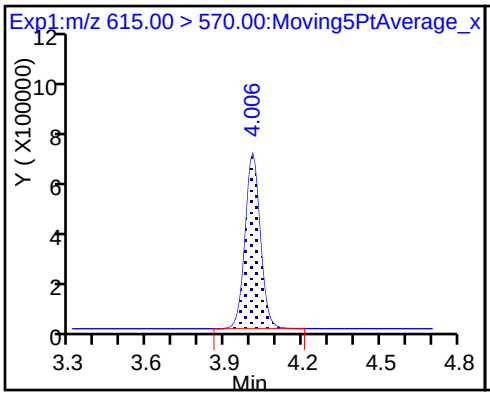
37 Perfluorododecanoic acid



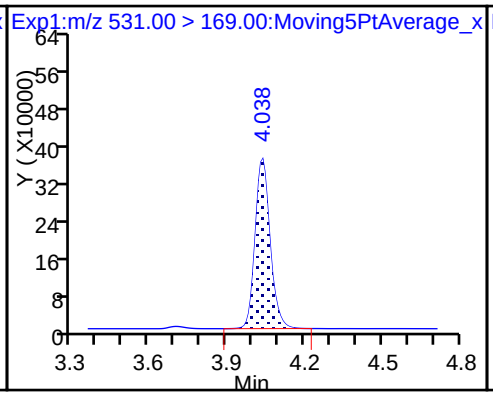
37 Perfluorododecanoic acid



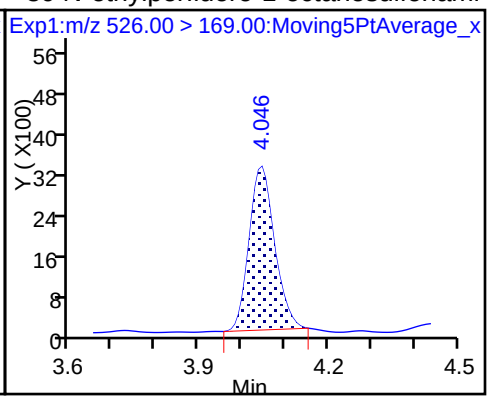
D 36 13C2 PFDoA



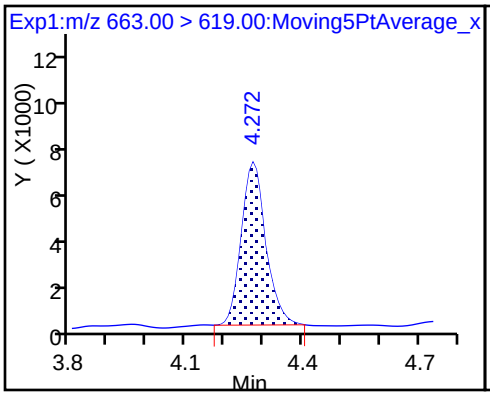
D 38 d-N-EtFOSA-M



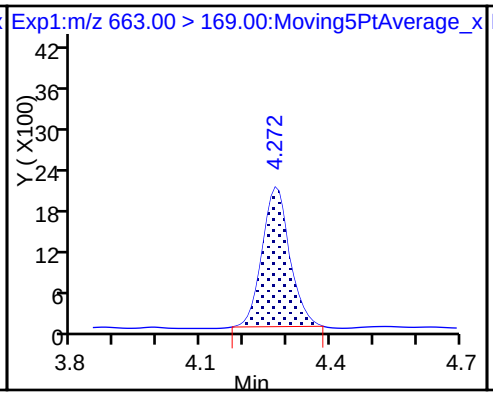
39 N-ethylperfluoro-1-octanesulfonami



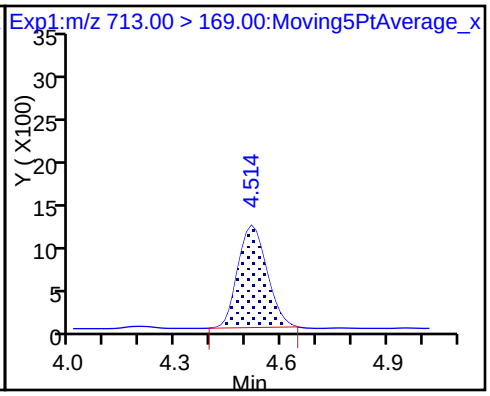
41 Perfluorotridecanoic acid



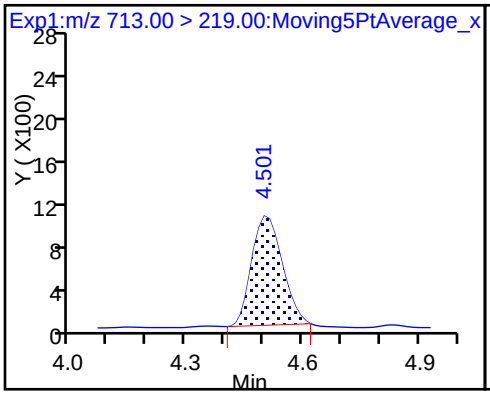
41 Perfluorotridecanoic acid



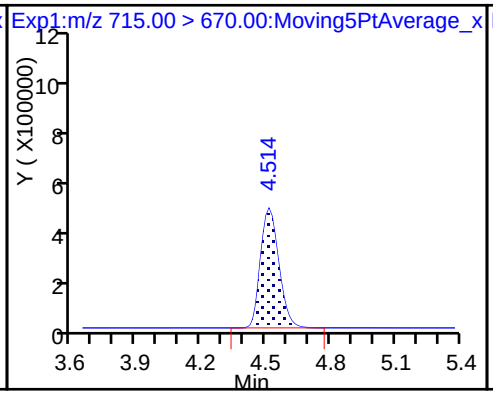
42 Perfluorotetradecanoic acid



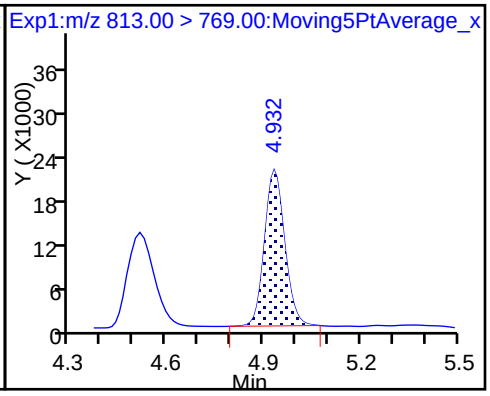
42 Perfluorotetradecanoic acid



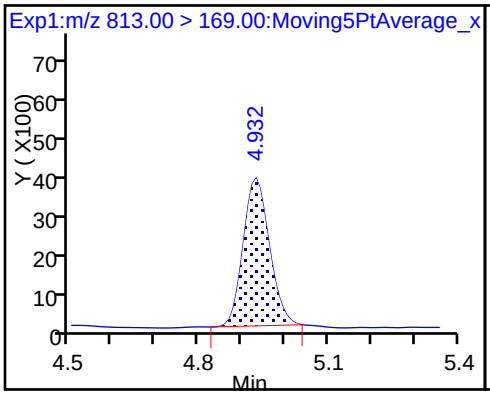
D 43 13C2-PFTeDA



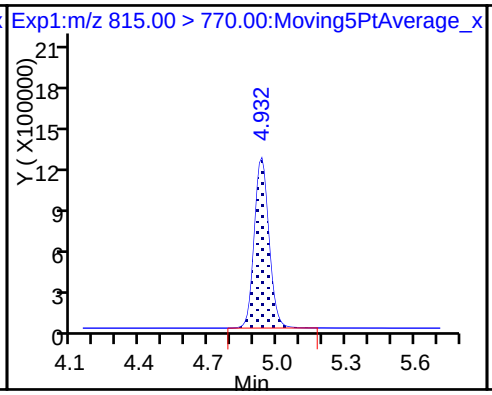
45 Perfluorohexadecanoic acid



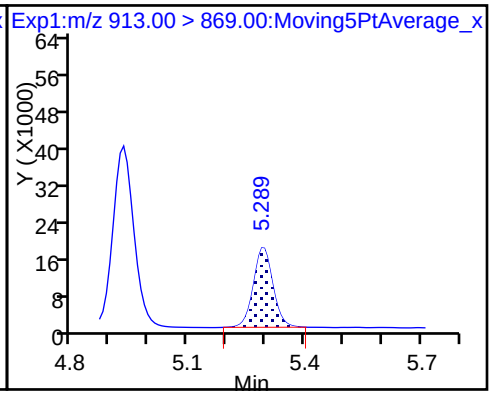
45 Perfluorohexadecanoic acid



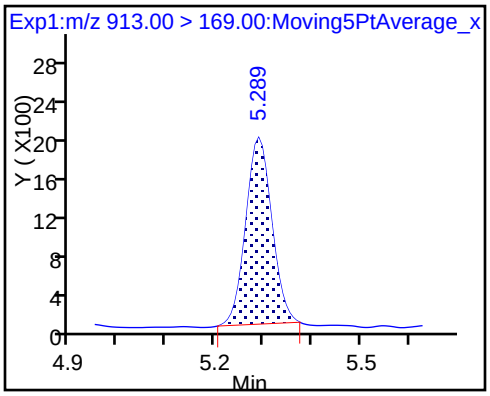
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento

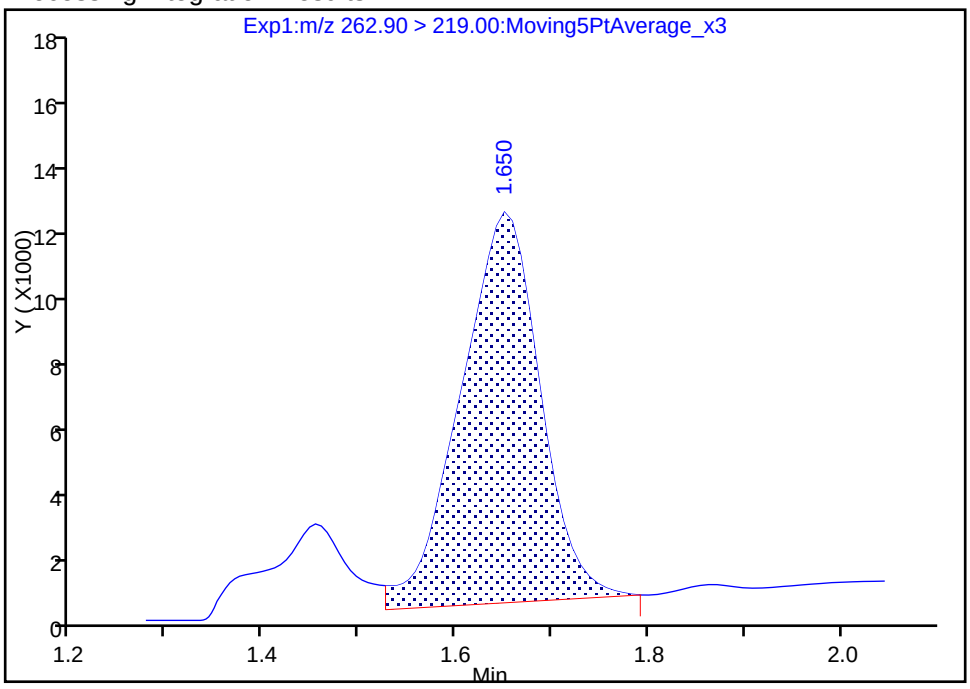
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_002.d
Injection Date: 14-Dec-2017 15:52:32 Instrument ID: A8_N
Lims ID: IC L1 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

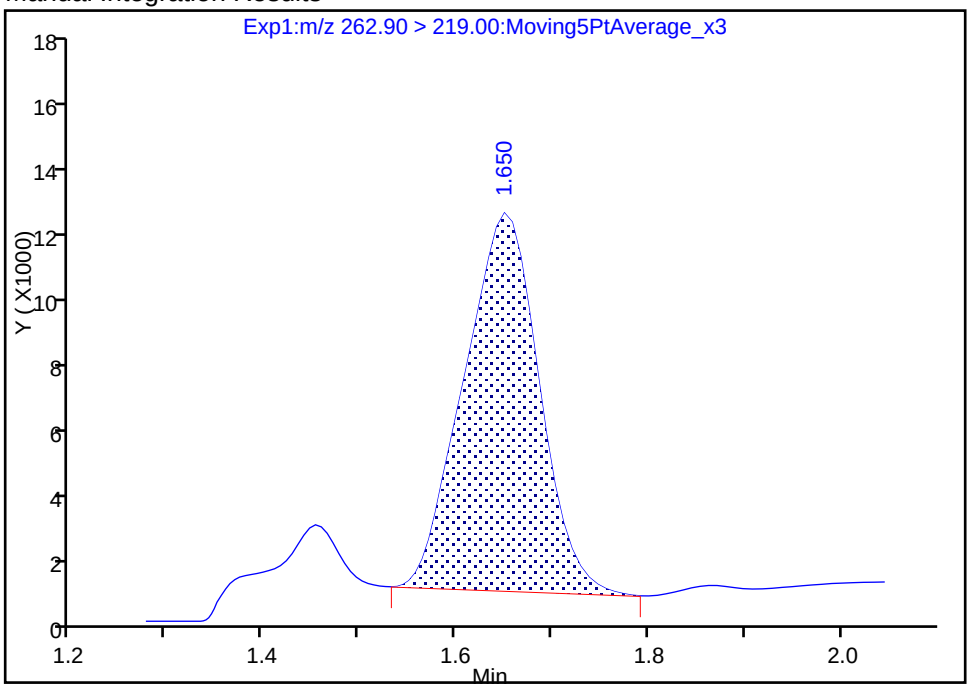
Processing Integration Results

RT: 1.65
Area: 66908
Amount: 0.029448
Amount Units: ng/ml



Manual Integration Results

RT: 1.65
Area: 61413
Amount: 0.027361
Amount Units: ng/ml



Reviewer: phomsophat, 14-Dec-2017 19:05:19
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

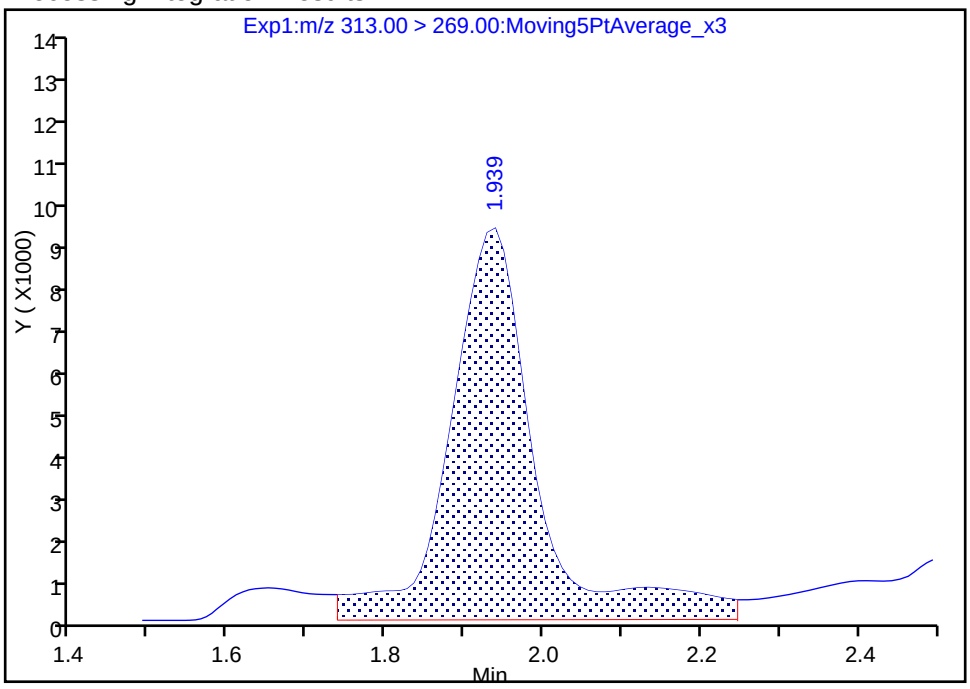
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_002.d
Injection Date: 14-Dec-2017 15:52:32 Instrument ID: A8_N
Lims ID: IC L1 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

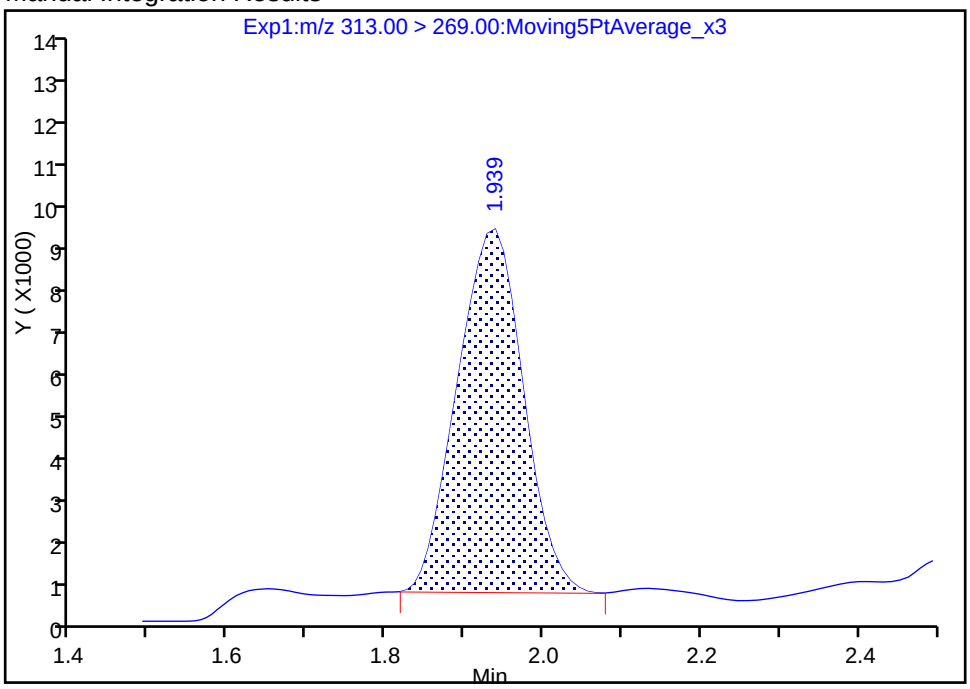
Processing Integration Results

RT: 1.94
Area: 67947
Amount: 0.031777
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 48556
Amount: 0.023787
Amount Units: ng/ml



Reviewer: phomsophat, 14-Dec-2017 19:06:38
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

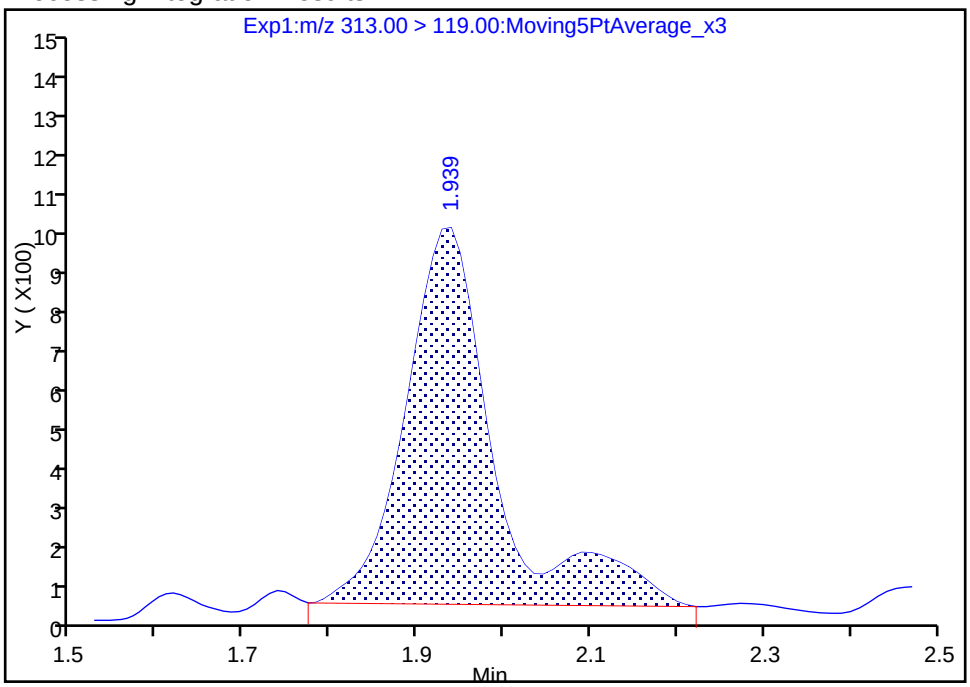
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_002.d
Injection Date: 14-Dec-2017 15:52:32 Instrument ID: A8_N
Lims ID: IC L1 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

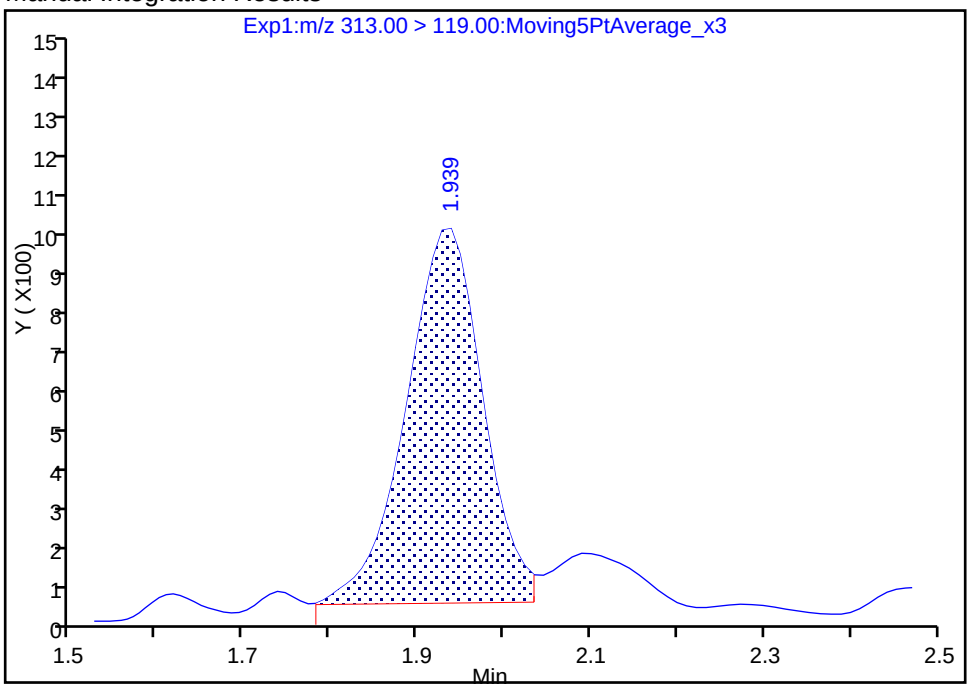
Processing Integration Results

RT: 1.94
Area: 6495
Amount: 0.031777
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 5560
Amount: 0.023787
Amount Units: ng/ml



Reviewer: phomsophat, 14-Dec-2017 19:07:13
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_003.d
Lims ID: IC L2 Full
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Dec-2017 16:00:29 ALS Bottle#: 11 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L2-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:04 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: phomsophat Date: 14-Dec-2017 19:08:41

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.407	1.406	0.001	0.534	8743813	2.45		98.1	29010	
2 Perfluorobutyric acid										
212.90 > 169.00	1.407	1.408	-0.001	1.000	158249	0.0502		100	31.6	
D 3 13C5-PFPeA										
267.90 > 223.00	1.652	1.656	-0.004	0.627	5127910	2.44		97.7	95169	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.652	1.656	-0.004	1.000	121653	0.0533		107	200	
D 47 13C3-PFBS										
301.90 > 83.00	1.688	1.690	-0.002	0.640	102803	2.28		98.1	4810	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.688	1.692	-0.004	1.000	148001	0.0456		103	818	
298.90 > 99.00	1.688	1.692	-0.004	1.000	62964		2.35(1.25-3.74)	103	472	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.902	1.902	0.0	1.000	23793	0.0421		90.1	1444	
D 7 13C2 PFHxA										
315.00 > 270.00	1.933	1.938	-0.005	0.733	5355991	2.44		97.7	49236	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.943	1.939	0.004	1.005	115321	0.0546		109	234	
313.00 > 119.00	1.943	1.939	0.004	1.005	10457		11.03(5.03-15.10)	109	219	
D 9 13C4-PFHpA										
367.00 > 322.00	2.265	2.272	-0.007	0.859	5218966	2.54		101	33542	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.278	2.273	0.005	1.006	102931	0.0476		95.1	265	
363.00 > 169.00	2.278	2.273	0.005	1.006	40809		2.52(1.13-3.40)	95.1	296	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.291	2.285	0.006	1.000	147022	0.0520		114	1378	
399.00 > 99.00	2.291	2.285	0.006	1.000	46875		3.14(1.50-4.49)	114	534	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.291	2.286	0.005	0.869	6061138	2.37		100	34713	
D 12 M2-6:2FTS										
429.00 > 81.00	2.622	2.625	-0.003	0.995	2871195	2.57		108	76787	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.622	2.625	-0.003	1.000	94318	0.0496		105	2805	
D 14 13C4 PFOA										
417.00 > 372.00	2.637	2.637	0.0	1.000	6410213	2.58		103	54350	
* 62 13C2-PFOA										
415.00 > 370.00	2.637	2.638	-0.001		6091732	2.50			43509	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.637	2.640	-0.003	1.000	139282	0.0511		102	331	
413.00 > 169.00	2.637	2.640	-0.003	1.000	74620		1.87(0.84-2.52)	102	584	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.644	2.644	0.0	1.000	111971	0.0468		98.4	3808	
449.00 > 99.00	2.644	2.644	0.0	1.000	34391		3.26(1.94-5.82)	98.4	1398	
D 18 13C4 PFOS										
503.00 > 80.00	3.016	3.014	0.002	1.144	3873442	2.40		100	28740	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.016	3.015	0.001	1.000	78532	0.0456		98.3	251	
499.00 > 99.00	3.016	3.015	0.001	1.000	20158		3.90(2.31-6.93)	98.3	224	
D 19 13C5 PFNA										
468.00 > 423.00	3.016	3.015	0.001	1.144	4127641	2.51		100	42763	
20 Perfluorononanoic acid										
463.00 > 419.00	3.016	3.017	-0.001	1.000	79821	0.0485		97.0	535	
463.00 > 169.00	3.016	3.017	-0.001	1.000	18144		4.40(1.90-5.69)	97.0	427	
D 21 13C8 FOSA										
506.00 > 78.00	3.354	3.354	0.0	1.272	5699209	2.46		98.4	34416	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.354	3.356	-0.002	1.000	112083	0.0520		104	3971	
D 26 M2-8:2FTS										
529.00 > 81.00	3.369	3.368	0.001	1.278	832531	2.24		93.7	18954	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.369	3.369	0.0	1.000	20897	0.0494		103	1358	
D 23 13C2 PFDA										
515.00 > 470.00	3.376	3.379	-0.003	1.281	3210389	2.39		95.7	36378	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.376	3.379	-0.003	1.000	59856	0.0482		96.5	767	
513.00 > 169.00	3.376	3.379	-0.003	1.000	11503		5.20(2.36-7.09)	96.5	583	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.535	3.535	0.0	1.341	1570241	2.45		98.2	24092	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.535	3.538	-0.003	1.000	32295	0.0492		98.5	257	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.694	3.692	0.002	1.000	45529	0.0473		98.1	2229	
599.00 > 99.00	3.694	3.692	0.002	1.000	14456		3.15(1.39-4.16)	98.1	919	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.703	3.704	-0.001	1.405	1614490	2.53		101	5671	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.712	3.709	0.003	1.408	2418614	2.37		94.8	37941	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.712	3.710	0.002	1.002	29947	0.0480		96.1	1197	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.712	3.711	0.001	1.000	45561	0.0519		104	510	
563.00 > 169.00	3.712	3.711	0.001	1.000	10407		4.38(0.00-0.00)	104	895	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.851	3.850	0.001	1.461	1616850	2.38		95.3	3917	
35 MeFOSA										
512.00 > 169.00	3.851	3.856	-0.005	1.000	32859	0.0507		101	1205	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.008	0.002	1.521	2785823	2.55		102	46061	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.010	4.008	0.002	1.000	55543	0.0512		102	234	
613.00 > 169.00	4.002	4.008	-0.006	0.998	11565		4.80(2.13-6.40)	102	1005	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.042	4.039	0.003	1.533	1535279	2.44		97.8	3648	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.050	4.047	0.003	1.002	28314	0.0446		89.3	875	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.277	4.275	0.002	1.000	60766	0.0494		98.8	833	
663.00 > 169.00	4.277	4.275	0.002	1.000	20662		2.94(1.25-3.76)	98.8	1201	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.519	4.519	0.0	1.714	2917905	2.47		98.7	27627	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.519	4.519	0.0	1.000	14857	0.0509		102	825	
713.00 > 219.00	4.505	4.519	-0.014	0.997	10258		1.45(0.71-2.13)	102	468	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.934	4.935	-0.001	1.871	5533473	2.55		102	17868	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.934	4.935	-0.001	1.000	138082	0.0478		95.6	110	
813.00 > 169.00	4.934	4.935	-0.001	1.000	26016		5.31(2.86-8.58)	95.6	750	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.299	5.299	0.0	1.000	122697	0.0491		98.3	43.6	
913.00 > 169.00	5.299	5.299	0.0	1.000	15794		7.77(0.00-0.00)	98.3	321	

Reagents:

LCPFC_LL2_00002 Amount Added: 1.00 Units: mL

Report Date: 15-Dec-2017 09:54:05 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_003.d

Injection Date: 14-Dec-2017 16:00:29 Instrument ID: A8_N

Lims ID: IC L2 Full

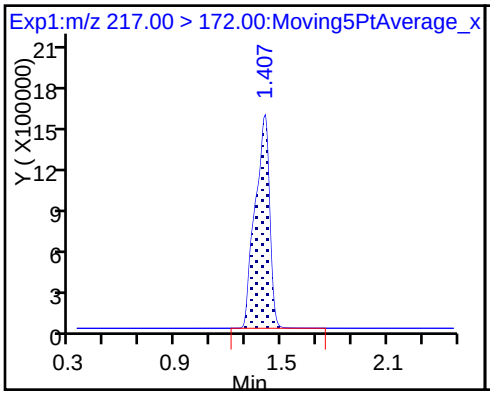
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Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 3

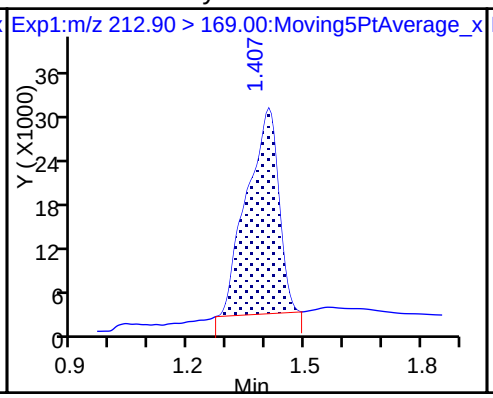
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

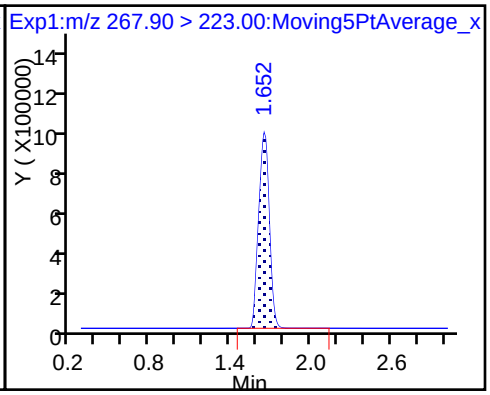
D 1 13C4 PFBA



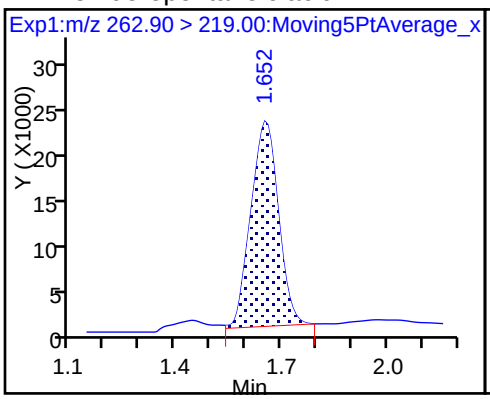
2 Perfluorobutyric acid



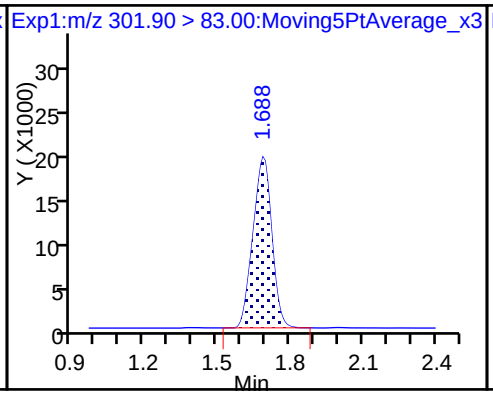
D 3 13C5-PFPeA



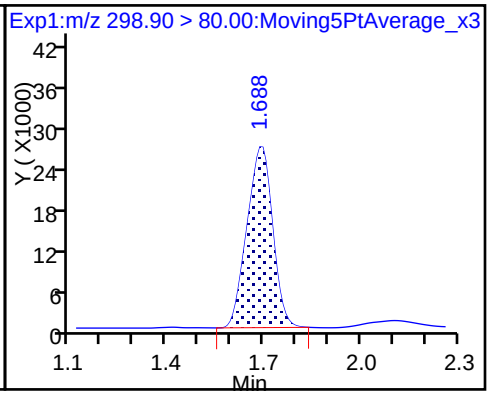
4 Perfluoropentanoic acid



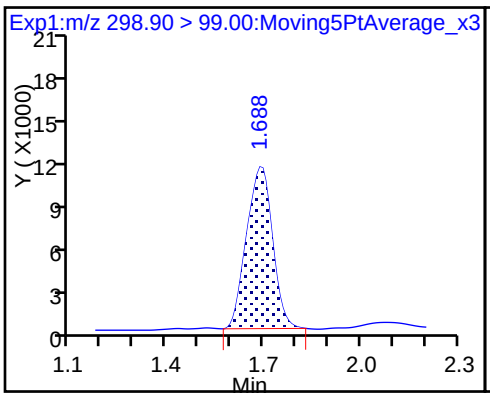
D 47 13C3-PFBS



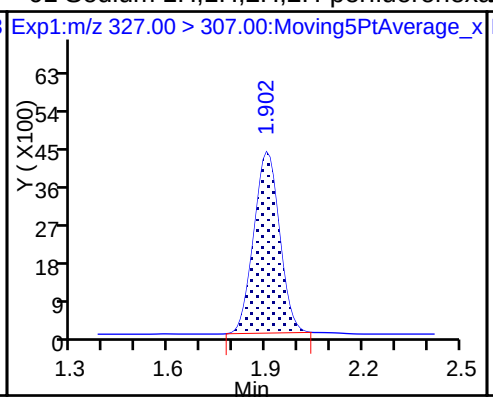
5 Perfluorobutanesulfonic acid



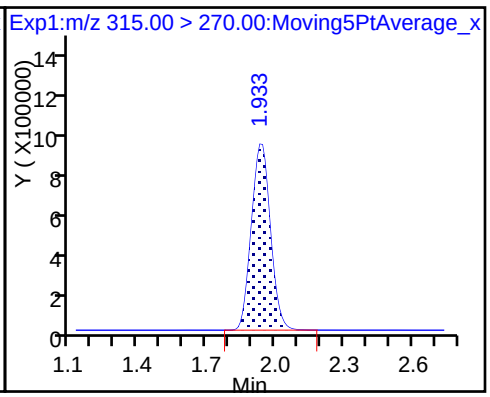
5 Perfluorobutanesulfonic acid



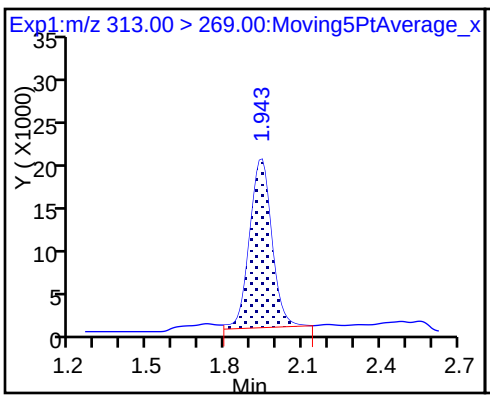
61 Sodium 1H,1H,2H,2H-perfluorohexa



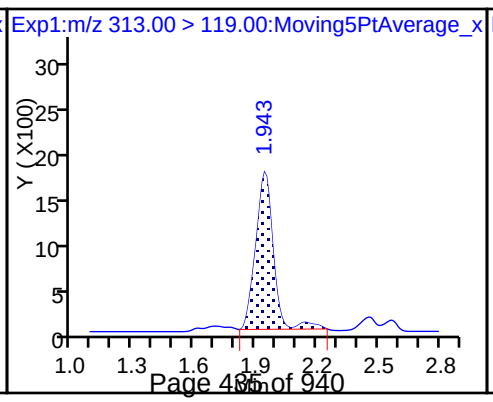
D 7 13C2 PFHxA



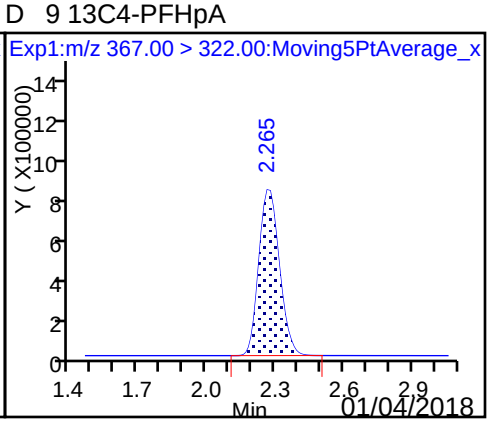
6 Perfluorohexanoic acid



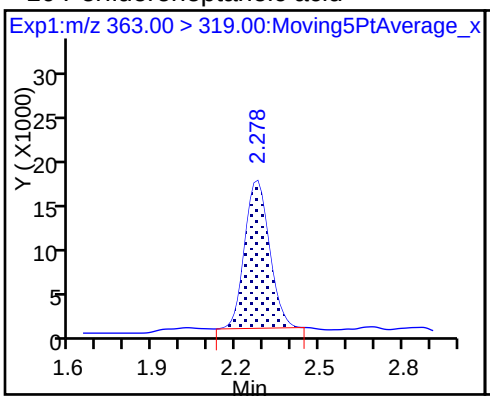
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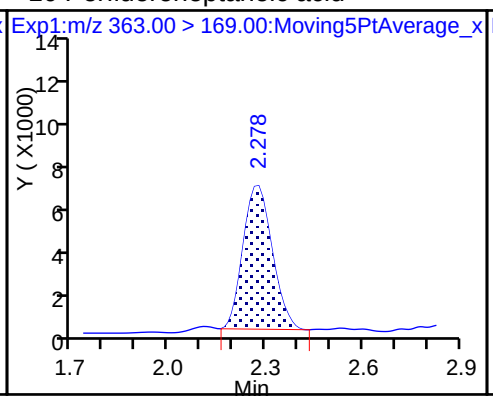
D 9 13C4-PFHpA



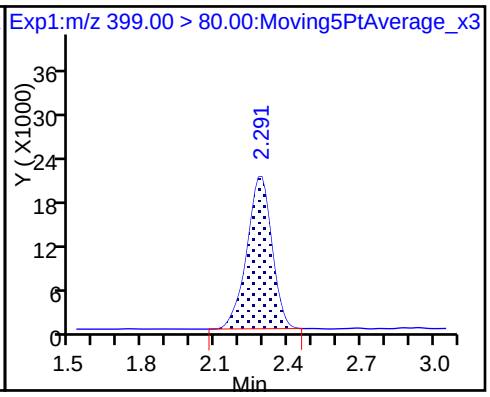
10 Perfluoroheptanoic acid



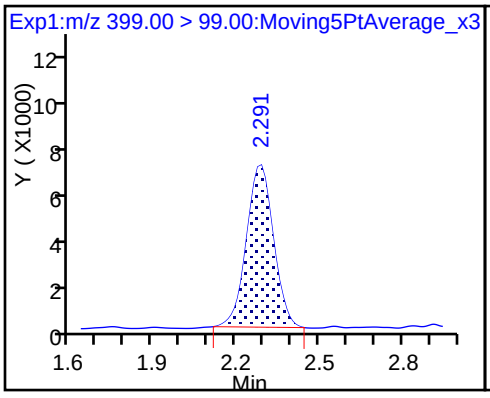
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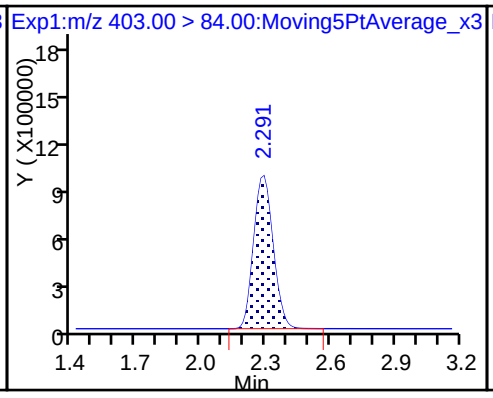
8 Perfluorohexanesulfonic acid



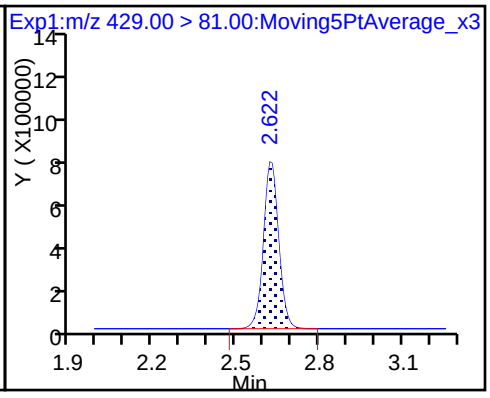
8 Perfluorohexanesulfonic acid



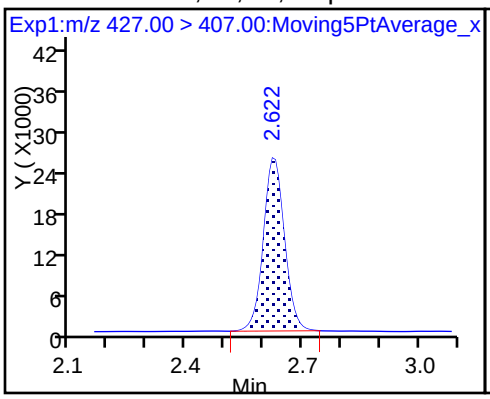
D 11 18O2 PFHxS



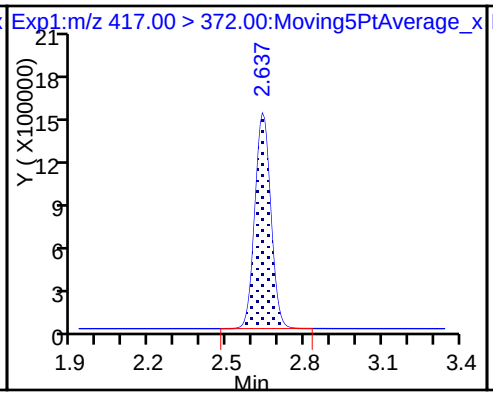
D 12 M2-6:2FTS



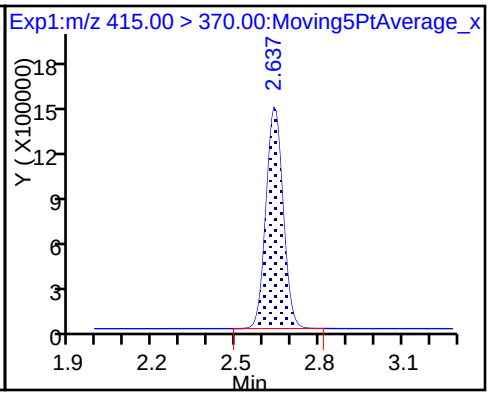
13 Sodium 1H,1H,2H,2H-perfluorooctane



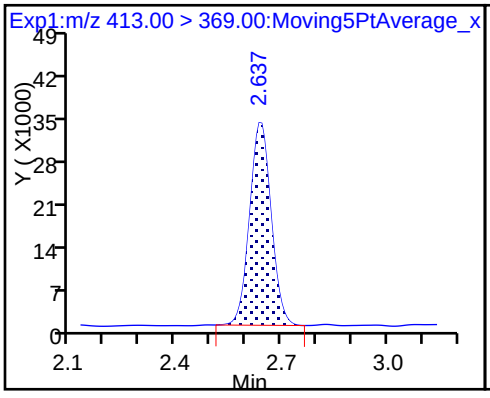
D 14 13C4 PFOA



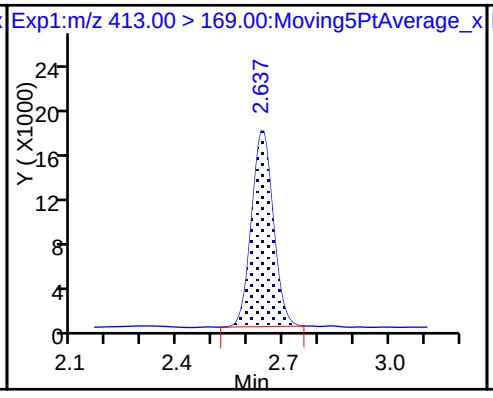
* 62 13C2-PFOA



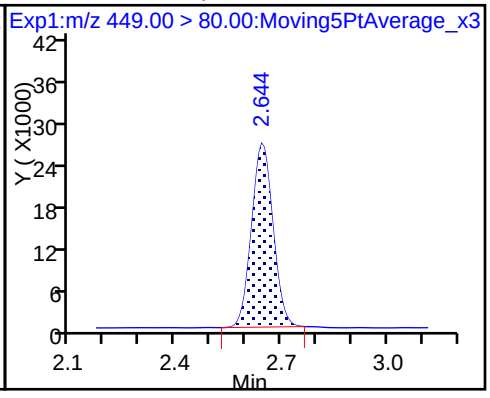
15 Perfluorooctanoic acid



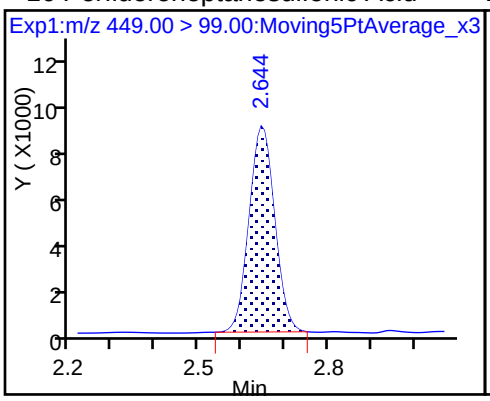
15 Perfluorooctanoic acid



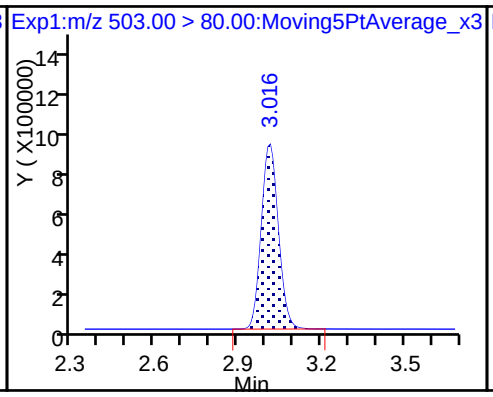
16 Perfluoroheptanesulfonic Acid



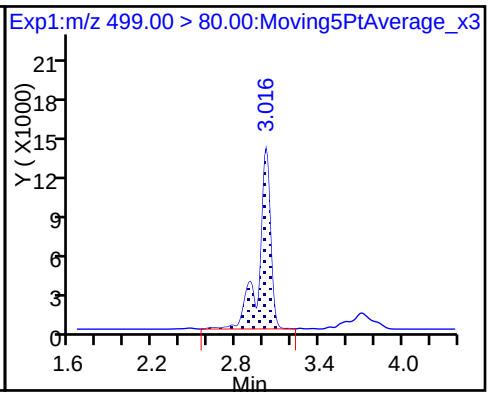
16 Perfluoroheptanesulfonic Acid



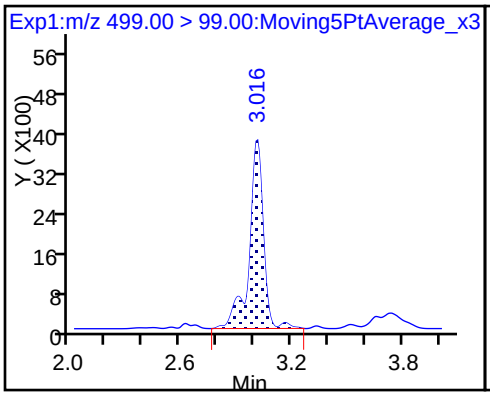
D 18 13C4 PFOS



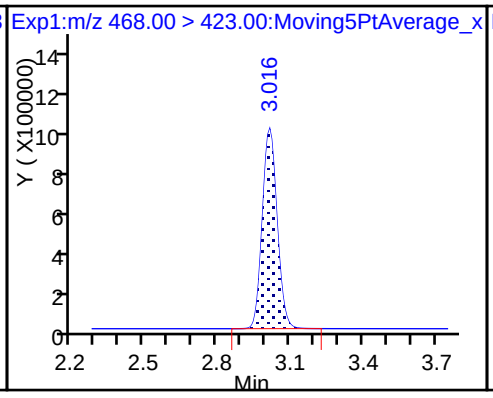
17 Perfluorooctane sulfonic acid



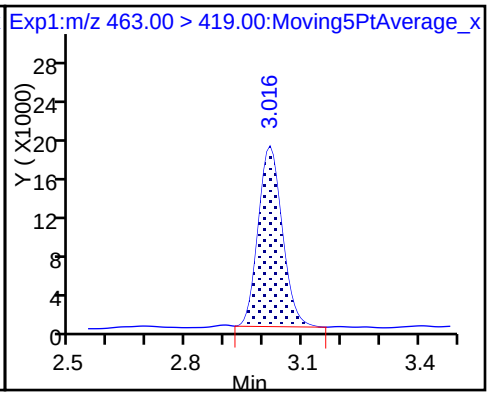
17 Perfluorooctane sulfonic acid



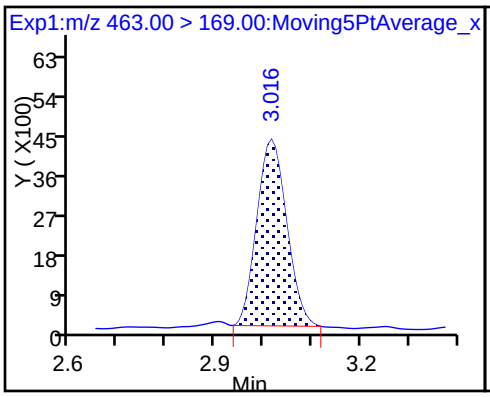
D 19 13C5 PFNA



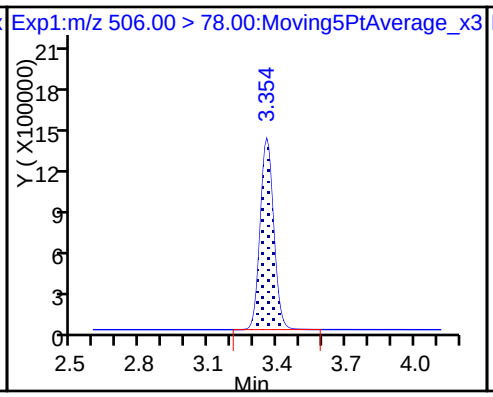
20 Perfluorononanoic acid



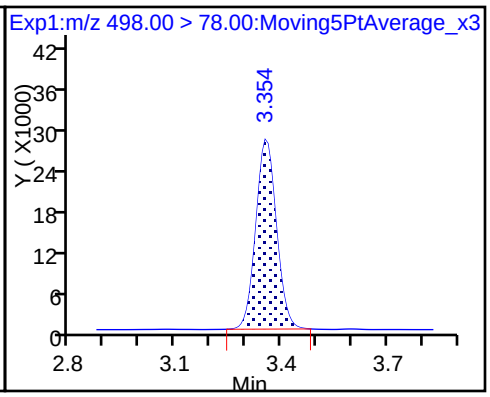
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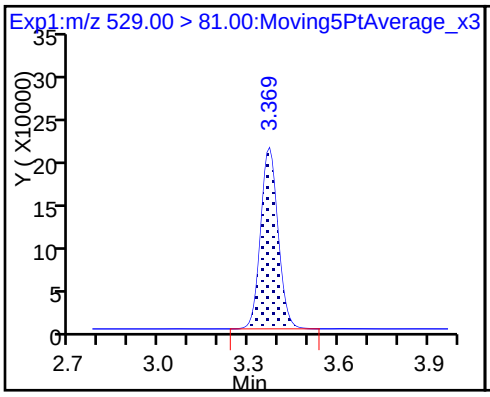
D 21 13C8 FOSA



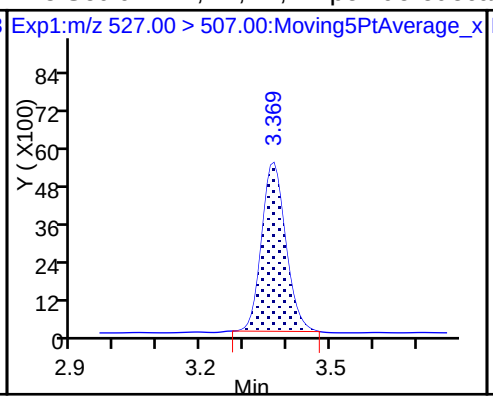
22 Perfluorooctane Sulfonamide



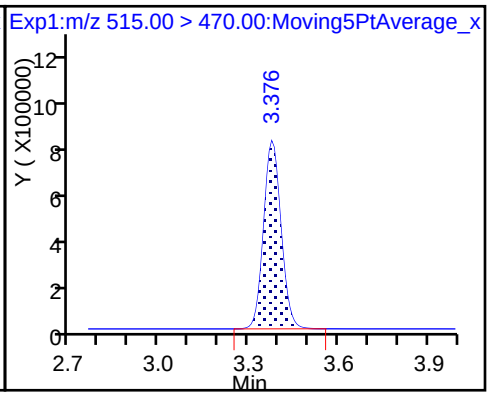
D 26 M2-8:2FTS



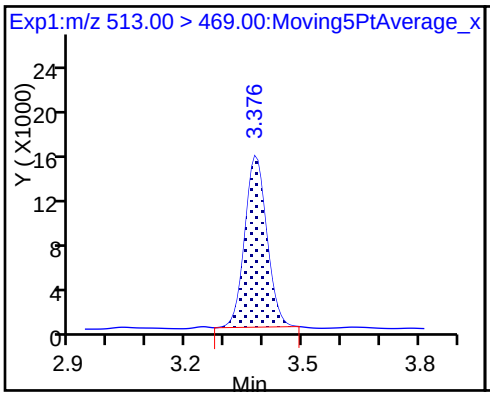
25 Sodium 1H,1H,2H,2H-perfluorodecane



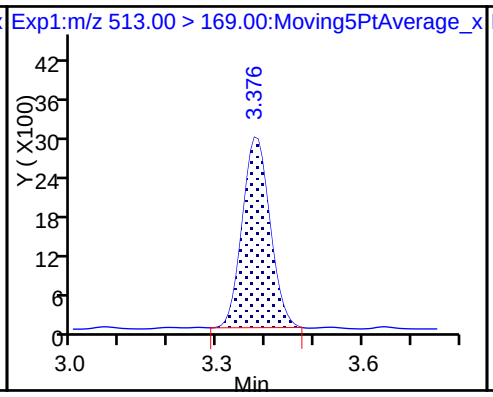
D 23 13C2 PFDA



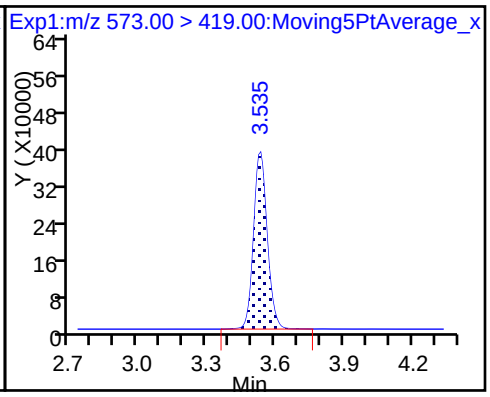
24 Perfluorodecanoic acid



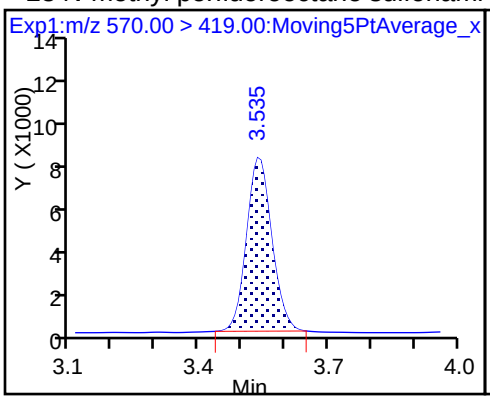
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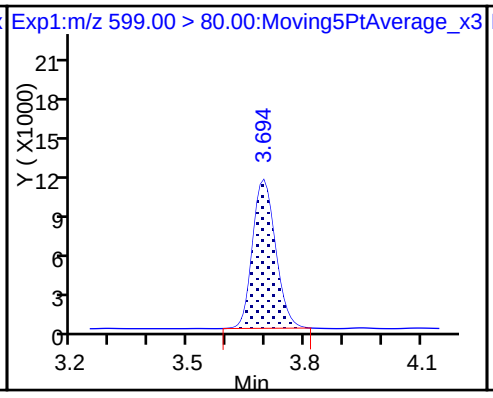
D 27 d3-NMeFOSAA



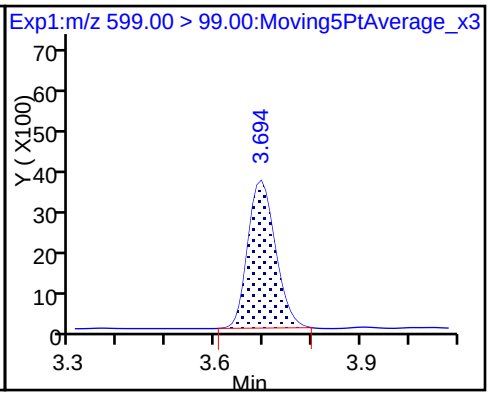
28 N-methyl perfluorooctane sulfonami



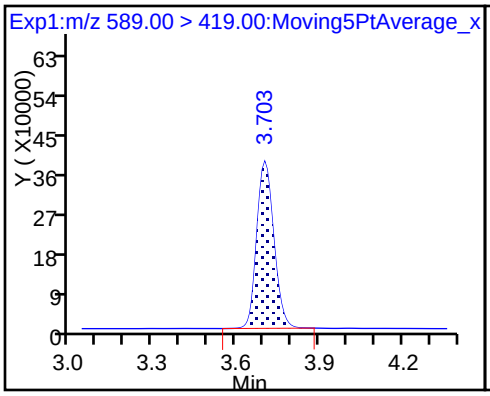
29 Perfluorodecane Sulfonic acid



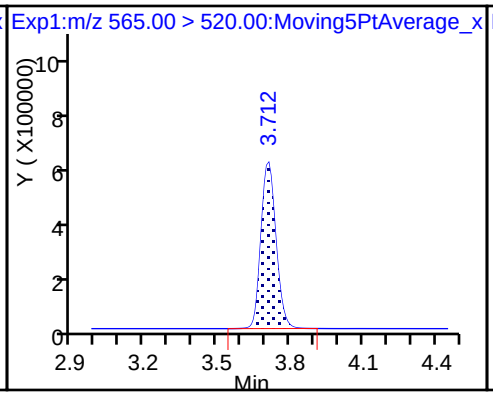
29 Perfluorodecane Sulfonic acid



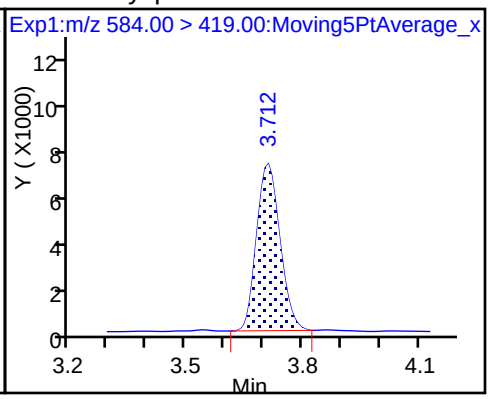
D 32 d5-NEtFOSAA



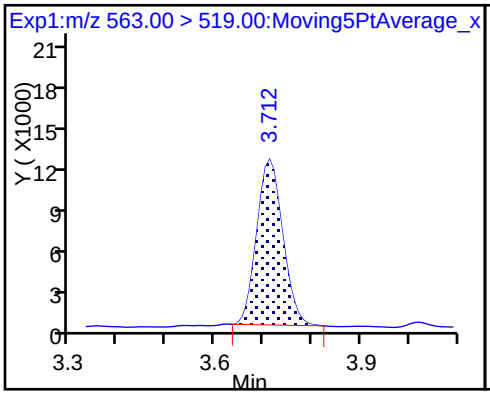
D 30 13C2 PFUnA



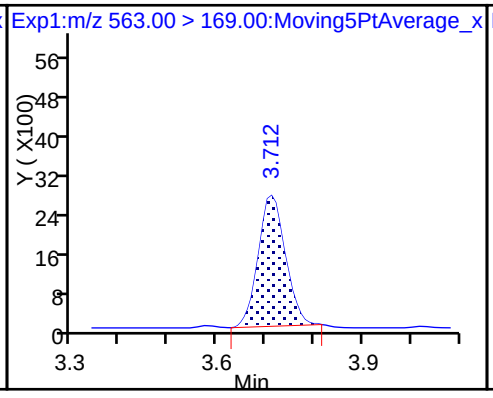
33 N-ethyl perfluorooctane sulfonamid



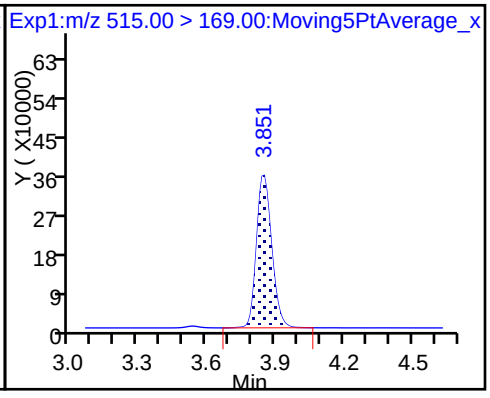
31 Perfluoroundecanoic acid



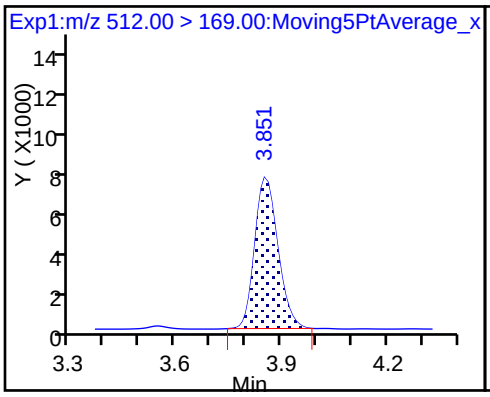
31 Perfluoroundecanoic acid



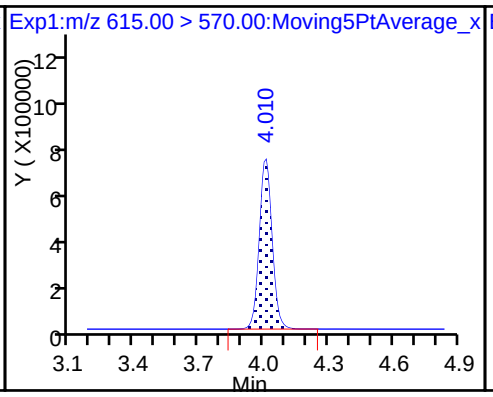
D 34 d-N-MeFOSA-M



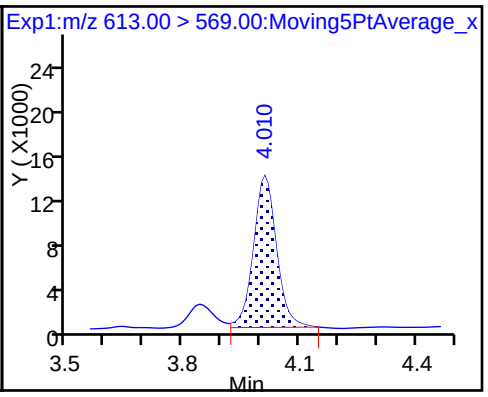
35 MeFOSA



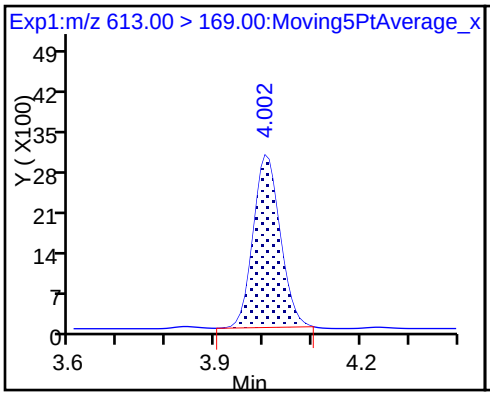
D 36 13C2 PFDoA



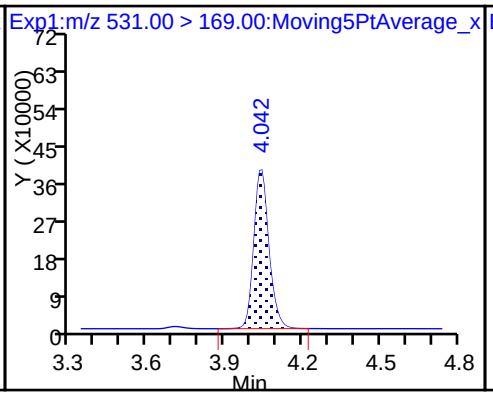
37 Perfluorododecanoic acid



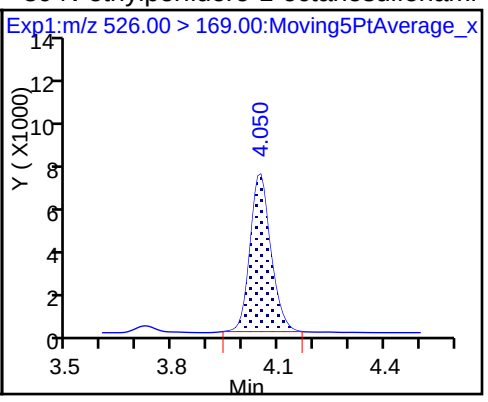
37 Perfluorododecanoic acid



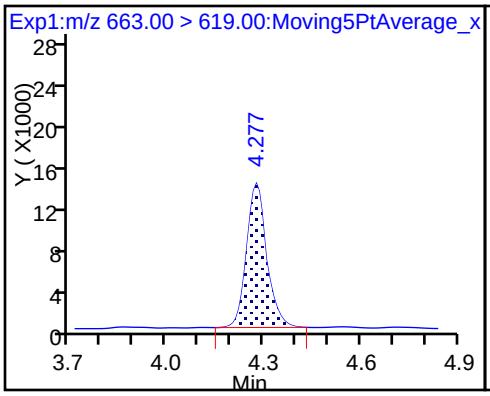
D 38 d-N-EtFOSA-M



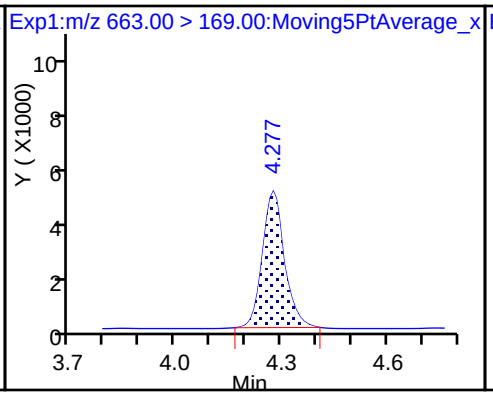
39 N-ethylperfluoro-1-octanesulfonami



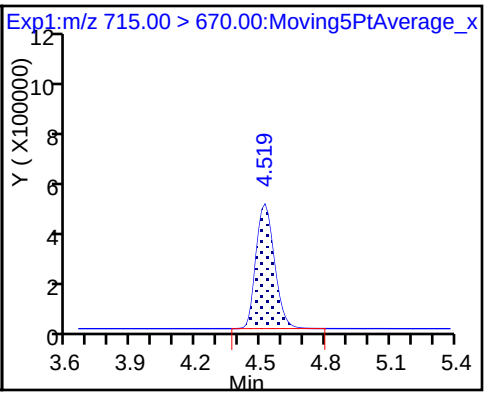
41 Perfluorotridecanoic acid



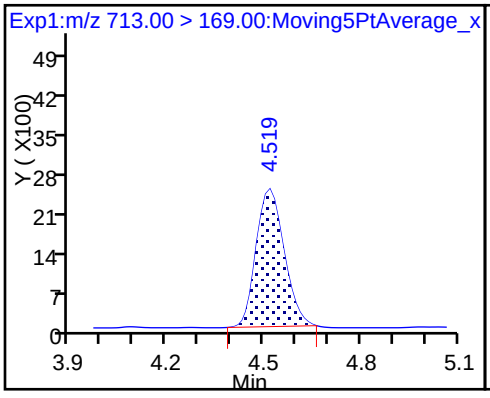
41 Perfluorotridecanoic acid



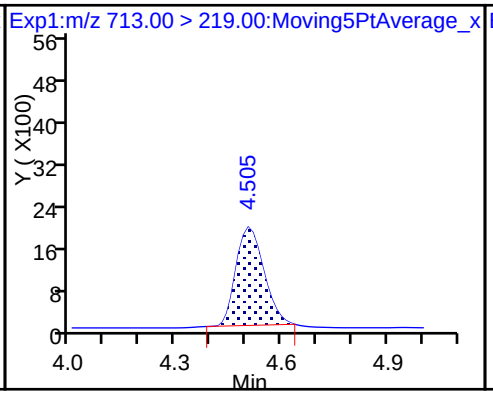
D 43 13C2-PFTeDA



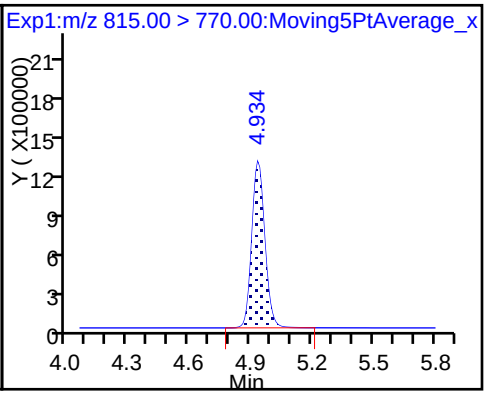
42 Perfluorotetradecanoic acid



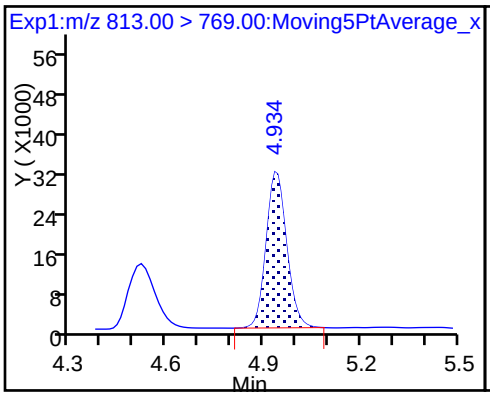
42 Perfluorotetradecanoic acid



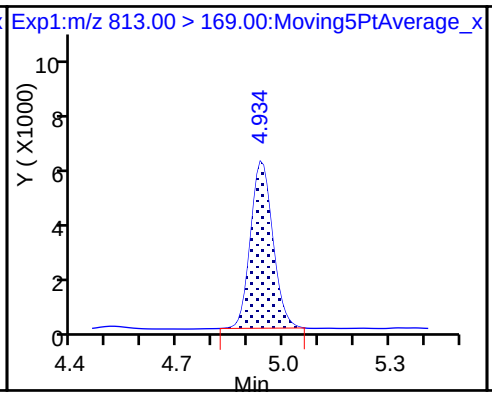
D 44 13C2-PFHxDA



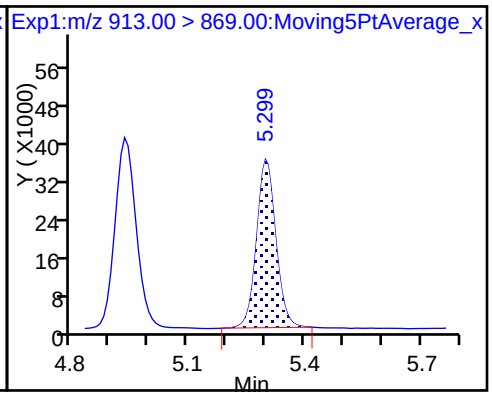
45 Perfluorohexadecanoic acid



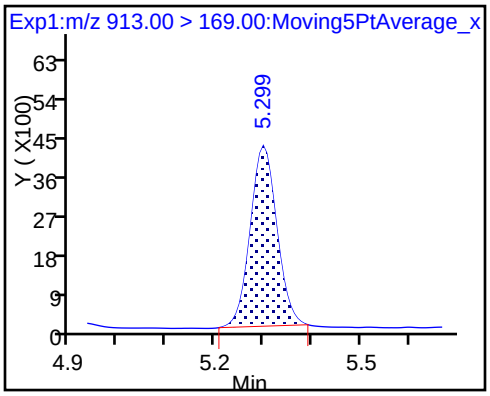
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_004.d
Lims ID: IC L3 Full
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Dec-2017 16:08:23 ALS Bottle#: 12 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L3-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:07 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: phomsophat Date: 14-Dec-2017 19:09:21

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.411	1.406	0.005	0.535	8600312	2.43		97.0	27710	
2 Perfluorobutyric acid										
212.90 > 169.00	1.411	1.408	0.003	1.000	793581	0.2558		102	164	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.658	1.656	0.002	1.000	560152	0.2471		98.8	794	
D 3 13C5-PFPeA										
267.90 > 223.00	1.658	1.656	0.002	0.628	5095577	2.44		97.6	67975	
D 47 13C3-PFBS										
301.90 > 83.00	1.694	1.690	0.004	0.642	98877	2.21		94.8	4560	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.694	1.692	0.002	1.000	745803	0.2392		108	3518	
298.90 > 99.00	1.694	1.692	0.002	1.000	306599		2.43(1.25-3.74)	108	2386	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.908	1.902	0.006	1.000	125605	0.2121		90.8	7451	
D 7 13C2 PFHxA										
315.00 > 270.00	1.939	1.938	0.001	0.734	5312653	2.43		97.4	50784	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.939	1.939	0.0	1.000	516953	0.2467		98.7	1147	
313.00 > 119.00	1.939	1.939	0.0	1.000	47564		10.87(5.03-15.10)	98.7	1042	
D 9 13C4-PFHpA										
367.00 > 322.00	2.273	2.272	0.0	0.861	5095268	2.49		99.5	31668	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.273	2.273	-0.001	1.000	523316	0.2477		99.1	1374	
363.00 > 169.00	2.273	2.273	-0.001	1.000	214778		2.44(1.13-3.40)	99.1	1492	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.286	2.285	0.001	1.000	628334	0.2203		96.8	4338	
399.00 > 99.00	2.286	2.285	0.001	1.000	204874		3.07(1.50-4.49)	96.8	1968	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.286	2.286	0.0	0.866	6108701	2.40		101	33540	
D 12 M2-6:2FTS										
429.00 > 81.00	2.625	2.625	0.0	0.995	3008269	2.70		114	89806	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.625	2.625	0.0	1.000	493994	0.2479		105	11946	
D 14 13C4 PFOA										
417.00 > 372.00	2.639	2.637	0.002	1.000	6101236	2.47		98.6	57837	
* 62 13C2-PFOA										
415.00 > 370.00	2.639	2.638	0.001		6060938	2.50			59470	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.639	2.640	-0.001	1.000	664330	0.2560		102	1541	
413.00 > 169.00	2.639	2.640	-0.001	1.000	361129		1.84(0.84-2.52)	102	2591	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.647	2.644	0.003	1.000	587067	0.2527		106	13666	
449.00 > 99.00	2.647	2.644	0.003	1.000	155665		3.77(1.94-5.82)	106	4484	
D 18 13C4 PFOS										
503.00 > 80.00	3.012	3.014	-0.002	1.141	3765173	2.34		98.0	29534	
D 19 13C5 PFNA										
468.00 > 423.00	3.012	3.015	-0.003	1.141	3945653	2.41		96.3	35629	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.012	3.015	-0.003	1.000	397062	0.2371		102	1379	
499.00 > 99.00	3.012	3.015	-0.003	1.000	87250		4.55(2.31-6.93)	102	926	
20 Perfluorononanoic acid										
463.00 > 419.00	3.020	3.017	0.003	1.003	405678	0.2580		103	2868	
463.00 > 169.00	3.012	3.017	-0.005	1.000	97192		4.17(1.90-5.69)	103	2105	
D 21 13C8 FOSA										
506.00 > 78.00	3.358	3.354	0.004	1.272	5722686	2.48		99.3	26210	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.358	3.356	0.002	1.000	543794	0.2511		100	10266	
D 26 M2-8:2FTS										
529.00 > 81.00	3.365	3.368	-0.003	1.275	842989	2.28		95.4	18879	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.365	3.369	-0.004	1.000	104155	0.2431		102	5140	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.380	3.379	0.001	1.000	315236	0.2565		103	4919	
513.00 > 169.00	3.380	3.379	0.001	1.000	55811		5.65(2.36-7.09)	103	892	
D 23 13C2 PFDA										
515.00 > 470.00	3.380	3.379	0.001	1.281	3179040	2.38		95.3	25523	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.532	3.535	-0.003	1.338	1520693	2.39		95.6	23620	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.540	3.538	0.002	1.002	155423	0.2447		97.9	1295	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.692	-0.002	1.000	224818	0.2403		99.7	7764	
599.00 > 99.00	3.690	3.692	-0.002	1.000	77324		2.91(1.39-4.16)	99.7	3656	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.707	3.704	0.003	1.405	1545787	2.44		97.5	6221	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.707	3.709	-0.002	1.405	2510724	2.47		98.9	34774	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.707	3.710	-0.003	1.000	151917	0.2546		102	3514	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.707	3.711	-0.004	1.000	213173	0.2339		93.6	2523	
563.00 > 169.00	3.707	3.711	-0.004	1.000	50981		4.18(0.00-0.00)	93.6	3421	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.846	3.850	-0.004	1.457	1604706	2.38		95.0	3791	
35 MeFOSA										
512.00 > 169.00	3.856	3.856	0.0	1.002	162702	0.2529		101	2976	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.006	4.008	-0.002	1.000	252044	0.2427		97.1	1022	
613.00 > 169.00	4.006	4.008	-0.002	1.000	66616		3.78(2.13-6.40)	97.1	4110	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.008	-0.002	1.518	2666735	2.46		98.3	38402	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.038	4.039	-0.001	1.530	1496552	2.39		95.8	3479	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.045	4.047	-0.002	1.002	158928	0.2571		103	2476	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.280	4.275	0.005	1.000	296005	0.2514		101	3889	
663.00 > 169.00	4.271	4.275	-0.004	0.998	95551		3.10(1.25-3.76)	101	7067	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.519	-0.005	1.000	72426	0.2551		102	3089	
713.00 > 219.00	4.514	4.519	-0.005	1.000	50650		1.43(0.71-2.13)	102	2163	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.519	-0.005	1.710	2840465	2.41		96.5	24296	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.935	0.005	1.000	545644	0.2731		109	413	
813.00 > 169.00	4.940	4.935	0.005	1.000	95580		5.71(2.86-8.58)	109	3158	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.940	4.935	0.005	1.872	5239488	2.43		97.1	16629	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.303	5.299	0.004	1.000	629381	0.2662		106	213	
913.00 > 169.00	5.303	5.299	0.004	1.000	78124		8.06(0.00-0.00)	106	978	

Reagents:

LCPFC_LL3_00002 Amount Added: 1.00 Units: mL

Report Date: 15-Dec-2017 09:54:08 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_004.d

Injection Date: 14-Dec-2017 16:08:23 Instrument ID: A8_N

Lims ID: IC L3 Full

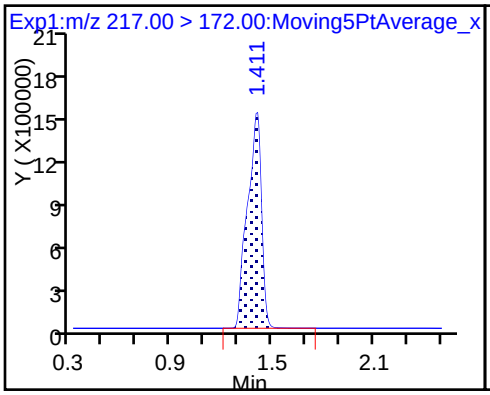
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 12 Worklist Smp#: 4

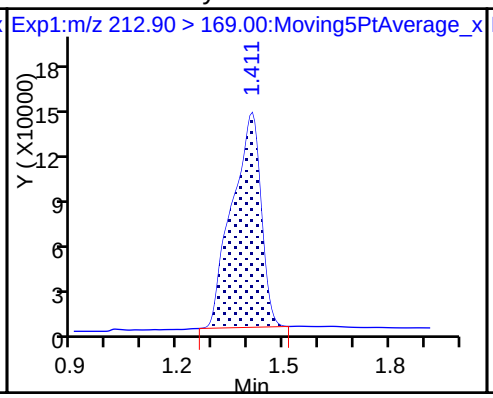
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

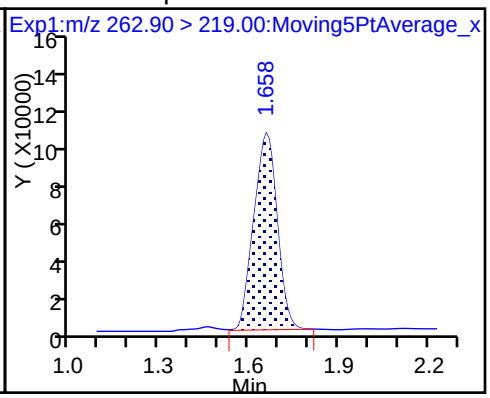
D 1 13C4 PFBA



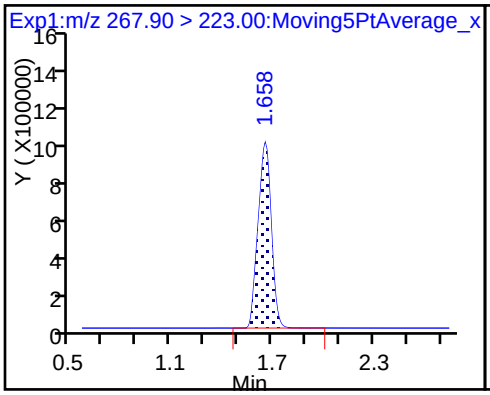
2 Perfluorobutyric acid



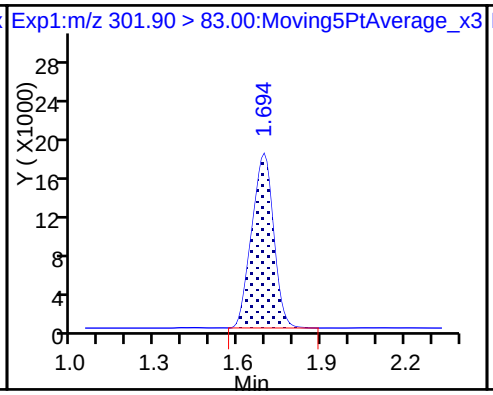
4 Perfluoropentanoic acid



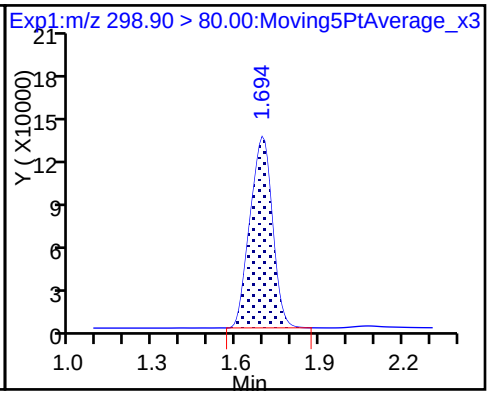
D 3 13C5-PFPeA



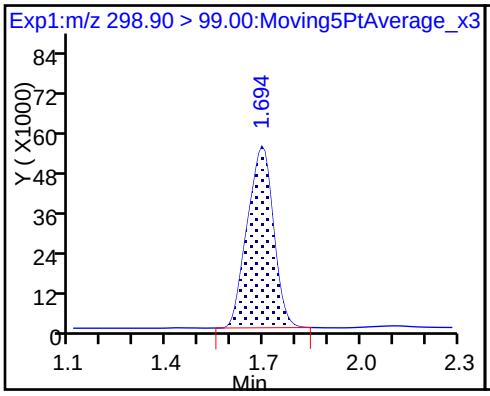
D 47 13C3-PFBS



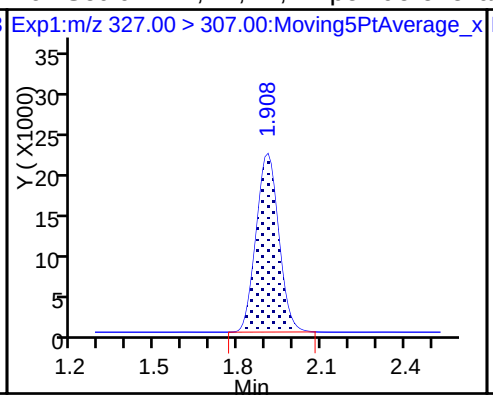
5 Perfluorobutanesulfonic acid



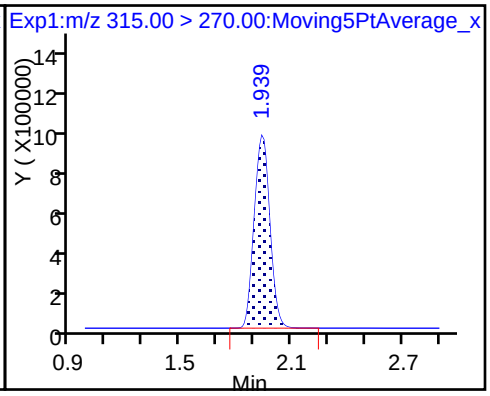
5 Perfluorobutanesulfonic acid



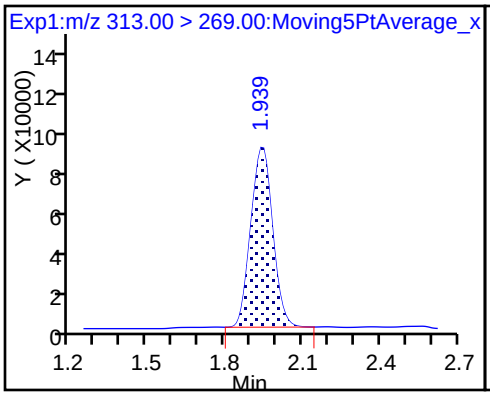
61 Sodium 1H,1H,2H,2H-perfluorohexa



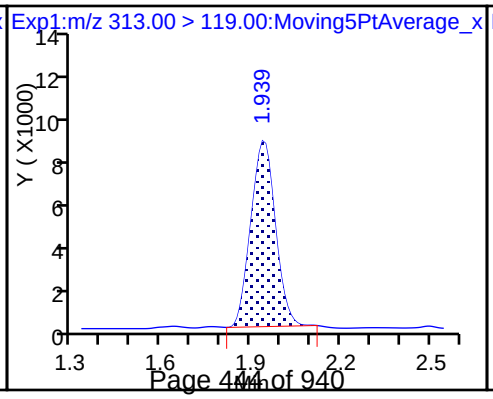
D 7 13C2 PFHxA



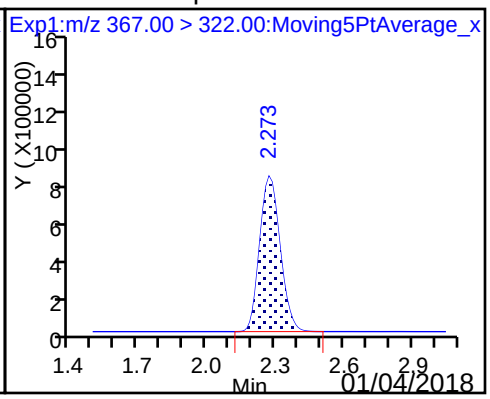
6 Perfluorohexanoic acid



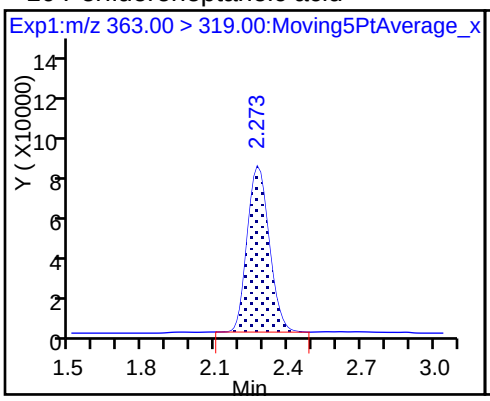
6 Perfluorohexanoic acid



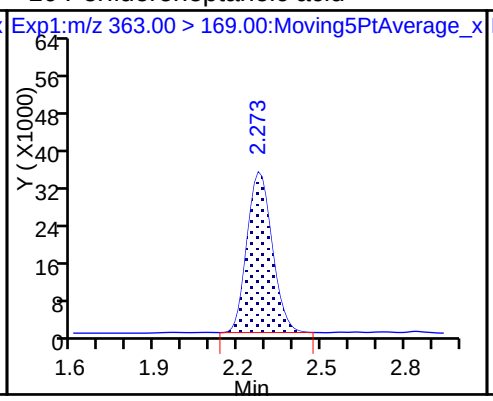
D 9 13C4-PFHpA



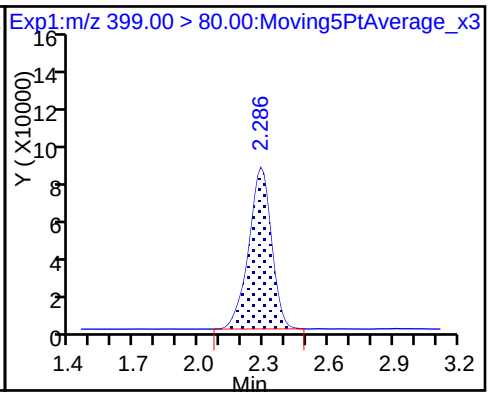
10 Perfluoroheptanoic acid



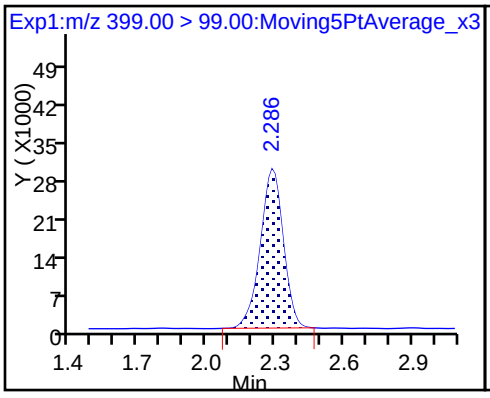
10 Perfluoroheptanoic acid



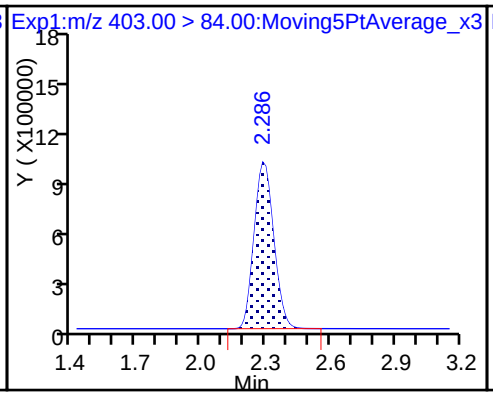
8 Perfluorohexanesulfonic acid



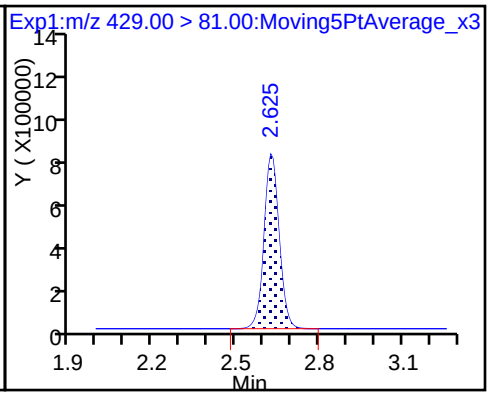
8 Perfluorohexanesulfonic acid



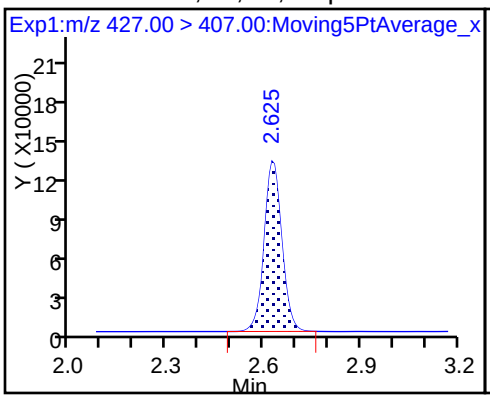
D 11 18O2 PFHxS



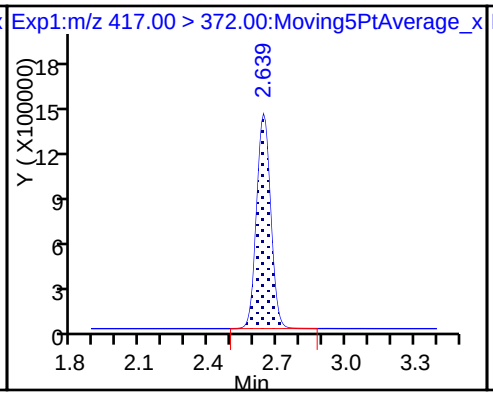
D 12 M2-6:2FTS



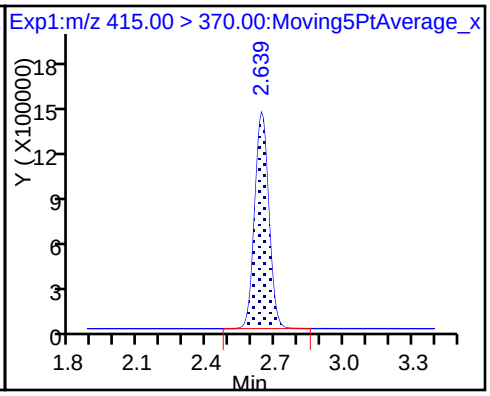
13 Sodium 1H,1H,2H,2H-perfluorooctane



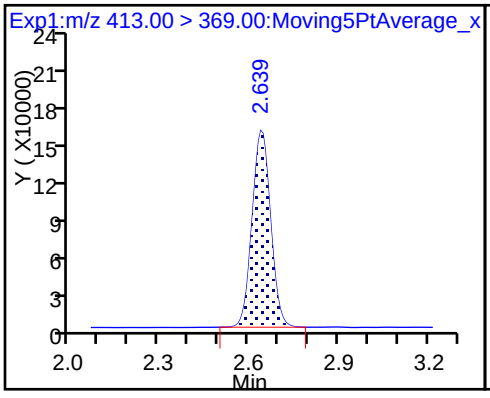
D 14 13C4 PFOA



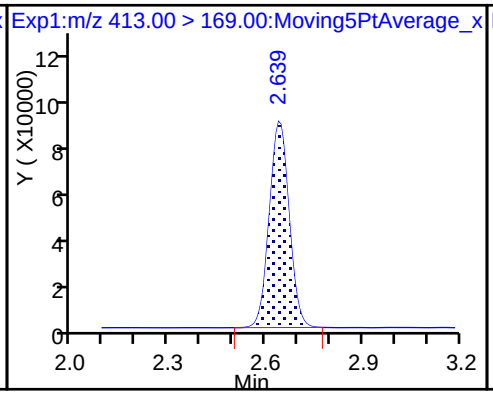
* 62 13C2-PFOA



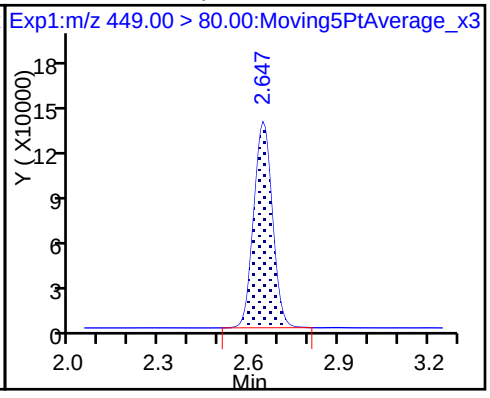
15 Perfluorooctanoic acid



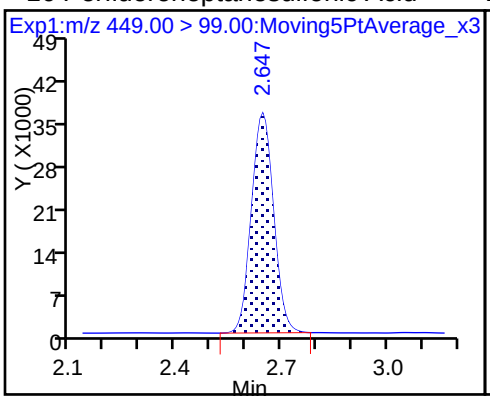
15 Perfluorooctanoic acid



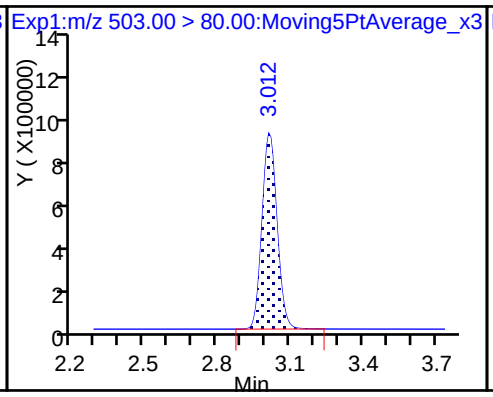
16 Perfluoroheptanesulfonic Acid



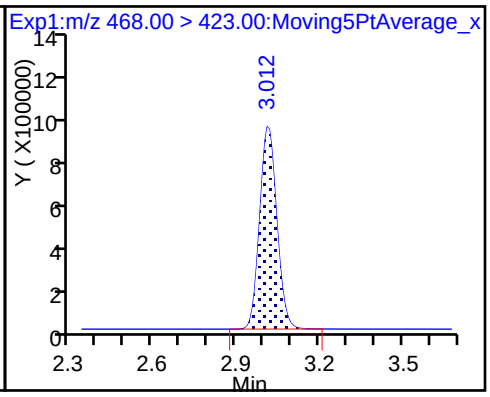
16 Perfluoroheptanesulfonic Acid



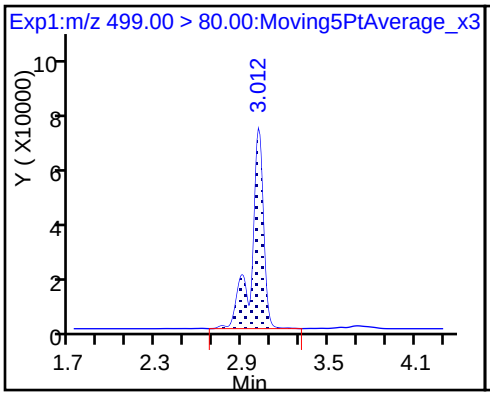
D 18 13C4 PFOS



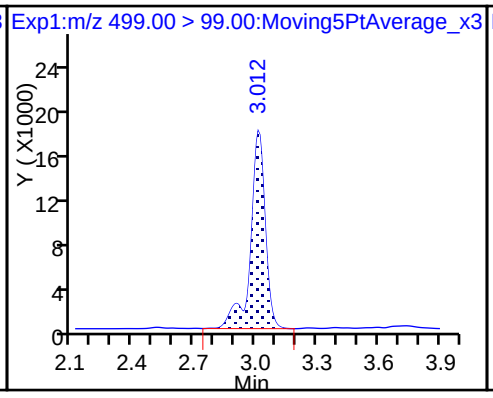
D 19 13C5 PFNA



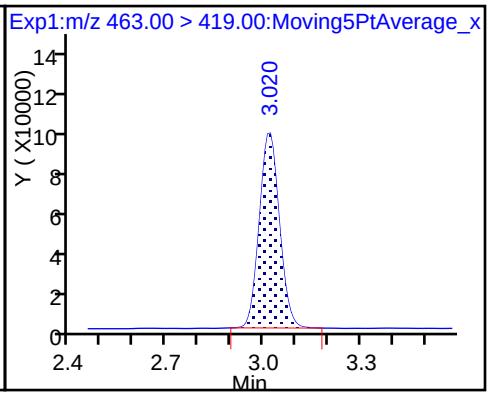
17 Perfluorooctane sulfonic acid



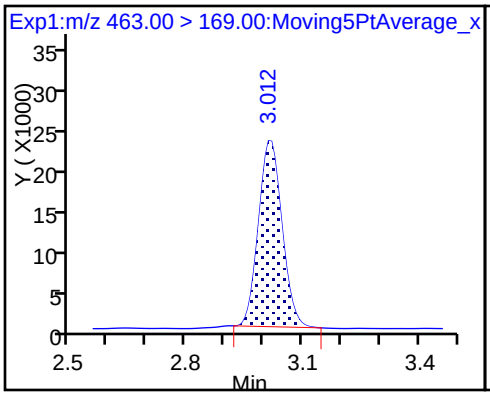
17 Perfluorooctane sulfonic acid



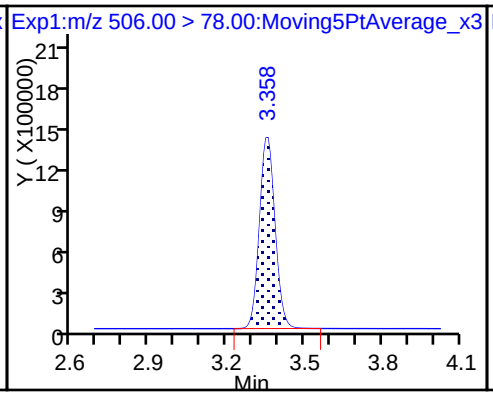
20 Perfluorononanoic acid



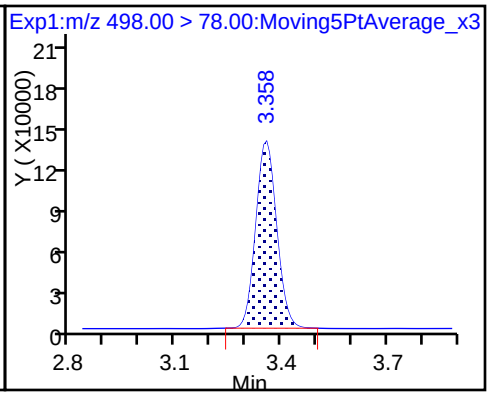
20 Perfluorononanoic acid



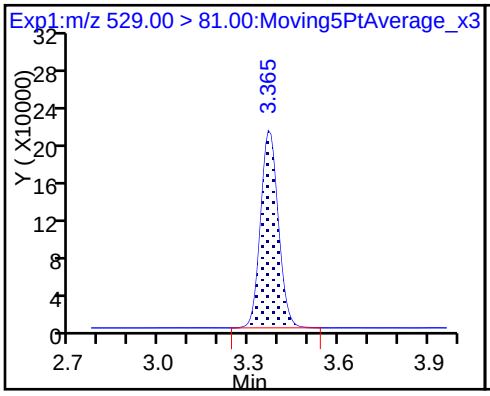
D 21 13C8 FOSA



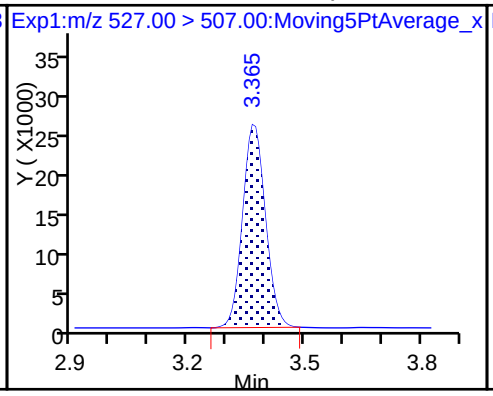
22 Perfluorooctane Sulfonamide



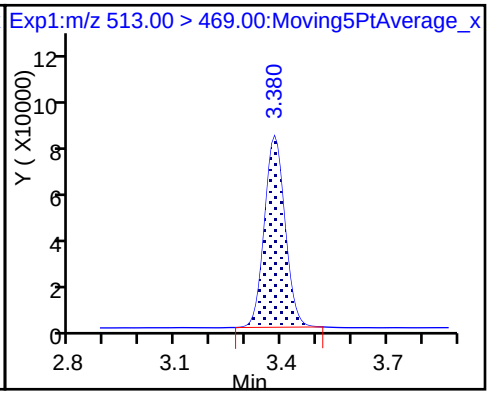
D 26 M2-8:2FTS



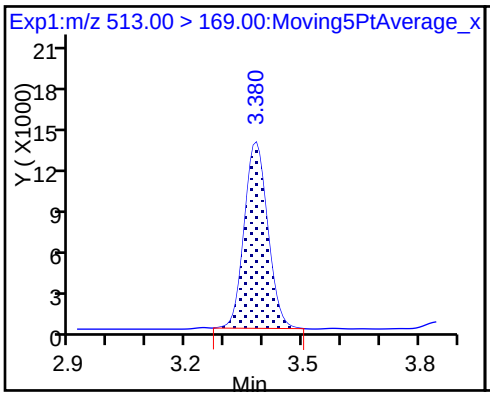
25 Sodium 1H,1H,2H,2H-perfluorodecan



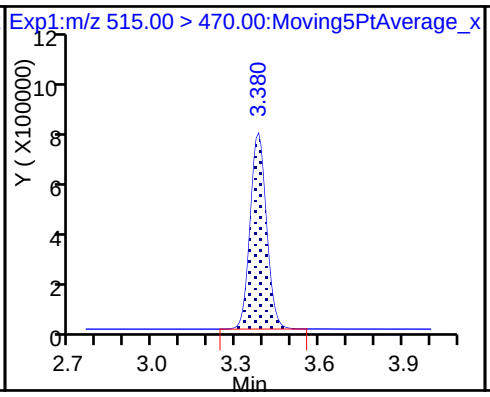
24 Perfluorodecanoic acid



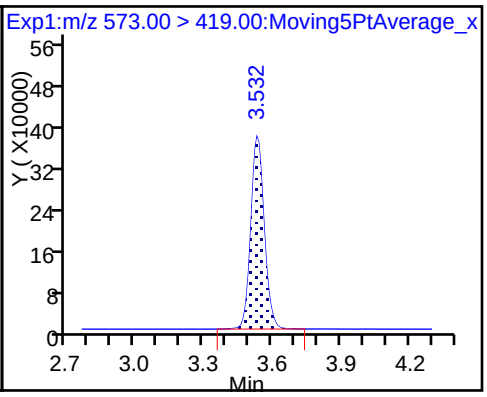
24 Perfluorodecanoic acid



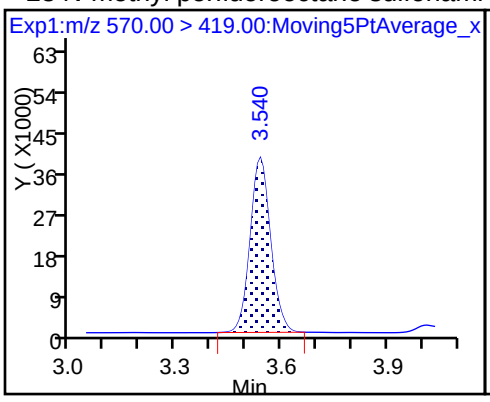
D 23 13C2 PFDA



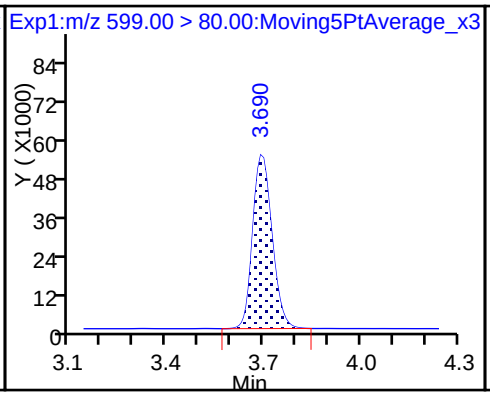
D 27 d3-NMeFOSAA



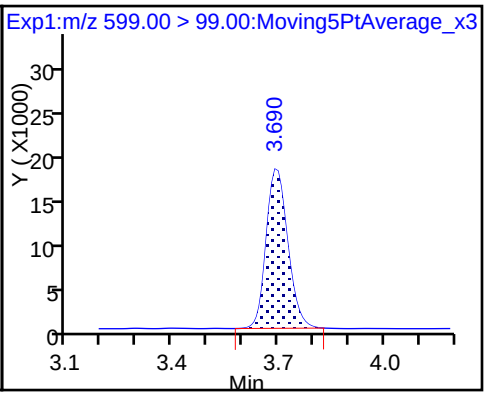
28 N-methyl perfluorooctane sulfonami



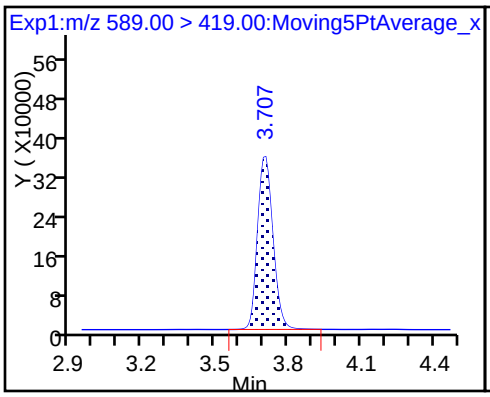
29 Perfluorodecane Sulfonic acid



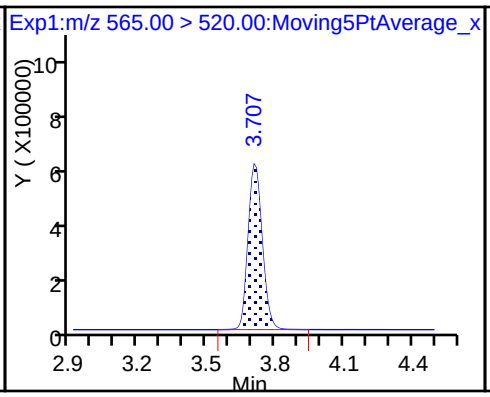
29 Perfluorodecane Sulfonic acid



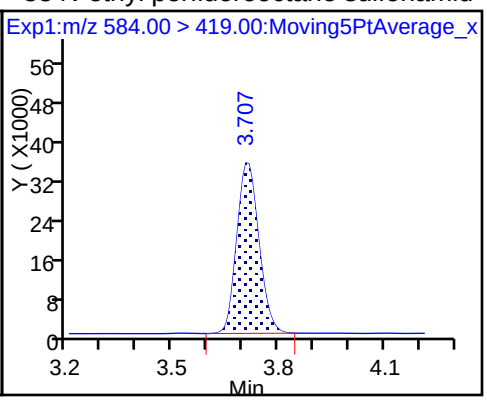
D 32 d5-NEtFOSAA



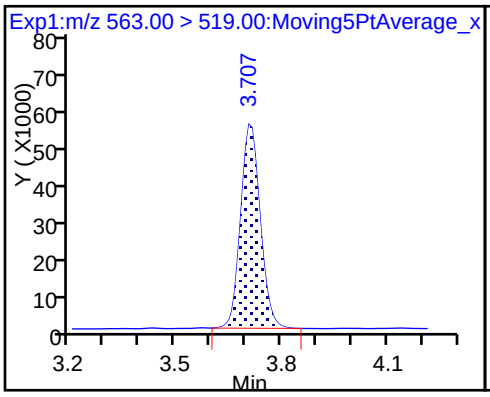
D 30 13C2 PFUnA



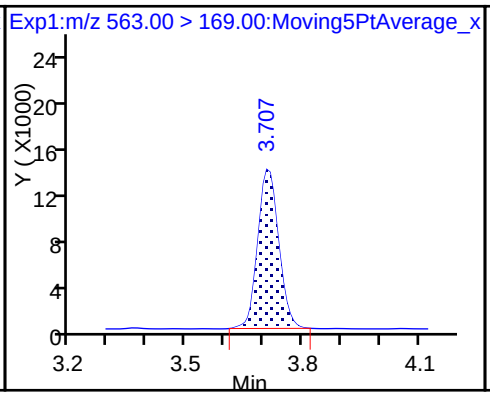
33 N-ethyl perfluorooctane sulfonamid



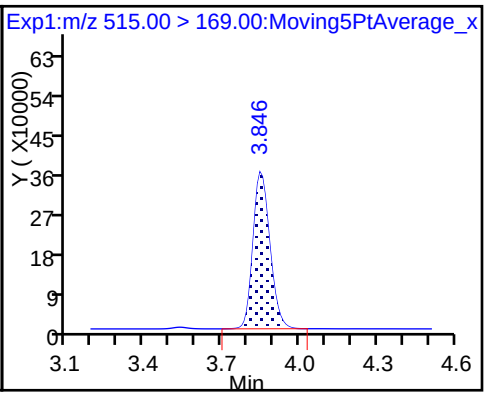
31 Perfluoroundecanoic acid



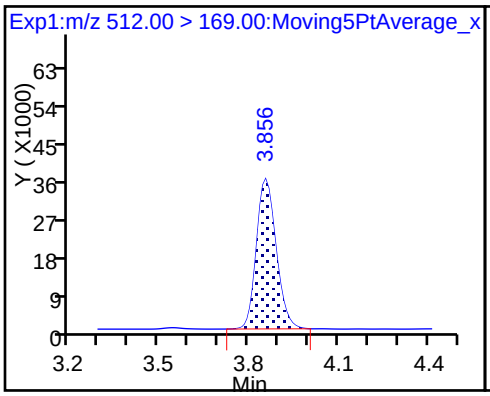
31 Perfluoroundecanoic acid



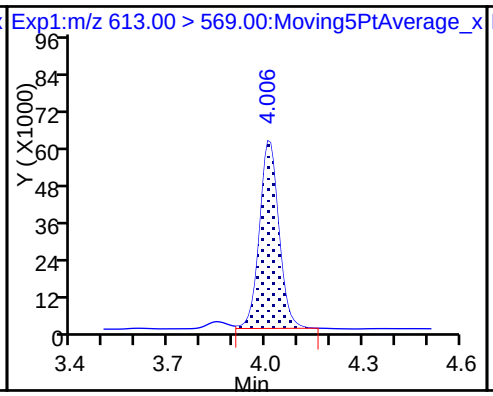
D 34 d-N-MeFOSA-M



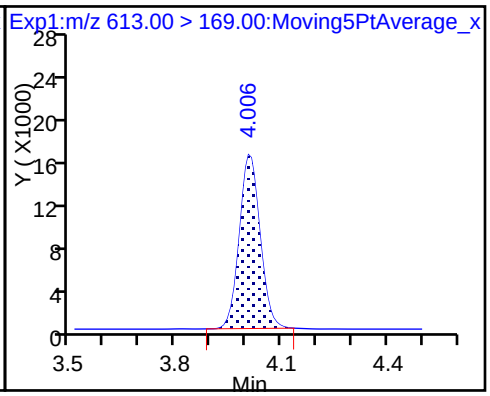
35 MeFOSA



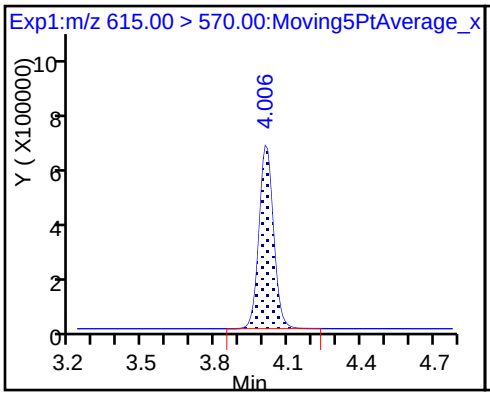
37 Perfluorododecanoic acid



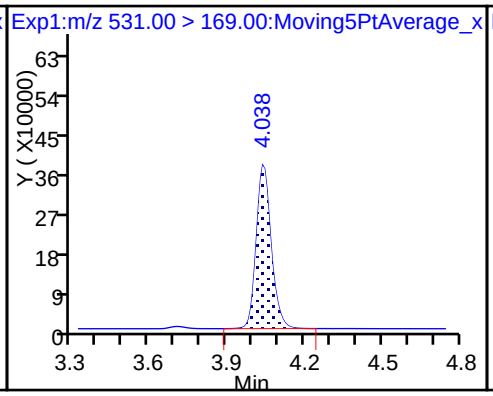
37 Perfluorododecanoic acid



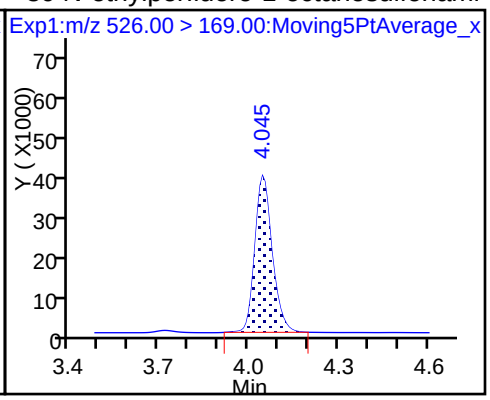
D 36 13C2 PFDoA



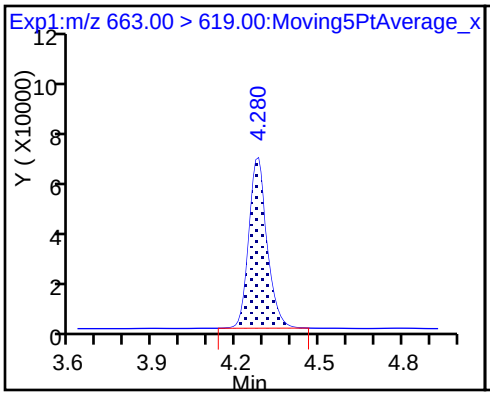
D 38 d-N-EtFOSA-M



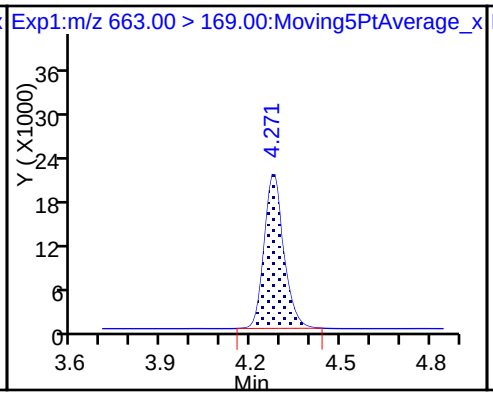
39 N-ethylperfluoro-1-octanesulfonami



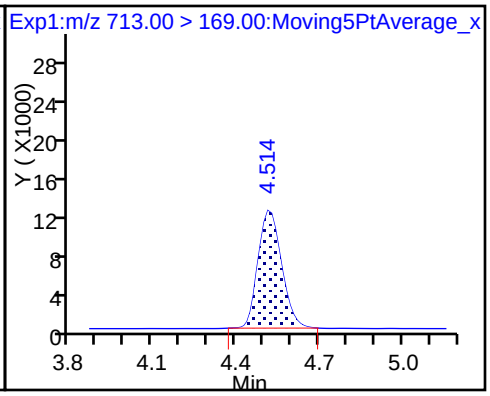
41 Perfluorotridecanoic acid



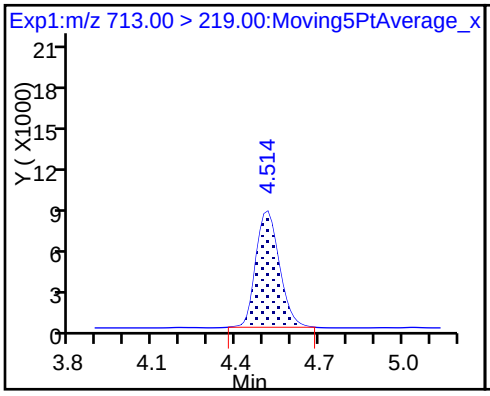
41 Perfluorotridecanoic acid



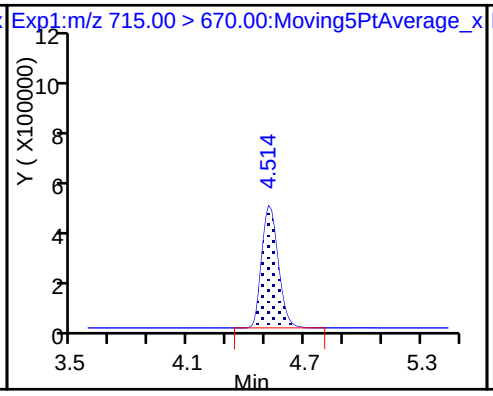
42 Perfluorotetradecanoic acid



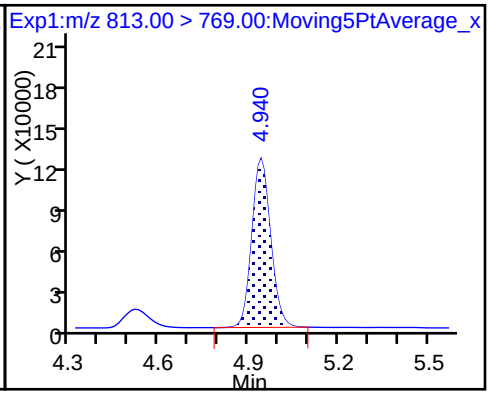
42 Perfluorotetradecanoic acid



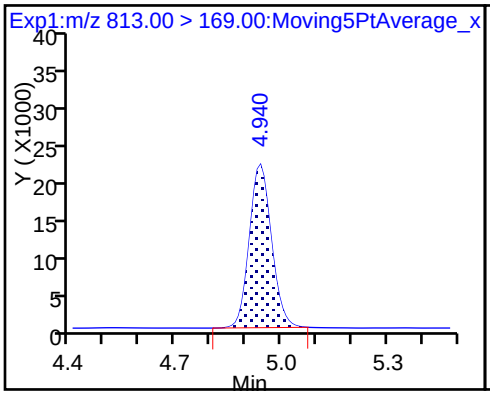
D 43 13C2-PFTeDA



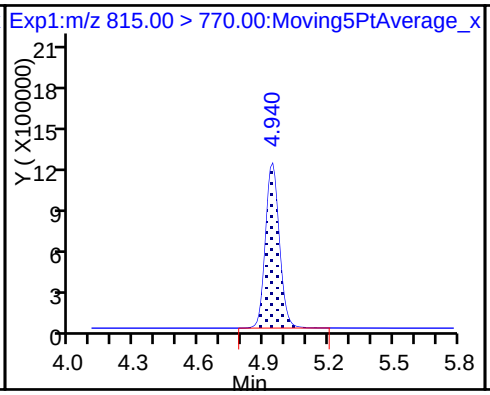
45 Perfluorohexadecanoic acid



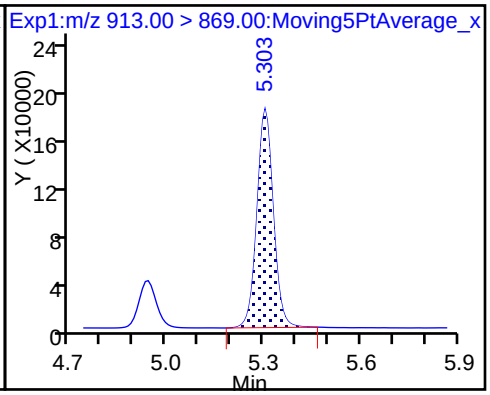
45 Perfluorohexadecanoic acid



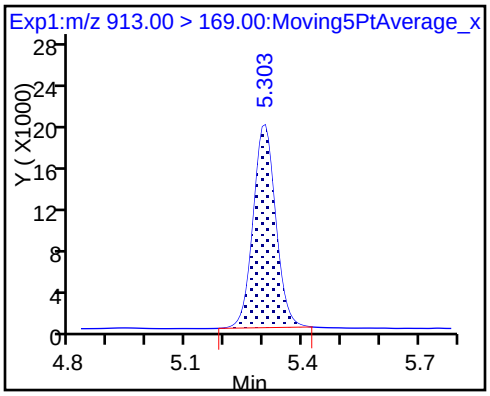
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_005.d
Lims ID: IC L4 Full
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Dec-2017 16:16:18 ALS Bottle#: 13 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L4-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:11 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: hannigana Date: 15-Dec-2017 08:10:57

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.406	0.006	0.534	8346841	2.46		98.5	27012	
2 Perfluorobutyric acid										
212.90 > 169.00	1.412	1.408	0.004	1.000	3090470	1.03		103	712	
D 3 13C5-PFPeA										
267.90 > 223.00	1.660	1.656	0.004	0.628	4839061	2.42		97.0	73775	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.660	1.656	0.004	1.000	2142448	1.00		99.5	3199	
D 47 13C3-PFBS										
301.90 > 83.00	1.695	1.690	0.005	0.642	98125	2.29		98.5	3498	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.695	1.692	0.003	1.000	2923644	0.9447		107	14217	
298.90 > 99.00	1.695	1.692	0.003	1.000	1173590		2.49(1.25-3.74)	107	8653	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.909	1.902	0.007	1.000	498303	0.9114		97.6	17350	
D 7 13C2 PFHxA										
315.00 > 270.00	1.940	1.938	0.002	0.734	5234897	2.51		100	44391	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.940	1.939	0.001	1.000	2052791	0.99		99.4	4781	
313.00 > 119.00	1.940	1.939	0.001	1.000	196068		10.47(5.03-15.10)	99.4	4771	
D 9 13C4-PFHpA										
367.00 > 322.00	2.275	2.272	0.003	0.861	4802767	2.46		98.2	33335	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.275	2.273	0.002	1.000	2040277	1.02		102	4223	
363.00 > 169.00	2.275	2.273	0.002	1.000	793590		2.57(1.13-3.40)	102	6085	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.288	2.285	0.003	1.000	2240009	0.8370		92.0	10459	
399.00 > 99.00	2.288	2.285	0.003	1.000	754828		2.97(1.50-4.49)	92.0	6272	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.288	2.286	0.002	0.866	5731587	2.35		99.5	31131	
D 12 M2-6:2FTS										
429.00 > 81.00	2.628	2.625	0.003	0.995	2777334	2.61		110	82107	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.628	2.625	0.003	1.000	1816008	0.9871		104	48529	
D 14 13C4 PFOA										
417.00 > 372.00	2.642	2.637	0.005	1.000	6042499	2.56		102	45148	
* 62 13C2-PFOA										
415.00 > 370.00	2.642	2.638	0.004		5789995	2.50			52179	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.642	2.640	0.002	1.000	2565408	1.00		99.8	5428	
413.00 > 169.00	2.642	2.640	0.002	1.000	1321403		1.94(0.84-2.52)	99.8	7822	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.649	2.644	0.005	1.000	2214859	0.9817		103	24234	
449.00 > 99.00	2.649	2.644	0.005	1.000	590477		3.75(1.94-5.82)	103	13494	
D 18 13C4 PFOS										
503.00 > 80.00	3.015	3.014	0.001	1.141	3656571	2.38		99.6	40667	
17 Perfluorooctane sulfonic acid										M
499.00 > 80.00	3.023	3.015	0.008	1.003	1511404	0.9294		100	3853	M
499.00 > 99.00	3.015	3.015	0.0	1.000	338541		4.46(2.31-6.93)	100	4447	
D 19 13C5 PFNA										
468.00 > 423.00	3.023	3.015	0.008	1.144	3817610	2.44		97.6	38476	
20 Perfluorononanoic acid										
463.00 > 419.00	3.023	3.017	0.006	1.000	1596131	1.05		105	10352	
463.00 > 169.00	3.023	3.017	0.006	1.000	379088		4.21(1.90-5.69)	105	10992	
D 21 13C8 FOSA										
506.00 > 78.00	3.362	3.354	0.008	1.273	5502448	2.50		100	28587	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.362	3.356	0.006	1.000	2163477	1.04		104	18758	
D 26 M2-8:2FTS										
529.00 > 81.00	3.377	3.368	0.009	1.278	826584	2.34		97.9	15512	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.377	3.369	0.008	1.000	409945	0.9758		102	14439	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.379	0.006	1.281	3211449	2.52		101	28531	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.385	3.379	0.006	1.000	1282349	1.03		103	13309	
513.00 > 169.00	3.385	3.379	0.006	1.000	217070		5.91(2.36-7.09)	103	1807	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.535	0.009	1.341	1456007	2.39		95.8	18740	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.544	3.538	0.006	1.000	643480	1.06		106	4218	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.695	3.692	0.003	1.000	885300	0.9743		101	26304	
599.00 > 99.00	3.695	3.692	0.003	1.000	295071		3.00(1.39-4.16)	101	10062	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.713	3.704	0.009	1.405	1539604	2.54		102	7370	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.713	3.709	0.004	1.405	2431848	2.51		100	28594	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.713	3.710	0.003	1.000	598278	1.01		101	15316	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.721	3.711	0.010	1.002	821719	0.9309		93.1	11830	
563.00 > 169.00	3.721	3.711	0.010	1.002	199314		4.12(0.00-0.00)	93.1	13258	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.852	3.850	0.002	1.458	1508614	2.34		93.5	4021	
35 MeFOSA										
512.00 > 169.00	3.863	3.856	0.007	1.003	620438	1.03		103	3438	
D 36 13C2 PFDoA										
615.00 > 570.00	4.011	4.008	0.003	1.518	2539810	2.45		98.0	29486	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.011	4.008	0.003	1.000	1024451	1.04		104	4270	
613.00 > 169.00	4.019	4.008	0.011	1.002	240458		4.26(2.13-6.40)	104	11701	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.043	4.039	0.004	1.530	1439049	2.41		96.4	3105	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.051	4.047	0.004	1.002	631383	1.06		106	3733	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.278	4.275	0.003	1.000	1172821	1.05		105	12794	
663.00 > 169.00	4.278	4.275	0.003	1.000	380106		3.09(1.25-3.76)	105	13825	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.526	4.519	0.007	1.713	2828239	2.52		101	24012	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.526	4.519	0.007	1.000	289450	1.02		102	12315	
713.00 > 219.00	4.513	4.519	-0.006	0.997	203285		1.42(0.71-2.13)	102	8721	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.939	4.935	0.004	1.870	5281068	2.56		102	12597	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.939	4.935	0.004	1.000	1949984	1.03		103	1378	
813.00 > 169.00	4.939	4.935	0.004	1.000	347075		5.62(2.86-8.58)	103	6120	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.303	5.299	0.004	1.000	2561749	1.08		108	758	
913.00 > 169.00	5.303	5.299	0.004	1.000	306609		8.36(0.00-0.00)	108	2171	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 15-Dec-2017 09:54:12 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_005.d

Injection Date: 14-Dec-2017 16:16:18 Instrument ID: A8_N

Lims ID: IC L4 Full

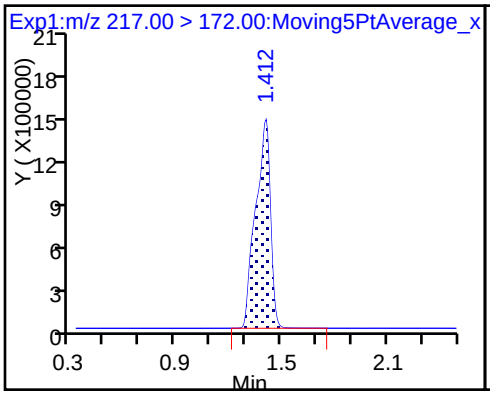
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 5

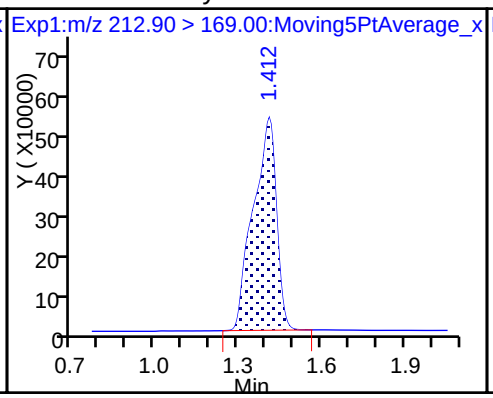
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

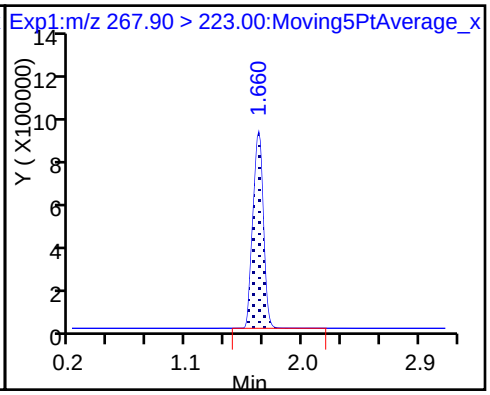
D 1 13C4 PFBA



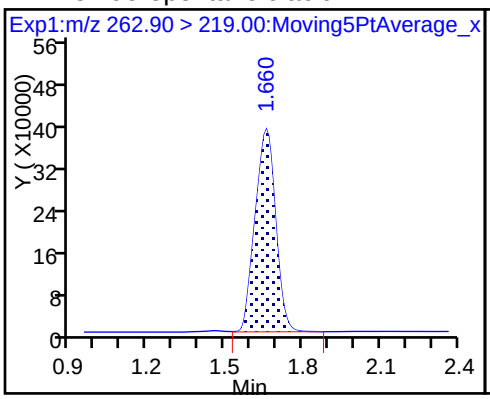
2 Perfluorobutyric acid



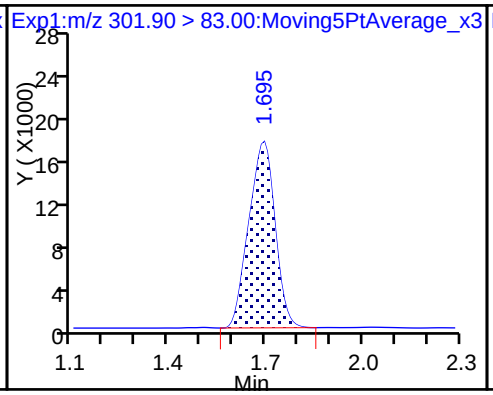
D 3 13C5-PFPeA



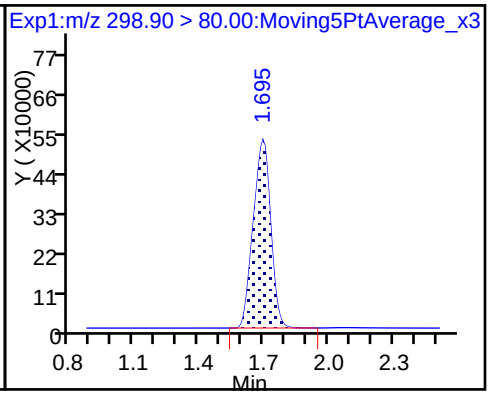
4 Perfluoropentanoic acid



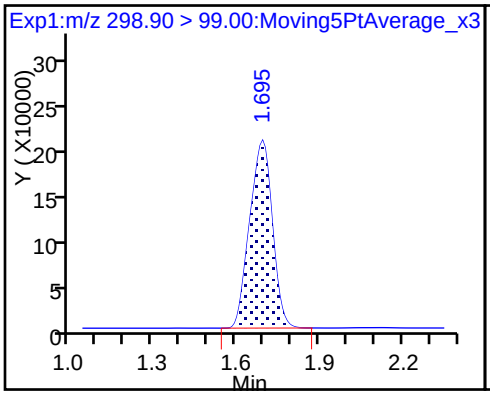
D 47 13C3-PFBS



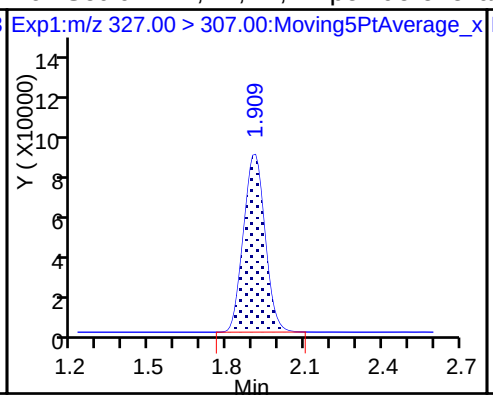
5 Perfluorobutanesulfonic acid



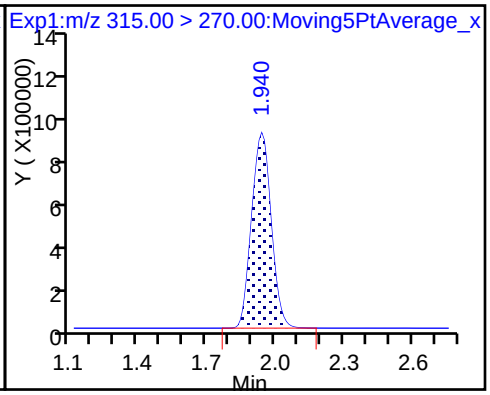
5 Perfluorobutanesulfonic acid



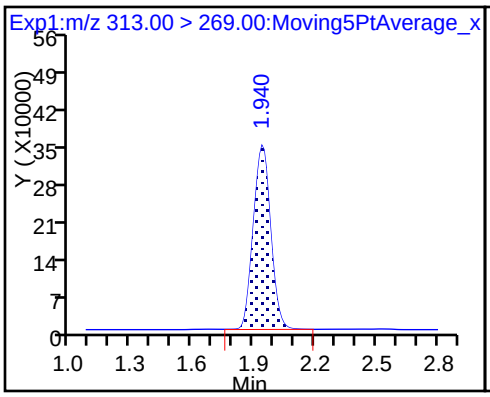
61 Sodium 1H,1H,2H,2H-perfluorohexa



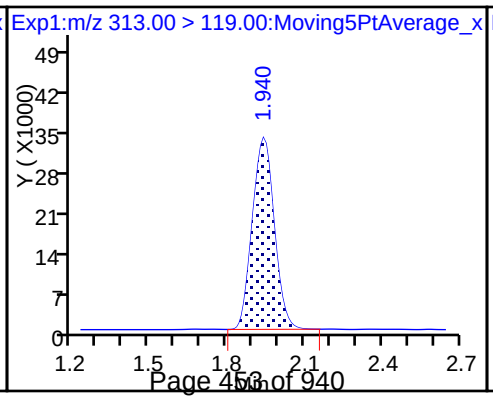
D 7 13C2 PFHxA



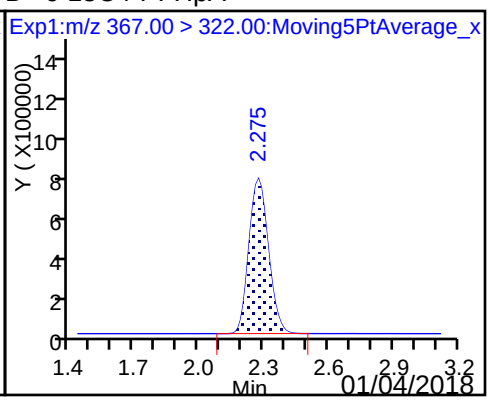
6 Perfluorohexanoic acid



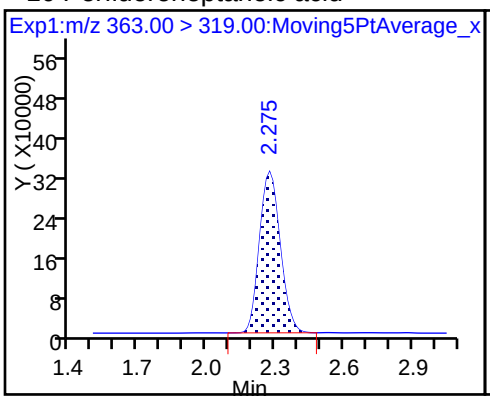
6 Perfluorohexanoic acid



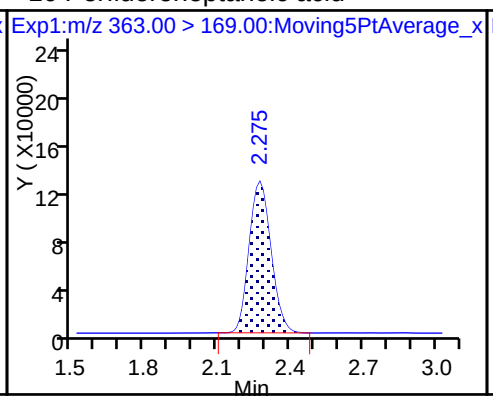
D 9 13C4-PFHpA



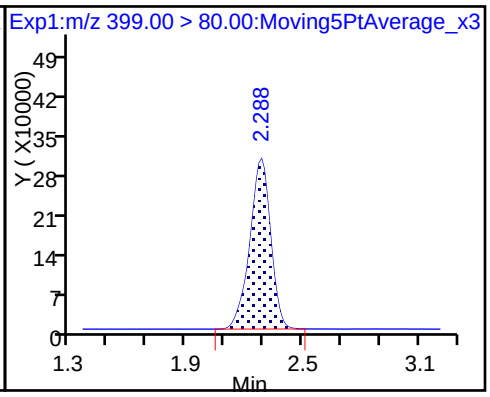
10 Perfluoroheptanoic acid



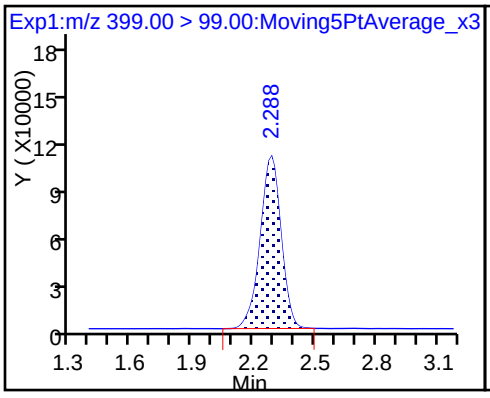
10 Perfluoroheptanoic acid



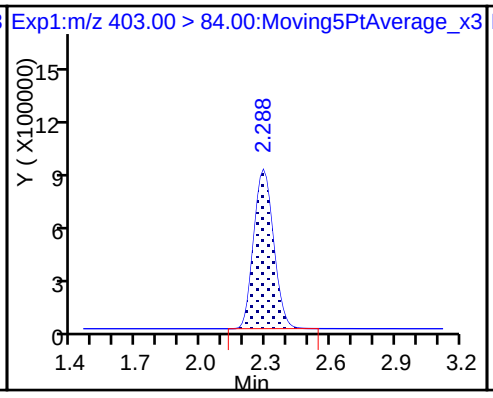
8 Perfluorohexanesulfonic acid



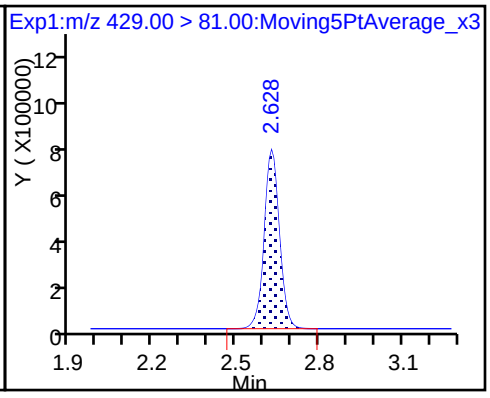
8 Perfluorohexanesulfonic acid



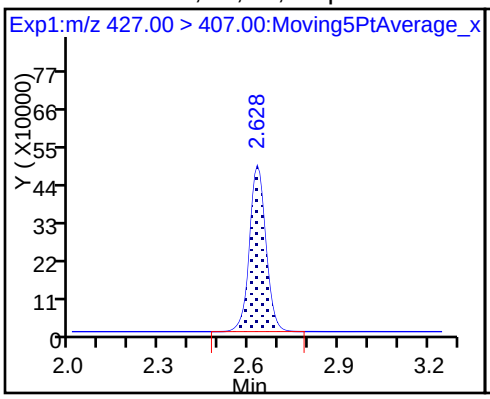
D 11 18O2 PFHxS



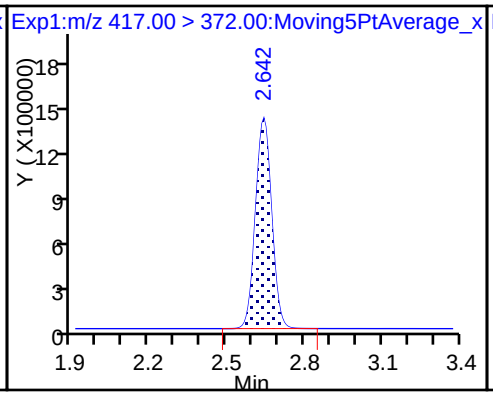
D 12 M2-6:2FTS



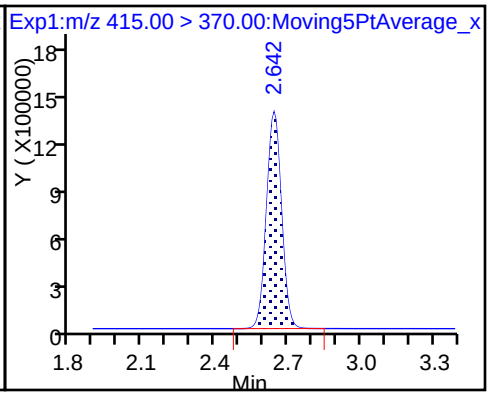
13 Sodium 1H,1H,2H,2H-perfluorooctane



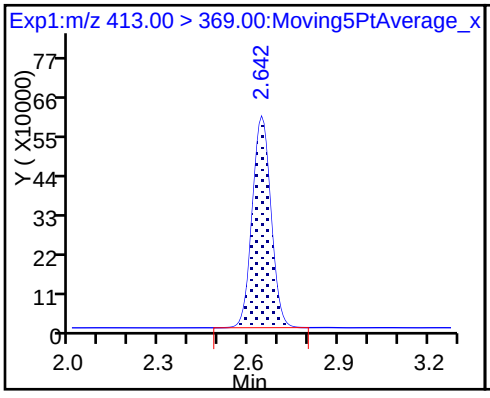
D 14 13C4 PFOA



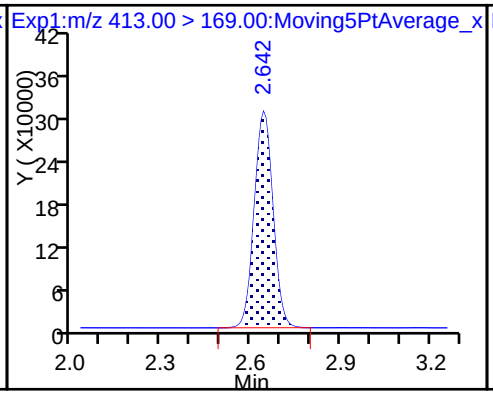
* 62 13C2-PFOA



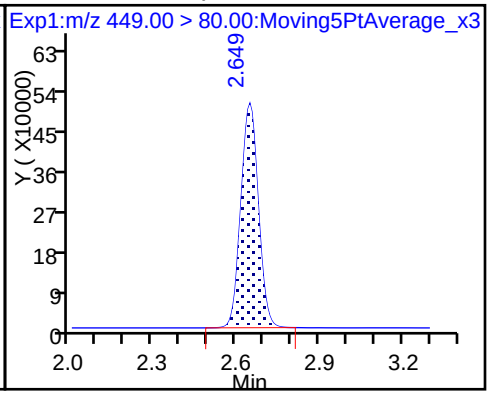
15 Perfluorooctanoic acid



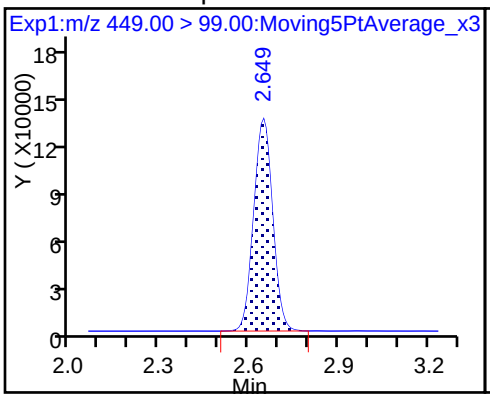
15 Perfluorooctanoic acid



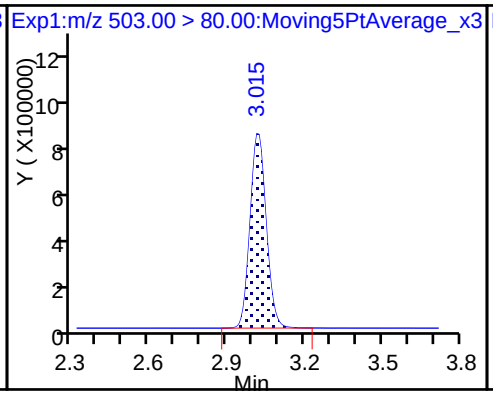
16 Perfluoroheptanesulfonic Acid



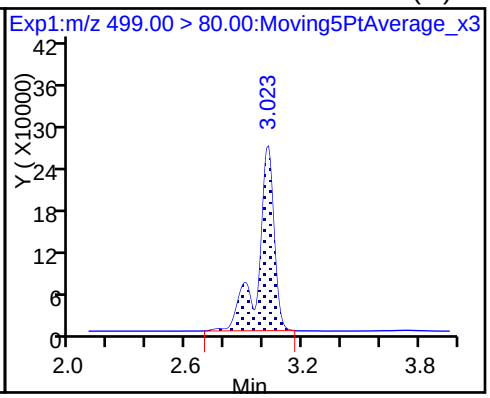
16 Perfluoroheptanesulfonic Acid



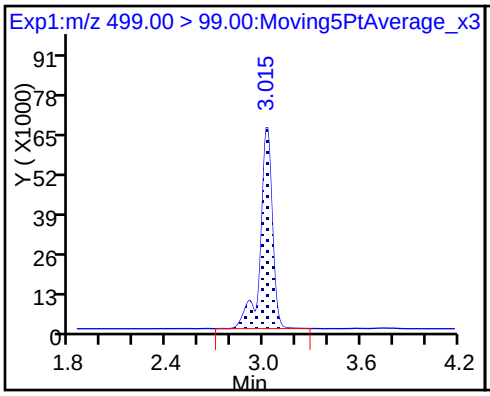
D 18 13C4 PFOS



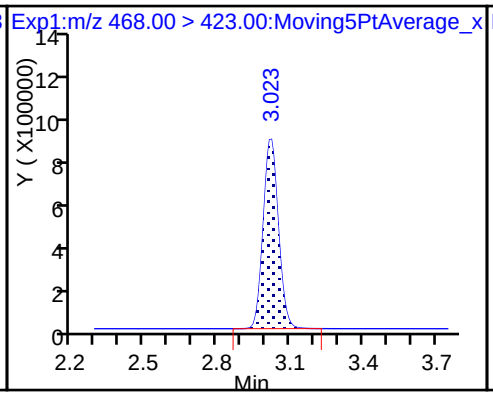
17 Perfluorooctane sulfonic acid (M)



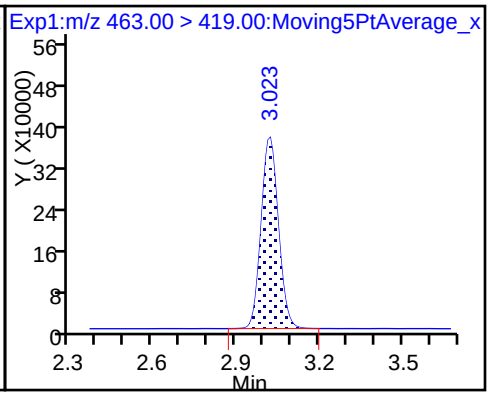
17 Perfluorooctane sulfonic acid



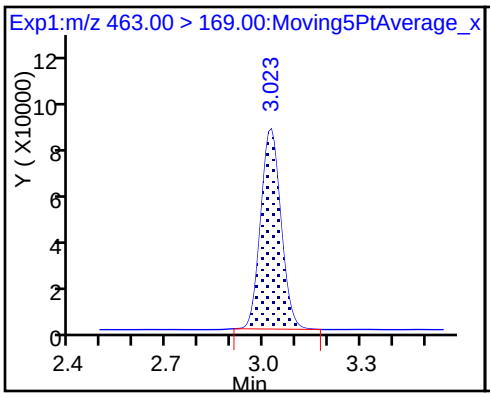
D 19 13C5 PFNA



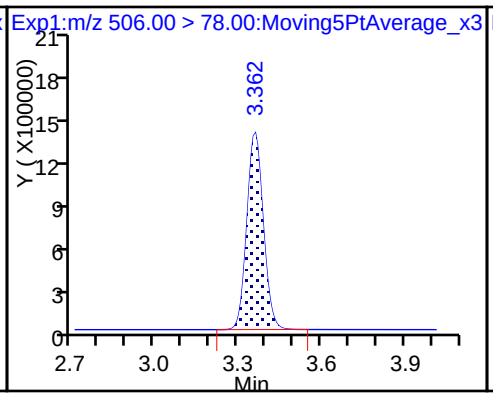
20 Perfluorononanoic acid



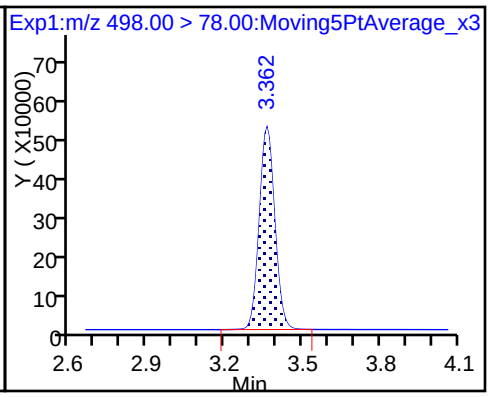
20 Perfluorononanoic acid



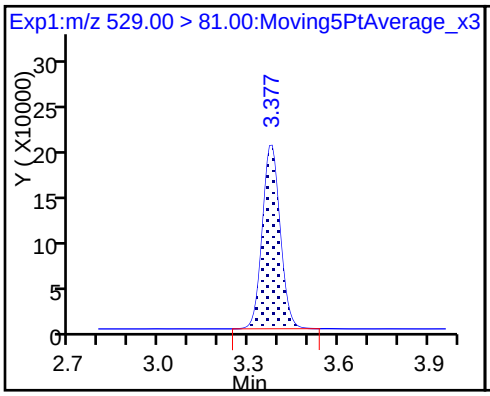
D 21 13C8 FOSA



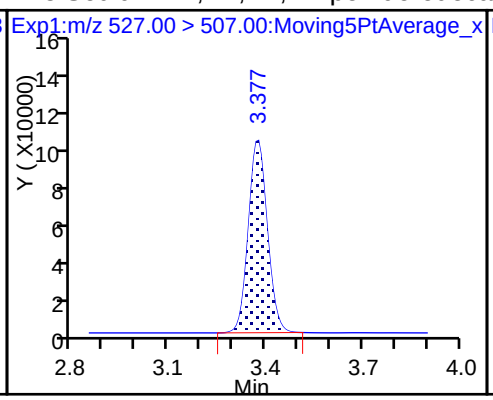
22 Perfluorooctane Sulfonamide



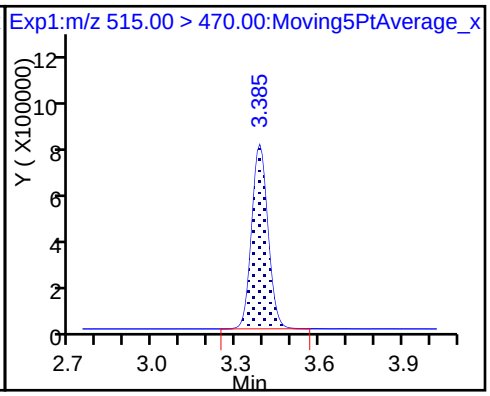
D 26 M2-8:2FTS



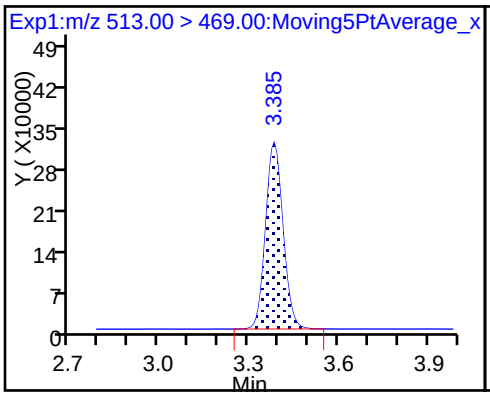
25 Sodium 1H,1H,2H,2H-perfluorodecane



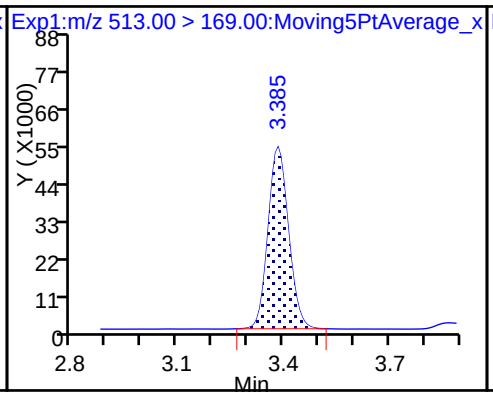
D 23 13C2 PFDA



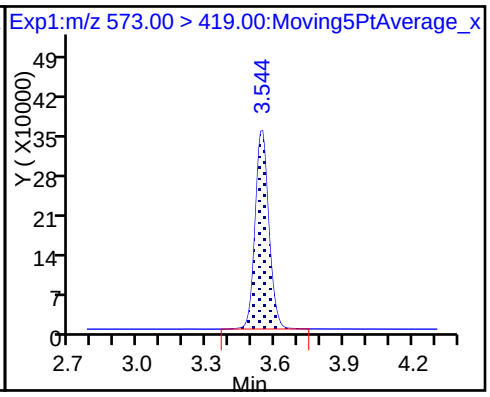
24 Perfluorodecanoic acid



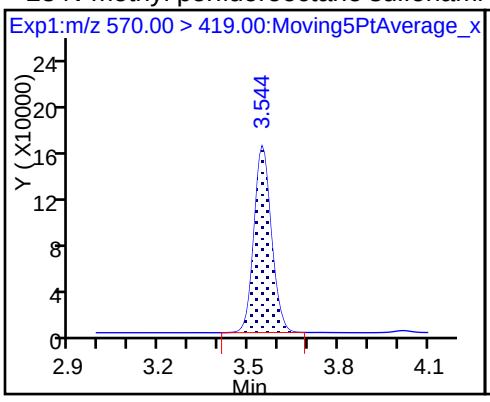
24 Perfluorodecanoic acid



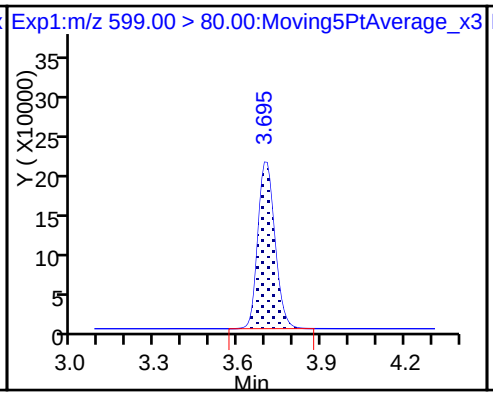
D 27 d3-NMeFOSAA



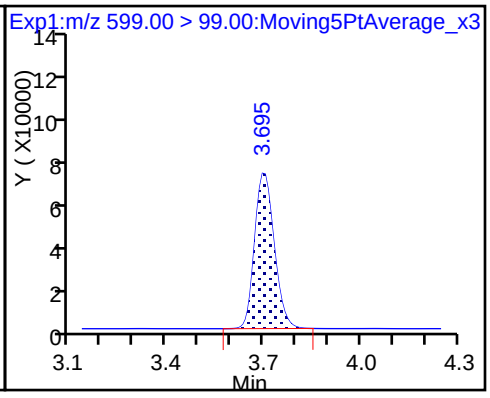
28 N-methyl perfluorooctane sulfonami



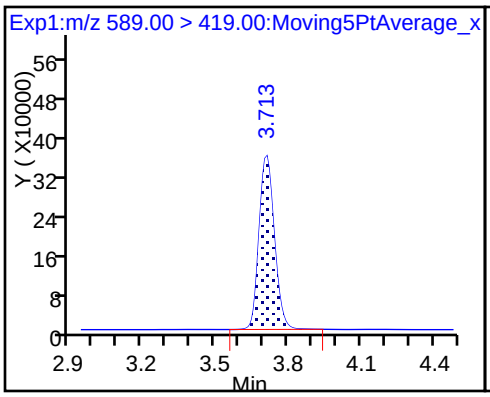
29 Perfluorodecane Sulfonic acid



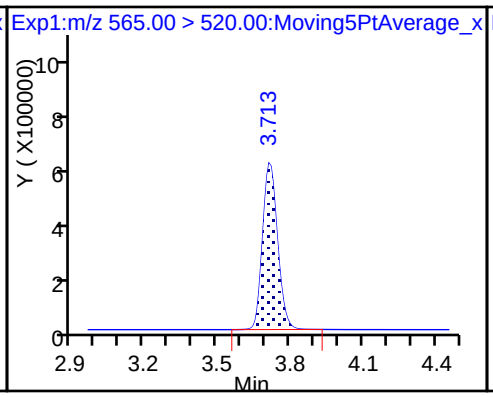
29 Perfluorodecane Sulfonic acid



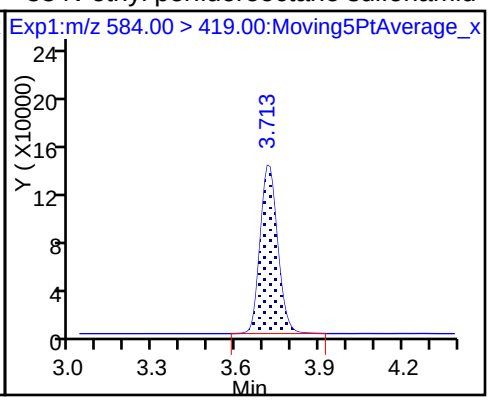
D 32 d5-NEtFOSAA



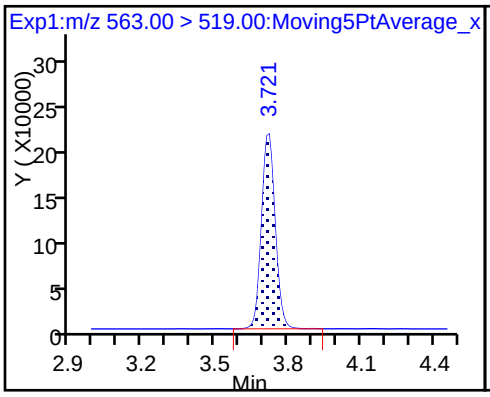
D 30 13C2 PFUnA



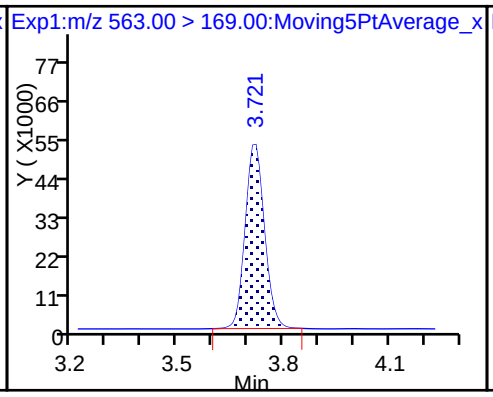
33 N-ethyl perfluorooctane sulfonamid



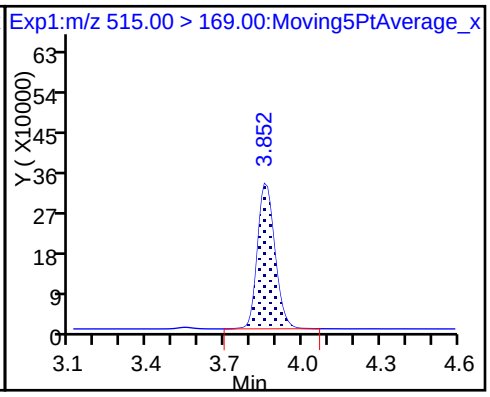
31 Perfluoroundecanoic acid



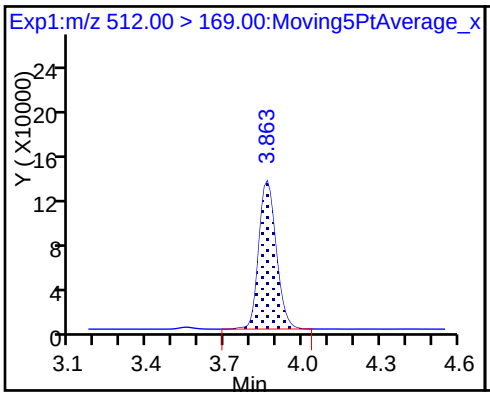
31 Perfluoroundecanoic acid



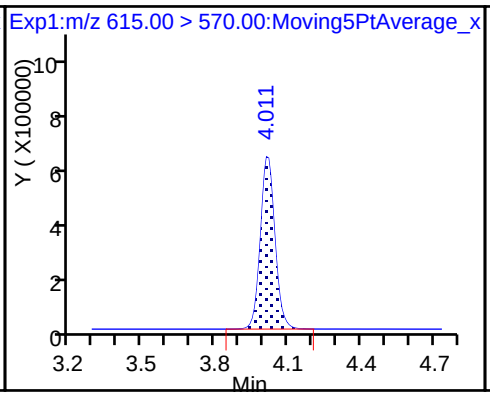
D 34 d-N-MeFOSA-M



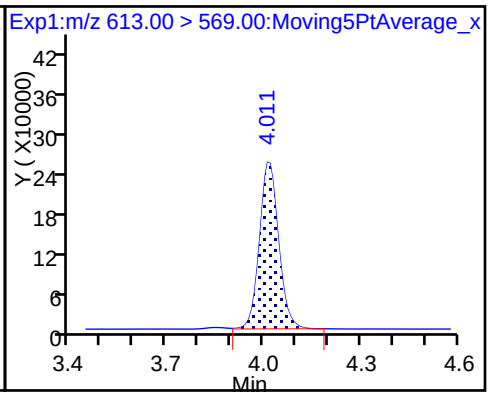
35 MeFOSA



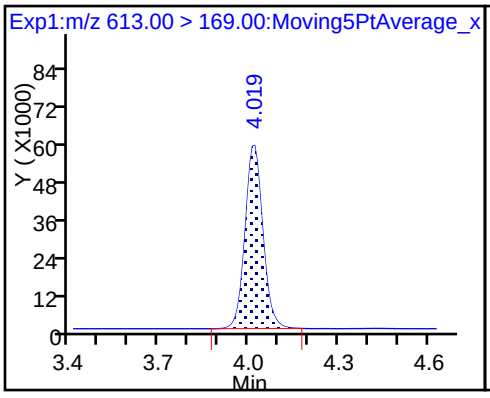
D 36 13C2 PFDoA



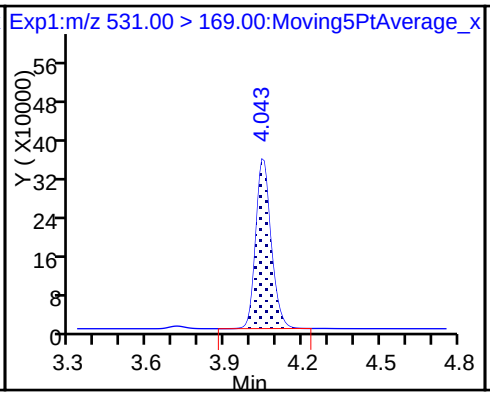
37 Perfluorododecanoic acid



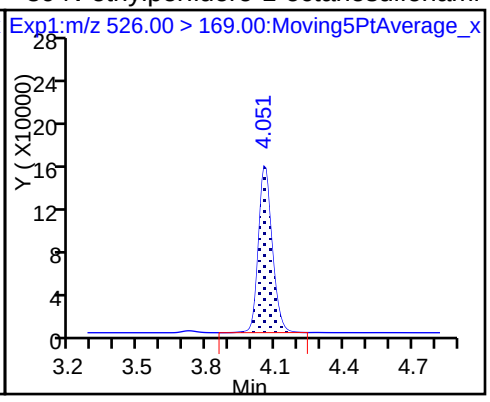
37 Perfluorododecanoic acid



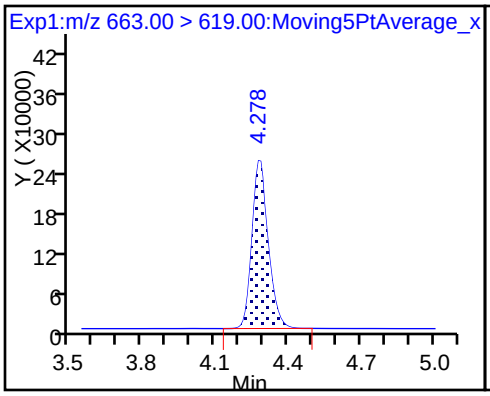
D 38 d-N-EtFOSA-M



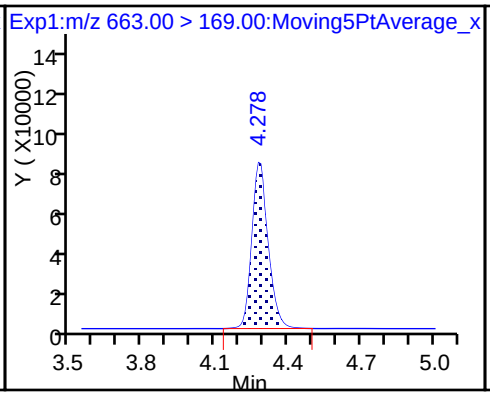
39 N-ethylperfluoro-1-octanesulfonami



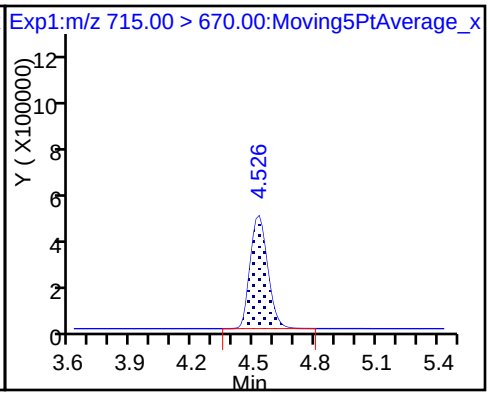
41 Perfluorotridecanoic acid



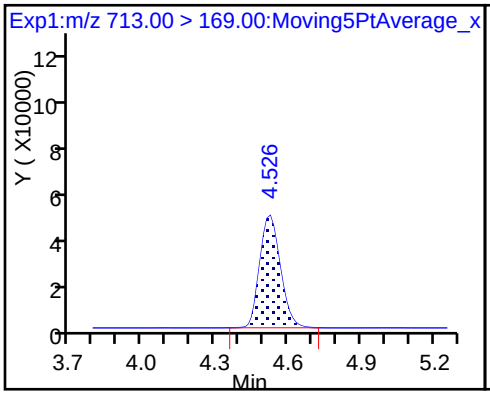
41 Perfluorotridecanoic acid



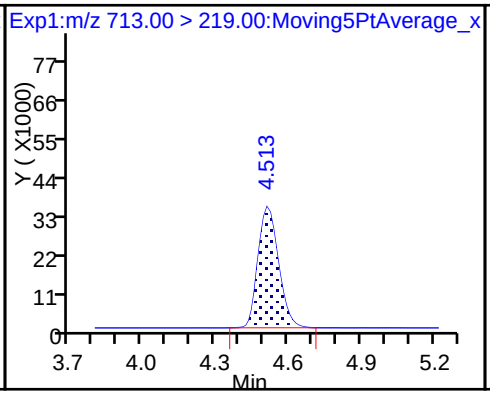
D 43 13C2-PFTeDA



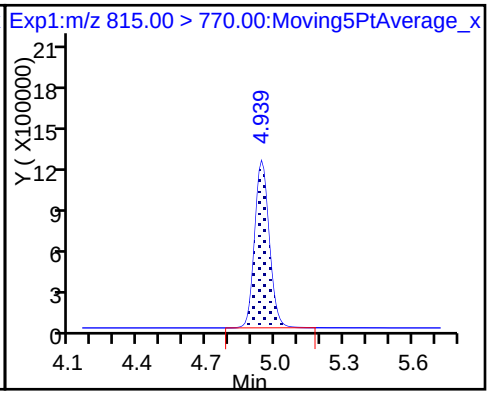
42 Perfluorotetradecanoic acid



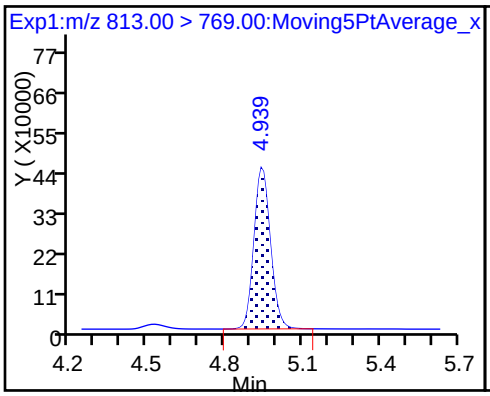
42 Perfluorotetradecanoic acid



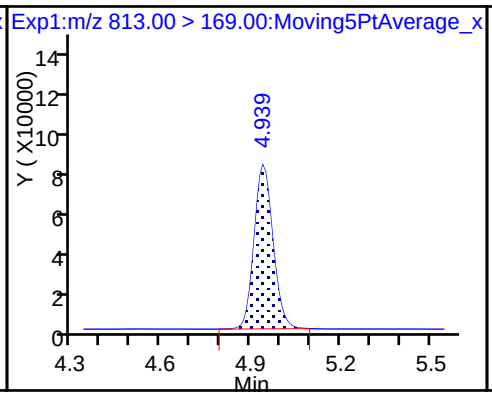
D 44 13C2-PFHxDA



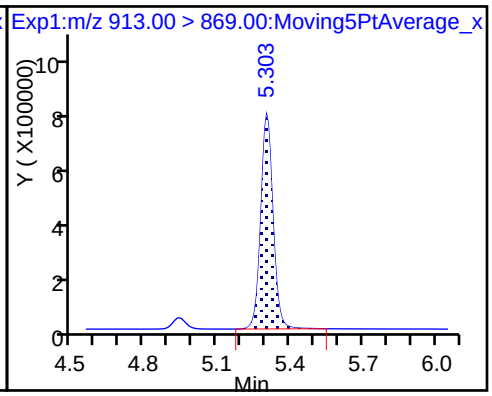
45 Perfluorohexadecanoic acid



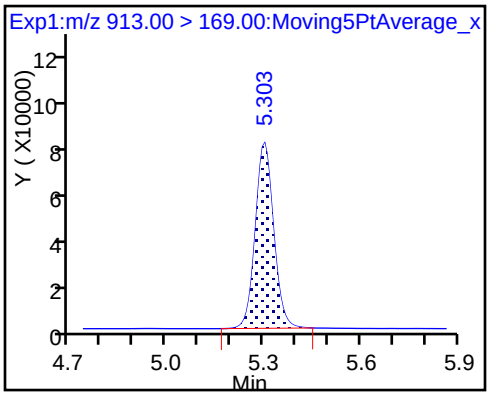
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

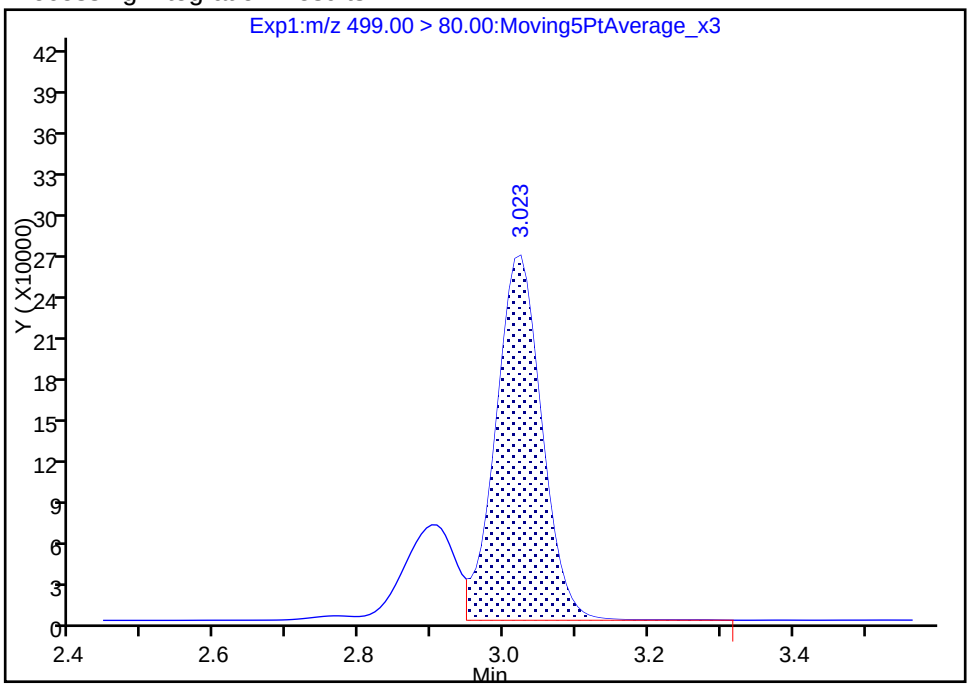
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_005.d
Injection Date: 14-Dec-2017 16:16:18 Instrument ID: A8_N
Lims ID: IC L4 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

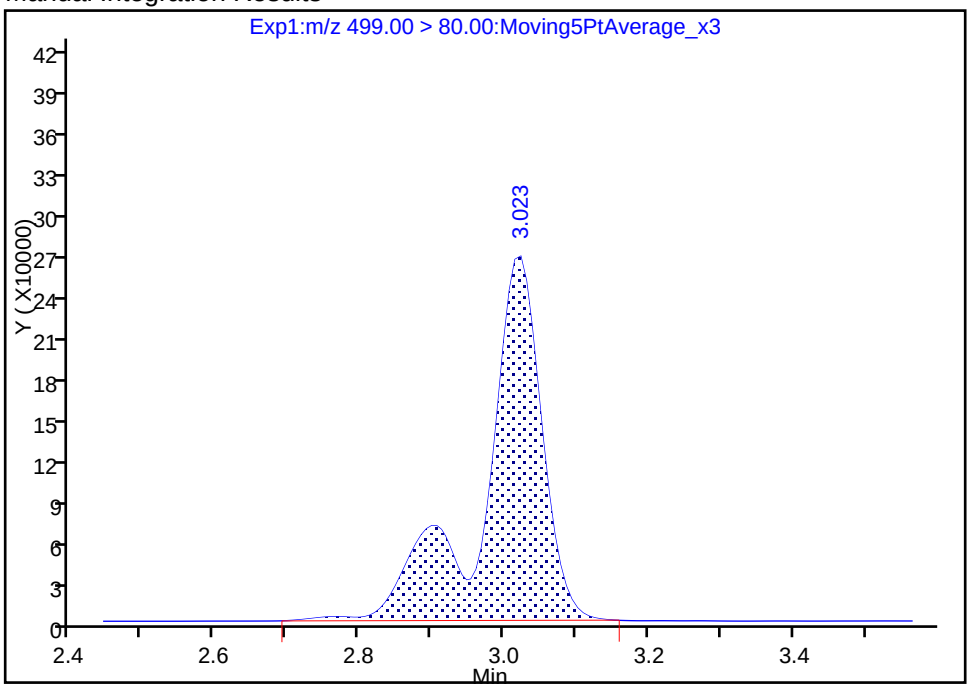
Processing Integration Results

RT: 3.02
Area: 1173678
Amount: 0.742524
Amount Units: ng/ml



Manual Integration Results

RT: 3.02
Area: 1511404
Amount: 0.929436
Amount Units: ng/ml



Reviewer: hannigana, 15-Dec-2017 08:10:32
Audit Action: Manually Integrated Audit Reason: Isomers

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_006.d
Lims ID: IC L5 Full
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Dec-2017 16:24:12 ALS Bottle#: 14 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L5-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:14 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: phomsophat Date: 14-Dec-2017 19:10:18

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.405	1.406	-0.001	0.533	8254609	2.43		97.2	27913	
2 Perfluorobutyric acid										
212.90 > 169.00	1.405	1.408	-0.003	1.000	7746814	2.60		104	1833	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.657	1.656	0.001	1.000	5436044	2.47		98.7	8243	
D 3 13C5-PFPeA										
267.90 > 223.00	1.657	1.656	0.001	0.628	4951824	2.47		98.9	56714	
D 47 13C3-PFBS										
301.90 > 83.00	1.684	1.690	-0.006	0.638	97857	2.28		98.0	4371	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.693	1.692	0.001	1.005	7079075	2.29		104	31404	
298.90 > 99.00	1.693	1.692	0.001	1.005	2932248		2.41(1.25-3.74)	104	19892	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.897	1.902	-0.005	1.000	1181616	2.26		96.6	41775	
D 7 13C2 PFHxA										
315.00 > 270.00	1.938	1.938	0.0	0.734	5004702	2.39		95.7	39057	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.938	1.939	-0.001	1.000	5177959	2.62		105	13376	
313.00 > 119.00	1.938	1.939	-0.001	1.000	483948		10.70(5.03-15.10)	105	10391	
D 9 13C4-PFHpA										
367.00 > 322.00	2.271	2.272	-0.001	0.861	4714810	2.40		96.1	26769	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.271	2.273	-0.002	1.000	5061592	2.59		104	11178	
363.00 > 169.00	2.271	2.273	-0.002	1.000	1964194		2.58(1.13-3.40)	104	10796	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.284	2.285	-0.001	1.000	5589957	2.09		92.0	18013	
399.00 > 99.00	2.284	2.285	-0.001	1.000	1885836		2.96(1.50-4.49)	92.0	10068	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.284	2.286	-0.002	0.866	5721252	2.34		99.0	33674	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.625	-0.001	0.995	2661632	2.50		105	76680	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.625	-0.001	1.000	4173348	2.37		99.9	98972	
D 14 13C4 PFOA										
417.00 > 372.00	2.631	2.637	-0.006	0.997	5958852	2.51		101	40496	
* 62 13C2-PFOA										
415.00 > 370.00	2.638	2.638	0.0		5808077	2.50			42759	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.638	2.640	-0.002	1.003	6288354	2.48		99.3	12097	
413.00 > 169.00	2.638	2.640	-0.002	1.003	3365436		1.87(0.84-2.52)	99.3	17592	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.638	2.644	-0.006	1.000	5510579	2.50		105	47969	
449.00 > 99.00	2.638	2.644	-0.006	1.000	1454091		3.79(1.94-5.82)	105	19339	
D 18 13C4 PFOS										
503.00 > 80.00	3.010	3.014	-0.004	1.141	3576232	2.32		97.1	30037	
D 19 13C5 PFNA										
468.00 > 423.00	3.010	3.015	-0.005	1.141	3798000	2.42		96.8	40250	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.010	3.015	-0.005	1.000	3752802	2.36		102	11264	
499.00 > 99.00	3.010	3.015	-0.005	1.000	816000		4.60(2.31-6.93)	102	10274	
20 Perfluorononanoic acid										
463.00 > 419.00	3.010	3.017	-0.007	1.000	3921608	2.59		104	19380	
463.00 > 169.00	3.010	3.017	-0.007	1.000	920775		4.26(1.90-5.69)	104	19608	
D 21 13C8 FOSA										
506.00 > 78.00	3.350	3.354	-0.004	1.270	5352591	2.42		97.0	25558	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.350	3.356	-0.006	1.000	5237533	2.59		103	27436	
D 26 M2-8:2FTS										
529.00 > 81.00	3.365	3.368	-0.003	1.275	805003	2.28		95.0	18158	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.365	3.369	-0.004	1.000	1006926	2.46		103	27575	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.373	3.379	-0.006	1.000	3120364	2.58		103	25807	
513.00 > 169.00	3.373	3.379	-0.006	1.000	541196		5.77(2.36-7.09)	103	1723	
D 23 13C2 PFDA										
515.00 > 470.00	3.373	3.379	-0.006	1.278	3125298	2.44		97.7	30657	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.532	3.535	-0.003	1.339	1480753	2.43		97.1	20397	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.532	3.538	-0.006	1.000	1628068	2.63		105	9779	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.692	-0.002	1.000	2211386	2.49		103	44618	
599.00 > 99.00	3.690	3.692	-0.002	1.000	723552		3.06(1.39-4.16)	103	15870	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.704	-0.005	1.402	1490805	2.45		98.1	5916	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.707	3.709	-0.002	1.405	2395817	2.46		98.5	29682	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.707	3.710	-0.003	1.002	1459440	2.54		101	18660	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.707	3.711	-0.004	1.000	2096337	2.41		96.4	18048	
563.00 > 169.00	3.707	3.711	-0.004	1.000	485806		4.32(0.00-0.00)	96.4	18420	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.846	3.850	-0.004	1.458	1513451	2.34		93.5	4150	
35 MeFOSA										
512.00 > 169.00	3.856	3.856	0.0	1.002	1585685	2.61		105	4059	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.006	4.008	-0.002	1.000	2520689	2.47		98.8	9875	
613.00 > 169.00	4.006	4.008	-0.002	1.000	627099		4.02(2.13-6.40)	98.8	25416	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.008	-0.002	1.518	2620258	2.52		101	32215	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.037	4.039	-0.002	1.530	1430038	2.39		95.5	3321	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.045	4.047	-0.002	1.002	1552335	2.63		105	3290	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.271	4.275	-0.004	1.000	2847913	2.46		98.5	24465	
663.00 > 169.00	4.271	4.275	-0.004	1.000	869042		3.28(1.25-3.76)	98.5	32339	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.515	4.519	-0.004	1.000	685395	2.38		95.4	16725	
713.00 > 219.00	4.501	4.519	-0.018	0.997	505672		1.36(0.71-2.13)	95.4	17159	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.519	-0.004	1.711	2876204	2.55		102	29001	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.935	-0.003	1.000	4775816	2.65		106	3464	
813.00 > 169.00	4.932	4.935	-0.003	1.000	789388		6.05(2.86-8.58)	106	7504	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.935	-0.003	1.869	5082731	2.46		98.3	15652	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.296	5.299	-0.003	1.000	5886423	2.57		103	1470	
913.00 > 169.00	5.296	5.299	-0.003	1.000	739936		7.96(0.00-0.00)	103	2723	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 15-Dec-2017 09:54:16 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_006.d

Injection Date: 14-Dec-2017 16:24:12 Instrument ID: A8_N

Lims ID: IC L5 Full

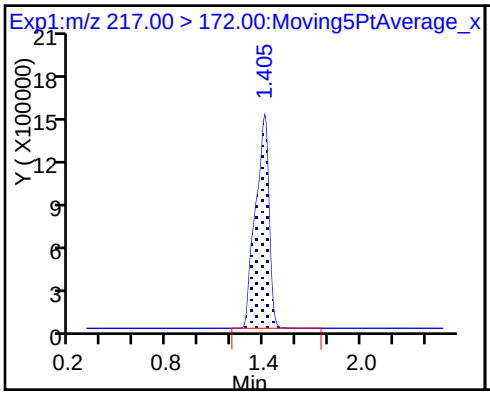
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Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 6

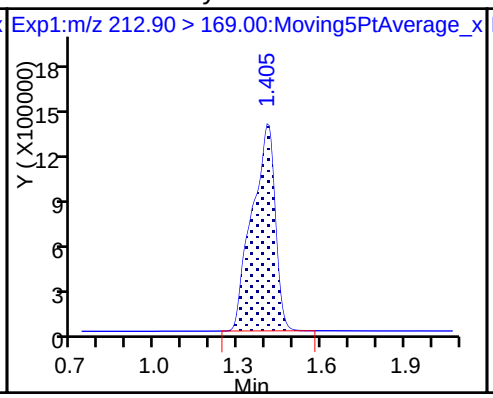
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

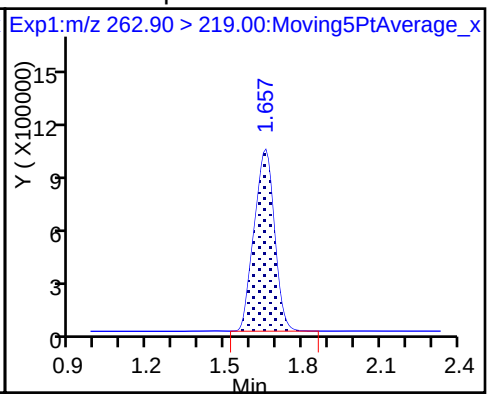
D 1 13C4 PFBA



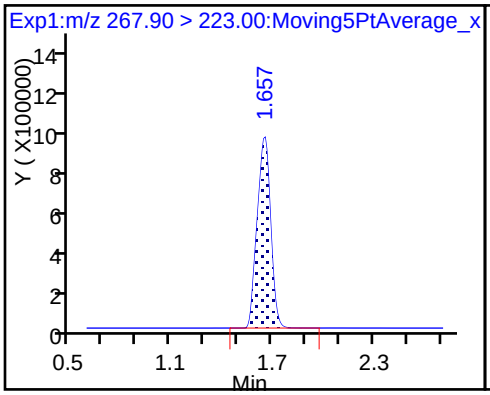
2 Perfluorobutyric acid



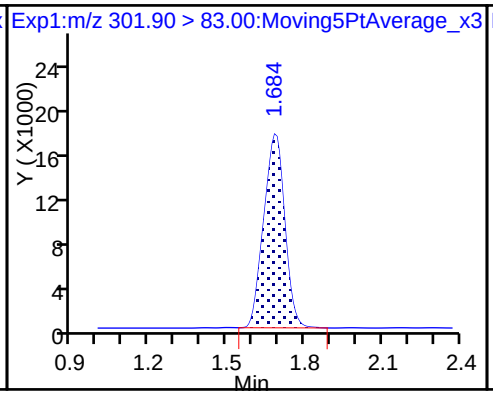
4 Perfluoropentanoic acid



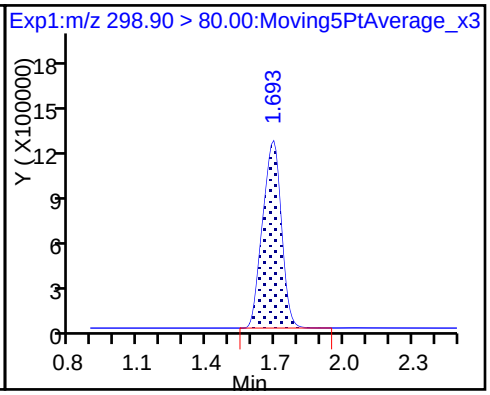
D 3 13C5-PFPeA



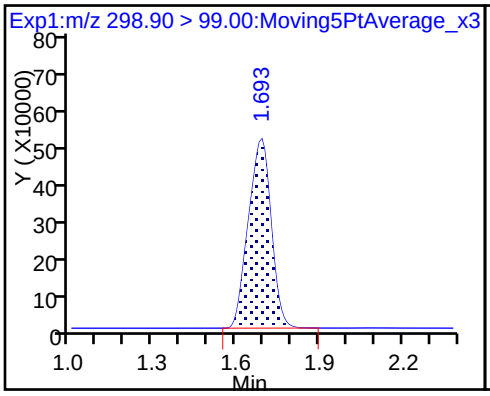
D 47 13C3-PFBS



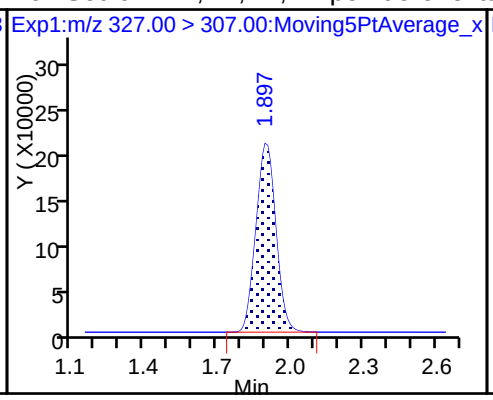
5 Perfluorobutanesulfonic acid



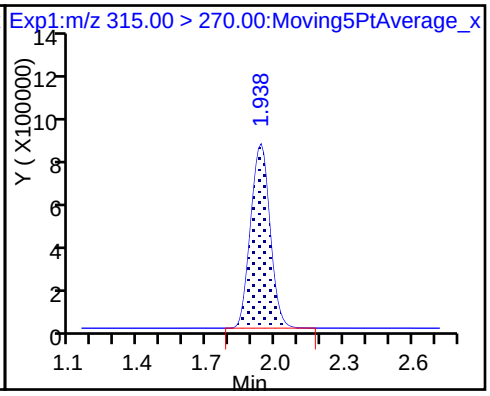
5 Perfluorobutanesulfonic acid



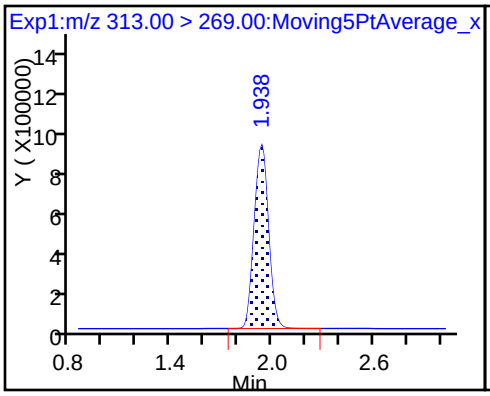
61 Sodium 1H,1H,2H,2H-perfluorohexa



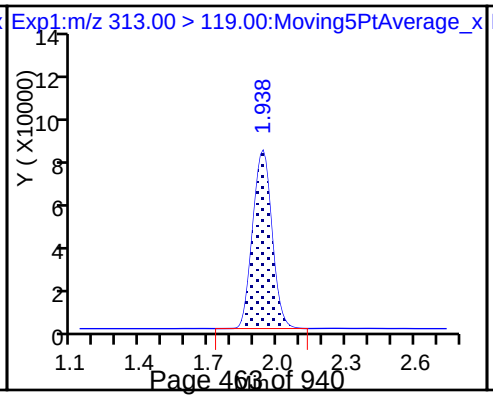
D 7 13C2 PFHxA



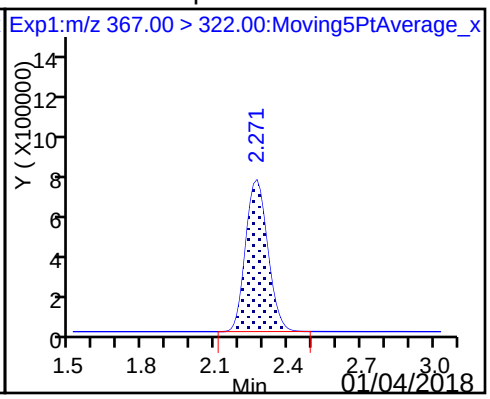
6 Perfluorohexanoic acid



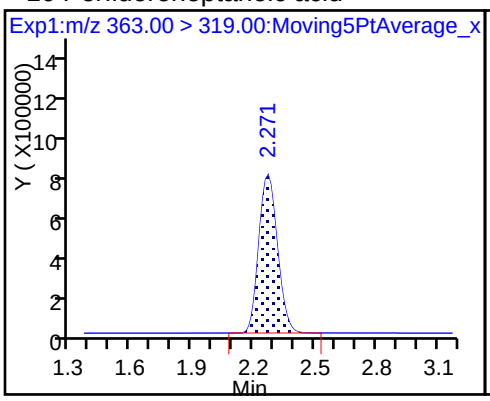
6 Perfluorohexanoic acid



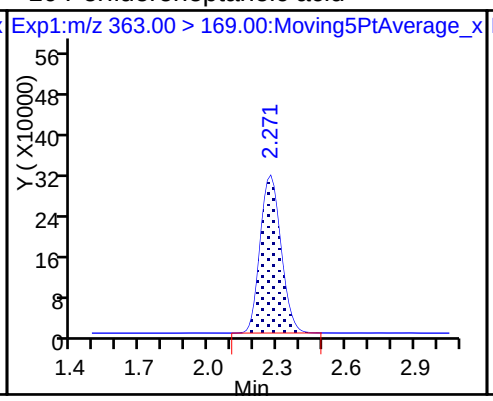
D 9 13C4-PFHpA



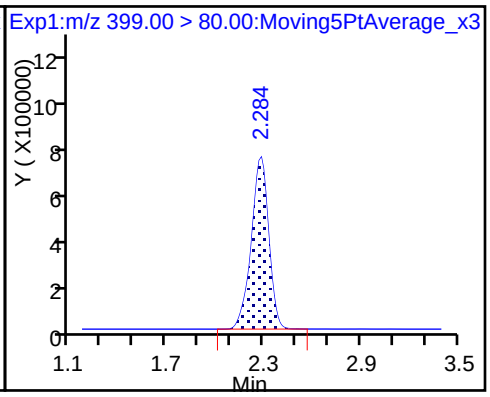
10 Perfluoroheptanoic acid



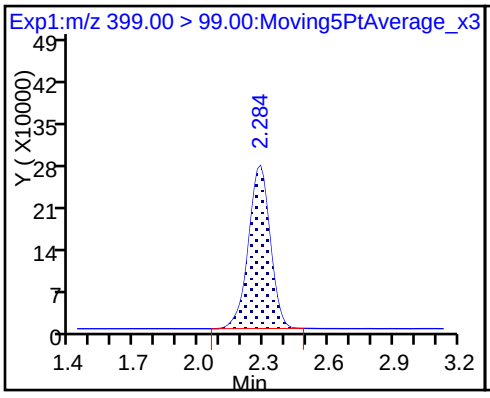
10 Perfluoroheptanoic acid



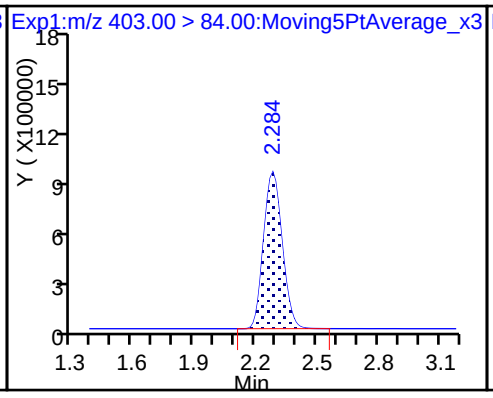
8 Perfluorohexanesulfonic acid



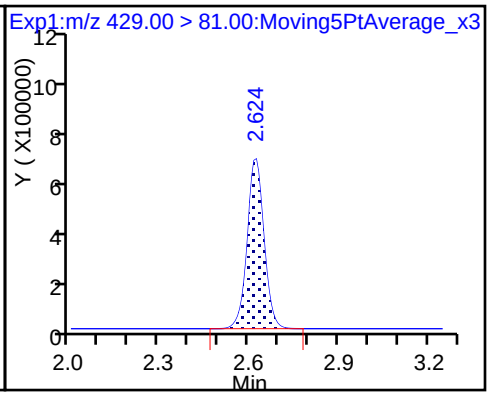
8 Perfluorohexanesulfonic acid



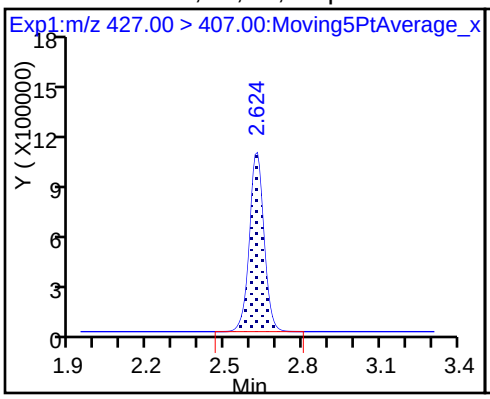
D 11 18O2 PFHxS



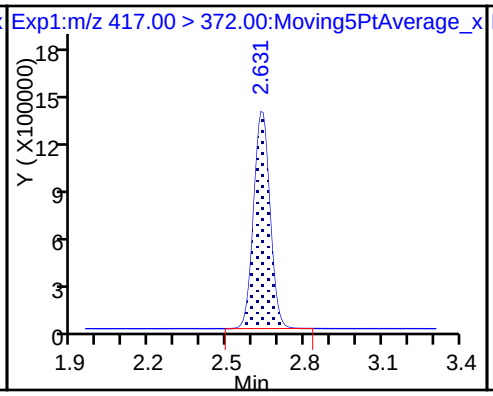
D 12 M2-6:2FTS



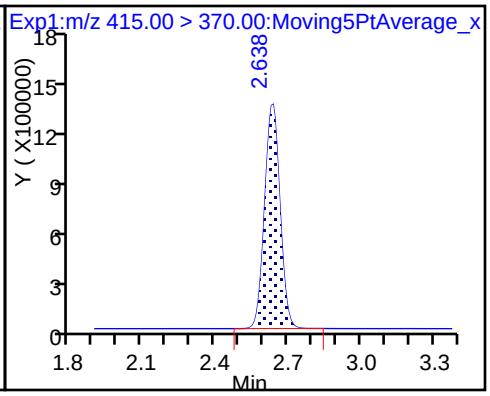
13 Sodium 1H,1H,2H,2H-perfluorooctane



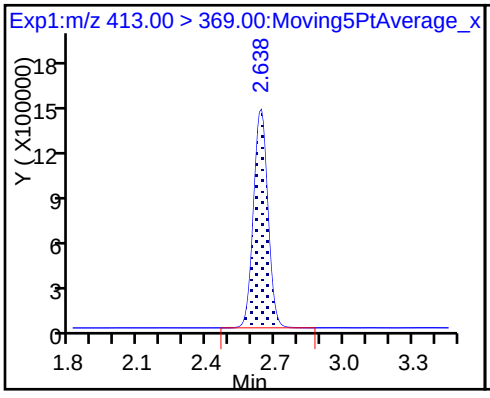
D 14 13C4 PFOA



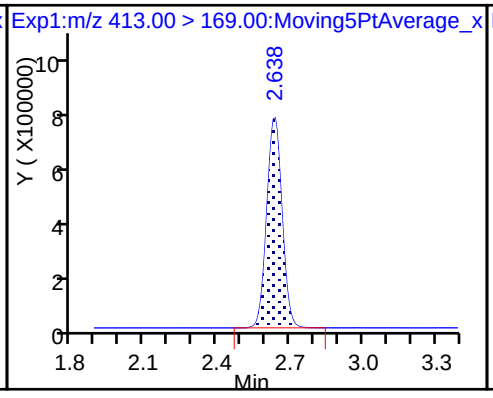
* 62 13C2-PFOA



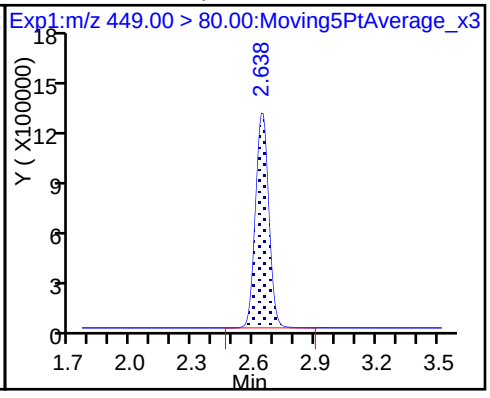
15 Perfluorooctanoic acid



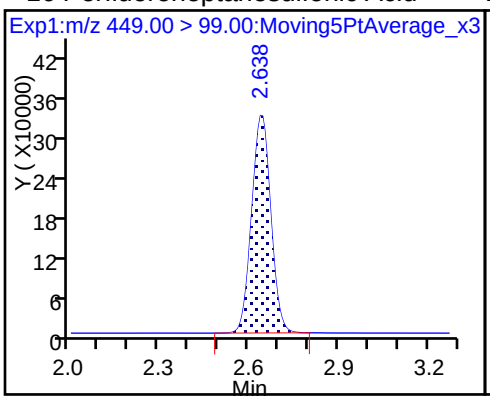
15 Perfluorooctanoic acid



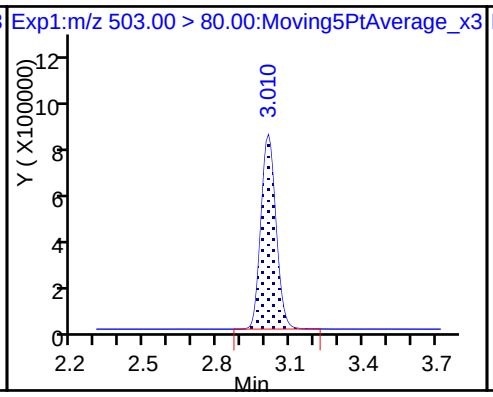
16 Perfluoroheptanesulfonic Acid



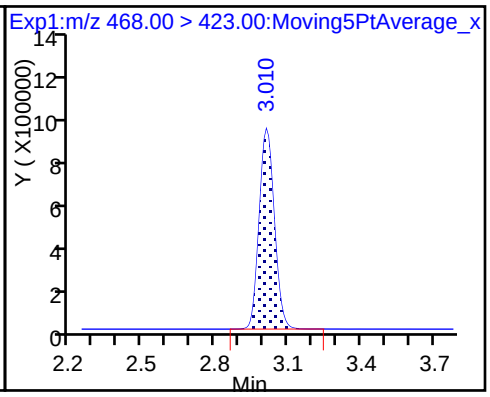
16 Perfluoroheptanesulfonic Acid



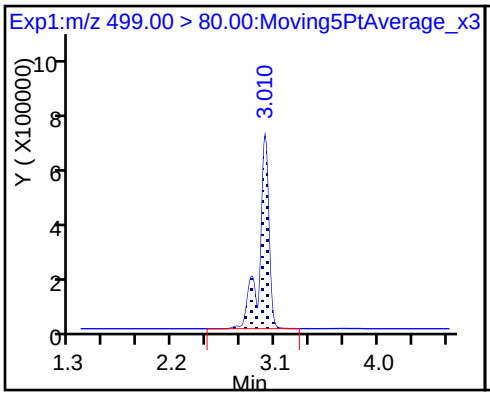
D 18 13C4 PFOS



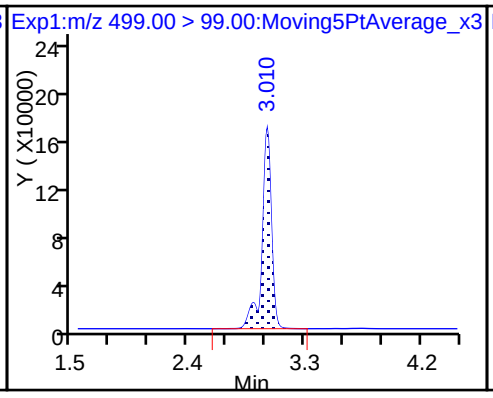
D 19 13C5 PFNA



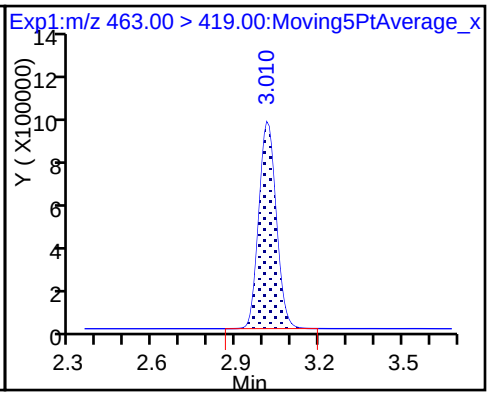
17 Perfluorooctane sulfonic acid



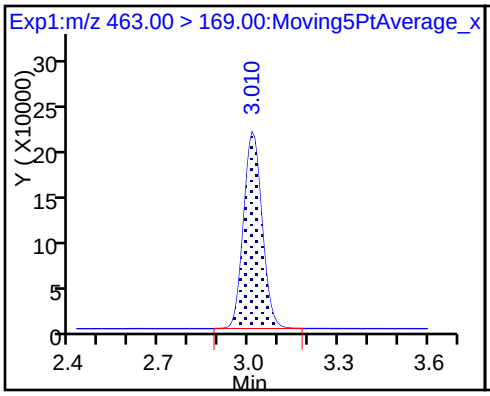
17 Perfluorooctane sulfonic acid



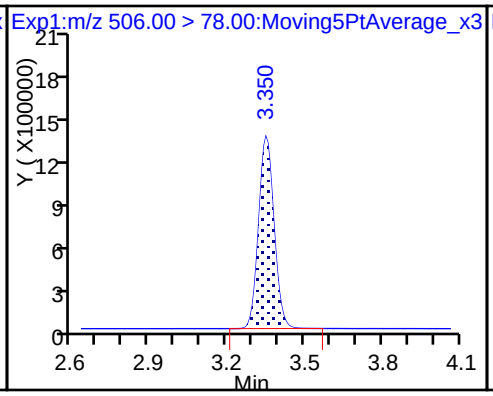
20 Perfluorononanoic acid



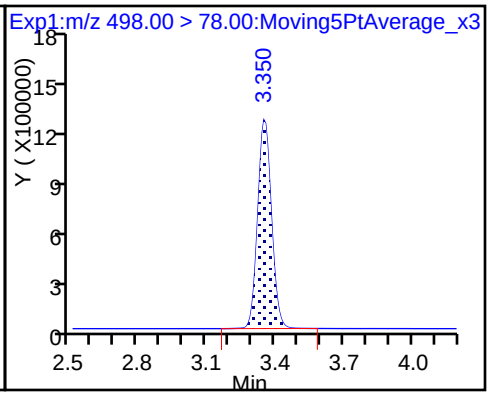
20 Perfluorononanoic acid



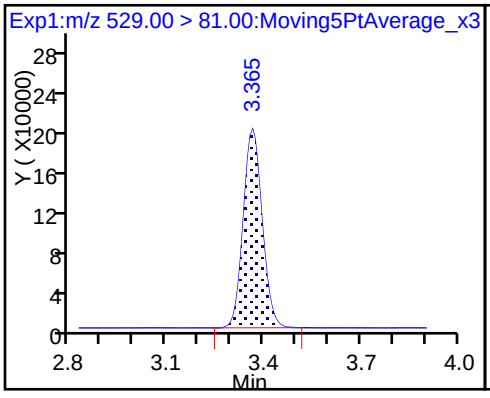
D 21 13C8 FOSA



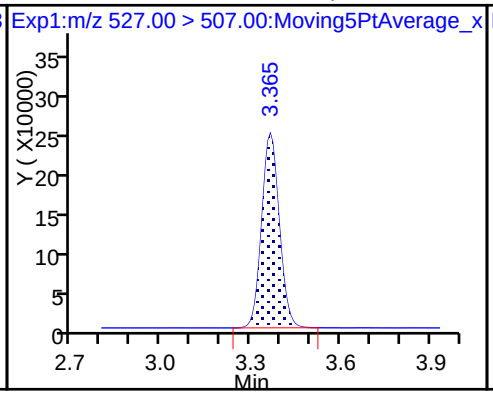
22 Perfluorooctane Sulfonamide



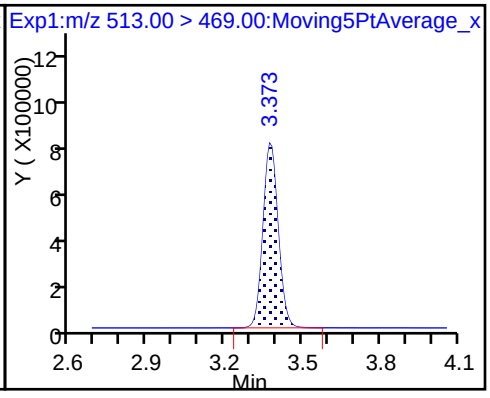
D 26 M2-8:2FTS



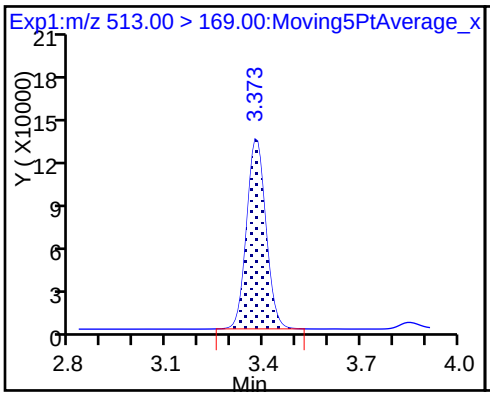
25 Sodium 1H,1H,2H,2H-perfluorodecan



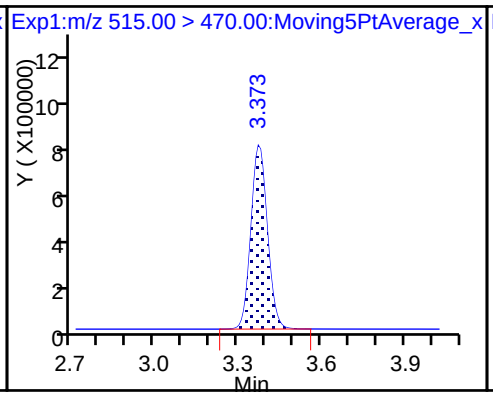
24 Perfluorodecanoic acid



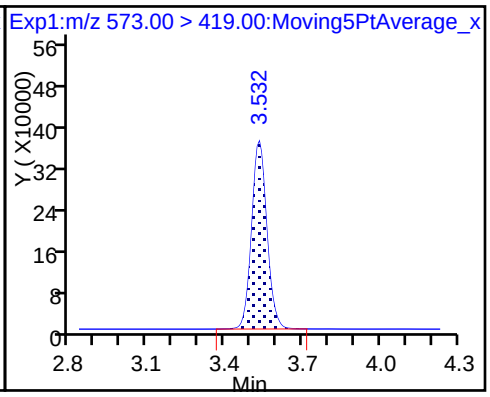
24 Perfluorodecanoic acid



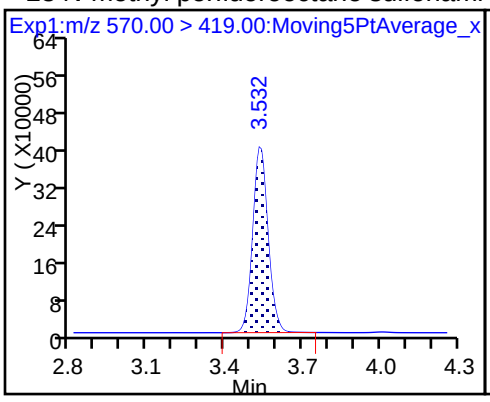
D 23 13C2 PFDA



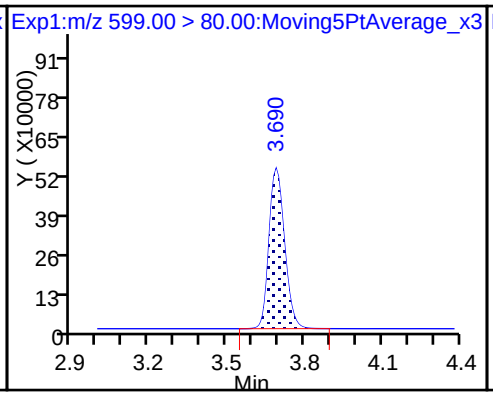
D 27 d3-NMeFOSAA



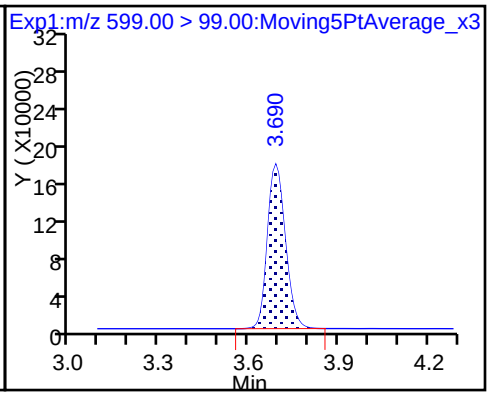
28 N-methyl perfluorooctane sulfonami



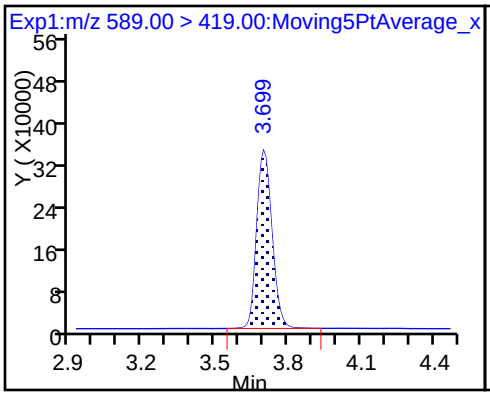
29 Perfluorodecane Sulfonic acid



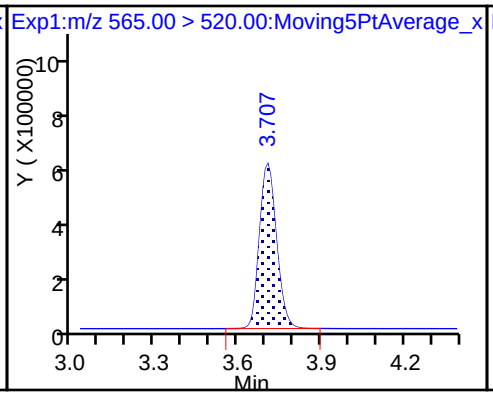
29 Perfluorodecane Sulfonic acid



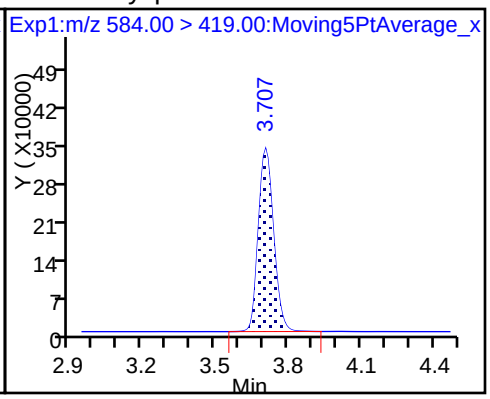
D 32 d5-NEtFOSAA



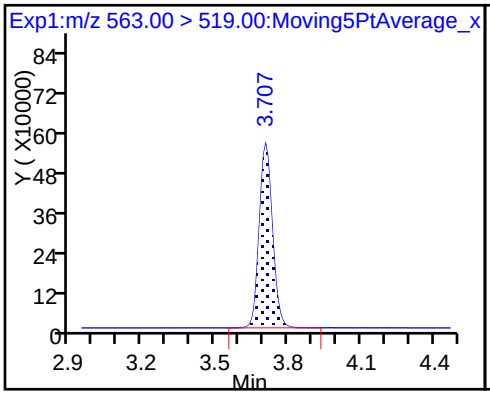
D 30 13C2 PFUnA



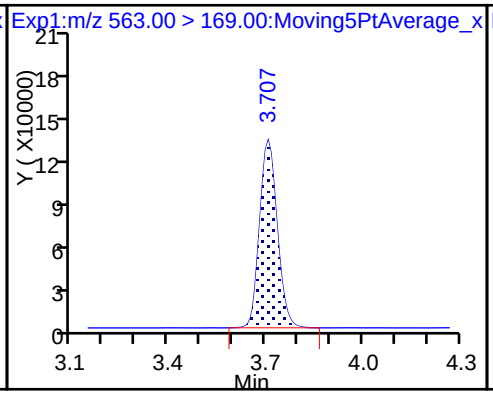
33 N-ethyl perfluorooctane sulfonamid



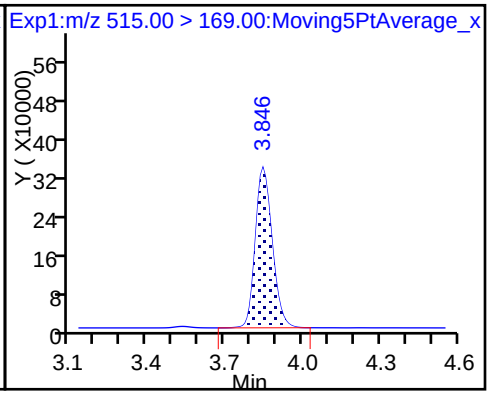
31 Perfluoroundecanoic acid



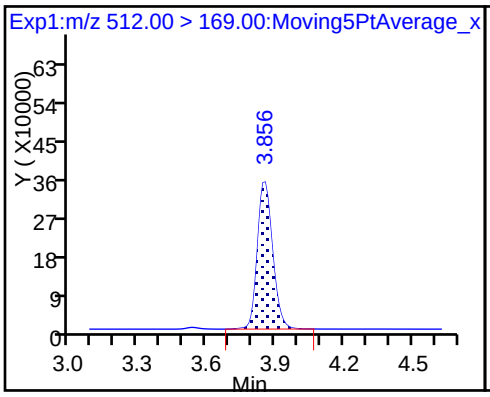
31 Perfluoroundecanoic acid



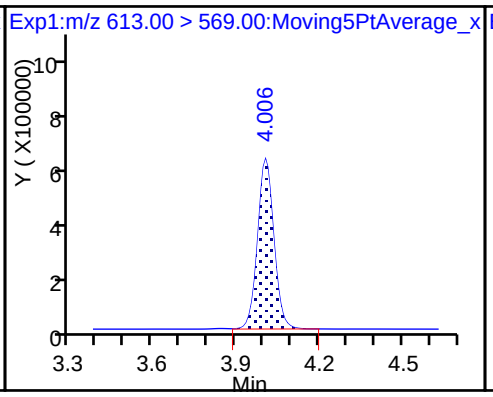
D 34 d-N-MeFOSA-M



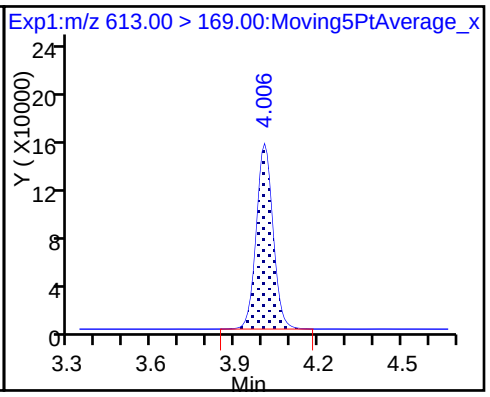
35 MeFOSA



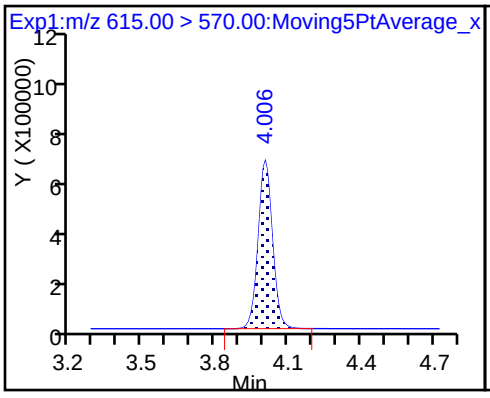
37 Perfluorododecanoic acid



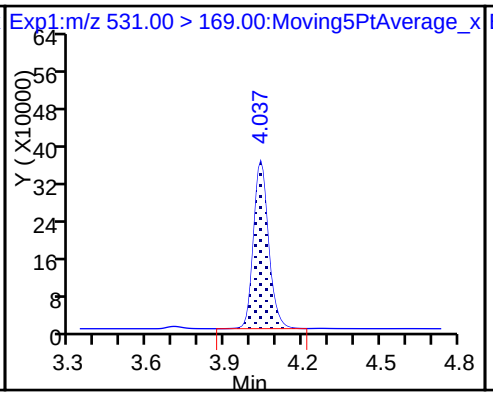
37 Perfluorododecanoic acid



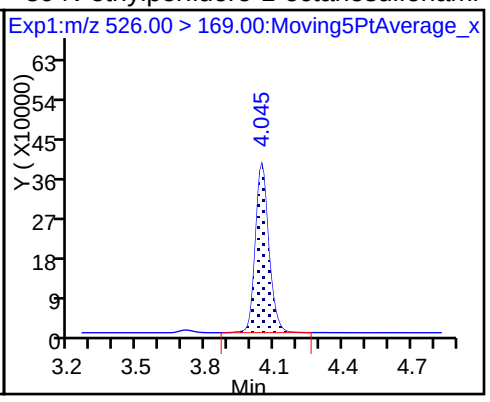
D 36 13C2 PFDoA



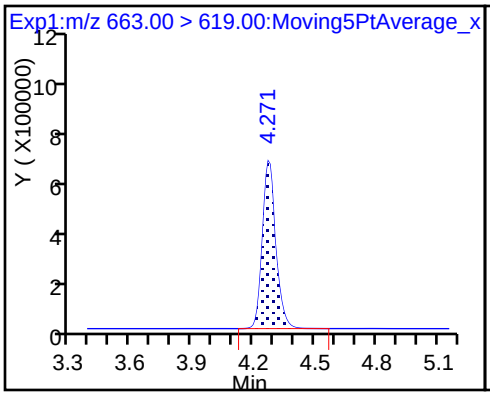
D 38 d-N-EtFOSA-M



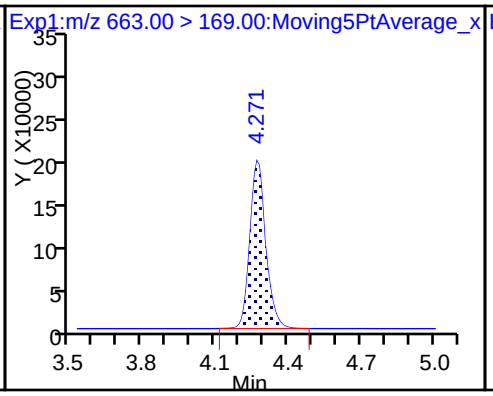
39 N-ethylperfluoro-1-octanesulfonami



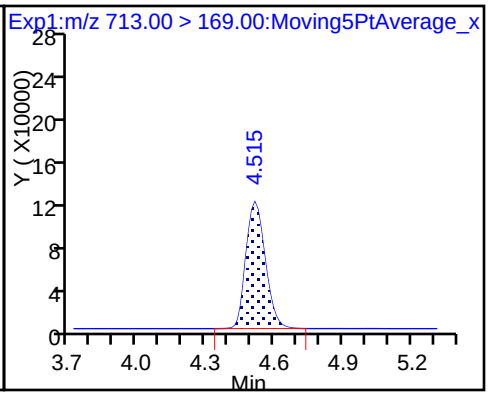
41 Perfluorotridecanoic acid



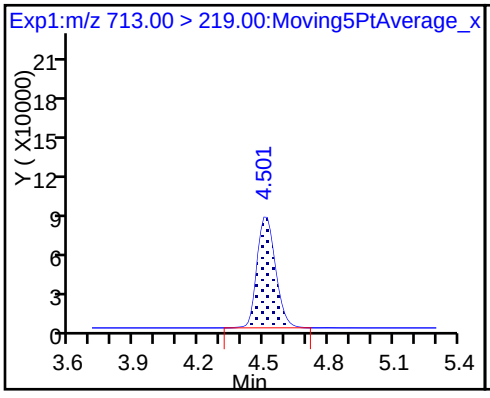
41 Perfluorotridecanoic acid



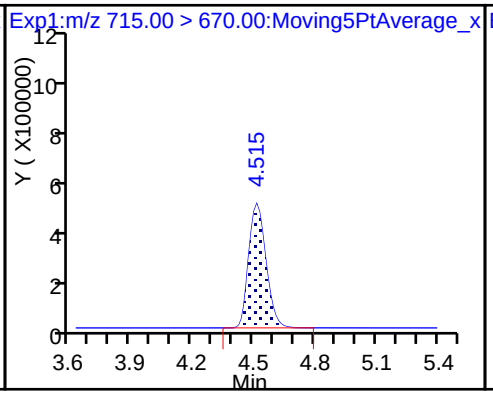
42 Perfluorotetradecanoic acid



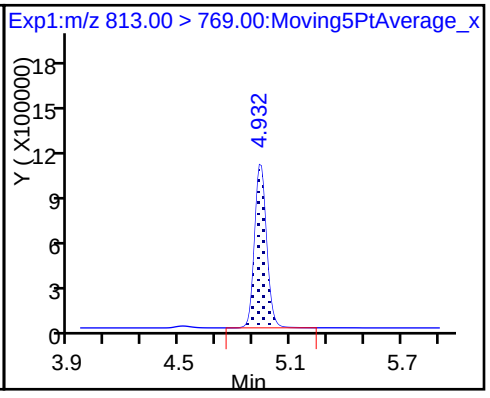
42 Perfluorotetradecanoic acid



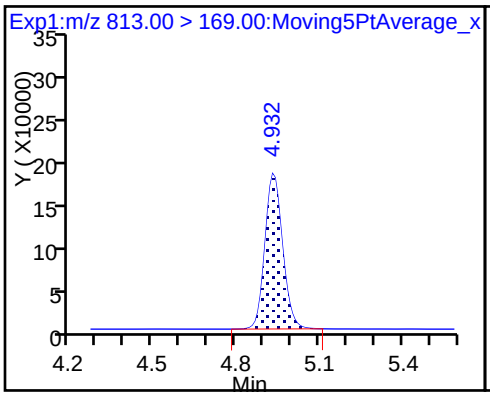
D 43 13C2-PFTeDA



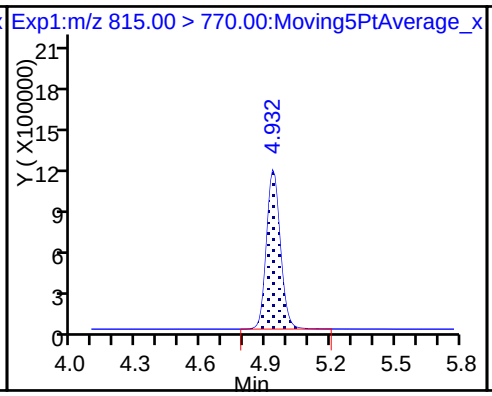
45 Perfluorohexadecanoic acid



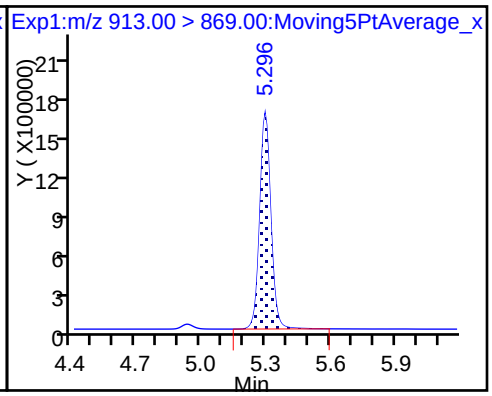
45 Perfluorohexadecanoic acid



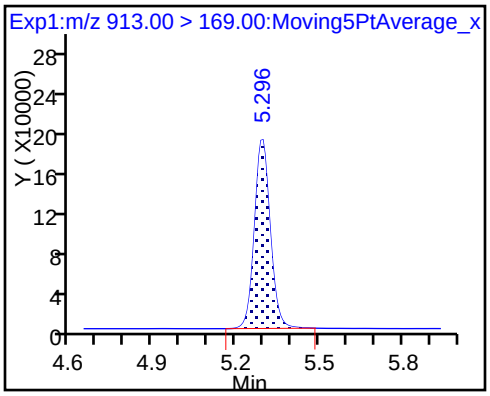
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_007.d
Lims ID: IC L6 Full
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Dec-2017 16:32:04 ALS Bottle#: 15 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L6-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:18 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: phomsophat Date: 14-Dec-2017 19:10:33

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.406	1.406	0.0	0.534	8281403	2.53		101	24292	
2 Perfluorobutyric acid										
212.90 > 169.00	1.406	1.408	-0.002	1.000	15381830	5.15		103	3400	
D 3 13C5-PFPeA										
267.90 > 223.00	1.660	1.656	0.004	0.630	4823648	2.50		100	68428	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.660	1.656	0.004	1.000	10701627	4.99		99.7	15067	
D 47 13C3-PFBS										
301.90 > 83.00	1.687	1.690	-0.004	0.640	95121	2.30		98.9	4177	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.695	1.692	0.003	1.005	13712842	4.57		103	46789	
298.90 > 99.00	1.695	1.692	0.003	1.005	5735009		2.39(1.25-3.74)	103	32279	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.899	1.902	-0.003	1.000	2448157	5.83		125	72845	
D 7 13C2 PFHxA										
315.00 > 270.00	1.940	1.938	0.002	0.736	5154860	2.56		102	51988	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.940	1.939	0.001	1.000	10140951	4.99		99.7	23933	
313.00 > 119.00	1.940	1.939	0.001	1.000	921524		11.00(5.03-15.10)	99.7	19855	
D 9 13C4-PFHpA										
367.00 > 322.00	2.275	2.272	0.003	0.863	4701313	2.49		99.6	26754	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.275	2.273	0.002	1.000	9952472	5.11		102	19621	
363.00 > 169.00	2.275	2.273	0.002	1.000	3842294		2.59(1.13-3.40)	102	24410	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.275	2.285	-0.010	0.994	11114182	4.32		94.9	23326	
399.00 > 99.00	2.288	2.285	0.003	1.000	3692854		3.01(1.50-4.49)	94.9	15347	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.288	2.286	0.002	0.868	5511888	2.34		99.1	25625	
D 12 M2-6:2FTS										
429.00 > 81.00	2.628	2.625	0.003	0.997	2132417	2.08		87.5	68091	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.628	2.625	0.003	1.000	6446185	4.56		96.3	90350	
D 14 13C4 PFOA										
417.00 > 372.00	2.635	2.637	-0.002	1.000	5601855	2.45		98.2	39325	
* 62 13C2-PFOA										
415.00 > 370.00	2.635	2.638	-0.003		5590366	2.50			51700	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.642	2.640	0.002	1.003	12005487	5.04		101	19597	
413.00 > 169.00	2.635	2.640	-0.005	1.000	6407596		1.87(0.84-2.52)	101	29021	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.642	2.644	-0.002	1.000	10821490	4.83		101	58694	
449.00 > 99.00	2.642	2.644	-0.002	1.000	2877383		3.76(1.94-5.82)	101	26889	
D 18 13C4 PFOS										
503.00 > 80.00	3.015	3.014	0.001	1.144	3632697	2.45		103	27581	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.015	3.015	0.0	1.000	7556177	4.68		101	14759	
499.00 > 99.00	3.015	3.015	0.0	1.000	1640400		4.61(2.31-6.93)	101	15184	
D 19 13C5 PFNA										
468.00 > 423.00	3.015	3.015	0.0	1.144	3870530	2.56		102	41440	
20 Perfluorononanoic acid										
463.00 > 419.00	3.015	3.017	-0.002	1.000	7561124	4.90		98.0	27466	
463.00 > 169.00	3.015	3.017	-0.002	1.000	1811744		4.17(1.90-5.69)	98.0	35261	
D 21 13C8 FOSA										
506.00 > 78.00	3.354	3.354	0.0	1.273	5324779	2.51		100	24863	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.361	3.356	0.005	1.002	10460648	5.19		104	37084	
D 26 M2-8:2FTS										
529.00 > 81.00	3.369	3.368	0.001	1.279	831573	2.44		102	18953	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.369	3.369	0.0	1.000	2004582	4.74		99.0	38220	
D 23 13C2 PFDA										
515.00 > 470.00	3.384	3.379	0.005	1.284	3101150	2.52		101	50614	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.384	3.379	0.005	1.000	6207557	5.18		104	32609	
513.00 > 169.00	3.384	3.379	0.005	1.000	1074593		5.78(2.36-7.09)	104	2012	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.535	3.535	0.0	1.342	1479742	2.52		101	13521	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.543	3.538	0.005	1.002	3194509	5.17		103	12961	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.694	3.692	0.002	1.000	4271524	4.73		98.2	39065	
599.00 > 99.00	3.694	3.692	0.002	1.000	1430138		2.99(1.39-4.16)	98.2	26166	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.703	3.704	-0.001	1.405	1478428	2.53		101	5651	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.712	3.709	0.003	1.409	2438040	2.60		104	33897	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.712	3.710	0.002	1.002	2918773	5.11		102	23235	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.712	3.711	0.001	1.000	4338960	4.90		98.1	28060	
563.00 > 169.00	3.712	3.711	0.001	1.000	964599		4.50(0.00-0.00)	98.1	42718	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.851	3.850	0.001	1.462	1545427	2.48		99.2	3817	
35 MeFOSA										
512.00 > 169.00	3.862	3.856	0.006	1.003	3171304	5.12		102	4004	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.008	0.002	1.522	2490930	2.49		99.5	29210	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.010	4.008	0.002	1.000	5033656	5.19		104	21320	
613.00 > 169.00	4.010	4.008	0.002	1.000	1248427		4.03(2.13-6.40)	104	25652	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.042	4.039	0.003	1.534	1470478	2.55		102	2742	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.049	4.047	0.002	1.002	3126044	5.15		103	3260	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.277	4.275	0.002	1.000	5624317	5.11		102	40978	
663.00 > 169.00	4.277	4.275	0.002	1.000	1728613		3.25(1.25-3.76)	102	35688	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.519	4.519	0.0	1.715	2785323	2.57		103	18415	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.519	4.519	0.0	1.000	1387109	4.98		99.6	21547	
713.00 > 219.00	4.505	4.519	-0.014	0.997	915985		1.51(0.71-2.13)	99.6	15586	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.934	4.935	-0.001	1.873	4882215	2.45		98.1	13590	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.934	4.935	-0.001	1.000	8784105	5.10		102	5781	
813.00 > 169.00	4.934	4.935	-0.001	1.000	1582817		5.55(2.86-8.58)	102	11283	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.299	5.299	0.0	1.000	11426082	5.19		104	2364	
913.00 > 169.00	5.299	5.299	0.0	1.000	1391566		8.21(0.00-0.00)	104	2791	

Reagents:

LCPFC_LL6_00002 Amount Added: 1.00 Units: mL

Report Date: 15-Dec-2017 09:54:19 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_007.d

Injection Date: 14-Dec-2017 16:32:04 Instrument ID: A8_N

Lims ID: IC L6 Full

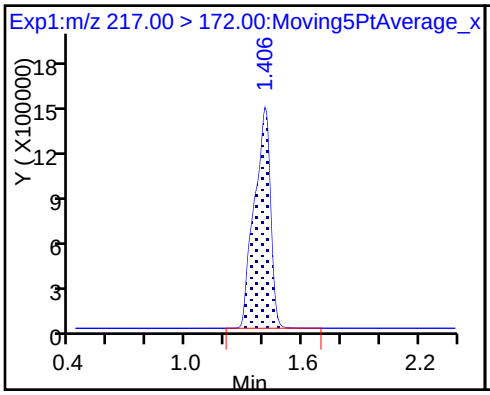
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 15 Worklist Smp#: 7

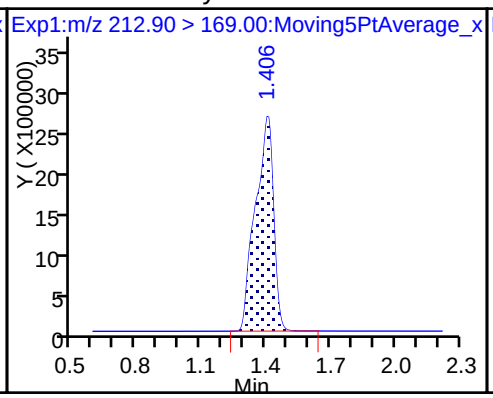
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

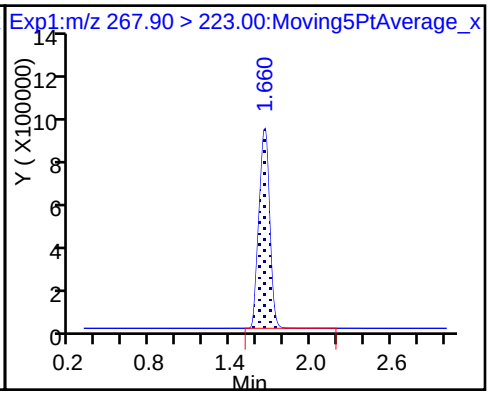
D 1 13C4 PFBA



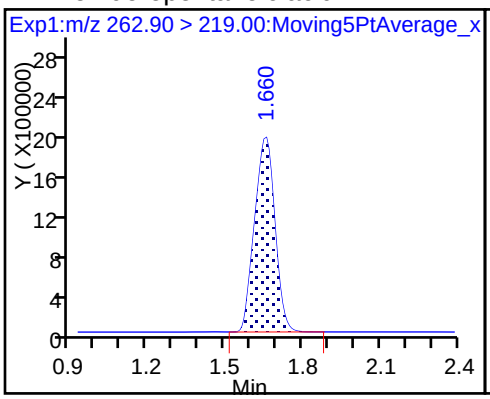
2 Perfluorobutyric acid



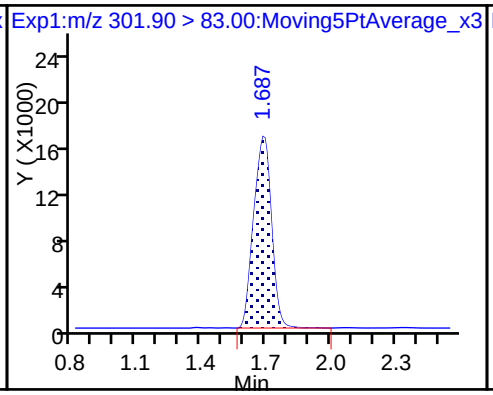
D 3 13C5-PFPeA



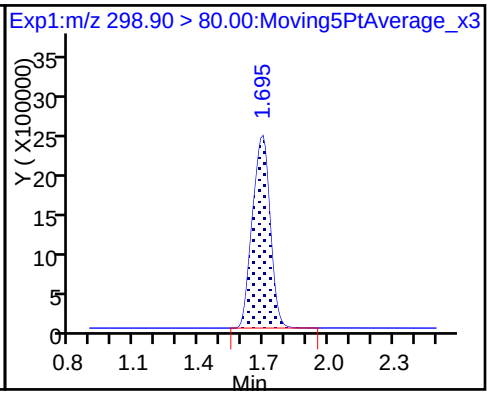
4 Perfluoropentanoic acid



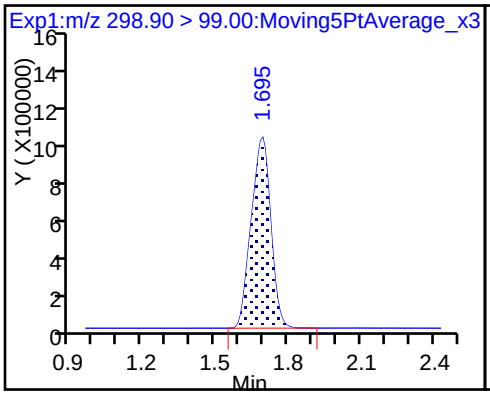
D 47 13C3-PFBS



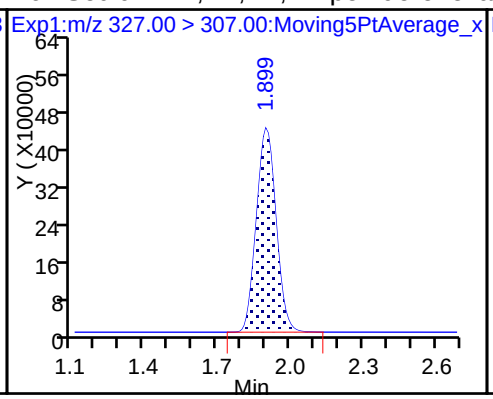
5 Perfluorobutanesulfonic acid



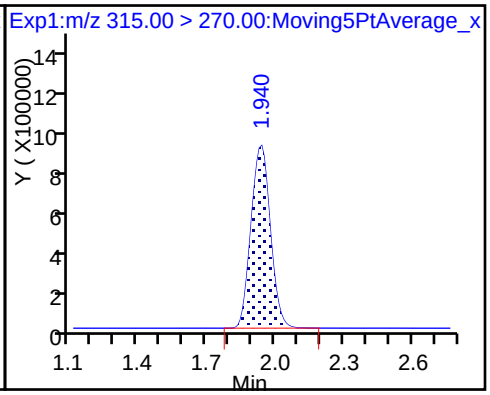
5 Perfluorobutanesulfonic acid



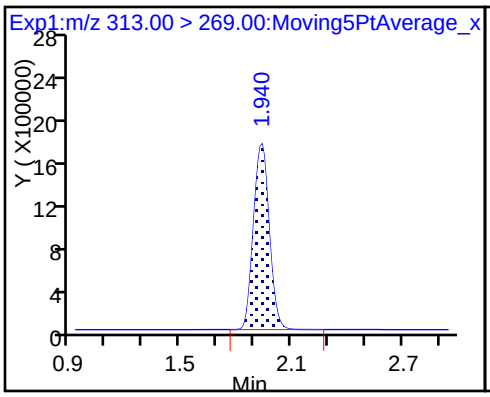
61 Sodium 1H,1H,2H,2H-perfluorohexa



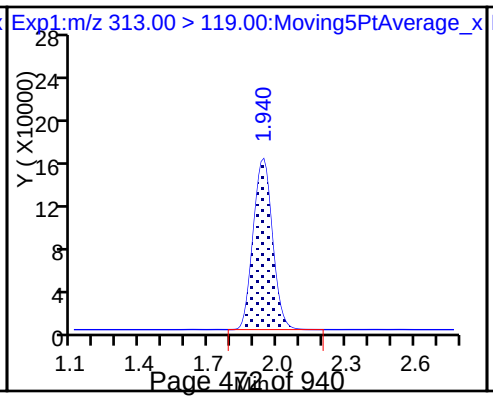
D 7 13C2 PFHxA



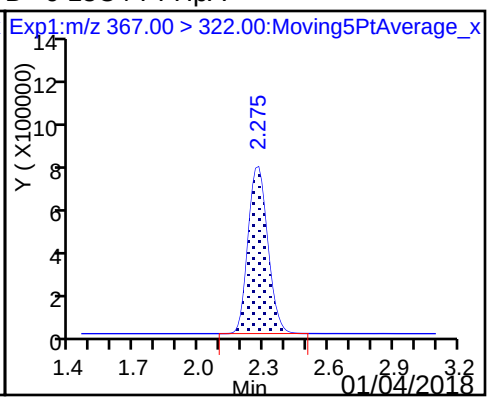
6 Perfluorohexanoic acid



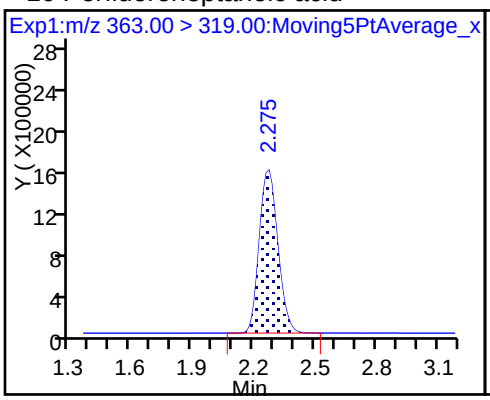
6 Perfluorohexanoic acid



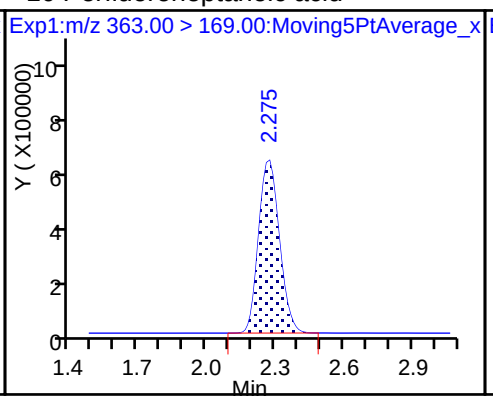
D 9 13C4-PFHpA



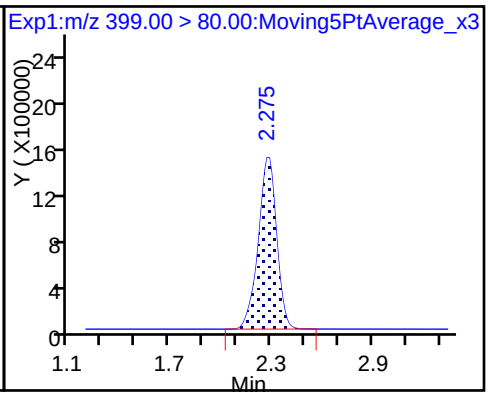
10 Perfluoroheptanoic acid



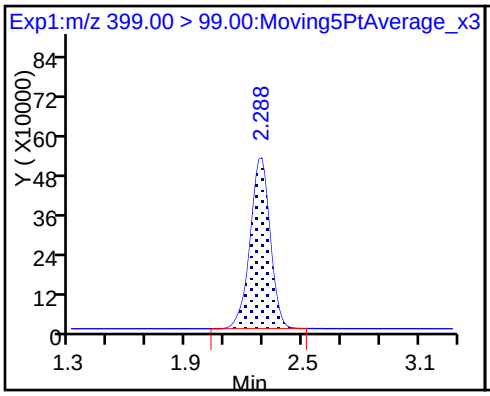
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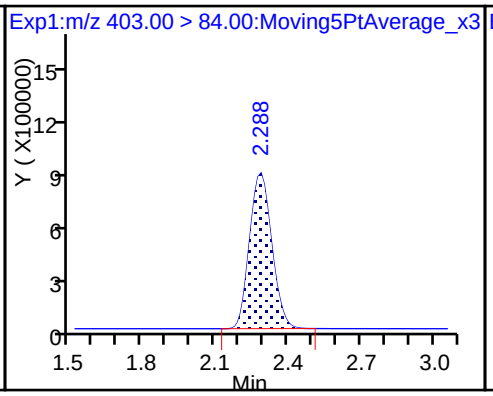
8 Perfluorohexanesulfonic acid



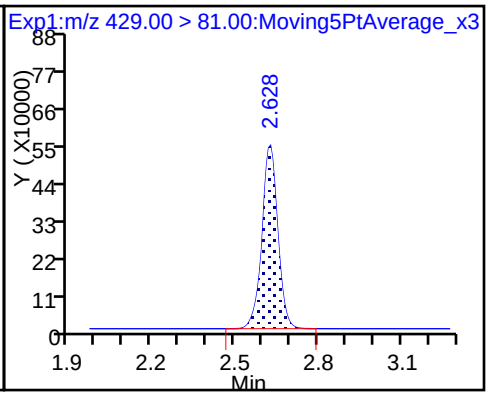
8 Perfluorohexanesulfonic acid



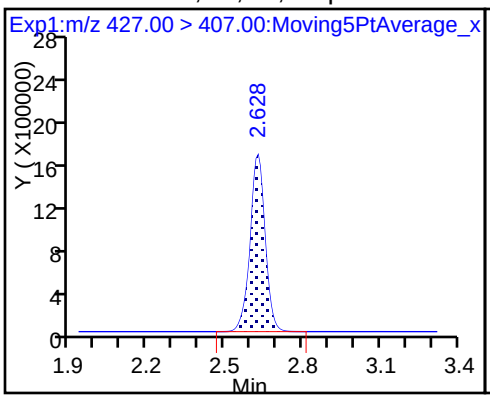
D 11 18O2 PFHxS



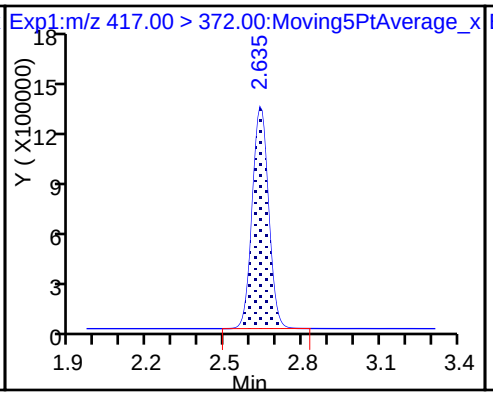
D 12 M2-6:2FTS



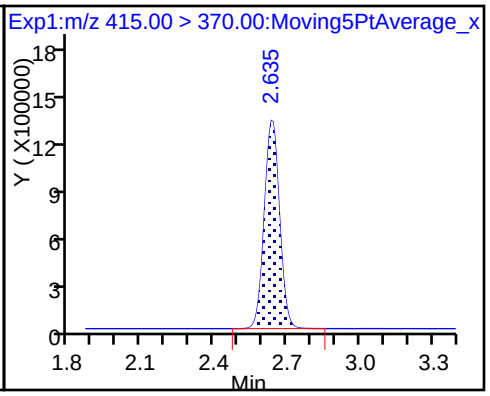
13 Sodium 1H,1H,2H,2H-perfluorooctane



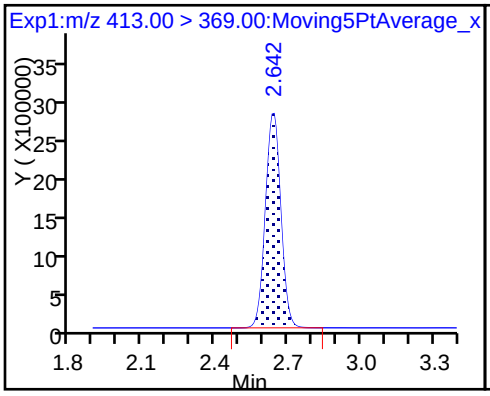
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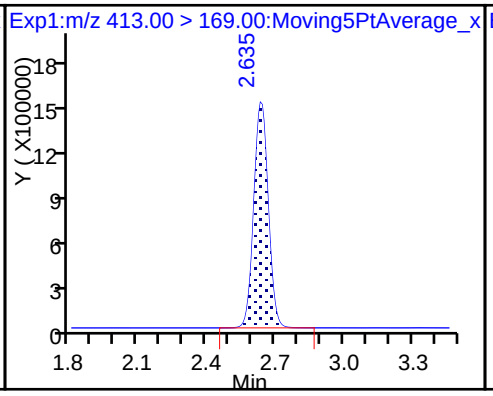
* 62 13C2-PFOA



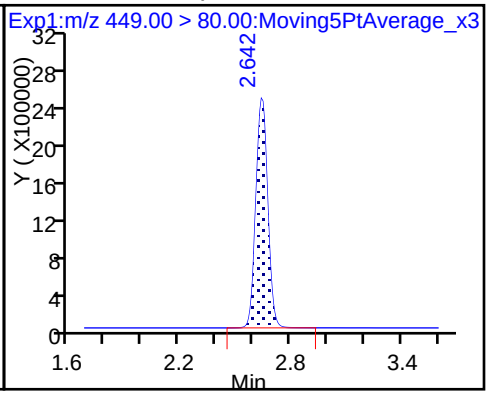
15 Perfluorooctanoic acid



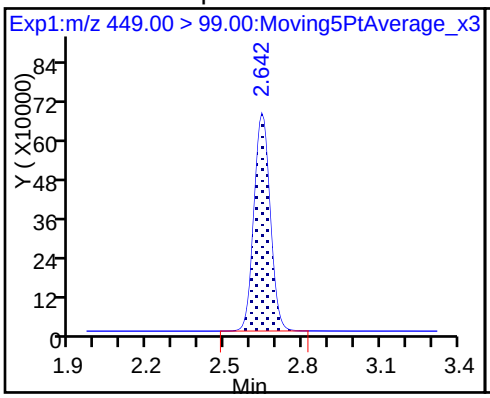
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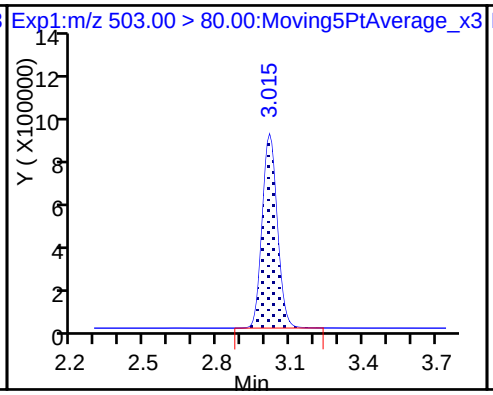
16 Perfluoroheptanesulfonic Acid



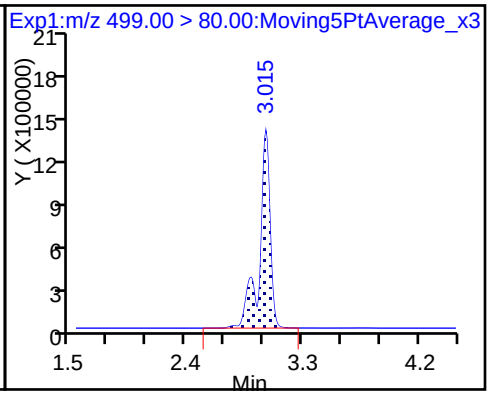
16 Perfluoroheptanesulfonic Acid



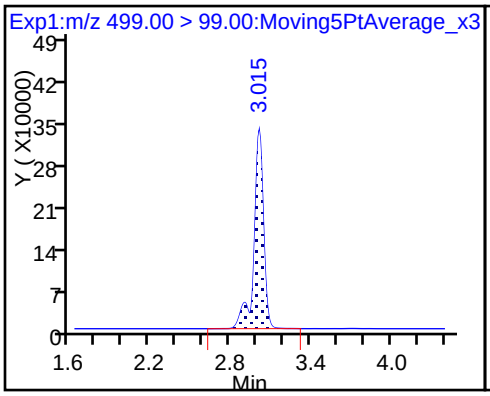
D 18 13C4 PFOS



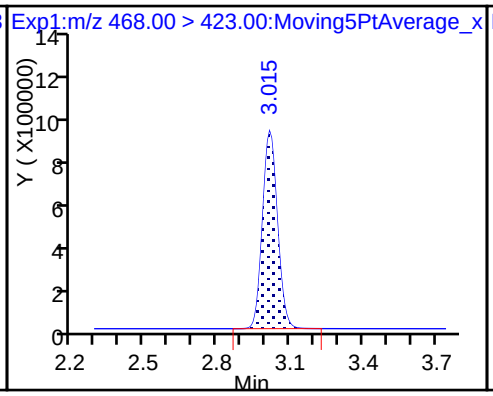
17 Perfluorooctane sulfonic acid



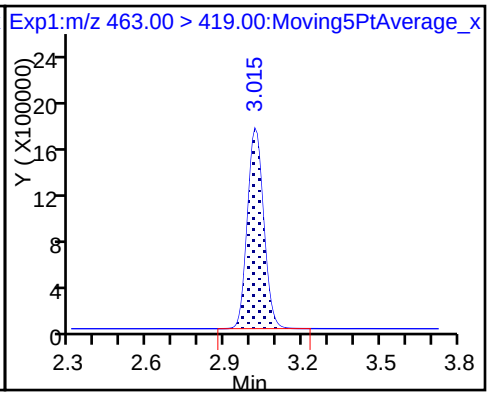
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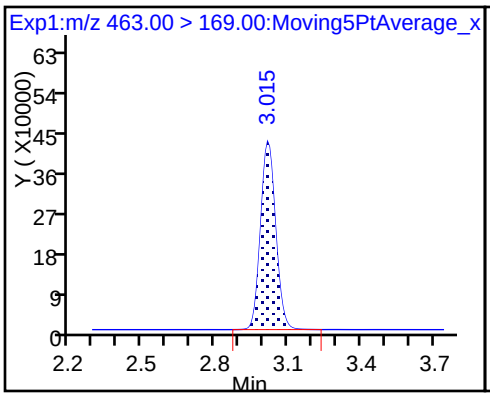
D 19 13C5 PFNA



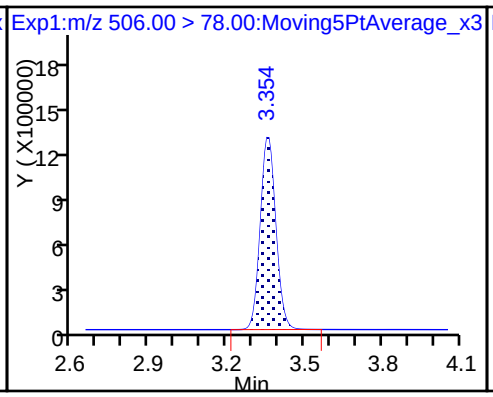
20 Perfluorononanoic acid



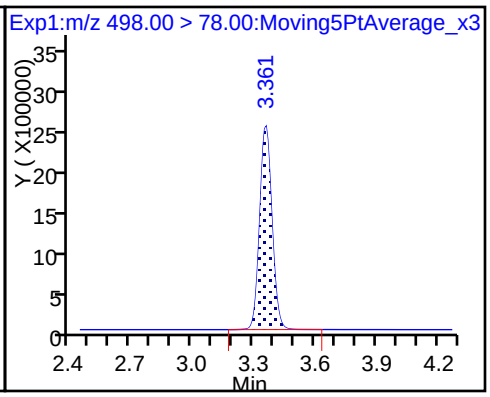
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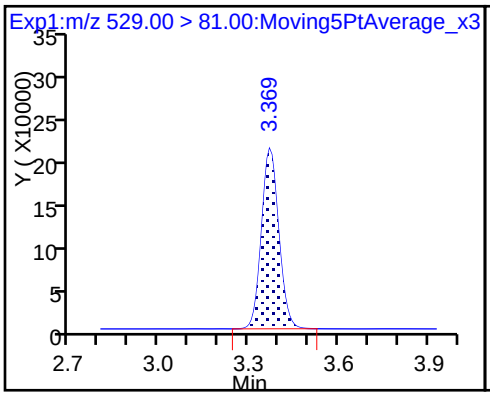
D 21 13C8 FOSA



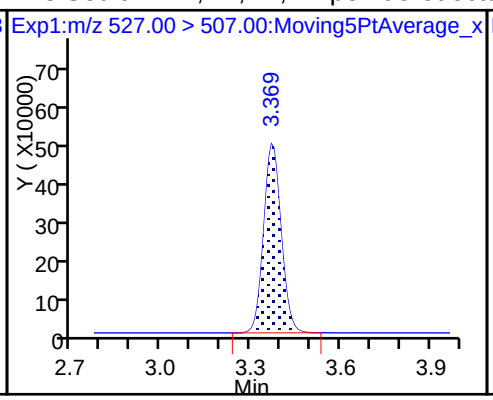
22 Perfluorooctane Sulfonamide



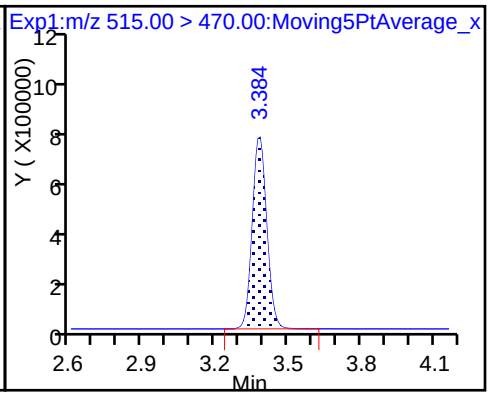
D 26 M2-8:2FTS



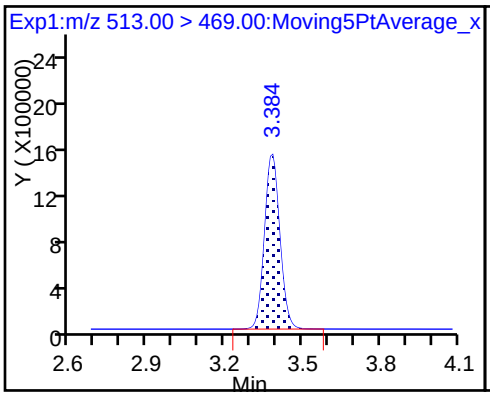
25 Sodium 1H,1H,2H,2H-perfluorodecane



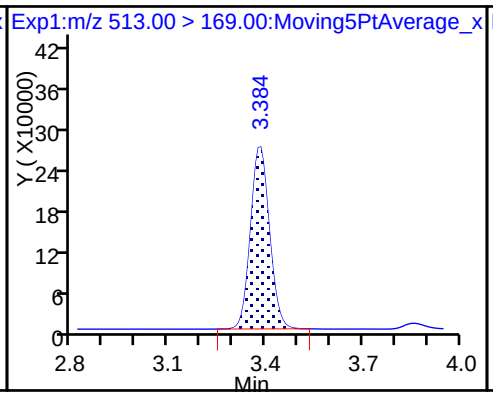
D 23 13C2 PFDA



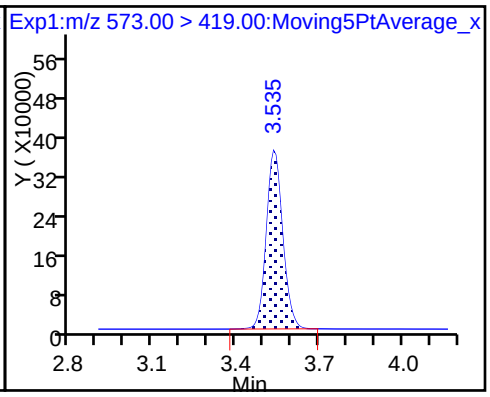
24 Perfluorodecanoic acid



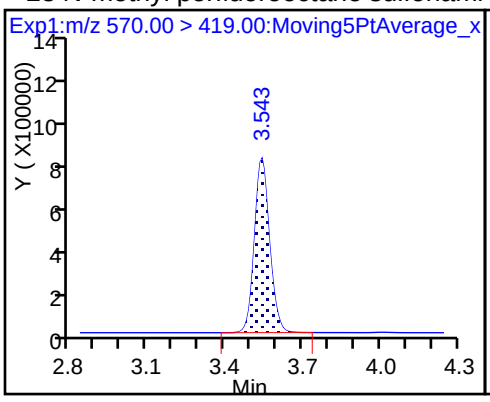
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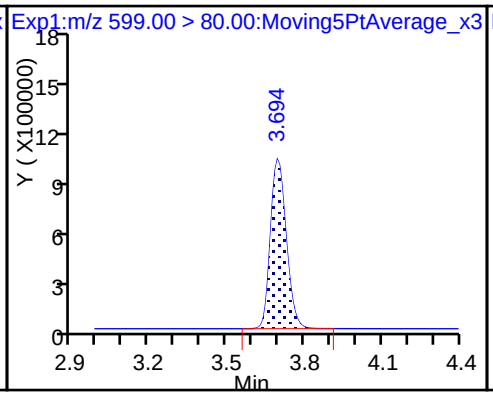
D 27 d3-NMeFOSAA



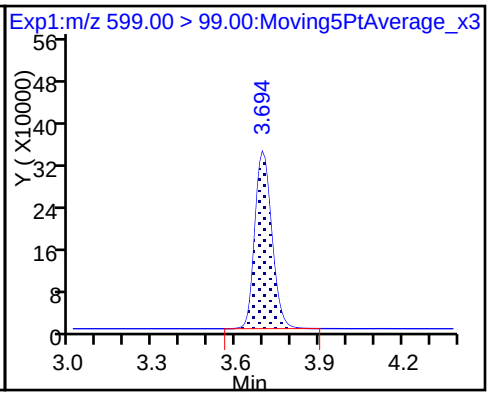
28 N-methyl perfluorooctane sulfonami



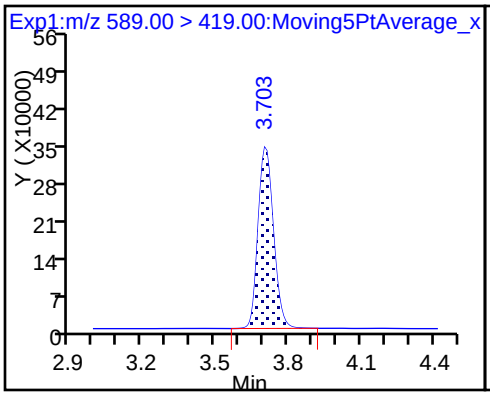
29 Perfluorodecane Sulfonic acid



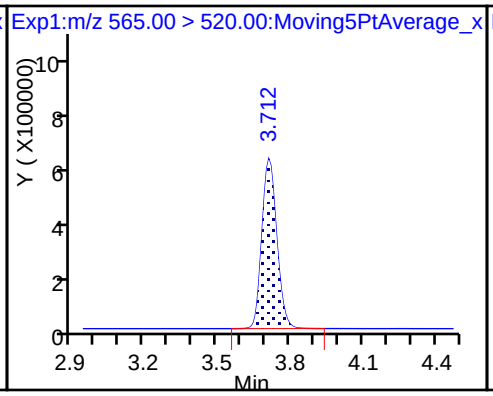
29 Perfluorodecane Sulfonic acid



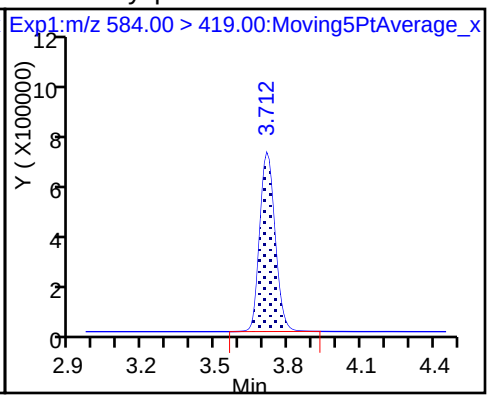
D 32 d5-NEtFOSAA



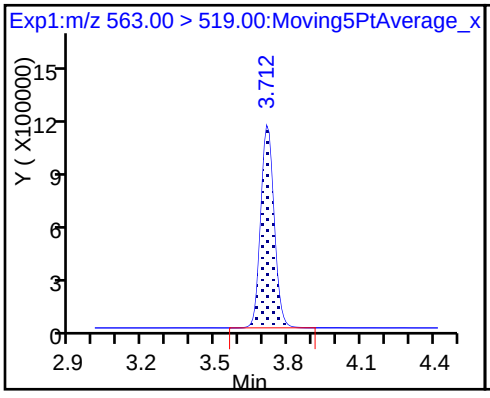
D 30 13C2 PFUnA



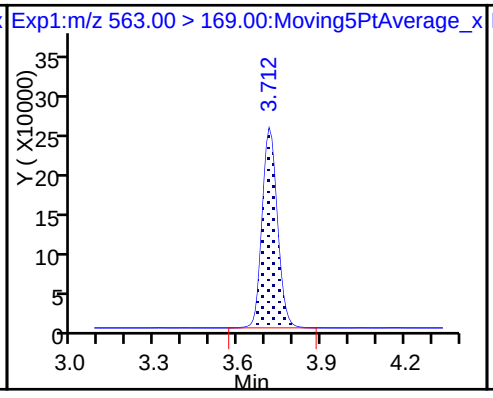
33 N-ethyl perfluorooctane sulfonamid



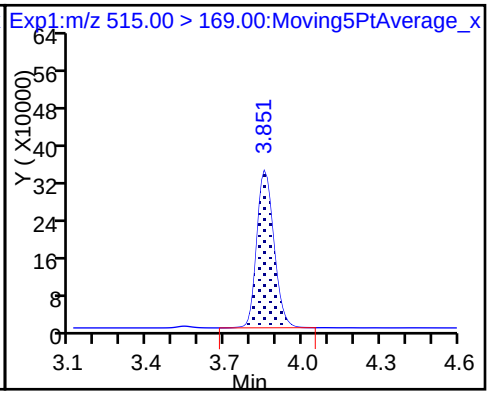
31 Perfluoroundecanoic acid



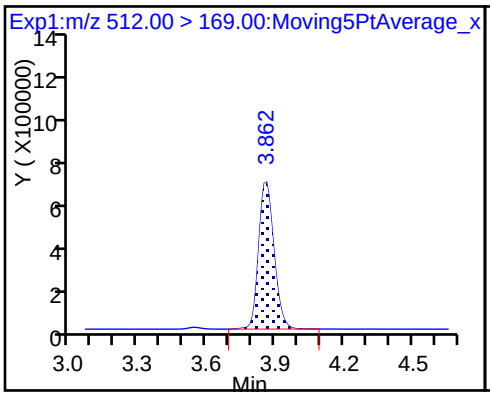
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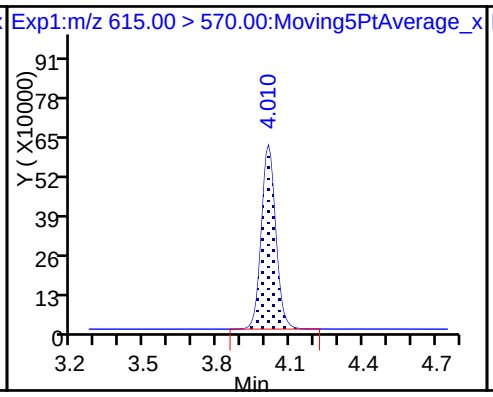
D 34 d-N-MeFOSA-M



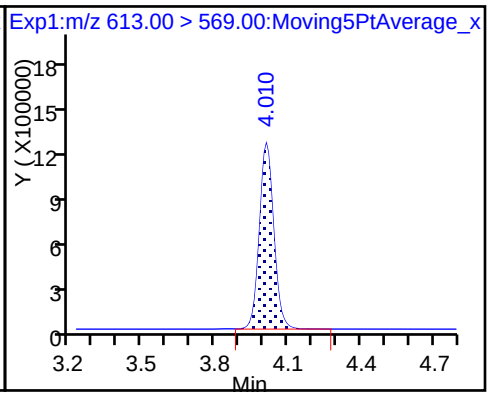
35 MeFOSA



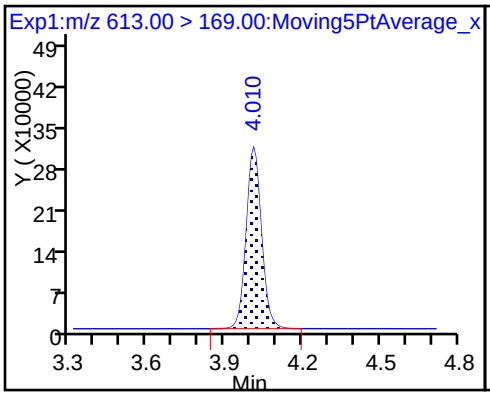
D 36 13C2 PFDoA



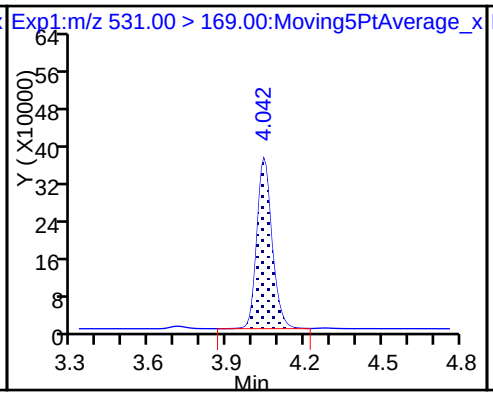
37 Perfluorododecanoic acid



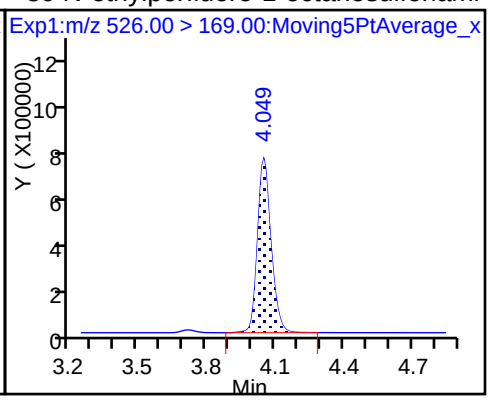
37 Perfluorododecanoic acid



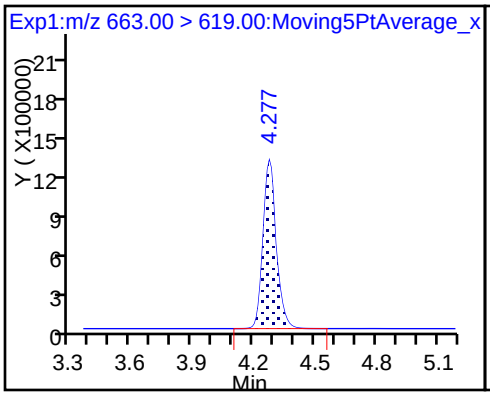
D 38 d-N-EtFOSA-M



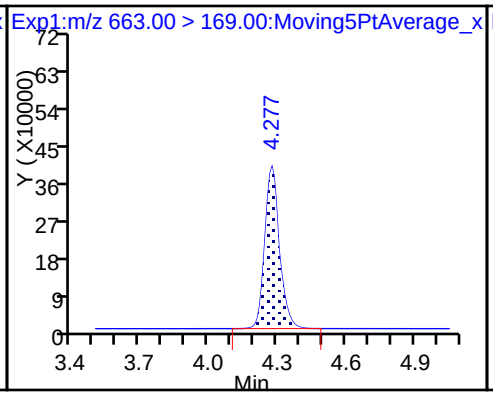
39 N-ethylperfluoro-1-octanesulfonami



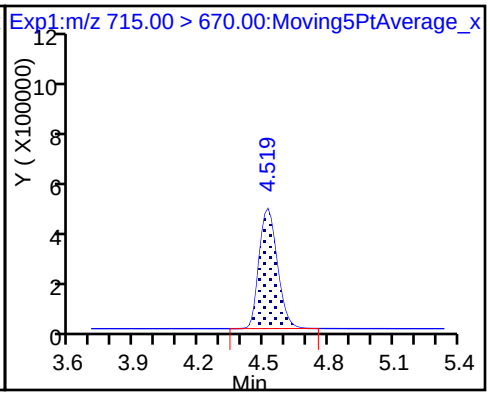
41 Perfluorotridecanoic acid



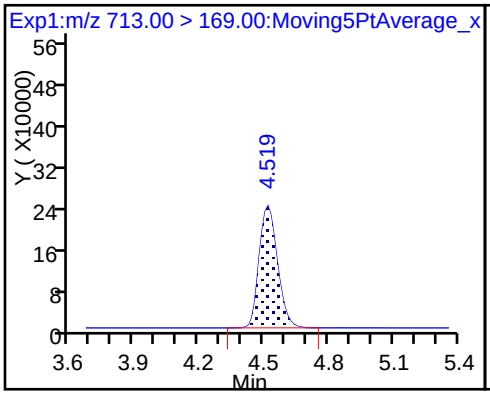
41 Perfluorotridecanoic acid



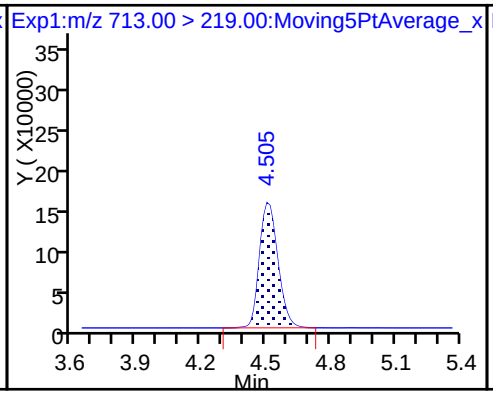
D 43 13C2-PFTeDA



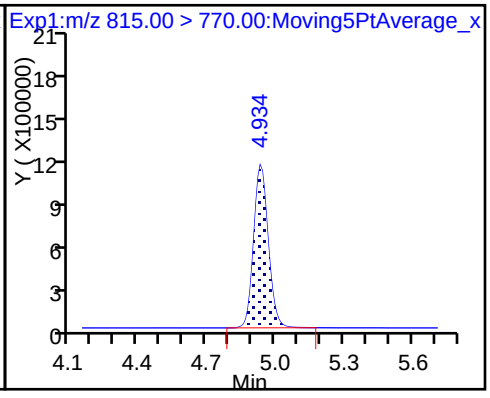
42 Perfluorotetradecanoic acid



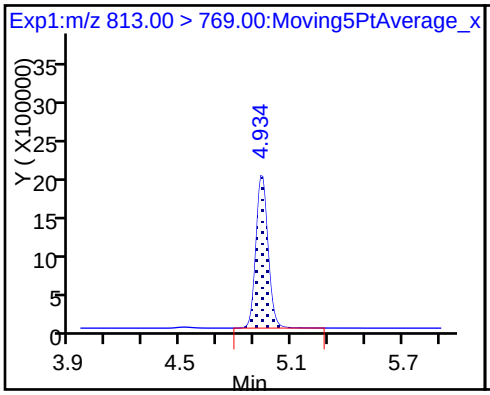
42 Perfluorotetradecanoic acid



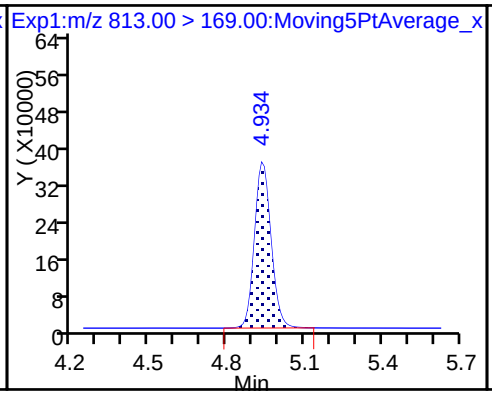
D 44 13C2-PFHxDA



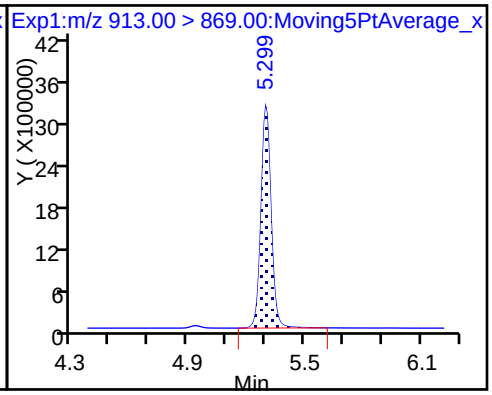
45 Perfluorohexadecanoic acid



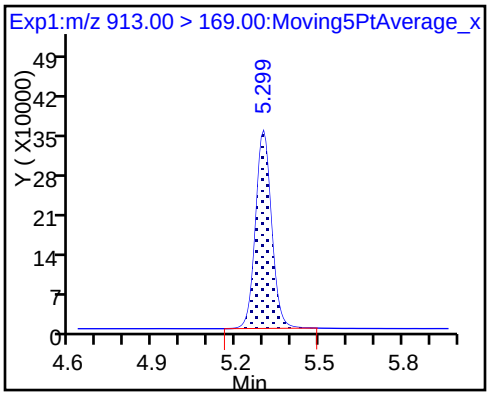
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_008.d
Lims ID: IC L7 Full
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Dec-2017 16:39:54 ALS Bottle#: 16 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L7-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:21 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: hannigana Date: 15-Dec-2017 08:15:10

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.407	1.406	0.001	0.532	7932108	2.52		101	22214	
2 Perfluorobutyric acid										
212.90 > 169.00	1.413	1.408	0.005	1.004	28700316	10.0		100	7022	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.661	1.656	0.005	1.000	20466520	9.89		98.9	31069	
D 3 13C5-PFPeA										
267.90 > 223.00	1.661	1.656	0.005	0.628	4652087	2.51		100	60107	
D 47 13C3-PFBS										
301.90 > 83.00	1.697	1.690	0.007	0.642	91436	2.30		98.8	3187	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.697	1.692	0.005	1.000	24976975	8.66		98.0	67186	
298.90 > 99.00	1.697	1.692	0.005	1.000	11301054		2.21(1.25-3.74)	98.0	51249	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.912	1.902	0.010	1.000	4831604	12.4		133	94310	
D 7 13C2 PFHxA										
315.00 > 270.00	1.943	1.938	0.005	0.735	4807490	2.48		99.2	39202	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.943	1.939	0.004	1.000	19276718	10.2		102	48838	
313.00 > 119.00	1.943	1.939	0.004	1.000	1840415		10.47(5.03-15.10)	102	45154	
D 9 13C4-PFHpA										
367.00 > 322.00	2.278	2.272	0.006	0.861	4496164	2.47		98.9	35796	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.278	2.273	0.005	1.000	17850833	9.58		95.8	28289	
363.00 > 169.00	2.278	2.273	0.005	1.000	7535257		2.37(1.13-3.40)	95.8	31478	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.291	2.285	0.006	1.000	21011008	8.62		94.7	30993	
399.00 > 99.00	2.291	2.285	0.006	1.000	7242568		2.90(1.50-4.49)	94.7	22480	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.291	2.286	0.005	0.866	5223265	2.31		97.5	29428	
D 12 M2-6:2FTS										
429.00 > 81.00	2.630	2.625	0.005	0.995	1972137	2.00		84.0	41573	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.637	2.625	0.012	1.003	12501676	9.57		101	128972	
D 14 13C4 PFOA										
417.00 > 372.00	2.644	2.637	0.007	1.000	5472310	2.49		99.6	51008	
* 62 13C2-PFOA										
415.00 > 370.00	2.644	2.638	0.006		5383119	2.50			44541	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.644	2.640	0.004	1.000	21425345	9.21		92.1	38357	
413.00 > 169.00	2.644	2.640	0.004	1.000	12019553		1.78(0.84-2.52)	92.1	48913	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.652	2.644	0.008	1.000	19516780	9.40		98.8	54772	
449.00 > 99.00	2.652	2.644	0.008	1.000	5725760		3.41(1.94-5.82)	98.8	50448	
D 18 13C4 PFOS										
503.00 > 80.00	3.016	3.014	0.002	1.141	3364334	2.36		98.6	18194	
D 19 13C5 PFNA										
468.00 > 423.00	3.016	3.015	0.001	1.141	3647795	2.51		100	42574	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.016	3.015	0.001	1.000	14315958	9.57		103	23303	
499.00 > 99.00	3.016	3.015	0.001	1.000	3181775		4.50(2.31-6.93)	103	24670	
20 Perfluorononanoic acid										
463.00 > 419.00	3.024	3.017	0.007	1.003	14382186	9.89		98.9	52211	
463.00 > 169.00	3.016	3.017	-0.001	1.000	3559742		4.04(1.90-5.69)	98.9	38884	
D 21 13C8 FOSA										
506.00 > 78.00	3.355	3.354	0.001	1.269	5007254	2.45		97.9	23800	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.362	3.356	0.006	1.002	18602053	9.82		98.2	67869	
D 26 M2-8:2FTS										
529.00 > 81.00	3.370	3.368	0.002	1.274	818951	2.50		104	15682	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.370	3.369	0.001	1.000	4005486	9.62		100	47143	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.385	3.379	0.006	1.000	11878885	10.4		104	54955	
513.00 > 169.00	3.385	3.379	0.006	1.000	2158690		5.50(2.36-7.09)	104	2074	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.379	0.006	1.280	2962231	2.50		99.9	36821	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.536	3.535	0.001	1.337	1432256	2.53		101	19553	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.544	3.538	0.006	1.002	6408861	10.7		107	24085	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.696	3.692	0.004	1.000	7885511	9.43		97.8	53172	
599.00 > 99.00	3.696	3.692	0.004	1.000	2629472		3.00(1.39-4.16)	97.8	41528	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.704	3.704	0.0	1.401	1359649	2.41		96.5	4957	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.713	3.709	0.004	1.404	2250686	2.50		99.8	34833	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.713	3.710	0.003	1.002	5433878	10.4		104	24403	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.713	3.711	0.002	1.000	8421362	10.3		103	59781	
563.00 > 169.00	3.713	3.711	0.002	1.000	1849598		4.55(0.00-0.00)	103	34797	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.853	3.850	0.003	1.457	1576560	2.63		105	3965	
35 MeFOSA										
512.00 > 169.00	3.863	3.856	0.007	1.003	6390964	10.1		101	4389	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.011	4.008	0.003	1.000	9684102	10.9		109	42180	
613.00 > 169.00	4.011	4.008	0.003	1.000	2255977		4.29(2.13-6.40)	109	29009	
D 36 13C2 PFDoA										
615.00 > 570.00	4.011	4.008	0.003	1.517	2288557	2.37		95.0	37072	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.043	4.039	0.004	1.529	1435413	2.59		103	2171	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.051	4.047	0.004	1.002	6126410	10.3		103	3770	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.278	4.275	0.003	1.000	10708089	10.6		106	73244	
663.00 > 169.00	4.278	4.275	0.003	1.000	3521626		3.04(1.25-3.76)	106	59617	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.526	4.519	0.007	1.000	2553613	9.71		97.1	35959	
713.00 > 219.00	4.513	4.519	-0.006	0.997	1696325		1.51(0.71-2.13)	97.1	28769	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.526	4.519	0.007	1.712	2630360	2.52		101	21134	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.939	4.935	0.004	1.000	15600811	9.86		98.6	9862	
813.00 > 169.00	4.939	4.935	0.004	1.000	2914074		5.35(2.86-8.58)	98.6	14404	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.939	4.935	0.004	1.868	4489310	2.34		93.7	18473	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.309	5.299	0.010	1.000	20463340	10.1		101	3420	
913.00 > 169.00	5.302	5.299	0.003	0.999	2573399		7.95(0.00-0.00)	101	3303	

Reagents:

LCPFC_LL7_00002 Amount Added: 1.00 Units: mL

Report Date: 15-Dec-2017 09:54:23 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_008.d

Injection Date: 14-Dec-2017 16:39:54 Instrument ID: A8_N

Lims ID: IC L7 Full

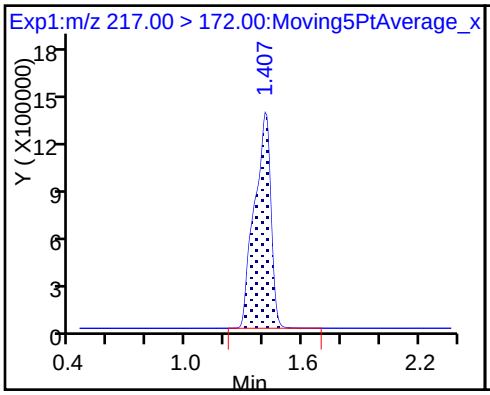
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 16 Worklist Smp#: 8

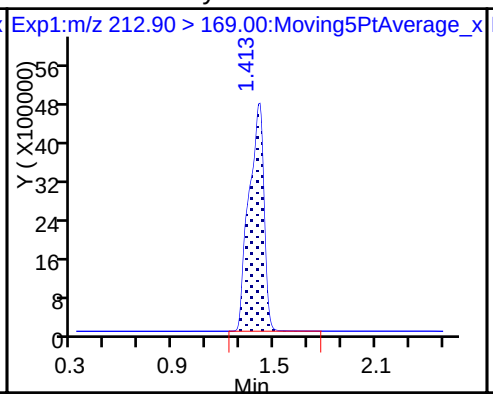
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

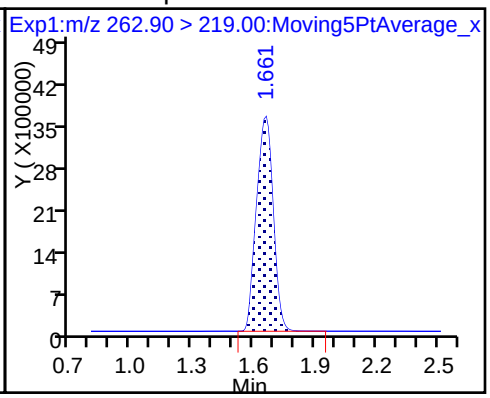
D 1 13C4 PFBA



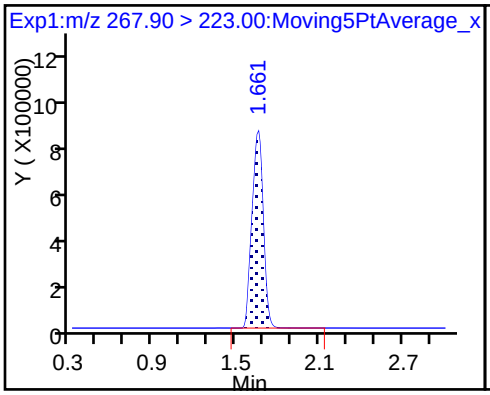
2 Perfluorobutyric acid



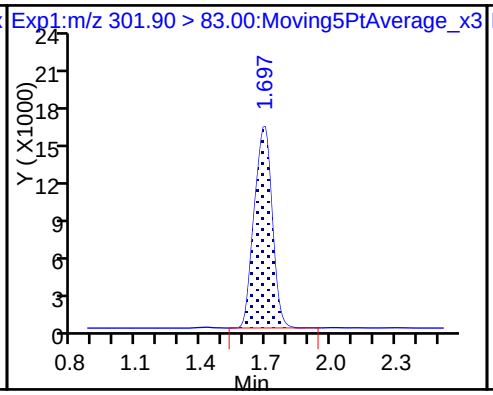
4 Perfluoropentanoic acid



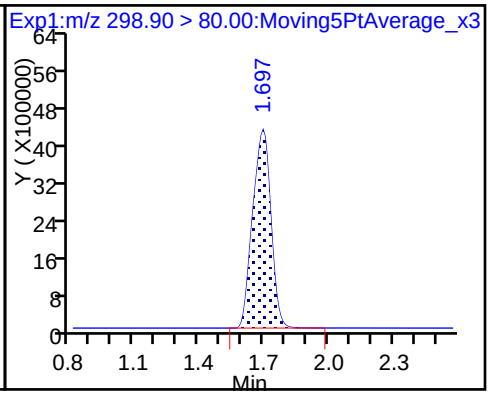
D 3 13C5-PFPeA



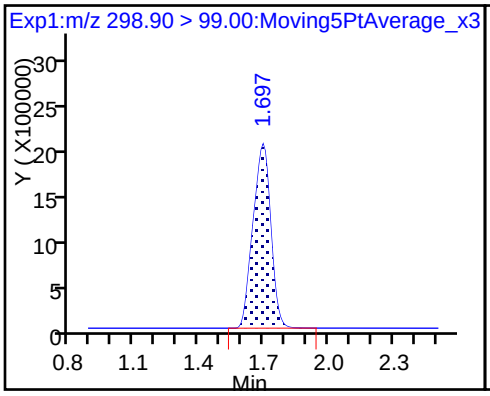
D 47 13C3-PFBS



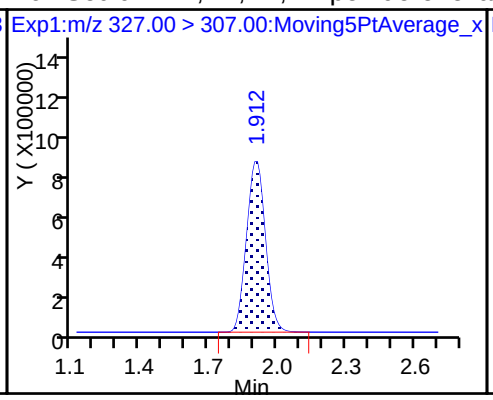
5 Perfluorobutanesulfonic acid



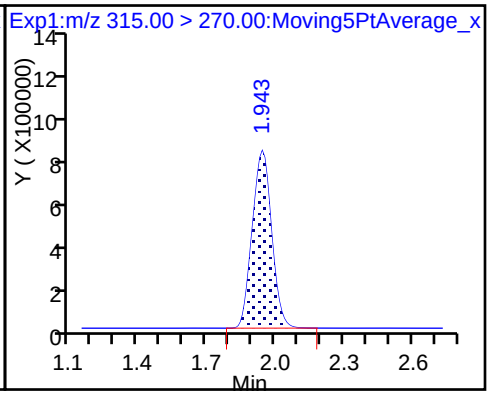
5 Perfluorobutanesulfonic acid



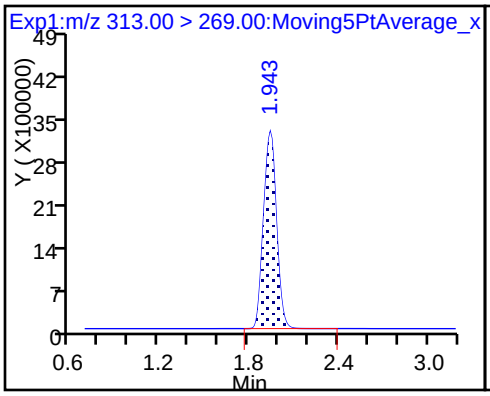
61 Sodium 1H,1H,2H,2H-perfluorohexa



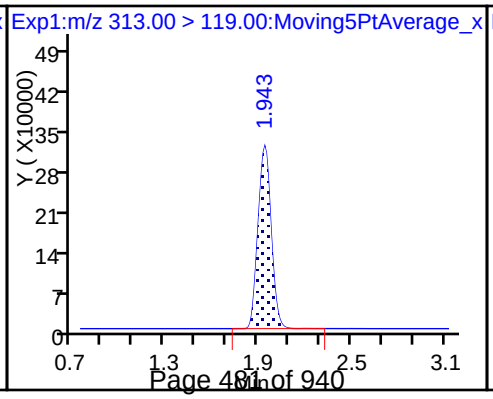
D 7 13C2 PFHxA



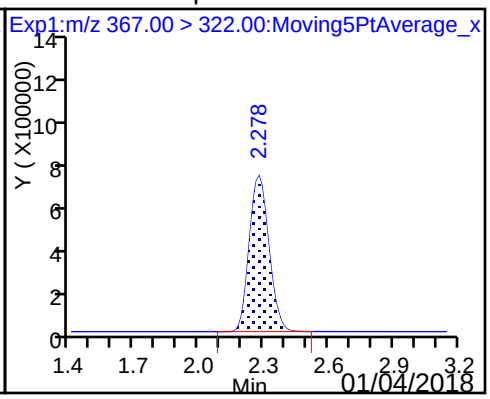
6 Perfluorohexanoic acid



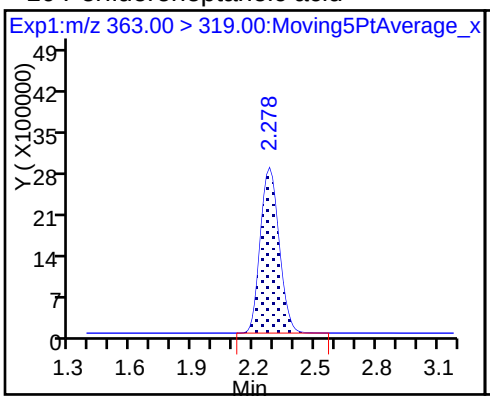
6 Perfluorohexanoic acid



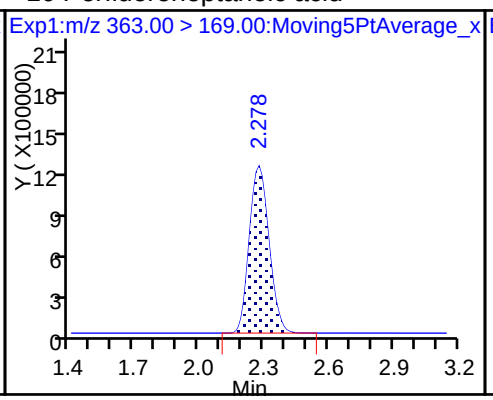
D 9 13C4-PFHpA



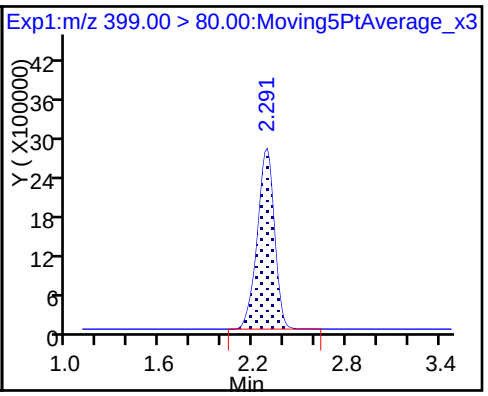
10 Perfluoroheptanoic acid



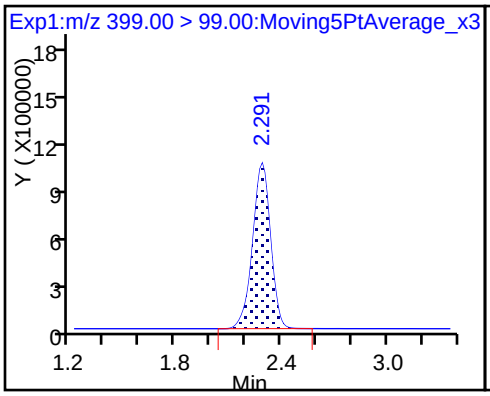
10 Perfluoroheptanoic acid



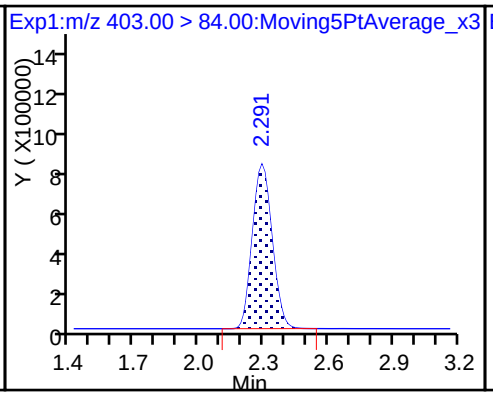
8 Perfluorohexanesulfonic acid



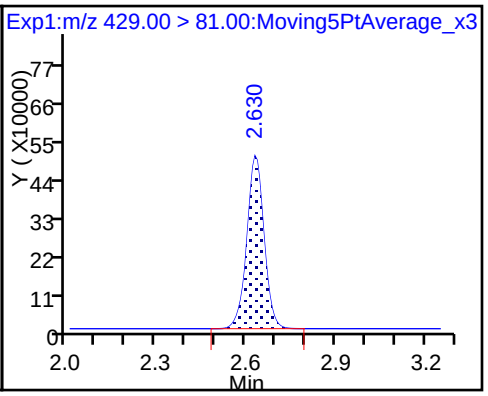
8 Perfluorohexanesulfonic acid



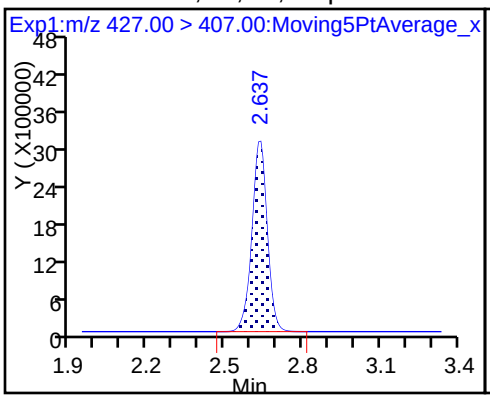
D 11 18O2 PFHxS



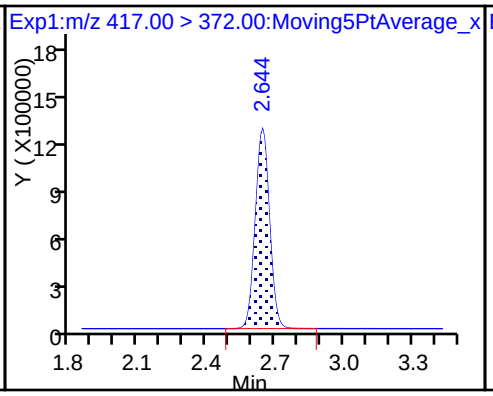
D 12 M2-6:2FTS



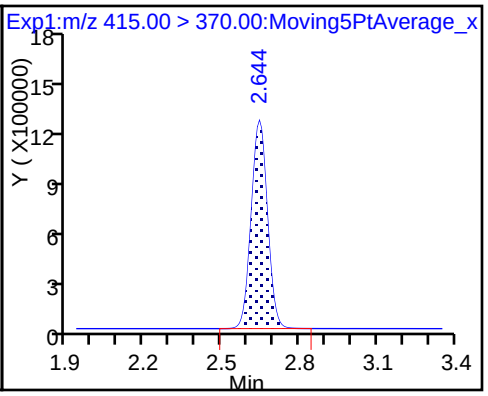
13 Sodium 1H,1H,2H,2H-perfluorooctane



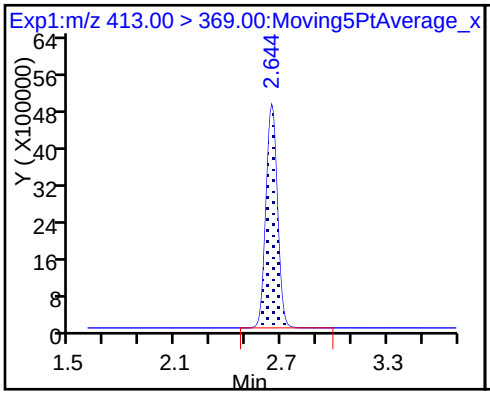
D 14 13C4 PFOA



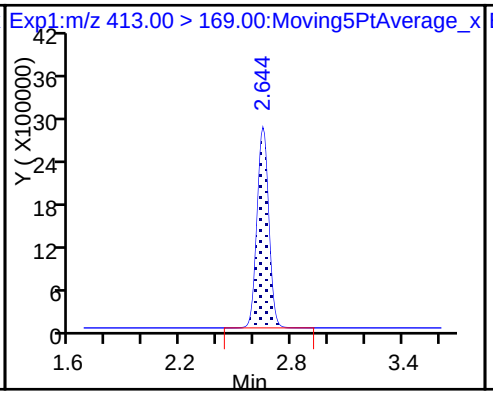
* 62 13C2-PFOA



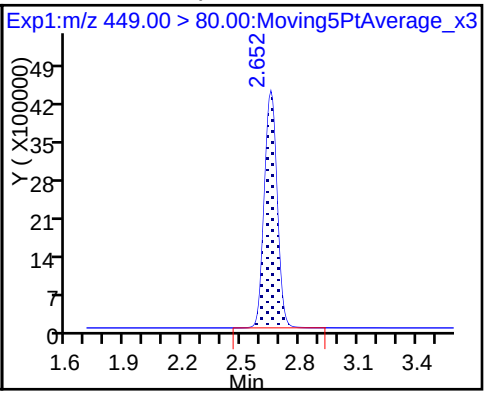
15 Perfluorooctanoic acid



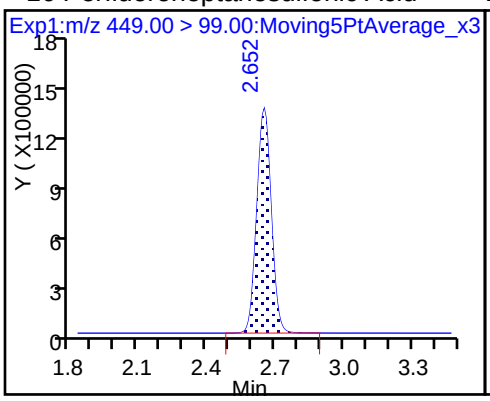
15 Perfluorooctanoic acid



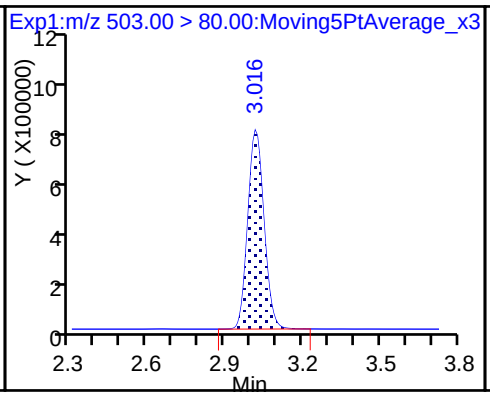
16 Perfluoroheptanesulfonic Acid



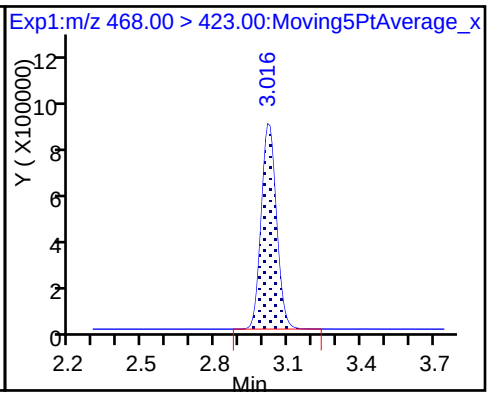
16 Perfluoroheptanesulfonic Acid



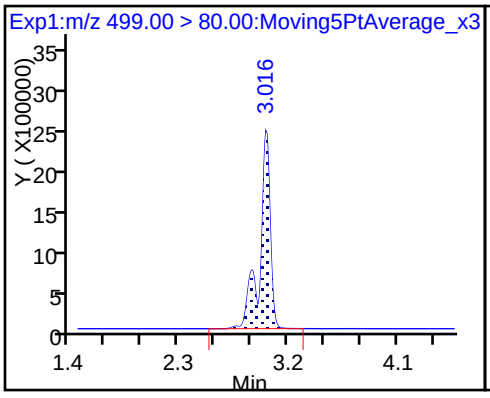
D 18 13C4 PFOS



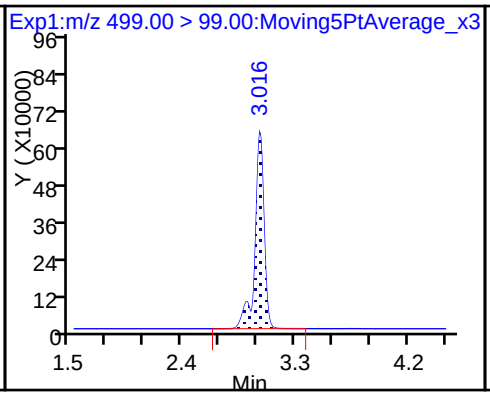
D 19 13C5 PFNA



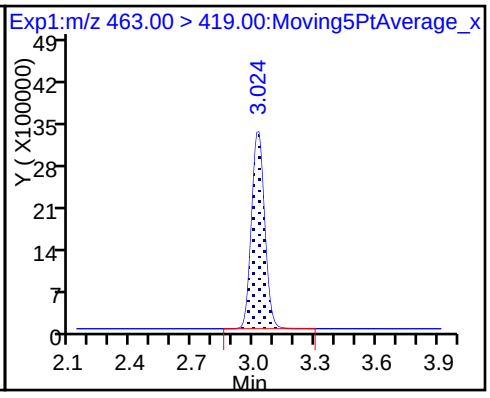
17 Perfluorooctane sulfonic acid



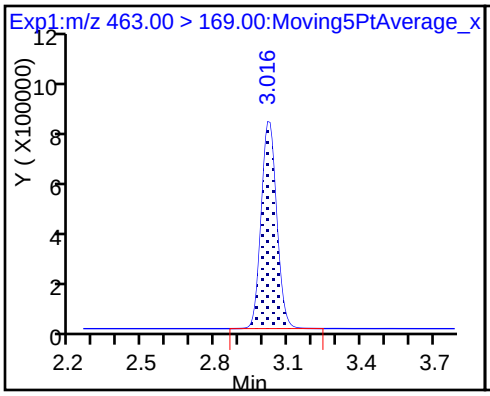
17 Perfluorooctane sulfonic acid



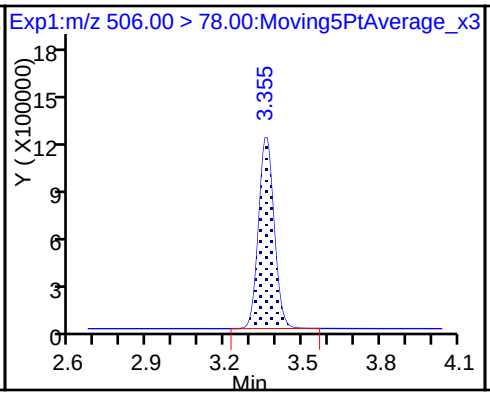
20 Perfluorononanoic acid



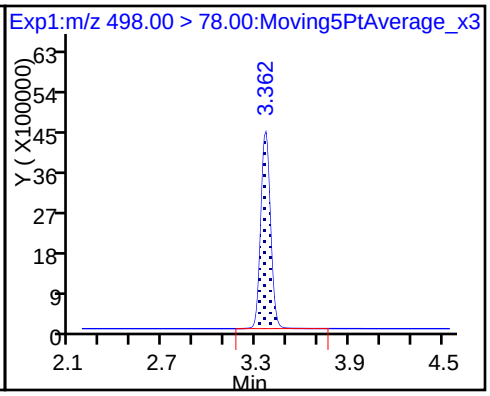
20 Perfluorononanoic acid



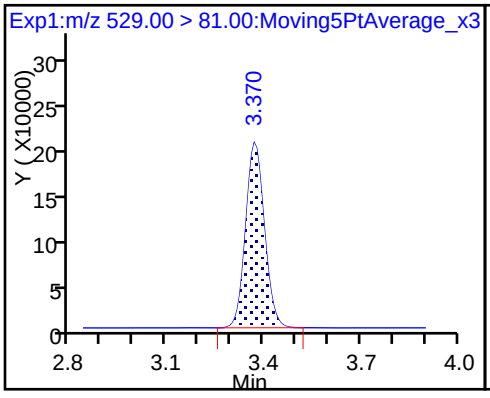
D 21 13C8 FOSA



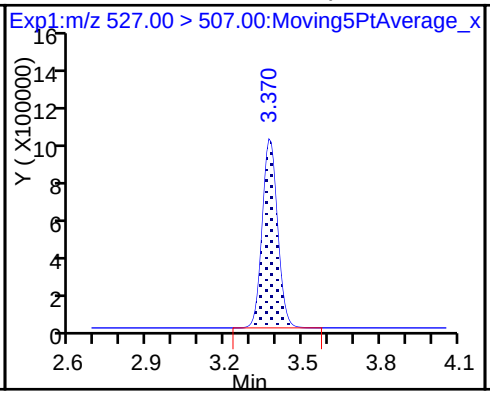
22 Perfluorooctane Sulfonamide



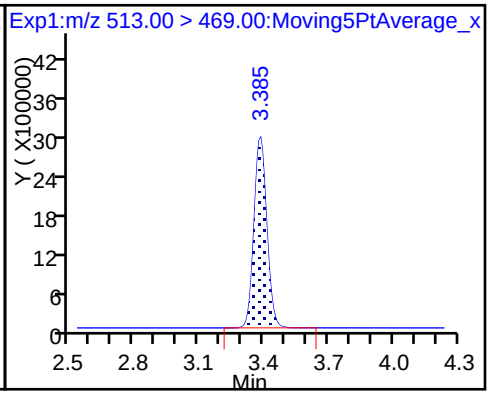
D 26 M2-8:2FTS



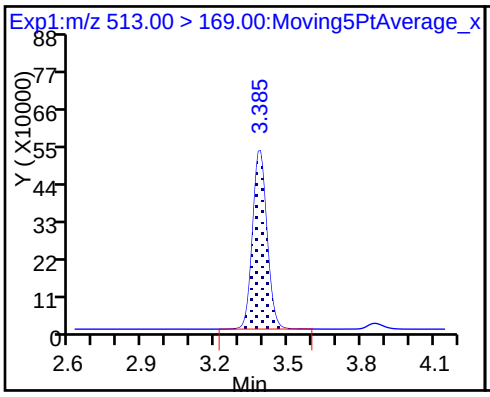
25 Sodium 1H,1H,2H,2H-perfluorodecan



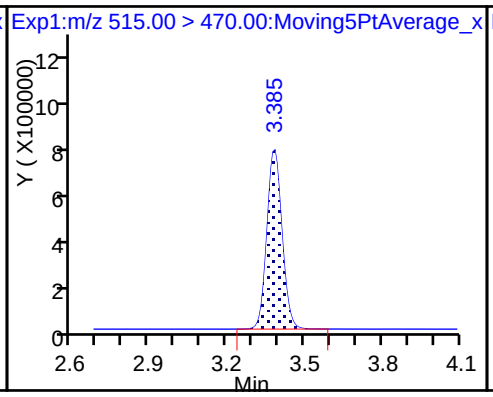
24 Perfluorodecanoic acid



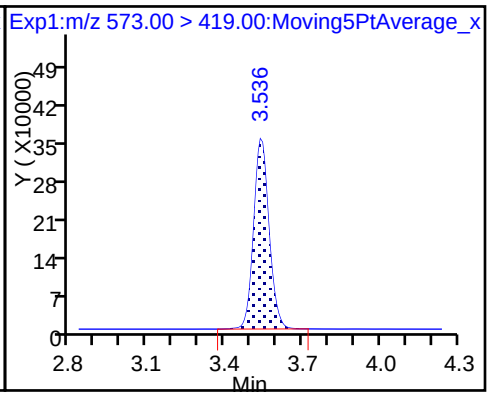
24 Perfluorodecanoic acid



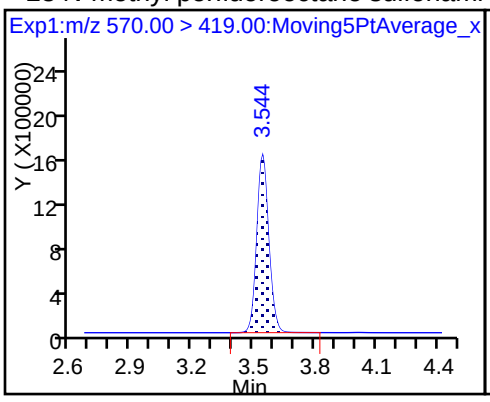
D 23 13C2 PFDA



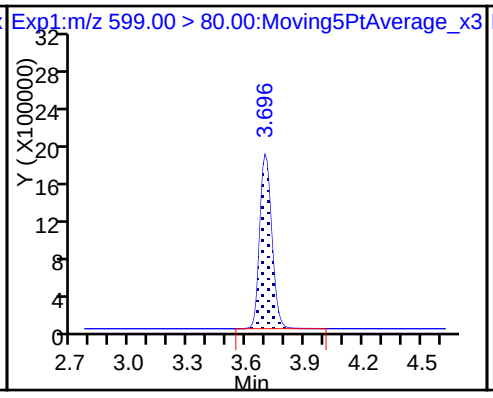
D 27 d3-NMeFOSAA



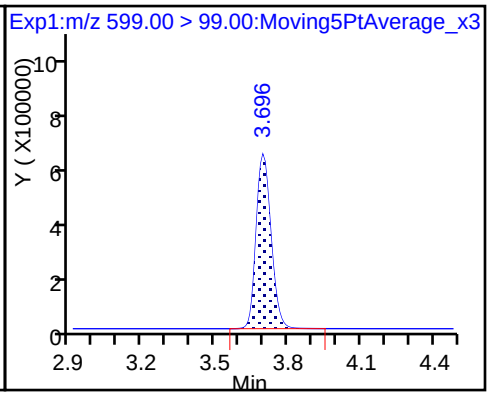
28 N-methyl perfluorooctane sulfonami



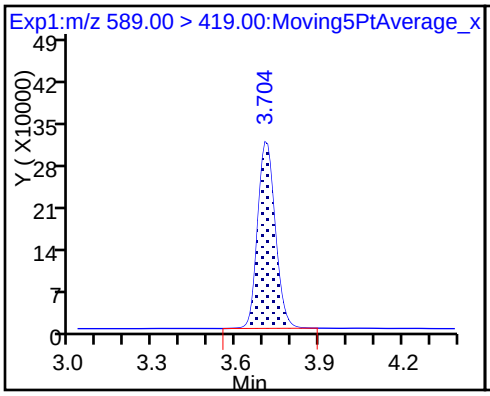
29 Perfluorodecane Sulfonic acid



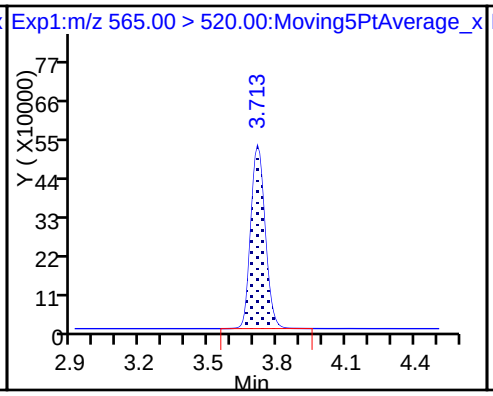
29 Perfluorodecane Sulfonic acid



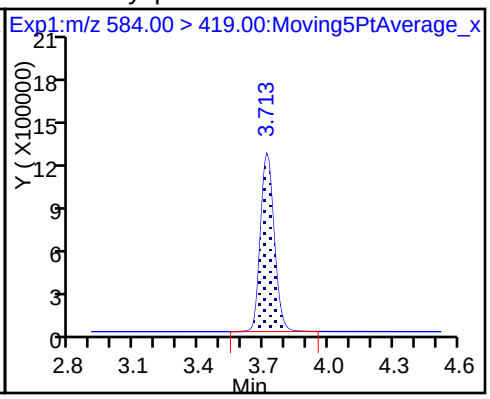
D 32 d5-NEtFOSAA



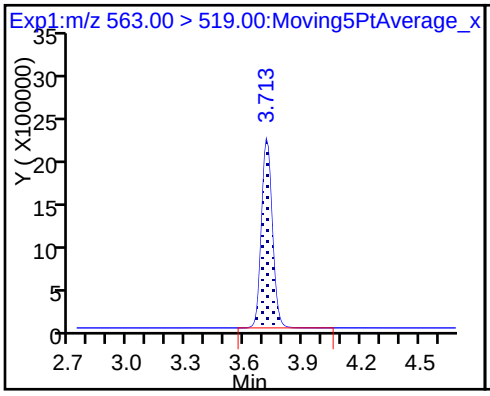
D 30 13C2 PFUnA



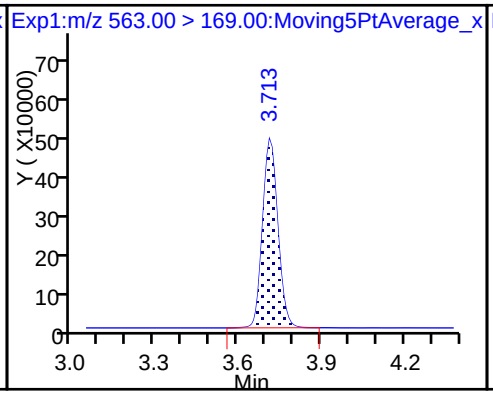
33 N-ethyl perfluorooctane sulfonamid



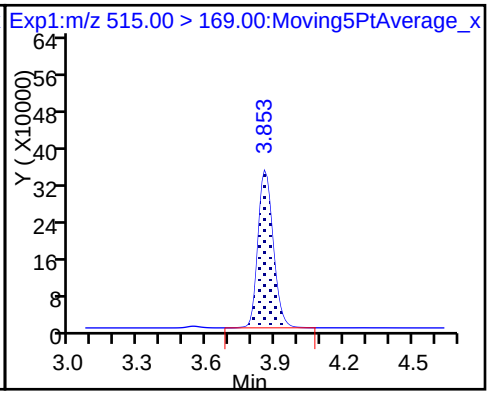
31 Perfluoroundecanoic acid



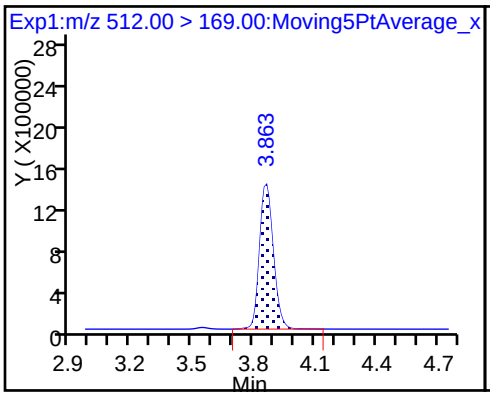
31 Perfluoroundecanoic acid



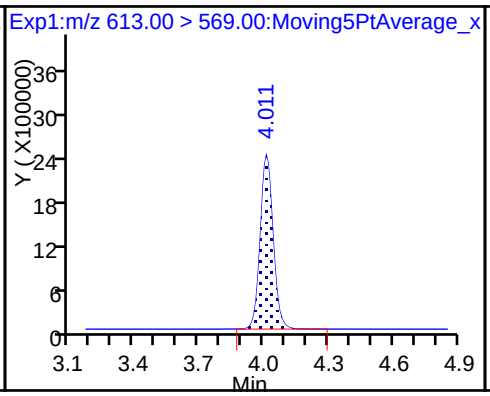
D 34 d-N-MeFOSA-M



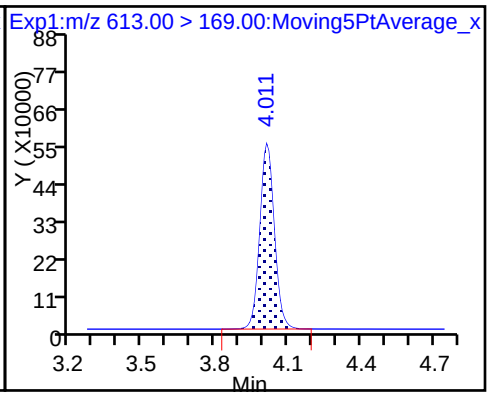
35 MeFOSA



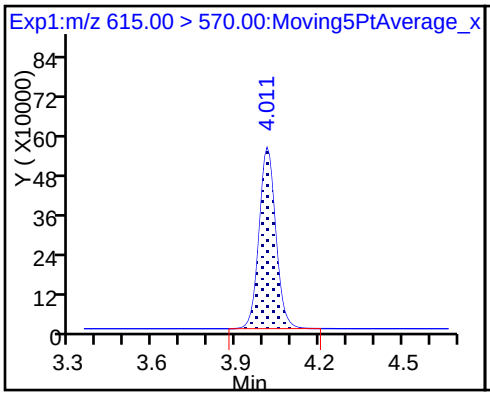
37 Perfluorododecanoic acid



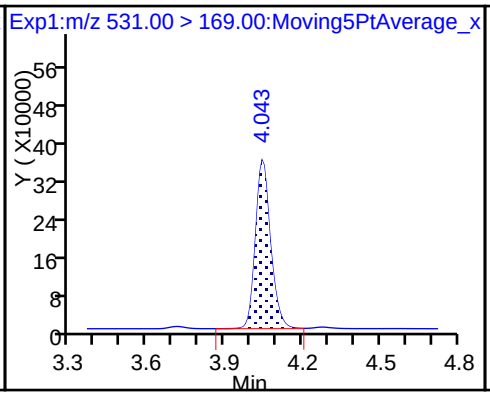
37 Perfluorododecanoic acid



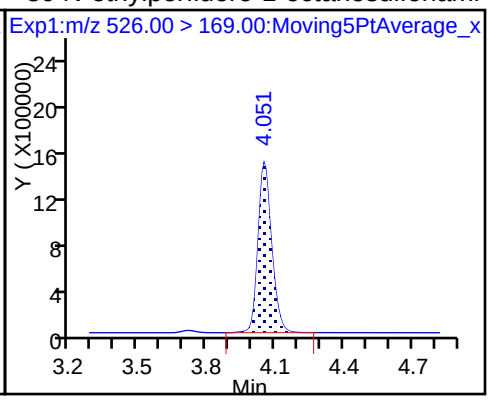
D 36 13C2 PFDoA



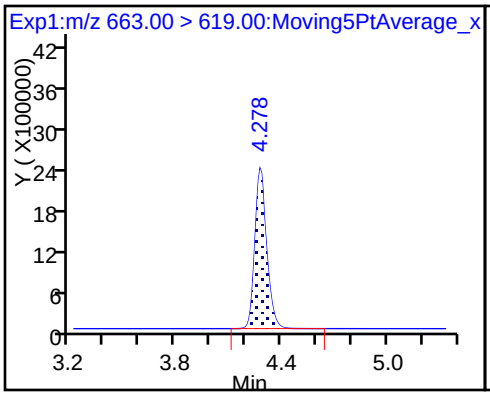
D 38 d-N-EtFOSA-M



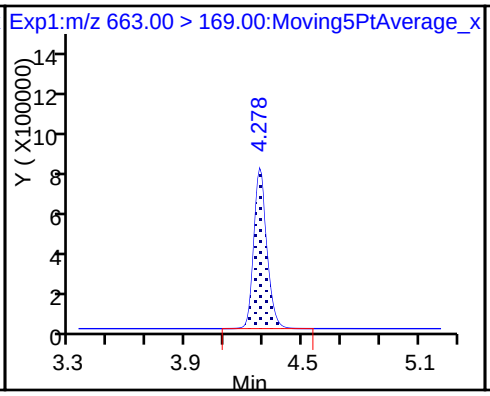
39 N-ethylperfluoro-1-octanesulfonami



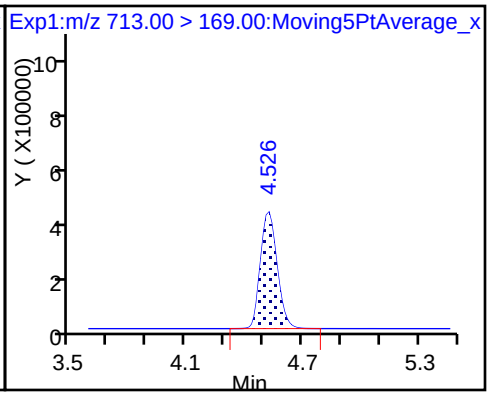
41 Perfluorotridecanoic acid



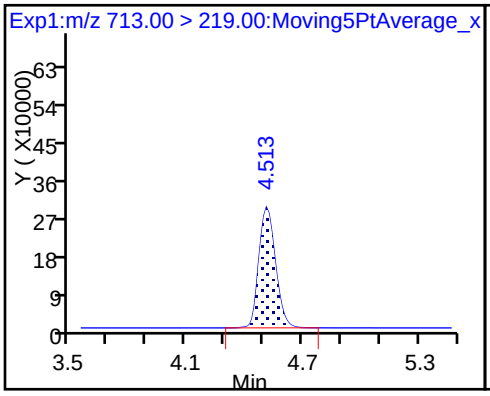
41 Perfluorotridecanoic acid



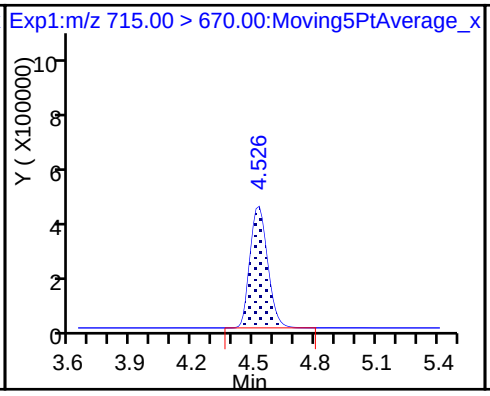
42 Perfluorotetradecanoic acid



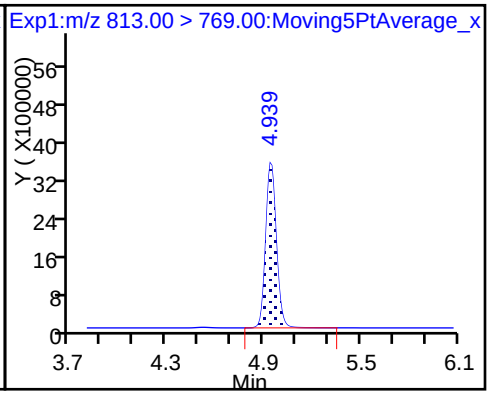
42 Perfluorotetradecanoic acid



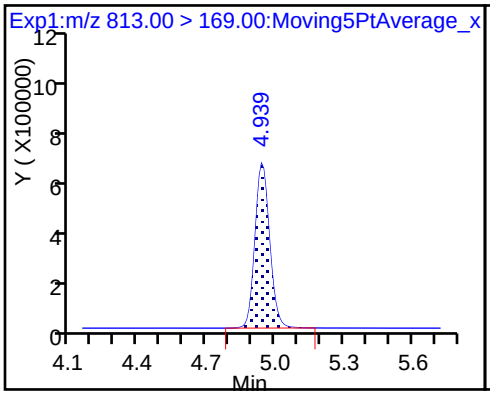
D 43 13C2-PFTeDA



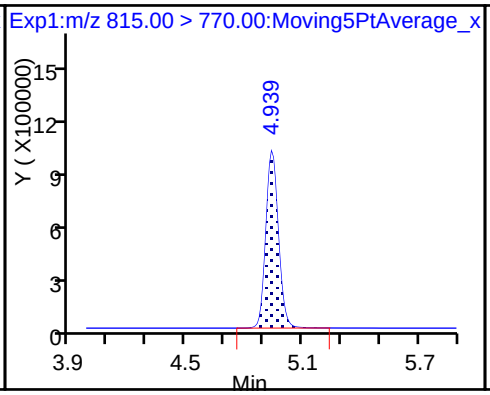
45 Perfluorohexadecanoic acid



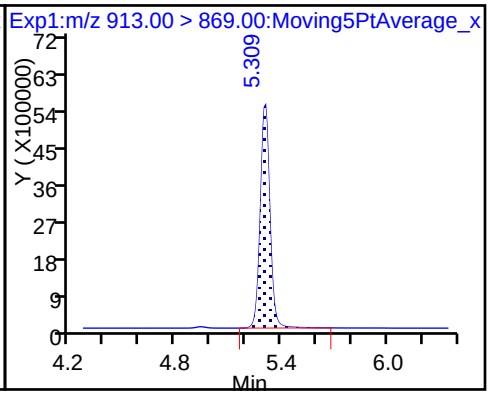
45 Perfluorohexadecanoic acid



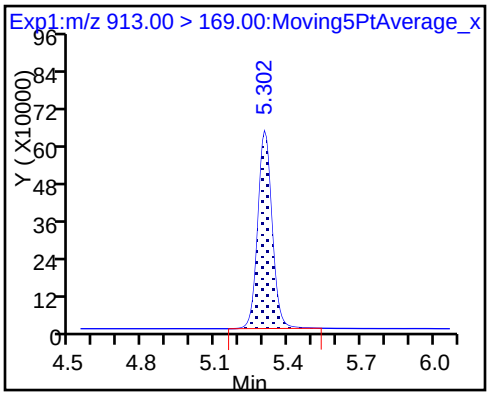
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_009.d
Lims ID: IC L8 Full
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 14-Dec-2017 16:47:46 ALS Bottle#: 17 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L8-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:26 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: phomsophat Date: 14-Dec-2017 19:12:09

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.402	1.406	-0.004	0.532	7576680	2.65		106	22500	
2 Perfluorobutyric acid										
212.90 > 169.00	1.408	1.408	0.0	1.004	49420094	18.1		90.4	10280	
D 3 13C5-PFPeA										
267.90 > 223.00	1.652	1.656	-0.004	0.627	4492210	2.67		107	63235	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.652	1.656	-0.004	1.000	35298554	17.7		88.3	43900	
D 47 13C3-PFBS										
301.90 > 83.00	1.688	1.690	-0.002	0.641	92842	2.57		110	4129	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.688	1.692	-0.004	1.000	41750244	14.3		80.6	77607	
298.90 > 99.00	1.688	1.692	-0.004	1.000	20645550		2.02(1.25-3.74)	80.6	93240	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.902	1.902	0.0	1.000	9085019	36.6		196	121742	
D 7 13C2 PFHxA										
315.00 > 270.00	1.933	1.938	-0.005	0.733	4721402	2.68		107	44443	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.933	1.939	-0.006	1.000	34026563	18.3		91.3	69678	
313.00 > 119.00	1.933	1.939	-0.006	1.000	3439397		9.89(5.03-15.10)	91.3	52203	
D 9 13C4-PFHpA										
367.00 > 322.00	2.265	2.272	-0.007	0.859	4292178	2.60		104	28246	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.265	2.273	-0.008	1.000	32023056	18.0		90.0	42961	
363.00 > 169.00	2.265	2.273	-0.008	1.000	13649857		2.35(1.13-3.40)	90.0	43755	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.278	2.285	-0.007	1.000	36510815	15.6		85.9	31321	
399.00 > 99.00	2.278	2.285	-0.007	1.000	13515753		2.70(1.50-4.49)	85.9	25832	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.278	2.286	-0.008	0.864	5004021	2.43		103	29816	
D 12 M2-6:2FTS										
429.00 > 81.00	2.621	2.625	-0.004	0.995	1261296	1.41		59.2	35948	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.621	2.625	-0.004	1.000	15935419	19.1		101	107013	
D 14 13C4 PFOA										
417.00 > 372.00	2.635	2.637	-0.002	1.000	4682422	2.35		93.9	36229	
* 62 13C2-PFOA										
415.00 > 370.00	2.635	2.638	-0.003		4887373	2.50			38172	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.635	2.640	-0.005	1.000	35409971	17.8		88.9	44570	
413.00 > 169.00	2.635	2.640	-0.005	1.000	21023060		1.68(0.84-2.52)	88.9	54501	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.642	2.644	-0.002	1.000	32947015	17.0		89.0	86332	
449.00 > 99.00	2.642	2.644	-0.002	1.000	10678132		3.09(1.94-5.82)	89.0	48110	
D 18 13C4 PFOS										
503.00 > 80.00	3.014	3.014	0.0	1.144	3149884	2.43		102	15750	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.014	3.015	-0.001	1.000	25482673	18.2		98.0	23212	
499.00 > 99.00	3.014	3.015	-0.001	1.000	5862733		4.35(2.31-6.93)	98.0	26688	
D 19 13C5 PFNA										
468.00 > 423.00	3.014	3.015	-0.001	1.144	3386319	2.56		103	38624	
20 Perfluorononanoic acid										
463.00 > 419.00	3.014	3.017	-0.003	1.000	24313505	18.0		90.1	49667	
463.00 > 169.00	3.014	3.017	-0.003	1.000	6790380		3.58(1.90-5.69)	90.1	42336	
D 21 13C8 FOSA										
506.00 > 78.00	3.353	3.354	-0.001	1.272	4829966	2.60		104	22985	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.353	3.356	-0.003	1.000	30528810	16.7		83.5	74596	
D 26 M2-8:2FTS										
529.00 > 81.00	3.361	3.368	-0.007	1.275	816414	2.74		115	18128	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.368	3.369	-0.001	1.002	7656436	18.5		96.3	62282	
D 23 13C2 PFDA										
515.00 > 470.00	3.376	3.379	-0.003	1.281	2949487	2.74		110	36614	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.376	3.379	-0.003	1.000	20700325	18.2		90.8	92858	
513.00 > 169.00	3.376	3.379	-0.003	1.000	4126611		5.02(2.36-7.09)	90.8	1928	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.535	3.535	0.0	1.341	1436387	2.80		112	19413	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.535	3.538	-0.003	1.000	11459094	19.1		95.5	31804	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.685	3.692	-0.007	1.000	14469714	18.5		95.9	51424	
599.00 > 99.00	3.685	3.692	-0.007	1.000	4901276		2.95(1.39-4.16)	95.9	33148	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.702	3.704	-0.002	1.405	1266524	2.48		99.0	4918	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.702	3.709	-0.007	1.405	2097264	2.56		102	20332	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.711	3.710	0.001	1.002	10058695	20.6		103	36064	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.711	3.711	0.0	1.002	14673943	19.3		96.4	59521	
563.00 > 169.00	3.711	3.711	0.0	1.002	3420905		4.29(0.00-0.00)	96.4	59304	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.851	3.850	0.001	1.461	1612541	2.96		118	4832	
35 MeFOSA										
512.00 > 169.00	3.851	3.856	-0.005	1.000	11928602	18.4		92.2	4273	
D 36 13C2 PFDoA										
615.00 > 570.00	4.001	4.008	-0.007	1.518	2218719	2.54		101	33467	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.001	4.008	-0.007	1.000	17150579	19.8		99.2	123268	
613.00 > 169.00	4.001	4.008	-0.007	1.000	4403492		3.89(2.13-6.40)	99.2	44186	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.032	4.039	-0.007	1.530	1397810	2.77		111	1568	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.040	4.047	-0.007	1.002	11827494	20.5		102	4077	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.266	4.275	-0.009	1.000	18102371	18.5		92.4	113781	
663.00 > 169.00	4.266	4.275	-0.009	1.000	6075985		2.98(1.25-3.76)	92.4	75851	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.517	4.519	-0.002	1.714	2324795	2.45		98.0	19582	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.517	4.519	-0.002	1.000	4839276	20.8		104	33905	
713.00 > 219.00	4.504	4.519	-0.015	0.997	3374353		1.43(0.71-2.13)	104	34112	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.935	-0.003	1.872	4484274	2.58		103	15251	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.935	-0.003	1.000	26731483	16.9		84.7	13633	
813.00 > 169.00	4.932	4.935	-0.003	1.000	5459208		4.90(2.86-8.58)	84.7	21640	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.297	5.299	-0.002	1.000	33026158	16.3		81.6	4656	
913.00 > 169.00	5.297	5.299	-0.002	1.000	4801792		6.88(0.00-0.00)	81.6	3931	

Reagents:

LCPFC_LL8_00001 Amount Added: 1.00 Units: mL

Report Date: 15-Dec-2017 09:54:27 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_009.d

Injection Date: 14-Dec-2017 16:47:46 Instrument ID: A8_N

Lims ID: IC L8 Full

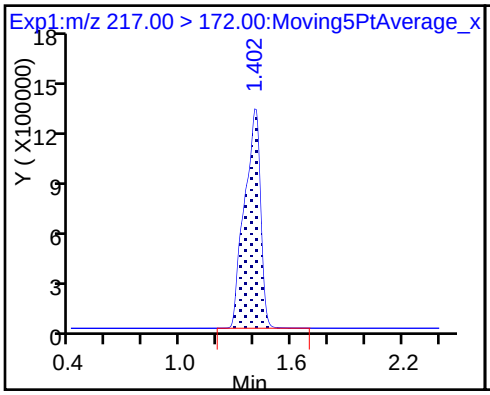
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Operator ID: SACINSTLCMS01 ALS Bottle#: 17 Worklist Smp#: 9

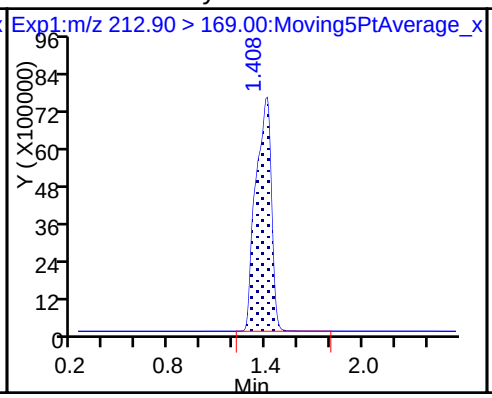
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

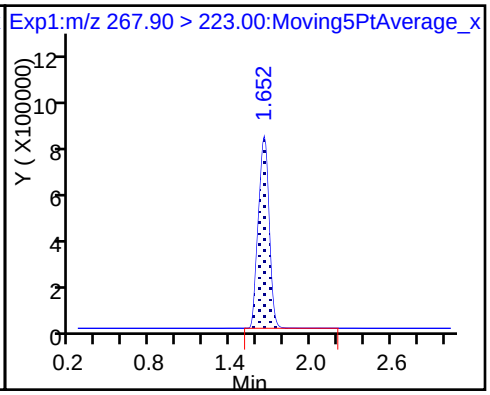
D 1 13C4 PFBA



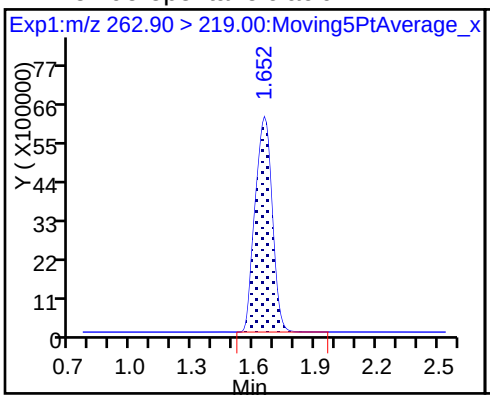
2 Perfluorobutyric acid



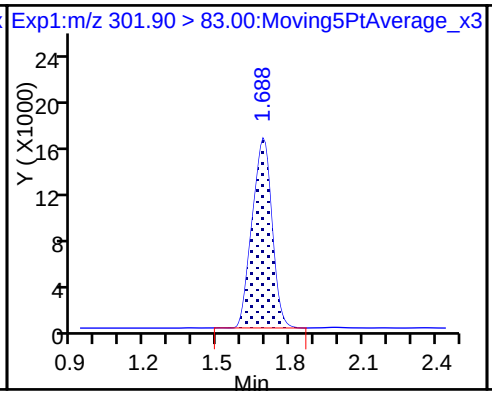
D 3 13C5-PFPeA



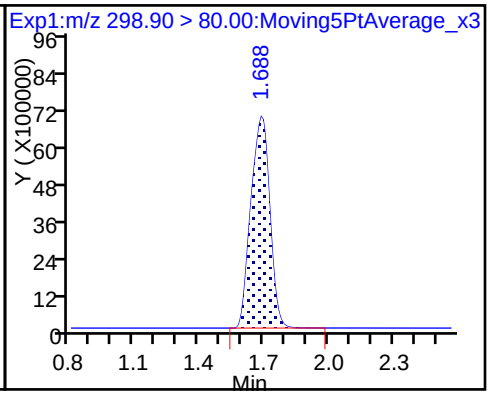
4 Perfluoropentanoic acid



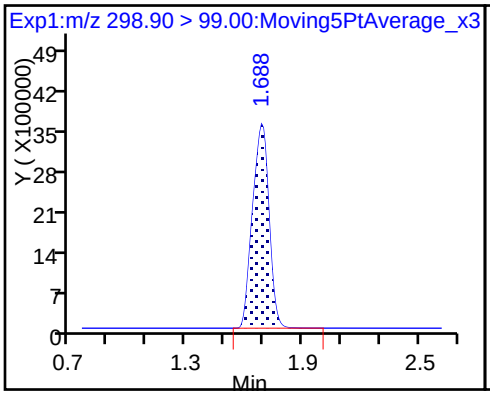
D 47 13C3-PFBS



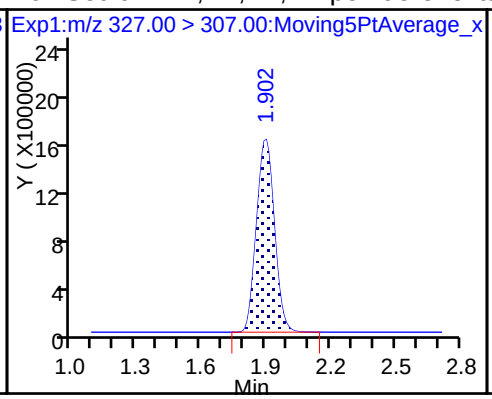
5 Perfluorobutanesulfonic acid



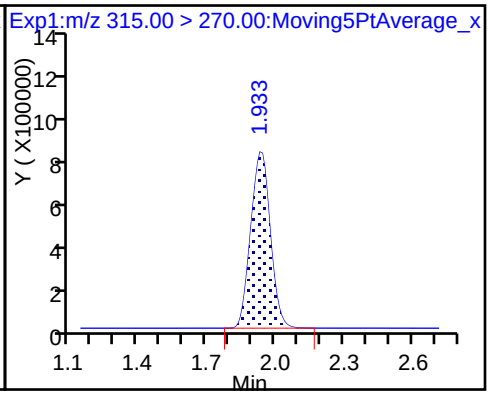
5 Perfluorobutanesulfonic acid



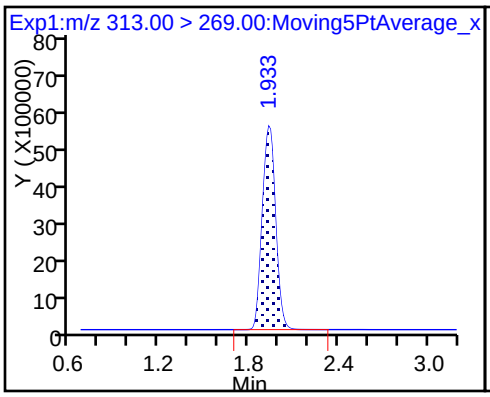
61 Sodium 1H,1H,2H,2H-perfluorohexa



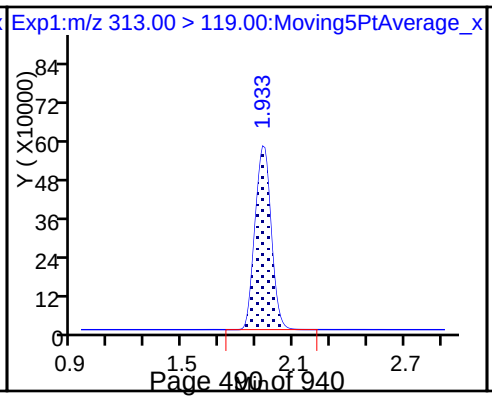
D 7 13C2 PFHxA



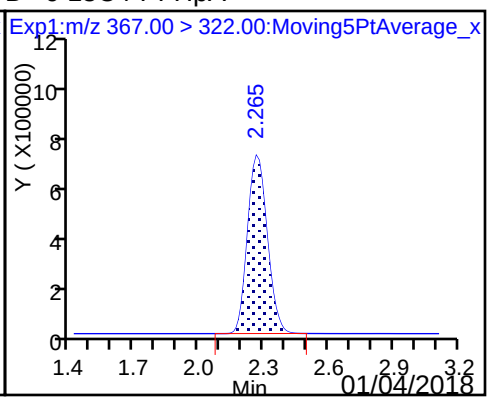
6 Perfluorohexanoic acid



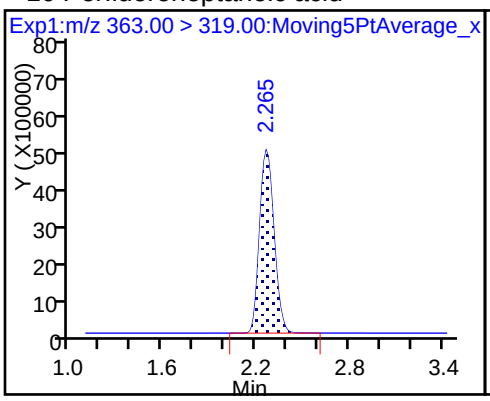
6 Perfluorohexanoic acid



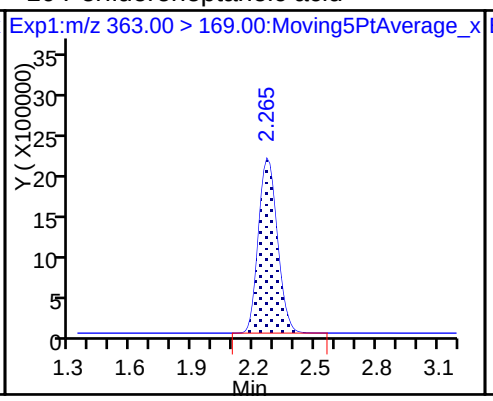
D 9 13C4-PFHpA



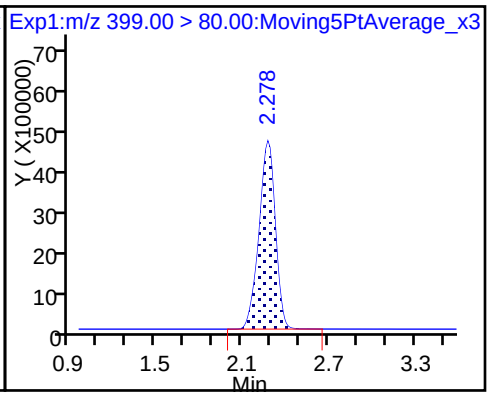
10 Perfluoroheptanoic acid



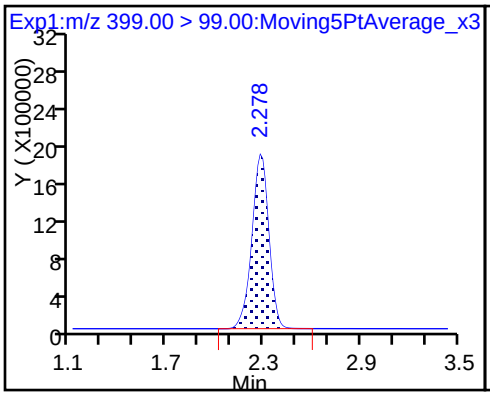
10 Perfluoroheptanoic acid



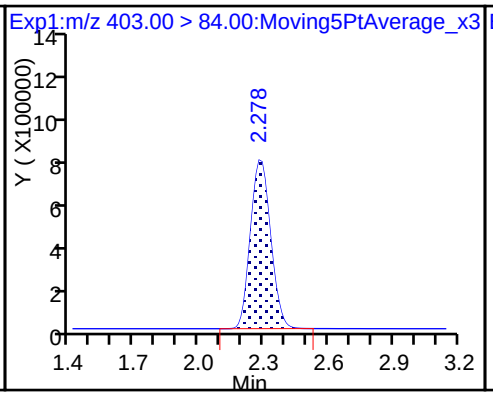
8 Perfluorohexanesulfonic acid



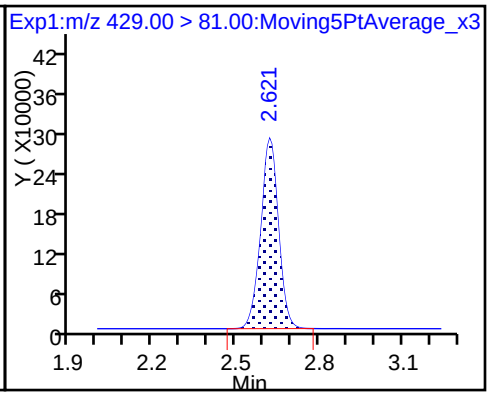
8 Perfluorohexanesulfonic acid



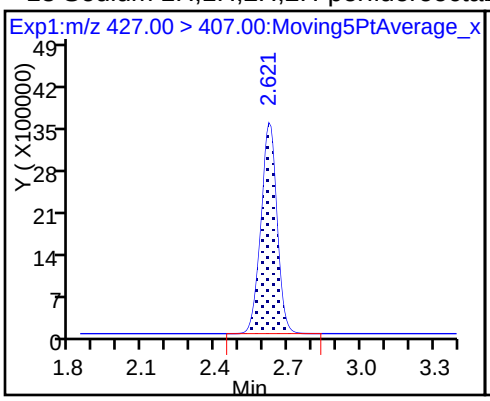
D 11 18O2 PFHxS



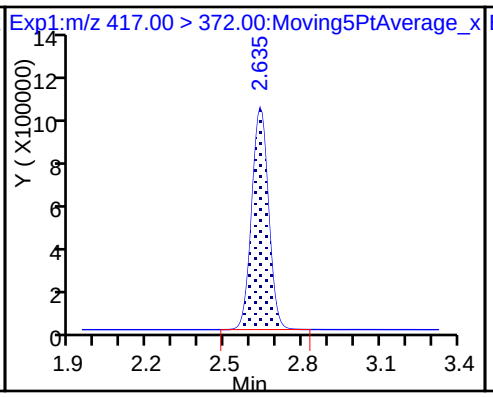
D 12 M2-6:2FTS



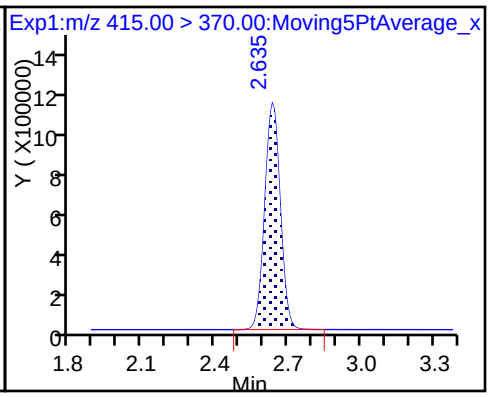
13 Sodium 1H,1H,2H,2H-perfluorooctane



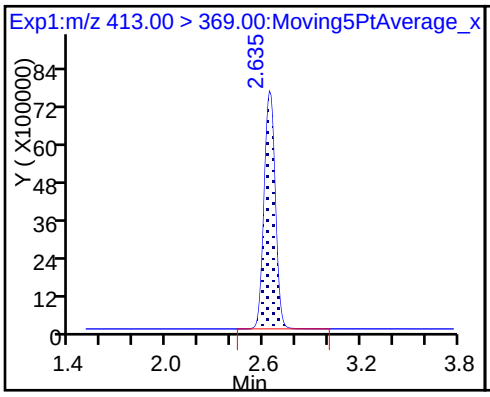
D 14 13C4 PFOA



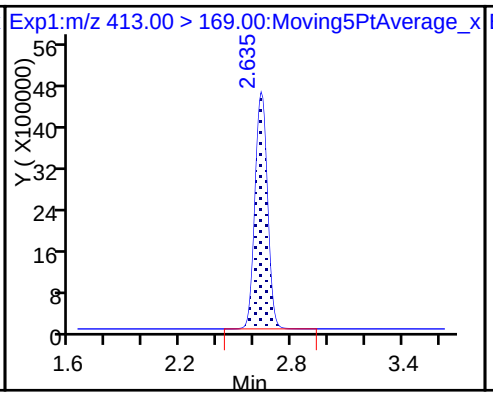
* 62 13C2-PFOA



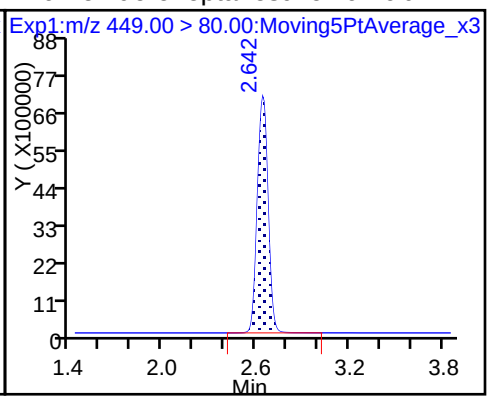
15 Perfluorooctanoic acid



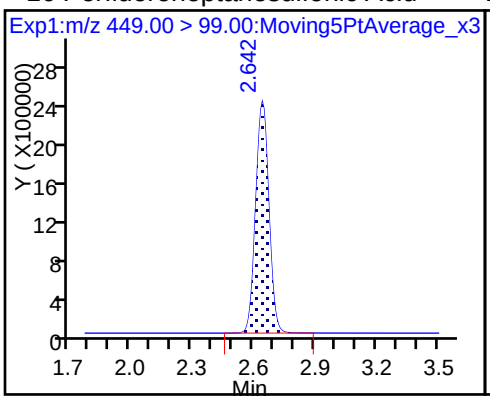
15 Perfluorooctanoic acid



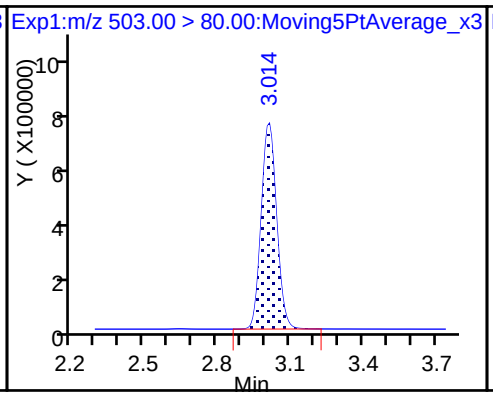
16 Perfluoroheptanesulfonic Acid



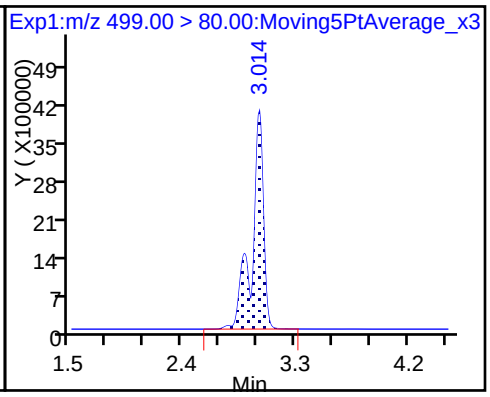
16 Perfluoroheptanesulfonic Acid



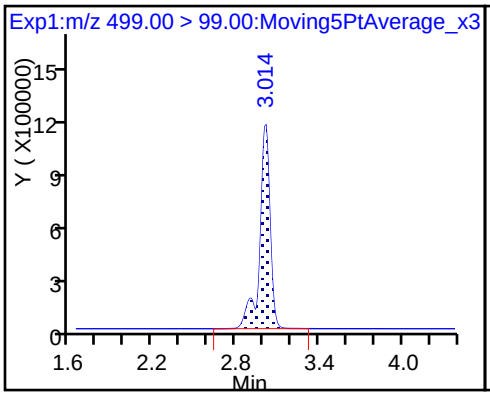
D 18 13C4 PFOS



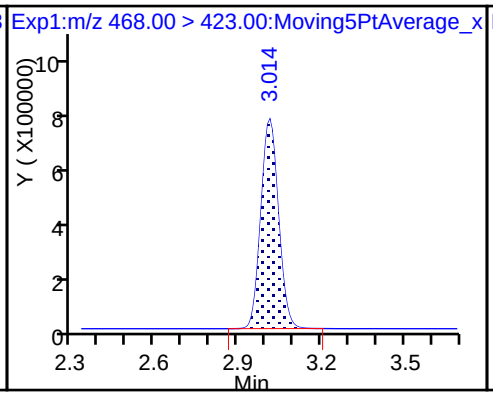
17 Perfluorooctane sulfonic acid



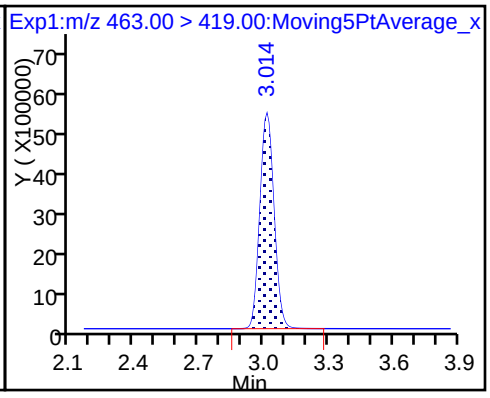
17 Perfluorooctane sulfonic acid



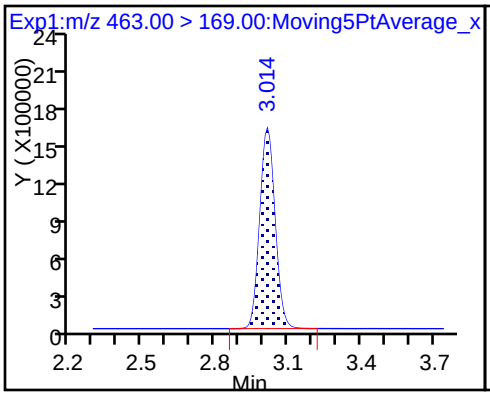
D 19 13C5 PFNA



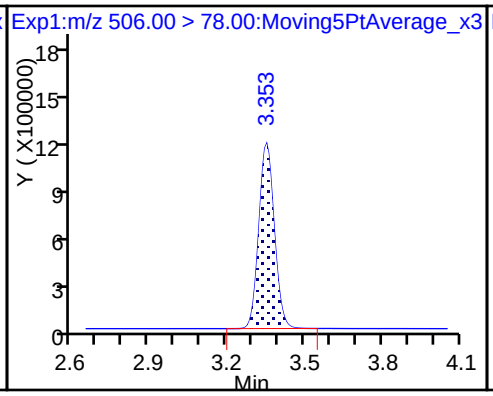
20 Perfluorononanoic acid



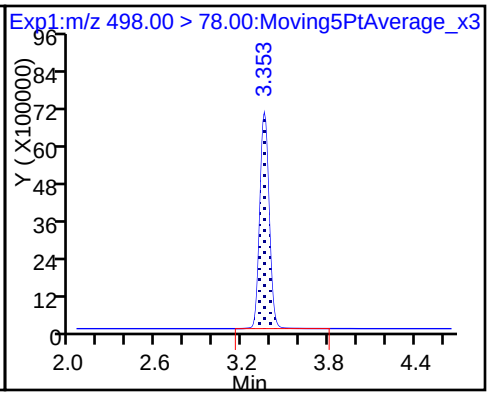
20 Perfluorononanoic acid



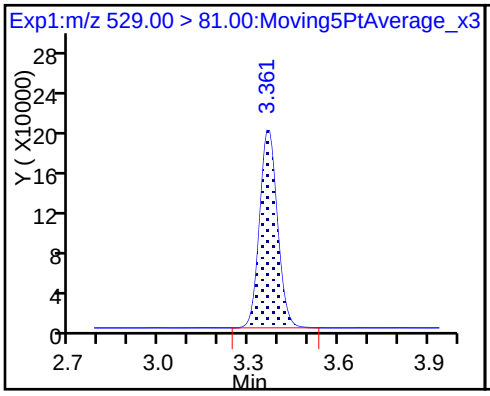
D 21 13C8 FOSA



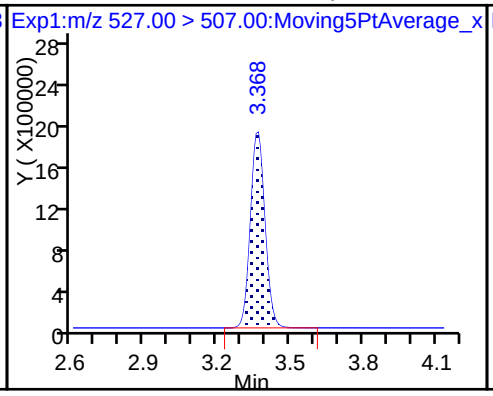
22 Perfluorooctane Sulfonamide



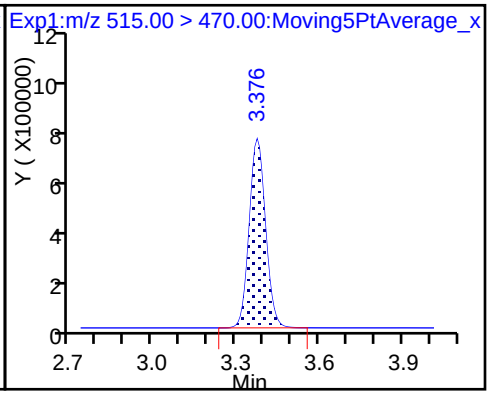
D 26 M2-8:2FTS



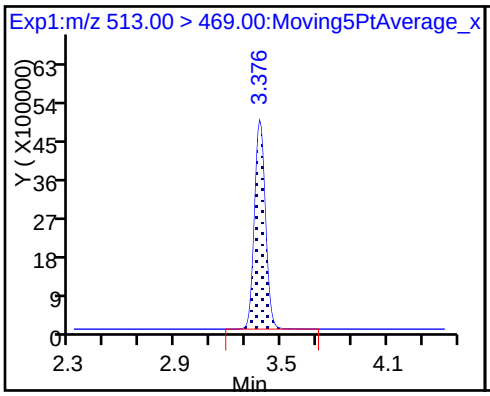
25 Sodium 1H,1H,2H,2H-perfluorodecane



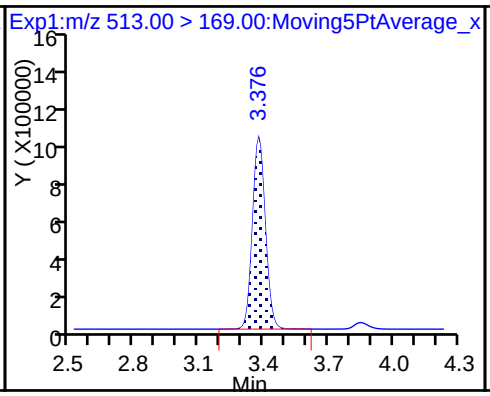
D 23 13C2 PFDA



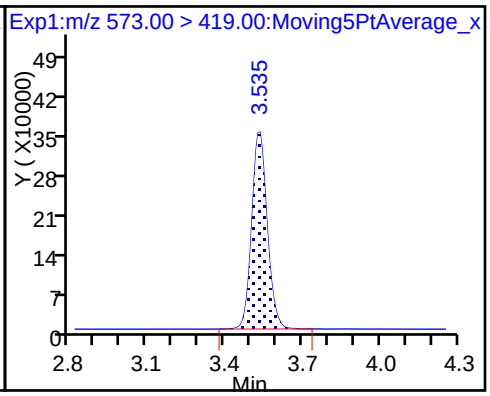
24 Perfluorodecanoic acid



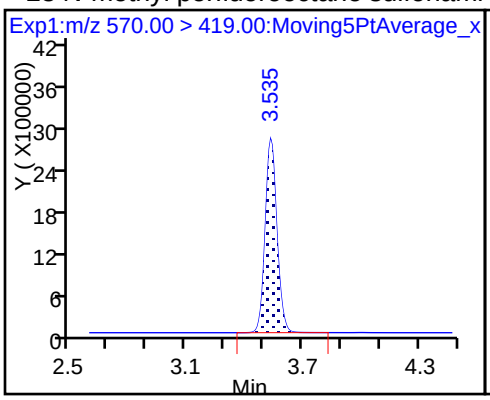
24 Perfluorodecanoic acid



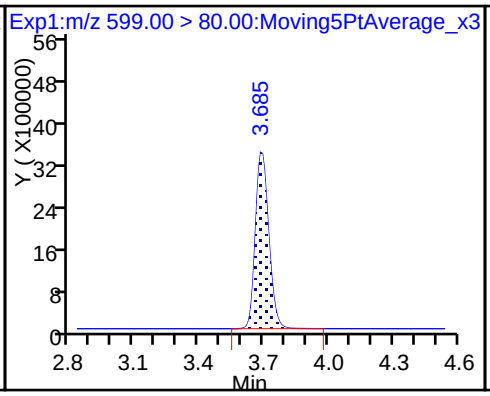
D 27 d3-NMeFOSAA



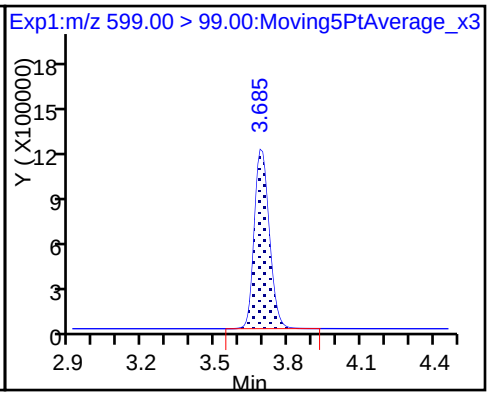
28 N-methyl perfluorooctane sulfonami



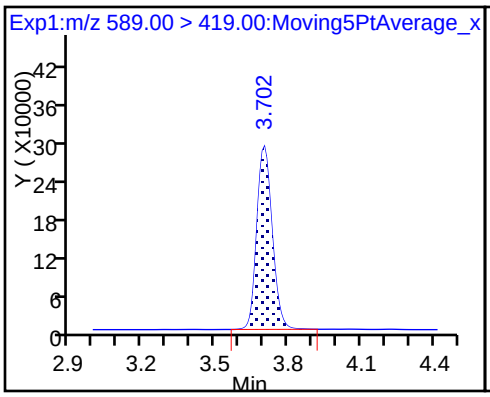
29 Perfluorodecane Sulfonic acid



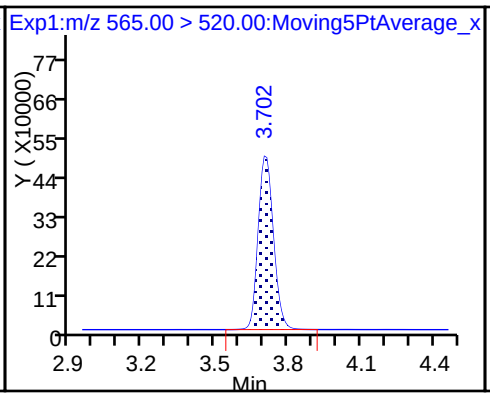
29 Perfluorodecane Sulfonic acid



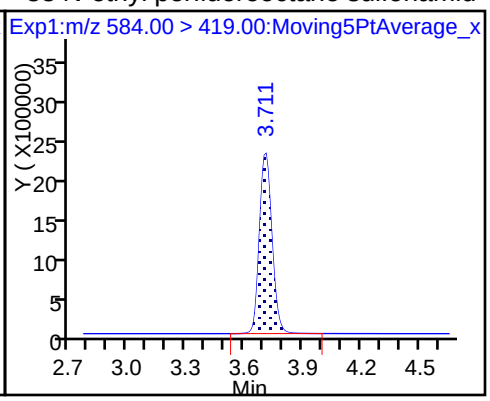
D 32 d5-NEtFOSAA



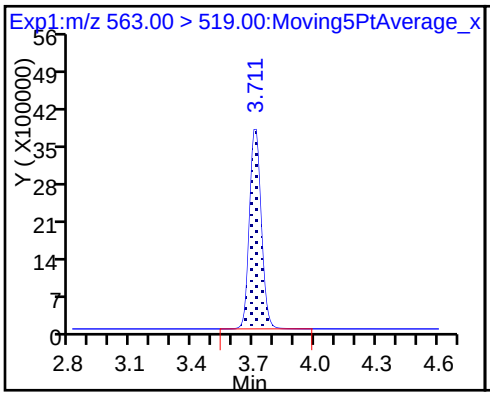
D 30 13C2 PFUnA



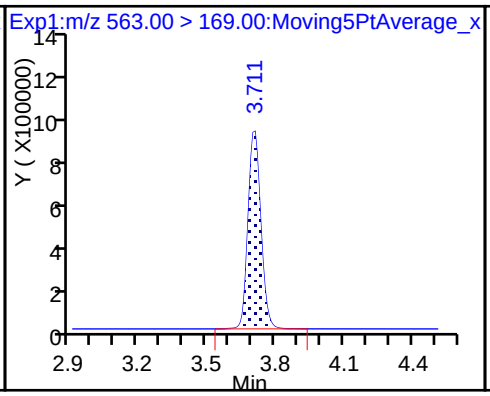
33 N-ethyl perfluorooctane sulfonamid



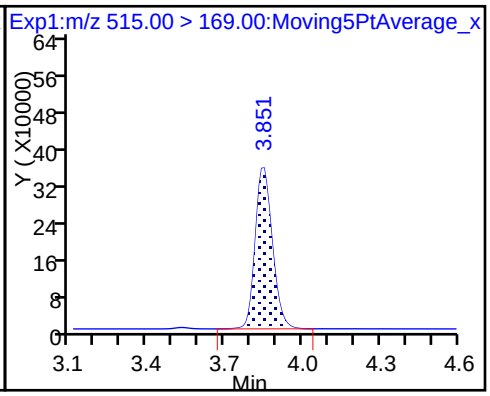
31 Perfluoroundecanoic acid



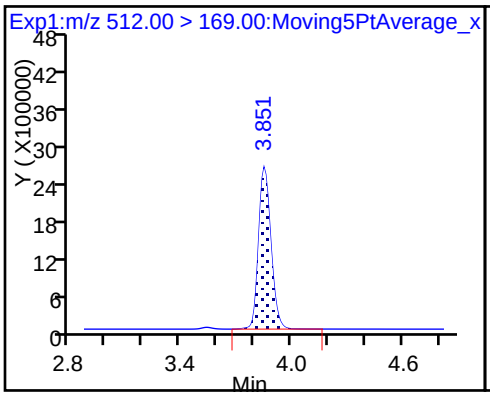
31 Perfluoroundecanoic acid



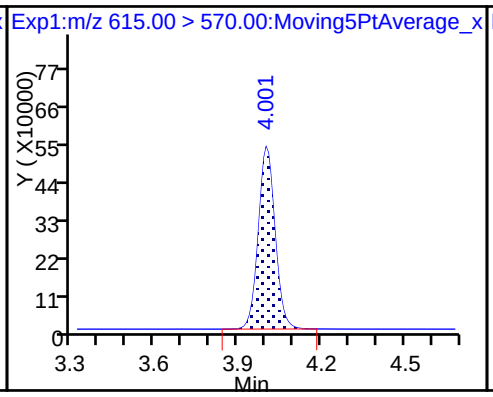
D 34 d-N-MeFOSA-M



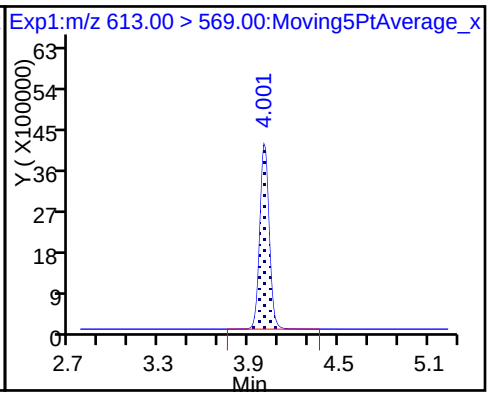
35 MeFOSA



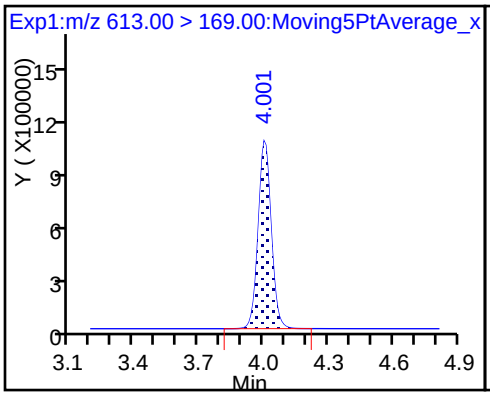
D 36 13C2 PFDoA



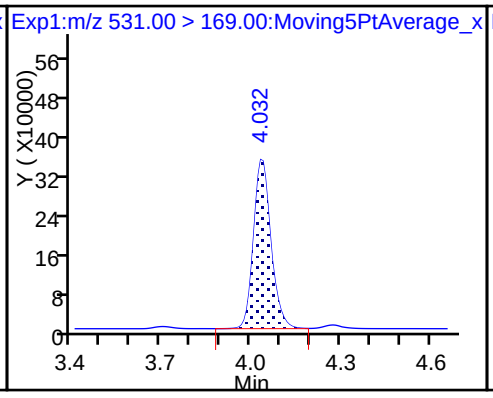
37 Perfluorododecanoic acid



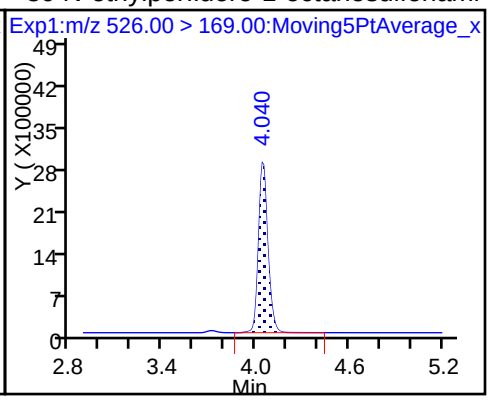
37 Perfluorododecanoic acid



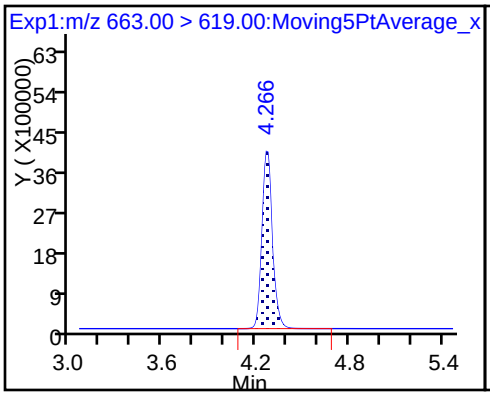
D 38 d-N-EtFOSA-M



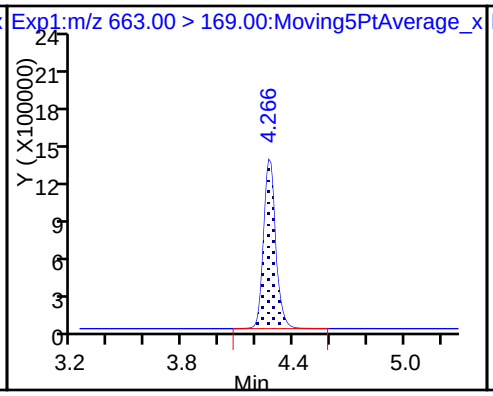
39 N-ethylperfluoro-1-octanesulfonami



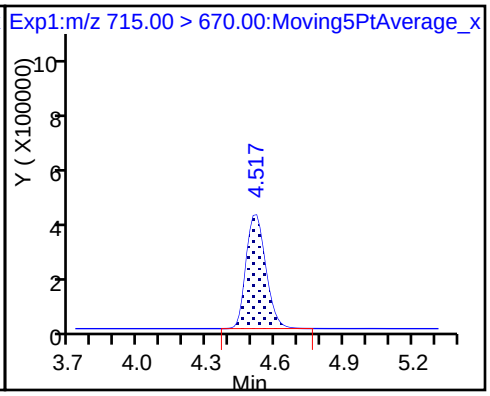
41 Perfluorotridecanoic acid



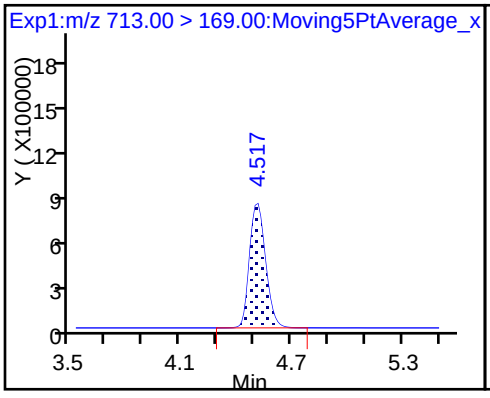
41 Perfluorotridecanoic acid



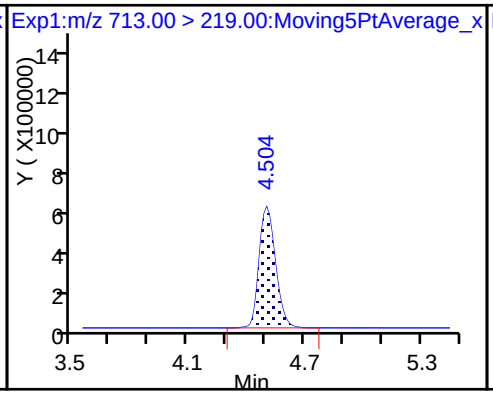
D 43 13C2-PFTeDA



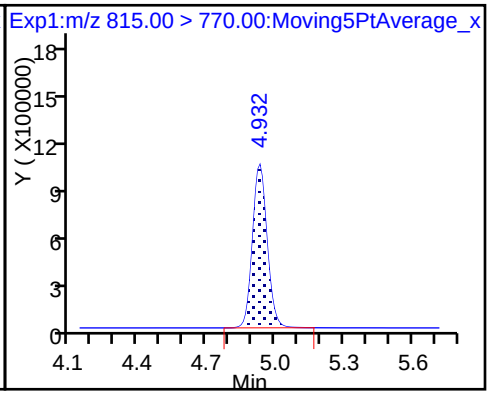
42 Perfluorotetradecanoic acid



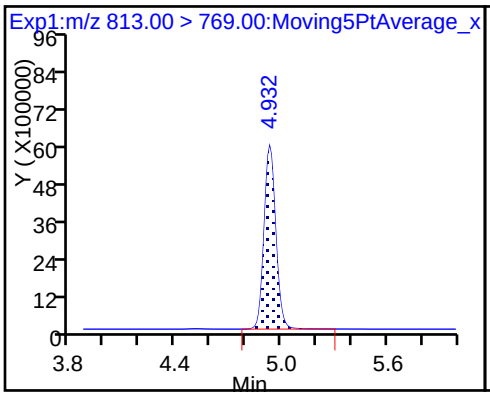
42 Perfluorotetradecanoic acid



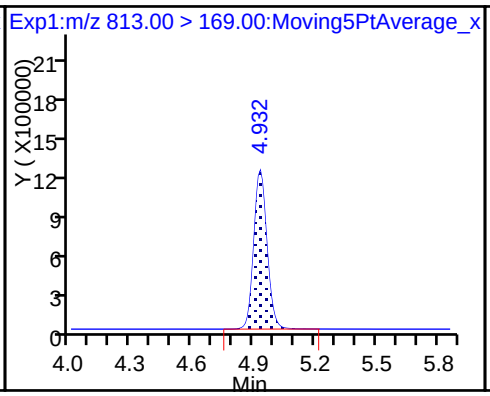
D 44 13C2-PFHxDA



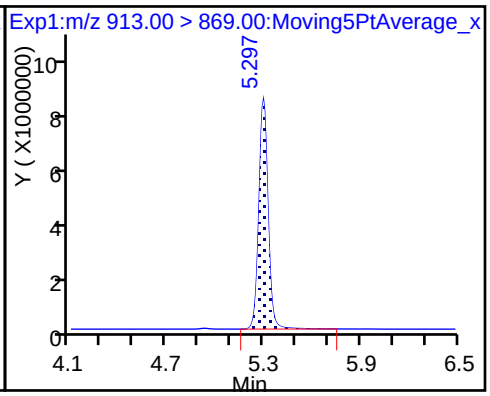
45 Perfluorohexadecanoic acid



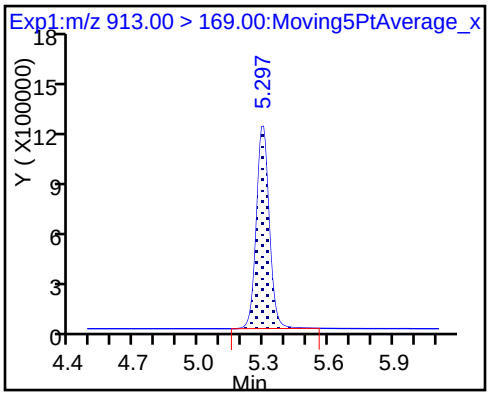
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d
Lims ID: IC M2-4:2FTS
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Dec-2017 16:55:37 ALS Bottle#: 22 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: M2:4-2FTS Calibration Std
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:54:29 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: hannigana Date: 15-Dec-2017 08:19:25

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 60 M2-4:2FTS										
329.00 > 81.00	1.918	1.918	0.0	0.727	520857	2.34		100	22709	
* 62 13C2-PFOA										
415.00 > 370.00	2.640	2.638	0.002		5732940	2.50			55983	

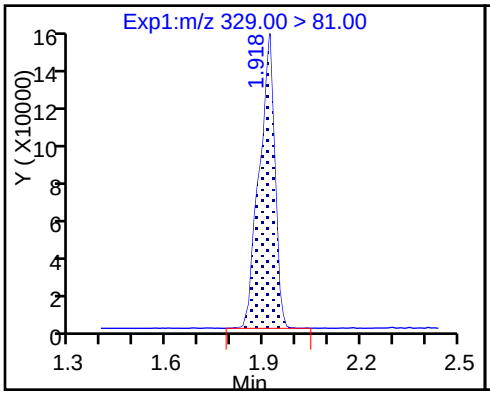
Reagents:

LCM2-4:2LLIC_00002 Amount Added: 1.00 Units: mL

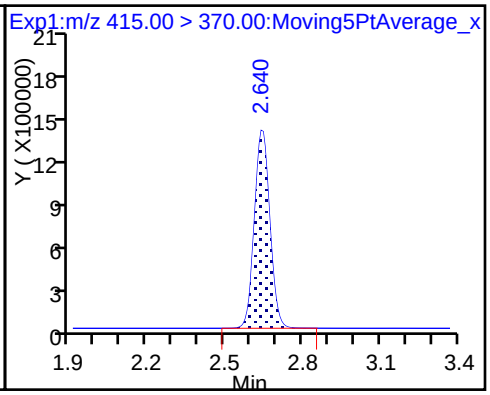
TestAmerica Sacramento

Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d				
Injection Date:	14-Dec-2017 16:55:37	Instrument ID:	A8_N		
Lims ID:	IC M2-4:2FTS				
Client ID:					
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

D 60 M2-4:2FTS



* 62 13C2-PFOA



FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 200596

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/19/2017 13:49 Calibration End Date: 12/19/2017 14:52 Calibration ID: 36914

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-200596/2	2017.12.19ICALX_002.d
Level 2	IC 320-200596/3	2017.12.19ICALX_003.d
Level 3	IC 320-200596/4	2017.12.19ICALX_004.d
Level 4	IC 320-200596/5	2017.12.19ICALX_005.d
Level 5	IC 320-200596/10	2017.12.19ICALX_010.d
Level 6	IC 320-200596/6	2017.12.19ICALX_006.d
Level 7	IC 320-200596/7	2017.12.19ICALX_007.d
Level 8	IC 320-200596/8	2017.12.19ICALX_008.d
Level 9	IC 320-200596/9	2017.12.19ICALX_009.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Perfluorobutanoic acid (PFBA)	0.9015 0.9553	0.9022 0.9470	0.9202 0.9111	0.9393 0.8221		AveID		0.9123				4.6		35.0			
Perfluoropentanoic acid (PFPeA)	1.1552 1.0952	1.1148 1.1196	1.1328 1.0715	1.1158 1.0386		AveID		1.1054				3.3		35.0			
Perfluorobutanesulfonic acid (PFBS)	69.908 77.851	74.923 79.901	79.232 75.382	78.135 62.708		AveID		74.755				7.8		50.0			
4:2 FTS	+++++ 0.5820	0.6289 0.6797	0.6694 +++++	0.5828 +++++		AveID		0.6286				7.4		50.0			
Perfluorohexanoic acid (PFHxA)	0.9877 0.9868	1.0346 1.0371	1.0452 1.0081	0.9903 0.9089		AveID		0.9999				4.4		35.0			
Perfluoroheptanoic acid (PFHpA)	1.0301 1.0386	1.1065 1.0708	1.0484 1.0077	0.9957 0.9392		AveID		1.0296				4.9		35.0			
Perfluorohexanesulfonic acid (PFHxS)	1.2918 1.0642	1.1957 1.0496	1.0552 1.0308	1.0341 0.9739		AveID		1.0869				9.5		35.0			
6:2FTS	+++++ 1.6729	1.4764 1.6053	1.6010 1.6456	1.6683 1.5476		AveID		1.6024				4.4		35.0			
Perfluorooctanoic acid (PFOA)	1.1791 1.0568	1.1214 1.0829	1.0788 1.0044	1.0272 0.8916		AveID		1.0553				8.1		35.0			
Perfluoroheptanesulfonic Acid (PFHpS)	1.3836 1.5153	1.4076 1.5182	1.4544 1.4316	1.5273 1.2721		AveID		1.4387				6.0		50.0			
Perfluorooctanesulfonic acid (PFOS)	1.0231 1.0331	1.1217 1.0632	1.0443 1.0839	1.1082 1.0291		AveID		1.0633				3.5		35.0			
Perfluorononanoic acid (PFNA)	0.8942 1.0139	0.9706 0.9932	0.9982 0.9713	1.0019 0.9095		AveID		0.9691				4.6		35.0			
Perfluorooctane Sulfonamide (FOSA)	0.9149 0.9863	0.9788 0.9608	0.9697 0.9131	1.0404 0.7996		AveID		0.9454				7.6		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 200596

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/19/2017 13:49 Calibration End Date: 12/19/2017 14:52 Calibration ID: 36914

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
8:2FTS	1.3886 1.2569	0.9648 1.2329	1.2134 1.2490	1.2624 1.1591		AveID		1.2159				9.9		35.0			
Perfluorodecanoic acid (PFDA)	0.9639 0.9602	1.0470 1.0610	1.0309 0.9927	0.9597 0.9041		AveID		0.9899				5.4		35.0			
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.8946 1.0253	1.0087 1.1189	0.9969 1.0935	1.0545 1.0533		AveID		1.0307				6.7		35.0			
Perfluorodecanesulfonic acid (PFDS)	0.5582 0.6067	0.5398 0.5791	0.6056 0.6146	0.6191 0.5647		AveID		0.5860				5.0		50.0			
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.9865 0.9456	0.9481 1.0214	0.9915 0.9984	0.9359 0.9682		AveID		0.9745				3.1		35.0			
Perfluoroundecanoic acid (PFUnA)	0.8626 0.8769	0.9907 0.9348	0.8598 0.9452	0.8625 0.9053		AveID		0.9047				5.3		35.0			
MeFOSA	1.0135 1.0043	0.9235 0.9910	1.0030 0.9822	0.9861 0.9526		AveID		0.9820				3.1		50.0			
Perfluorododecanoic acid (PFDoA)	0.8690 0.9521	1.0150 0.9874	0.9967 0.9999	0.9377 0.9235		AveID		0.9602				5.1		35.0			
N-EtFOSA-M	0.9734 1.0847	1.0369 1.0498	1.0661 1.1144	1.0573 1.0475		AveID		1.0538				3.9		35.0			
Perfluorotridecanoic Acid (PFTriA)	0.9377 1.1277	1.2774 1.1628	1.1713 1.1943	1.2299 1.0680		AveID		1.1462				9.2		50.0			
Perfluorotetradecanoic acid (PFTeA)	+++++ 0.2526	0.3130 0.2310	0.2383 0.2514	0.2311 0.2534		AveID		0.2530				11.2		50.0			
Perfluoro-n-hexadecanoic acid (PFHxDA)	1.7184 0.8822	1.2777 0.9241	0.9553 0.8514	0.9220 0.8161		L2ID	0.0211	0.8704							0.9980		0.9900
Perfluoro-n-octadecanoic acid (PFODA)	1.1693 1.1074	1.1028 1.1404	1.1304 1.0747	1.1675 1.0014		AveID		1.1117				5.0		50.0			
13C4 PFBA	1.4331 1.4437	1.4136 1.4813	1.4461 1.5449	1.4461 1.5861		Ave		1.4744				4.1		50.0			
13C5 PFPeA	0.8497 0.8559	0.8367 0.8730	0.8570 0.9312	0.8579 0.8851		Ave		0.8683				3.4		50.0			
13C3-PFBS	0.0181 0.0184	0.0176 0.0180	0.0178 0.0186	0.0182 0.0200		Ave		0.0184				4.1		50.0			
M2-4:2FTS					0.0960	Ave		0.0960						50.0			
13C2 PFHxA	0.9199 0.9282	0.8892 0.8959	0.9339 0.9281	0.9008 0.9712		Ave		0.9209				2.9		50.0			
13C4-PFHpA	0.8628 0.8761	0.8218 0.8520	0.8632 0.8600	0.8809 0.8718		Ave		0.8611				2.1		50.0			
18O2 PFHxS	1.0852 1.0714	1.0079 1.0824	1.0482 1.0900	1.0490 1.0937		Ave		1.0660				2.7		50.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 200596

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/19/2017 13:49 Calibration End Date: 12/19/2017 14:52 Calibration ID: 36914

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
M2-6:2FTS	+++++ 0.4037	0.3605 0.3562	0.3758 0.3135	0.3977 0.2952		Ave		0.3575				11.4		50.0			
13C4 PFOA	1.0603 1.0466	1.0232 1.0020	1.0496 1.0156	1.0601 1.0172		Ave		1.0343				2.2		50.0			
13C4 PFOS	0.6862 0.6929	0.6641 0.6919	0.6859 0.7009	0.6535 0.7100		Ave		0.6857				2.7		50.0			
13C5 PFNA	0.7042 0.6864	0.7002 0.7037	0.6839 0.6998	0.6934 0.6883		Ave		0.6950				1.2		50.0			
13C8 FOSA	0.9493 0.9583	0.9367 0.9987	0.9611 0.9989	0.9222 1.0286		Ave		0.9692				3.7		50.0			
M2-8:2FTS	0.1450 0.1485	0.1417 0.1524	0.1497 0.1604	0.1474 0.1744		Ave		0.1524				6.9		50.0			
13C2 PFDA	0.5527 0.5666	0.5160 0.5410	0.5381 0.5749	0.5554 0.6039		Ave		0.5561				4.8		50.0			
d3-NMeFOSAA	0.2558 0.2553	0.2387 0.2547	0.2570 0.2674	0.2466 0.2754		Ave		0.2564				4.4		50.0			
d5-NEtFOSAA	0.2648 0.2607	0.2628 0.2655	0.2728 0.2594	0.2647 0.2628		Ave		0.2642				1.5		50.0			
13C2 PFUnA	0.4455 0.4235	0.4250 0.4139	0.4378 0.4150	0.4179 0.4487		Ave		0.4284				3.2		50.0			
d-N-MeFOSA-M	0.2734 0.2758	0.2651 0.2856	0.2717 0.3111	0.2700 0.3320		Ave		0.2856				8.3		50.0			
13C2 PFDoA	0.4707 0.4657	0.4333 0.4575	0.4482 0.4604	0.4345 0.4726		Ave		0.4554				3.4		50.0			
d-N-EtFOSA-M	0.2578 0.2621	0.2554 0.2762	0.2598 0.2725	0.2649 0.3055		Ave		0.2693				6.0		50.0			
13C2-PFTeDA	0.4970 0.5044	0.4687 0.5335	0.5010 0.5022	0.4906 0.5020		Ave		0.4999				3.6		50.0			
13C2-PFHxDA	0.9083 0.9105	0.9077 0.8827	0.9718 0.9392	0.8971 0.8901		Ave		0.9134				3.2		50.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 200596

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/19/2017 13:49 Calibration End Date: 12/19/2017 14:52 Calibration ID: 36914

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-200596/2	2017.12.19ICALX_002.d
Level 2	IC 320-200596/3	2017.12.19ICALX_003.d
Level 3	IC 320-200596/4	2017.12.19ICALX_004.d
Level 4	IC 320-200596/5	2017.12.19ICALX_005.d
Level 5	IC 320-200596/10	2017.12.19ICALX_010.d
Level 6	IC 320-200596/6	2017.12.19ICALX_006.d
Level 7	IC 320-200596/7	2017.12.19ICALX_007.d
Level 8	IC 320-200596/8	2017.12.19ICALX_008.d
Level 9	IC 320-200596/9	2017.12.19ICALX_009.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorobutanoic acid (PFBA)		AveID	67369 6985160	144377 13930558	703888 26548797	2821318 44840507		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoropentanoic acid (PFPeA)		AveID	51179 4747490	105601 9706296	513532 18820570	1987989 31612741		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorobutanesulfonic acid (PFBS)		AveID	58213 6398952	132214 12660304	659935 23441647	2612762 38179710		0.0221 2.21	0.0442 4.42	0.221 8.84	0.884 17.7	
4:2 FTS		AveID	+++++ 1111568	23973 2245988	124291 +++++	449606 +++++		+++++ 2.34	0.0467 4.67	0.234 +++++	0.934 +++++	
Perfluorohexanoic acid (PFHxA)		AveID	47377 4639044	104149 9226958	516341 17647981	1852839 30357121		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroheptanoic acid (PFHpA)		AveID	46341 4608775	102944 9060136	478710 16346358	1821653 28158912		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorohexanesulfonic acid (PFHxS)		AveID	66518 5254822	124160 10266943	532411 19284178	2050186 33334637		0.0228 2.28	0.0455 4.55	0.228 9.10	0.910 18.2	
6:2FTS		AveID	+++++ 3242748	57123 5383701	301747 9226048	1306340 14896232		+++++ 2.37	0.0474 4.74	0.237 9.48	0.948 19.0	
Perfluorooctanoic acid (PFOA)		AveID	65189 5601727	129899 10775632	598949 19239952	2261585 31191958		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroheptanesulfonic Acid (PFHpS)		AveID	47129 5062494	100743 9931450	502339 18018452	1973433 29571411		0.0238 2.38	0.0476 4.76	0.238 9.52	0.952 19.0	
Perfluorooctanesulfonic acid (PFOS)		AveID	33971 3364664	78254 6779746	351610 13297551	1395770 23320498		0.0232 2.32	0.0464 4.64	0.232 9.28	0.928 18.6	
Perfluorononanoic acid (PFNA)		AveID	32833 3524751	76943 6940854	361090 12821895	1442772 21529958		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorooctane Sulfonamide (FOSA)		AveID	45285 4787240	103798 9529129	492964 17203787	1992747 28285440		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
8:2FTS		AveID	10055 905589	14826 1787258	92028 3619045	370147 6659575		0.0240 2.40	0.0479 4.79	0.240 9.58	0.958 19.2	

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 200596

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/19/2017 13:49 Calibration End Date: 12/19/2017 14:52 Calibration ID: 36914

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorodecanoic acid (PFDA)		AveID	27779 2755271	61166 5700271	293411 10764551	1107121 18776317		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)		AveID	11933 1325537	27259 2829832	135527 5515640	539973 9977075		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorodecanesulfonic acid (PFDS)		AveID	19255 2052718	39124 3836186	211803 7832547	809987 13292883		0.0241 2.41	0.0482 4.82	0.241 9.64	0.964 19.3	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)		AveID	13619 1248424	28202 2693423	143061 4885806	514570 8749077		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroundecanoic acid (PFUnA)		AveID	20040 1880868	47668 3841780	199098 7399053	748636 13970094		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
MeFOSA		AveID	14448 1402589	27718 2811041	144155 5764089	552863 10877094		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorododecanoic acid (PFDoA)		AveID	21329 2245868	49791 4485968	236298 8684016	846123 15009633		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-EtFOSA-M		AveID	13086 1439979	29982 2879633	146513 5727352	581634 11003965		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorotridecanoic Acid (PFTriA)		AveID	23015 2660160	62665 5283088	277680 10371752	1109855 17357694		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorotetradecanoic acid (PFTeA)		AveID	+++++ 645186	16609 1223852	63152 2381737	235504 4374315		+++++ 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoro-n-hexadecanoic acid (PFHxDA)		L2ID	81382 4068252	131306 8101018	491042 15082746	1718006 24984236		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoro-n-octadecanoic acid (PFODA)		AveID	55376 5106814	113331 9996738	581071 19039677	2175415 30655013		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
13C4 PFBA	13PF OA	Ave	7472680 7311843	8001774 7355179	7649594 7284910	7508732 6818391		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C5 PFPeA	13PF OA	Ave	4430409 4334778	4736120 4334896	4533335 4391093	4454277 3804913		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C3-PFBS	13PF OA	Ave	87604 86472	92825 83348	87626 81788	87948 80066		2.33 2.33	2.33 2.33	2.33 2.33	2.33 2.33	
M2-4:2FTS	13PF OA	Ave					475072					2.34
13C2 PFHxA	13PF OA	Ave	4796652 4700923	5033347 4448566	4939914 4376638	4677248 4174830		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C4-PFHpA	13PF OA	Ave	4498890 4437383	4651764 4230644	4566314 4055392	4573964 3747588		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
18O2 PFHxS	13PF OA	Ave	5353009 5133094	5397321 5084180	5245091 4862201	5152384 4447592		2.37 2.37	2.37 2.37	2.37 2.37	2.37 2.37	
M2-6:2FTS	13PF OA	Ave	+++++ 1942537	1938654 1680430	1888661 1404569	1961721 1205677		+++++ 2.38	2.38 2.38	2.38 2.38	2.38 2.38	
13C4 PFOA	13PF OA	Ave	5528930 5300755	5791760 4975177	5552147 4789140	5504352 4372959		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 200596

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/19/2017 13:49 Calibration End Date: 12/19/2017 14:52 Calibration ID: 36914

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
13C4 PFOS	13PF	Ave	3420569	3593528	3468553	3243880		2.39	2.39	2.39	2.39	
	OA		3355063	3284558	3159717	2918052		2.39	2.39	2.39	2.39	
13C5 PFNA	13PF	Ave	3671908	3963750	3617401	3600237		2.50	2.50	2.50	2.50	
	OA		3476402	3494198	3300159	2959030		2.50	2.50	2.50	2.50	
13C8 FOSA	13PF	Ave	4949840	5302458	5083811	4788315		2.50	2.50	2.50	2.50	
	OA		4853697	4959048	4710393	4421949		2.50	2.50	2.50	2.50	
M2-8:2FTS	13PF	Ave	724124	768343	758422	733017		2.40	2.40	2.40	2.40	
	OA		720508	724829	724404	718155		2.40	2.40	2.40	2.40	
13C2 PFDA	13PF	Ave	2881843	2920956	2846274	2883931		2.50	2.50	2.50	2.50	
	OA		2869540	2686341	2710997	2596124		2.50	2.50	2.50	2.50	
d3-NMeFOSAA	13PF	Ave	1333866	1351138	1359476	1280148		2.50	2.50	2.50	2.50	
	OA		1292860	1264588	1261010	1184070		2.50	2.50	2.50	2.50	
d5-NEtFOSAA	13PF	Ave	1380545	1487303	1442946	1374509		2.50	2.50	2.50	2.50	
	OA		1320310	1318455	1223362	1129527		2.50	2.50	2.50	2.50	
13C2 PFUnA	13PF	Ave	2323118	2405775	2315663	2169967		2.50	2.50	2.50	2.50	
	OA		2144953	2054939	1957040	1929003		2.50	2.50	2.50	2.50	
d-N-MeFOSA-M	13PF	Ave	1425491	1500693	1437196	1401657		2.50	2.50	2.50	2.50	
	OA		1396636	1418329	1467204	1427313		2.50	2.50	2.50	2.50	
13C2 PFDoA	13PF	Ave	2454348	2452859	2370716	2255928		2.50	2.50	2.50	2.50	
	OA		2358833	2271645	2171148	2031524		2.50	2.50	2.50	2.50	
d-N-EtFOSA-M	13PF	Ave	1344342	1445800	1374246	1375266		2.50	2.50	2.50	2.50	
	OA		1327593	1371563	1284795	1313148		2.50	2.50	2.50	2.50	
13C2-PFTeDA	13PF	Ave	2591360	2652860	2650112	2547162		2.50	2.50	2.50	2.50	
	OA		2554597	2649241	2368292	2157986		2.50	2.50	2.50	2.50	
13C2-PFHxDA	13PF	Ave	4735869	5138185	5140375	4658168		2.50	2.50	2.50	2.50	
	OA		4611374	4383102	4428998	3826545		2.50	2.50	2.50	2.50	

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution
L2ID = Linear 1/conc^2 IsoDil

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_002.d
Lims ID: IC L1 Full
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Dec-2017 13:49:50 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: RINSE
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:19:51 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 19-Dec-2017 17:09:09

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.406	1.411	-0.005	0.532	7472680	2.43		97.2	25323	
2 Perfluorobutyric acid										
212.90 > 169.00	1.406	1.412	-0.006	1.000	67369	0.0247		98.8	16.5	
D 3 13C5-PFPeA										
267.90 > 223.00	1.660	1.664	-0.004	0.628	4430409	2.45		97.9	44258	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.660	1.664	-0.004	1.000	51179	0.0261		105	74.0	M
D 47 13C3-PFBS										
301.90 > 83.00	1.695	1.699	-0.004	0.642	87604	2.29		98.4	4052	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.695	1.703	-0.008	1.000	58213	0.0207		93.5	430	
298.90 > 99.00	1.695	1.703	-0.008	1.000	24372		2.39(1.25-3.74)	93.5	232	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.899	1.909	-0.010	1.000	10112	0.0156		66.9	612	
D 7 13C2 PFHxA										
315.00 > 270.00	1.940	1.949	-0.009	0.734	4796652	2.50		99.9	41971	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.940	1.949	-0.009	1.000	47377	0.0247		98.8	110	M
313.00 > 119.00	1.940	1.949	-0.009	1.000	3837		12.35(5.03-15.10)	98.8	110	
D 9 13C4-PFHpA										
367.00 > 322.00	2.275	2.286	-0.011	0.861	4498890	2.50		100	27063	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.275	2.286	-0.011	1.000	46341	0.0250		100	103	
363.00 > 169.00	2.275	2.286	-0.011	1.000	19318		2.40(1.13-3.40)	100	140	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.288	2.299	-0.011	1.000	66518	0.0270		119	634	
399.00 > 99.00	2.288	2.299	-0.011	1.000	20777		3.20(1.50-4.49)	119	250	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.288	2.299	-0.011	0.866	5353009	2.41		102	25153	
D 12 M2-6:2FTS										
429.00 > 81.00	2.635	2.640	-0.005	0.997	2447052	3.28		138	72321	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.635	2.640	-0.005	1.000	36876	0.0223		94.2	689	
* 62 13C2-PFOA										
415.00 > 370.00	2.642	2.643	-0.001		5214252	2.50			41724	
D 14 13C4 PFOA										
417.00 > 372.00	2.642	2.647	-0.005	1.000	5528930	2.56		103	40523	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.649	2.649	0.0	1.003	65189	0.0279		112	92.8	
413.00 > 169.00	2.649	2.649	0.0	1.003	34918		1.87(0.84-2.52)	112	263	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.649	2.654	-0.005	1.000	47129	0.0229		96.2	1625	
449.00 > 99.00	2.649	2.654	-0.005	1.000	12715		3.71(1.94-5.82)	96.2	461	
D 18 13C4 PFOS										
503.00 > 80.00	3.023	3.025	-0.002	1.144	3420569	2.39		100	26383	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.023	3.025	-0.002	1.000	33971	0.0223		96.2	63.8	
499.00 > 99.00	3.023	3.025	-0.002	1.000	5660		6.00(2.31-6.93)	96.2	58.8	
D 19 13C5 PFNA										
468.00 > 423.00	3.023	3.026	-0.003	1.144	3671908	2.53		101	41586	
20 Perfluorononanoic acid										
463.00 > 419.00	3.023	3.026	-0.003	1.000	32833	0.0231		92.3	151	
463.00 > 169.00	3.023	3.026	-0.003	1.000	8201		4.00(1.90-5.69)	92.3	171	
D 21 13C8 FOSA										
506.00 > 78.00	3.361	3.362	-0.001	1.272	4949840	2.45		97.9	29104	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.361	3.365	-0.004	1.000	45285	0.0242		96.8	1111	
D 26 M2-8:2FTS										
529.00 > 81.00	3.369	3.375	-0.006	1.275	724124	2.28		95.1	14008	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.369	3.376	-0.007	1.000	10055	0.0274		114	517	
D 23 13C2 PFDA										
515.00 > 470.00	3.384	3.387	-0.003	1.281	2881843	2.48		99.4	28165	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.384	3.388	-0.004	1.000	27779	0.0243		97.4	214	
513.00 > 169.00	3.392	3.388	0.004	1.002	5121		5.42(2.36-7.09)	97.4	212	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.535	3.541	-0.006	1.338	1333866	2.49		99.8	15128	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.543	3.547	-0.004	1.002	11933	0.0217		86.8	105	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.695	3.701	-0.006	1.000	19255	0.0230		95.3	1550	
599.00 > 99.00	3.695	3.701	-0.006	1.000	5533		3.48(1.39-4.16)	95.3	279	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.703	3.711	-0.008	1.402	1380545	2.51		100	5860	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.712	3.717	-0.005	1.405	2323118	2.60		104	29574	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.712	3.718	-0.006	1.002	13619	0.0253		101	471	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.712	3.718	-0.006	1.000	20040	0.0238		95.3	169	
563.00 > 169.00	3.712	3.718	-0.006	1.000	4307		4.65(0.00-0.00)	95.3	307	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.851	3.856	-0.005	1.458	1425491	2.39		95.7	4323	
35 MeFOSA										
512.00 > 169.00	3.851	3.863	-0.012	1.000	14448	0.0258		103	621	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.015	-0.005	1.518	2454348	2.58		103	32098	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.010	4.016	-0.006	1.000	21329	0.0226		90.5	79.2	
613.00 > 169.00	4.010	4.016	-0.006	1.000	4957		4.30(2.13-6.40)	90.5	326	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.042	4.048	-0.006	1.530	1344342	2.39		95.7	3036	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.050	4.054	-0.004	1.002	13086	0.0231		92.4	468	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.277	4.285	-0.008	1.000	23015	0.0205		81.8	171	
663.00 > 169.00	4.277	4.285	-0.008	1.000	7617		3.02(1.25-3.76)	81.8	455	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.519	4.522	-0.003	1.000	5477	0.0209		83.5	330	
713.00 > 219.00	4.519	4.522	-0.003	1.000	6364		0.86(0.71-2.13)	83.5	375	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.519	4.522	-0.003	1.710	2591360	2.49		99.4	17962	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.943	4.944	-0.001	1.871	4735869	2.49		99.4	17232	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.943	4.945	-0.002	1.000	81382	0.0252		101	61.6	
813.00 > 169.00	4.943	4.945	-0.002	1.000	13963		5.83(2.86-8.58)	101	467	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.306	5.309	-0.003	1.000	55376	0.0263		105	19.0	
913.00 > 169.00	5.299	5.309	-0.010	0.999	6771		8.18(0.00-0.00)	105	139	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFC_LL1_00002 Amount Added: 1.00 Units: mL

Report Date: 20-Dec-2017 08:19:53 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_002.d

Injection Date: 19-Dec-2017 13:49:50 Instrument ID: A8_N

Lims ID: IC L1 Full

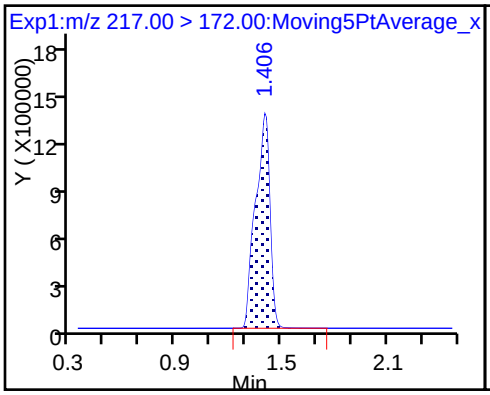
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2

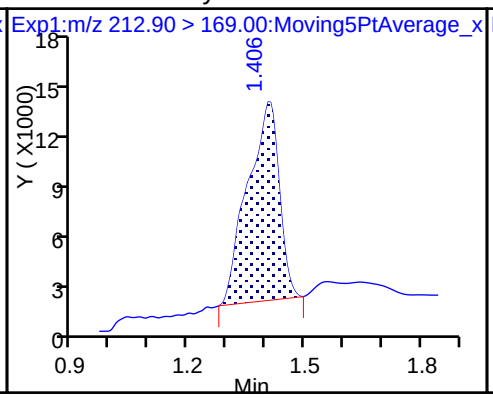
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

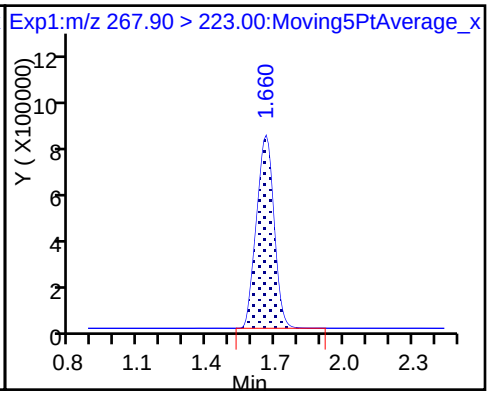
D 1 13C4 PFBA



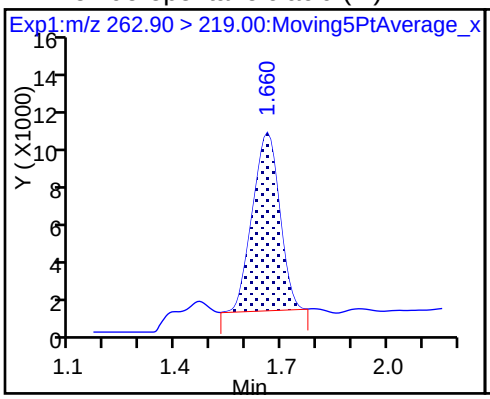
2 Perfluorobutyric acid



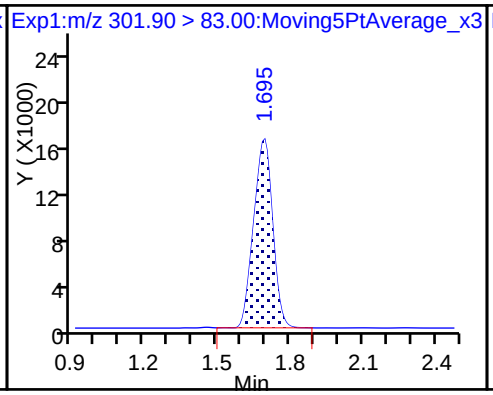
D 3 13C5-PFPeA



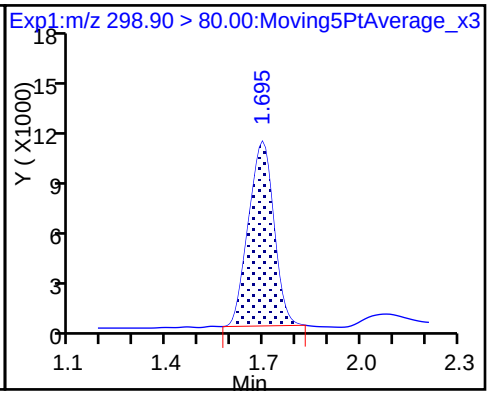
4 Perfluoropentanoic acid (M)



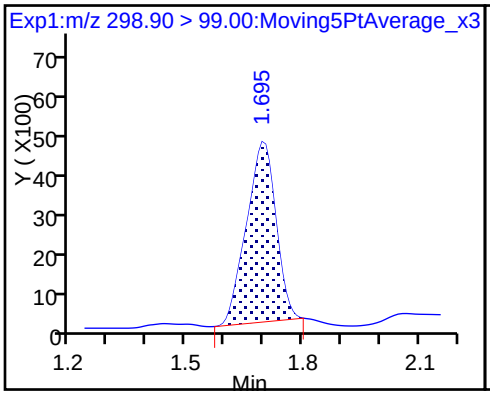
D 47 13C3-PFBS



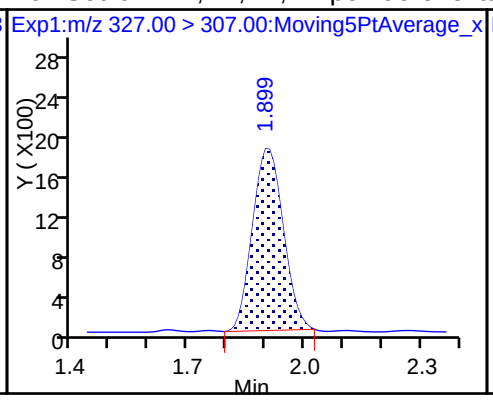
5 Perfluorobutanesulfonic acid



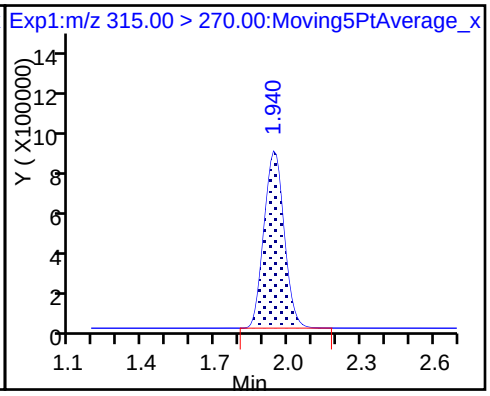
5 Perfluorobutanesulfonic acid



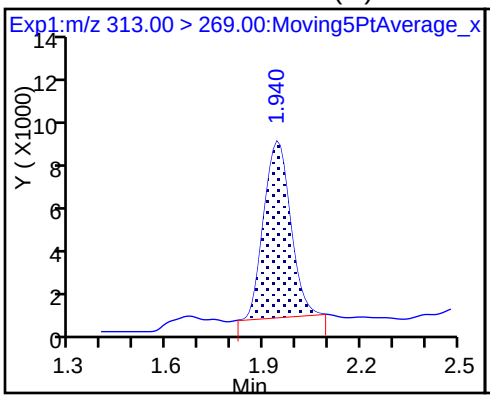
61 Sodium 1H,1H,2H,2H-perfluorohexa



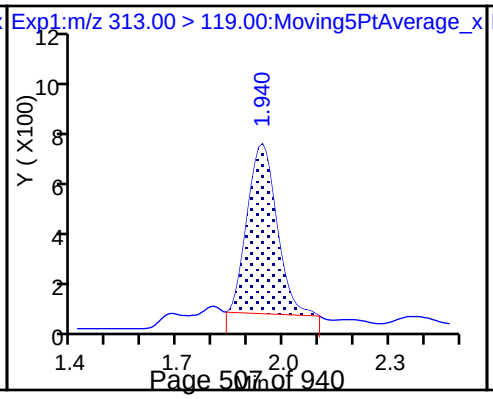
D 7 13C2 PFHxA



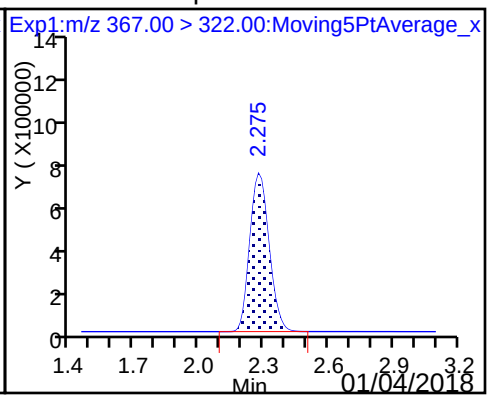
6 Perfluorohexanoic acid (M)



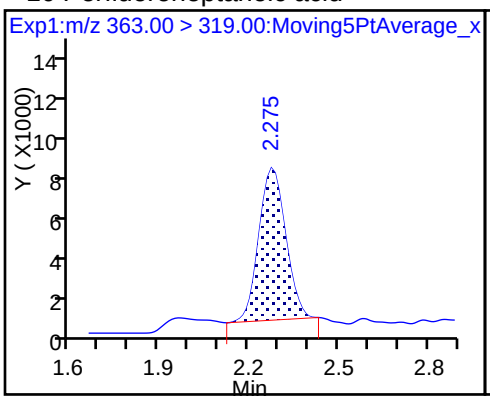
6 Perfluorohexanoic acid



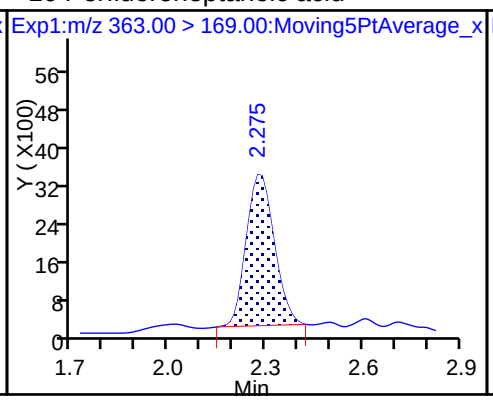
D 9 13C4-PFHpA



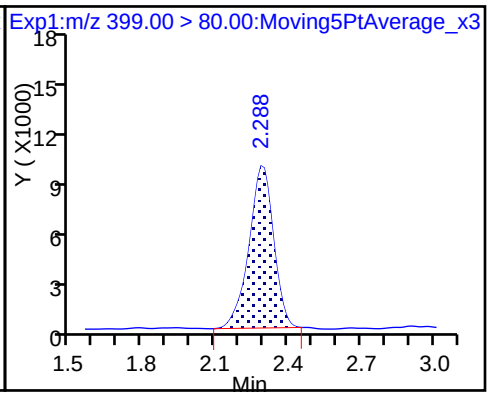
10 Perfluoroheptanoic acid



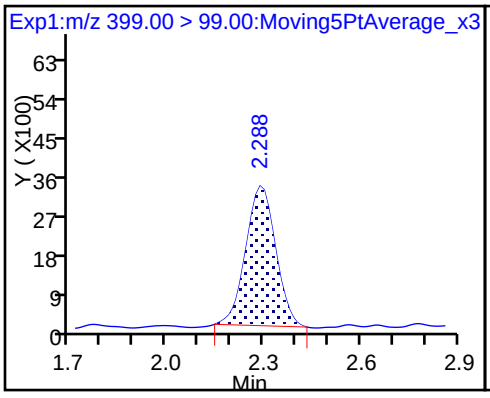
10 Perfluoroheptanoic acid



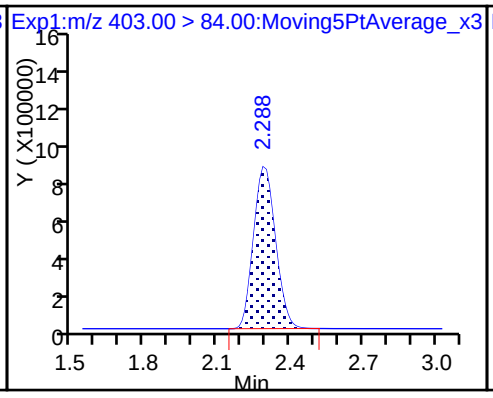
8 Perfluorohexanesulfonic acid



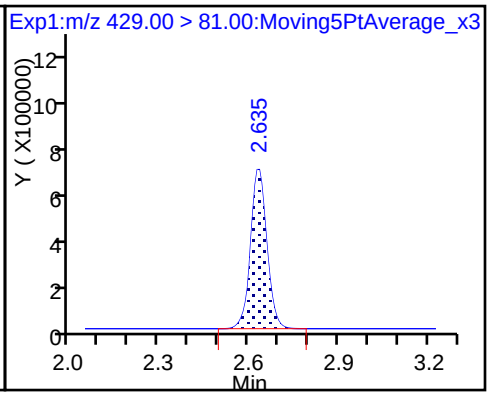
8 Perfluorohexanesulfonic acid



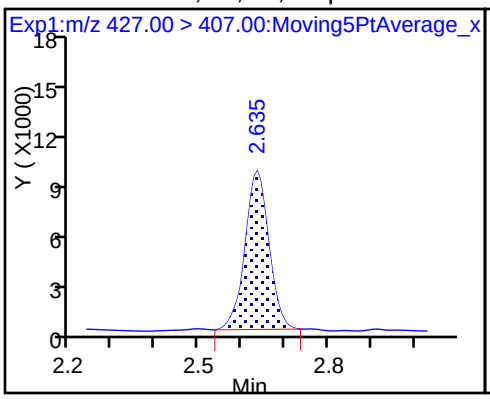
D 11 18O2 PFHxS



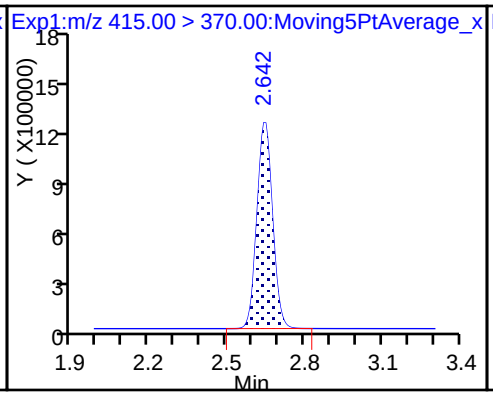
D 12 M2-6:2FTS



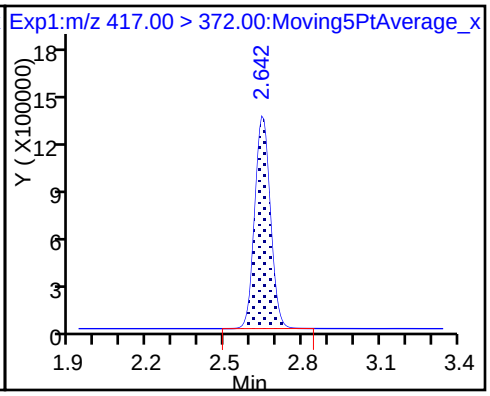
13 Sodium 1H,1H,2H,2H-perfluorooctane



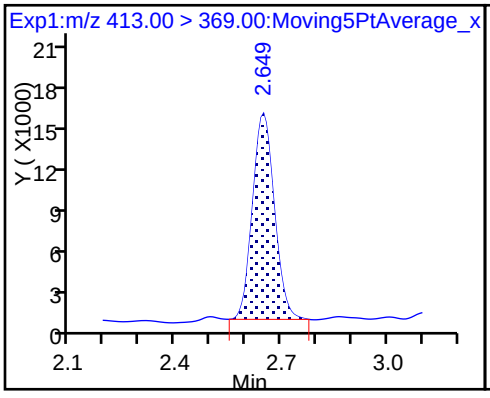
M2 13C2-PFOA



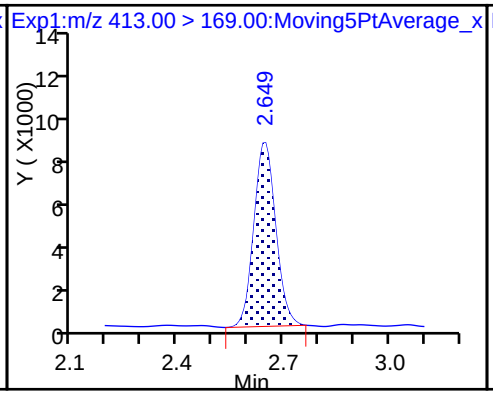
D 14 13C4 PFOA



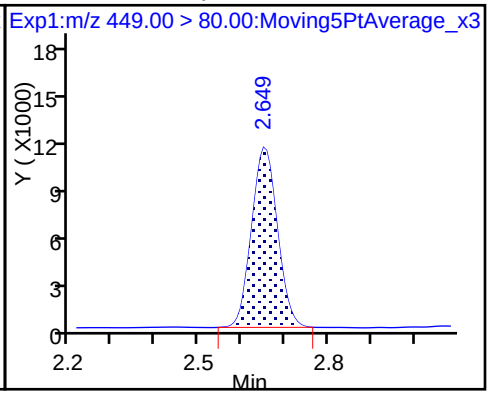
15 Perfluorooctanoic acid



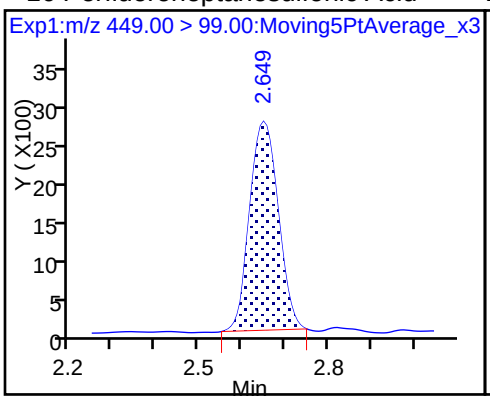
15 Perfluorooctanoic acid



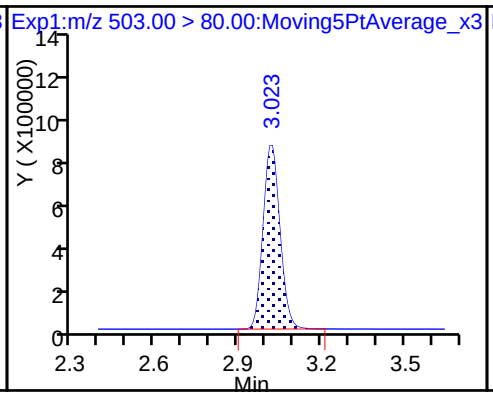
16 Perfluoroheptanesulfonic Acid



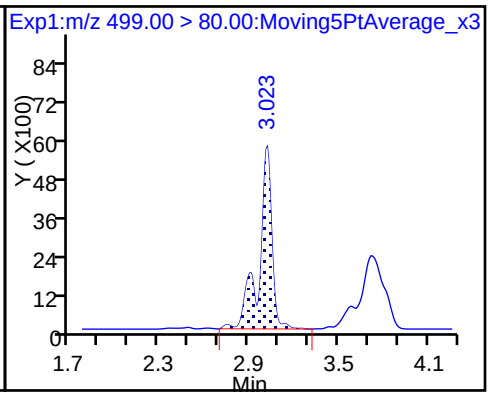
16 Perfluoroheptanesulfonic Acid



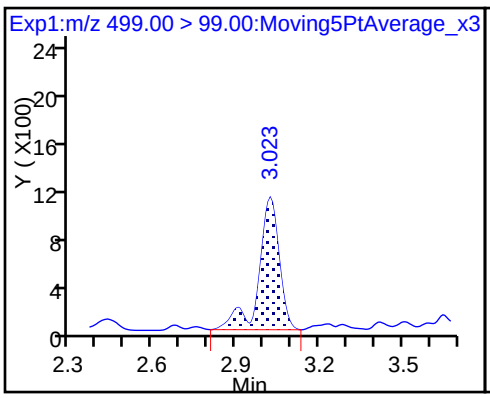
D 18 13C4 PFOS



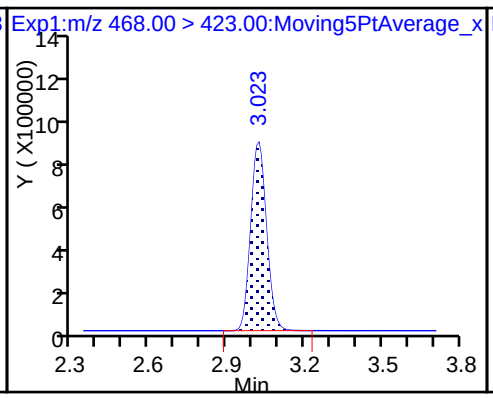
17 Perfluorooctane sulfonic acid



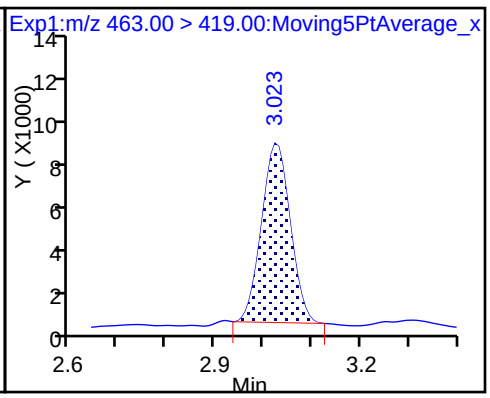
17 Perfluorooctane sulfonic acid



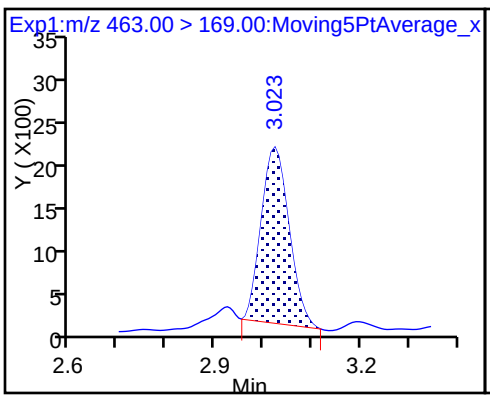
D 19 13C5 PFNA



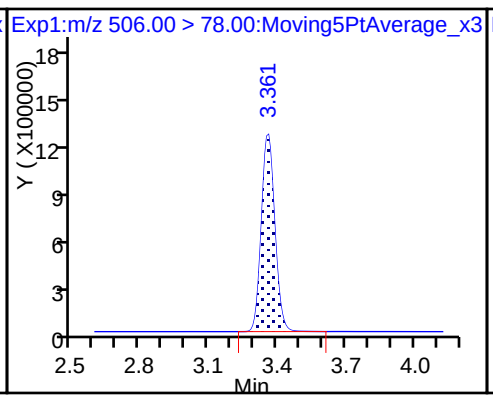
20 Perfluorononanoic acid



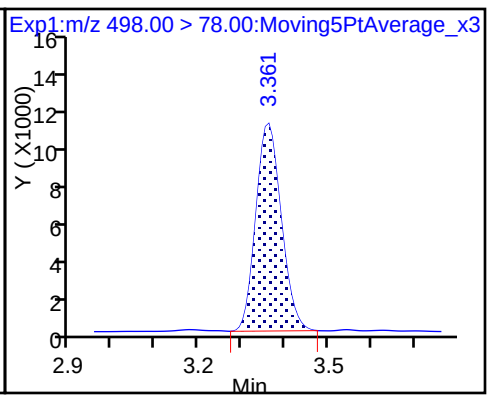
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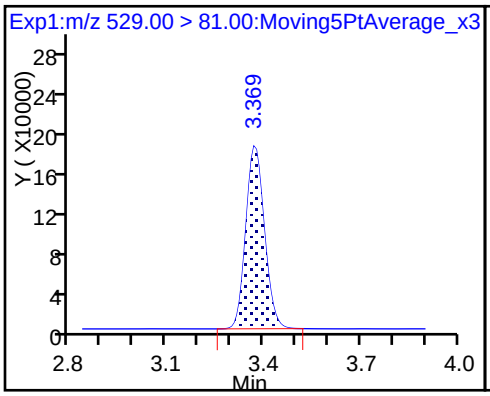
D 21 13C8 FOSA



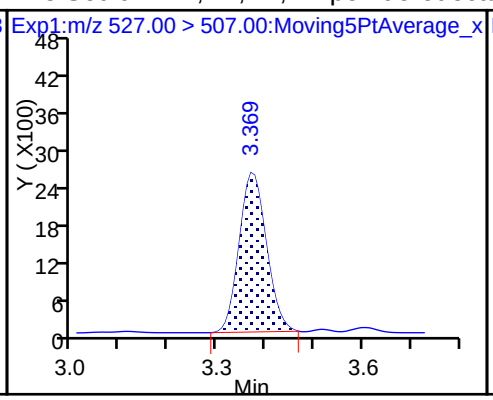
22 Perfluorooctane Sulfonamide



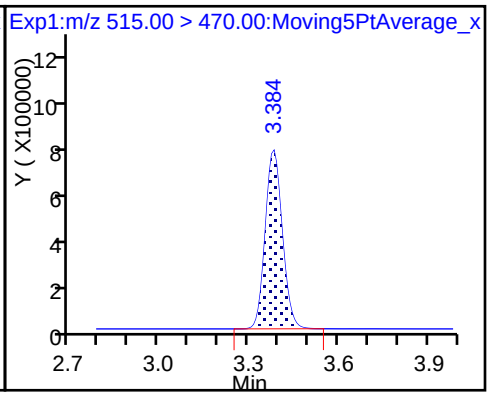
D 26 M2-8:2FTS



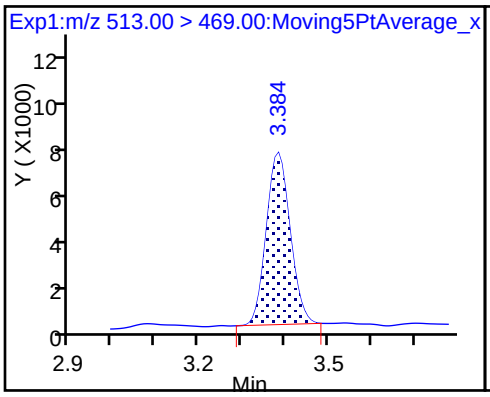
25 Sodium 1H,1H,2H,2H-perfluorodecane



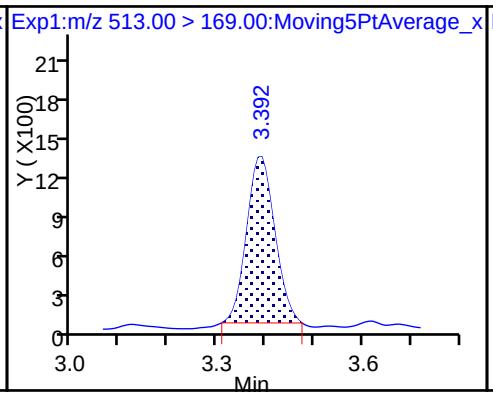
D 23 13C2 PFDA



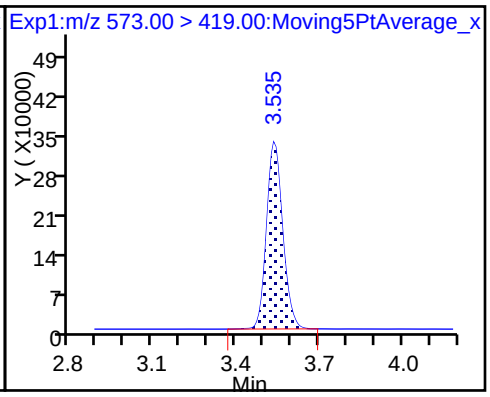
24 Perfluorodecanoic acid



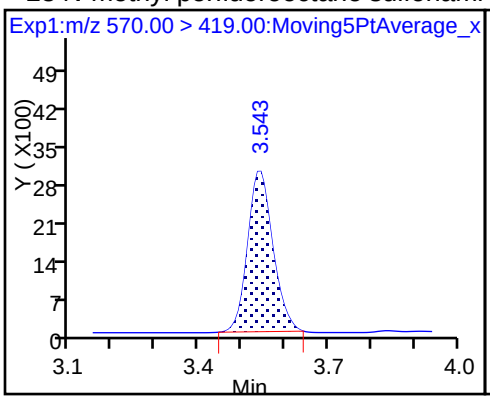
24 Perfluorodecanoic acid



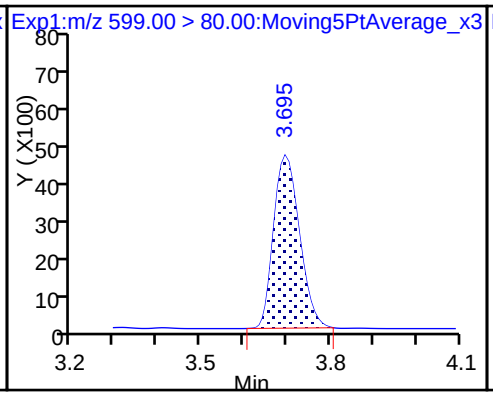
D 27 d3-NMeFOSAA



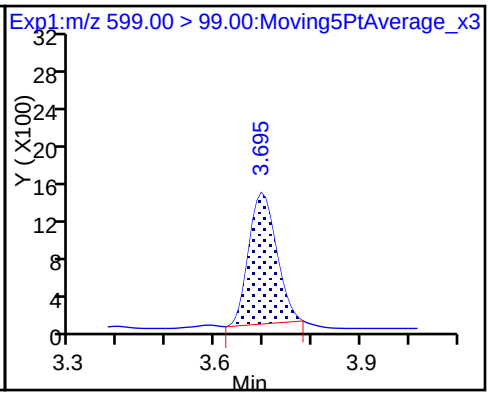
28 N-methyl perfluorooctane sulfonami



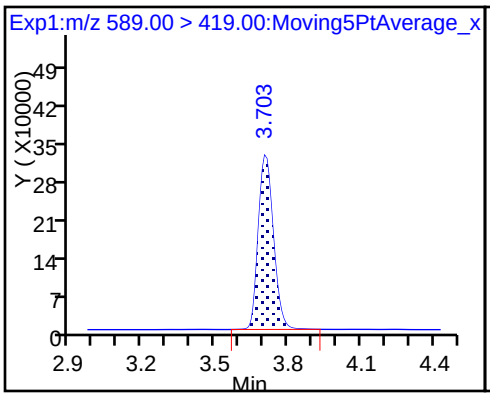
29 Perfluorodecane Sulfonic acid



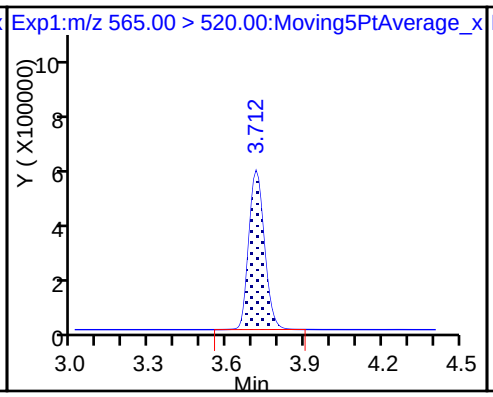
29 Perfluorodecane Sulfonic acid



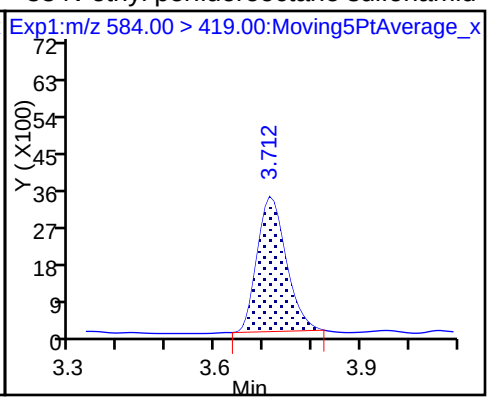
D 32 d5-NEtFOSAA



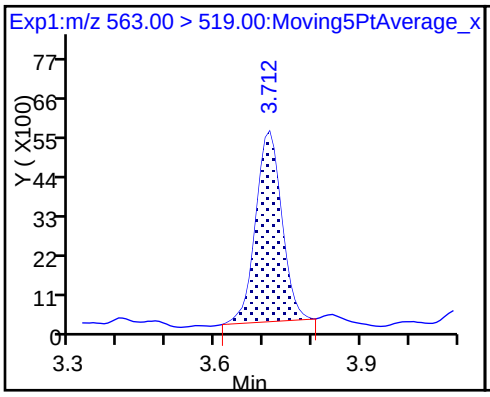
D 30 13C2 PFUnA



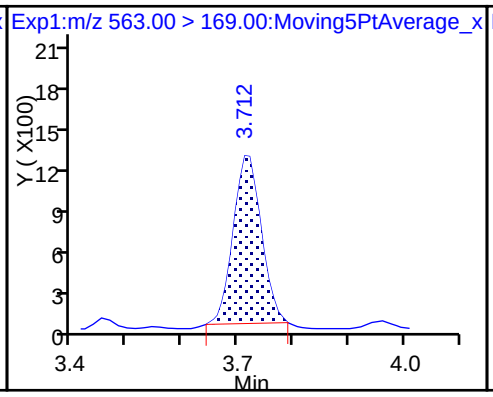
33 N-ethyl perfluorooctane sulfonamid



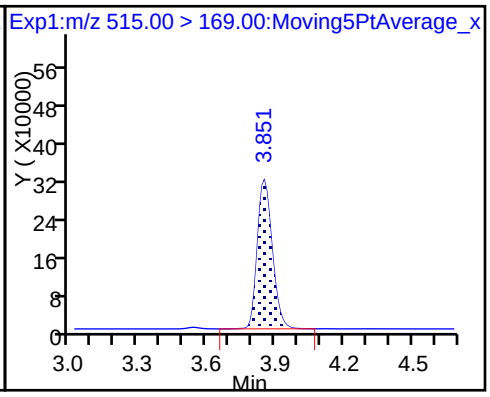
31 Perfluoroundecanoic acid



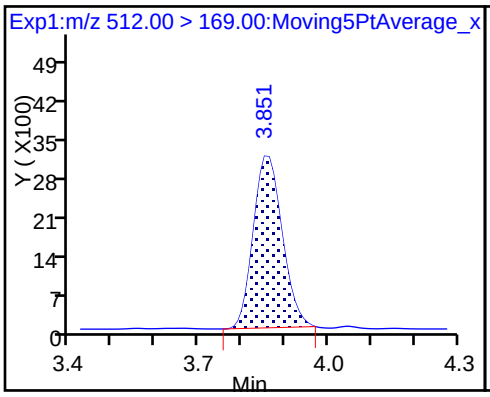
31 Perfluoroundecanoic acid



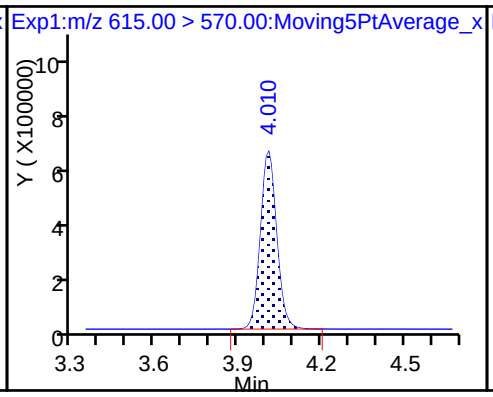
D 34 d-N-MeFOSA-M



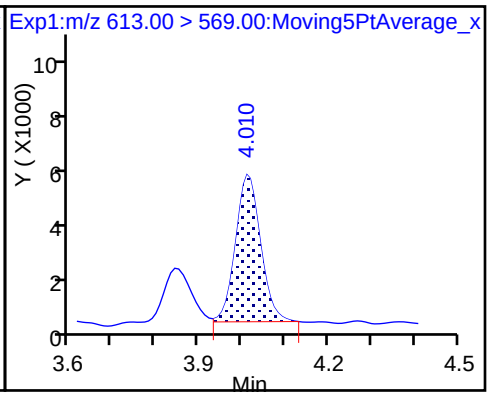
35 MeFOSA



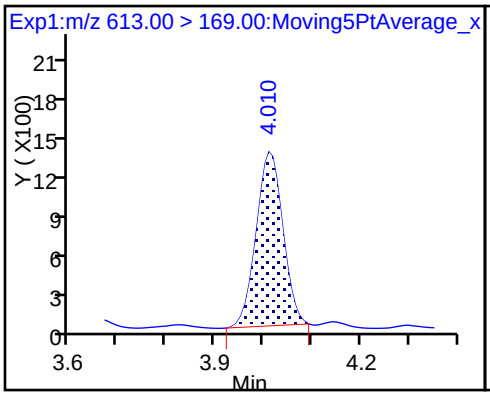
D 36 13C2 PFDoA



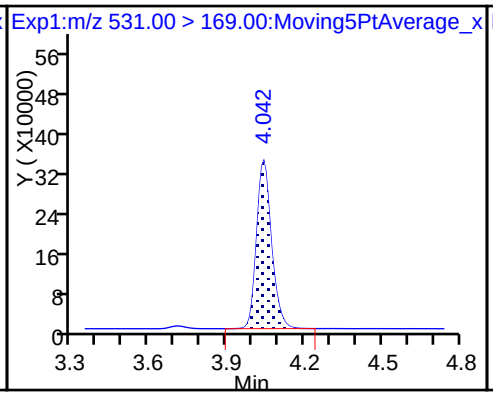
37 Perfluorododecanoic acid



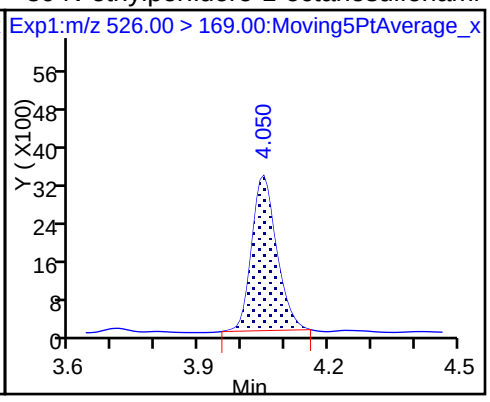
37 Perfluorododecanoic acid



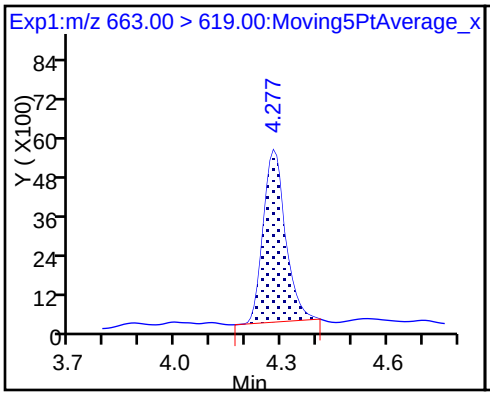
D 38 d-N-EtFOSA-M



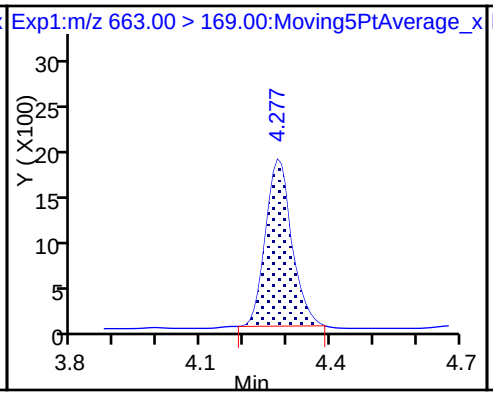
39 N-ethylperfluoro-1-octanesulfonami



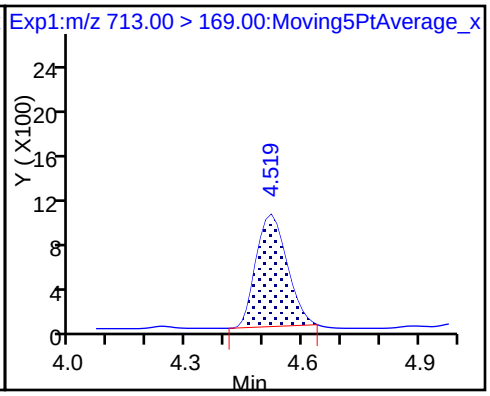
41 Perfluorotridecanoic acid



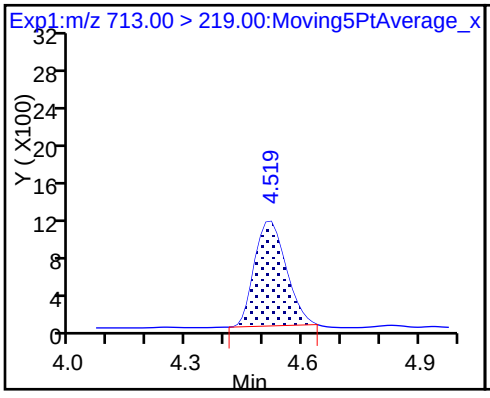
41 Perfluorotridecanoic acid



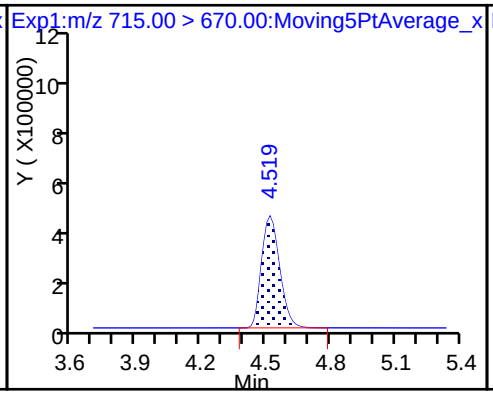
42 Perfluorotetradecanoic acid



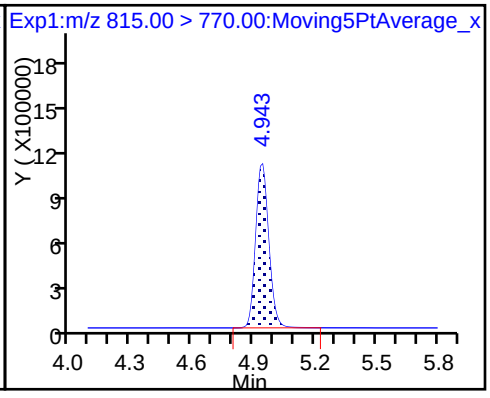
42 Perfluorotetradecanoic acid



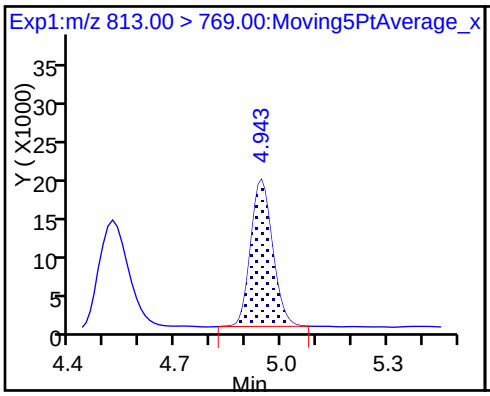
D 43 13C2-PFTeDA



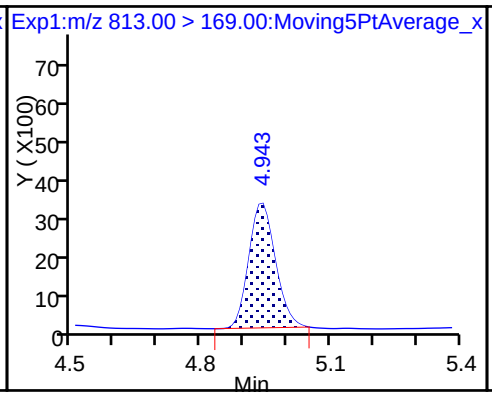
D 44 13C2-PFHxDA



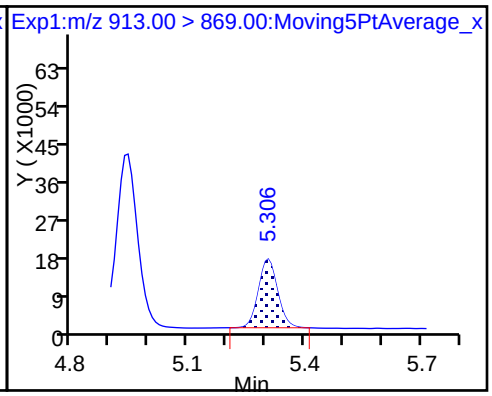
45 Perfluorohexadecanoic acid



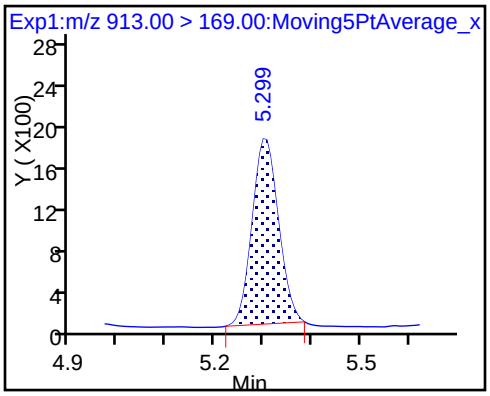
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento

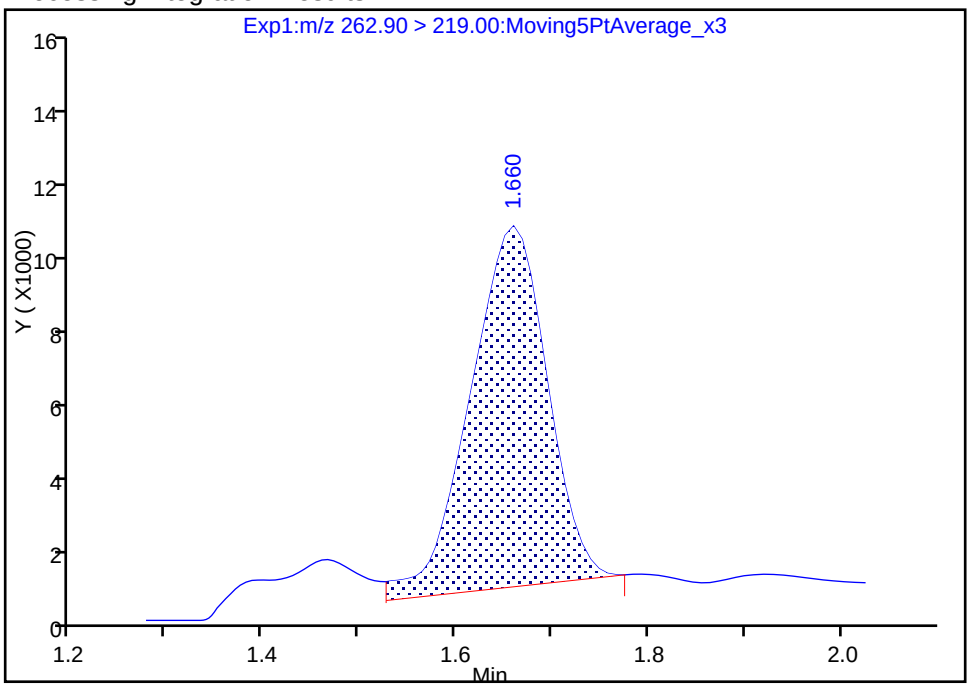
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_002.d
Injection Date: 19-Dec-2017 13:49:50 Instrument ID: A8_N
Lims ID: IC L1 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

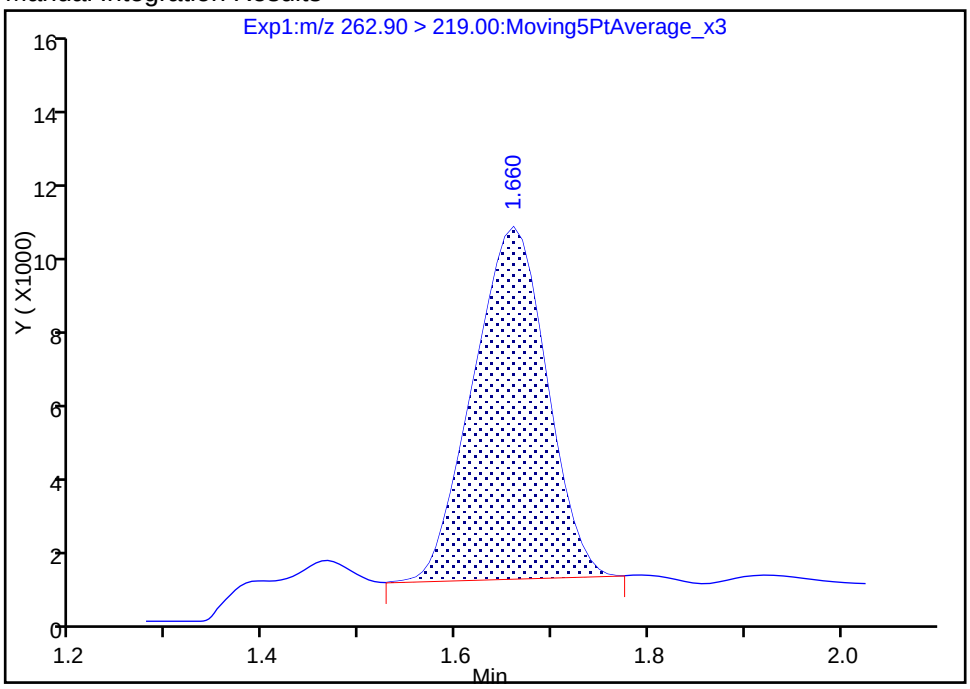
Processing Integration Results

RT: 1.66
Area: 54881
Amount: 0.027576
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 51179
Amount: 0.026125
Amount Units: ng/ml



Reviewer: roycea, 20-Dec-2017 08:01:09
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

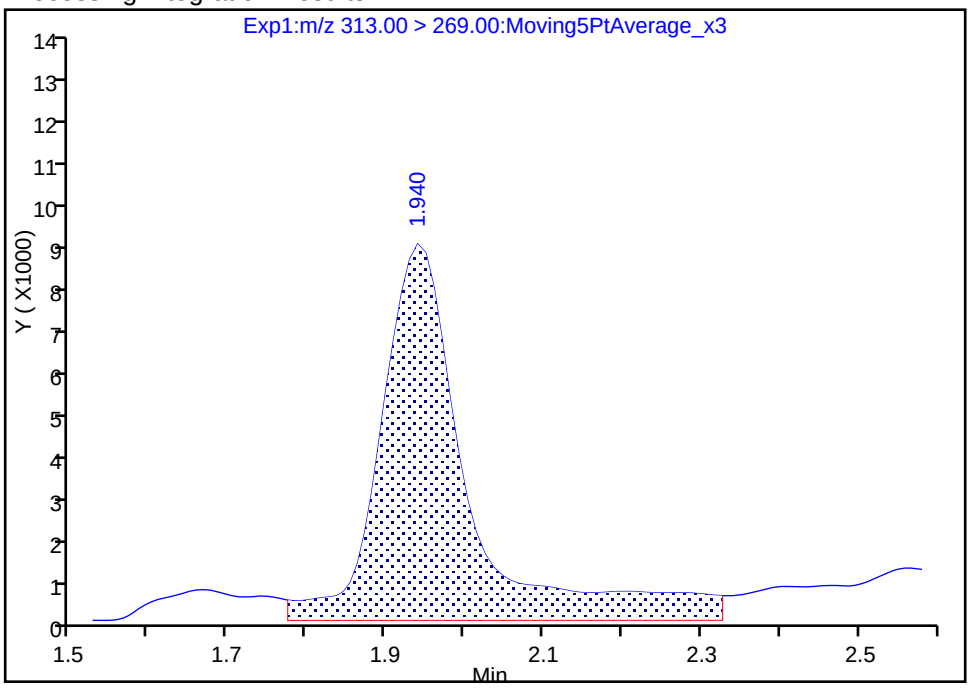
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_002.d
Injection Date: 19-Dec-2017 13:49:50 Instrument ID: A8_N
Lims ID: IC L1 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

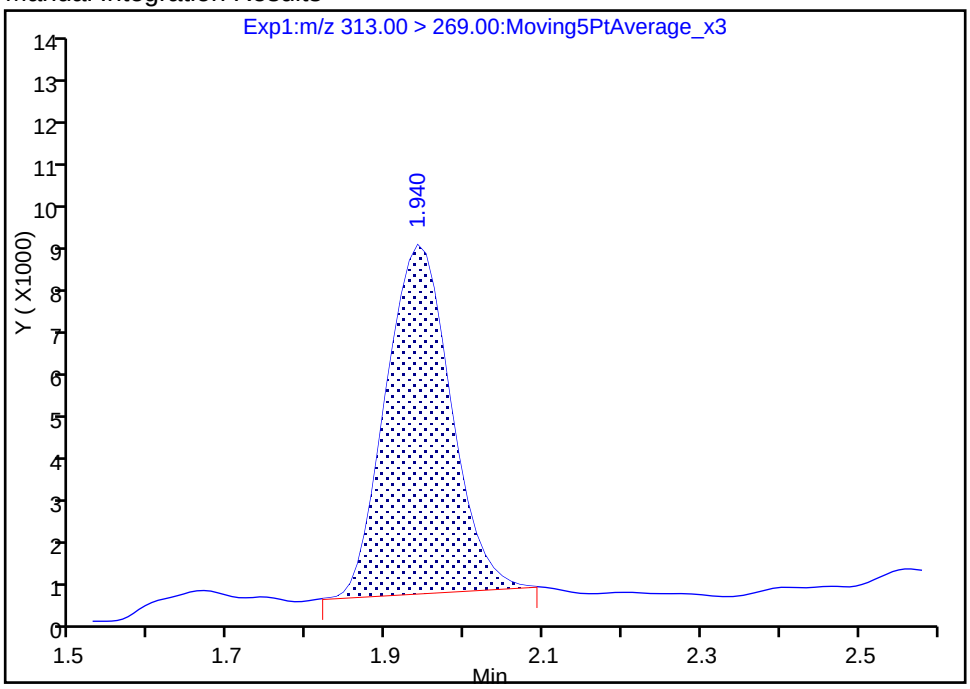
Processing Integration Results

RT: 1.94
Area: 68971
Amount: 0.034037
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 47377
Amount: 0.024696
Amount Units: ng/ml



Reviewer: roycea, 20-Dec-2017 08:01:26
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_003.d
Lims ID: IC L2 Full
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Dec-2017 13:57:40 ALS Bottle#: 11 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L2-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:19:55 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 19-Dec-2017 17:10:21

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.533	8001774	2.40		95.9	24327	
2 Perfluorobutyric acid										
212.90 > 169.00	1.414	1.412	0.002	1.000	144377	0.0494		98.9	31.7	
D 3 13C5-PFPeA										
267.90 > 223.00	1.661	1.664	-0.003	0.627	4736120	2.41		96.4	57503	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.661	1.664	-0.003	1.000	105601	0.0504		101	151	M
D 47 13C3-PFBS										
301.90 > 83.00	1.697	1.699	-0.002	0.640	92825	2.23		96.1	4382	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.706	1.703	0.003	1.005	132214	0.0443		100	780	
298.90 > 99.00	1.697	1.703	-0.006	1.000	56990		2.32(1.25-3.74)	100	505	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.912	1.909	0.003	1.000	23973	0.0467		100	1505	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.954	1.949	0.005	1.000	104149	0.0517		103	243	
313.00 > 119.00	1.954	1.949	0.005	1.000	8558		12.17(5.03-15.10)	103	195	
D 7 13C2 PFHxA										
315.00 > 270.00	1.954	1.949	0.005	0.737	5033347	2.41		96.6	53554	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.291	2.286	0.005	1.000	102944	0.0537		107	255	
363.00 > 169.00	2.291	2.286	0.005	1.000	38281		2.69(1.13-3.40)	107	265	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.286	0.005	0.865	4651764	2.39		95.4	27337	
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.299	0.005	0.870	5397321	2.24		94.6	40352	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.299	0.005	1.000	124160	0.0501		110	1287	
399.00 > 99.00	2.304	2.299	0.005	1.000	42267		2.94(1.50-4.49)	110	486	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.643	2.640	0.003	1.000	57123	0.0437		92.1	1323	
D 12 M2-6:2FTS										
429.00 > 81.00	2.643	2.640	0.003	0.997	1938654	2.39		101	62654	
* 62 13C2-PFOA										
415.00 > 370.00	2.650	2.643	0.007		5660511	2.50			48759	
D 14 13C4 PFOA										
417.00 > 372.00	2.650	2.647	0.003	1.000	5791760	2.47		98.9	51572	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.650	2.649	0.001	1.000	129899	0.0531		106	196	
413.00 > 169.00	2.657	2.649	0.008	1.003	72815		1.78(0.84-2.52)	106	554	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.657	2.654	0.003	1.000	100743	0.0466		97.8	3541	
449.00 > 99.00	2.657	2.654	0.003	1.000	27255		3.70(1.94-5.82)	97.8	1091	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.030	3.025	0.005	1.000	78254	0.0489		105	162	
499.00 > 99.00	3.023	3.025	-0.002	0.997	17717		4.42(2.31-6.93)	105	158	
D 18 13C4 PFOS										
503.00 > 80.00	3.030	3.025	0.005	1.144	3593528	2.31		96.8	26385	
20 Perfluorononanoic acid										
463.00 > 419.00	3.030	3.026	0.004	1.000	76943	0.0501		100	338	
463.00 > 169.00	3.030	3.026	0.004	1.000	16183		4.75(1.90-5.69)	100	480	
D 19 13C5 PFNA										
468.00 > 423.00	3.030	3.026	0.004	1.144	3963750	2.52		101	32233	
D 21 13C8 FOSA										
506.00 > 78.00	3.368	3.362	0.006	1.271	5302458	2.42		96.6	34483	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.368	3.365	0.003	1.000	103798	0.0518		104	2615	
D 26 M2-8:2FTS										
529.00 > 81.00	3.376	3.375	0.001	1.274	768343	2.23		93.0	19263	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.384	3.376	0.008	1.002	14826	0.0380		79.3	933	
D 23 13C2 PFDA										
515.00 > 470.00	3.391	3.387	0.004	1.280	2920956	2.32		92.8	28550	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.391	3.388	0.003	1.000	61166	0.0529		106	593	
513.00 > 169.00	3.391	3.388	0.003	1.000	10964		5.58(2.36-7.09)	106	524	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.542	3.541	0.001	1.337	1351138	2.33		93.1	19537	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.550	3.547	0.003	1.002	27259	0.0489		97.9	247	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.703	3.701	0.002	1.000	39124	0.0444		92.1	2436	
599.00 > 99.00	3.703	3.701	0.002	1.000	14708		2.66(1.39-4.16)	92.1	546	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.711	3.711	0.0	1.401	1487303	2.49		99.5	5954	
D 30 13C2 PFUnA										
565.00 > 520.00	3.720	3.717	0.003	1.404	2405775	2.48		99.2	30350	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.720	3.718	0.002	1.000	47668	0.0548		110	360	
563.00 > 169.00	3.720	3.718	0.002	1.000	10775		4.42(0.00-0.00)	110	964	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.720	3.718	0.002	1.002	28202	0.0486		97.3	1132	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.862	3.856	0.006	1.457	1500693	2.32		92.8	3940	
35 MeFOSA										
512.00 > 169.00	3.862	3.863	-0.001	1.000	27718	0.0470		94.0	1181	
D 36 13C2 PFDoA										
615.00 > 570.00	4.018	4.015	0.003	1.516	2452859	2.38		95.2	24532	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.018	4.016	0.002	1.000	49791	0.0529		106	174	
613.00 > 169.00	4.018	4.016	0.002	1.000	11659		4.27(2.13-6.40)	106	739	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.049	4.048	0.001	1.528	1445800	2.37		94.9	3479	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.057	4.054	0.003	1.002	29982	0.0492		98.4	1070	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.285	4.285	0.0	1.000	62665	0.0557		111	530	
663.00 > 169.00	4.285	4.285	0.0	1.000	19194		3.26(1.25-3.76)	111	1106	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.519	4.522	-0.003	1.705	2652860	2.34		93.7	19612	
42 Perfluorotetradecanoic acid										R
713.00 > 169.00	4.519	4.522	-0.003	1.000	16609	0.0619		124	719	R
713.00 > 219.00	4.519	4.522	-0.003	1.000	7383		2.25(0.71-2.13)	124	447	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.943	4.944	-0.001	1.865	5138185	2.48		99.4	17619	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.943	4.945	-0.002	1.000	131306	0.0492		98.4	96.6	
813.00 > 169.00	4.943	4.945	-0.002	1.000	23149		5.67(2.86-8.58)	98.4	773	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.306	5.309	-0.003	1.000	113331	0.0496		99.2	36.9	
913.00 > 169.00	5.306	5.309	-0.003	1.000	14130		8.02(0.00-0.00)	99.2	289	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Reagents:

LCPFC_LL2_00002 Amount Added: 1.00 Units: mL

Report Date: 20-Dec-2017 08:19:56 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_003.d

Injection Date: 19-Dec-2017 13:57:40 Instrument ID: A8_N

Lims ID: IC L2 Full

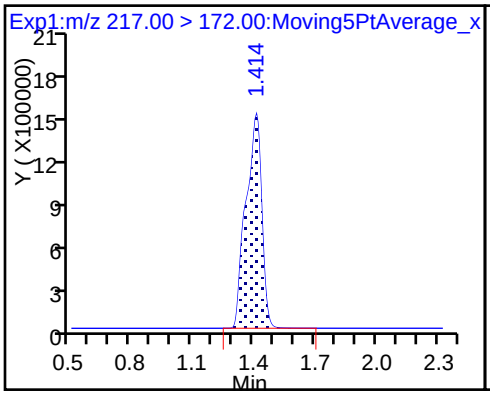
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Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 3

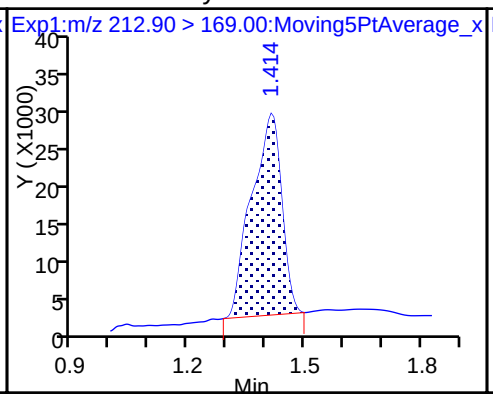
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

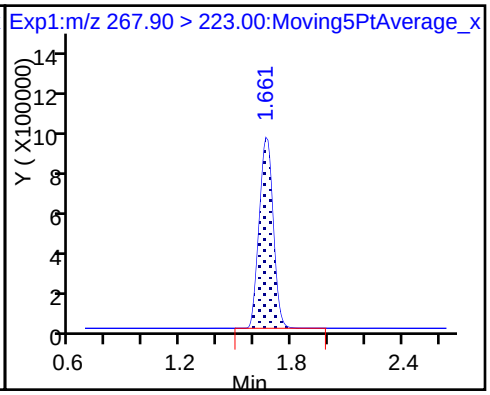
D 1 13C4 PFBA



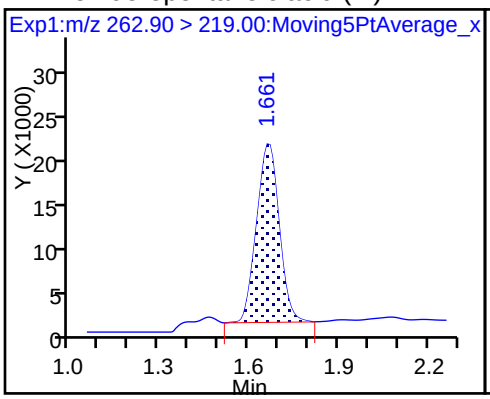
2 Perfluorobutyric acid



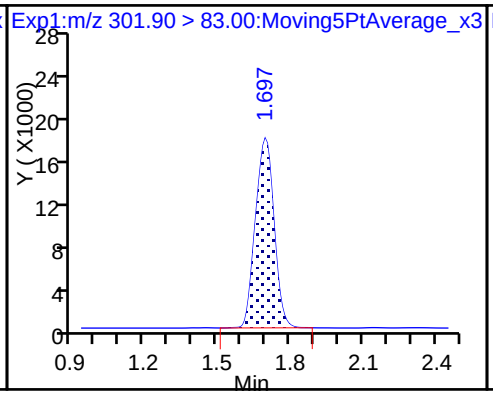
D 3 13C5-PFPeA



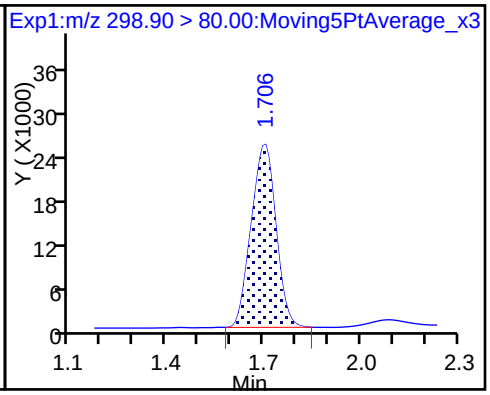
4 Perfluoropentanoic acid (M)



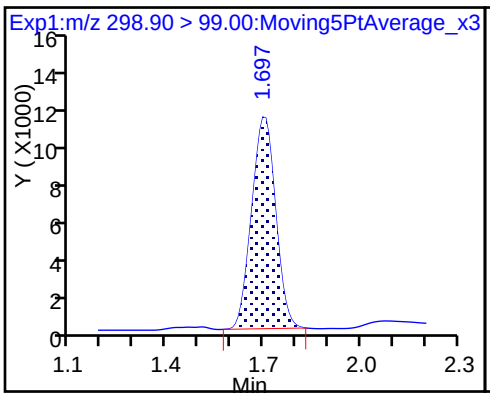
D 47 13C3-PFBS



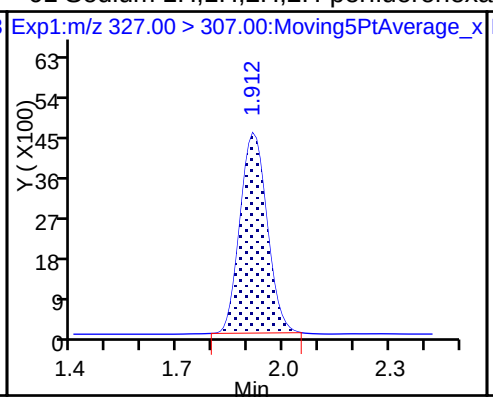
5 Perfluorobutanesulfonic acid



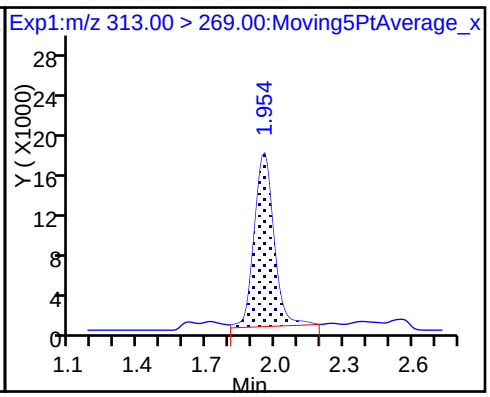
5 Perfluorobutanesulfonic acid



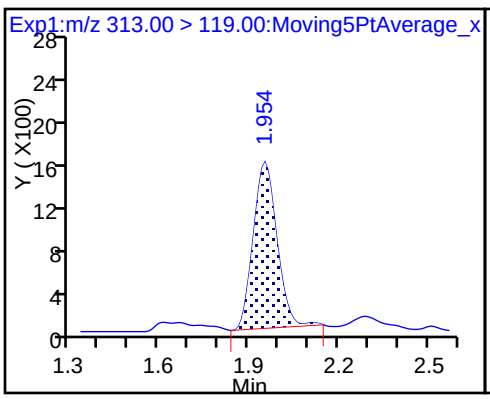
61 Sodium 1H,1H,2H,2H-perfluorohexane



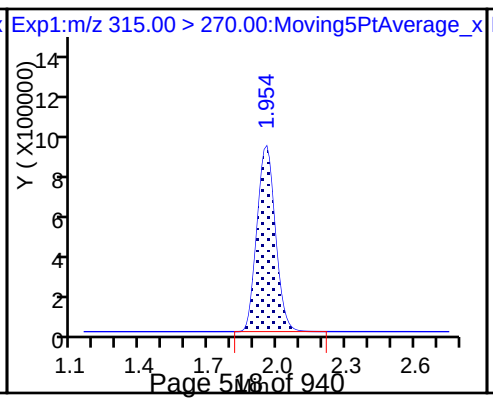
6 Perfluorohexanoic acid



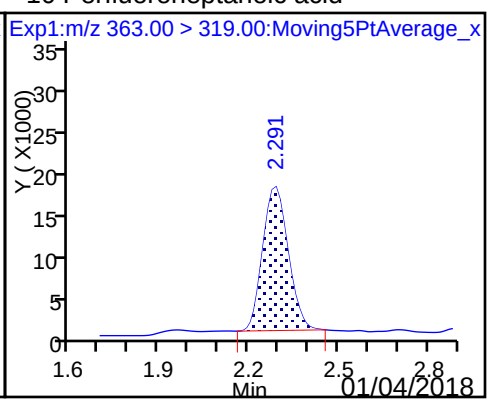
6 Perfluorohexanoic acid



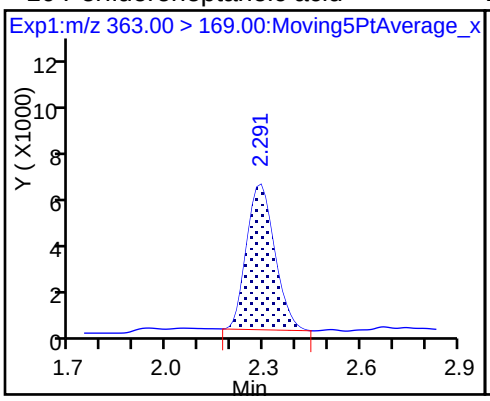
D 7 13C2 PFHxA



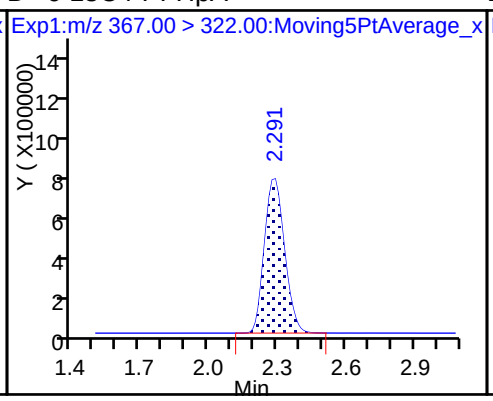
10 Perfluoroheptanoic acid



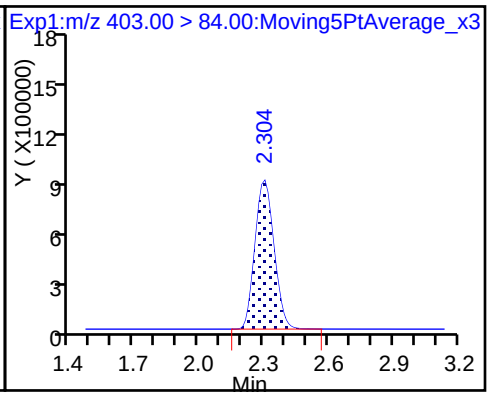
10 Perfluoroheptanoic acid



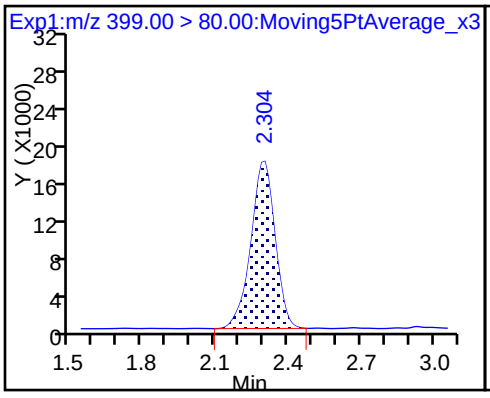
D 9 13C4-PFHpA



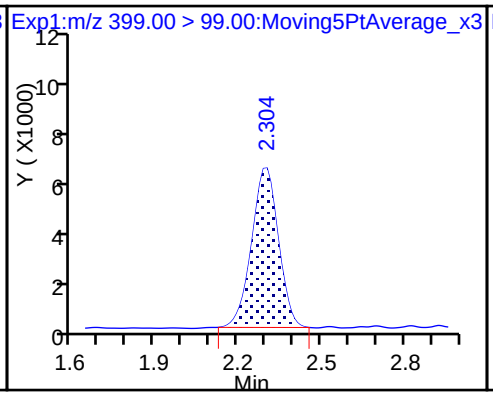
D 11 18O2 PFHxS



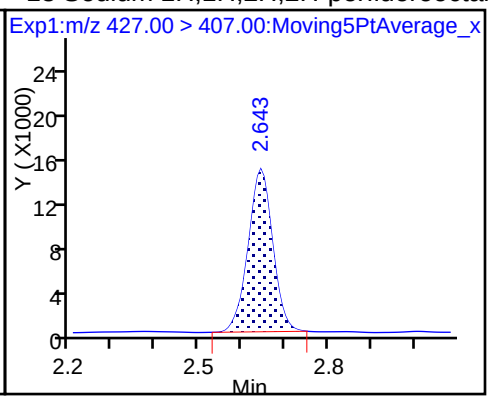
8 Perfluorohexanesulfonic acid



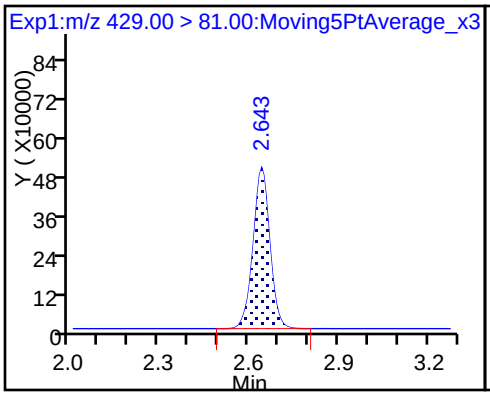
8 Perfluorohexanesulfonic acid



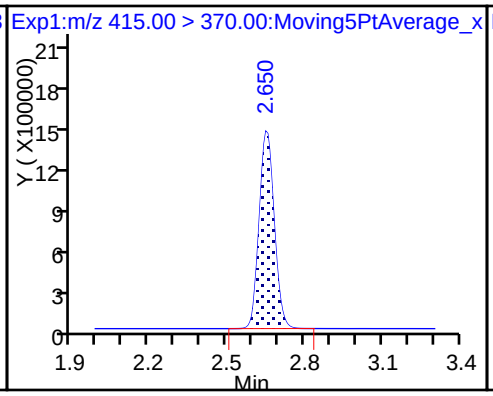
13 Sodium 1H,1H,2H,2H-perfluorooctane



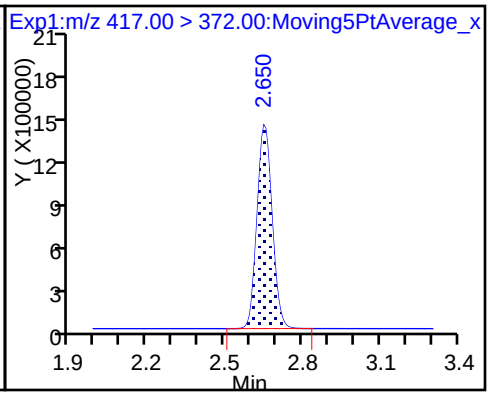
D 12 M2-6:2FTS



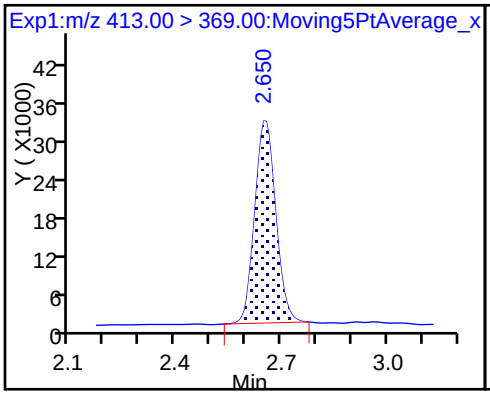
* 62 13C2-PFOA



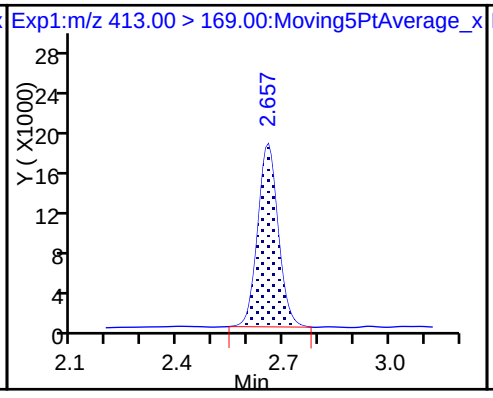
D 14 13C4 PFOA



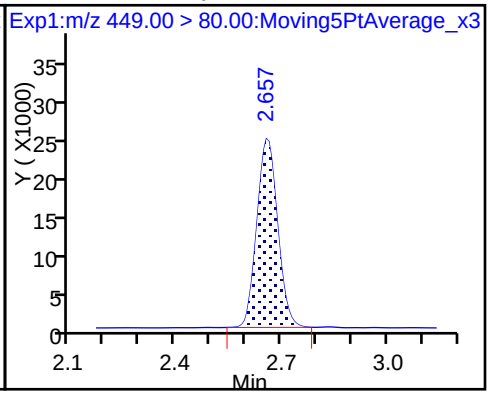
15 Perfluorooctanoic acid



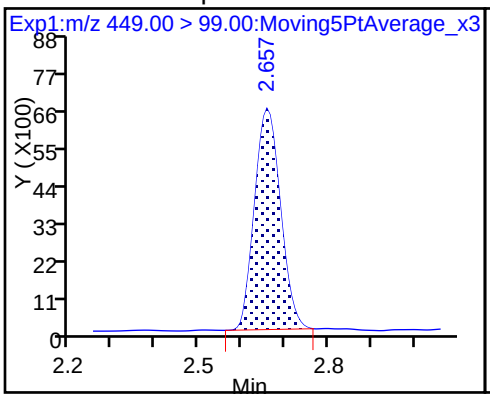
15 Perfluorooctanoic acid



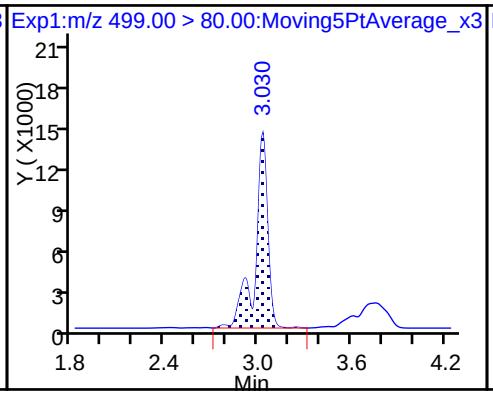
16 Perfluoroheptanesulfonic Acid



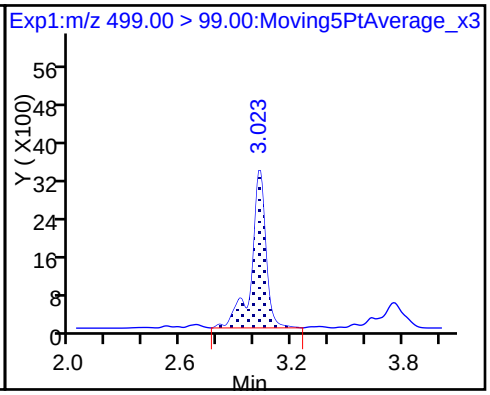
16 Perfluoroheptanesulfonic Acid



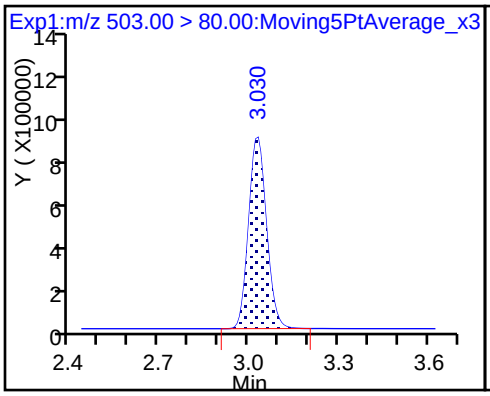
17 Perfluorooctane sulfonic acid



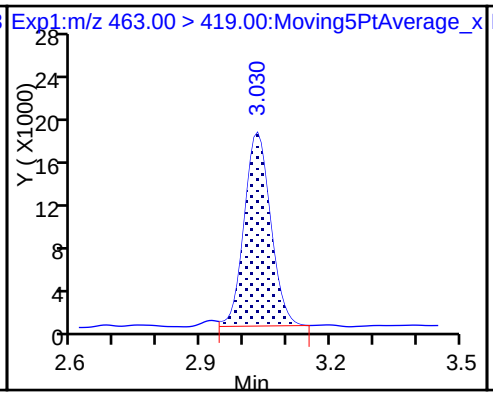
17 Perfluorooctane sulfonic acid



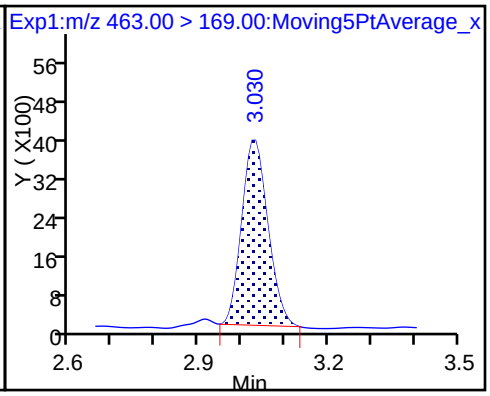
D 18 13C4 PFOS



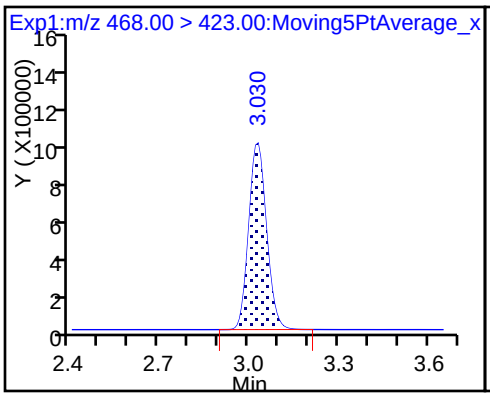
20 Perfluorononanoic acid



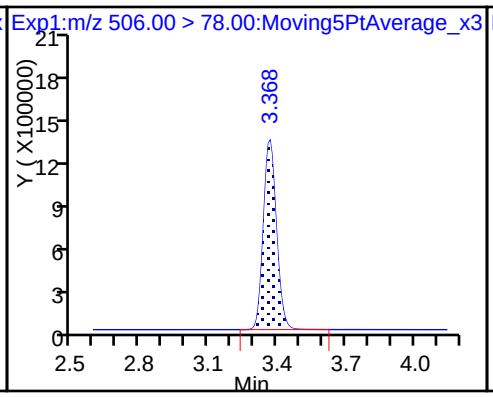
20 Perfluorononanoic acid



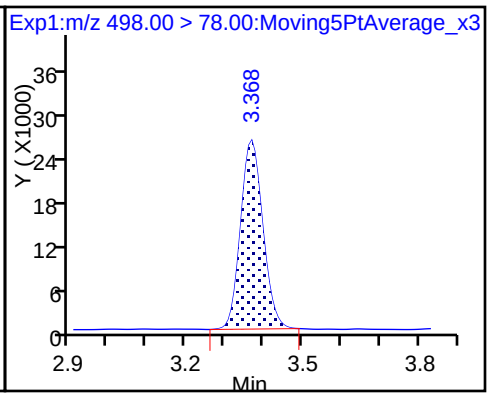
D 19 13C5 PFNA



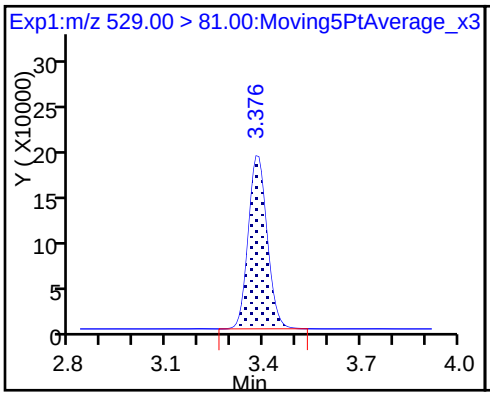
D 21 13C8 FOSA



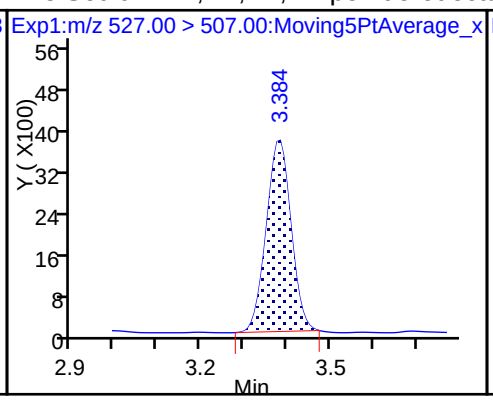
22 Perfluorooctane Sulfonamide



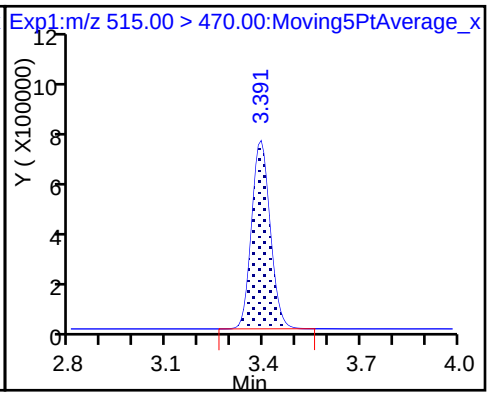
D 26 M2-8:2FTS



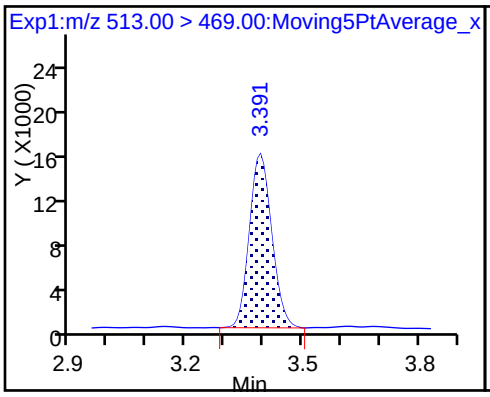
25 Sodium 1H,1H,2H,2H-perfluorodecane



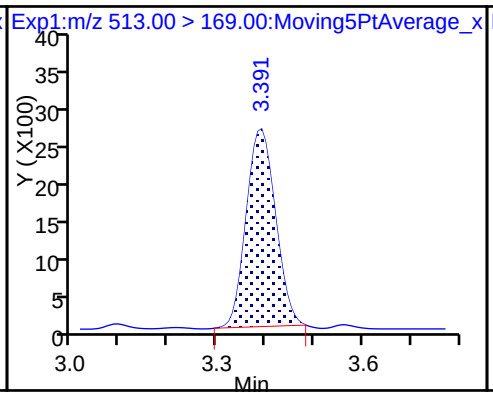
D 23 13C2 PFDA



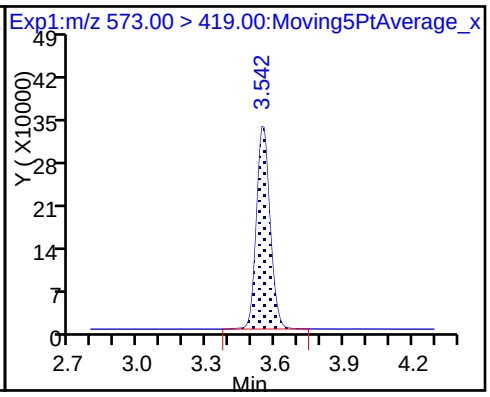
24 Perfluorodecanoic acid



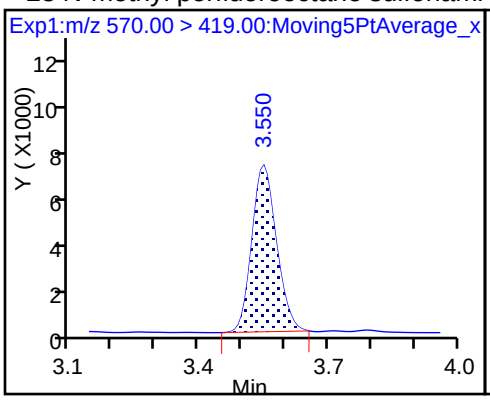
24 Perfluorodecanoic acid



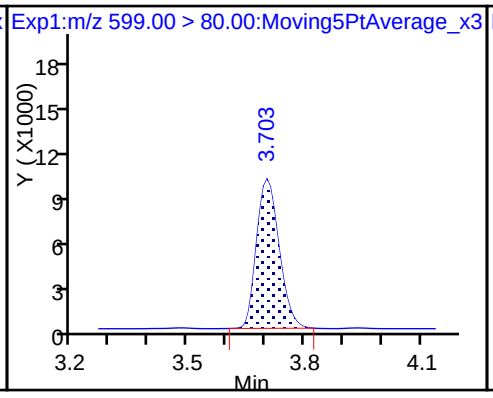
D 27 d3-NMeFOSAA



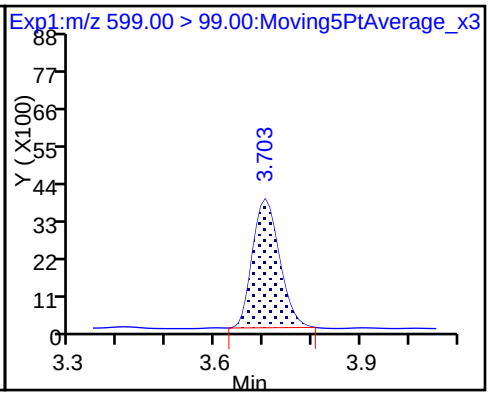
28 N-methyl perfluorooctane sulfonami



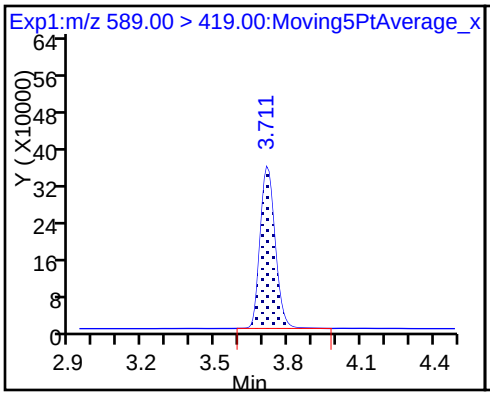
29 Perfluorodecane Sulfonic acid



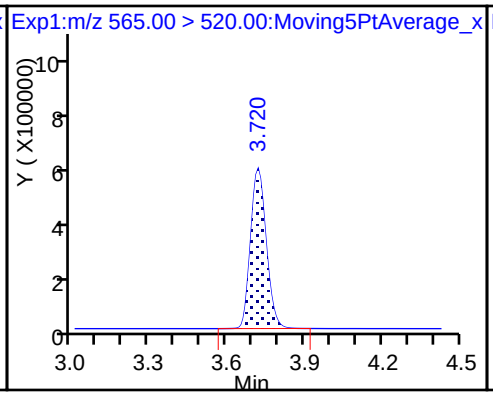
29 Perfluorodecane Sulfonic acid



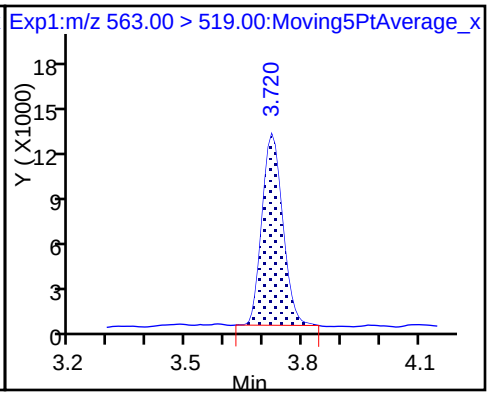
D 32 d5-NEtFOSAA



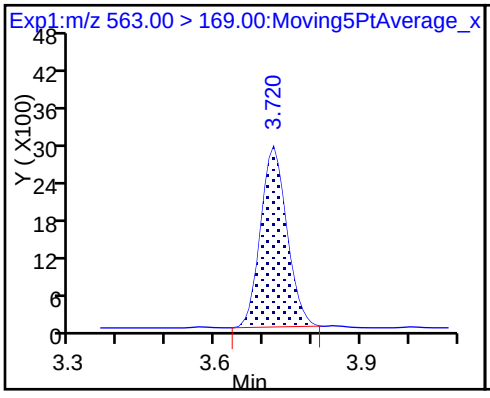
D 30 13C2 PFUnA



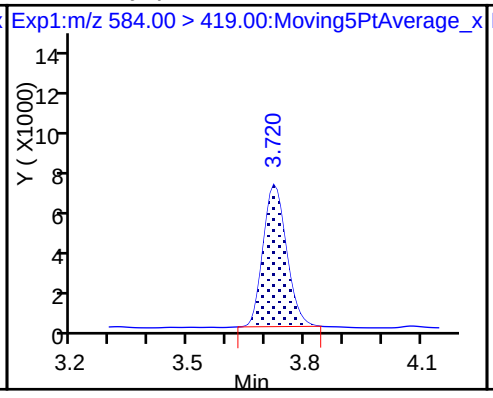
31 Perfluoroundecanoic acid



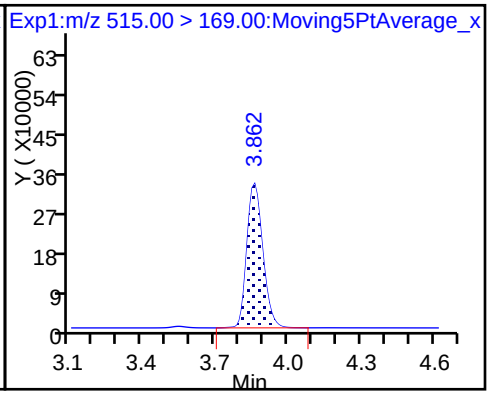
31 Perfluoroundecanoic acid



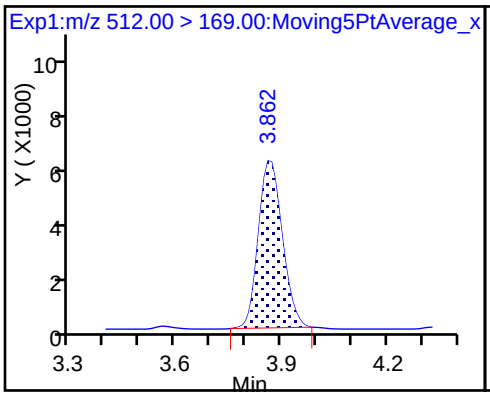
33 N-ethyl perfluorooctane sulfonamid



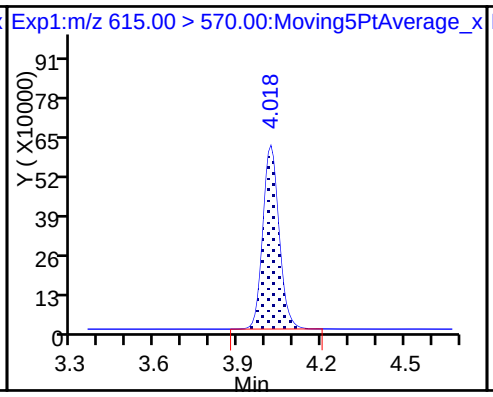
D 34 d-N-MeFOSA-M



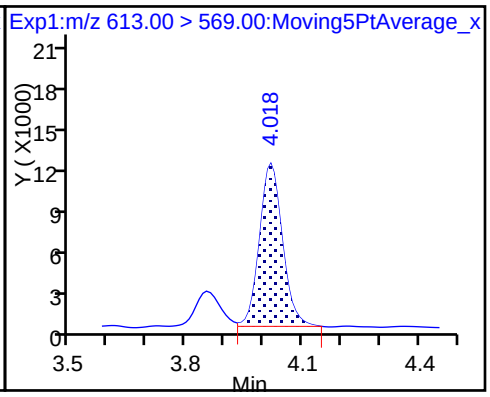
35 MeFOSA



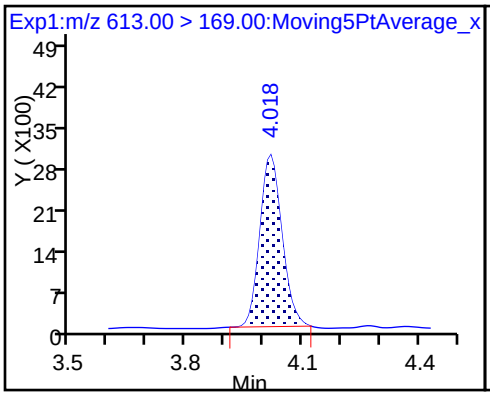
D 36 13C2 PFDoA



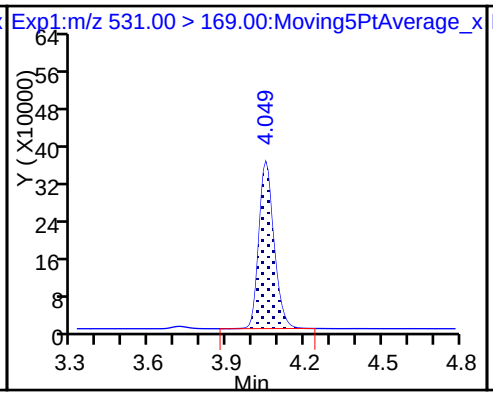
37 Perfluorododecanoic acid



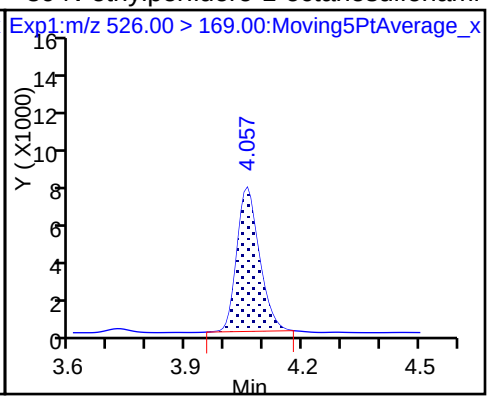
37 Perfluorododecanoic acid



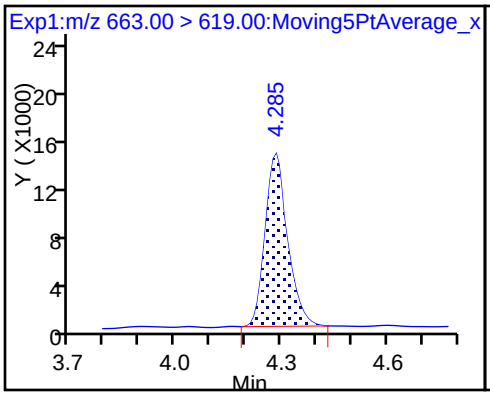
D 38 d-N-EtFOSA-M



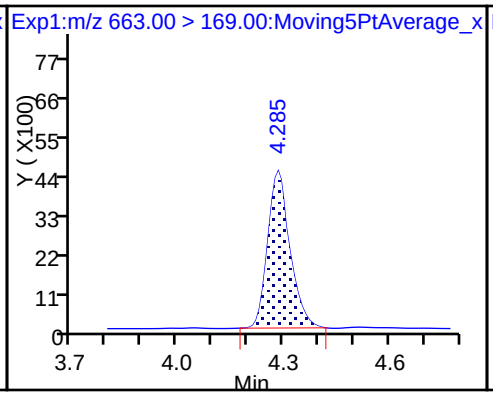
39 N-ethylperfluoro-1-octanesulfonami



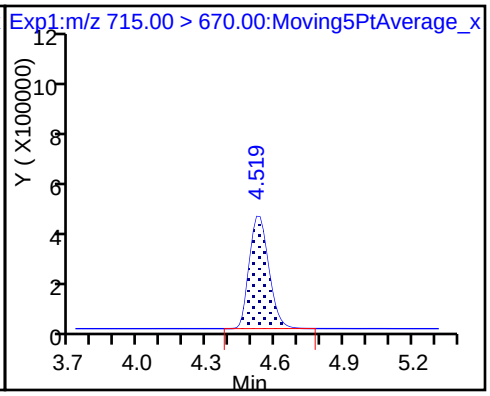
41 Perfluorotridecanoic acid



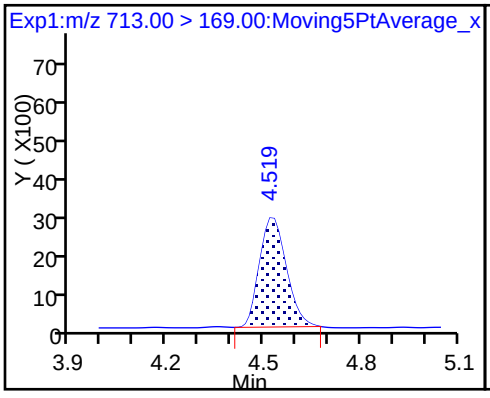
41 Perfluorotridecanoic acid



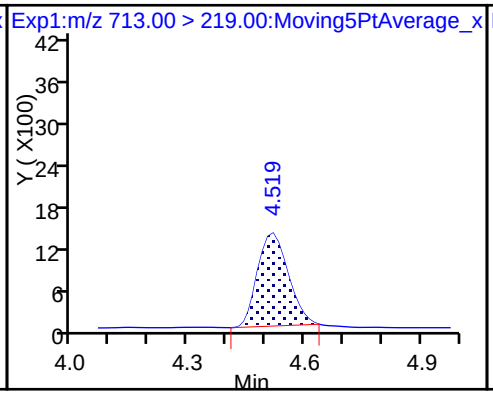
D 43 13C2-PFTeDA



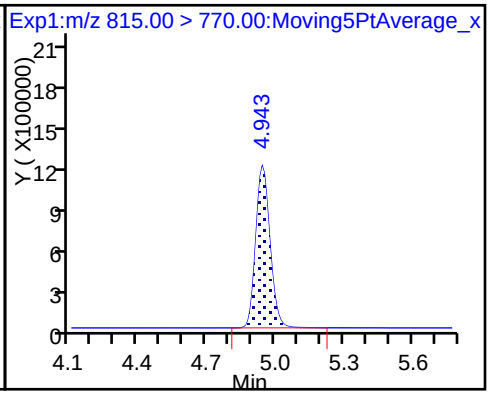
42 Perfluorotetradecanoic acid



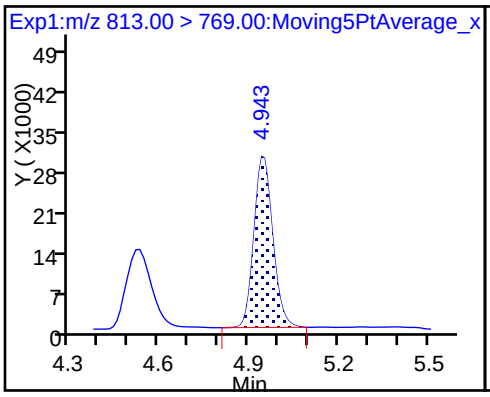
42 Perfluorotetradecanoic acid



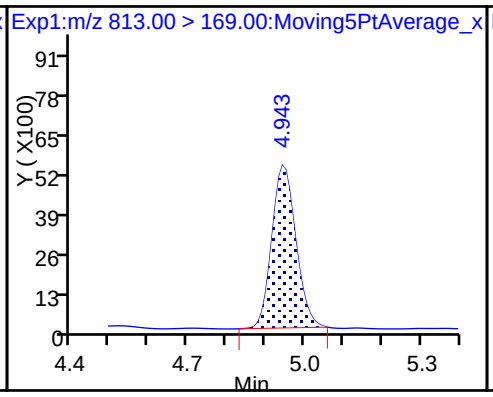
D 44 13C2-PFHxDA



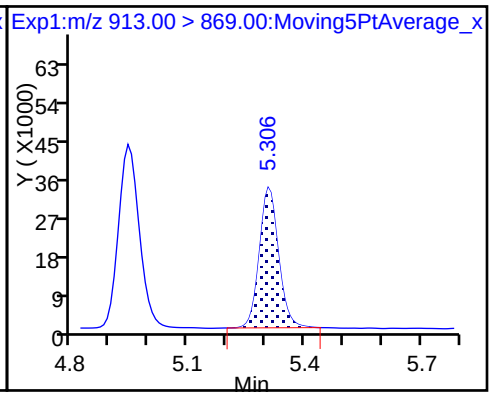
45 Perfluorohexadecanoic acid



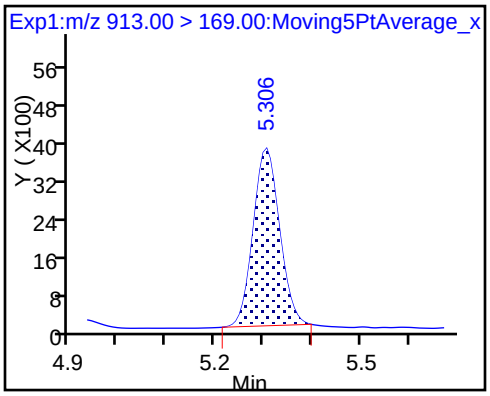
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

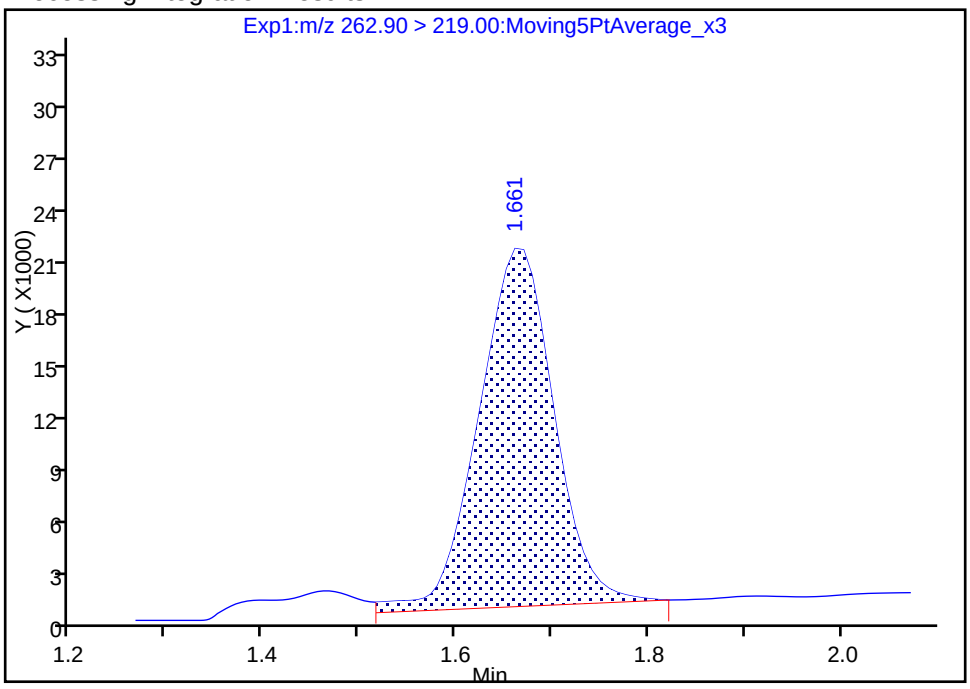
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_003.d
Injection Date: 19-Dec-2017 13:57:40 Instrument ID: A8_N
Lims ID: IC L2 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

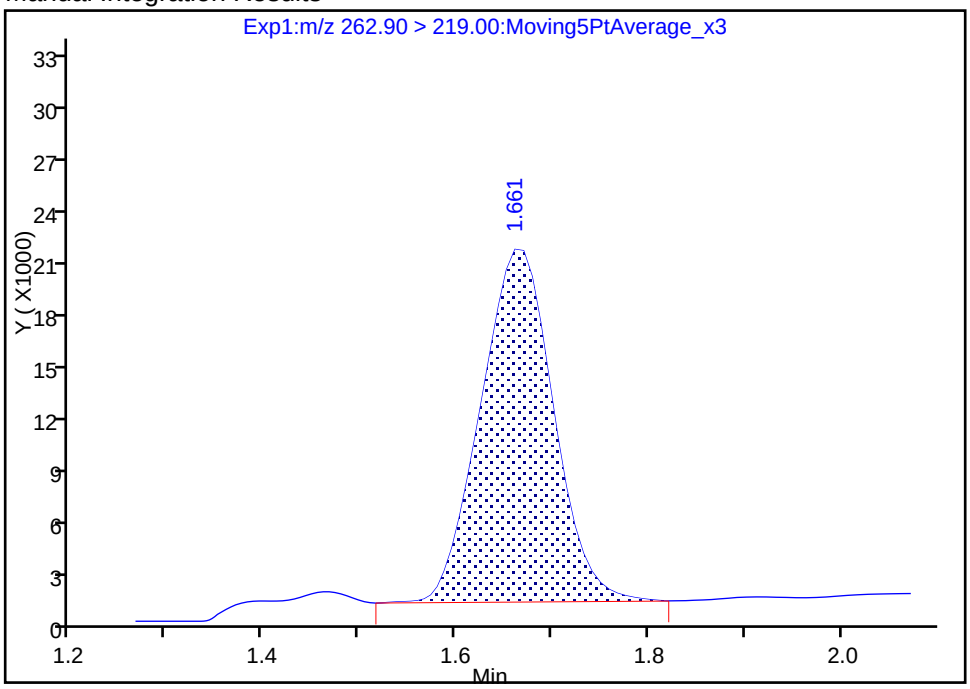
Processing Integration Results

RT: 1.66
Area: 111014
Amount: 0.052670
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 105601
Amount: 0.050426
Amount Units: ng/ml



Reviewer: roycea, 20-Dec-2017 08:03:24
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_004.d
Lims ID: IC L3 Full
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 19-Dec-2017 14:05:31 ALS Bottle#: 12 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L3-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:19:59 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 19-Dec-2017 17:10:56

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.533	7649594	2.45		98.1	31270	
2 Perfluorobutyric acid										
212.90 > 169.00	1.418	1.412	0.006	1.004	703888	0.2521		101	154	
D 3 13C5-PFPeA										
267.90 > 223.00	1.669	1.664	0.005	0.630	4533335	2.47		98.7	53094	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.669	1.664	0.005	1.000	513532	0.2562		102	815	
D 47 13C3-PFBS										
301.90 > 83.00	1.704	1.699	0.005	0.643	87626	2.26		97.1	3285	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.704	1.703	0.001	1.000	659935	0.2342		106	4231	
298.90 > 99.00	1.704	1.703	0.001	1.000	275789		2.39(1.25-3.74)	106	2980	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.909	1.909	0.0	1.000	124291	0.2487		106	5672	
D 7 13C2 PFHxA										
315.00 > 270.00	1.950	1.949	0.001	0.736	4939914	2.54		101	41725	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.950	1.949	0.001	1.000	516341	0.2613		105	1431	
313.00 > 119.00	1.950	1.949	0.001	1.000	46349		11.14(5.03-15.10)	105	909	
D 9 13C4-PFHpA										
367.00 > 322.00	2.288	2.286	0.002	0.864	4566314	2.51		100	29890	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.288	2.286	0.002	1.000	478710	0.2545		102	1051	
363.00 > 169.00	2.288	2.286	0.002	1.000	189154		2.53(1.13-3.40)	102	1482	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.301	2.299	0.002	1.000	532411	0.2209		97.1	3399	
399.00 > 99.00	2.301	2.299	0.002	1.000	176479		3.02(1.50-4.49)	97.1	2156	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.301	2.299	0.002	0.869	5245091	2.33		98.3	31487	
D 12 M2-6:2FTS										
429.00 > 81.00	2.642	2.640	0.002	0.997	1888661	2.50		105	61247	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.642	2.640	0.002	1.000	301747	0.2368		99.9	6441	
* 62 13C2-PFOA										
415.00 > 370.00	2.649	2.643	0.006		5289713	2.50			38106	
D 14 13C4 PFOA										
417.00 > 372.00	2.649	2.647	0.002	1.000	5552147	2.54		101	50523	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.649	2.649	0.0	1.000	598949	0.2556		102	1059	
413.00 > 169.00	2.649	2.649	0.0	1.000	304672		1.97(0.84-2.52)	102	2184	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.656	2.654	0.002	1.000	502339	0.2406		101	11002	
449.00 > 99.00	2.656	2.654	0.002	1.000	134170		3.74(1.94-5.82)	101	4632	
D 18 13C4 PFOS										
503.00 > 80.00	3.023	3.025	-0.002	1.141	3468553	2.39		100	29951	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.023	3.025	-0.002	1.000	351610	0.2278		98.2	641	
499.00 > 99.00	3.023	3.025	-0.002	1.000	81016		4.34(2.31-6.93)	98.2	871	
D 19 13C5 PFNA										
468.00 > 423.00	3.023	3.026	-0.003	1.141	3617401	2.46		98.4	28222	
20 Perfluorononanoic acid										
463.00 > 419.00	3.023	3.026	-0.003	1.000	361090	0.2575		103	1854	
463.00 > 169.00	3.023	3.026	-0.003	1.000	86023		4.20(1.90-5.69)	103	2972	
D 21 13C8 FOSA										
506.00 > 78.00	3.361	3.362	-0.001	1.269	5083811	2.48		99.2	24254	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.361	3.365	-0.004	1.000	492964	0.2564		103	11235	
D 26 M2-8:2FTS										
529.00 > 81.00	3.376	3.375	0.001	1.275	758422	2.35		98.2	16022	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.376	3.376	0.0	1.000	92028	0.2390		99.8	4726	
D 23 13C2 PFDA										
515.00 > 470.00	3.384	3.387	-0.003	1.277	2846274	2.42		96.8	39975	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.384	3.388	-0.004	1.000	293411	0.2603		104	3070	
513.00 > 169.00	3.391	3.388	0.003	1.002	53512		5.48(2.36-7.09)	104	1212	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.543	3.541	0.002	1.337	1359476	2.51		100	18074	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.543	3.547	-0.004	1.000	135527	0.2418		96.7	995	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.703	3.701	0.002	1.000	211803	0.2491		103	8525	
599.00 > 99.00	3.703	3.701	0.002	1.000	69663		3.04(1.39-4.16)	103	2130	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.712	3.711	0.001	1.401	1442946	2.58		103	5317	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.720	3.717	0.003	1.404	2315663	2.55		102	30432	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.720	3.718	0.002	1.002	143061	0.2544		102	3761	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.720	3.718	0.002	1.000	199098	0.2376		95.0	1449	
563.00 > 169.00	3.720	3.718	0.002	1.000	43142		4.61(0.00-0.00)	95.0	2912	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.851	3.856	-0.005	1.454	1437196	2.38		95.1	4761	
35 MeFOSA										
512.00 > 169.00	3.862	3.863	-0.001	1.003	144155	0.2553		102	2138	
D 36 13C2 PFDoA										
615.00 > 570.00	4.018	4.015	0.003	1.517	2370716	2.46		98.4	32842	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.018	4.016	0.002	1.000	236298	0.2595		104	1027	
613.00 > 169.00	4.010	4.016	-0.006	0.998	53066		4.45(2.13-6.40)	104	3275	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.050	4.048	0.002	1.529	1374246	2.41		96.5	3185	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.057	4.054	0.003	1.002	146513	0.2529		101	1982	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.285	4.285	0.0	1.000	277680	0.2555		102	1928	
663.00 > 169.00	4.285	4.285	0.0	1.000	86399		3.21(1.25-3.76)	102	3918	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.519	4.522	-0.003	1.000	63152	0.2355		94.2	2699	
713.00 > 219.00	4.519	4.522	-0.003	1.000	46603		1.36(0.71-2.13)	94.2	2666	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.519	4.522	-0.003	1.706	2650112	2.51		100	15642	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.943	4.944	-0.001	1.866	5140375	2.66		106	15445	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.943	4.945	-0.002	1.000	491042	0.2502		100	379	
813.00 > 169.00	4.943	4.945	-0.002	1.000	86432		5.68(2.86-8.58)	100	2535	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.313	5.309	0.004	1.000	581071	0.2542		102	187	
913.00 > 169.00	5.306	5.309	-0.003	0.999	68948		8.43(0.00-0.00)	102	896	

Reagents:

LCPFC_LL3_00002 Amount Added: 1.00 Units: mL

Report Date: 20-Dec-2017 08:20:00 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_004.d

Injection Date: 19-Dec-2017 14:05:31 Instrument ID: A8_N

Lims ID: IC L3 Full

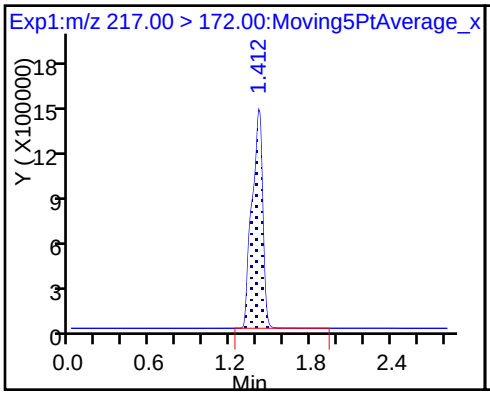
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 12 Worklist Smp#: 4

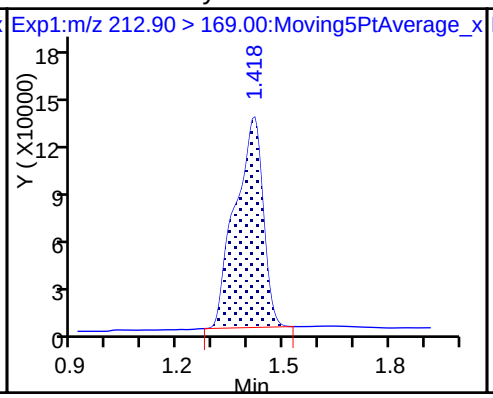
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

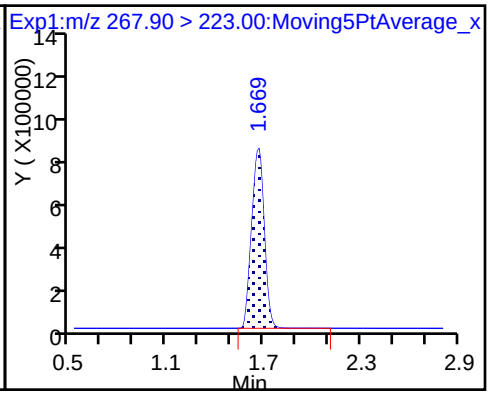
D 1 13C4 PFBA



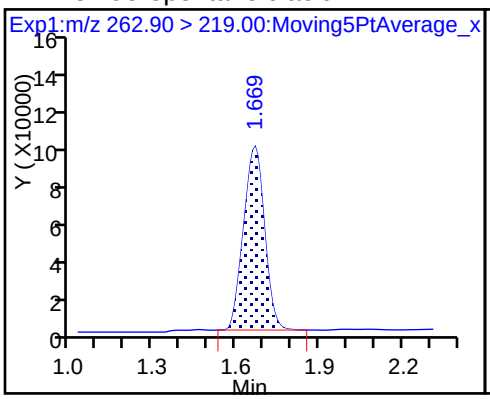
2 Perfluorobutyric acid



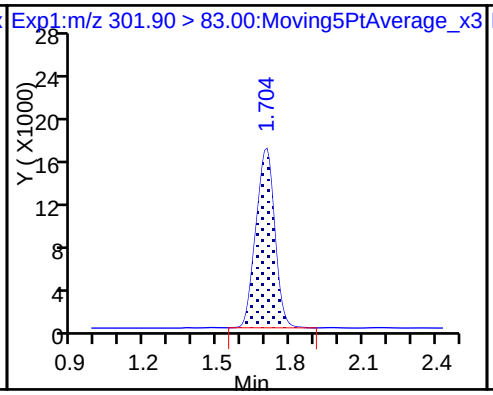
D 3 13C5-PFPeA



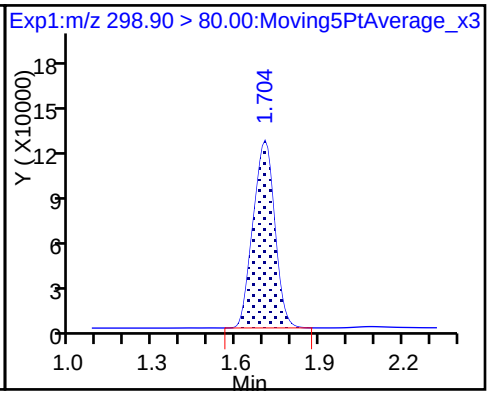
4 Perfluoropentanoic acid



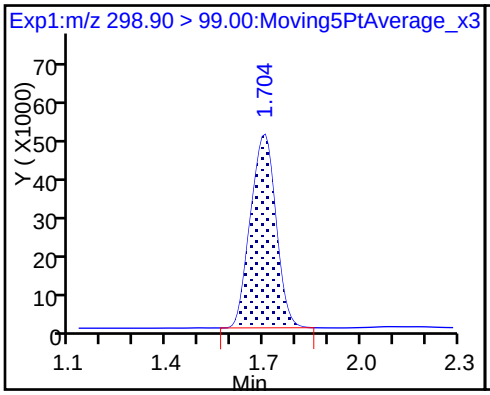
D 47 13C3-PFBS



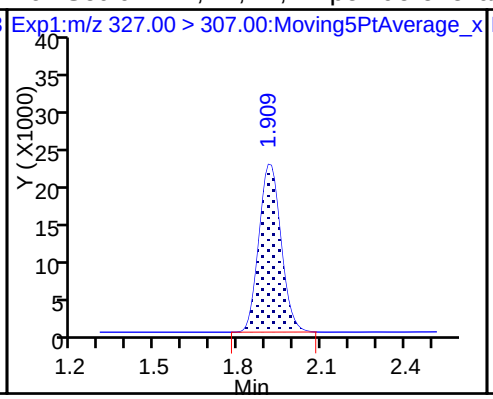
5 Perfluorobutanesulfonic acid



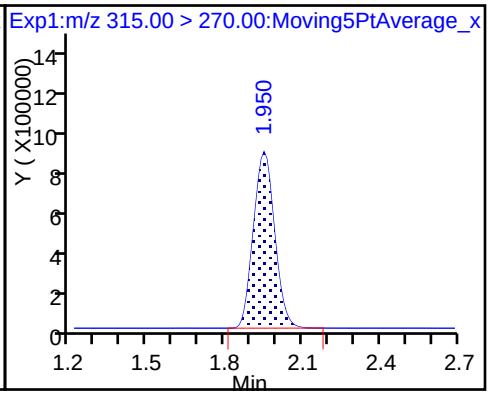
5 Perfluorobutanesulfonic acid



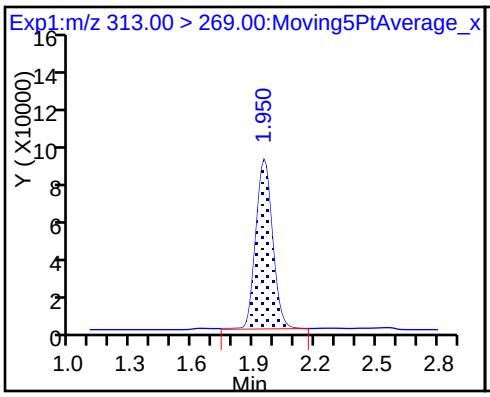
61 Sodium 1H,1H,2H,2H-perfluorohexa



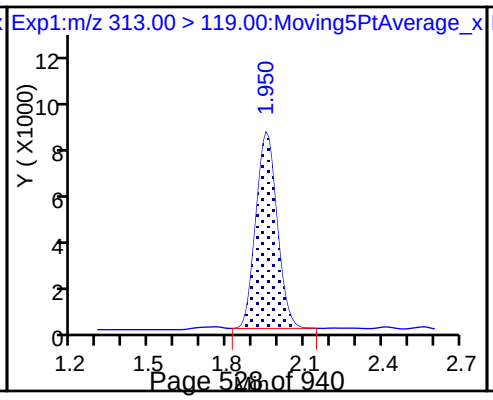
D 7 13C2 PFHxA



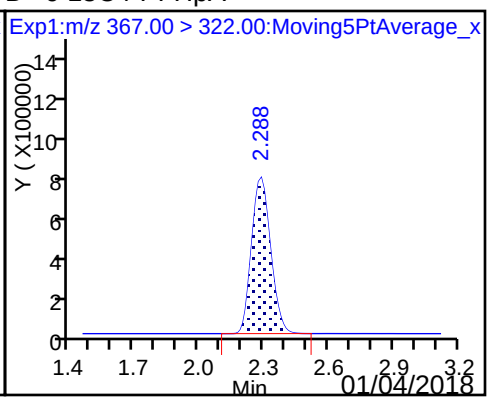
6 Perfluorohexanoic acid



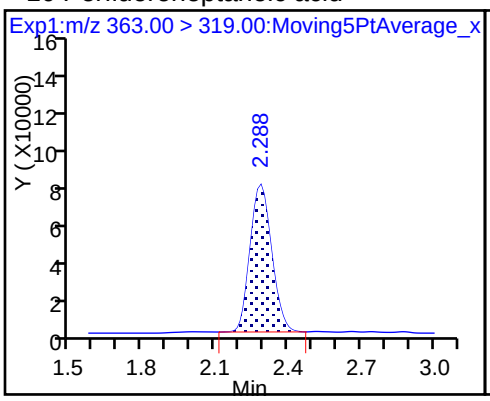
6 Perfluorohexanoic acid



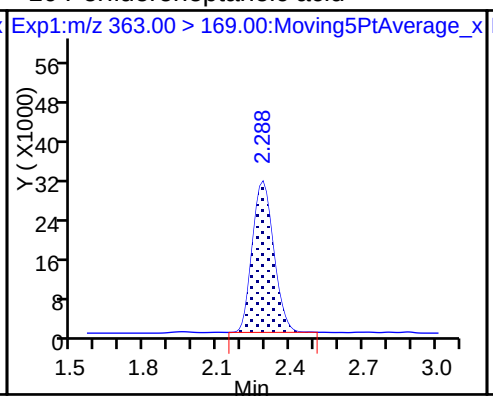
D 9 13C4-PFHpA



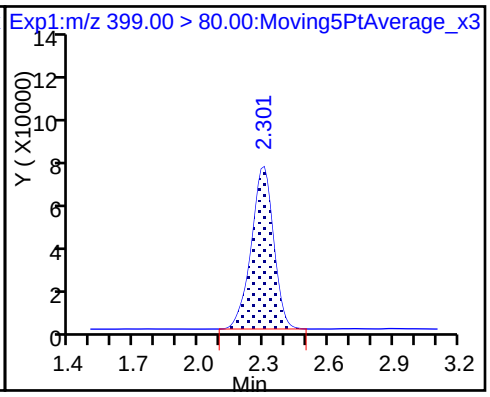
10 Perfluoroheptanoic acid



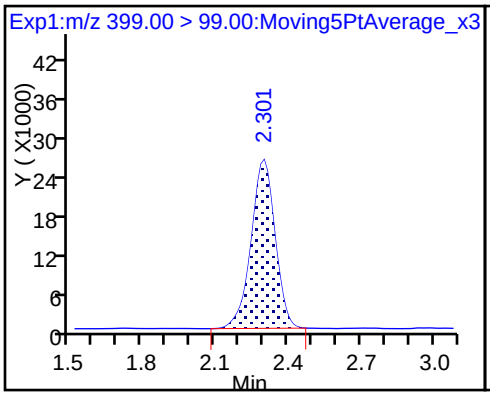
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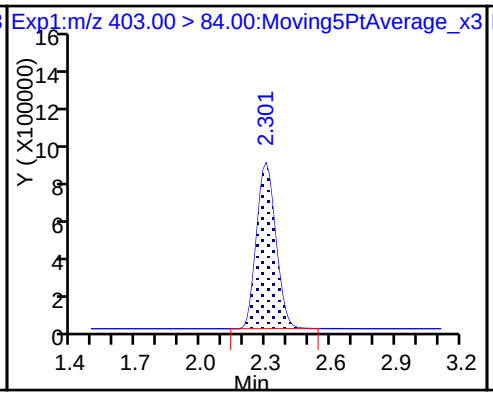
8 Perfluorohexanesulfonic acid



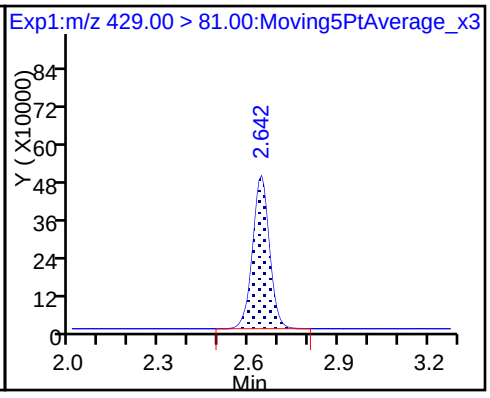
8 Perfluorohexanesulfonic acid



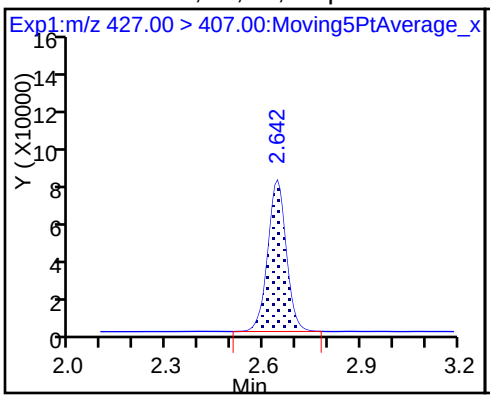
D 11 18O2 PFHxS



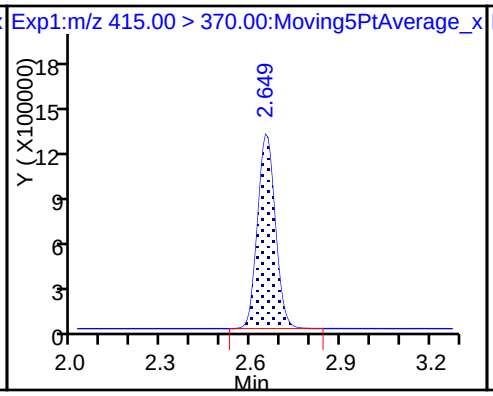
D 12 M2-6:2FTS



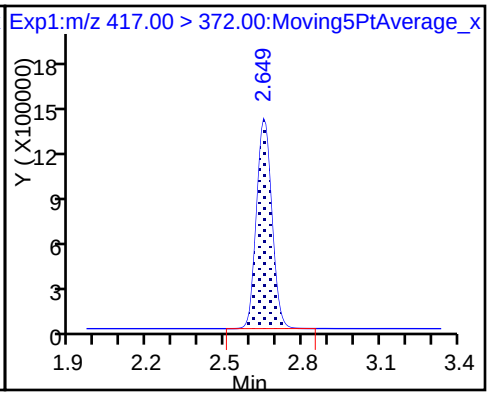
13 Sodium 1H,1H,2H,2H-perfluorooctane



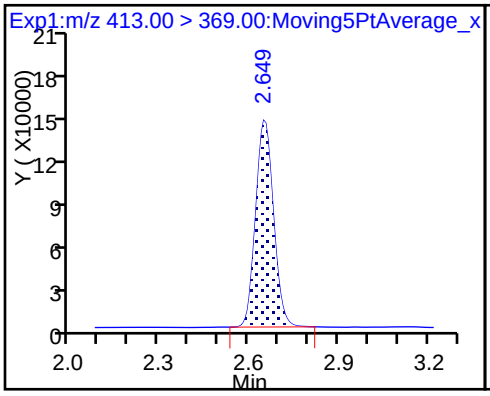
M2 13C2-PFOA



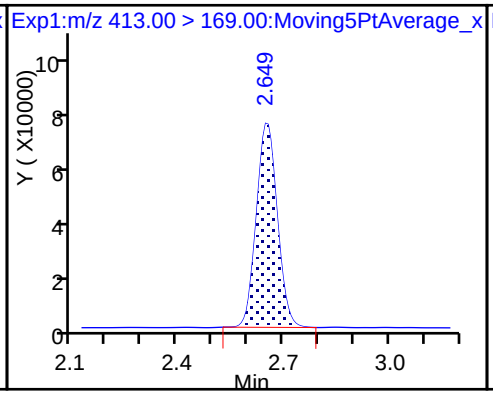
D 14 13C4 PFOA



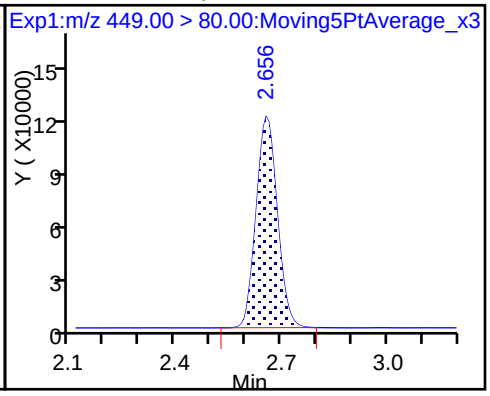
15 Perfluorooctanoic acid



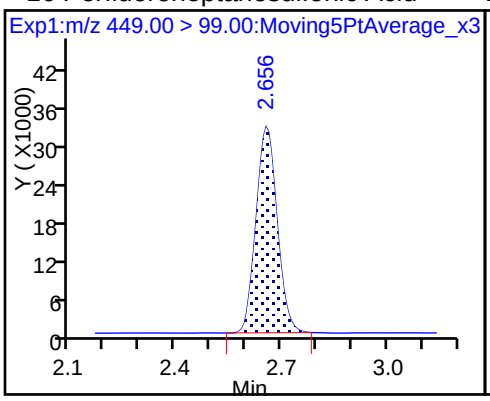
15 Perfluorooctanoic acid



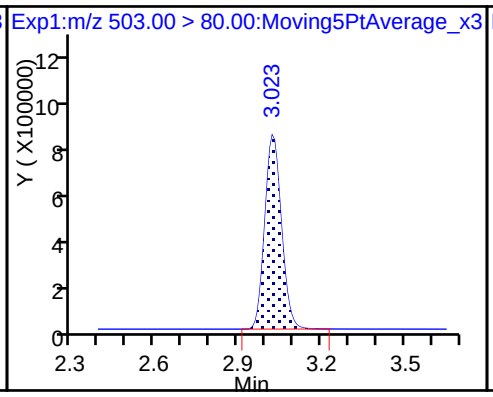
16 Perfluoroheptanesulfonic Acid



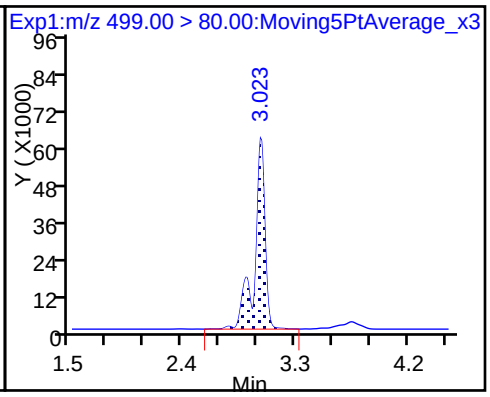
16 Perfluoroheptanesulfonic Acid



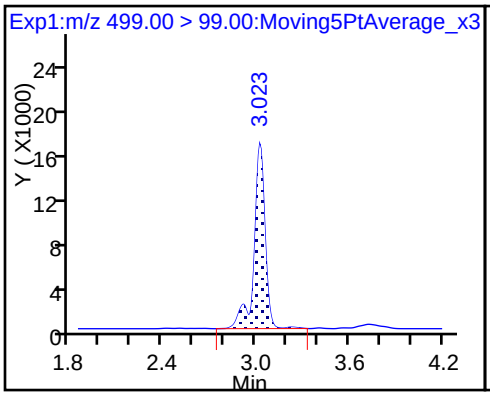
D 18 13C4 PFOS



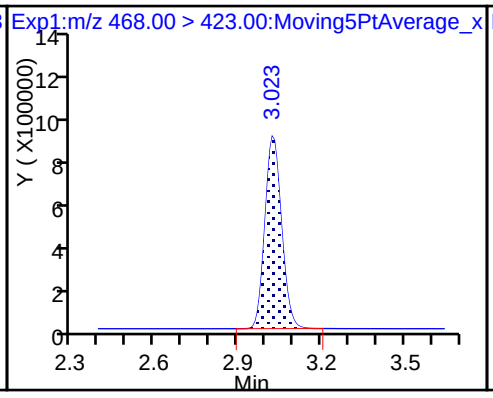
17 Perfluorooctane sulfonic acid



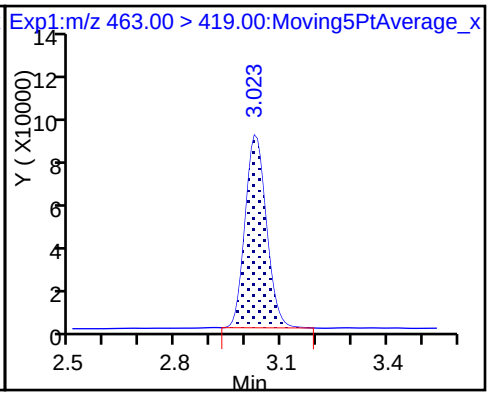
17 Perfluorooctane sulfonic acid



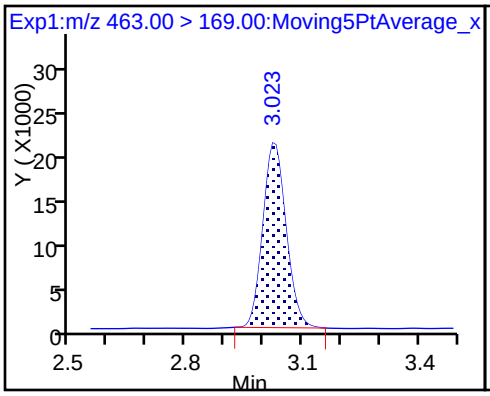
D 19 13C5 PFNA



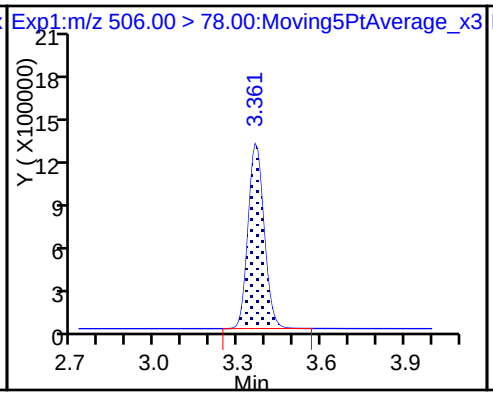
20 Perfluorononanoic acid



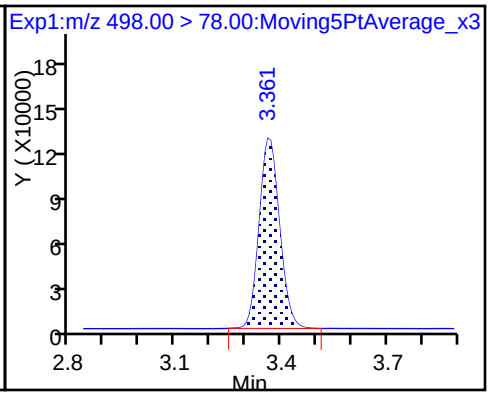
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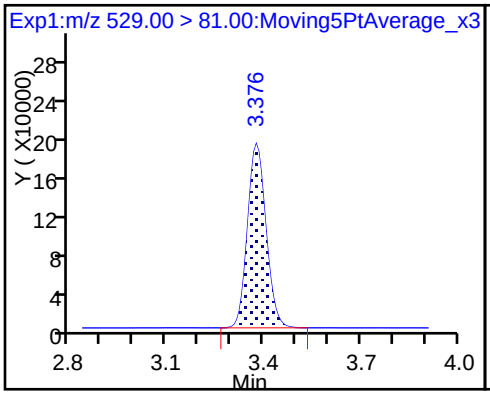
D 21 13C8 FOSA



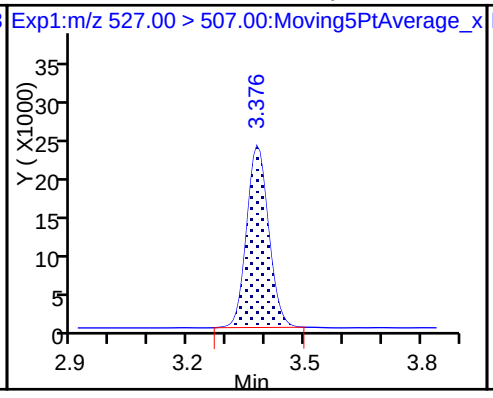
22 Perfluorooctane Sulfonamide



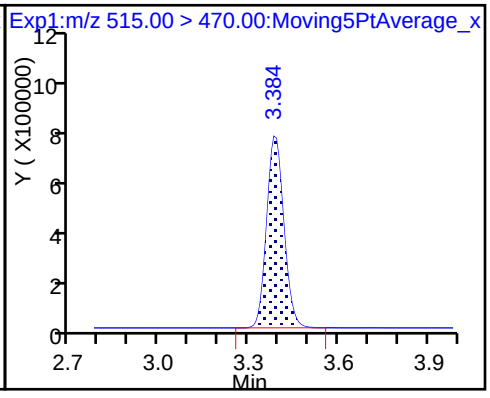
D 26 M2-8:2FTS



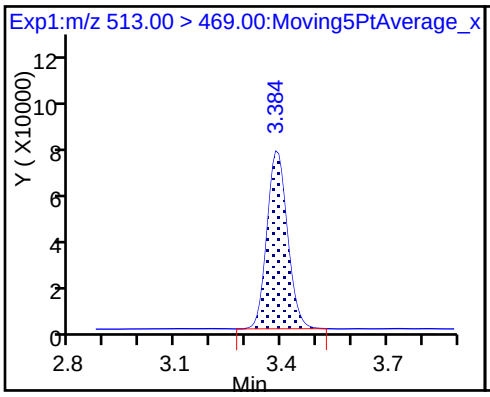
25 Sodium 1H,1H,2H,2H-perfluorodecane



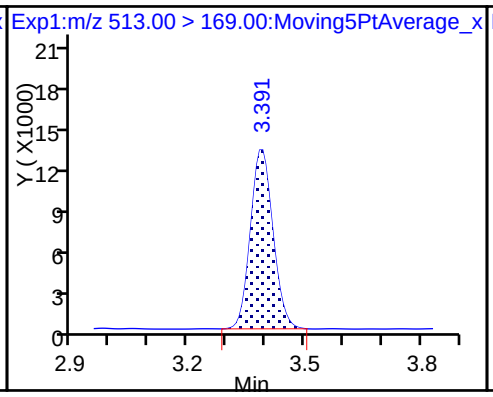
D 23 13C2 PFDA



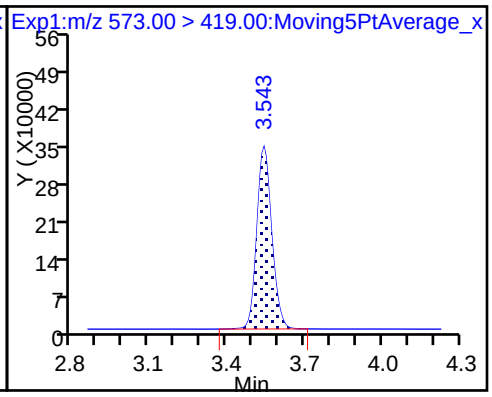
24 Perfluorodecanoic acid



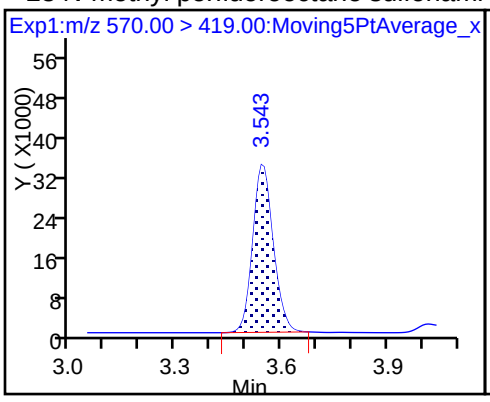
24 Perfluorodecanoic acid



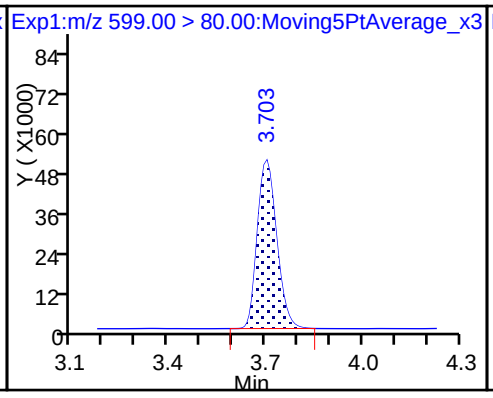
D 27 d3-NMeFOSAA



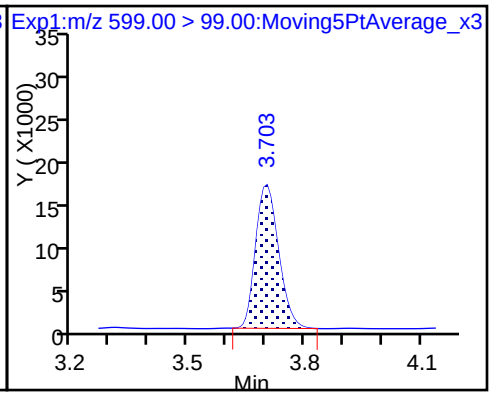
28 N-methyl perfluorooctane sulfonami



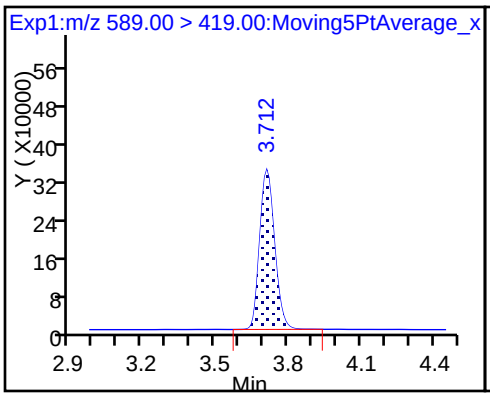
29 Perfluorodecane Sulfonic acid



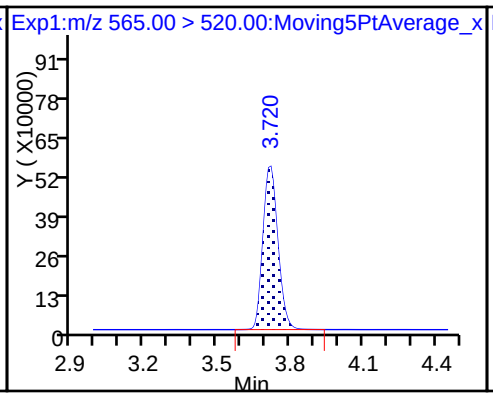
29 Perfluorodecane Sulfonic acid



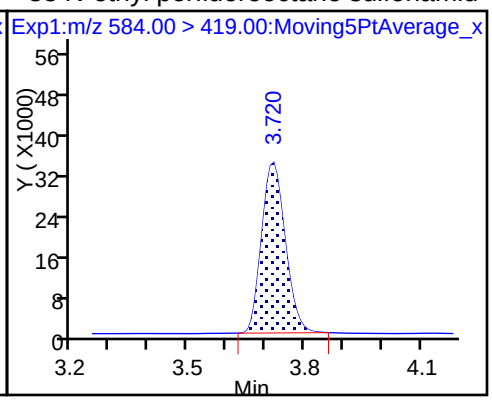
D 32 d5-NEtFOSAA



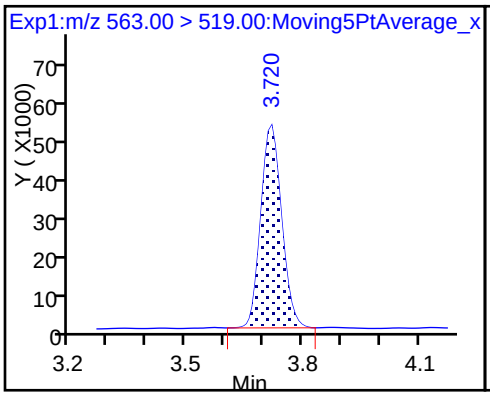
D 30 13C2 PFUnA



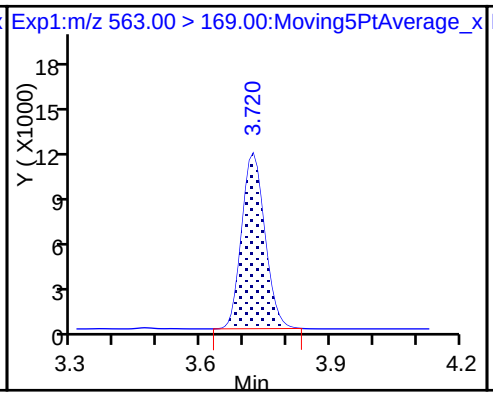
33 N-ethyl perfluorooctane sulfonamid



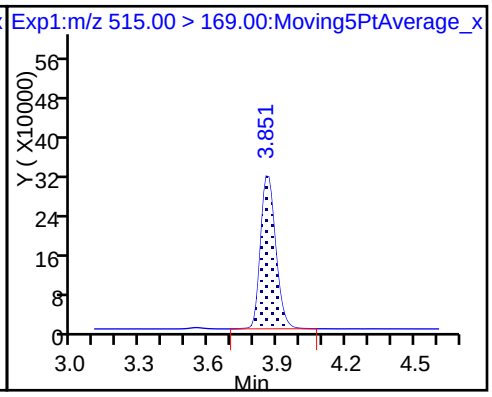
31 Perfluoroundecanoic acid



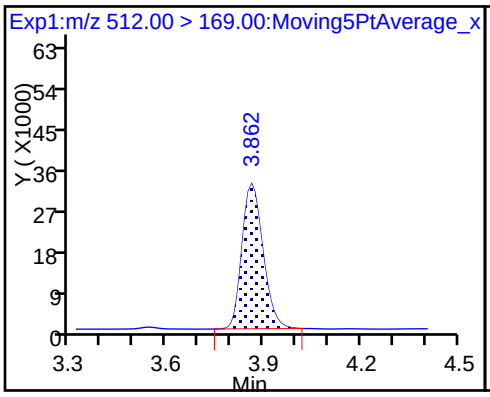
31 Perfluoroundecanoic acid



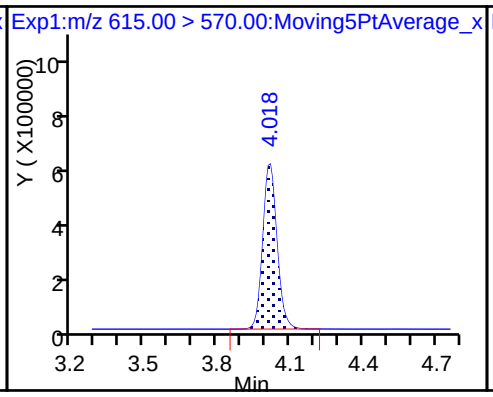
D 34 d-N-MeFOSA-M



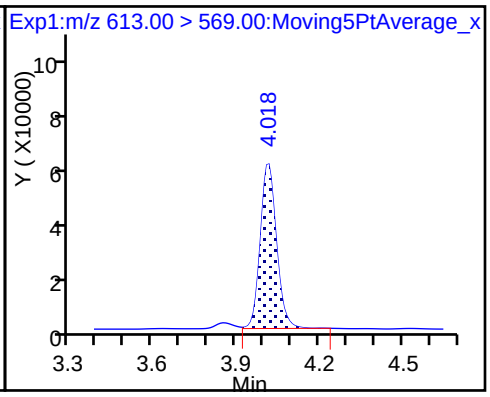
35 MeFOSA



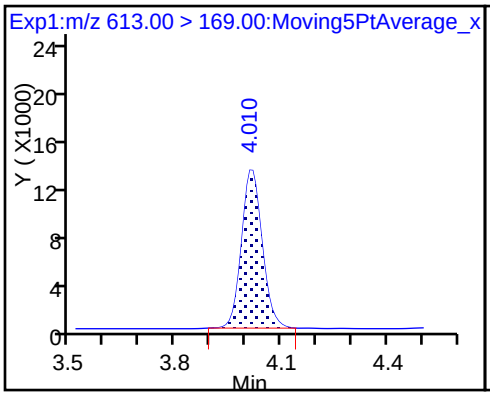
D 36 13C2 PFDoA



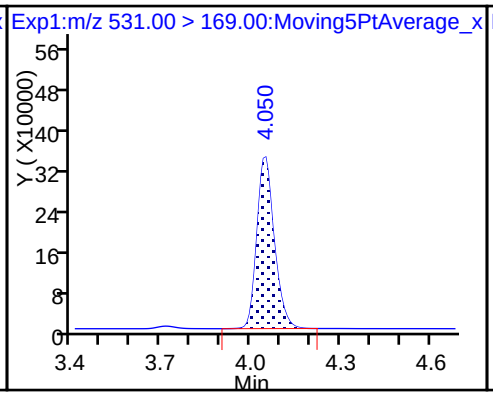
37 Perfluorododecanoic acid



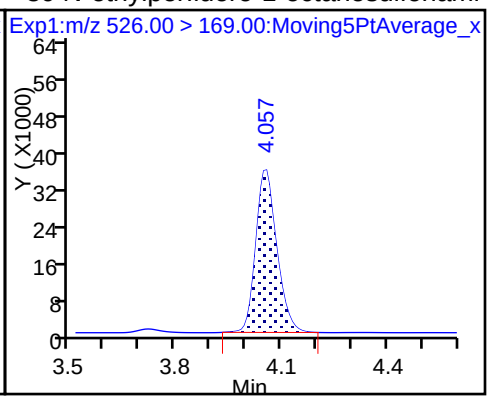
37 Perfluorododecanoic acid



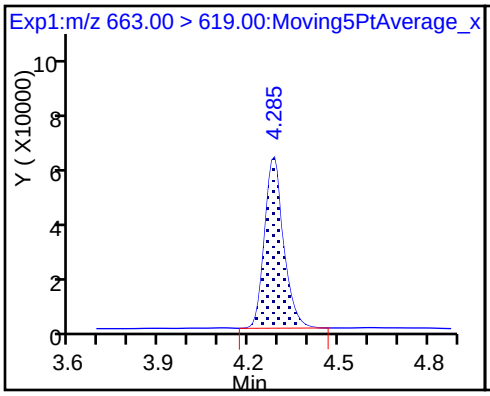
D 38 d-N-EtFOSA-M



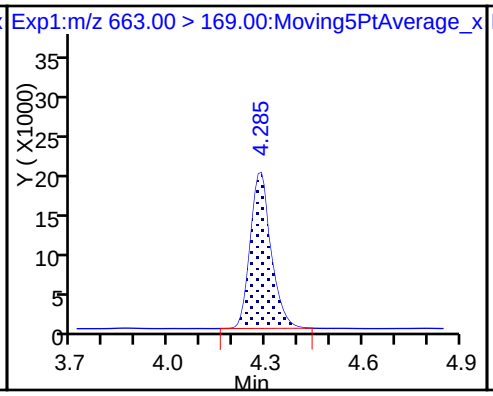
39 N-ethylperfluoro-1-octanesulfonami



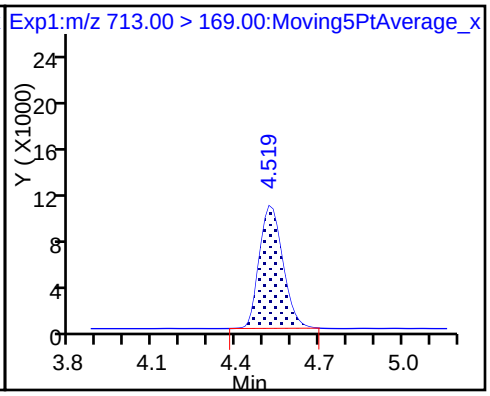
41 Perfluorotridecanoic acid



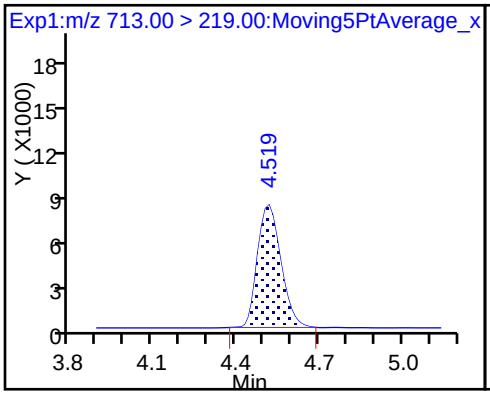
41 Perfluorotridecanoic acid



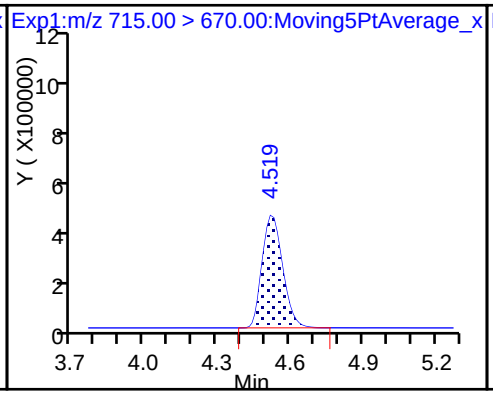
42 Perfluorotetradecanoic acid



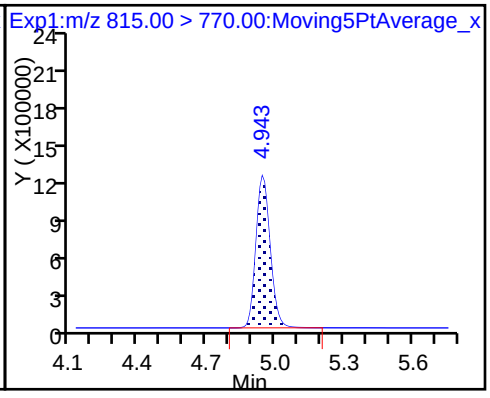
42 Perfluorotetradecanoic acid



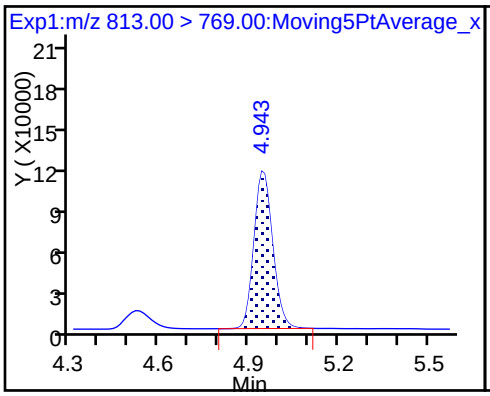
D 43 13C2-PFTeDA



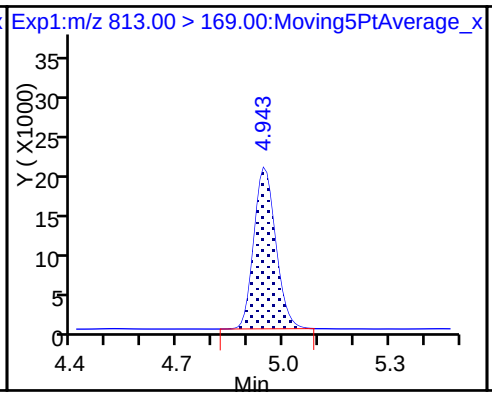
D 44 13C2-PFHxDA



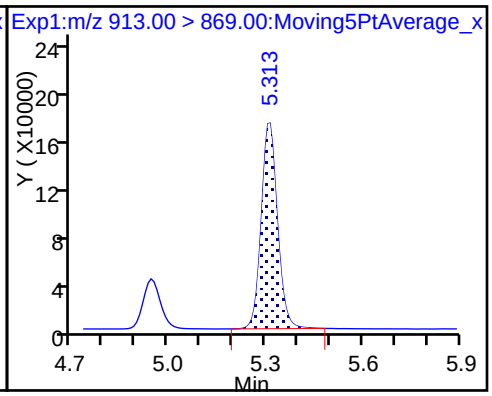
45 Perfluorohexadecanoic acid



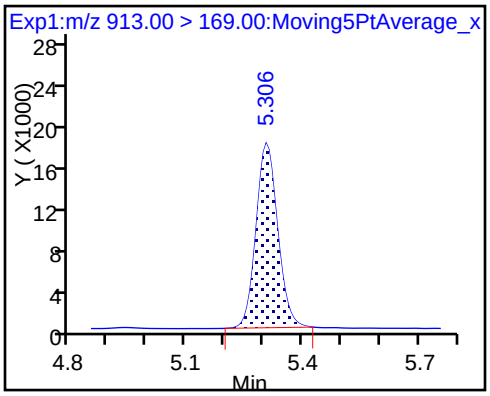
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_005.d
Lims ID: IC L4 Full
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 19-Dec-2017 14:13:20 ALS Bottle#: 13 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L4-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:20:03 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 19-Dec-2017 17:11:31

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.533	7508732	2.45		98.1	25353	
2 Perfluorobutyric acid										
212.90 > 169.00	1.412	1.412	0.0	1.000	2821318	1.03		103	592	
D 3 13C5-PFPeA										
267.90 > 223.00	1.668	1.664	0.004	0.630	4454277	2.47		98.8	41997	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.668	1.664	0.004	1.000	1987989	1.01		101	3064	
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.643	87948	2.31		99.2	4020	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.703	1.703	0.0	1.000	2612762	0.9240		105	14170	
298.90 > 99.00	1.703	1.703	0.0	1.000	1074756		2.43(1.25-3.74)	105	8944	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.908	1.909	-0.001	1.000	449606	0.8660		92.7	20197	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.949	1.949	0.0	1.000	1852839	0.99		99.0	4915	
313.00 > 119.00	1.949	1.949	0.0	1.000	174400		10.62(5.03-15.10)	99.0	4351	
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.736	4677248	2.45		97.8	37711	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.286	2.286	0.0	1.000	1821653	0.9670		96.7	3974	
363.00 > 169.00	2.286	2.286	0.0	1.000	729709		2.50(1.13-3.40)	96.7	4945	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.864	4573964	2.56		102	29929	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.869	5152384	2.33		98.4	29577	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.299	0.0	1.000	2050186	0.8658		95.1	10515	
399.00 > 99.00	2.299	2.299	0.0	1.000	689624		2.97(1.50-4.49)	95.1	6278	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.640	2.640	0.0	1.000	1306340	0.9870		104	28464	
D 12 M2-6:2FTS										
429.00 > 81.00	2.640	2.640	0.0	0.997	1961721	2.64		111	46381	
* 62 13C2-PFOA										
415.00 > 370.00	2.647	2.643	0.004		5192235	2.50			57230	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.647	0.0	1.000	5504352	2.56		102	44754	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.647	2.649	-0.002	1.000	2261585	0.9734		97.3	3557	
413.00 > 169.00	2.647	2.649	-0.002	1.000	1210594		1.87(0.84-2.52)	97.3	8355	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.654	2.654	0.0	1.000	1973433	1.01		106	22652	
449.00 > 99.00	2.654	2.654	0.0	1.000	535643		3.68(1.94-5.82)	106	12759	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.021	3.025	-0.005	1.000	1395770	0.9671		104	2651	
499.00 > 99.00	3.021	3.025	-0.005	1.000	303641		4.60(2.31-6.93)	104	2678	
D 18 13C4 PFOS										
503.00 > 80.00	3.021	3.025	-0.005	1.141	3243880	2.28		95.3	27689	
20 Perfluorononanoic acid										
463.00 > 419.00	3.021	3.026	-0.006	1.000	1442772	1.03		103	6899	
463.00 > 169.00	3.021	3.026	-0.006	1.000	356686		4.04(1.90-5.69)	103	9462	
D 19 13C5 PFNA										
468.00 > 423.00	3.021	3.026	-0.006	1.141	3600237	2.49		99.8	30944	
D 21 13C8 FOSA										
506.00 > 78.00	3.358	3.362	-0.004	1.269	4788315	2.38		95.1	19597	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.002	1992747	1.10		110	19919	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.274	733017	2.32		96.7	18504	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.373	3.376	-0.003	1.000	370147	0.99		104	11741	
D 23 13C2 PFDA										
515.00 > 470.00	3.381	3.387	-0.006	1.277	2883931	2.50		99.9	30163	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.388	3.388	0.0	1.002	1107121	0.9695		96.9	10717	
513.00 > 169.00	3.381	3.388	-0.007	1.000	209516		5.28(2.36-7.09)	96.9	2102	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.541	3.541	0.0	1.337	1280148	2.40		96.2	22779	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.548	3.547	0.001	1.002	539973	1.02		102	4030	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.699	3.701	-0.002	1.000	809987	1.02		106	19616	
599.00 > 99.00	3.699	3.701	-0.002	1.000	298286		2.72(1.39-4.16)	106	8043	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.711	-0.003	1.401	1374509	2.51		100	5184	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.404	2169967	2.44		97.6	27193	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.717	3.718	-0.001	1.000	748636	0.9533		95.3	5179	
563.00 > 169.00	3.717	3.718	-0.001	1.000	179035		4.18(0.00-0.00)	95.3	12152	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.717	3.718	-0.001	1.002	514570	0.9605		96.0	13310	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.457	1401657	2.36		94.5	4102	
35 MeFOSA										
512.00 > 169.00	3.867	3.863	0.004	1.003	552863	1.00		100	2872	
D 36 13C2 PFDoA										
615.00 > 570.00	4.015	4.015	0.0	1.517	2255928	2.39		95.4	46674	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.015	4.016	-0.001	1.000	846123	0.9766		97.7	3404	
613.00 > 169.00	4.015	4.016	-0.001	1.000	230875		3.66(2.13-6.40)	97.7	9616	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.528	1375266	2.46		98.4	3369	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.002	581634	1.00		100	2930	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.281	4.285	-0.004	1.000	1109855	1.07		107	10151	
663.00 > 169.00	4.281	4.285	-0.004	1.000	351270		3.16(1.25-3.76)	107	11486	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.706	2547162	2.45		98.1	22947	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.515	4.522	-0.007	1.000	235504	0.9137		91.4	8066	
713.00 > 219.00	4.515	4.522	-0.007	1.000	190206		1.24(0.71-2.13)	91.4	6598	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.941	4.944	-0.003	1.867	4658168	2.46		98.2	14130	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.941	4.945	-0.004	1.000	1718006	1.04		104	1274	
813.00 > 169.00	4.941	4.945	-0.004	1.000	326854		5.26(2.86-8.58)	104	6349	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.304	5.309	-0.005	1.000	2175415	1.05		105	664	
913.00 > 169.00	5.304	5.309	-0.005	1.000	282599		7.70(0.00-0.00)	105	2082	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 20-Dec-2017 08:20:05 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_005.d

Injection Date: 19-Dec-2017 14:13:20 Instrument ID: A8_N

Lims ID: IC L4 Full

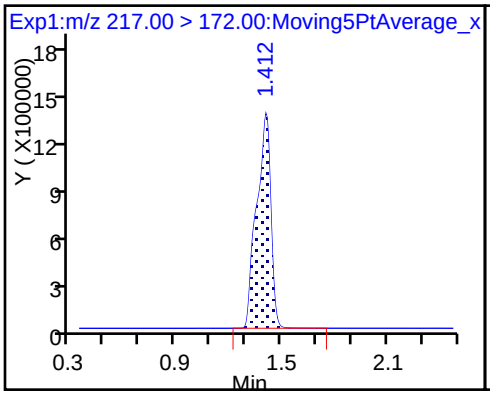
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 5

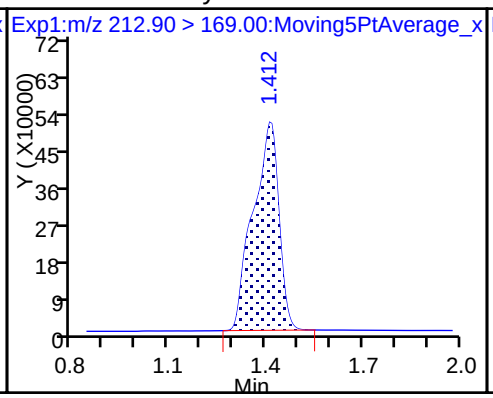
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

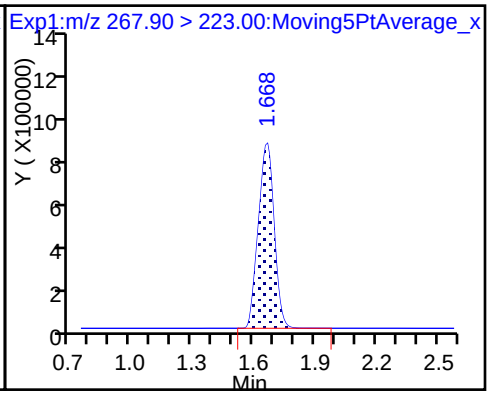
D 1 13C4 PFBA



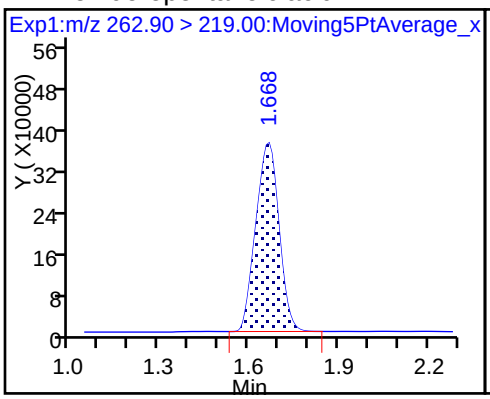
2 Perfluorobutyric acid



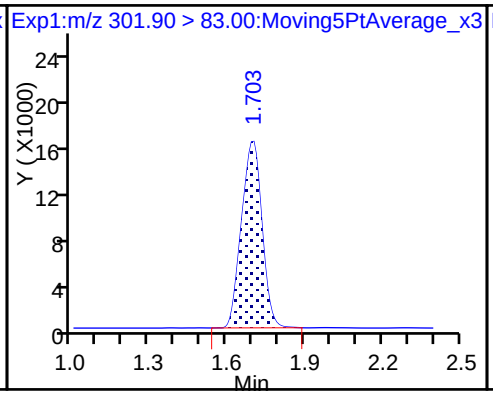
D 3 13C5-PFPeA



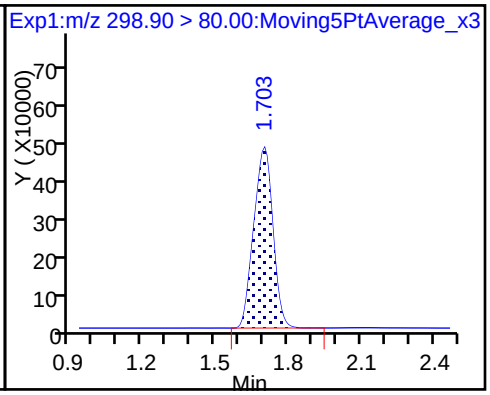
4 Perfluoropentanoic acid



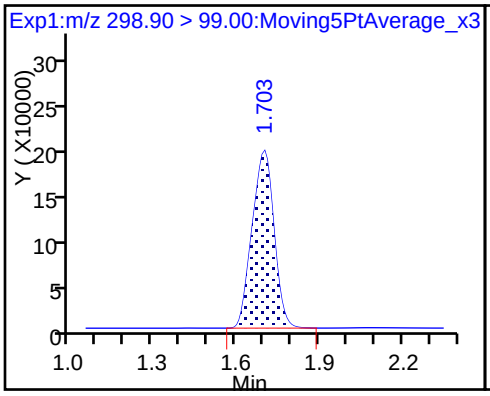
D 47 13C3-PFBS



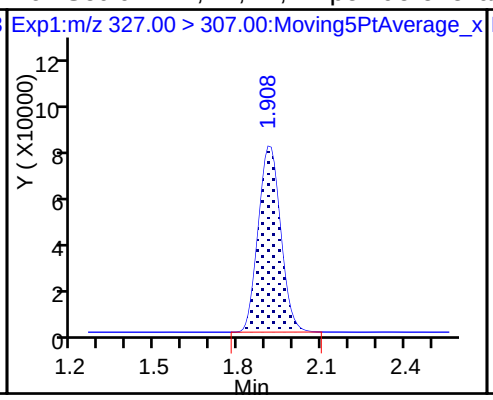
5 Perfluorobutanesulfonic acid



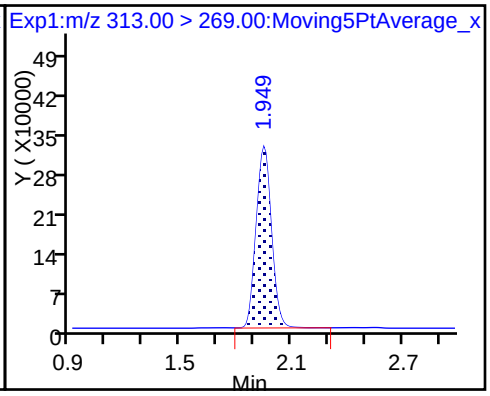
5 Perfluorobutanesulfonic acid



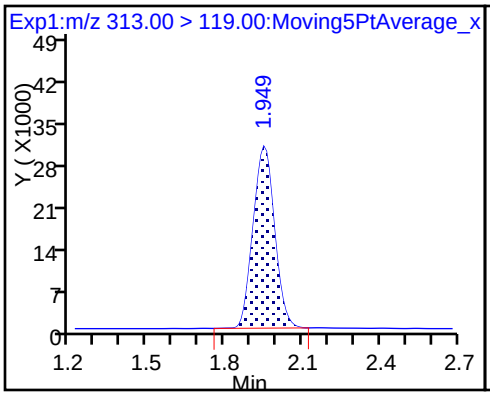
61 Sodium 1H,1H,2H,2H-perfluorohexane



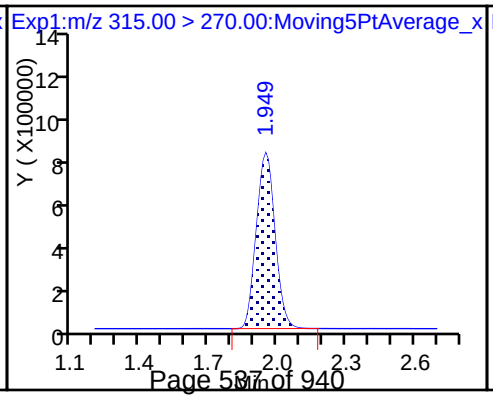
6 Perfluorohexanoic acid



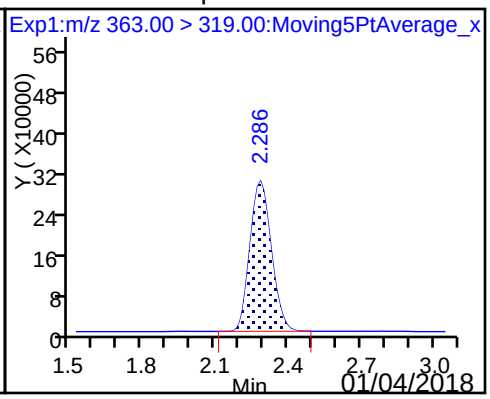
6 Perfluorohexanoic acid



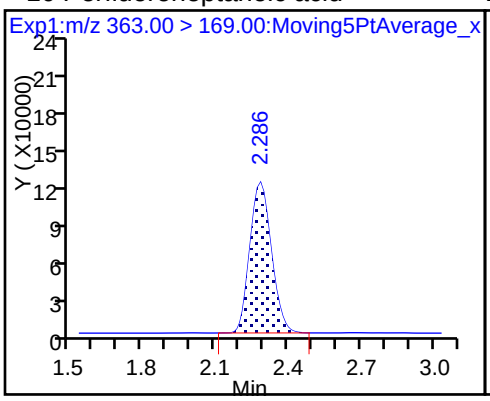
D 7 13C2 PFHxA



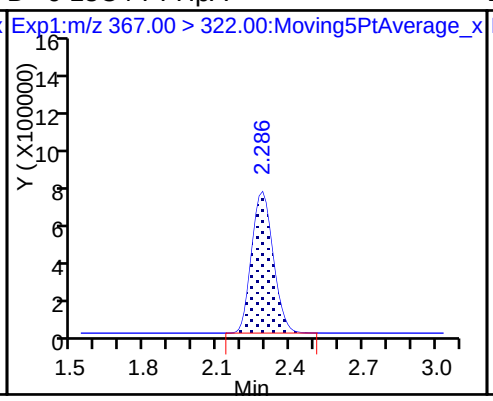
10 Perfluoroheptanoic acid



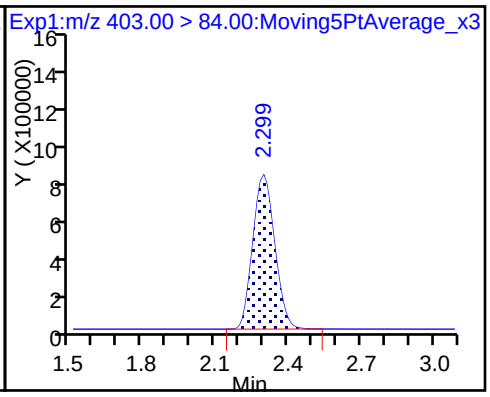
10 Perfluoroheptanoic acid



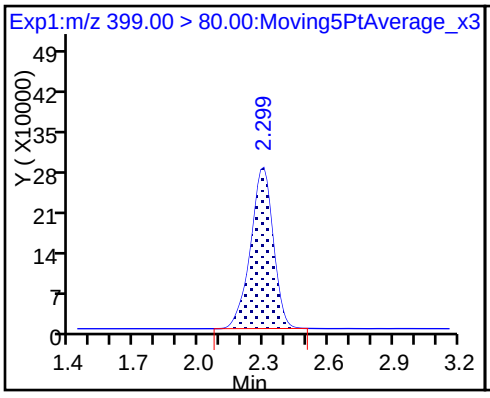
D 9 13C4-PFHpA



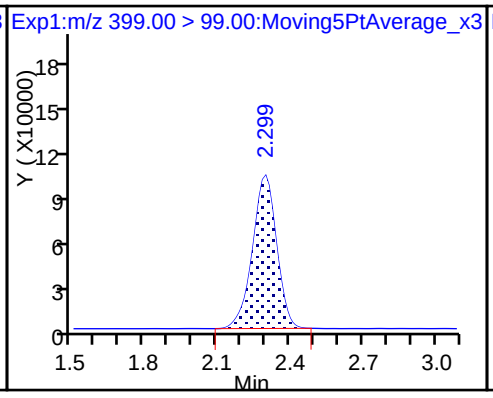
D 11 18O2 PFHxS



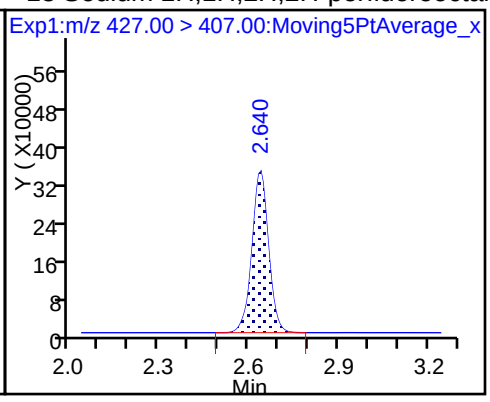
8 Perfluorohexanesulfonic acid



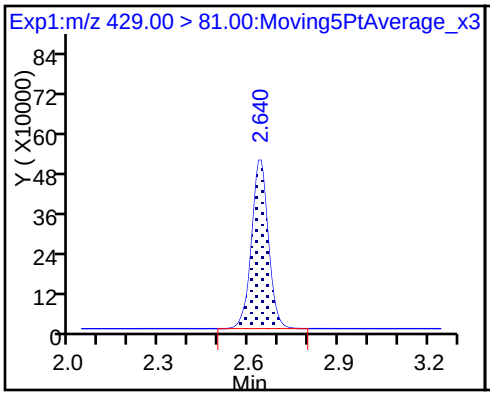
8 Perfluorohexanesulfonic acid



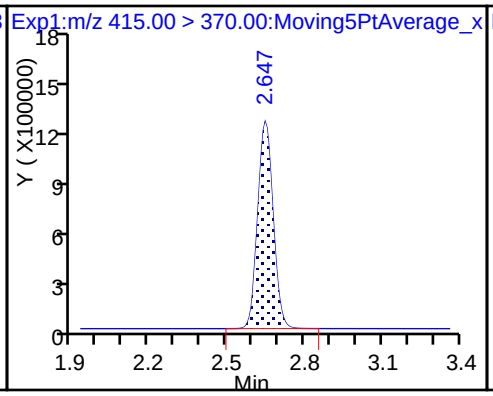
13 Sodium 1H,1H,2H,2H-perfluorooctane



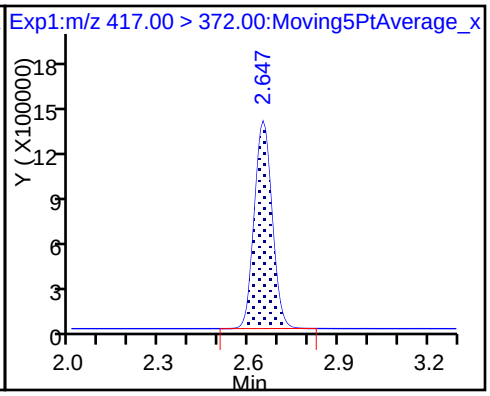
D 12 M2-6:2FTS



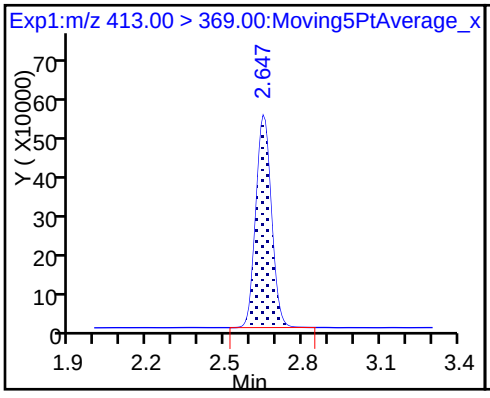
* 62 13C2-PFOA



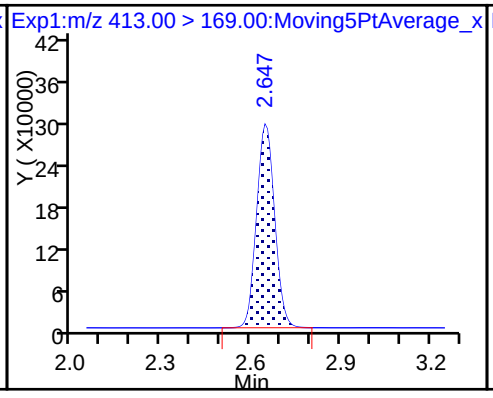
D 14 13C4 PFOA



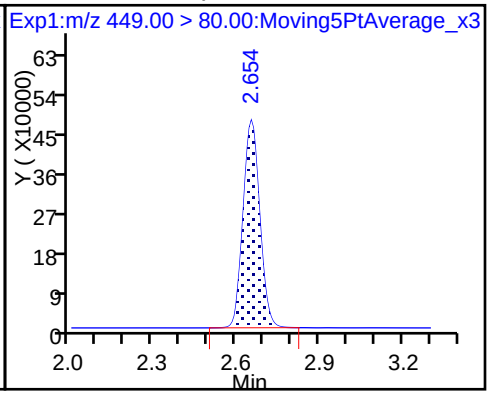
15 Perfluorooctanoic acid



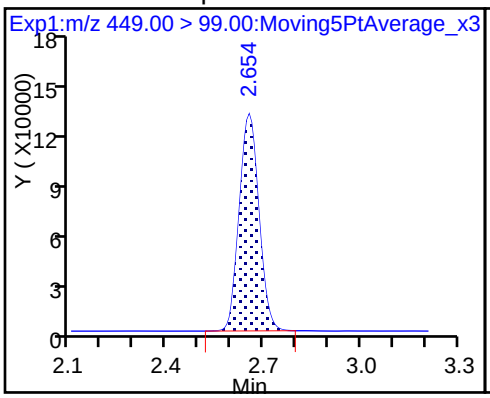
15 Perfluorooctanoic acid



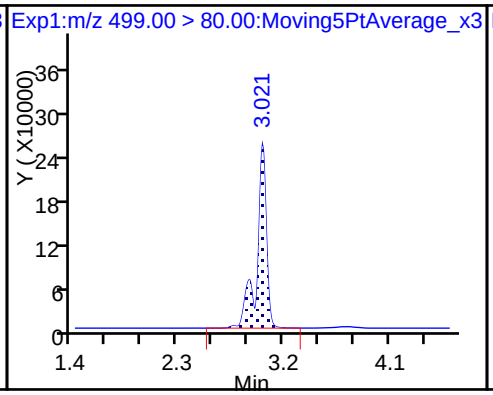
16 Perfluoroheptanesulfonic Acid



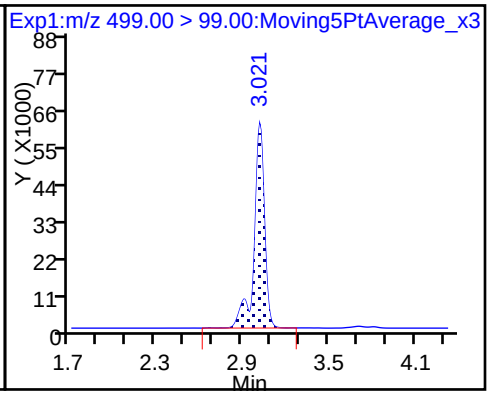
16 Perfluoroheptanesulfonic Acid



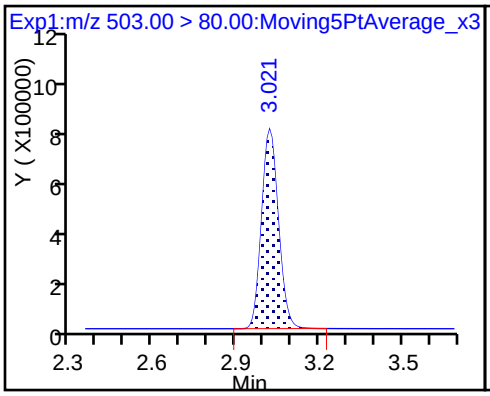
17 Perfluorooctane sulfonic acid



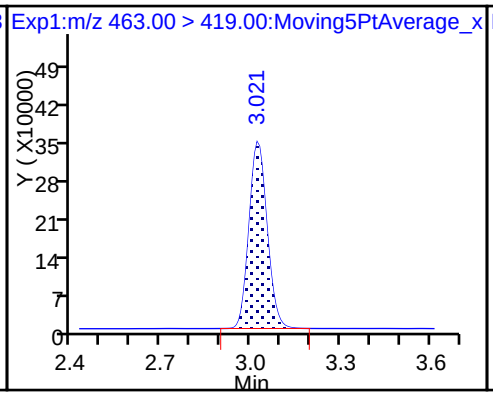
17 Perfluorooctane sulfonic acid



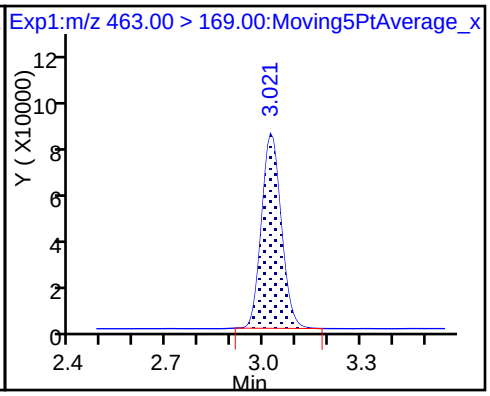
D 18 13C4 PFOS



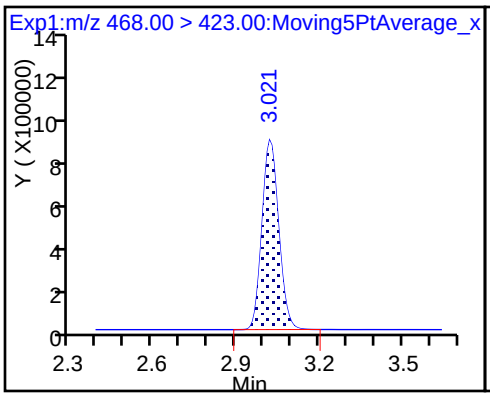
20 Perfluorononanoic acid



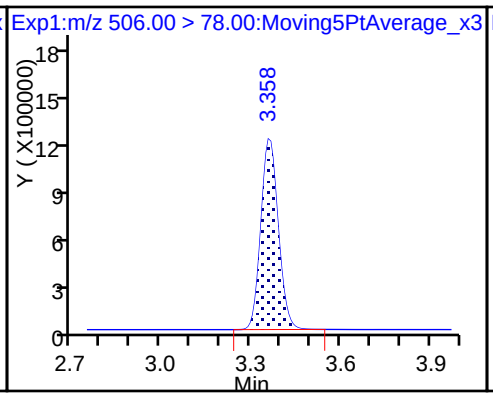
20 Perfluorononanoic acid



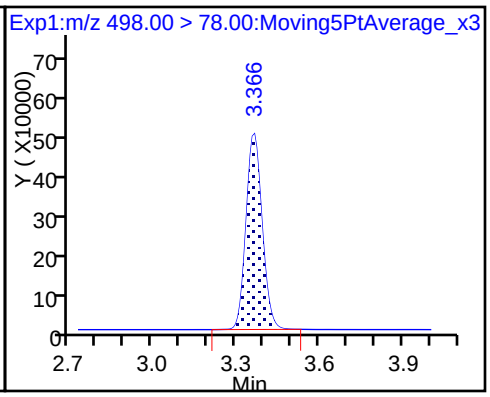
D 19 13C5 PFNA



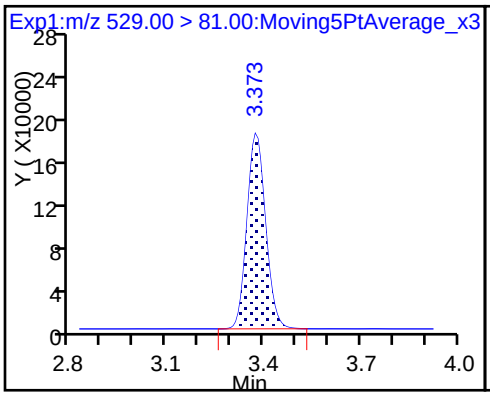
D 21 13C8 FOSA



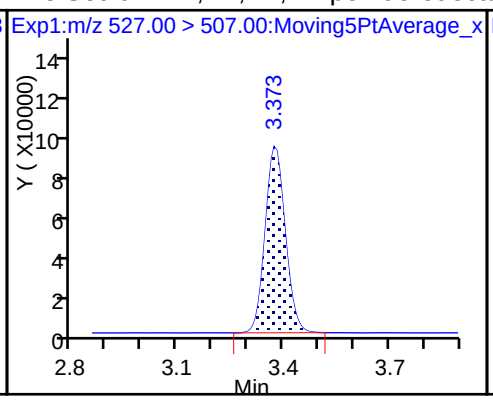
22 Perfluorooctane Sulfonamide



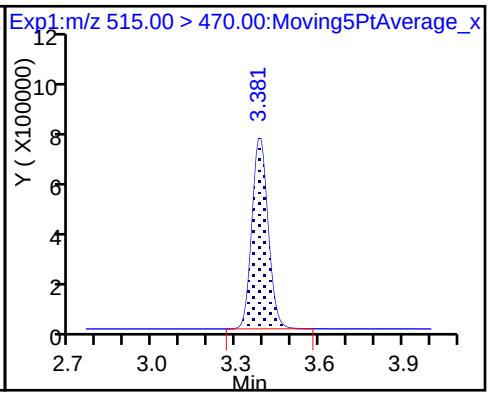
D 26 M2-8:2FTS



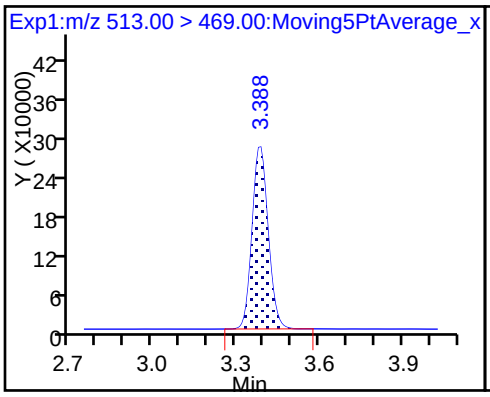
25 Sodium 1H,1H,2H,2H-perfluorodecane



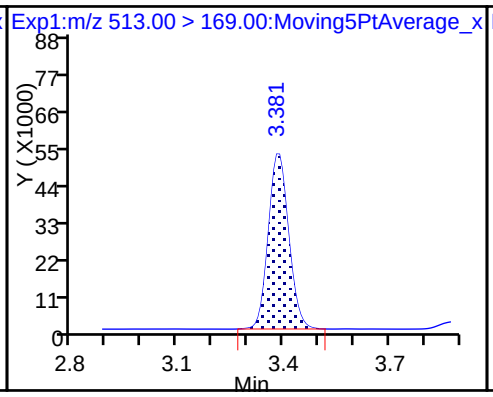
D 23 13C2 PFDA



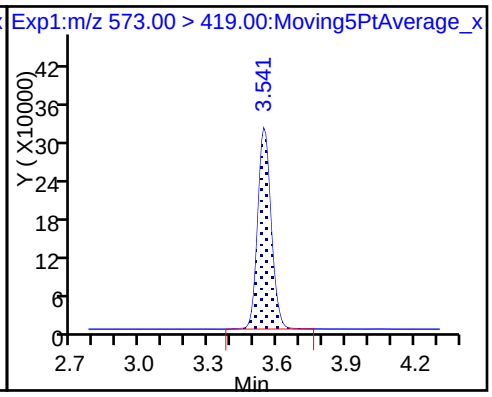
24 Perfluorodecanoic acid



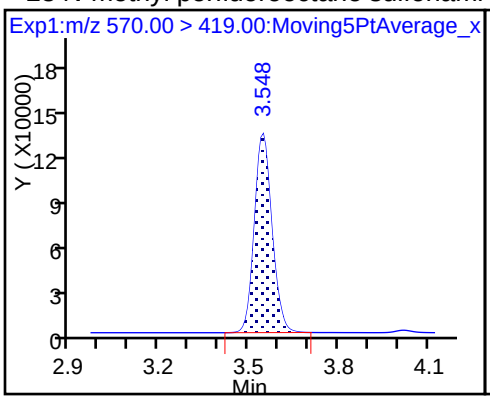
24 Perfluorodecanoic acid



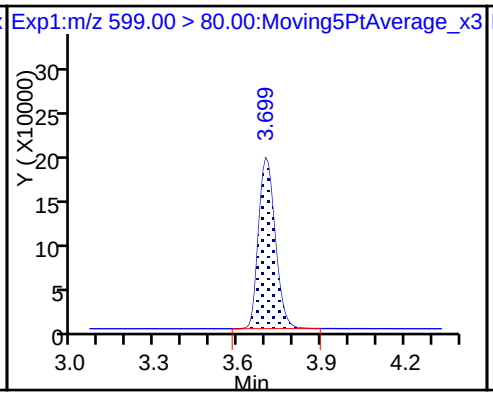
D 27 d3-NMeFOSAA



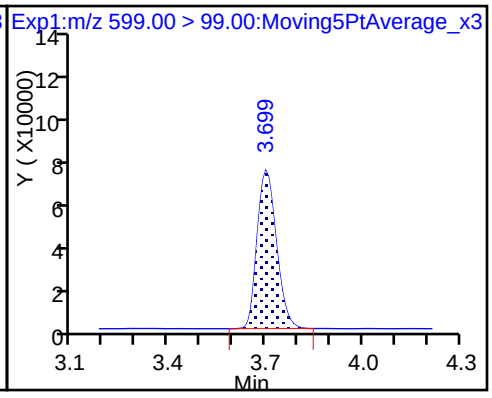
28 N-methyl perfluorooctane sulfonami



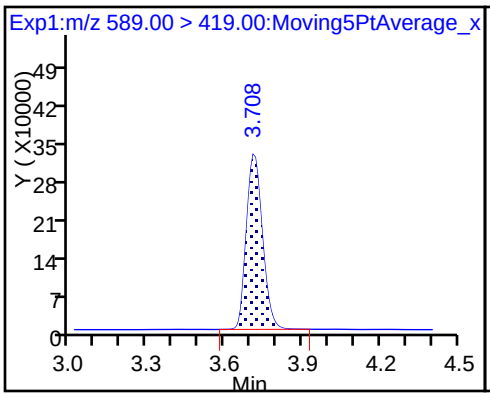
29 Perfluorodecane Sulfonic acid



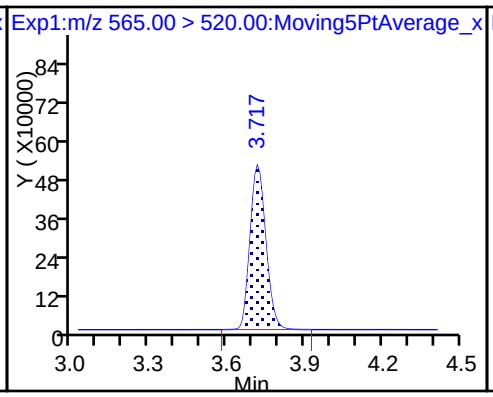
29 Perfluorodecane Sulfonic acid



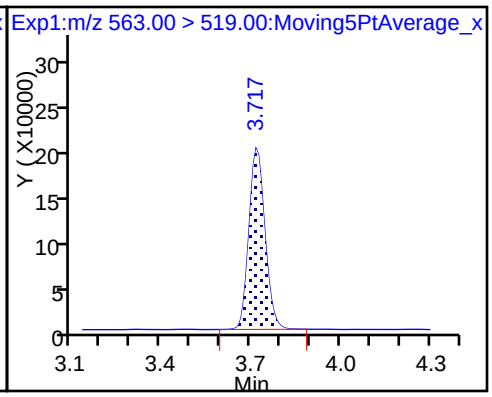
D 32 d5-NEtFOSAA



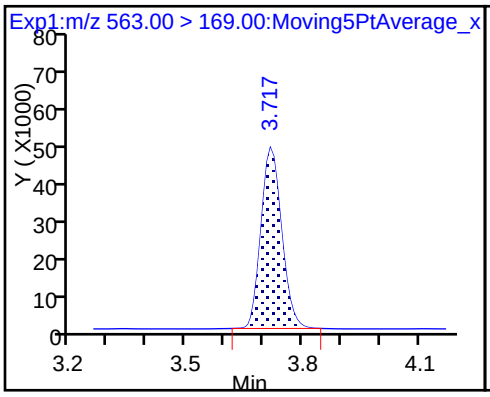
D 30 13C2 PFUnA



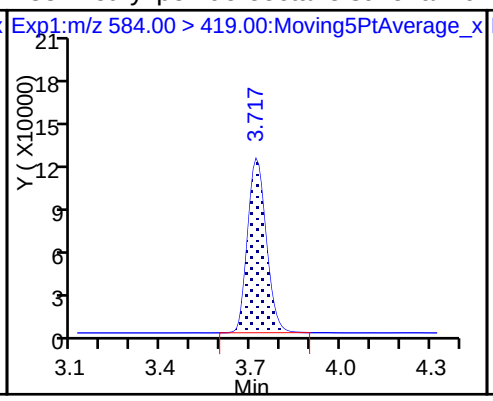
31 Perfluoroundecanoic acid



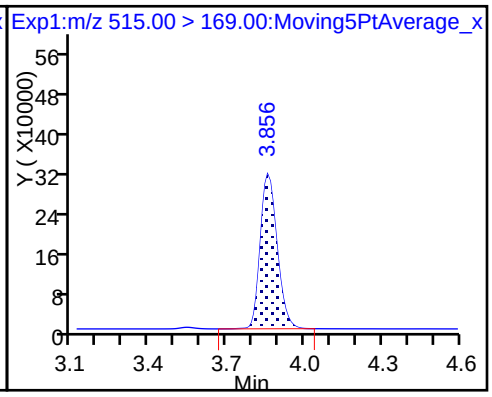
31 Perfluoroundecanoic acid



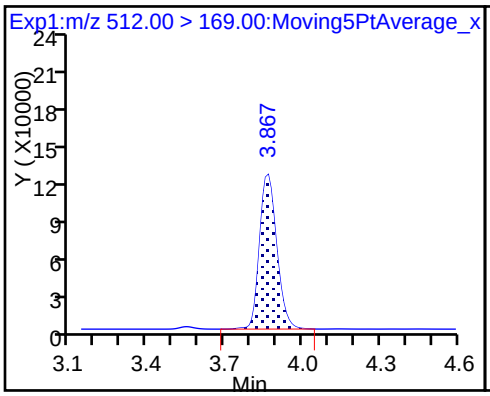
33 N-ethyl perfluorooctane sulfonamid



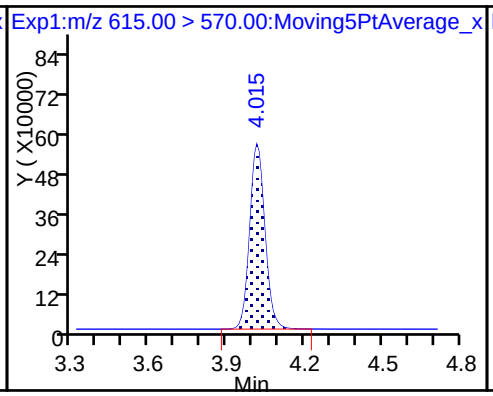
D 34 d-N-MeFOSA-M



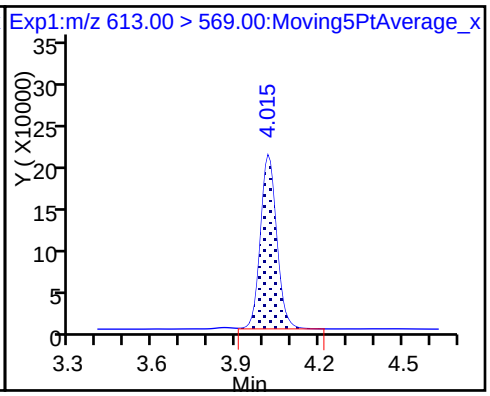
35 MeFOSA



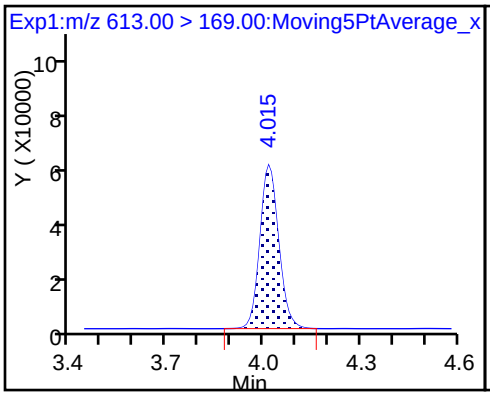
D 36 13C2 PFDoA



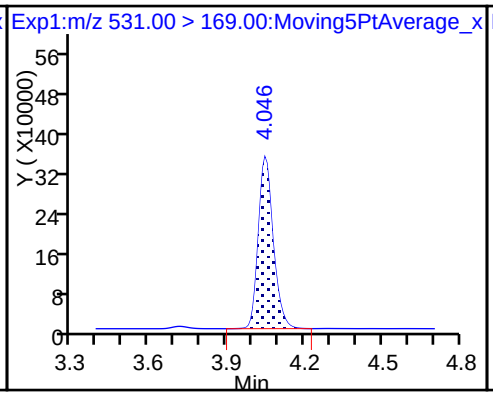
37 Perfluorododecanoic acid



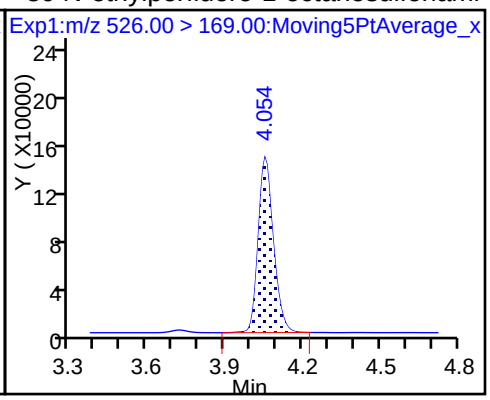
37 Perfluorododecanoic acid



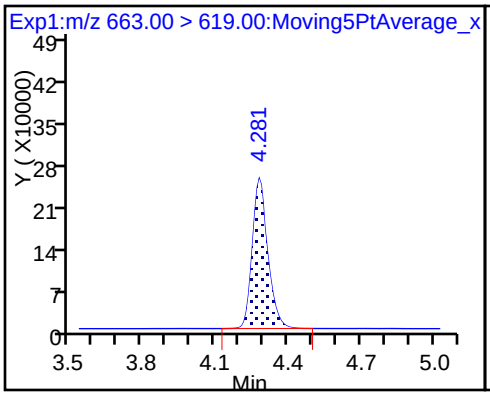
D 38 d-N-EtFOSA-M



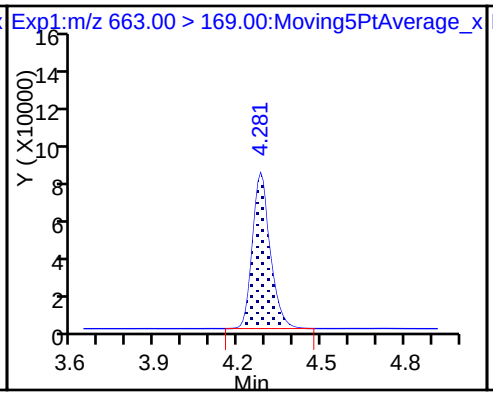
39 N-ethylperfluoro-1-octanesulfonami



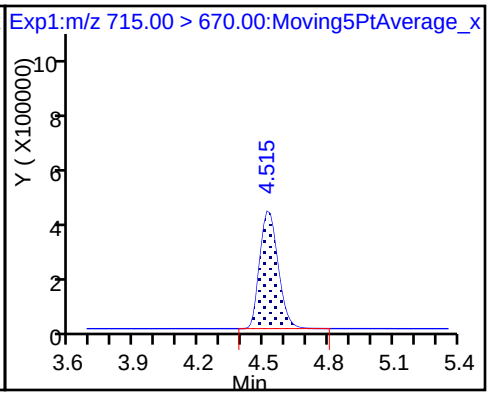
41 Perfluorotridecanoic acid



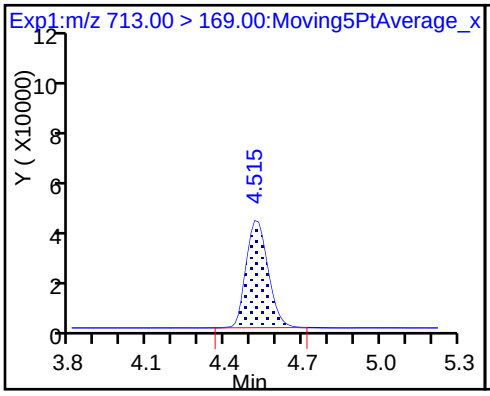
41 Perfluorotridecanoic acid



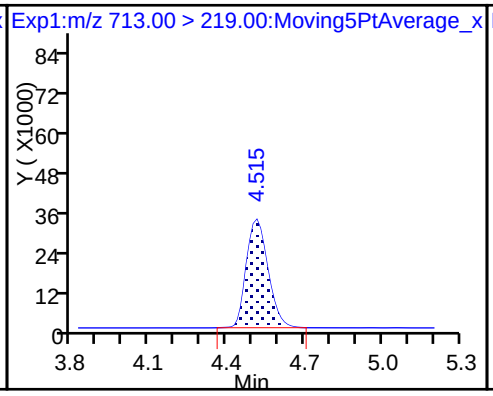
D 43 13C2-PFTeDA



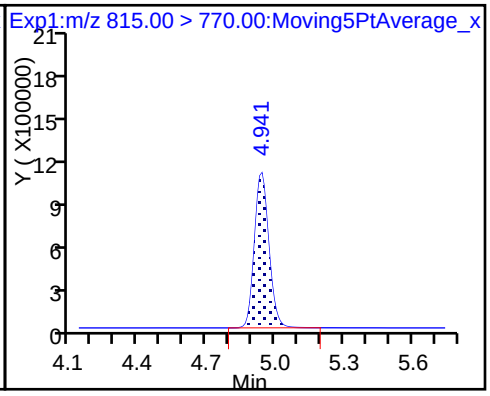
42 Perfluorotetradecanoic acid



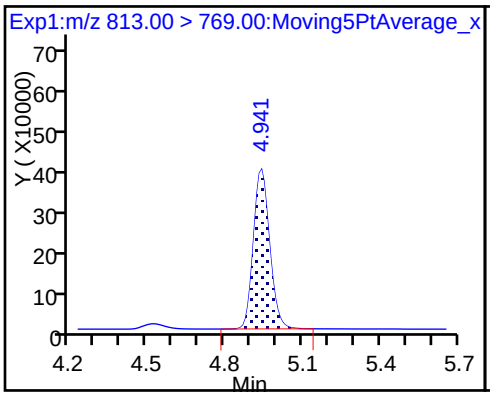
42 Perfluorotetradecanoic acid



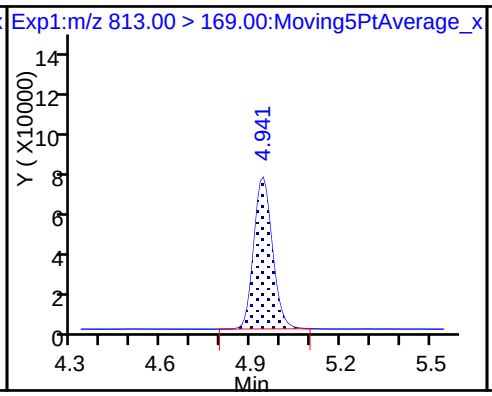
D 44 13C2-PFHxDA



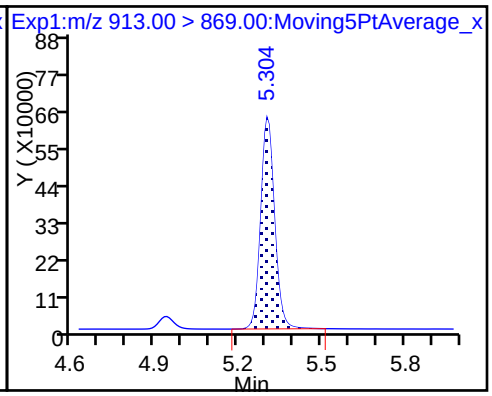
45 Perfluorohexadecanoic acid



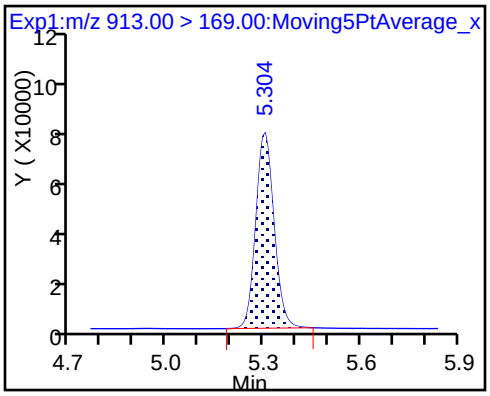
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_006.d
Lims ID: IC L5 Full
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Dec-2017 14:21:09 ALS Bottle#: 14 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L5-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:20:07 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 19-Dec-2017 17:12:05

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.411	1.411	0.0	0.533	7311843	2.45		97.9	23932	
2 Perfluorobutyric acid										
212.90 > 169.00	1.411	1.412	-0.001	1.000	6985160	2.62		105	1788	
D 3 13C5-PFPeA										
267.90 > 223.00	1.658	1.664	-0.006	0.626	4334778	2.46		98.6	54278	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.667	1.664	0.003	1.005	4747490	2.48		99.1	6858	
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.643	86472	2.33		100	3924	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.703	1.703	0.0	1.000	6398952	2.30		104	32794	
298.90 > 99.00	1.703	1.703	0.0	1.000	2615793		2.45(1.25-3.74)	104	18529	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.908	1.909	-0.001	1.000	1111568	2.16		92.6	40780	
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.736	4700923	2.52		101	35973	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.949	1.949	0.0	1.000	4639044	2.47		98.7	11701	
313.00 > 119.00	1.949	1.949	0.0	1.000	429552		10.80(5.03-15.10)	98.7	12550	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.864	4437383	2.54		102	31237	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.286	2.286	0.0	1.000	4608775	2.52		101	11338	
363.00 > 169.00	2.286	2.286	0.0	1.000	1748074		2.64(1.13-3.40)	101	12291	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.299	0.0	1.000	5254822	2.23		97.9	14884	
399.00 > 99.00	2.299	2.299	0.0	1.000	1720968		3.05(1.50-4.49)	97.9	12494	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.869	5133094	2.38		101	25957	
D 12 M2-6:2FTS										
429.00 > 81.00	2.640	2.640	0.0	0.997	1942537	2.68		113	62766	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.640	2.640	0.0	1.000	3242748	2.47		104	60607	
* 62 13C2-PFOA										
415.00 > 370.00	2.647	2.643	0.004		5064706	2.50			35896	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.647	0.0	1.000	5300755	2.53		101	45573	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.647	2.649	-0.002	1.000	5601727	2.50		100	9306	
413.00 > 169.00	2.647	2.649	-0.002	1.000	2925497		1.91(0.84-2.52)	100	17877	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.654	2.654	0.0	1.000	5062494	2.51		105	43689	
449.00 > 99.00	2.654	2.654	0.0	1.000	1315603		3.85(1.94-5.82)	105	24117	
D 18 13C4 PFOS										
503.00 > 80.00	3.028	3.025	0.003	1.144	3355063	2.42		101	29698	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.028	3.025	0.003	1.000	3364664	2.25		97.2	6079	
499.00 > 99.00	3.028	3.025	0.003	1.000	758154		4.44(2.31-6.93)	97.2	5928	
D 19 13C5 PFNA										
468.00 > 423.00	3.028	3.026	0.002	1.144	3476402	2.47		98.8	34280	
20 Perfluorononanoic acid										
463.00 > 419.00	3.028	3.026	0.002	1.000	3524751	2.62		105	13344	
463.00 > 169.00	3.028	3.026	0.002	1.000	852382		4.14(1.90-5.69)	105	20365	
D 21 13C8 FOSA										
506.00 > 78.00	3.366	3.362	0.004	1.271	4853697	2.47		98.9	25386	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.000	4787240	2.61		104	31957	
D 26 M2-8:2FTS										
529.00 > 81.00	3.381	3.375	0.006	1.277	720508	2.33		97.4	11992	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.381	3.376	0.005	1.000	905589	2.48		103	32346	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.387	0.001	1.280	2869540	2.55		102	31743	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.388	3.388	0.0	1.000	2755271	2.42		97.0	18783	
513.00 > 169.00	3.388	3.388	0.0	1.000	494092		5.58(2.36-7.09)	97.0	1949	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.548	3.541	0.007	1.340	1292860	2.49		99.6	16056	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.548	3.547	0.001	1.000	1325537	2.49		99.5	10082	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.708	3.701	0.007	1.000	2052718	2.50		104	37828	
599.00 > 99.00	3.708	3.701	0.007	1.000	678629		3.02(1.39-4.16)	104	14726	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.717	3.711	0.006	1.404	1320310	2.47		98.7	4564	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.404	2144953	2.47		98.9	29745	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.725	3.718	0.007	1.002	1248424	2.43		97.0	15932	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.725	3.718	0.007	1.002	1880868	2.42		96.9	11823	
563.00 > 169.00	3.725	3.718	0.007	1.002	440935		4.27(0.00-0.00)	96.9	19647	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.457	1396636	2.41		96.6	3748	
35 MeFOSA										
512.00 > 169.00	3.867	3.863	0.004	1.003	1402589	2.56		102	4133	
D 36 13C2 PFDoA										
615.00 > 570.00	4.015	4.015	-0.001	1.517	2358833	2.56		102	39313	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.022	4.016	0.006	1.002	2245868	2.48		99.2	9690	
613.00 > 169.00	4.022	4.016	0.006	1.002	573315		3.92(2.13-6.40)	99.2	20561	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.054	4.048	0.006	1.531	1327593	2.43		97.3	3170	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.000	1439979	2.57		103	3394	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.289	4.285	0.004	1.000	2660160	2.46		98.4	19837	
663.00 > 169.00	4.289	4.285	0.004	1.000	853522		3.12(1.25-3.76)	98.4	38189	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.528	4.522	0.006	1.000	645186	2.50		99.8	15847	
713.00 > 219.00	4.515	4.522	-0.007	0.997	435908		1.48(0.71-2.13)	99.8	14945	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.528	4.522	0.006	1.711	2554597	2.52		101	20067	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.941	4.944	-0.003	1.866	4611374	2.49		99.7	16341	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.950	4.945	0.005	1.002	4068252	2.51		100	2813	
813.00 > 169.00	4.950	4.945	0.005	1.002	744246		5.47(2.86-8.58)	100	8574	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.311	5.309	0.002	1.000	5106814	2.49		99.6	1324	
913.00 > 169.00	5.311	5.309	0.002	1.000	656598		7.78(0.00-0.00)	99.6	2531	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 20-Dec-2017 08:20:09 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_006.d

Injection Date: 19-Dec-2017 14:21:09 Instrument ID: A8_N

Lims ID: IC L5 Full

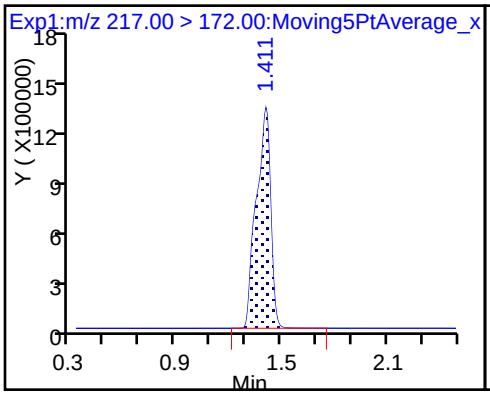
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 6

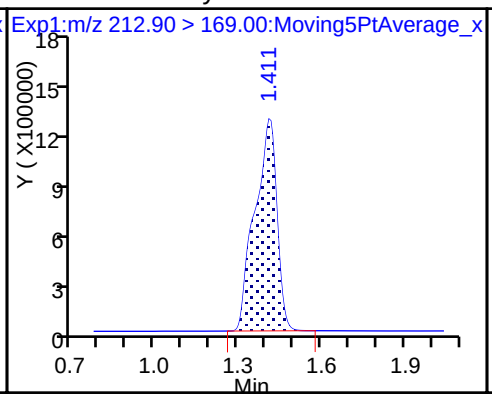
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

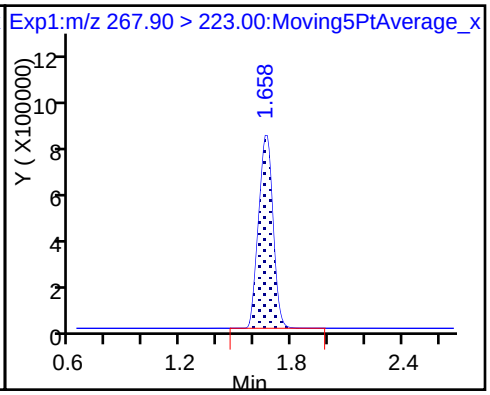
D 1 13C4 PFBA



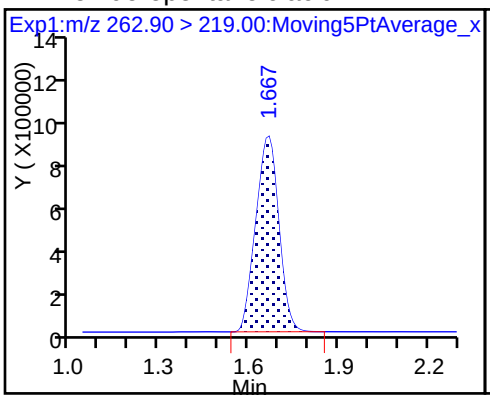
2 Perfluorobutyric acid



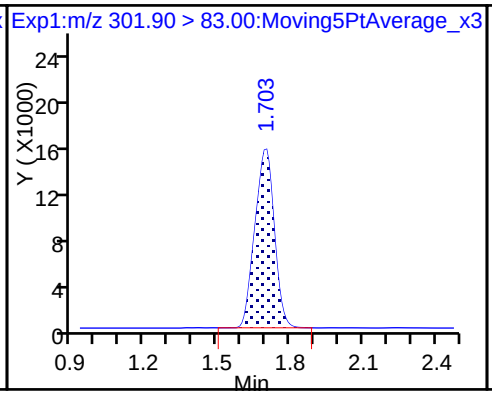
D 3 13C5-PFPeA



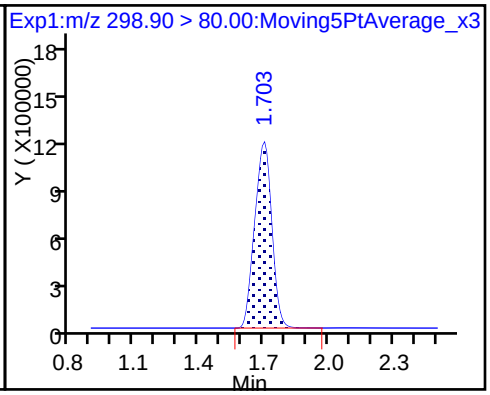
4 Perfluoropentanoic acid



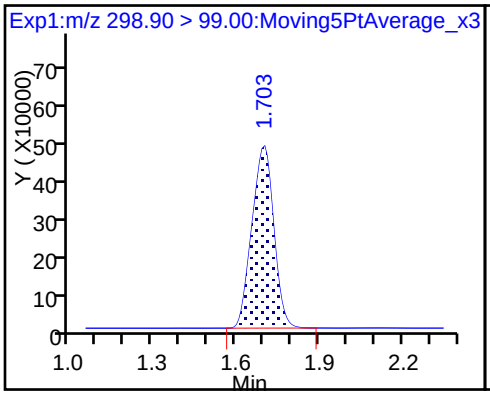
D 47 13C3-PFBS



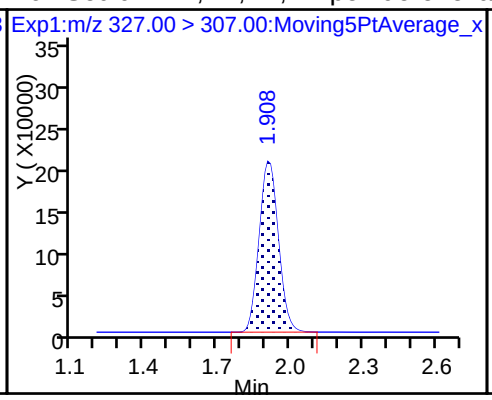
5 Perfluorobutanesulfonic acid



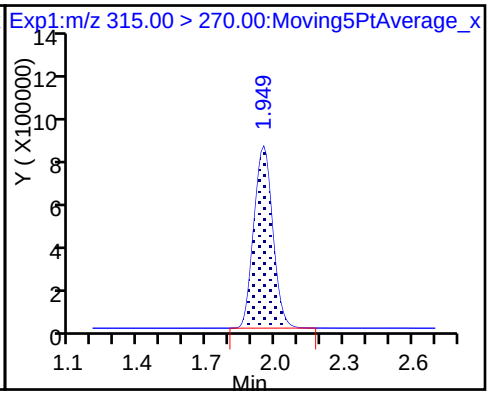
5 Perfluorobutanesulfonic acid



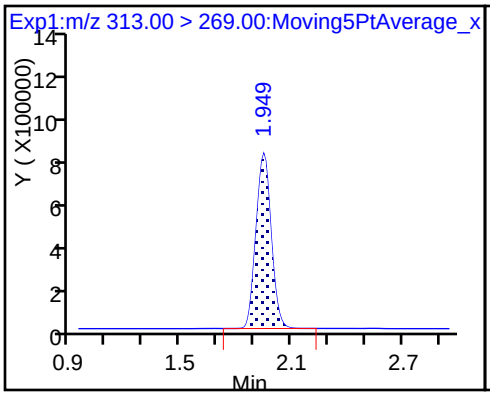
61 Sodium 1H,1H,2H,2H-perfluorohexa



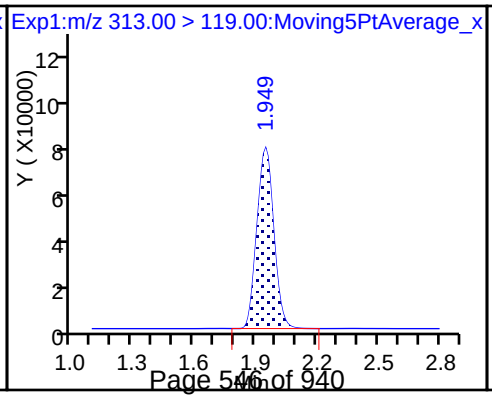
D 7 13C2 PFHxA



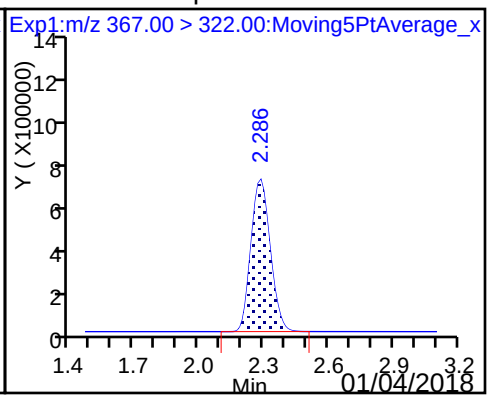
6 Perfluorohexanoic acid



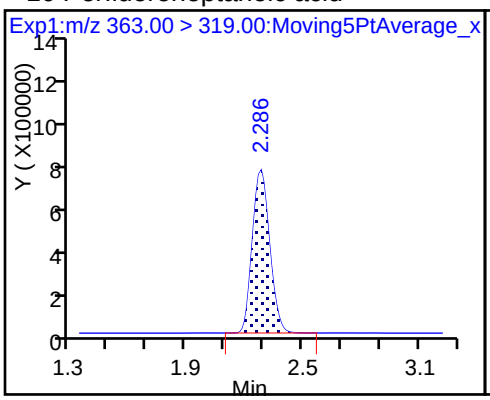
6 Perfluorohexanoic acid



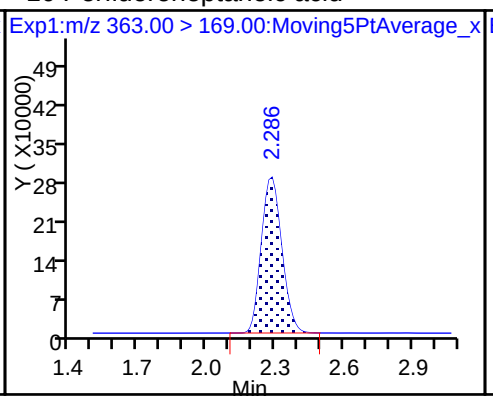
D 9 13C4-PFHpA



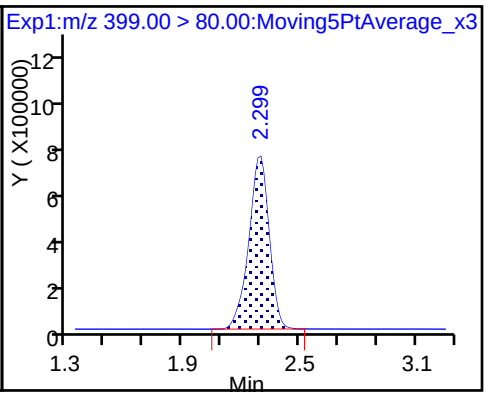
10 Perfluoroheptanoic acid



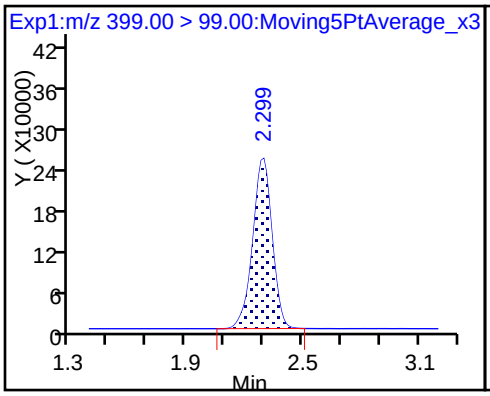
10 Perfluoroheptanoic acid



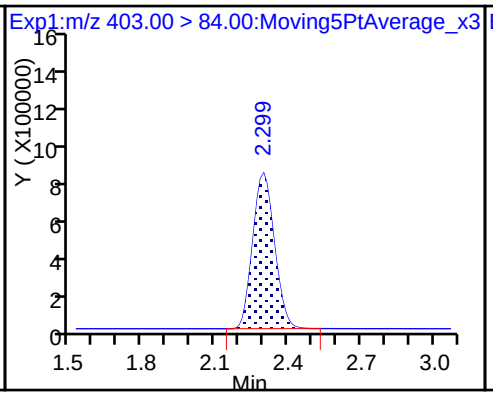
8 Perfluorohexanesulfonic acid



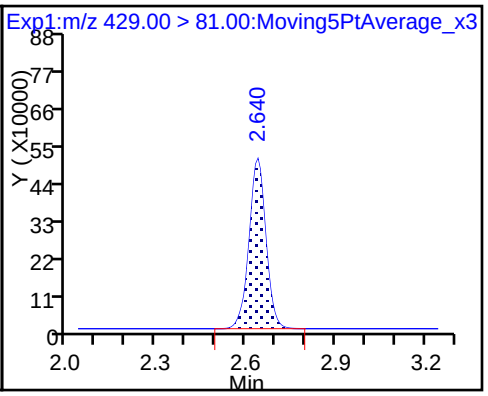
8 Perfluorohexanesulfonic acid



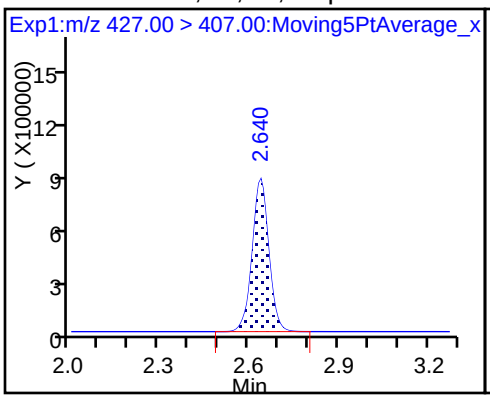
D 11 18O2 PFHxS



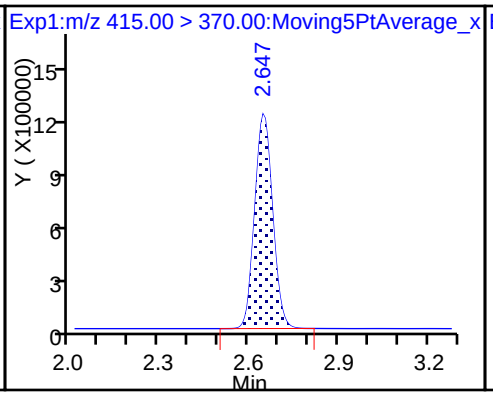
D 12 M2-6:2FTS



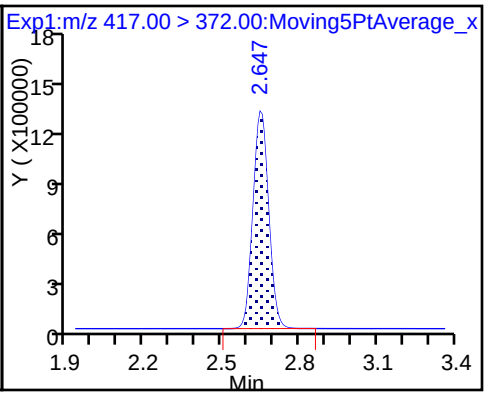
13 Sodium 1H,1H,2H,2H-perfluorooctane



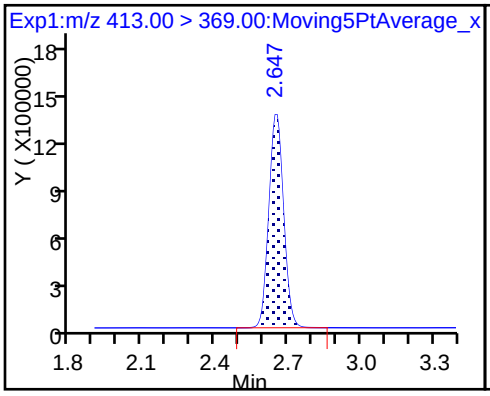
M2 13C2-PFOA



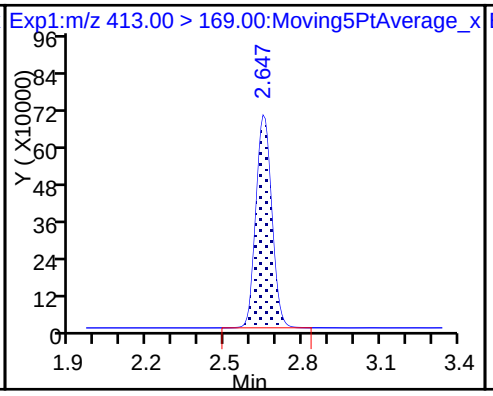
D 14 13C4 PFOA



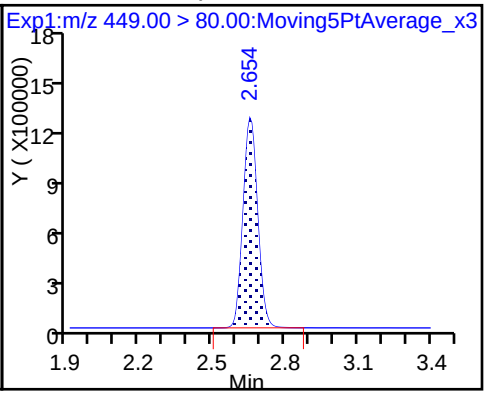
15 Perfluorooctanoic acid



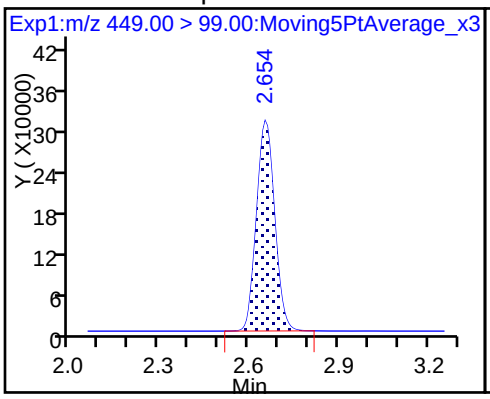
15 Perfluorooctanoic acid



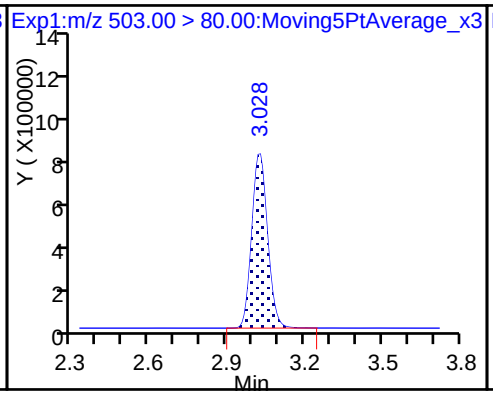
16 Perfluoroheptanesulfonic Acid



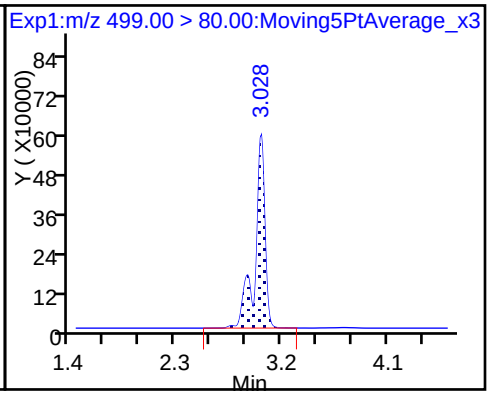
16 Perfluoroheptanesulfonic Acid



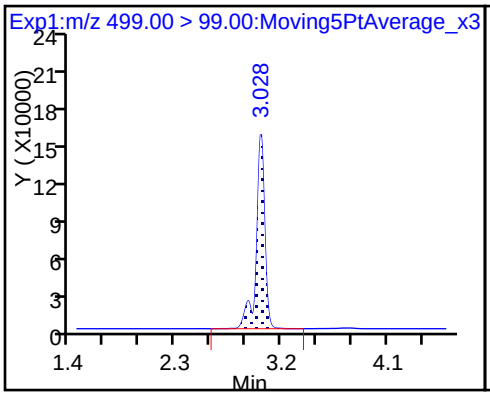
D 18 13C4 PFOS



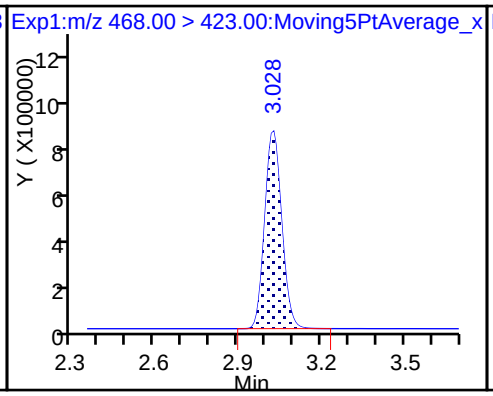
17 Perfluorooctane sulfonic acid



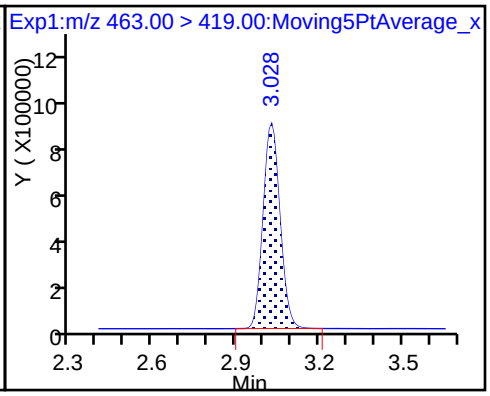
17 Perfluorooctane sulfonic acid



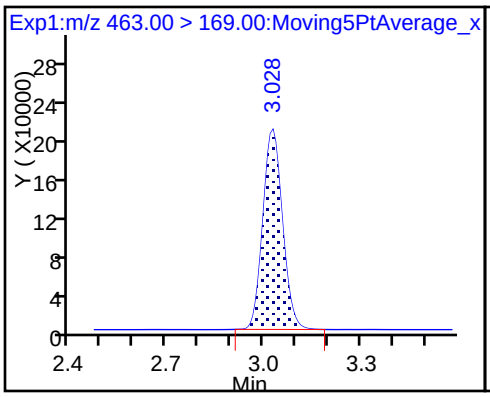
D 19 13C5 PFNA



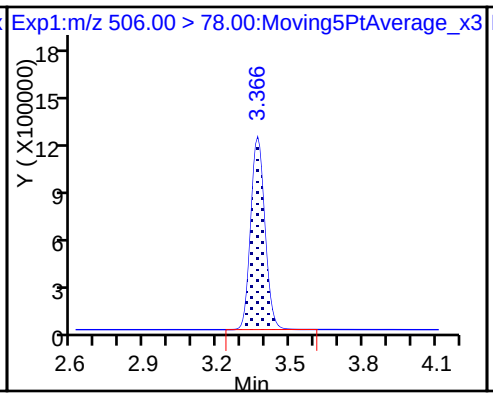
20 Perfluorononanoic acid



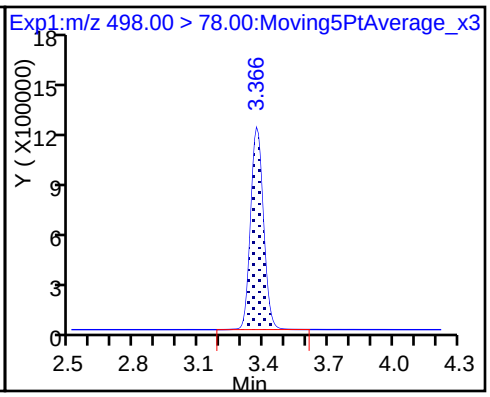
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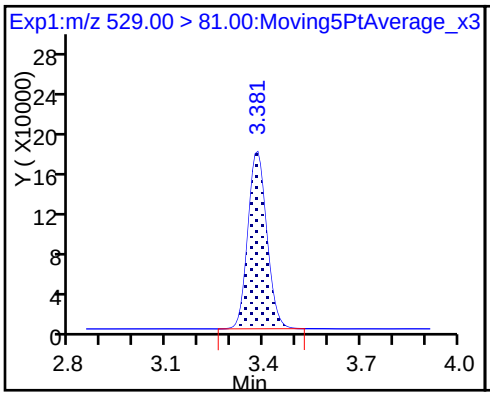
D 21 13C8 FOSA



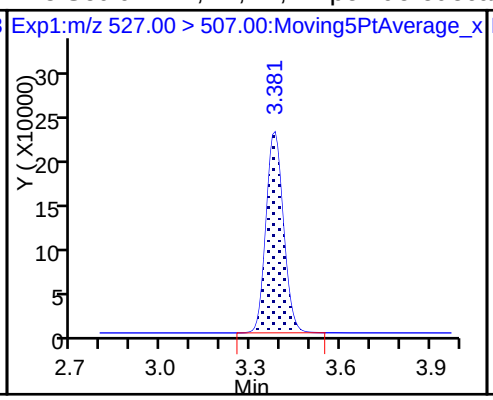
22 Perfluorooctane Sulfonamide



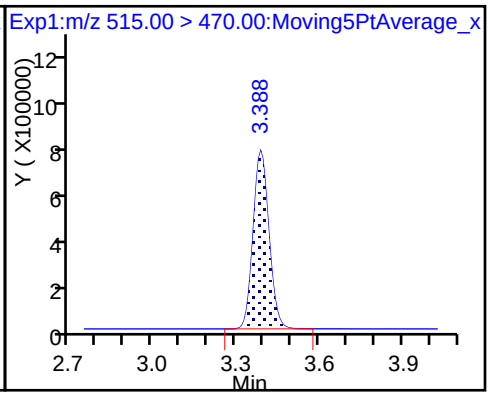
D 26 M2-8:2FTS



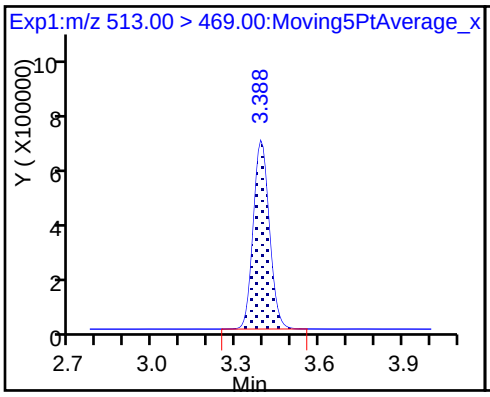
25 Sodium 1H,1H,2H,2H-perfluorodecane



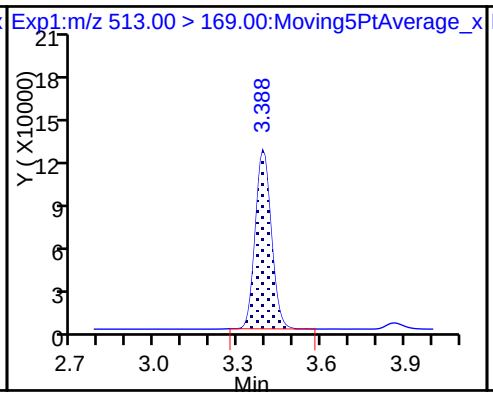
D 23 13C2 PFDA



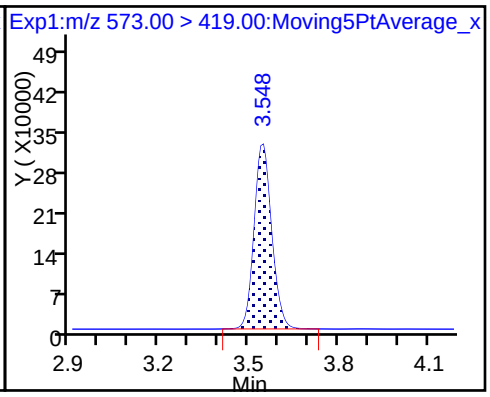
24 Perfluorodecanoic acid



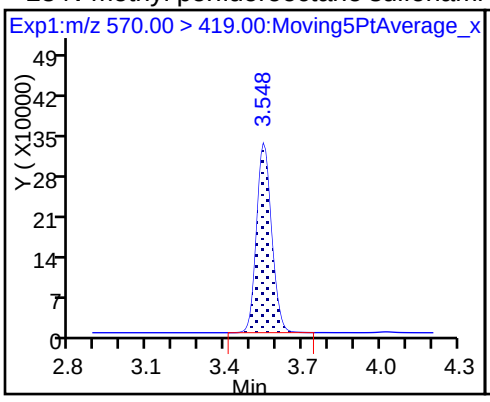
24 Perfluorodecanoic acid



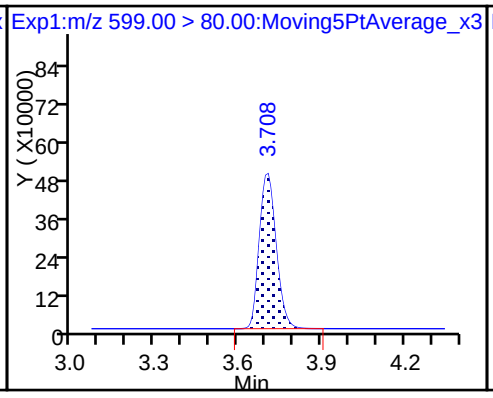
D 27 d3-NMeFOSAA



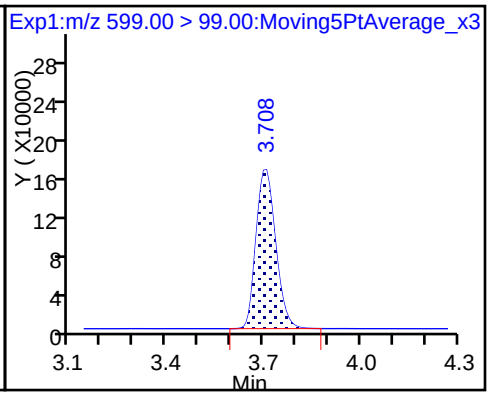
28 N-methyl perfluorooctane sulfonami



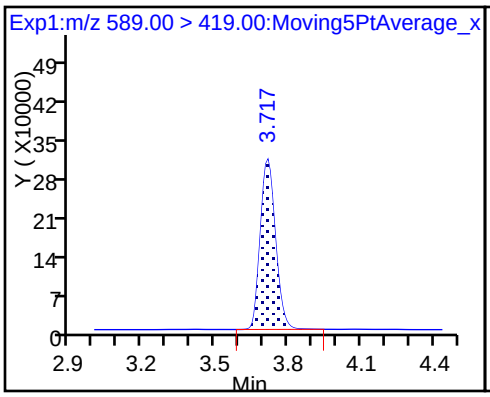
29 Perfluorodecane Sulfonic acid



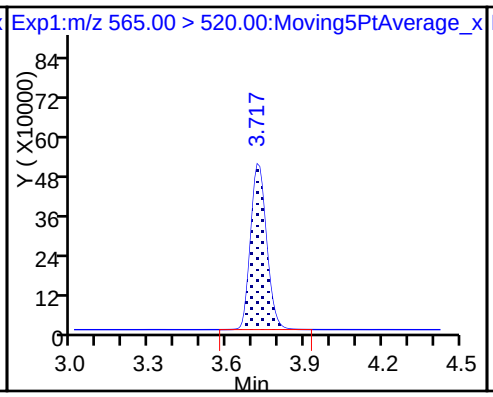
29 Perfluorodecane Sulfonic acid



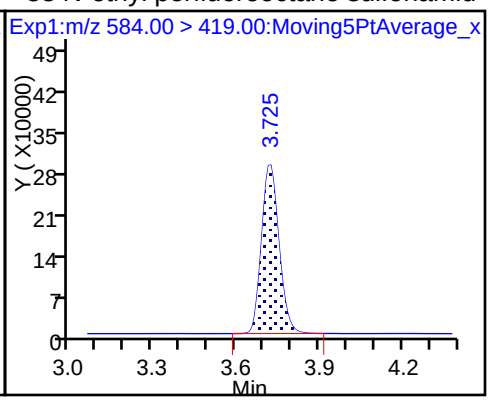
D 32 d5-NEtFOSAA



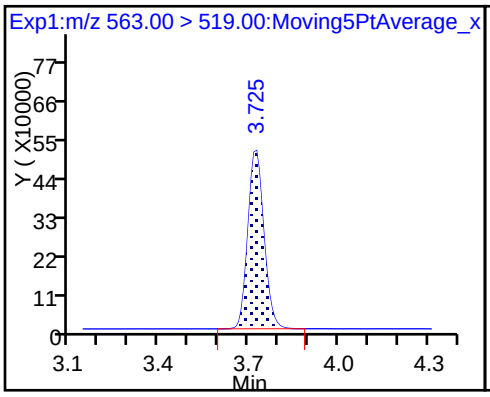
D 30 13C2 PFUnA



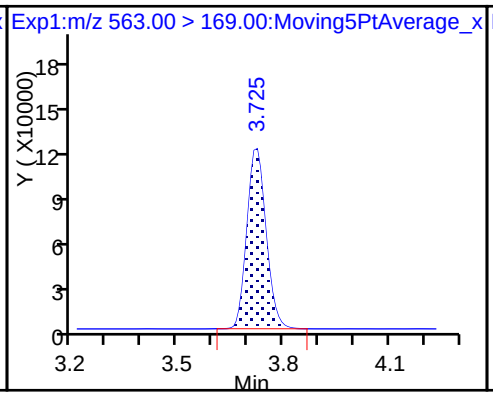
33 N-ethyl perfluorooctane sulfonamid



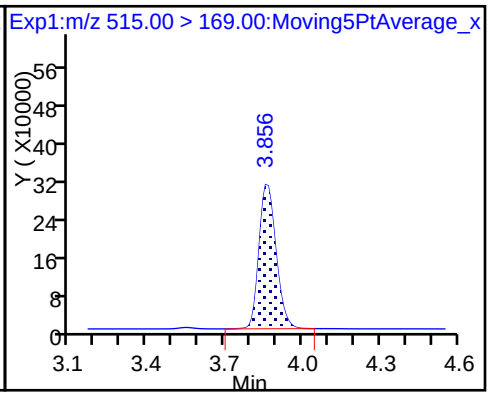
31 Perfluoroundecanoic acid



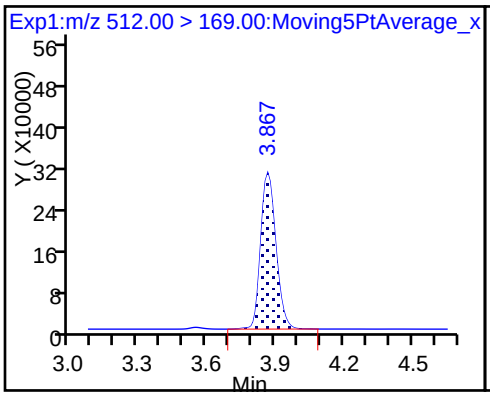
31 Perfluoroundecanoic acid



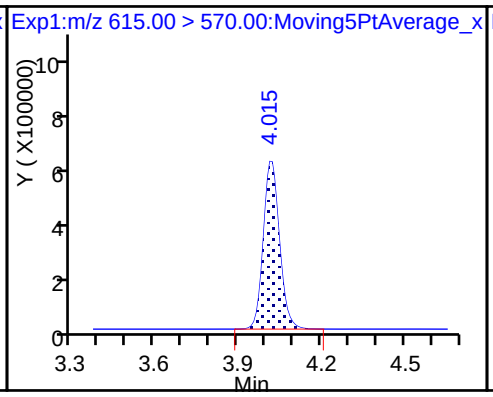
D 34 d-N-MeFOSA-M



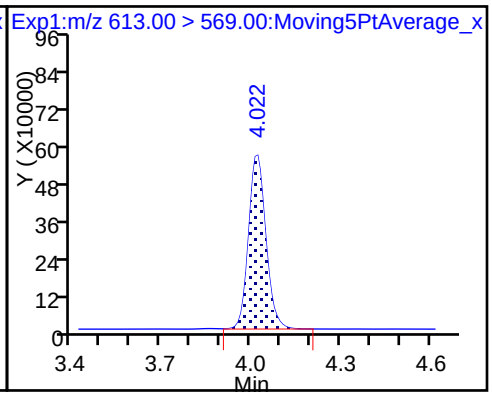
35 MeFOSA



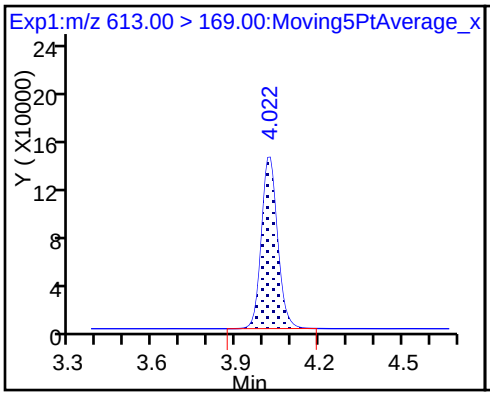
D 36 13C2 PFDoA



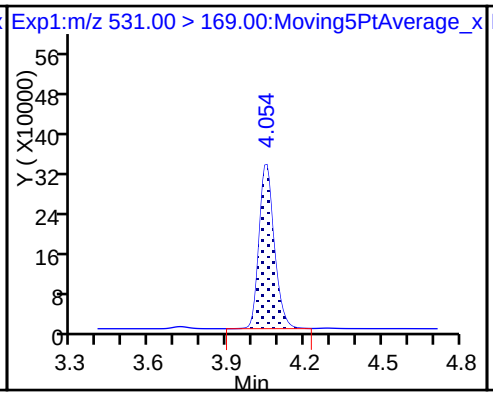
37 Perfluorododecanoic acid



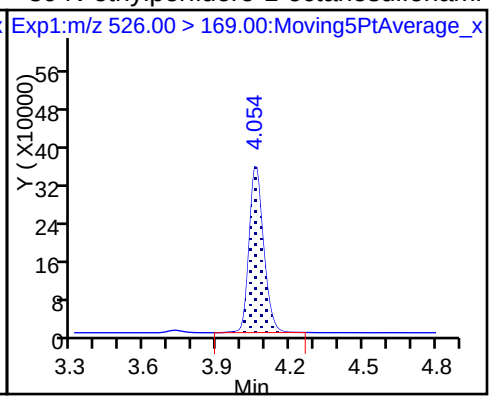
37 Perfluorododecanoic acid



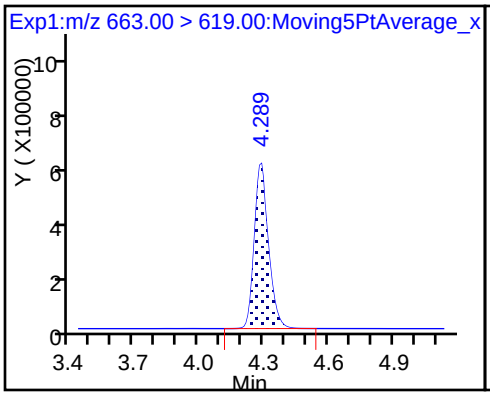
D 38 d-N-EtFOSA-M



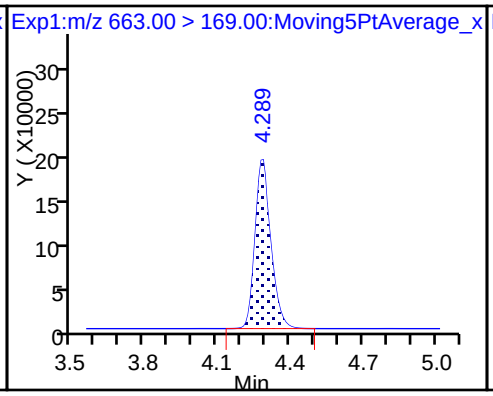
39 N-ethylperfluoro-1-octanesulfonami



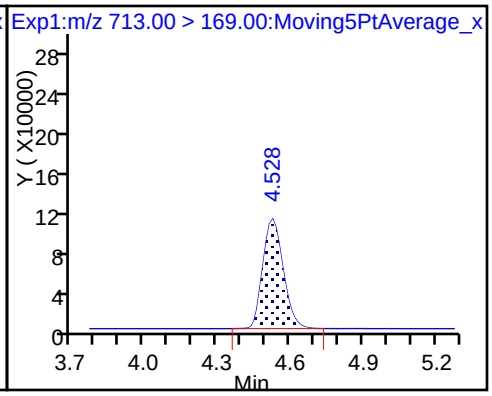
41 Perfluorotridecanoic acid



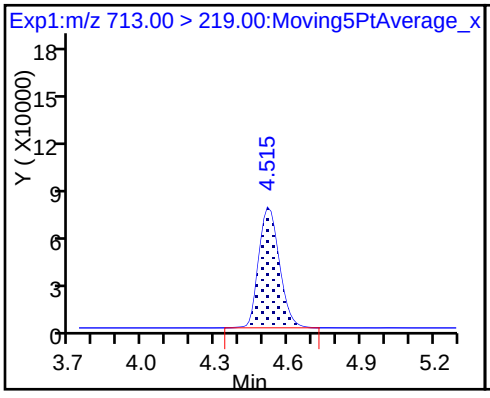
41 Perfluorotridecanoic acid



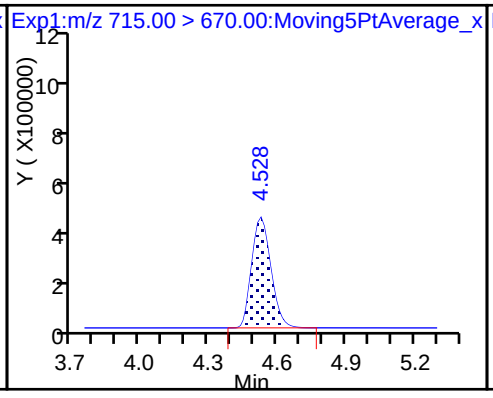
42 Perfluorotetradecanoic acid



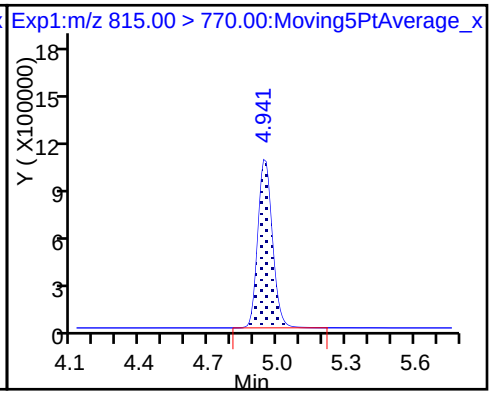
42 Perfluorotetradecanoic acid



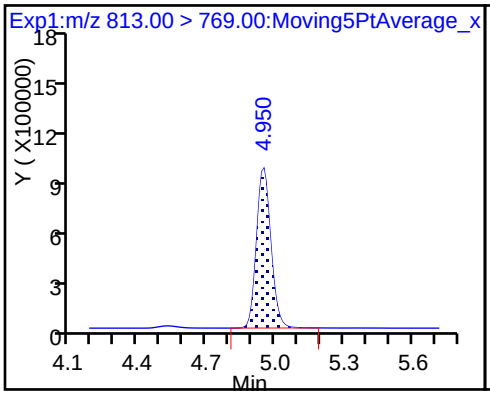
D 43 13C2-PFTeDA



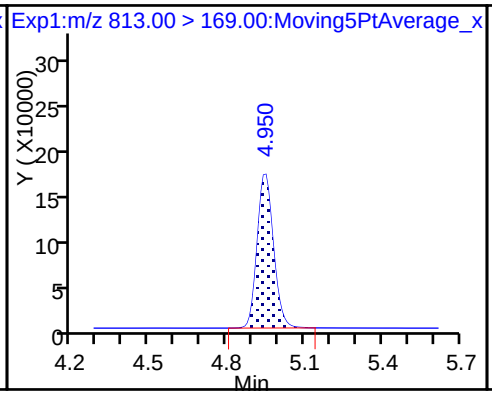
D 44 13C2-PFHxDA



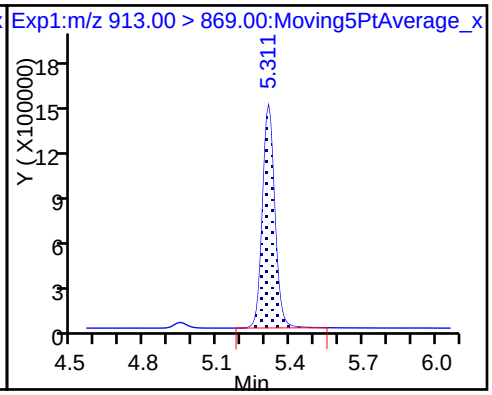
45 Perfluorohexadecanoic acid



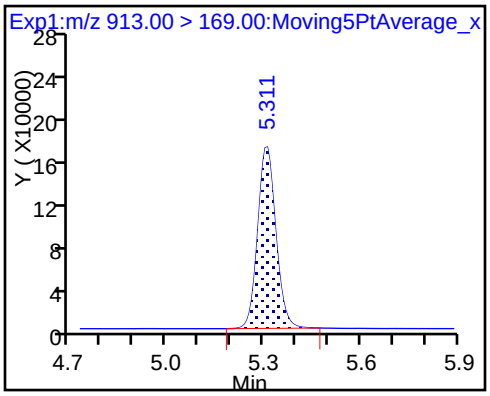
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_007.d
Lims ID: IC L6 Full
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Dec-2017 14:28:57 ALS Bottle#: 15 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L6-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:20:12 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 19-Dec-2017 17:12:42

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.533	7355179	2.51		100	22306	
2 Perfluorobutyric acid										
212.90 > 169.00	1.412	1.412	0.0	1.000	13930558	5.19		104	4169	
D 3 13C5-PFPeA										
267.90 > 223.00	1.667	1.664	0.003	0.630	4334896	2.51		101	45543	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.667	1.664	0.003	1.000	9706296	5.06		101	14535	
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.643	83348	2.29		98.4	3074	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.703	1.703	0.0	1.000	12660304	4.72		107	53339	
298.90 > 99.00	1.703	1.703	0.0	1.000	5382663		2.35(1.25-3.74)	107	35702	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.908	1.909	-0.001	1.000	2245988	5.05		108	68906	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.949	1.949	0.0	1.000	9226958	5.19		104	26558	
313.00 > 119.00	1.949	1.949	0.0	1.000	808742		11.41(5.03-15.10)	104	23815	
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.736	4448566	2.43		97.3	39812	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.286	2.286	0.0	1.000	9060136	5.20		104	15857	
363.00 > 169.00	2.286	2.286	0.0	1.000	3588252		2.52(1.13-3.40)	104	20865	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.864	4230644	2.47		98.9	32969	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.869	5084180	2.40		102	28518	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.299	0.0	1.000	10266943	4.39		96.6	23323	
399.00 > 99.00	2.299	2.299	0.0	1.000	3501455		2.93(1.50-4.49)	96.6	14775	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.640	2.640	0.0	1.000	5383701	4.75		100	67895	
D 12 M2-6:2FTS										
429.00 > 81.00	2.640	2.640	0.0	0.997	1680430	2.37		99.6	47435	
* 62 13C2-PFOA										
415.00 > 370.00	2.647	2.643	0.004		4965400	2.50			44889	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.647	0.0	1.000	4975177	2.42		96.9	40240	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.647	2.649	-0.002	1.000	10775632	5.13		103	15533	
413.00 > 169.00	2.647	2.649	-0.002	1.000	5878113		1.83(0.84-2.52)	103	25365	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.654	2.654	0.0	1.000	9931450	5.02		106	43464	
449.00 > 99.00	2.654	2.654	0.0	1.000	2640701		3.76(1.94-5.82)	106	29037	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.028	3.025	0.003	1.000	6779746	4.64		100.0	9356	
499.00 > 99.00	3.028	3.025	0.003	1.000	1513493		4.48(2.31-6.93)	100.0	11145	
D 18 13C4 PFOS										
503.00 > 80.00	3.028	3.025	0.003	1.144	3284558	2.41		101	24531	
20 Perfluorononanoic acid										
463.00 > 419.00	3.028	3.026	0.002	1.000	6940854	5.12		102	29065	
463.00 > 169.00	3.028	3.026	0.002	1.000	1691406		4.10(1.90-5.69)	102	22449	
D 19 13C5 PFNA										
468.00 > 423.00	3.028	3.026	0.002	1.144	3494198	2.53		101	29891	
D 21 13C8 FOSA										
506.00 > 78.00	3.366	3.362	0.004	1.271	4959048	2.58		103	27241	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.000	9529129	5.08		102	37305	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.274	724829	2.39		100.0	14054	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.381	3.376	0.005	1.002	1787258	4.86		101	30098	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.387	0.001	1.280	2686341	2.43		97.3	32310	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.388	3.388	0.0	1.000	5700271	5.36		107	42638	
513.00 > 169.00	3.388	3.388	0.0	1.000	1024475		5.56(2.36-7.09)	107	2037	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.541	-0.001	1.337	1264588	2.48		99.3	13717	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.548	3.547	0.001	1.002	2829832	5.43		109	14326	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.699	3.701	-0.002	1.000	3836186	4.76		98.8	50318	
599.00 > 99.00	3.699	3.701	-0.002	1.000	1336327		2.87(1.39-4.16)	98.8	22874	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.716	3.711	0.005	1.404	1318455	2.51		101	6243	
D 30 13C2 PFUnA										
565.00 > 520.00	3.716	3.717	-0.001	1.404	2054939	2.42		96.6	30342	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.716	3.718	-0.002	1.000	3841780	5.17		103	32499	
563.00 > 169.00	3.716	3.718	-0.002	1.000	884491		4.34(0.00-0.00)	103	29470	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.716	3.718	-0.002	1.000	2693423	5.24		105	31264	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.457	1418329	2.50		100	3965	
35 MeFOSA										
512.00 > 169.00	3.867	3.863	0.004	1.003	2811041	5.05		101	4114	
D 36 13C2 PFDoA										
615.00 > 570.00	4.014	4.015	-0.001	1.517	2271645	2.51		100	28449	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.014	4.016	-0.002	1.000	4485968	5.14		103	20865	
613.00 > 169.00	4.014	4.016	-0.002	1.000	1132964		3.96(2.13-6.40)	103	35209	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.528	1371563	2.56		103	3068	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.002	2879633	4.98		99.6	3248	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.288	4.285	0.003	1.000	5283088	5.07		101	32583	
663.00 > 169.00	4.288	4.285	0.003	1.000	1676218		3.15(1.25-3.76)	101	62048	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.528	4.522	0.006	1.711	2649241	2.67		107	21754	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.528	4.522	0.006	1.000	1223852	4.57		91.3	26216	
713.00 > 219.00	4.515	4.522	-0.007	0.997	862602		1.42(0.71-2.13)	91.3	18415	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.950	4.944	0.006	1.870	4383102	2.42		96.6	15532	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.950	4.945	0.005	1.000	8101018	5.28		106	5798	
813.00 > 169.00	4.950	4.945	0.005	1.000	1423960		5.69(2.86-8.58)	106	11343	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.311	5.309	0.002	1.000	9996738	5.13		103	2332	
913.00 > 169.00	5.311	5.309	0.002	1.000	1295539		7.72(0.00-0.00)	103	3371	

Reagents:

LCPFC_LL6_00002 Amount Added: 1.00 Units: mL

Report Date: 20-Dec-2017 08:20:13 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_007.d

Injection Date: 19-Dec-2017 14:28:57 Instrument ID: A8_N

Lims ID: IC L6 Full

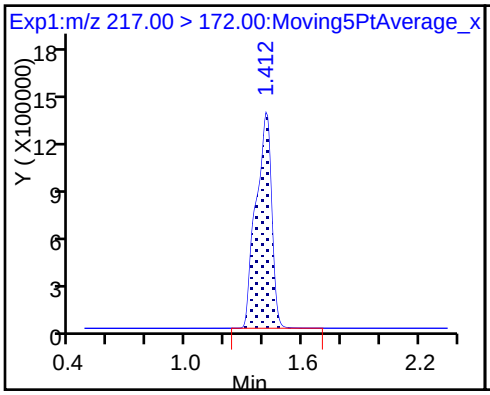
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 15 Worklist Smp#: 7

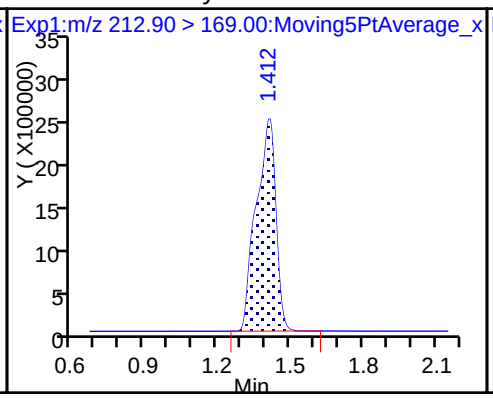
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

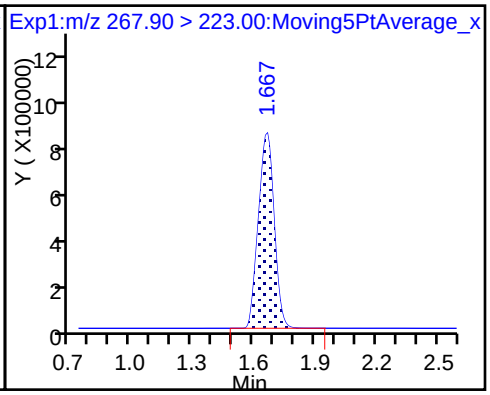
D 1 13C4 PFBA



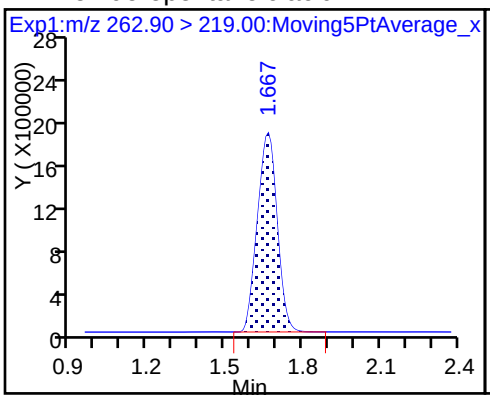
2 Perfluorobutyric acid



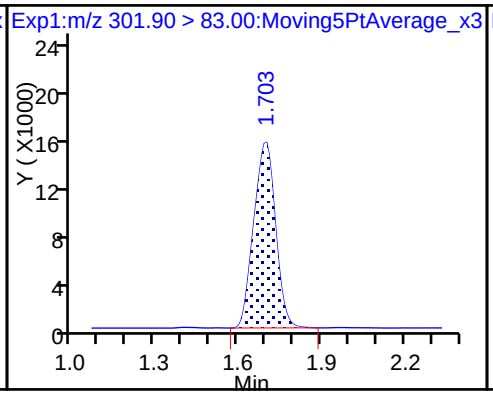
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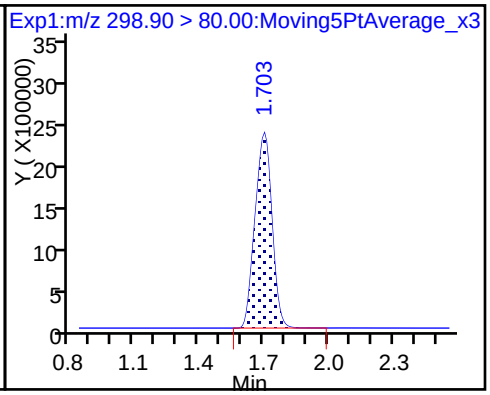
4 Perfluoropentanoic acid



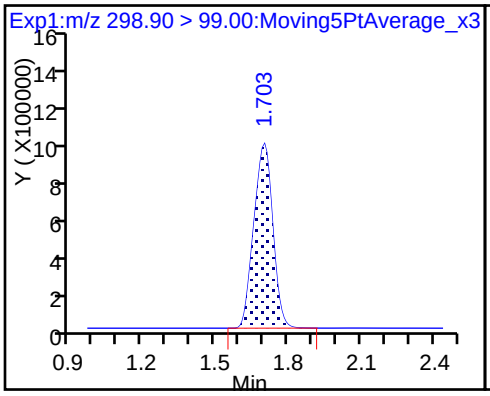
D 47 13C3-PFBS



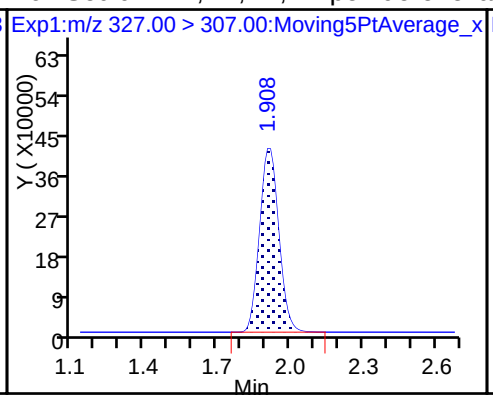
5 Perfluorobutanesulfonic acid



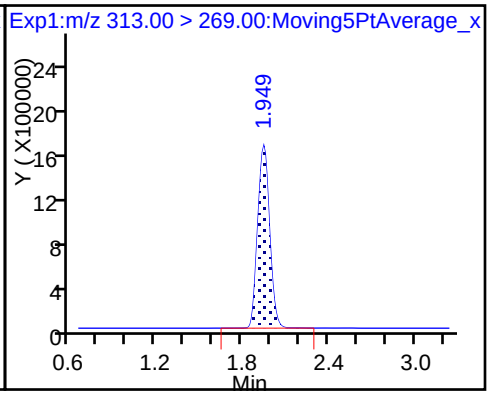
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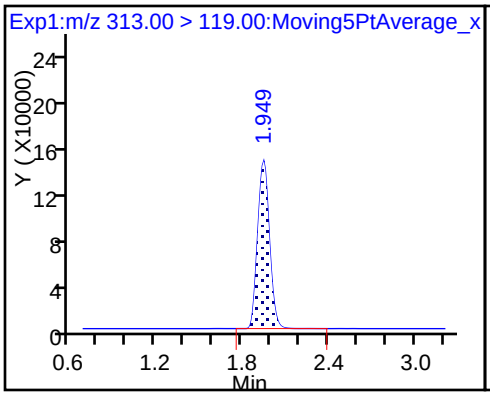
61 Sodium 1H,1H,2H,2H-perfluorohexane



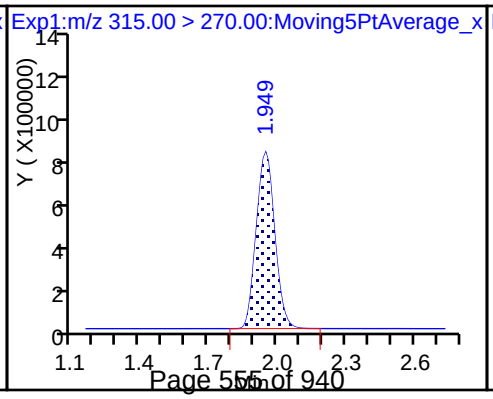
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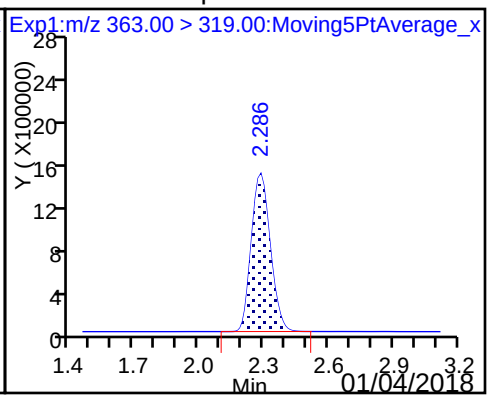
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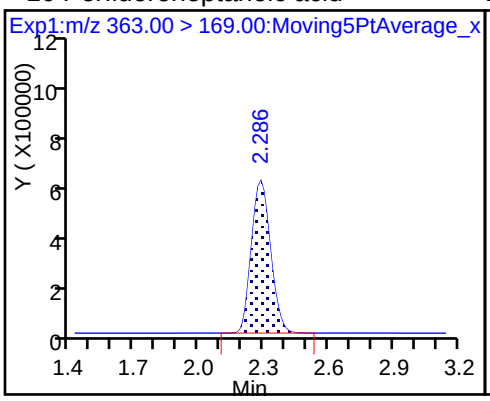
D 7 13C2 PFHxA



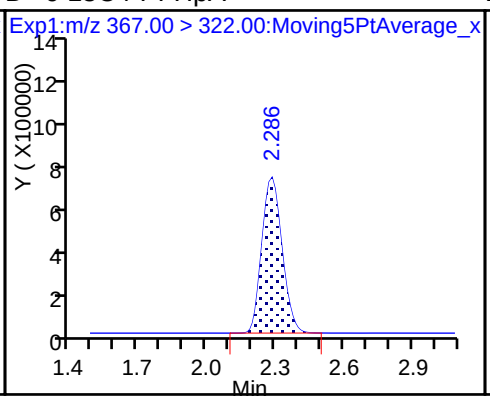
10 Perfluoroheptanoic acid



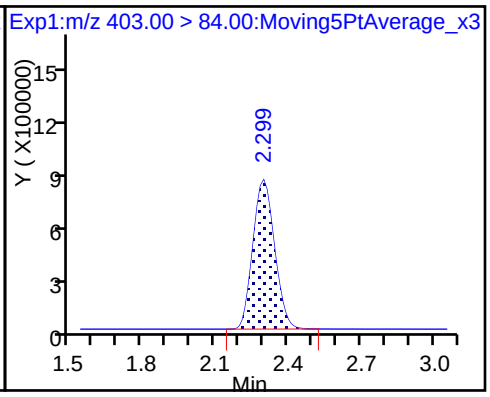
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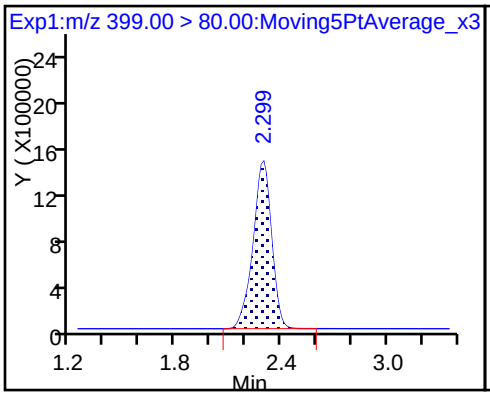
D 9 13C4-PFHpA



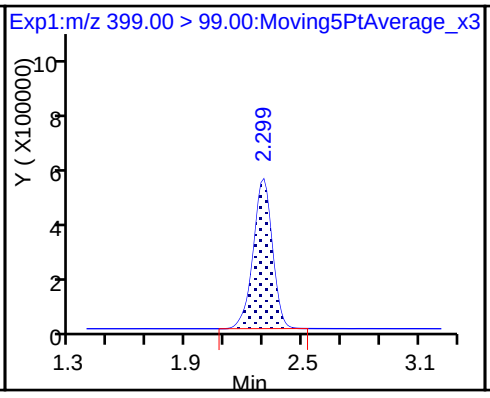
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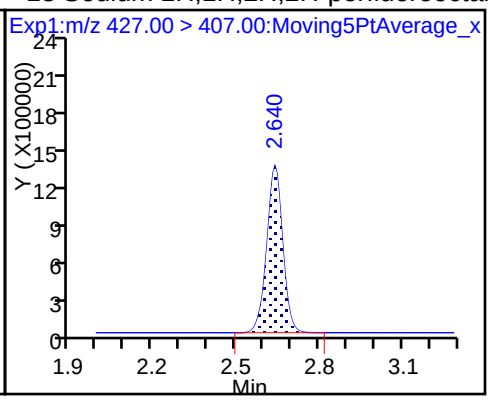
8 Perfluorohexanesulfonic acid



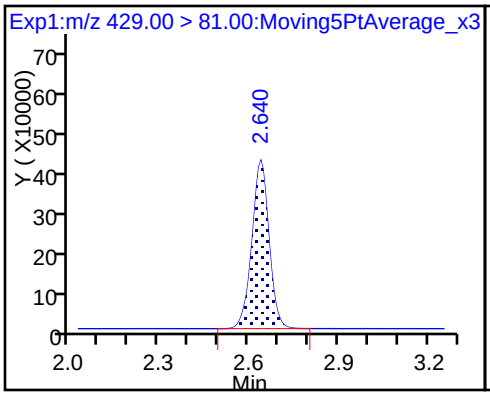
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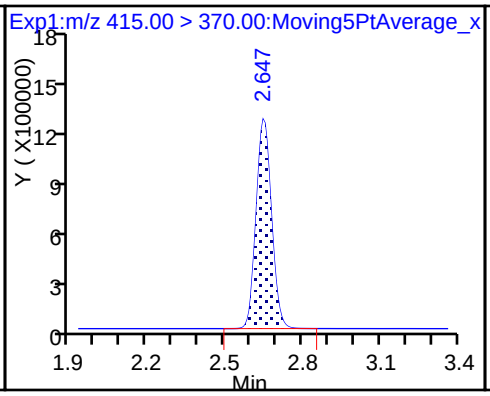
13 Sodium 1H,1H,2H,2H-perfluorooctane



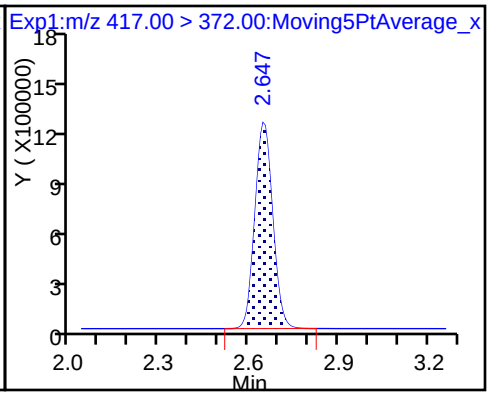
D 12 M2-6:2FTS



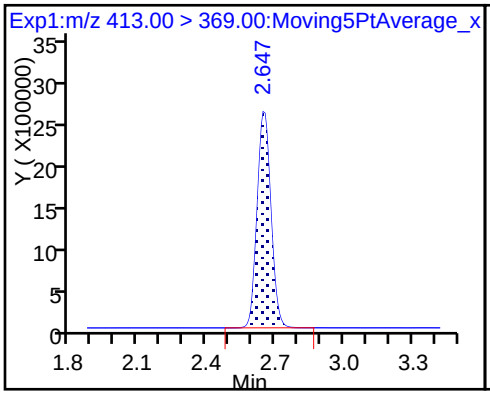
* 62 13C2-PFOA



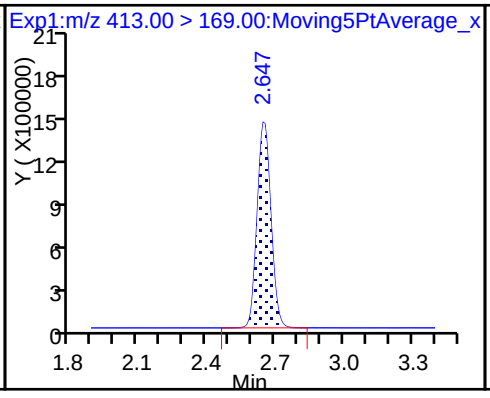
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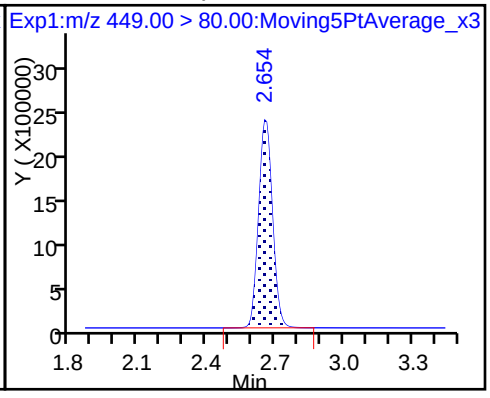
15 Perfluorooctanoic acid



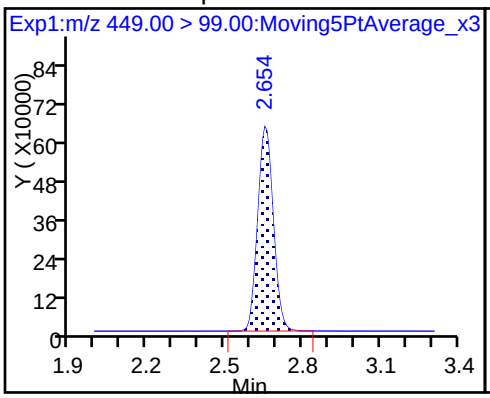
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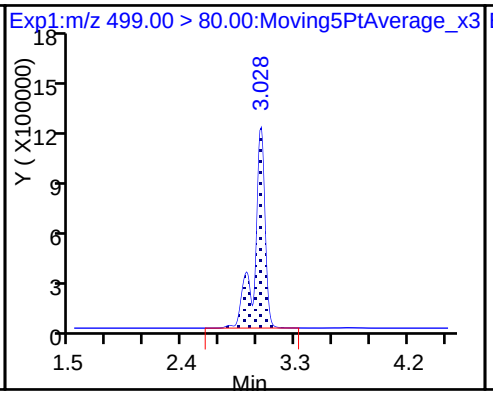
16 Perfluoroheptanesulfonic Acid



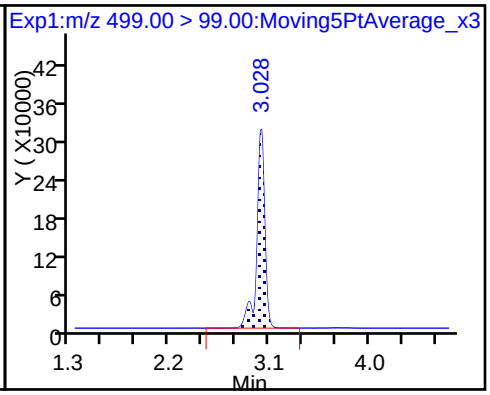
16 Perfluoroheptanesulfonic Acid



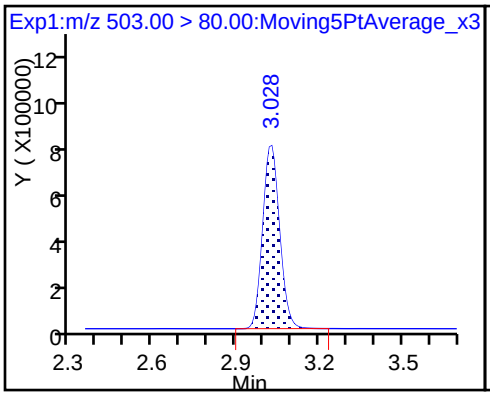
17 Perfluorooctane sulfonic acid



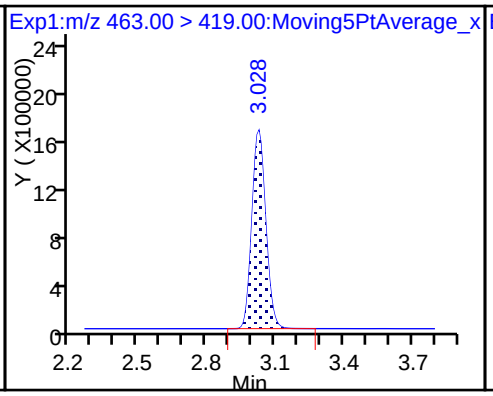
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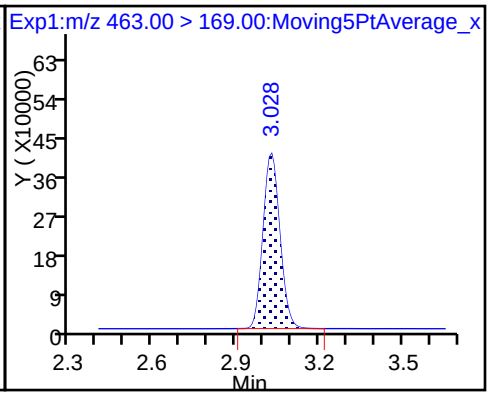
D 18 13C4 PFOS



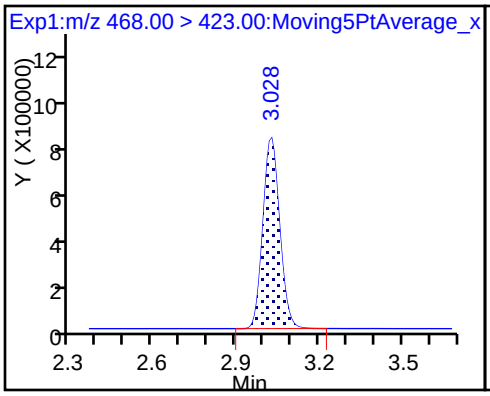
20 Perfluorononanoic acid



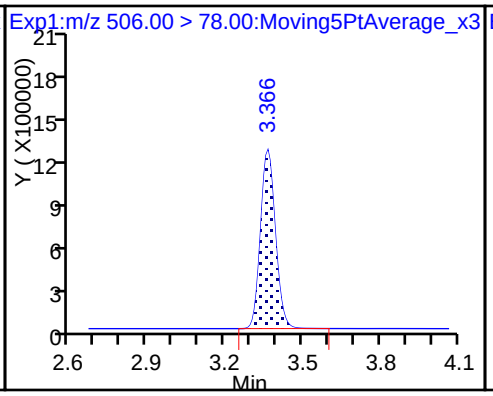
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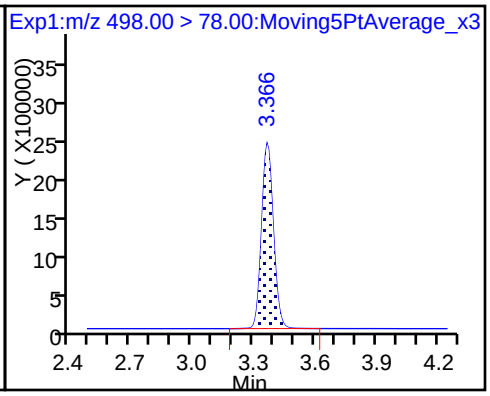
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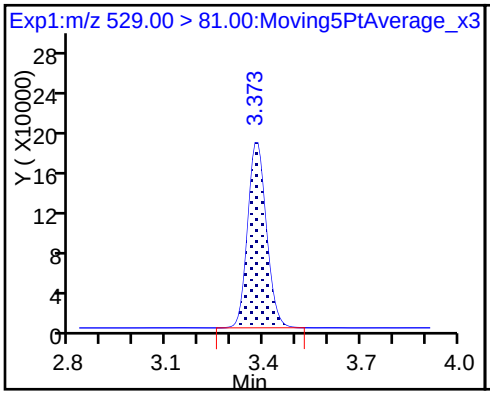
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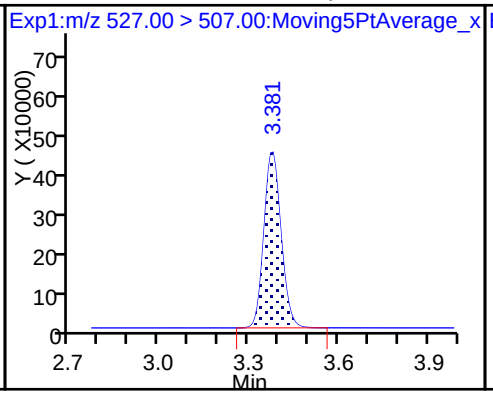
22 Perfluorooctane Sulfonamide



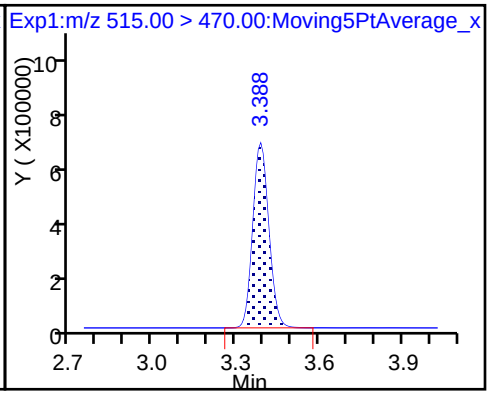
D 26 M2-8:2FTS



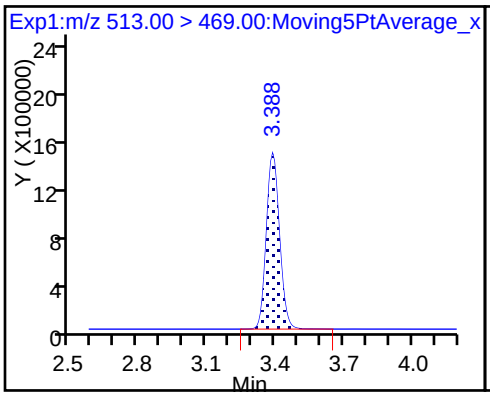
25 Sodium 1H,1H,2H,2H-perfluorodecane



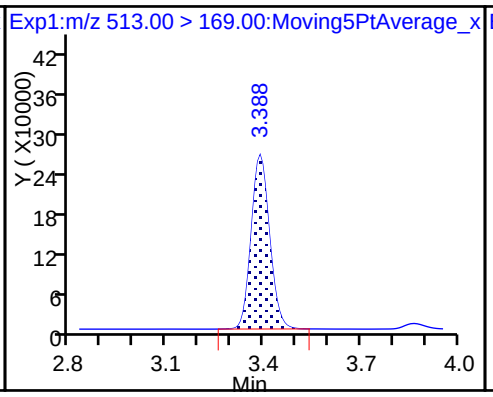
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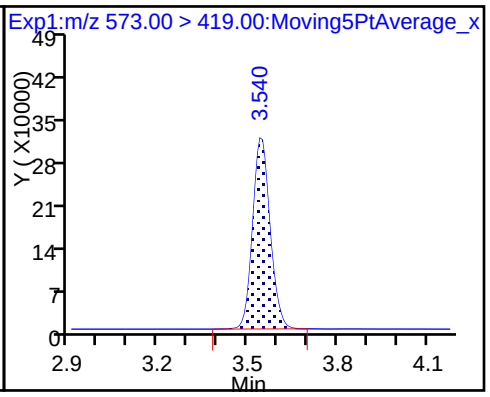
24 Perfluorodecanoic acid



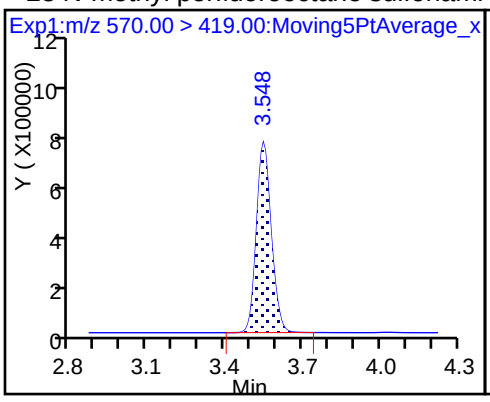
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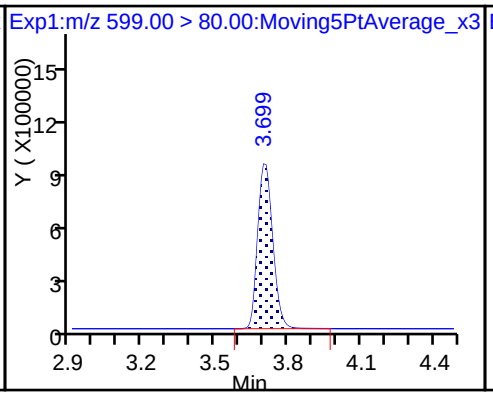
D 27 d3-NMeFOSAA



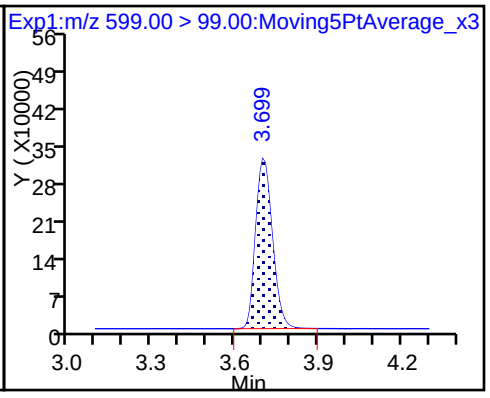
28 N-methyl perfluorooctane sulfonami



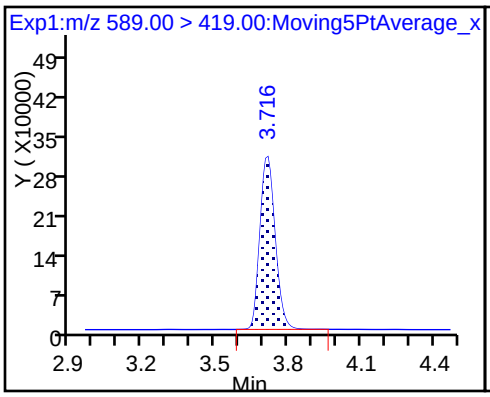
29 Perfluorodecane Sulfonic acid



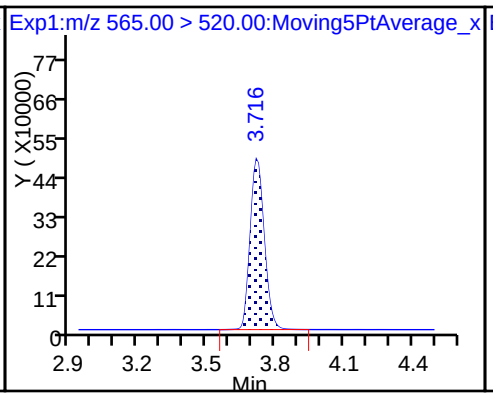
29 Perfluorodecane Sulfonic acid



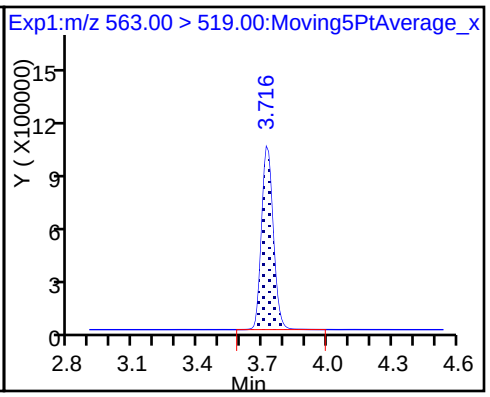
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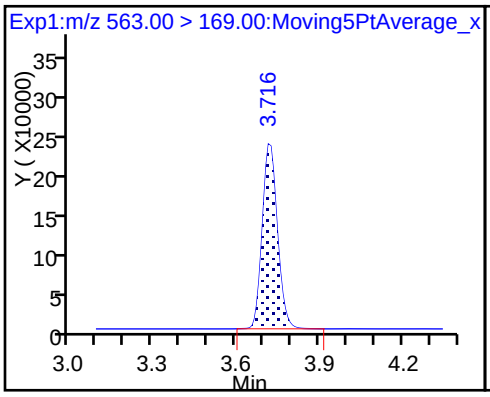
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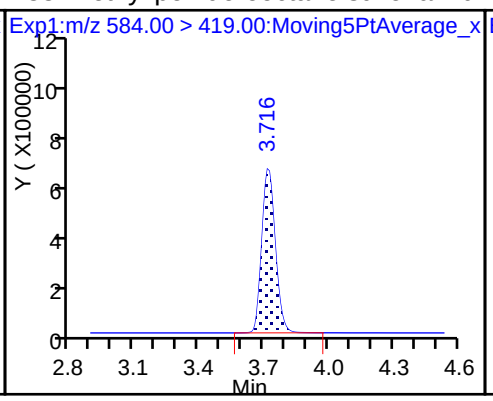
31 Perfluoroundecanoic acid



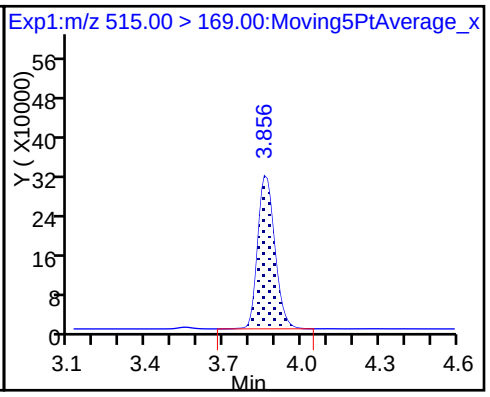
31 Perfluoroundecanoic acid



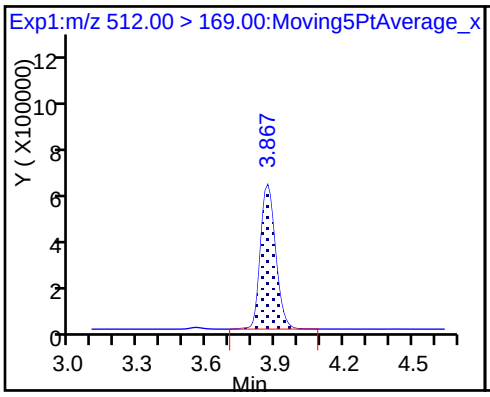
33 N-ethyl perfluorooctane sulfonamid



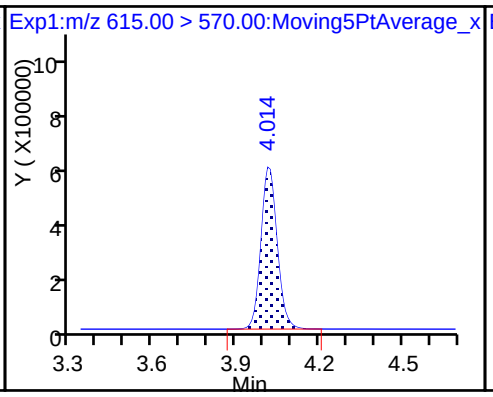
D 34 d-N-MeFOSA-M



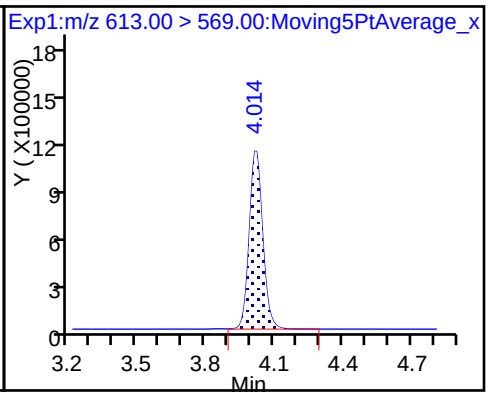
35 MeFOSA



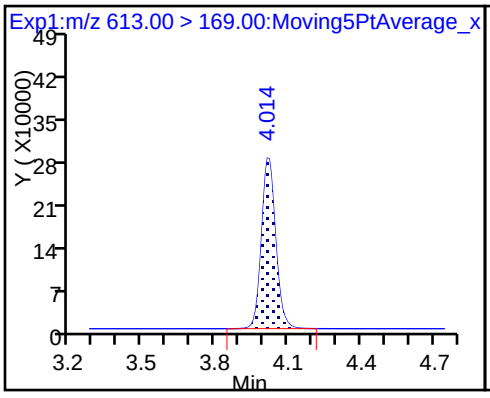
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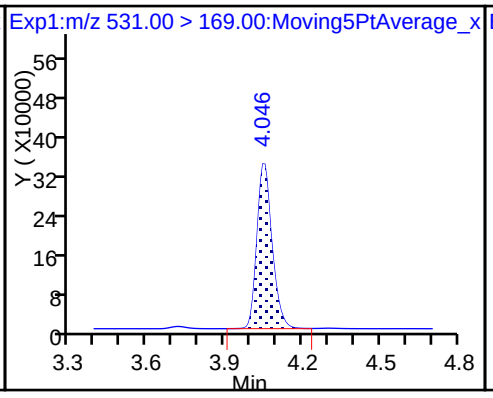
37 Perfluorododecanoic acid



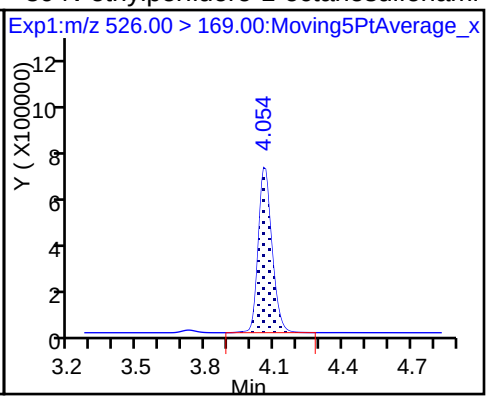
37 Perfluorododecanoic acid



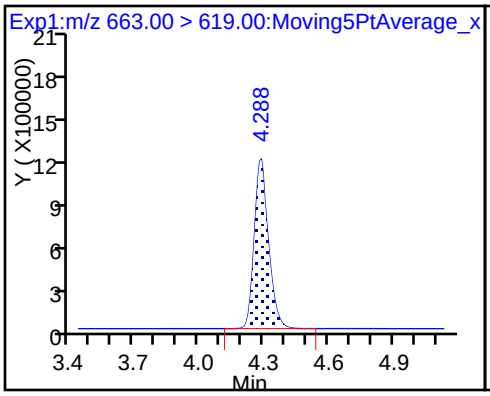
D 38 d-N-EtFOSA-M



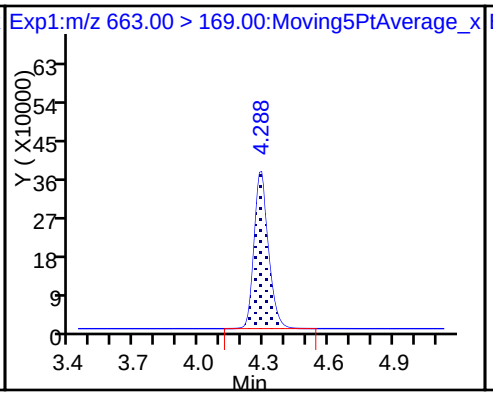
39 N-ethylperfluoro-1-octanesulfonami



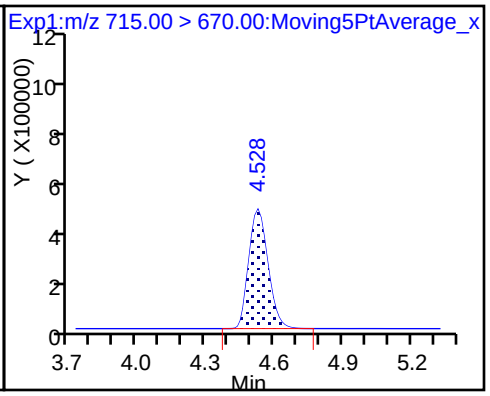
41 Perfluorotridecanoic acid



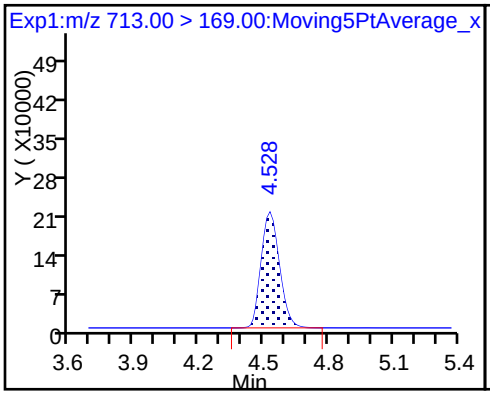
41 Perfluorotridecanoic acid



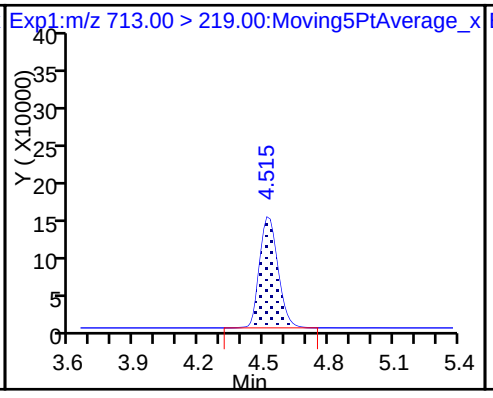
D 43 13C2-PFTeDA



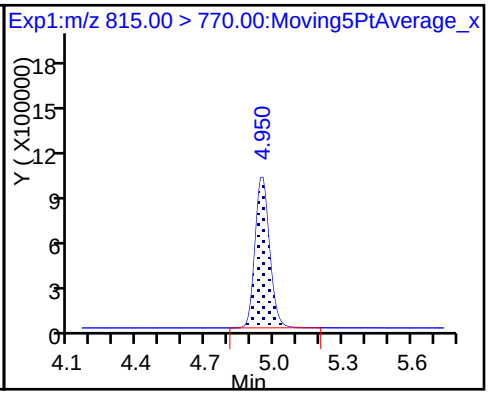
42 Perfluorotetradecanoic acid



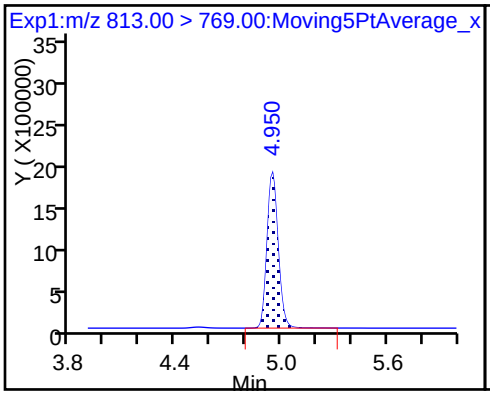
42 Perfluorotetradecanoic acid



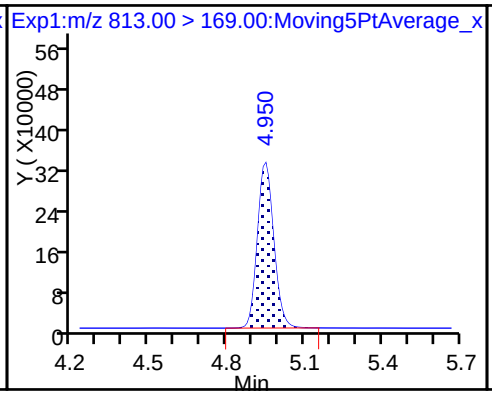
D 44 13C2-PFHxDA



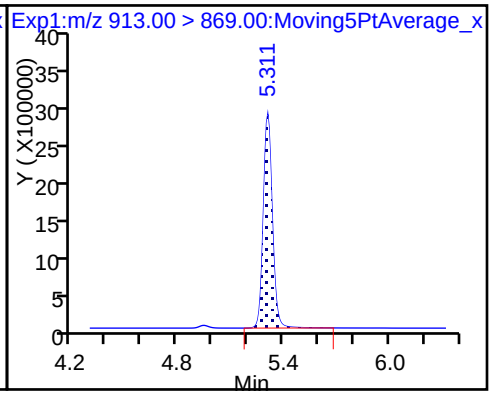
45 Perfluorohexadecanoic acid



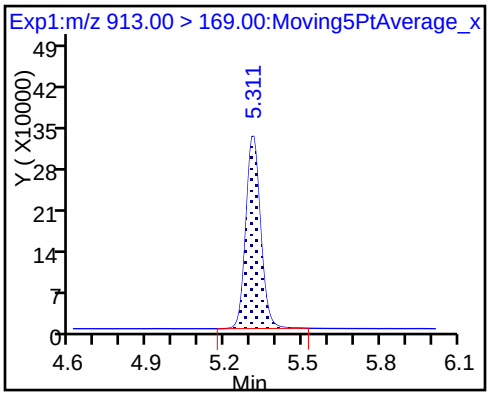
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_008.d
Lims ID: IC L7 Full
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 19-Dec-2017 14:36:46 ALS Bottle#: 16 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L7-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:20:15 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 19-Dec-2017 17:13:19

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.533	7284910	2.62		105	28704	
2 Perfluorobutyric acid										
212.90 > 169.00	1.412	1.412	0.0	1.000	26548797	9.99		99.9	6733	
D 3 13C5-PFPeA										
267.90 > 223.00	1.659	1.664	-0.005	0.627	4391093	2.68		107	43814	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.659	1.664	-0.005	1.000	18820570	9.69		96.9	26768	
D 47 13C3-PFBS										
301.90 > 83.00	1.694	1.699	-0.005	0.640	81788	2.36		102	3800	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.703	1.703	0.0	1.005	23441647	8.91		101	74445	
298.90 > 99.00	1.703	1.703	0.0	1.005	10247135		2.29(1.25-3.74)	101	58642	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.918	1.909	0.009	1.000	4386428	11.8		126	79972	
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.736	4376638	2.52		101	35235	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.949	1.949	0.0	1.000	17647981	10.1		101	44059	
313.00 > 119.00	1.949	1.949	0.0	1.000	1673440		10.55(5.03-15.10)	101	32408	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.864	4055392	2.50		99.9	27299	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.286	2.286	0.0	1.000	16346358	9.79		97.9	25532	
363.00 > 169.00	2.286	2.286	0.0	1.000	6852427		2.39(1.13-3.40)	97.9	26570	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.299	0.0	1.000	19284178	8.63		94.8	29741	
399.00 > 99.00	2.299	2.299	0.0	1.000	6591329		2.93(1.50-4.49)	94.8	20395	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.869	4862201	2.42		102	32728	
D 12 M2-6:2FTS										
429.00 > 81.00	2.640	2.640	0.0	0.997	1404569	2.08		87.7	38113	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.640	2.640	0.0	1.000	9226048	9.74		103	85984	
* 62 13C2-PFOA										
415.00 > 370.00	2.647	2.643	0.004		4715566	2.50			37713	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.647	0.0	1.000	4789140	2.45		98.2	49845	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.647	2.649	-0.002	1.000	19239952	9.52		95.2	29407	
413.00 > 169.00	2.647	2.649	-0.002	1.000	11260459		1.71(0.84-2.52)	95.2	39146	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.654	2.654	0.0	1.000	18018452	9.47		99.5	106001	
449.00 > 99.00	2.654	2.654	0.0	1.000	5211039		3.46(1.94-5.82)	99.5	36991	
D 18 13C4 PFOS										
503.00 > 80.00	3.020	3.025	-0.005	1.141	3159717	2.44		102	19443	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.020	3.025	-0.005	1.000	13297551	9.46		102	13641	
499.00 > 99.00	3.020	3.025	-0.005	1.000	2933030		4.53(2.31-6.93)	102	201338	
D 19 13C5 PFNA										
468.00 > 423.00	3.028	3.026	0.002	1.144	3300159	2.52		101	26086	
20 Perfluorononanoic acid										
463.00 > 419.00	3.028	3.026	0.002	1.000	12821895	10.0		100	40260	
463.00 > 169.00	3.028	3.026	0.002	1.000	3406862		3.76(1.90-5.69)	100	32413	
D 21 13C8 FOSA										
506.00 > 78.00	3.358	3.362	-0.004	1.269	4710393	2.58		103	28572	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.002	17203787	9.66		96.6	43837	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.274	724404	2.52		105	18291	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.373	3.376	-0.003	1.000	3619045	9.84		103	39979	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.387	0.001	1.280	2710997	2.58		103	32179	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.388	3.388	0.0	1.000	10764551	10.0		100	45047	
513.00 > 169.00	3.388	3.388	0.0	1.000	1994017		5.40(2.36-7.09)	100	2012	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.541	-0.001	1.337	1261010	2.61		104	18484	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.548	3.547	0.001	1.002	5515640	10.6		106	18628	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.699	3.701	-0.002	1.000	7832547	10.1		105	59015	
599.00 > 99.00	3.699	3.701	-0.002	1.000	2549548		3.07(1.39-4.16)	105	26578	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.711	-0.003	1.401	1223362	2.46		98.2	4781	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.716	3.717	-0.001	1.404	1957040	2.42		96.9	30615	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.716	3.718	-0.002	1.002	4885806	10.2		102	38950	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.716	3.718	-0.002	1.000	7399053	10.4		104	51916	
563.00 > 169.00	3.716	3.718	-0.002	1.000	1642489		4.50(0.00-0.00)	104	25709	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.457	1467204	2.72		109	4026	
35 MeFOSA										
512.00 > 169.00	3.867	3.863	0.004	1.003	5764089	10.0		100	4208	
D 36 13C2 PFDoA										
615.00 > 570.00	4.014	4.015	-0.001	1.517	2171148	2.53		101	38793	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.014	4.016	-0.002	1.000	8684016	10.4		104	32188	
613.00 > 169.00	4.014	4.016	-0.002	1.000	2203464		3.94(2.13-6.40)	104	68239	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.528	1284795	2.53		101	2227	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.002	5727352	10.6		106	3464	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.289	4.285	0.004	1.000	10371752	10.4		104	51297	
663.00 > 169.00	4.289	4.285	0.004	1.000	3202826		3.24(1.25-3.76)	104	50811	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.528	4.522	0.006	1.000	2381737	9.94		99.4	29128	
713.00 > 219.00	4.515	4.522	-0.007	0.997	1653231		1.44(0.71-2.13)	99.4	25469	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.528	4.522	0.006	1.711	2368292	2.51		100	17707	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.950	4.944	0.006	1.870	4428998	2.57		103	14822	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.950	4.945	0.005	1.000	15082746	9.76		97.6	9472	
813.00 > 169.00	4.950	4.945	0.005	1.000	2764404		5.46(2.86-8.58)	97.6	17711	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.311	5.309	0.002	1.000	19039677	9.67		96.7	3307	
913.00 > 169.00	5.311	5.309	0.002	1.000	2620462		7.27(0.00-0.00)	96.7	3992	

Reagents:

LCPFC_LL7_00002 Amount Added: 1.00 Units: mL

Report Date: 20-Dec-2017 08:20:16 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_008.d

Injection Date: 19-Dec-2017 14:36:46 Instrument ID: A8_N

Lims ID: IC L7 Full

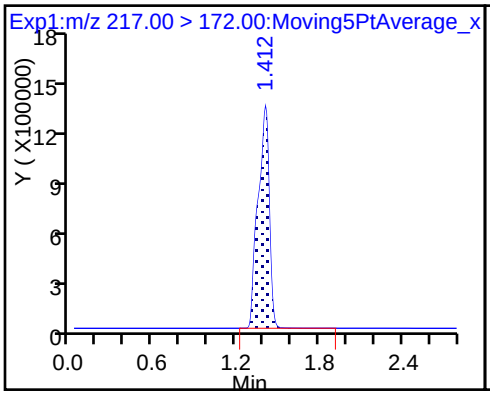
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 16 Worklist Smp#: 8

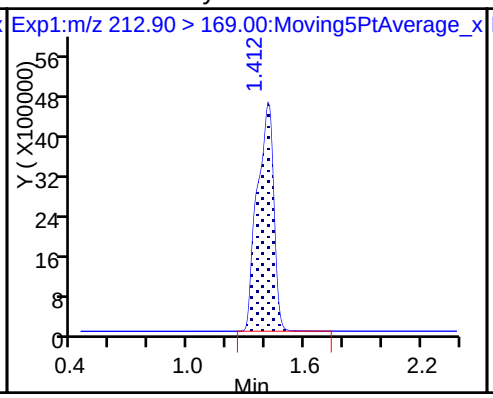
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

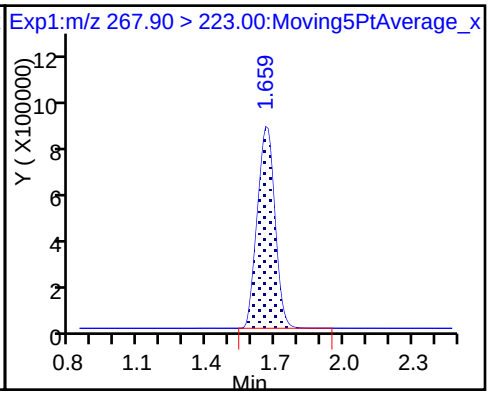
D 1 13C4 PFBA



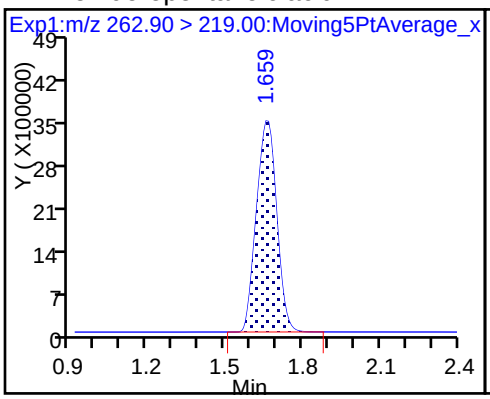
2 Perfluorobutyric acid



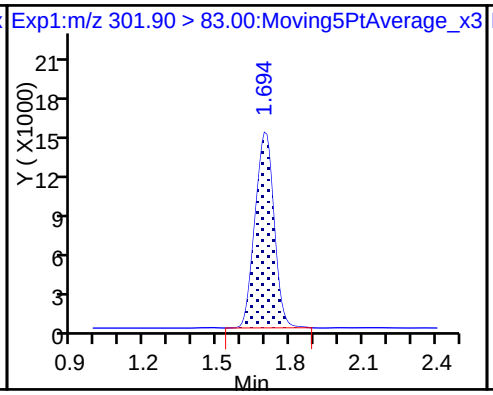
D 3 13C5-PFPeA



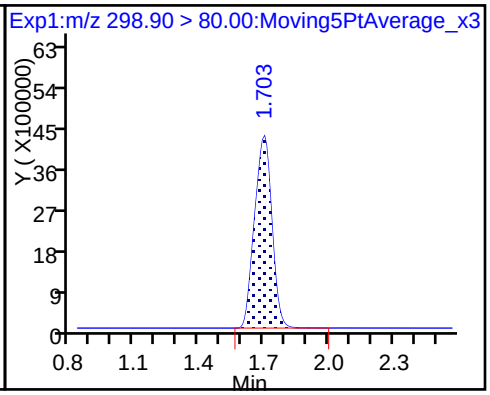
4 Perfluoropentanoic acid



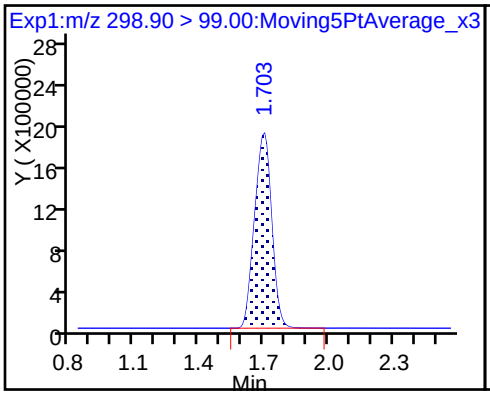
D 47 13C3-PFBS



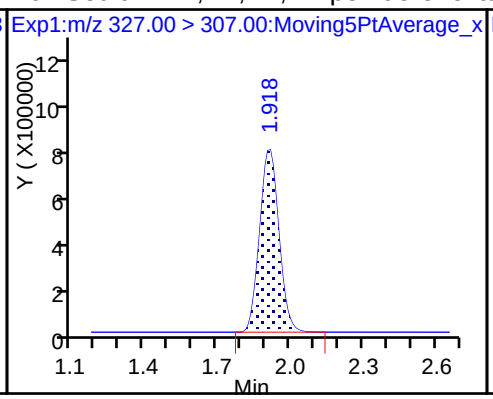
5 Perfluorobutanesulfonic acid



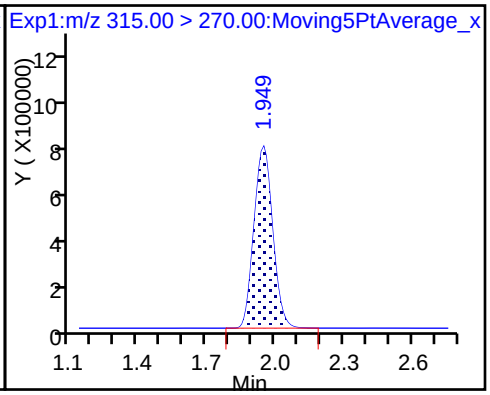
5 Perfluorobutanesulfonic acid



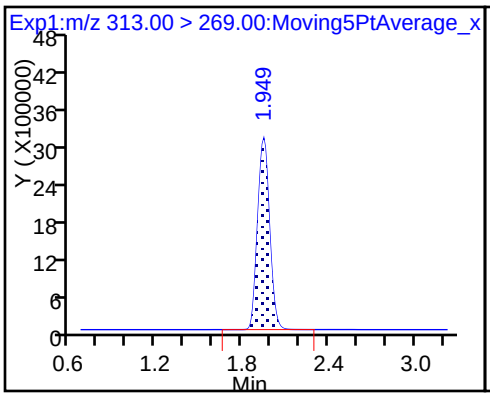
61 Sodium 1H,1H,2H,2H-perfluorohexa



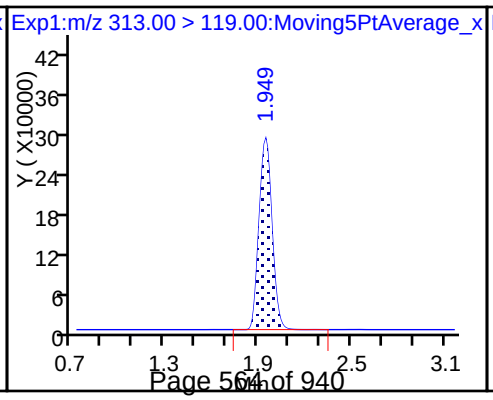
D 7 13C2 PFHxA



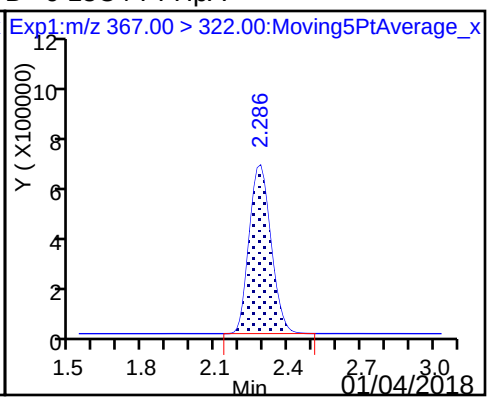
6 Perfluorohexanoic acid



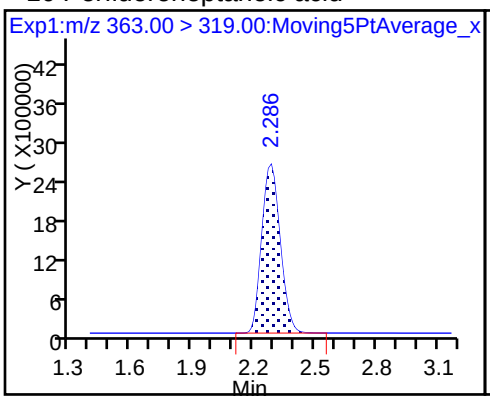
6 Perfluorohexanoic acid



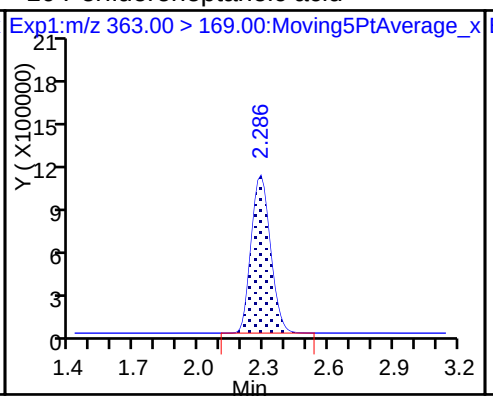
D 9 13C4-PFHpA



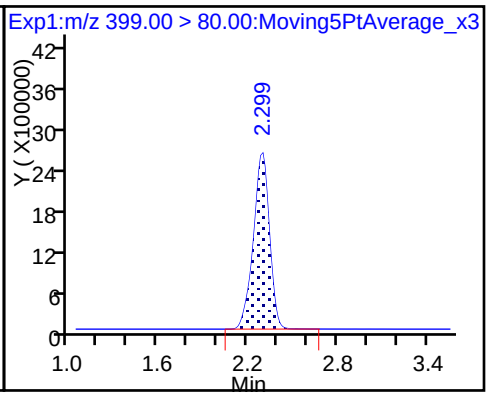
10 Perfluoroheptanoic acid



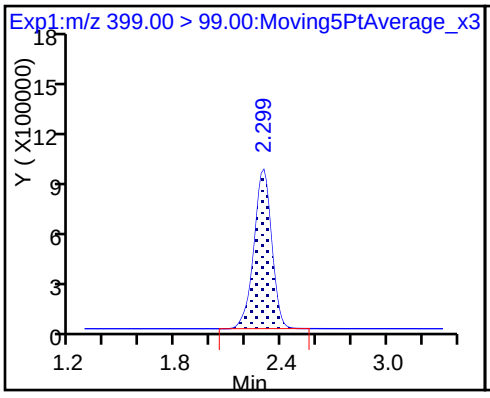
10 Perfluoroheptanoic acid



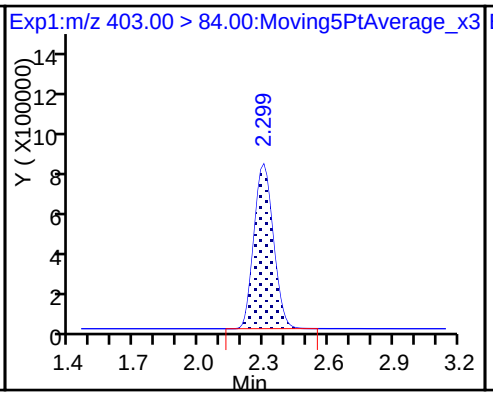
8 Perfluorohexanesulfonic acid



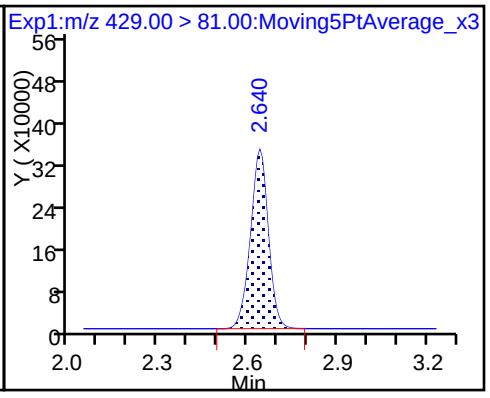
8 Perfluorohexanesulfonic acid



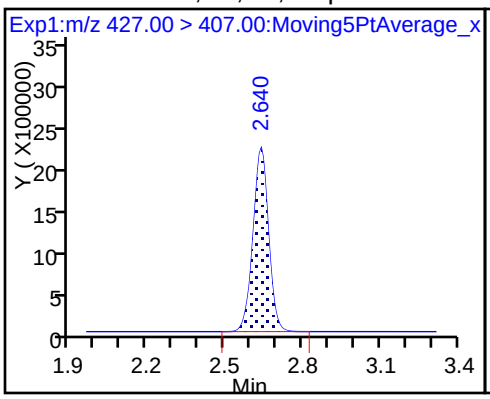
D 11 18O2 PFHxS



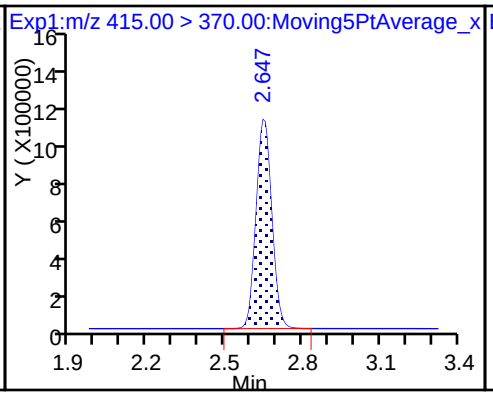
D 12 M2-6:2FTS



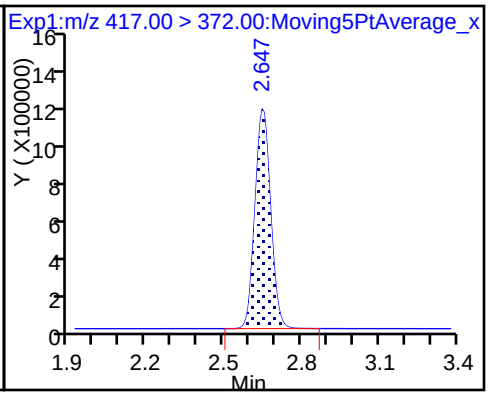
13 Sodium 1H,1H,2H,2H-perfluorooctane



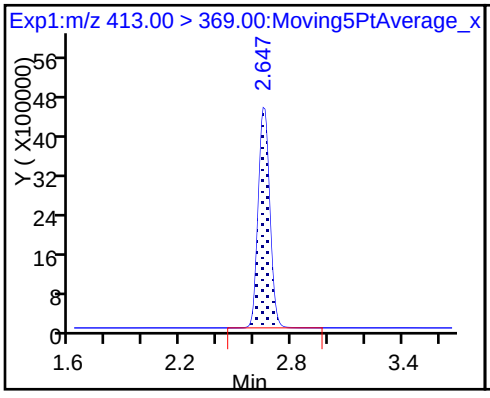
M2 13C2-PFOA



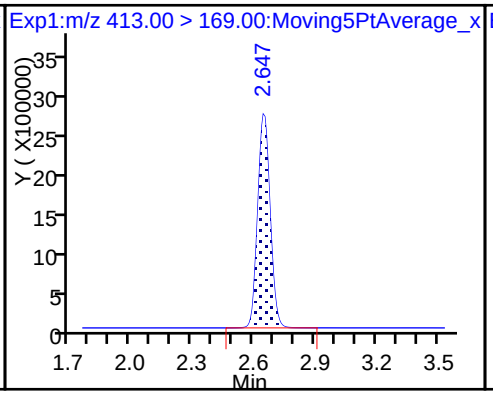
D 14 13C4 PFOA



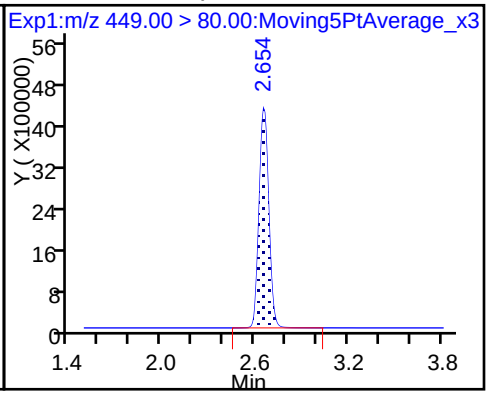
15 Perfluorooctanoic acid



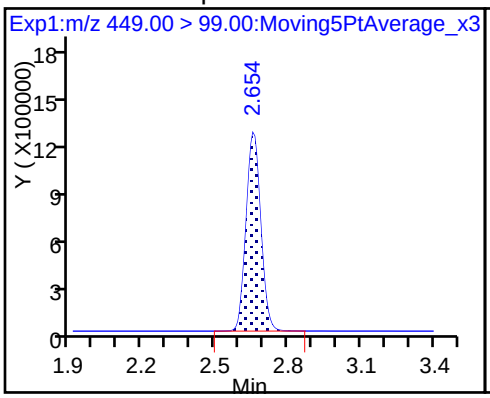
15 Perfluorooctanoic acid



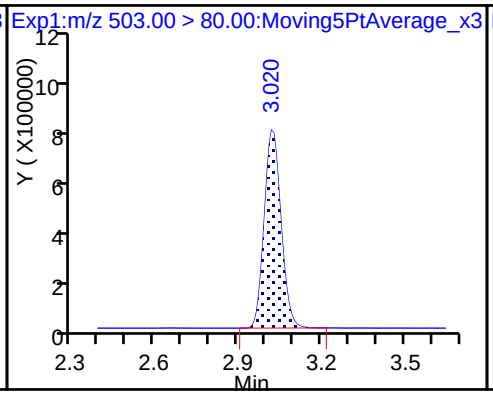
16 Perfluoroheptanesulfonic Acid



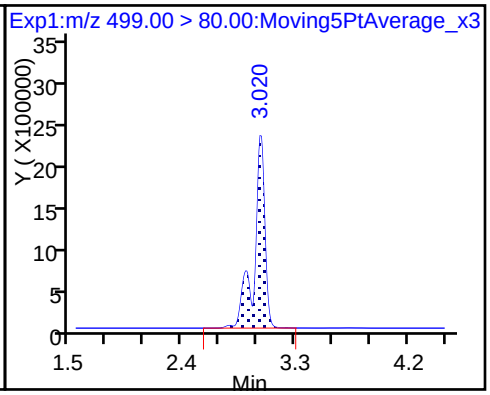
16 Perfluoroheptanesulfonic Acid



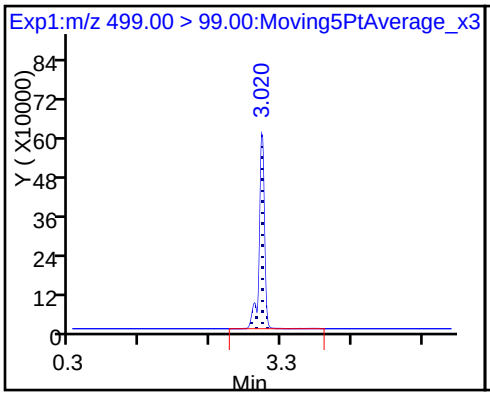
D 18 13C4 PFOS



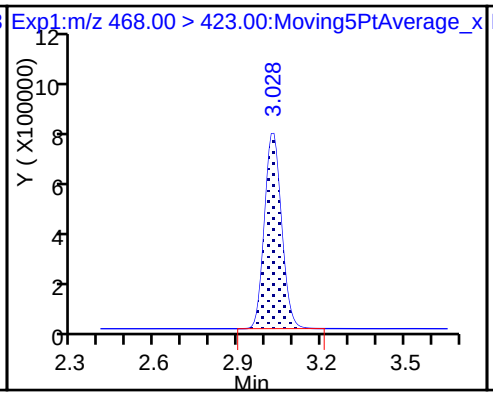
17 Perfluorooctane sulfonic acid



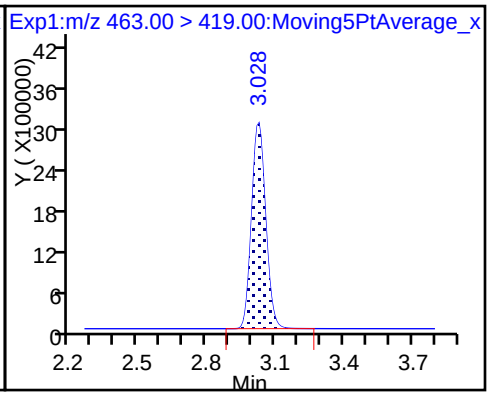
17 Perfluorooctane sulfonic acid



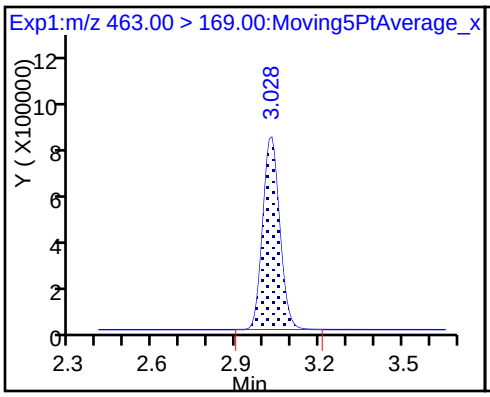
D 19 13C5 PFNA



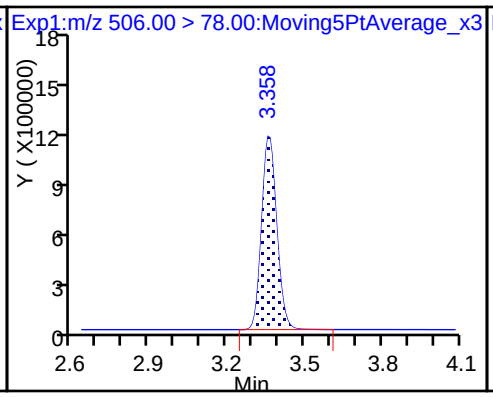
20 Perfluorononanoic acid



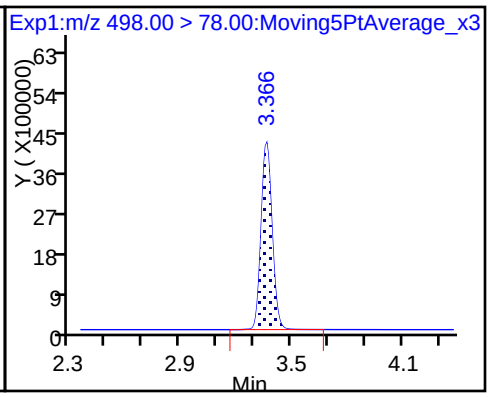
20 Perfluorononanoic acid



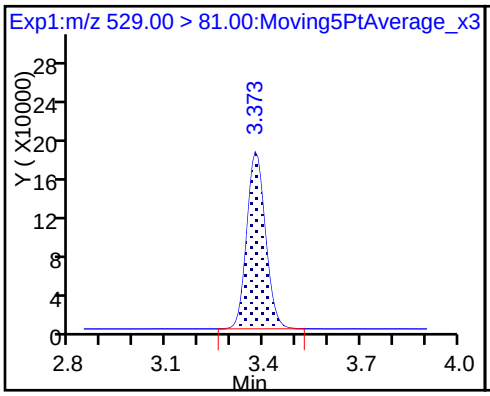
D 21 13C8 FOSA



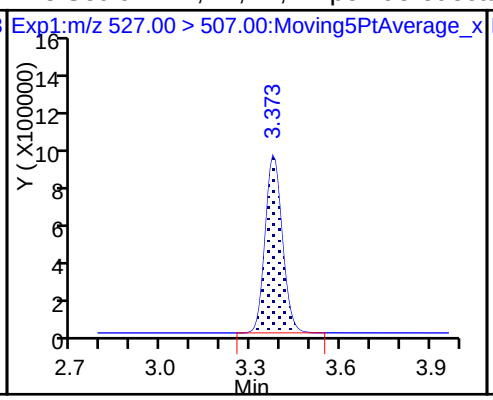
22 Perfluorooctane Sulfonamide



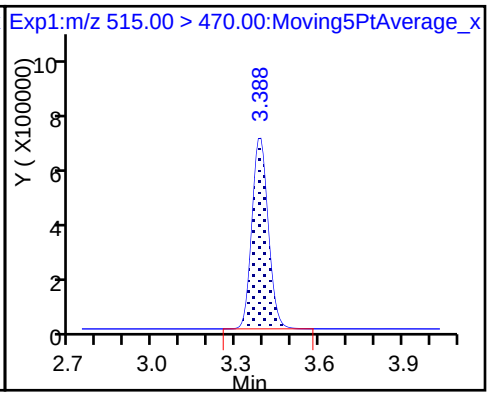
D 26 M2-8:2FTS



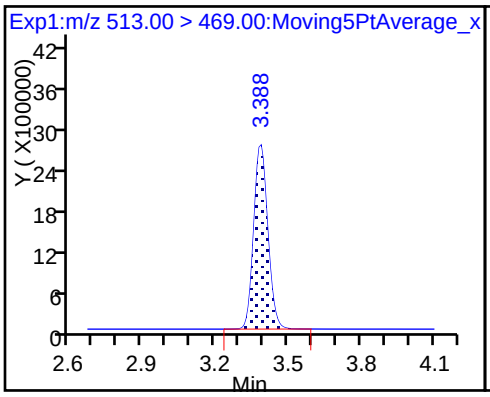
25 Sodium 1H,1H,2H,2H-perfluorodecane



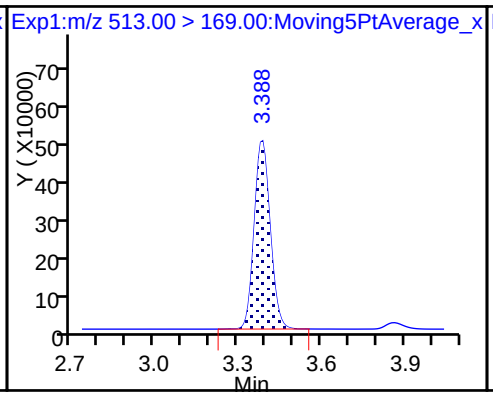
D 23 13C2 PFDA



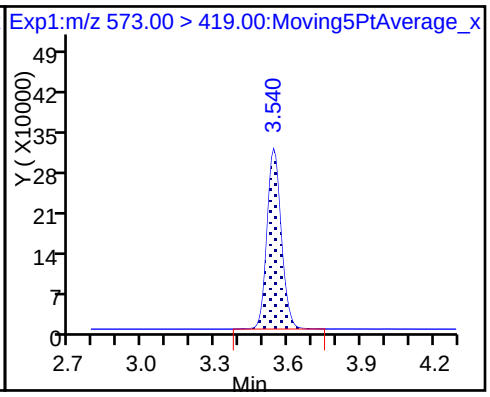
24 Perfluorodecanoic acid



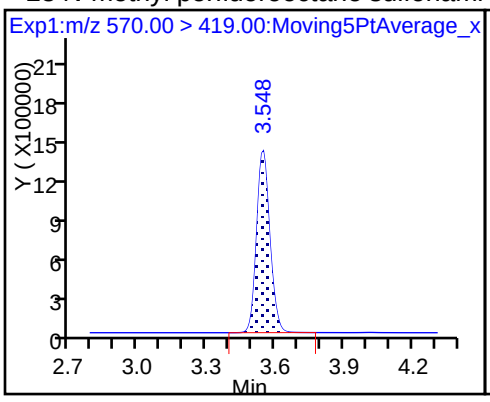
24 Perfluorodecanoic acid



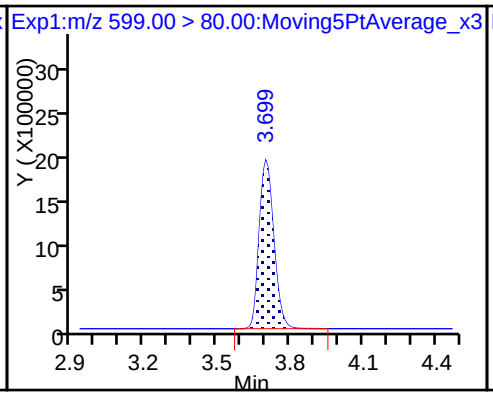
D 27 d3-NMeFOSAA



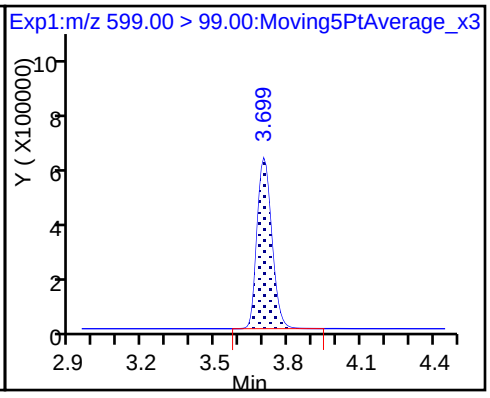
28 N-methyl perfluorooctane sulfonami



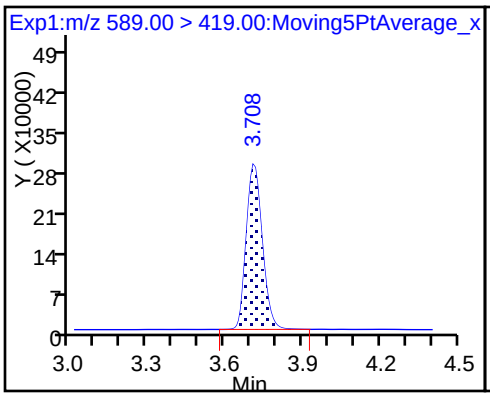
29 Perfluorodecane Sulfonic acid



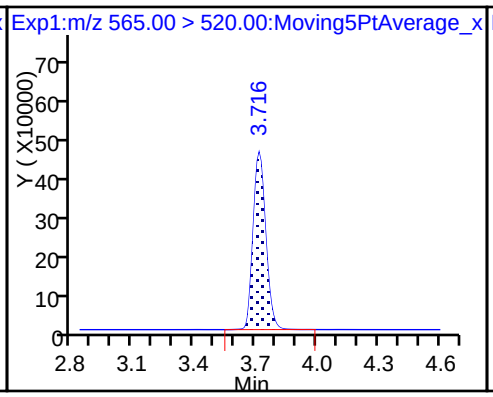
29 Perfluorodecane Sulfonic acid



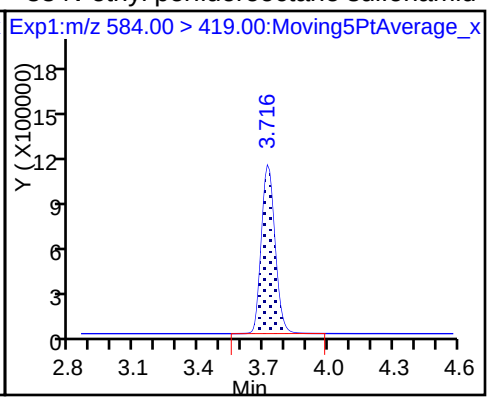
D 32 d5-NEtFOSAA



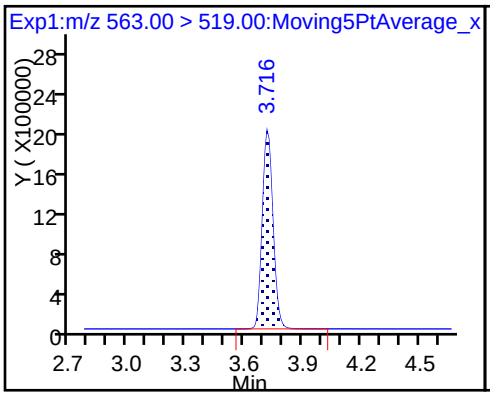
D 30 13C2 PFUnA



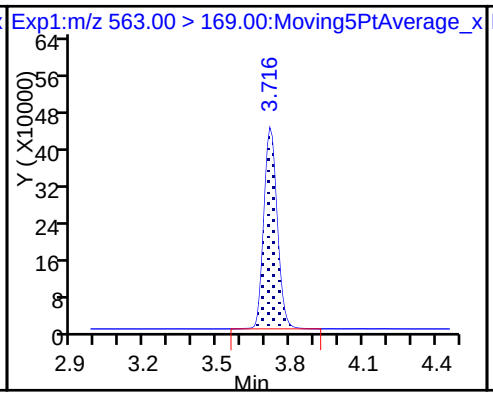
33 N-ethyl perfluorooctane sulfonamid



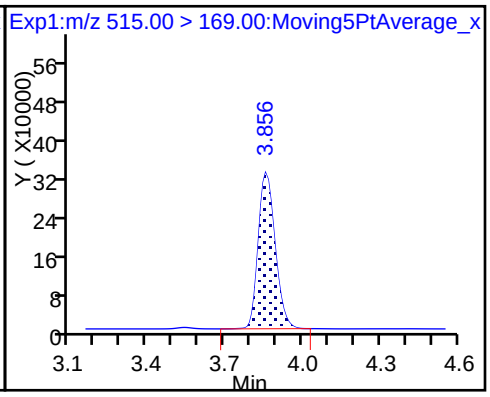
31 Perfluoroundecanoic acid



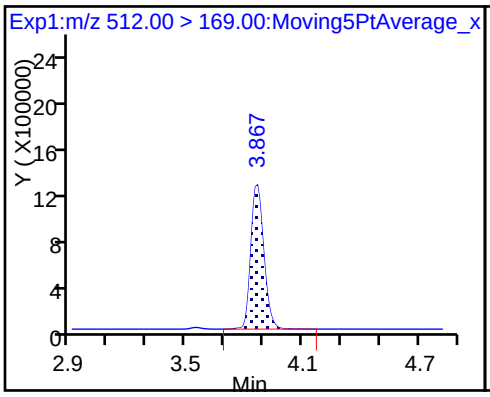
31 Perfluoroundecanoic acid



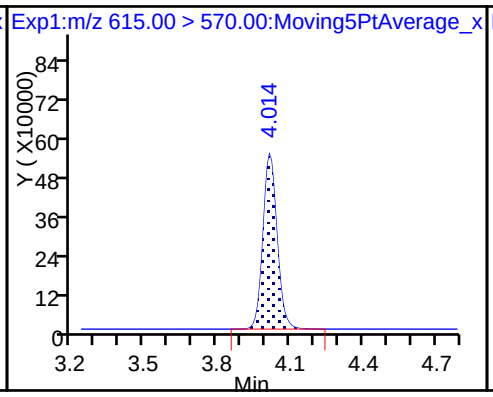
D 34 d-N-MeFOSA-M



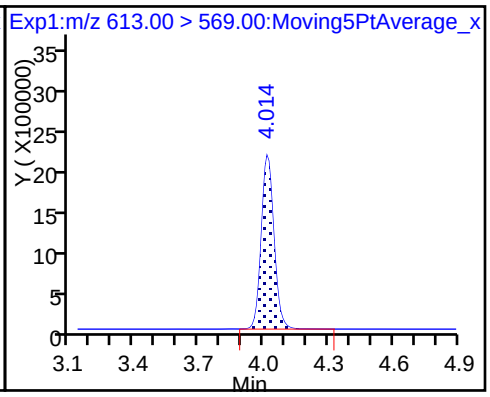
35 MeFOSA



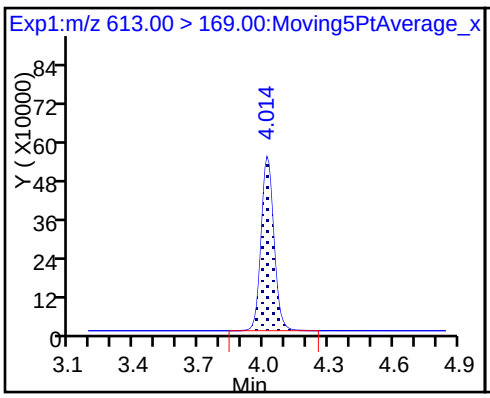
D 36 13C2 PFDoA



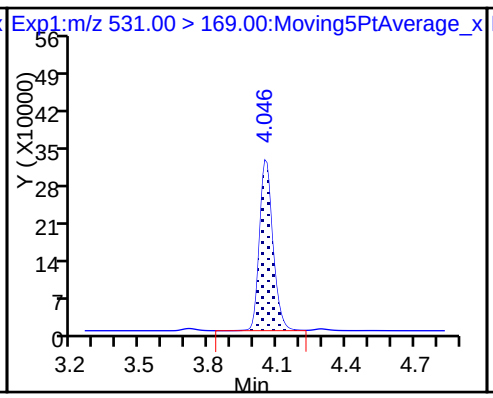
37 Perfluorododecanoic acid



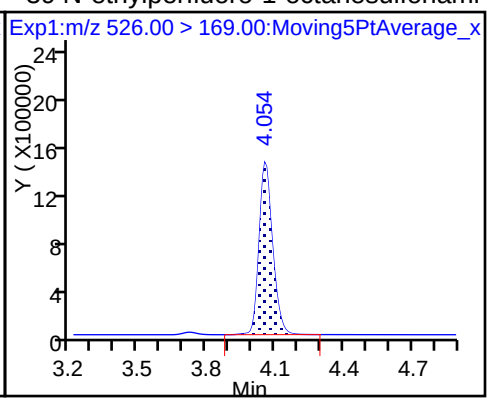
37 Perfluorododecanoic acid



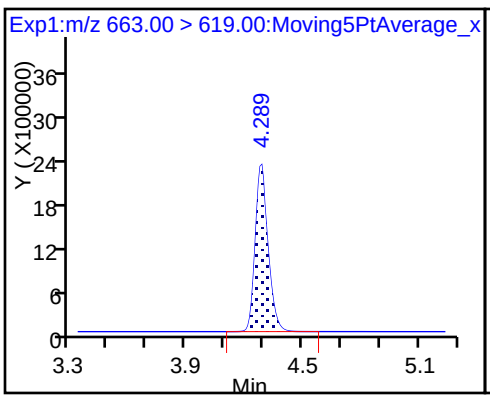
D 38 d-N-EtFOSA-M



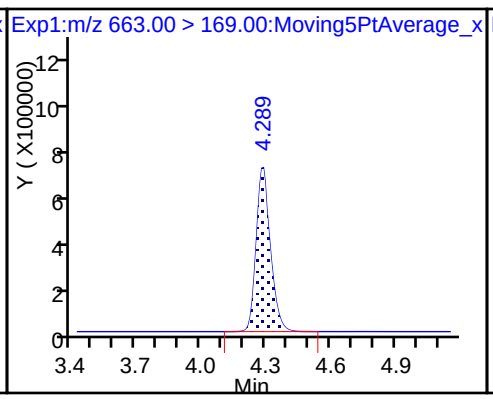
39 N-ethylperfluoro-1-octanesulfonami



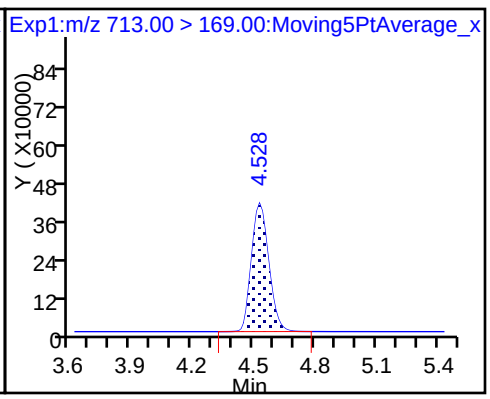
41 Perfluorotridecanoic acid



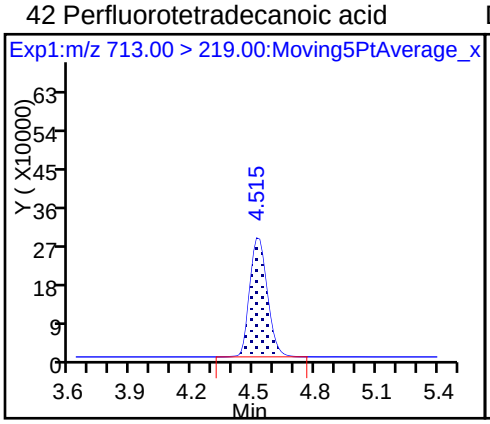
41 Perfluorotridecanoic acid



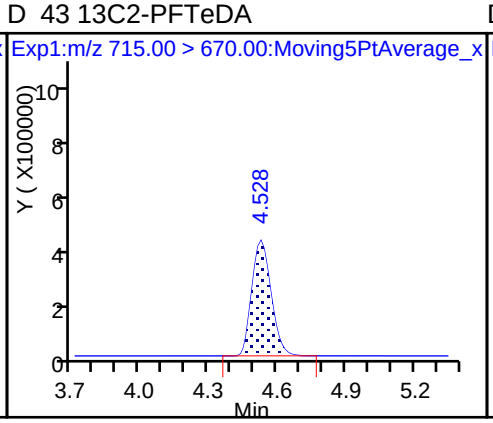
42 Perfluorotetradecanoic acid



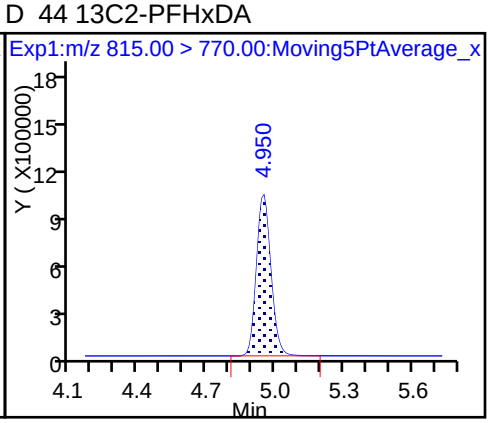
42 Perfluorotetradecanoic acid



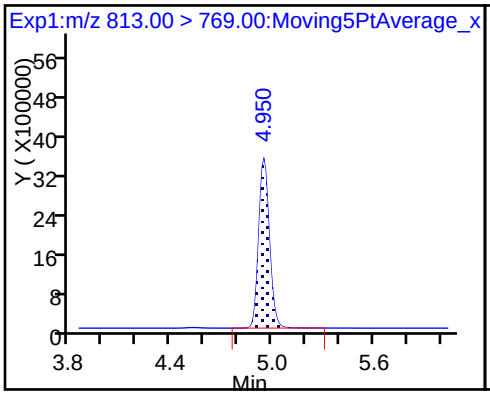
D 43 13C2-PFTeDA



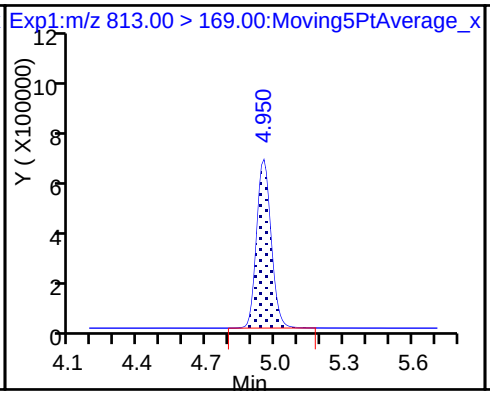
D 44 13C2-PFHxDA



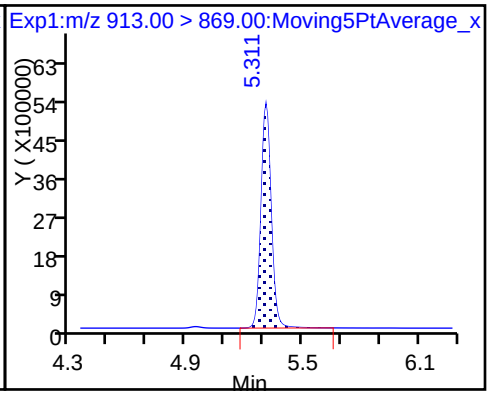
45 Perfluorohexadecanoic acid



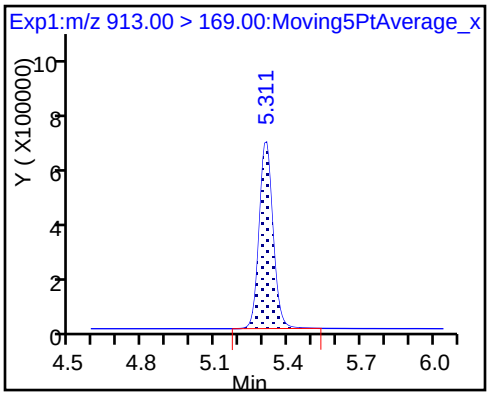
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_009.d
Lims ID: IC L8 Full
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 19-Dec-2017 14:44:34 ALS Bottle#: 17 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L8-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:20:19 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 19-Dec-2017 17:13:56

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.533	6818391	2.69		108	26900	
2 Perfluorobutyric acid										
212.90 > 169.00	1.412	1.412	0.0	1.000	44840507	18.0		90.1	10578	
D 3 13C5-PFPeA										
267.90 > 223.00	1.669	1.664	0.005	0.630	3804913	2.55		102	53315	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.660	1.664	-0.004	0.995	31612741	18.8		94.0	41203	
D 47 13C3-PFBS										
301.90 > 83.00	1.695	1.699	-0.004	0.640	80066	2.54		109	2956	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.704	1.703	0.001	1.005	38179710	14.8		83.9	81341	
298.90 > 99.00	1.704	1.703	0.001	1.005	18460572		2.07(1.25-3.74)	83.9	68558	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.909	1.909	0.0	1.000	8458206	26.5		142	169739	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.951	1.949	0.002	1.000	30357121	18.2		90.9	106804	
313.00 > 119.00	1.951	1.949	0.002	1.000	3036007		10.00(5.03-15.10)	90.9	75443	
D 7 13C2 PFHxA										
315.00 > 270.00	1.951	1.949	0.002	0.737	4174830	2.64		105	38369	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.288	2.286	0.002	1.000	28158912	18.2		91.2	32378	
363.00 > 169.00	2.288	2.286	0.002	1.000	12970651		2.17(1.13-3.40)	91.2	48559	
D 9 13C4-PFHpA										
367.00 > 322.00	2.288	2.286	0.002	0.864	3747588	2.53		101	26143	
D 11 18O2 PFHxS										
403.00 > 84.00	2.301	2.299	0.002	0.869	4447592	2.43		103	29754	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.301	2.299	0.002	1.000	33334637	16.3		89.6	28350	
399.00 > 99.00	2.301	2.299	0.002	1.000	12366081		2.70(1.50-4.49)	89.6	26751	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.641	2.640	0.001	1.000	14896232	18.3		96.6	95209	
D 12 M2-6:2FTS										
429.00 > 81.00	2.641	2.640	0.001	0.997	1205677	1.96		82.6	34581	
* 62 13C2-PFOA										
415.00 > 370.00	2.648	2.643	0.005		4298828	2.50			42176	
D 14 13C4 PFOA										
417.00 > 372.00	2.648	2.647	0.001	1.000	4372959	2.46		98.3	41369	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.655	2.649	0.006	1.003	31191958	16.9		84.5	41583	
413.00 > 169.00	2.648	2.649	-0.001	1.000	18918205		1.65(0.84-2.52)	84.5	41451	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.655	2.654	0.001	1.000	29571411	16.8		88.4	50430	
449.00 > 99.00	2.655	2.654	0.001	1.000	9529750		3.10(1.94-5.82)	88.4	42994	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.029	3.025	0.004	1.000	23320498	18.0		96.8	16773	
499.00 > 99.00	3.021	3.025	-0.004	0.997	5386831		4.33(2.31-6.93)	96.8	21635	
D 18 13C4 PFOS										
503.00 > 80.00	3.029	3.025	0.004	1.144	2918052	2.47		104	17969	
20 Perfluorononanoic acid										
463.00 > 419.00	3.029	3.026	0.003	1.000	21529958	18.8		93.9	42925	
463.00 > 169.00	3.029	3.026	0.003	1.000	6191597		3.48(1.90-5.69)	93.9	54195	
D 19 13C5 PFNA										
468.00 > 423.00	3.029	3.026	0.003	1.144	2959030	2.48		99.0	25687	
D 21 13C8 FOSA										
506.00 > 78.00	3.360	3.362	-0.002	1.269	4421949	2.65		106	26040	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.367	3.365	0.002	1.002	28285440	16.9		84.6	95259	
D 26 M2-8:2FTS										
529.00 > 81.00	3.375	3.375	0.0	1.274	718155	2.74		114	16271	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.375	3.376	-0.001	1.000	6659575	18.3		95.3	56924	
D 23 13C2 PFDA										
515.00 > 470.00	3.390	3.387	0.003	1.280	2596124	2.72		109	28307	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.390	3.388	0.002	1.000	18776317	18.3		91.3	44303	
513.00 > 169.00	3.390	3.388	0.002	1.000	3737921		5.02(2.36-7.09)	91.3	1992	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.542	3.541	0.001	1.338	1184070	2.69		107	14658	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.549	3.547	0.002	1.002	9977075	20.4		102	23391	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.702	3.701	0.001	1.000	13292883	18.6		96.4	82878	
599.00 > 99.00	3.702	3.701	0.001	1.000	4589622		2.90(1.39-4.16)	96.4	33317	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.711	3.711	0.0	1.401	1129527	2.49		99.5	4598	
D 30 13C2 PFUnA										
565.00 > 520.00	3.720	3.717	0.003	1.405	1929003	2.62		105	21609	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.720	3.718	0.002	1.000	13970094	20.0		100	46232	
563.00 > 169.00	3.720	3.718	0.002	1.000	3111422		4.49(0.00-0.00)	100	59738	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.720	3.718	0.002	1.002	8749077	19.9		99.4	37979	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.860	3.856	0.004	1.458	1427313	2.91		116	3809	
35 MeFOSA										
512.00 > 169.00	3.860	3.863	-0.003	1.000	10877094	19.4		97.0	4156	
D 36 13C2 PFDoA										
615.00 > 570.00	4.017	4.015	0.002	1.517	2031524	2.59		104	33304	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.017	4.016	0.001	1.000	15009633	19.2		96.2	48761	
613.00 > 169.00	4.017	4.016	0.001	1.000	4109008		3.65(2.13-6.40)	96.2	47924	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.049	4.048	0.001	1.529	1313148	2.84		113	2276	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.057	4.054	0.003	1.002	11003965	19.9		99.4	3997	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.285	4.285	0.0	1.000	17357694	18.6		93.2	92685	
663.00 > 169.00	4.285	4.285	0.0	1.000	5983398		2.90(1.25-3.76)	93.2	67276	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.518	4.522	-0.004	1.706	2157986	2.51		100	17467	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.518	4.522	-0.004	1.000	4374315	20.0		100	35271	
713.00 > 219.00	4.518	4.522	-0.004	1.000	3163779		1.38(0.71-2.13)	100	34030	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.942	4.944	-0.002	1.866	3826545	2.44		97.4	15640	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.942	4.945	-0.003	1.000	24984236	18.7		93.6	13522	
813.00 > 169.00	4.942	4.945	-0.003	1.000	4982578		5.01(2.86-8.58)	93.6	18380	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.312	5.309	0.003	1.000	30655013	18.0		90.1	5164	
913.00 > 169.00	5.305	5.309	-0.004	0.999	4544186		6.75(0.00-0.00)	90.1	4833	

Reagents:

LCPFC_LL8_00001 Amount Added: 1.00 Units: mL

Report Date: 20-Dec-2017 08:20:20 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_009.d

Injection Date: 19-Dec-2017 14:44:34 Instrument ID: A8_N

Lims ID: IC L8 Full

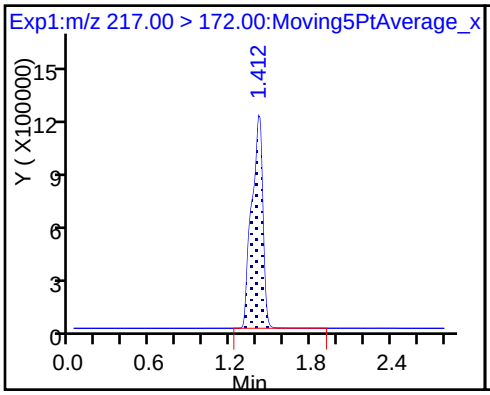
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Operator ID: SACINSTLCMS01 ALS Bottle#: 17 Worklist Smp#: 9

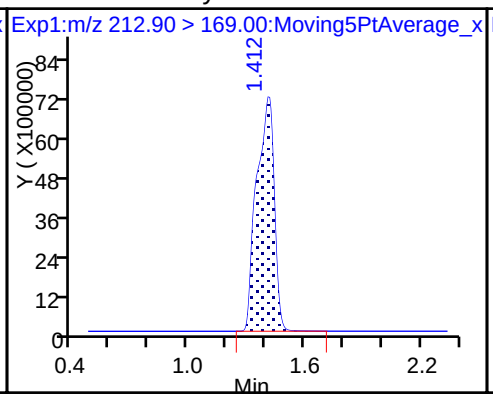
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

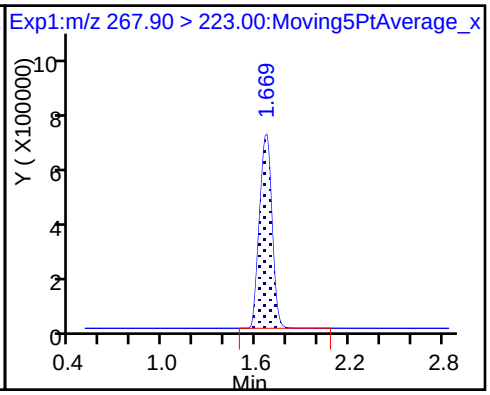
D 1 13C4 PFBA



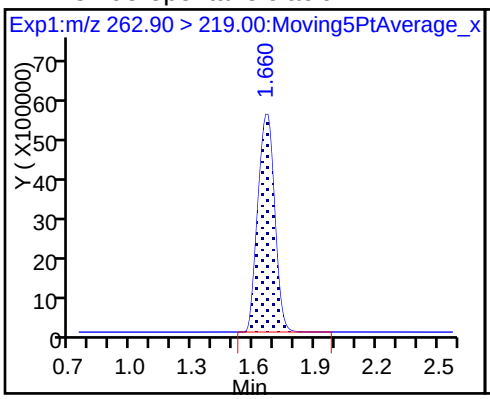
2 Perfluorobutyric acid



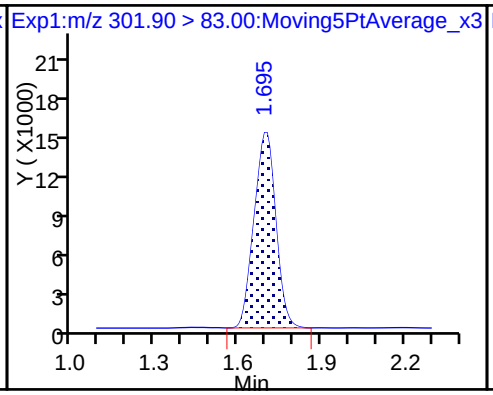
D 3 13C5-PFPeA



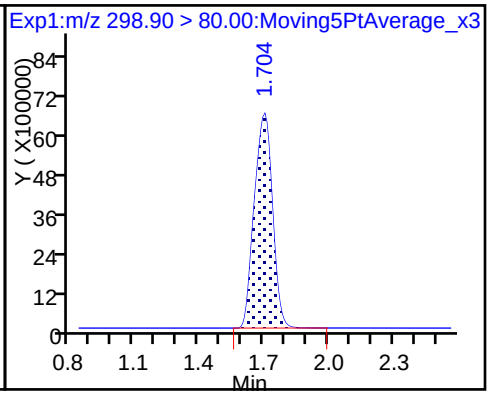
4 Perfluoropentanoic acid



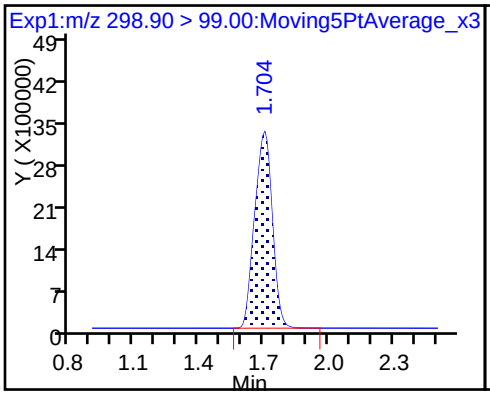
D 47 13C3-PFBS



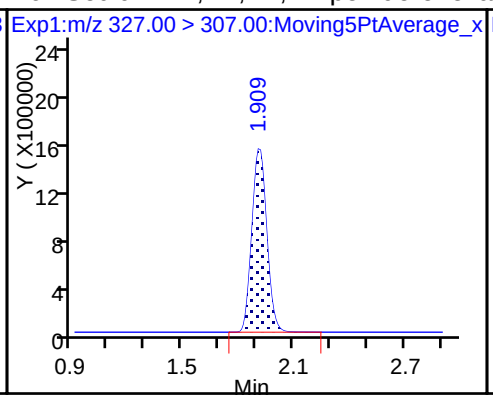
5 Perfluorobutanesulfonic acid



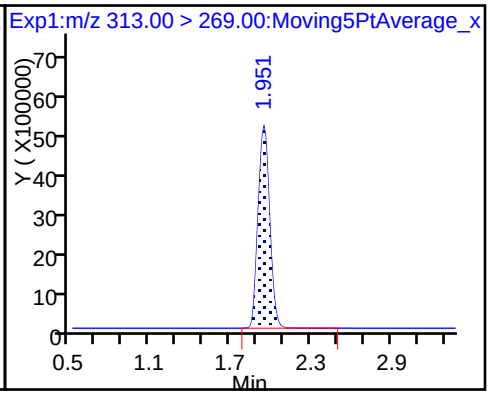
5 Perfluorobutanesulfonic acid



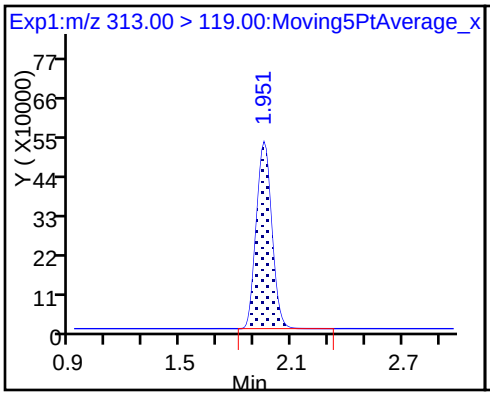
61 Sodium 1H,1H,2H,2H-perfluorohexane



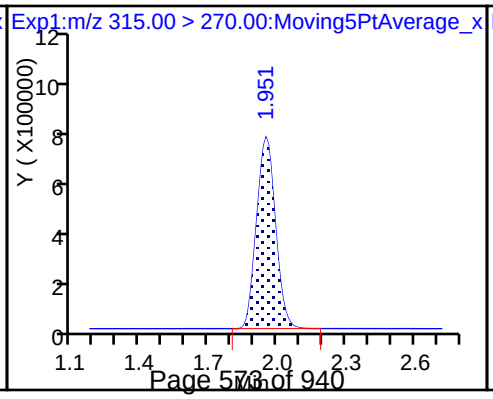
6 Perfluorohexanoic acid



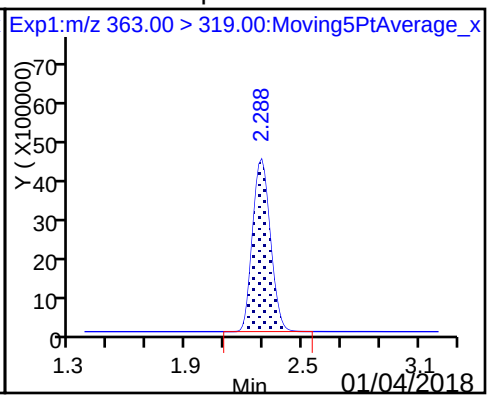
6 Perfluorohexanoic acid



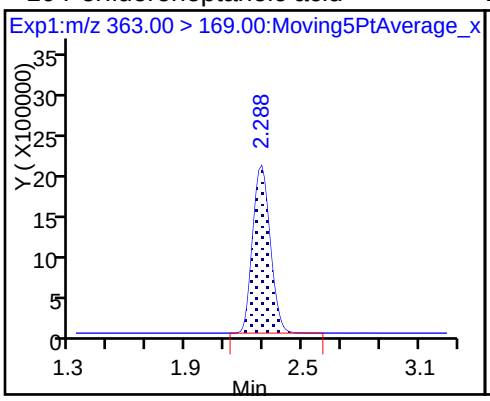
D 7 13C2 PFHxA



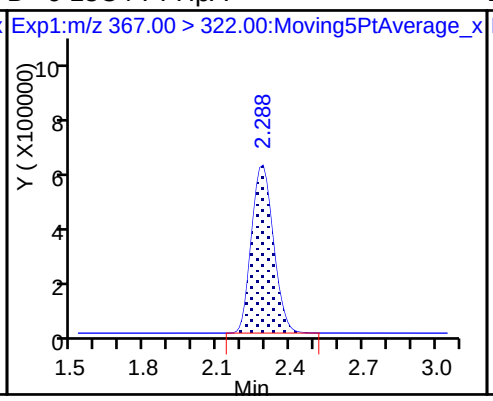
10 Perfluoroheptanoic acid



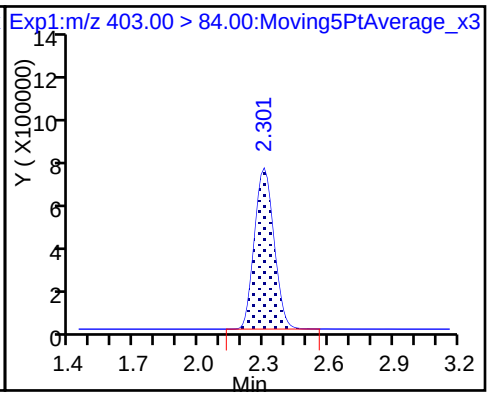
10 Perfluoroheptanoic acid



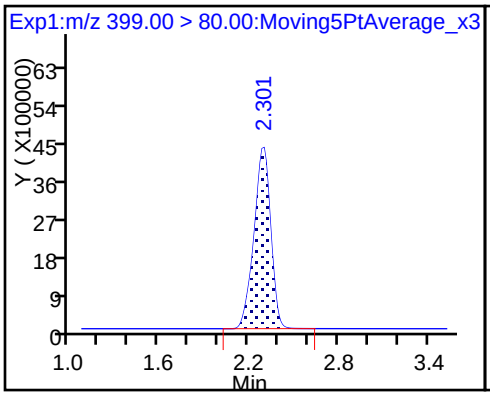
D 9 13C4-PFHpA



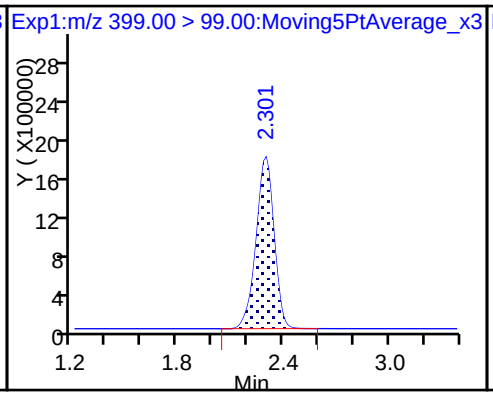
D 11 18O2 PFHxS



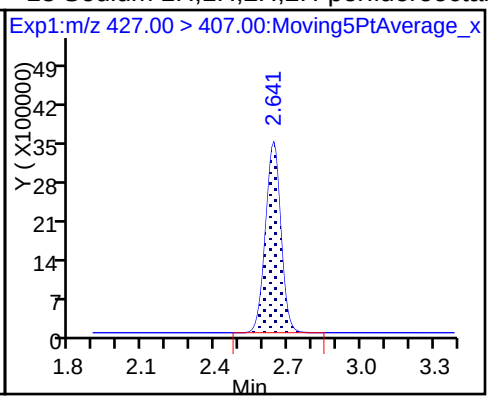
8 Perfluorohexanesulfonic acid



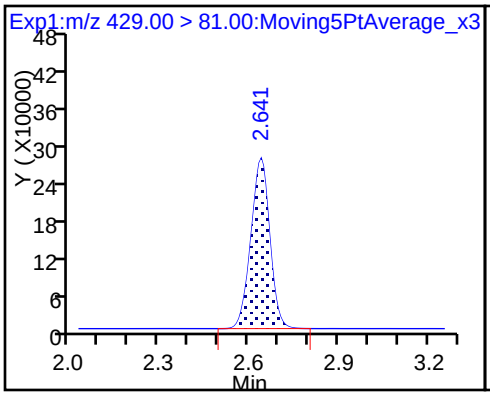
8 Perfluorohexanesulfonic acid



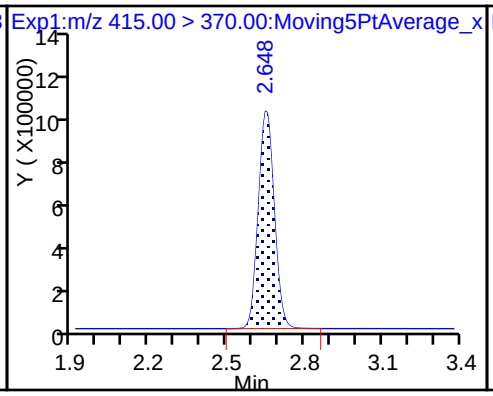
13 Sodium 1H,1H,2H,2H-perfluorooctane



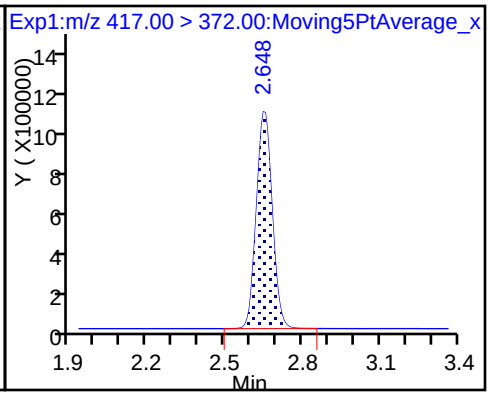
D 12 M2-6:2FTS



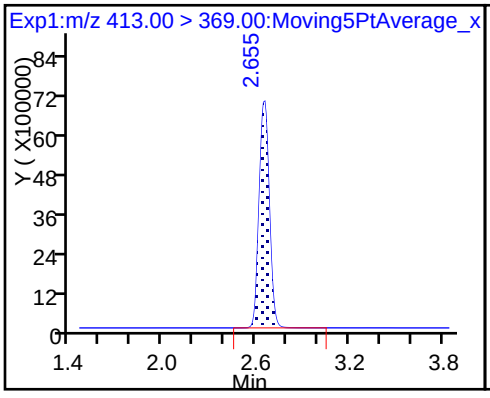
* 62 13C2-PFOA



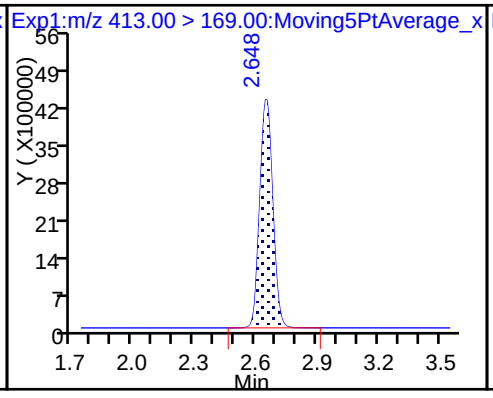
D 14 13C4 PFOA



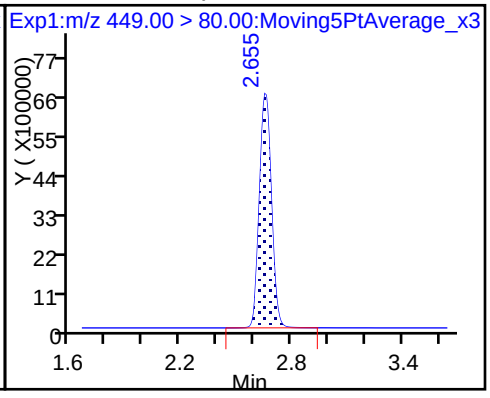
15 Perfluorooctanoic acid



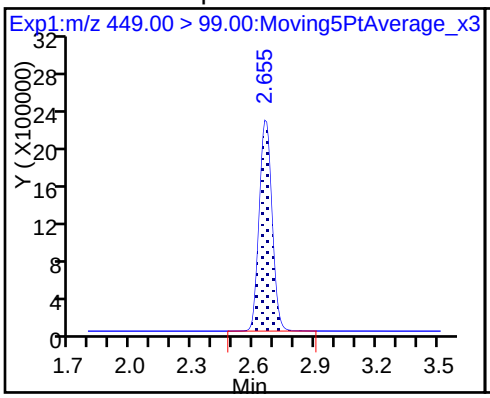
15 Perfluorooctanoic acid



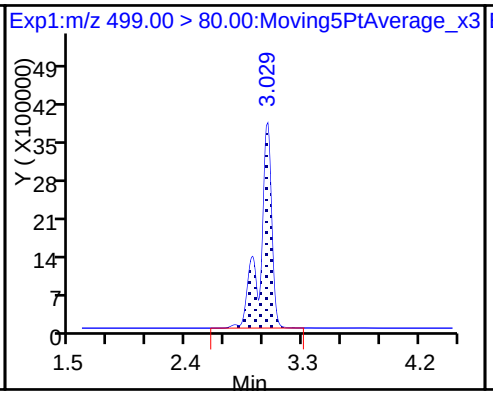
16 Perfluoroheptanesulfonic Acid



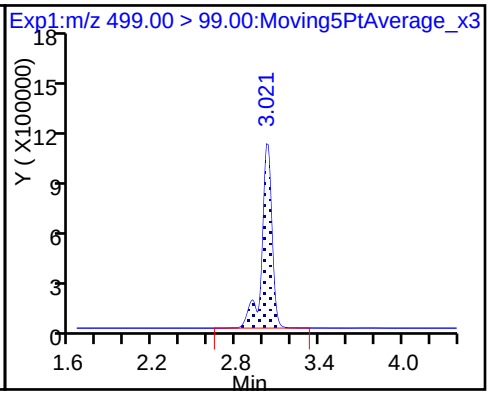
16 Perfluoroheptanesulfonic Acid



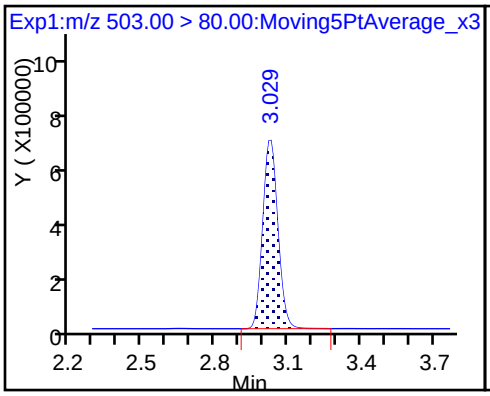
17 Perfluorooctane sulfonic acid



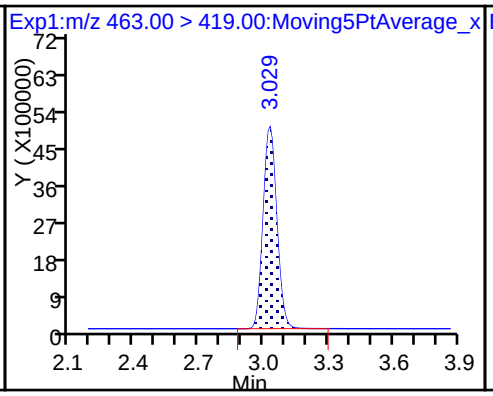
17 Perfluorooctane sulfonic acid



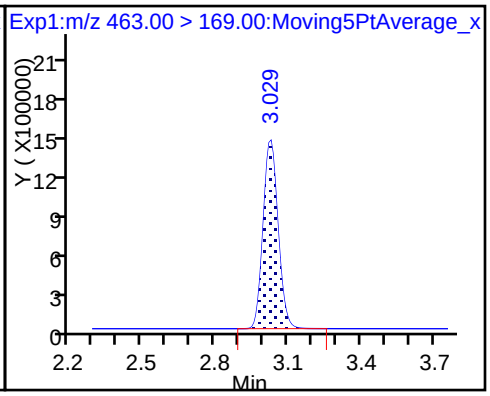
D 18 13C4 PFOS



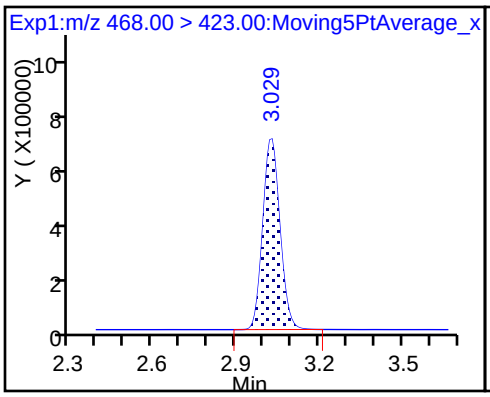
20 Perfluorononanoic acid



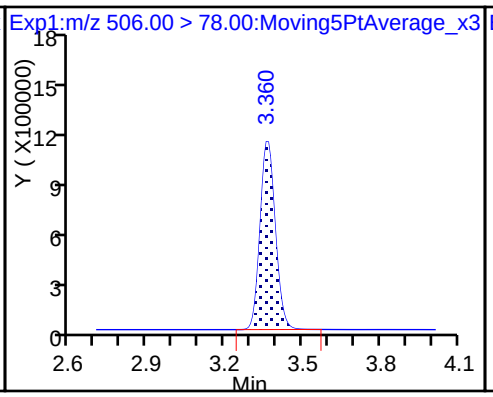
20 Perfluorononanoic acid



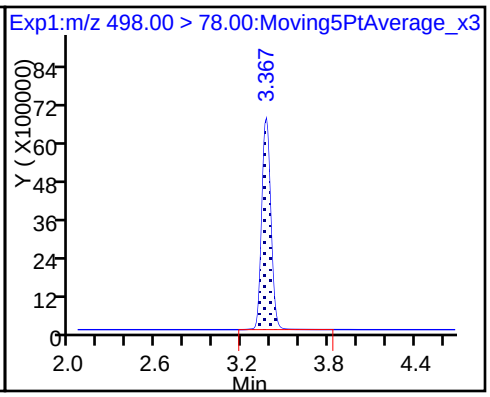
D 19 13C5 PFNA



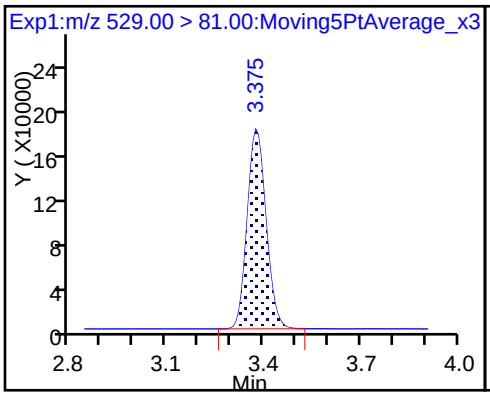
D 21 13C8 FOSA



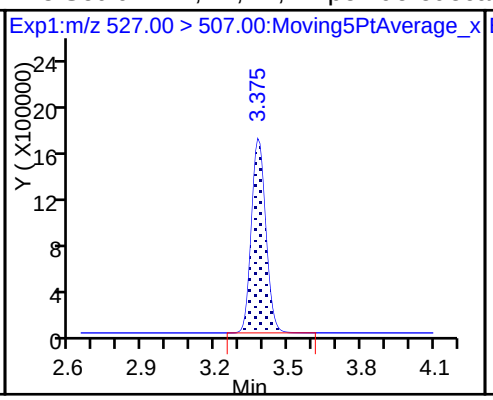
22 Perfluorooctane Sulfonamide



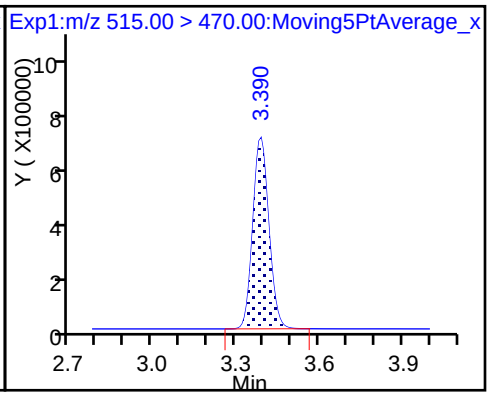
D 26 M2-8:2FTS



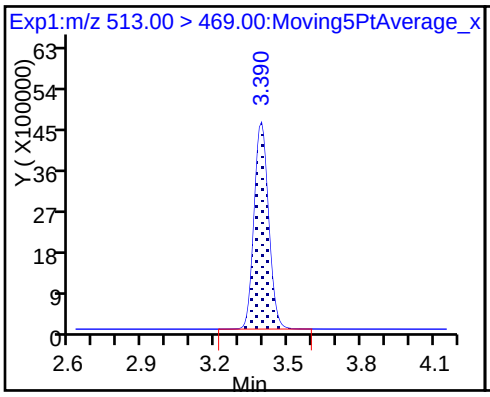
25 Sodium 1H,1H,2H,2H-perfluorodecane



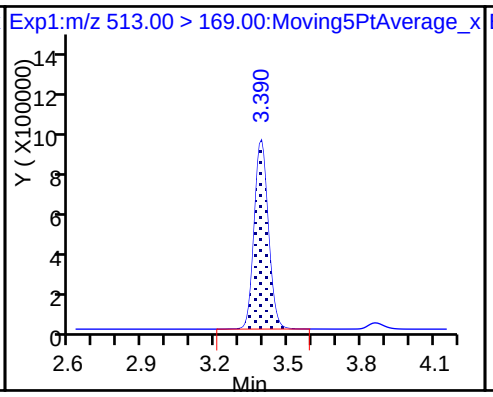
D 23 13C2 PFDA



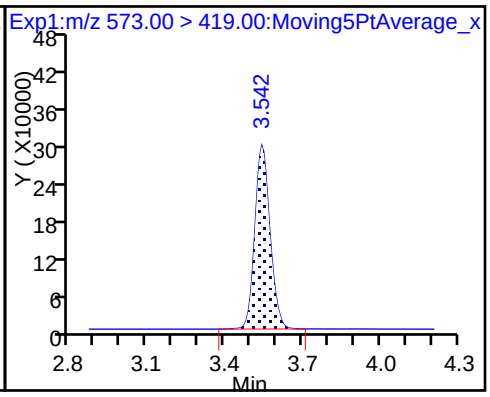
24 Perfluorodecanoic acid



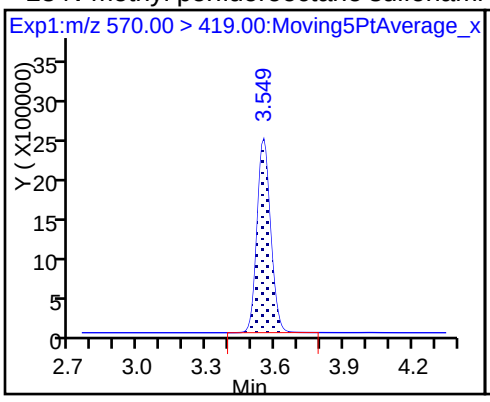
24 Perfluorodecanoic acid



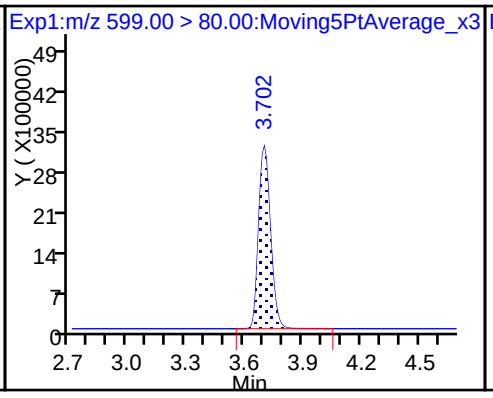
D 27 d3-NMeFOSAA



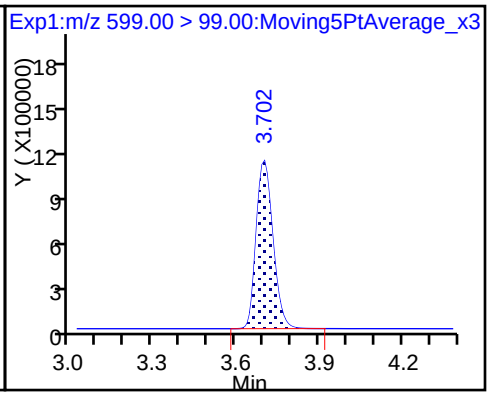
28 N-methyl perfluorooctane sulfonami



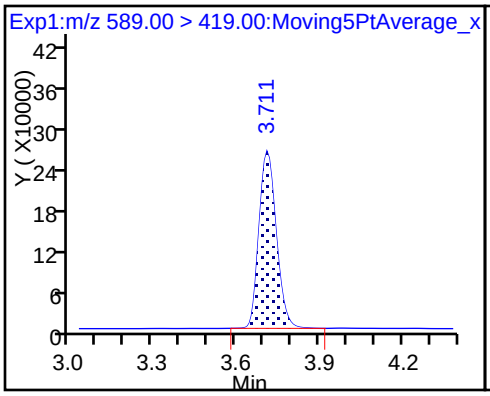
29 Perfluorodecane Sulfonic acid



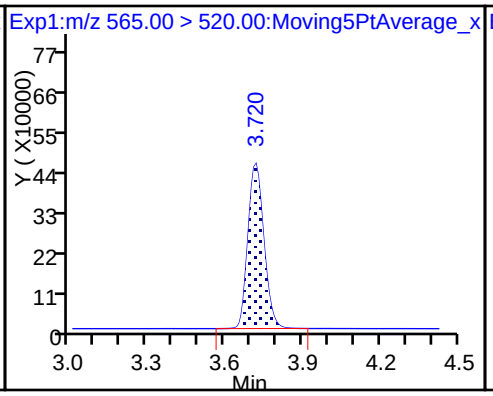
29 Perfluorodecane Sulfonic acid



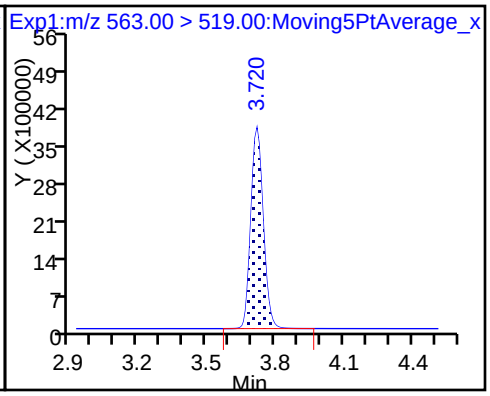
D 32 d5-NEtFOSAA



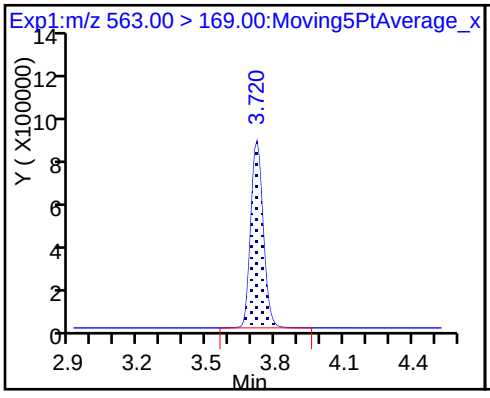
D 30 13C2 PFUnA



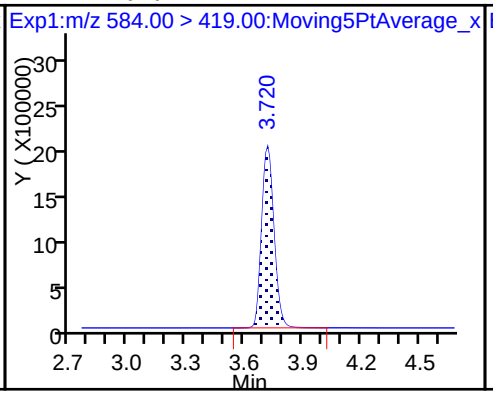
31 Perfluoroundecanoic acid



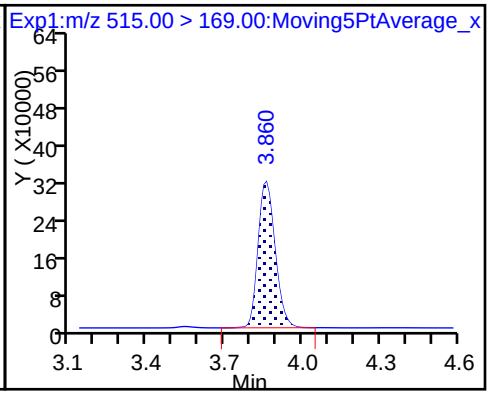
31 Perfluoroundecanoic acid



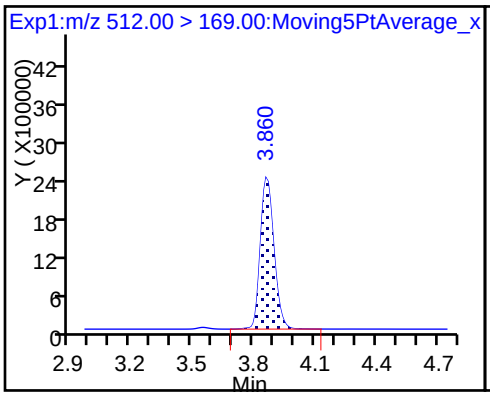
33 N-ethyl perfluorooctane sulfonamid



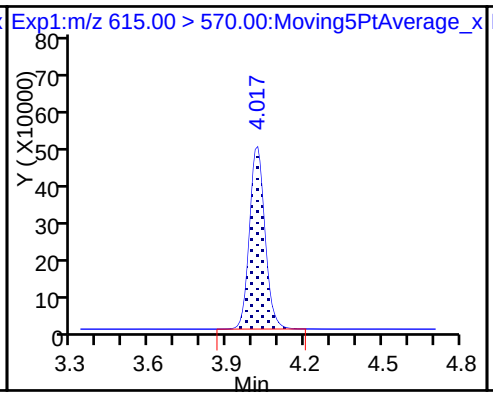
D 34 d-N-MeFOSA-M



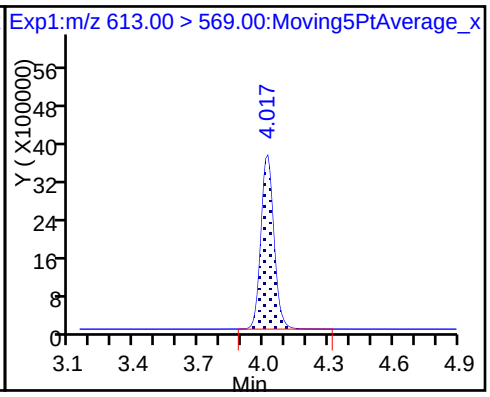
35 MeFOSA



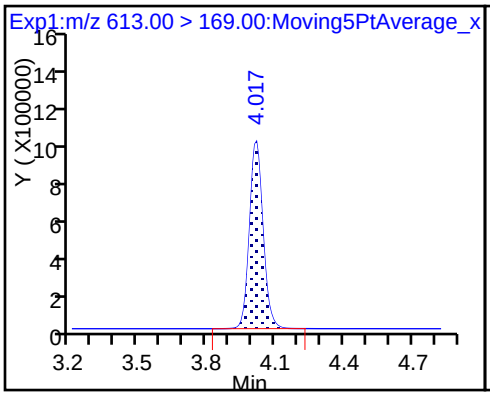
D 36 13C2 PFDoA



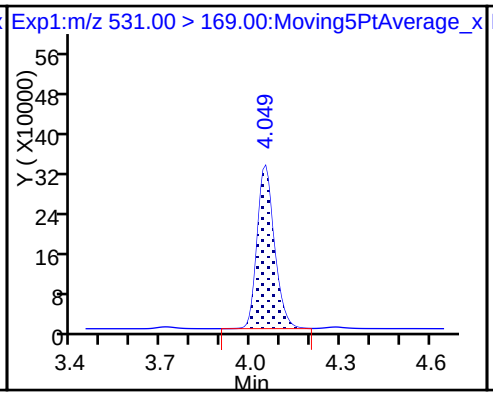
37 Perfluorododecanoic acid



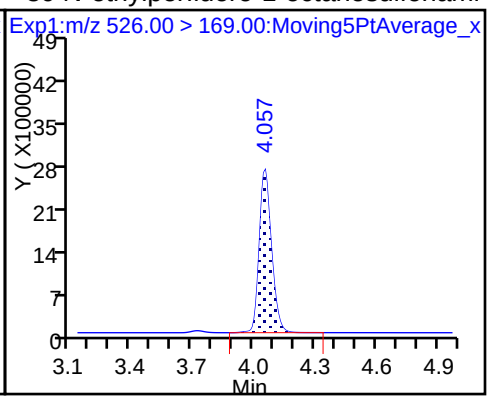
37 Perfluorododecanoic acid



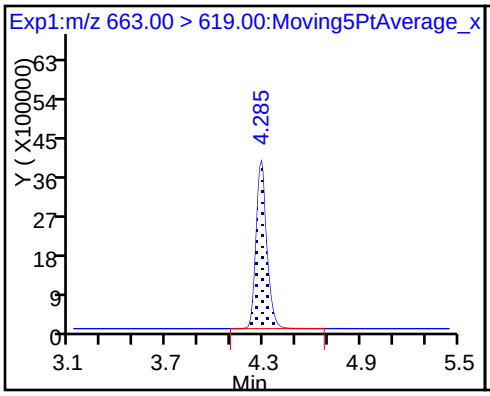
D 38 d-N-EtFOSA-M



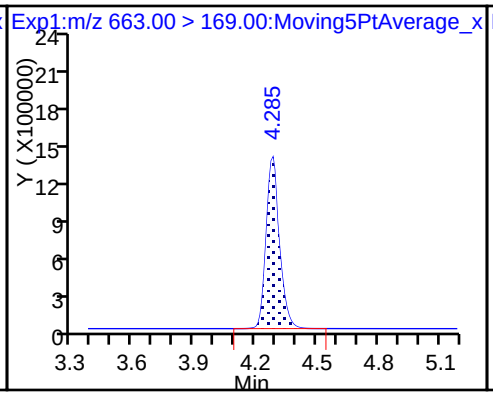
39 N-ethylperfluoro-1-octanesulfonami



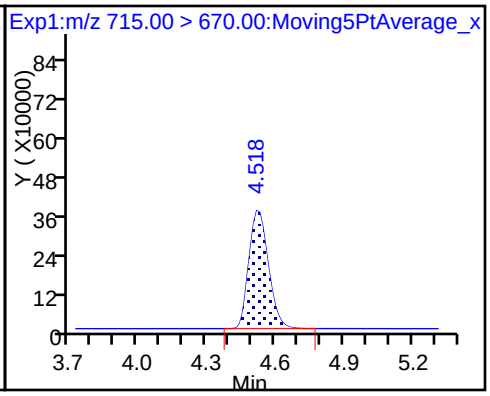
41 Perfluorotridecanoic acid



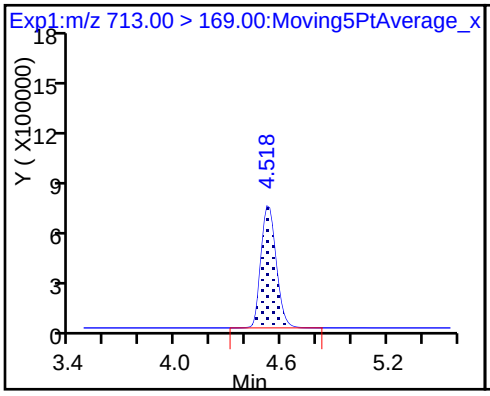
41 Perfluorotridecanoic acid



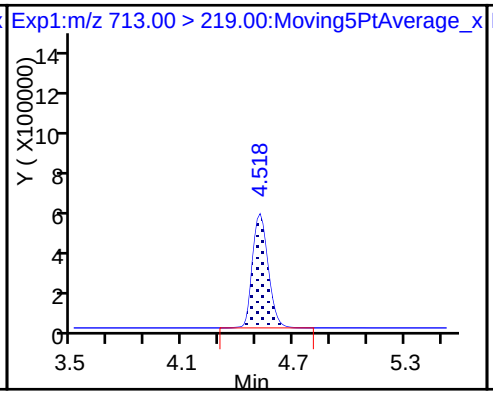
D 43 13C2-PFTeDA



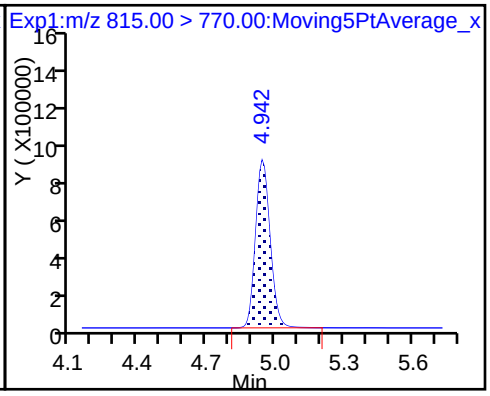
42 Perfluorotetradecanoic acid



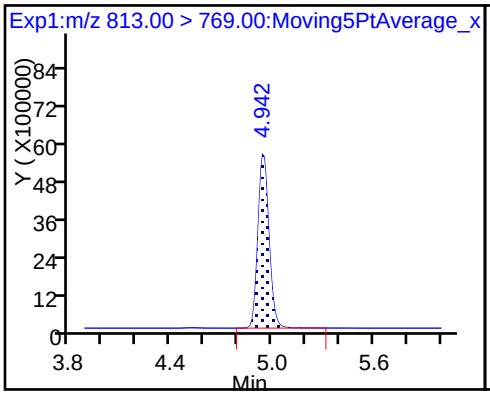
42 Perfluorotetradecanoic acid



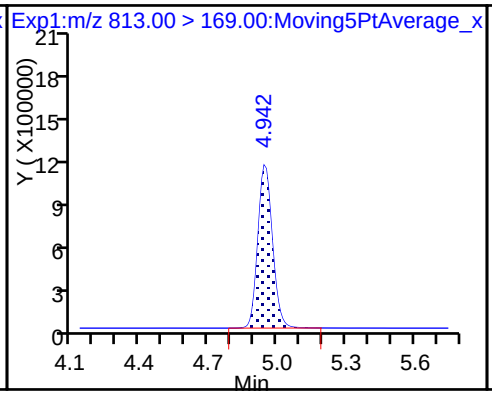
D 44 13C2-PFHxDA



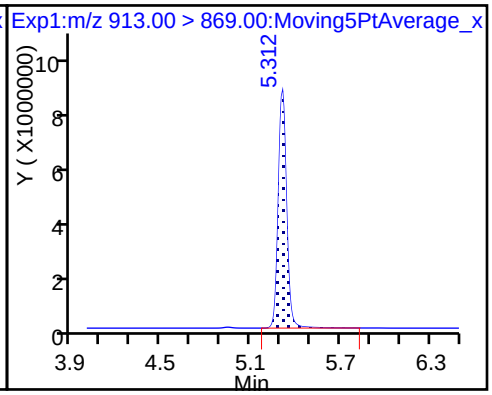
45 Perfluorohexadecanoic acid



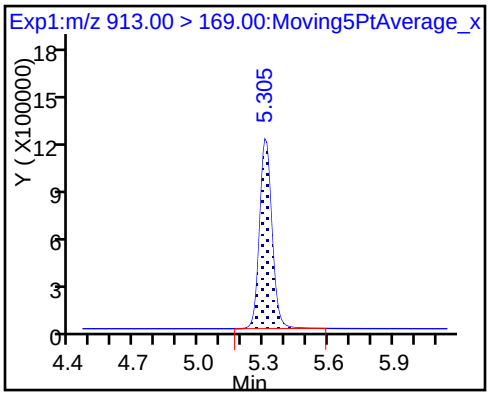
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d
Lims ID: IC M2-4:2FTS
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Dec-2017 14:52:22 ALS Bottle#: 22 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: M2:4-2FTS Calibration Std
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:28:48 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 20-Dec-2017 08:09:21

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 60 M2-4:2FTS										
329.00 > 81.00	1.924	1.924	0.0	0.727	475072	2.34		100	28458	
* 62 13C2-PFOA										
415.00 > 370.00	2.645	2.643	0.002		5300388	2.50			51835	

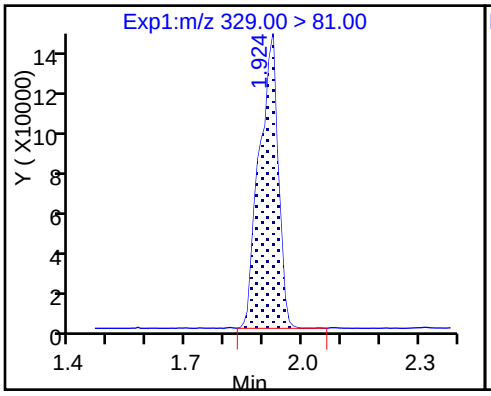
Reagents:

LCM2-4:2LLIC_00002 Amount Added: 1.00 Units: mL

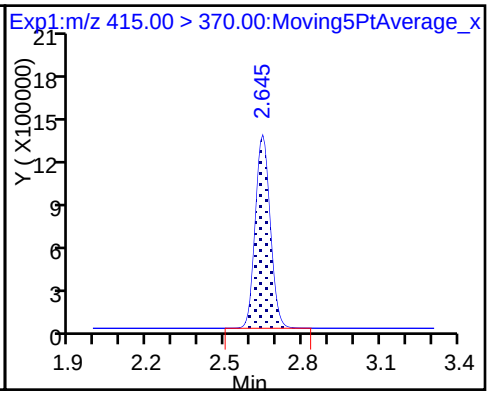
TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d
Injection Date: 19-Dec-2017 14:52:22 Instrument ID: A8_N
Lims ID: IC M2-4:2FTS
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 22 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL

D 60 M2-4:2FTS



* 62 13C2-PFOA



FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 201411

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-201411/2	2017.12.26ICALA_002.d
Level 2	IC 320-201411/3	2017.12.26ICALA_003.d
Level 3	IC 320-201411/4	2017.12.26ICALA_004.d
Level 4	IC 320-201411/5	2017.12.26ICALA_005.d
Level 5	IC 320-201411/10	2017.12.26ICALA_010.d
Level 6	IC 320-201411/6	2017.12.26ICALA_006.d
Level 7	IC 320-201411/7	2017.12.26ICALA_007.d
Level 8	IC 320-201411/8	2017.12.26ICALA_008.d
Level 9	IC 320-201411/9	2017.12.26ICALA_009.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Perfluorobutanoic acid (PFBA)	0.9134 0.9503	0.8944 0.9454	0.9421 0.9124	0.9483 0.8018		AveID		0.9135				5.4		35.0			
Perfluoropentanoic acid (PFPeA)	1.2450 1.1208	1.0855 1.1450	1.1377 1.0999	1.1314 1.0087		AveID		1.1217				5.9		35.0			
Perfluorobutanesulfonic acid (PFBS)	72.525 76.427	76.773 78.664	79.059 74.165	78.952 62.166		AveID		74.841				7.5		50.0			
4:2 FTS	2.0301 1.6269	1.5174 1.6651	1.7221 1.8296	1.6529 1.7496		AveID		1.7242				8.9		50.0			
Perfluorohexanoic acid (PFHxA)	0.9685 1.0140	1.0150 1.0221	1.0399 0.9970	1.0218 0.9110		AveID		0.9987				4.1		35.0			
Perfluoroheptanoic acid (PFHpA)	1.0086 1.0670	1.0958 1.0906	1.0259 1.0622	1.1000 0.9159		AveID		1.0457				5.9		35.0			
Perfluorohexanesulfonic acid (PFHxS)	1.4035 1.0087	1.1270 1.0552	1.0909 0.9977	1.0602 0.9991		AveID		1.0928				12.2		35.0			
6:2FTS	1.9005 1.5428	1.6874 1.6860	1.6301 1.7162	1.6663 1.5854		AveID		1.6768				6.4		35.0			
Perfluorooctanoic acid (PFOA)	1.1431 1.0465	1.1199 1.0293	1.0640 1.0636	1.0549 0.9475		AveID		1.0586				5.6		35.0			
Perfluoroheptanesulfonic Acid (PFHpS)	1.2482 1.2410	1.2261 1.2736	1.2877 1.2514	1.2289 1.0592		AveID		1.2270				5.8		50.0			
Perfluorooctanesulfonic acid (PFOS)	1.1030 1.0482	1.0898 1.0637	1.0700 1.1034	1.0834 1.0240		AveID		1.0732				2.6		35.0			
Perfluorononanoic acid (PFNA)	1.0159 0.9376	0.9128 0.9739	1.0487 0.9972	0.9890 0.9192		AveID		0.9743				4.9		35.0			
Perfluorooctane Sulfonamide (FOSA)	0.9439 1.0153	0.9709 0.9462	1.0351 0.9136	0.9899 0.7786		AveID		0.9492				8.4		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 201411

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
8:2FTS	1.2045 1.2493	1.3005 1.1615	1.3246 1.2465	1.3223 1.2351		AveID		1.2555				4.6		35.0			
Perfluorodecanoic acid (PFDA)	1.1067 1.0060	1.0406 1.0089	0.9008 0.9639	0.9806 0.8787		AveID		0.9858				7.5		35.0			
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.9102 1.1022	1.1239 1.1118	1.0841 1.0822	1.0384 1.0163		AveID		1.0587				6.6		35.0			
Perfluorodecanesulfonic acid (PFDS)	0.5517 0.5984	0.5417 0.6365	0.6371 0.6256	0.5825 0.5631		AveID		0.5921				6.5		50.0			
Perfluoroundecanoic acid (PFUnA)	1.0710 0.9142	0.9738 0.9052	0.8666 0.9215	0.9127 0.9300		AveID		0.9369				6.6		35.0			
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.8775 1.0332	0.9119 0.9981	0.9798 0.9820	0.9370 1.0025		AveID		0.9653				5.4		35.0			
MeFOSA	0.8777 0.9509	0.8696 1.0103	1.0072 1.0074	1.0413 0.9565		AveID		0.9651				6.6		50.0			
Perfluorododecanoic acid (PFDoA)	1.0396 0.9460	0.9763 1.0608	1.0257 0.9872	0.9702 0.9376		AveID		0.9929				4.5		35.0			
N-EtFOSA-M	1.1449 1.0343	1.0708 1.0932	1.1416 1.0732	1.0515 1.0607		AveID		1.0838				3.7		35.0			
Perfluorotridecanoic Acid (PFTriA)	0.9831 1.0652	1.1332 1.0918	1.1359 1.0562	1.0695 1.0852		AveID		1.0775				4.5		50.0			
Perfluorotetradecanoic acid (PFTeA)	0.2718 0.2575	0.2543 0.2461	0.2447 0.2659	0.2472 0.2482		AveID		0.2545				3.9		50.0			
Perfluoro-n-hexadecanoic acid (PFHxDA)	1.6200 0.8800	1.3074 0.8637	0.9136 0.8794	0.9154 0.7545		L2ID	0.0199	0.8536							0.9960		0.9900
Perfluoro-n-octadecanoic acid (PFODA)	1.0880 1.1215	1.0633 1.1005	1.1379 1.0474	1.0804 0.9574		AveID		1.0745				5.2		50.0			
13C4 PFBA	1.7444 1.6691	1.7046 1.6942	1.6398 1.7979	1.7421 1.8566		Ave		1.7311				4.1		50.0			
13C5 PFPeA	1.0255 0.9921	1.0016 0.9968	0.9580 1.0280	1.0324 1.0379		Ave		1.0090				2.7		50.0			
13C3-PFBS	0.0222 0.0223	0.0208 0.0212	0.0209 0.0224	0.0221 0.0230		Ave		0.0219				3.6		50.0			
M2-4:2FTS					0.0821	Ave		0.0821						50.0			
13C2 PFHxA	1.1170 1.0438	1.0617 1.0584	1.0530 1.1279	1.0892 1.1267		Ave		1.0847				3.2		50.0			
13C4-PFHpA	1.0478 0.9643	1.0119 0.9829	1.0037 1.0123	1.0079 1.0245		Ave		1.0069				2.5		50.0			
18O2 PFHxS	1.2951 1.2465	1.3123 1.2397	1.2586 1.3247	1.3075 1.2415		Ave		1.2782				2.8		50.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 201411

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
M2-6:2FTS	0.1859 0.1944	0.1924 0.1896	0.1846 0.1900	0.1976 0.1934		Ave		0.1910				2.3		50.0			
13C4 PFOA	1.0616 1.0182	1.0189 1.0212	1.0235 1.0072	1.0759 0.9957		Ave		1.0278				2.6		50.0			
13C4 PFOS	0.8595 0.8479	0.8570 0.8220	0.8264 0.8301	0.8831 0.8549		Ave		0.8476				2.4		50.0			
13C5 PFNA	0.8370 0.8356	0.8371 0.8234	0.7819 0.8053	0.8357 0.8125		Ave		0.8211				2.4		50.0			
13C8 FOSA	1.1813 1.1155	1.1015 1.1491	1.0782 1.1829	1.1575 1.2040		Ave		1.1463				3.8		50.0			
M2-8:2FTS	0.2108 0.2041	0.1952 0.2196	0.2004 0.2192	0.2034 0.2247		Ave		0.2097				5.0		50.0			
13C2 PFDA	0.6673 0.6407	0.6508 0.6573	0.6440 0.6856	0.6811 0.7119		Ave		0.6674				3.6		50.0			
d3-NMeFOSAA	0.3516 0.3360	0.3205 0.3385	0.3358 0.3633	0.3523 0.3617		Ave		0.3450				4.3		50.0			
d5-NEtFOSAA	0.3811 0.3293	0.3573 0.3414	0.3446 0.3551	0.3741 0.3294		Ave		0.3516				5.4		50.0			
13C2 PFUnA	0.5269 0.4782	0.4905 0.5066	0.5212 0.5158	0.5165 0.4860		Ave		0.5052				3.6		50.0			
d-N-MeFOSA-M	0.3190 0.3180	0.3112 0.3225	0.3004 0.3452	0.3151 0.3736		Ave		0.3256				7.1		50.0			
13C2 PFDoA	0.5832 0.5477	0.5423 0.5282	0.5370 0.5464	0.5541 0.5518		Ave		0.5489				2.9		50.0			
d-N-EtFOSA-M	0.3092 0.3010	0.2939 0.3086	0.2905 0.3297	0.3080 0.3387		Ave		0.3100				5.4		50.0			
13C2-PFTeDA	0.6183 0.5552	0.5855 0.6048	0.6256 0.5853	0.6095 0.5907		Ave		0.5969				3.8		50.0			
13C2-PFHxDA	1.1498 1.0704	1.1077 1.0859	1.0899 1.0657	1.1193 1.0634		Ave		1.0940				2.7		50.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 201411

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-201411/2	2017.12.26ICALA_002.d
Level 2	IC 320-201411/3	2017.12.26ICALA_003.d
Level 3	IC 320-201411/4	2017.12.26ICALA_004.d
Level 4	IC 320-201411/5	2017.12.26ICALA_005.d
Level 5	IC 320-201411/10	2017.12.26ICALA_010.d
Level 6	IC 320-201411/6	2017.12.26ICALA_006.d
Level 7	IC 320-201411/7	2017.12.26ICALA_007.d
Level 8	IC 320-201411/8	2017.12.26ICALA_008.d
Level 9	IC 320-201411/9	2017.12.26ICALA_009.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorobutanoic acid (PFBA)		AveID	71156 7215132	144778 14203669	737647 27172681	2950135 46354837		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoropentanoic acid (PFPeA)		AveID	57018 5057994	103239 10121089	520370 18729644	2085741 32601407		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorobutanesulfonic acid (PFBS)		AveID	63473 6842853	133946 13087862	697674 24367996	2759873 39328701		0.0221 2.21	0.0442 4.42	0.221 8.84	0.884 17.7	
4:2 FTS		AveID	15741 1343497	25890 2614250	141774 5379700	544834 9840365		0.0234 2.34	0.0467 4.67	0.234 9.34	0.934 18.7	
Perfluorohexanoic acid (PFHxA)		AveID	48315 4814503	102335 9593038	522846 18626791	1987330 31962029		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroheptanoic acid (PFHpA)		AveID	47197 4680522	105299 9505442	491641 17812933	1979668 29220142		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorohexanesulfonic acid (PFHxS)		AveID	73869 5204397	127811 10555612	596575 19924018	2252723 35148833		0.0228 2.28	0.0455 4.55	0.228 9.10	0.910 18.2	
6:2FTS		AveID	14957 1293133	29222 2686799	136209 5122011	557497 9050597		0.0237 2.37	0.0474 4.74	0.237 9.48	0.948 19.0	
Perfluorooctanoic acid (PFOA)		AveID	54194 4846761	108356 9320979	519951 17746633	2026680 29376734		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroheptanesulfonic Acid (PFHpS)		AveID	45610 4556633	94992 8838018	483689 16381911	1844898 26846157		0.0238 2.38	0.0476 4.76	0.238 9.52	0.952 19.0	
Perfluorooctanesulfonic acid (PFOS)		AveID	39288 3751539	82304 7195168	391800 14080471	1585381 25298467		0.0232 2.32	0.0464 4.64	0.232 9.28	0.928 18.6	
Perfluorononanoic acid (PFNA)		AveID	37975 3563925	72562 7111284	391513 13302133	1475904 23256124		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorooctane Sulfonamide (FOSA)		AveID	49798 5151365	101559 9642474	532911 17901266	2046159 29190141		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
8:2FTS		AveID	10862 1111148	23092 2167139	121442 4336415	460111 8278171		0.0240 2.40	0.0479 4.79	0.240 9.58	0.958 19.2	

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 201411

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorodecanoic acid (PFDA)		AveID	32982 2932219	64313 5881010	277028 10946670	1192652 19481461		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)		AveID	14294 1684592	34208 3336986	173841 6513260	653198 11447795		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorodecanesulfonic acid (PFDS)		AveID	20413 2224619	42501 4472709	242327 8292975	885572 14451481		0.0241 2.41	0.0482 4.82	0.241 9.64	0.964 19.3	
Perfluoroundecanoic acid (PFUnA)		AveID	25200 1988655	45365 4066019	215650 7873695	841868 14075331		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)		AveID	14934 1547839	30941 3021821	161240 5776426	625935 10284337		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
MeFOSA		AveID	12503 1375295	25700 2889157	144476 5759747	585874 11128006		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorododecanoic acid (PFDoA)		AveID	27076 2356820	50283 4968481	263014 8935107	959989 16112569		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-EtFOSA-M		AveID	15811 1416206	29885 2991200	158363 5860552	578423 11185811		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorotridecanoic Acid (PFTriA)		AveID	25605 2653986	58362 5113548	291263 9560205	1058292 18648248		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorotetradecanoic acid (PFTeA)		AveID	7505 650265	14138 1319883	73103 2578342	269030 4566597		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoro-n-hexadecanoic acid (PFHxDA)		L2ID	83186 4284648	137526 8316601	475445 15523204	1829712 24984763		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoro-n-octadecanoic acid (PFODA)		AveID	55865 5460461	111852 10596626	592170 18489170	2159431 31703202		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
13C4 PFBA	13PF OA	Ave	7790251 7592270	8093540 7511739	7829693 7445728	7777171 7226697		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C5 PFPeA	13PF OA	Ave	4579937 4512747	4755578 4419838	4574035 4257151	4608857 4040100		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C3-PFBS	13PF OA	Ave	92073 94194	91775 87517	92839 86415	91938 83195		2.33 2.33	2.33 2.33	2.33 2.33	2.33 2.33	
M2-4:2FTS	13PF OA	Ave					413908					2.34
13C2 PFHxA	13PF OA	Ave	4988429 4748192	5041052 4692826	5027849 4670780	4862371 4385774		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C4-PFHpA	13PF OA	Ave	4679529 4386447	4804811 4358026	4792396 4192372	4499410 3987961		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
18O2 PFHxS	13PF OA	Ave	5471562 5363875	5894550 5199716	5685104 5189898	5521966 4571610		2.37 2.37	2.37 2.37	2.37 2.37	2.37 2.37	
M2-6:2FTS	13PF OA	Ave	788666 839958	867710 798471	837345 747693	838193 715095		2.38 2.38	2.38 2.38	2.38 2.38	2.38 2.38	
13C4 PFOA	13PF OA	Ave	4740795 4631352	4837751 4527981	4886883 4171184	4803148 3875680		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1 Analy Batch No.: 201411

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
13C4 PFOS	13PF	Ave	3669348	3890029	3772073	3768876		2.39	2.39	2.39	2.39	
	OA		3687036	3484225	3286507	3181407		2.39	2.39	2.39	2.39	
13C5 PFNA	13PF	Ave	3738079	3974719	3733459	3730637		2.50	2.50	2.50	2.50	
	OA		3801137	3650887	3334889	3162653		2.50	2.50	2.50	2.50	
13C8 FOSA	13PF	Ave	5275735	5229999	5148264	5167594		2.50	2.50	2.50	2.50	
	OA		5073935	5095113	4898779	4686465		2.50	2.50	2.50	2.50	
M2-8:2FTS	13PF	Ave	901815	887779	916789	869900		2.40	2.40	2.40	2.40	
	OA		889422	932907	869684	837806		2.40	2.40	2.40	2.40	
13C2 PFDA	13PF	Ave	2980117	3090301	3075185	3040696		2.50	2.50	2.50	2.50	
	OA		2914623	2914567	2839256	2771267		2.50	2.50	2.50	2.50	
d3-NMeFOSAA	13PF	Ave	1570357	1521826	1603494	1572643		2.50	2.50	2.50	2.50	
	OA		1528404	1500701	1504595	1407992		2.50	2.50	2.50	2.50	
d5-NEtFOSAA	13PF	Ave	1701808	1696531	1645600	1670090		2.50	2.50	2.50	2.50	
	OA		1498056	1513745	1470594	1282388		2.50	2.50	2.50	2.50	
13C2 PFUnA	13PF	Ave	2352995	2329187	2488514	2306014		2.50	2.50	2.50	2.50	
	OA		2175375	2246031	2136125	1891947		2.50	2.50	2.50	2.50	
d-N-MeFOSA-M	13PF	Ave	1424483	1477752	1434437	1406560		2.50	2.50	2.50	2.50	
	OA		1446301	1429812	1429377	1454317		2.50	2.50	2.50	2.50	
13C2 PFDoA	13PF	Ave	2604477	2575132	2564160	2473793		2.50	2.50	2.50	2.50	
	OA		2491473	2341893	2262816	2148062		2.50	2.50	2.50	2.50	
d-N-EtFOSA-M	13PF	Ave	1380945	1395515	1387238	1375190		2.50	2.50	2.50	2.50	
	OA		1369301	1368153	1365210	1318213		2.50	2.50	2.50	2.50	
13C2-PFTeDA	13PF	Ave	2761267	2779842	2986990	2720794		2.50	2.50	2.50	2.50	
	OA		2525276	2681614	2423995	2299500		2.50	2.50	2.50	2.50	
13C2-PFHxDA	13PF	Ave	5134808	5259637	5204116	4996906		2.50	2.50	2.50	2.50	
	OA		4868961	4814545	4413224	4139140		2.50	2.50	2.50	2.50	

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution
L2ID = Linear 1/conc^2 IsoDil

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_002.d
Lims ID: IC L1 Full
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 26-Dec-2017 16:55:57 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L1-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:16 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:25:22

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.438	1.433	0.005	0.535	7790251	2.52		101	21167	
2 Perfluorobutyric acid										
212.90 > 169.00	1.438	1.434	0.004	1.000	71156	0.0250		100.0	14.6	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.698	1.691	0.007	1.000	57018	0.0277		111	49.6	
D 3 13C5-PFPeA										
267.90 > 223.00	1.698	1.692	0.006	0.632	4579937	2.54		102	38143	
D 47 13C3-PFBS										
301.90 > 83.00	1.734	1.725	0.009	0.645	92073	2.36		101	2725	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.734	1.730	0.004	1.000	63473	0.0214		96.9	304	
298.90 > 99.00	1.734	1.730	0.004	1.000	25814		2.46(1.25-3.74)	96.9	177	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.945	1.941	0.004	1.000	15741	0.0275		118	711	
D 7 13C2 PFHxA										
315.00 > 270.00	1.986	1.976	0.010	0.739	4988429	2.57		103	43084	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.986	1.979	0.007	1.000	48315	0.0242		97.0	102	M
313.00 > 119.00	1.986	1.979	0.007	1.000	3590		13.46(5.03-15.10)	97.0	90.0	
D 9 13C4-PFHpA										
367.00 > 322.00	2.319	2.311	0.008	0.863	4679529	2.60		104	30490	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.319	2.311	0.008	1.000	47197	0.0241		96.4	74.4	M
363.00 > 169.00	2.319	2.311	0.008	1.000	18894		2.50(1.13-3.40)	96.4	163	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.332	2.324	0.008	1.000	73869	0.0292		128	513	
399.00 > 99.00	2.332	2.324	0.008	1.000	20926		3.53(1.50-4.49)	128	196	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.332	2.328	0.004	0.868	5471562	2.40		101	28800	
D 12 M2-6:2FTS										
429.00 > 81.00	2.659	2.649	0.010	0.989	788666	2.31		97.3	18455	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.666	2.651	0.015	1.003	14957	0.0269		113	458	
D 14 13C4 PFOA										
417.00 > 372.00	2.687	2.674	0.013	1.000	4740795	2.58		103	34036	
* 62 13C2-PFOA										
415.00 > 370.00	2.687	2.676	0.011		4465857	2.50			42340	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.687	2.677	0.010	1.000	54194	0.0270		108	32.6	
413.00 > 169.00	2.687	2.677	0.010	1.000	33131		1.64(0.84-2.52)	108	266	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.694	2.683	0.011	1.000	45610	0.0242		102	1090	
449.00 > 99.00	2.694	2.683	0.011	1.000	10876		4.19(1.94-5.82)	102	390	
D 18 13C4 PFOS										
503.00 > 80.00	3.064	3.048	0.016	1.140	3669348	2.42		101	24866	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.064	3.050	0.014	1.000	39288	0.0238		103	9.2	
499.00 > 99.00	3.056	3.050	0.006	0.997	9044		4.34(2.31-6.93)	103	13.1	
D 19 13C5 PFNA										
468.00 > 423.00	3.064	3.051	0.013	1.140	3738079	2.55		102	29443	
20 Perfluorononanoic acid										
463.00 > 419.00	3.064	3.052	0.012	1.000	37975	0.0261		104	91.4	
463.00 > 169.00	3.056	3.052	0.004	0.997	7880		4.82(1.90-5.69)	104	208	
D 21 13C8 FOSA										
506.00 > 78.00	3.385	3.377	0.008	1.260	5275735	2.58		103	25897	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.385	3.378	0.007	1.000	49798	0.0249		99.4	1244	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.415	3.402	0.013	1.000	10862	0.0230		95.9	444	
D 26 M2-8:2FTS										
529.00 > 81.00	3.415	3.403	0.012	1.271	901815	2.41		101	16439	
D 23 13C2 PFDA										
515.00 > 470.00	3.423	3.414	0.009	1.274	2980117	2.50		100	24446	
24 Perfluorodecanoic acid										R
513.00 > 469.00	3.423	3.414	0.009	1.000	32982	0.0281		112	194	R
513.00 > 169.00	3.423	3.414	0.009	1.000	3927		8.40(2.36-7.09)	112	185	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.582	3.569	0.013	1.333	1570357	2.55		102	18480	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.582	3.574	0.008	1.000	14294	0.0215		86.0	123	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.740	3.730	0.010	1.000	20413	0.0225		93.2	1218	
599.00 > 99.00	3.731	3.730	0.001	0.998	6288		3.25(1.39-4.16)	93.2	181	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.749	3.740	0.009	1.395	1701808	2.71		108	10189	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.749	3.746	0.003	0.998	25200	0.0286		114	143	
563.00 > 169.00	3.757	3.746	0.011	1.000	5754		4.38(0.00-0.00)	114	398	
D 30 13C2 PFUnA										
565.00 > 520.00	3.757	3.747	0.010	1.398	2352995	2.61		104	30622	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.757	3.747	0.010	1.002	14934	0.0227		90.9	385	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.874	3.867	0.007	1.442	1424483	2.45		98.0	3262	
35 MeFOSA										
512.00 > 169.00	3.874	3.873	0.001	1.000	12503	0.0227		90.9	550	
D 36 13C2 PFDoA										
615.00 > 570.00	4.051	4.045	0.006	1.508	2604477	2.66		106	35337	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.051	4.045	0.006	1.000	27076	0.0262		105	84.9	
613.00 > 169.00	4.051	4.045	0.006	1.000	6504		4.16(2.13-6.40)	105	318	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.059	4.058	0.001	1.510	1380945	2.49		99.8	2682	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.067	4.065	0.002	1.002	15811	0.0264		106	635	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.325	4.312	0.013	1.000	25605	0.0228		91.2	77.7	
663.00 > 169.00	4.314	4.312	0.002	0.997	7770		3.30(1.25-3.76)	91.2	414	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.568	4.557	0.011	1.700	2761267	2.59		104	19974	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.568	4.557	0.011	1.000	7505	0.0267		107	322	
713.00 > 219.00	4.568	4.557	0.011	1.000	4805		1.56(0.71-2.13)	107	220	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.993	4.984	0.009	1.858	5134808	2.63		105	18857	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.993	4.984	0.009	1.000	83186	0.0242		96.8	52.8	
813.00 > 169.00	4.993	4.984	0.009	1.000	14776		5.63(2.86-8.58)	96.8	439	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.366	5.361	0.005	1.000	55865	0.0253		101	15.7	
913.00 > 169.00	5.366	5.361	0.005	1.000	6426		8.69(0.00-0.00)	101	116	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Reagents:

LCPFC_LL1_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:18 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_002.d

Injection Date: 26-Dec-2017 16:55:57 Instrument ID: A8_N

Lims ID: IC L1 Full

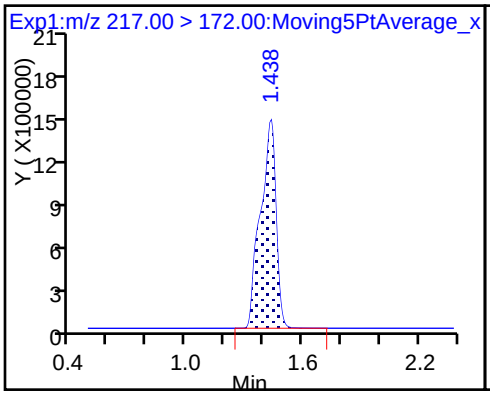
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2

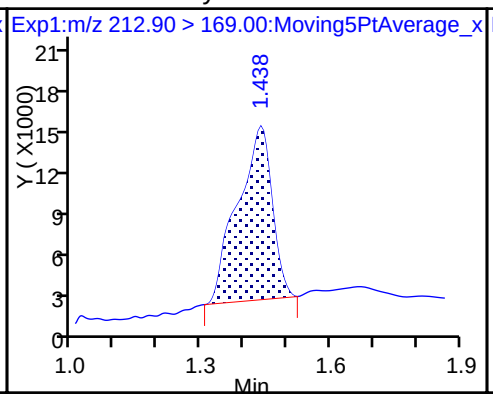
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

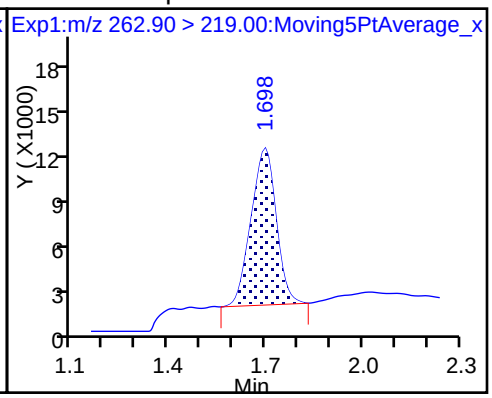
D 1 13C4 PFBA



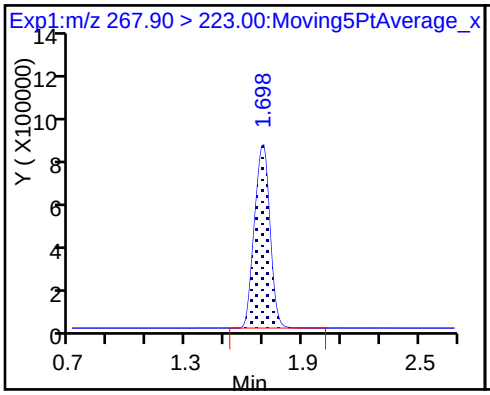
2 Perfluorobutyric acid



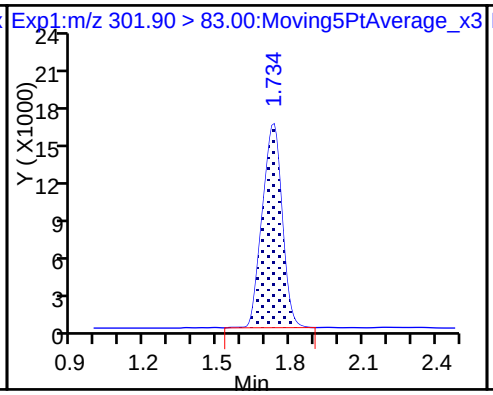
4 Perfluoropentanoic acid



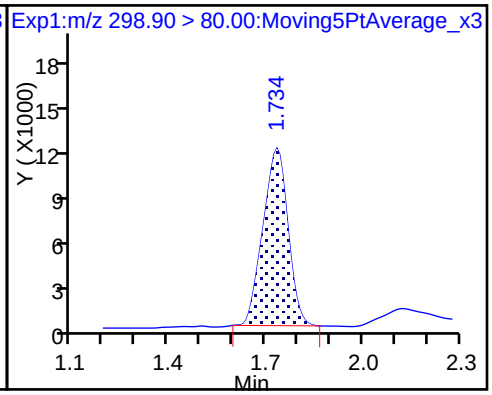
D 3 13C5-PFPeA



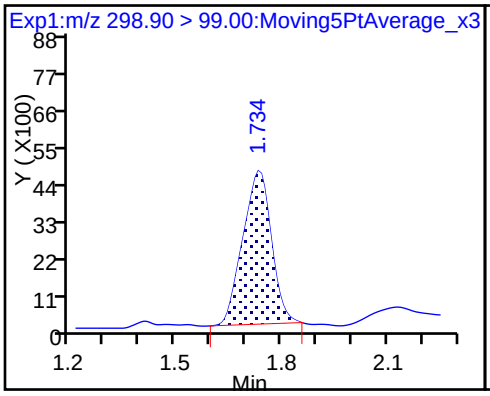
D 47 13C3-PFBS



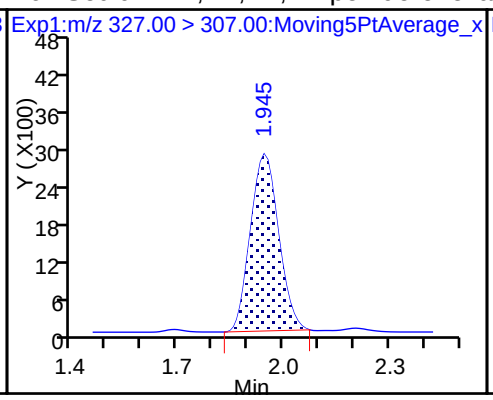
5 Perfluorobutanesulfonic acid



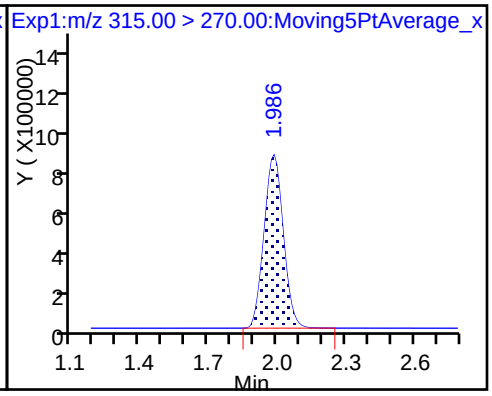
5 Perfluorobutanesulfonic acid



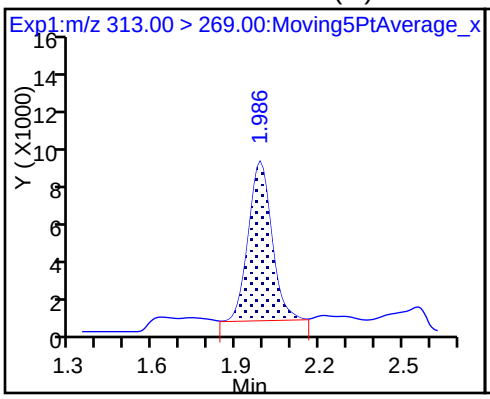
61 Sodium 1H,1H,2H,2H-perfluorohexa



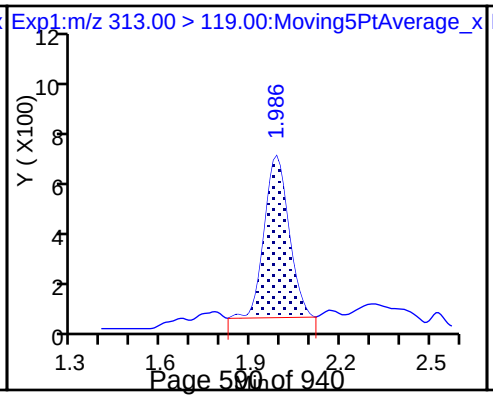
D 7 13C2 PFHxA



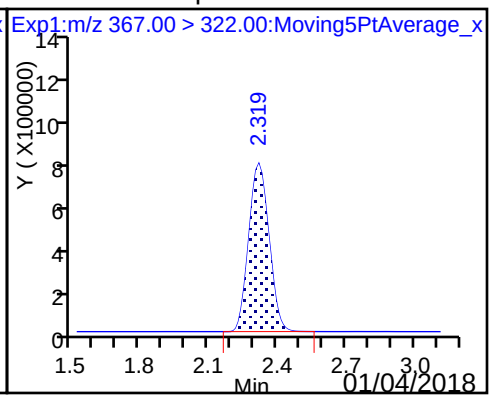
6 Perfluorohexanoic acid (M)



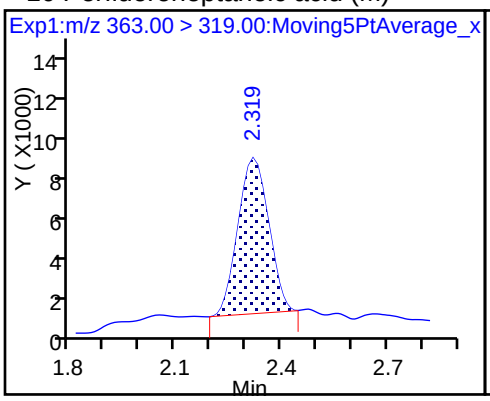
6 Perfluorohexanoic acid



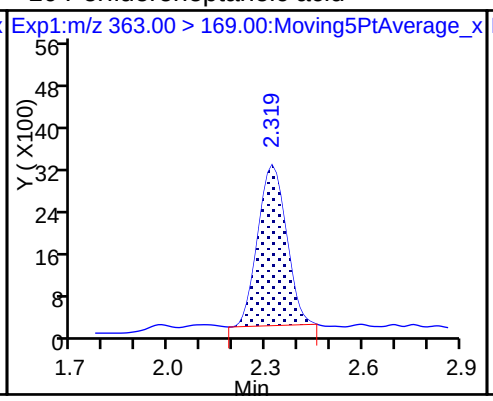
D 9 13C4-PFHpA



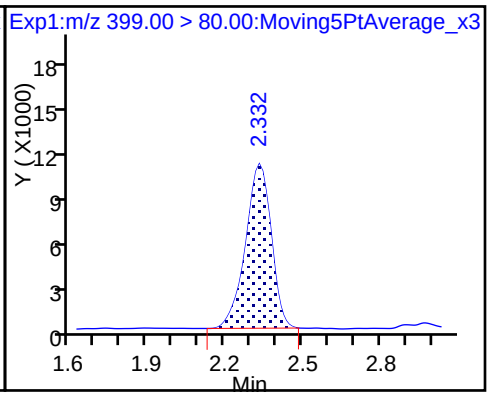
10 Perfluoroheptanoic acid (M)



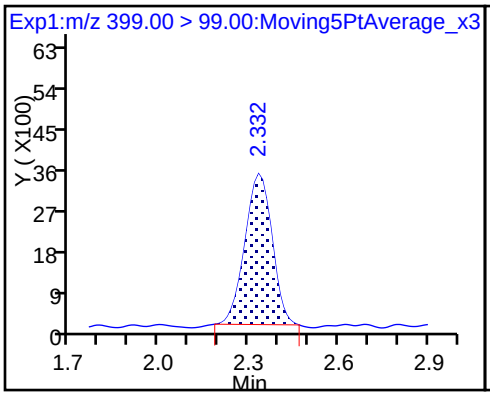
10 Perfluoroheptanoic acid



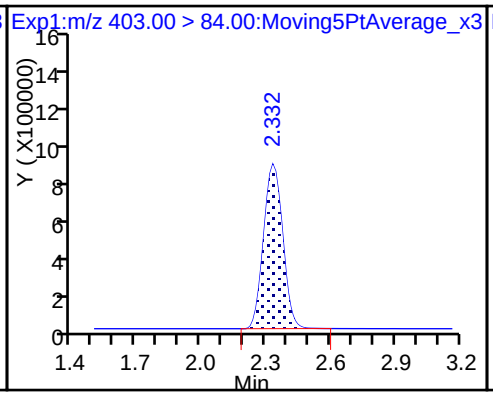
8 Perfluorohexanesulfonic acid



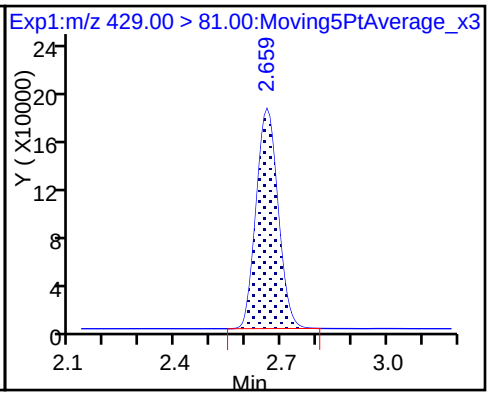
8 Perfluorohexanesulfonic acid



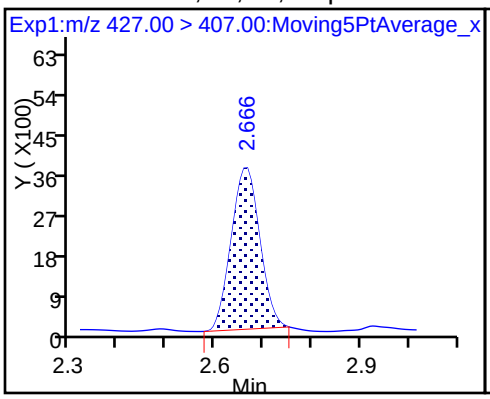
D 11 18O2 PFHxS



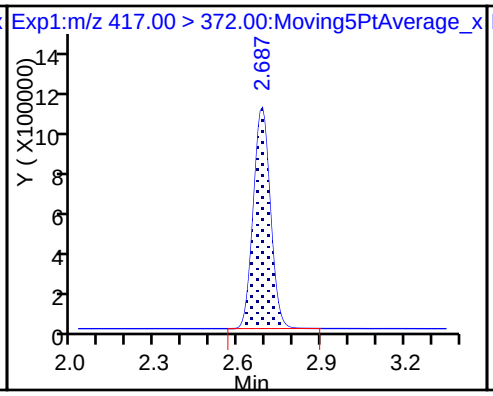
D 12 M2-6:2FTS



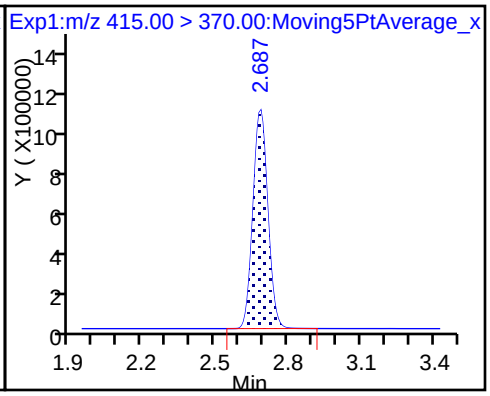
13 Sodium 1H,1H,2H,2H-perfluorooctane



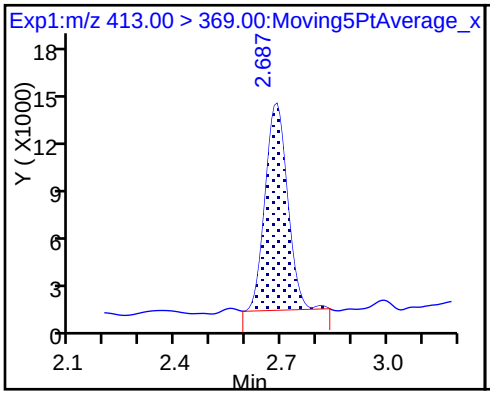
D 14 13C4 PFOA



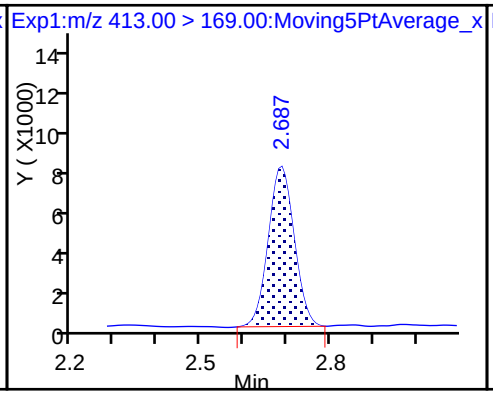
* 62 13C2-PFOA



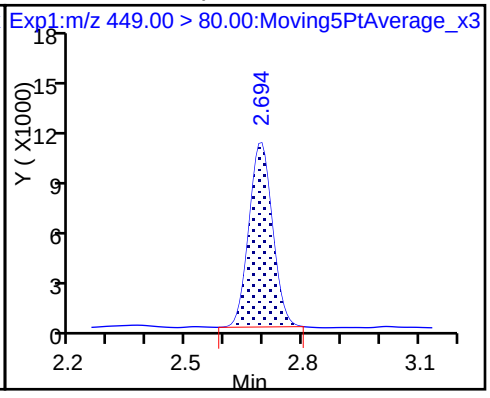
15 Perfluorooctanoic acid



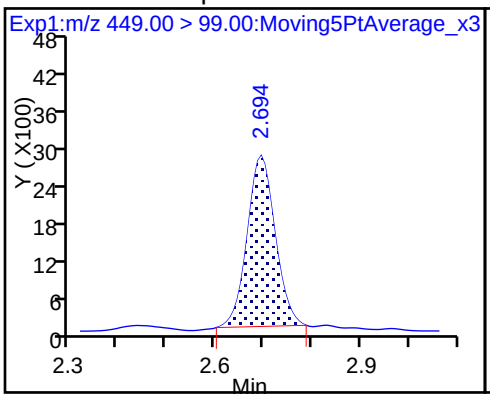
15 Perfluorooctanoic acid



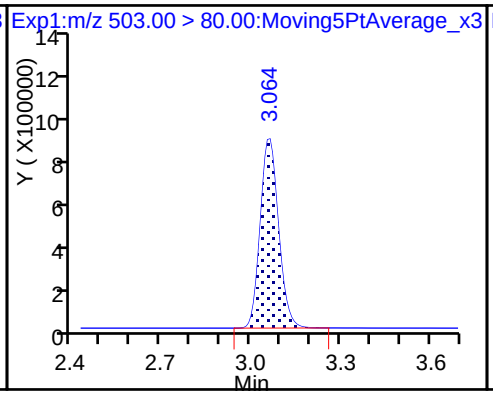
16 Perfluoroheptanesulfonic Acid



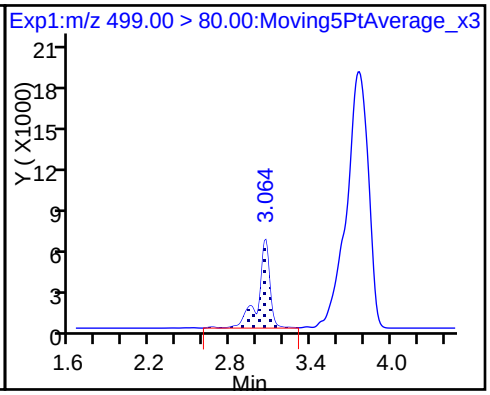
16 Perfluoroheptanesulfonic Acid



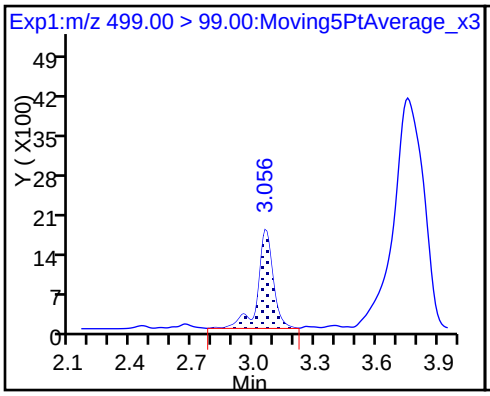
D 18 13C4 PFOS



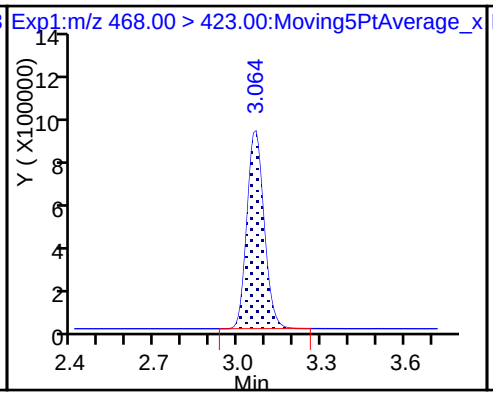
17 Perfluorooctane sulfonic acid



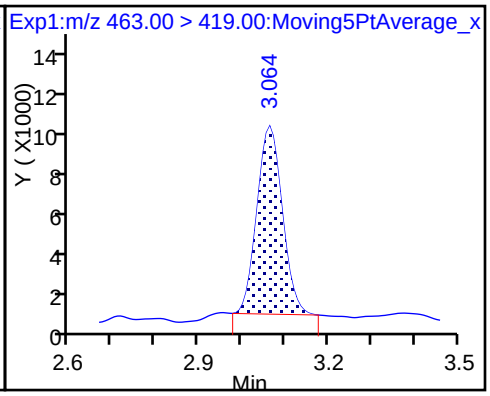
17 Perfluorooctane sulfonic acid



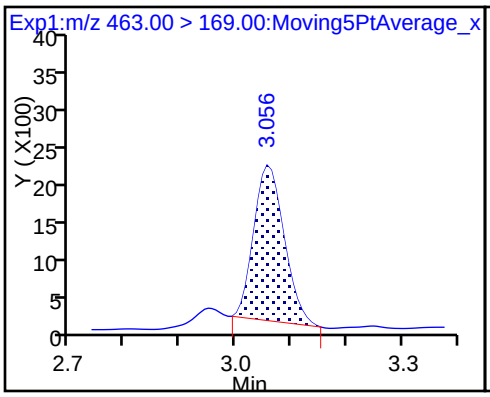
D 19 13C5 PFNA



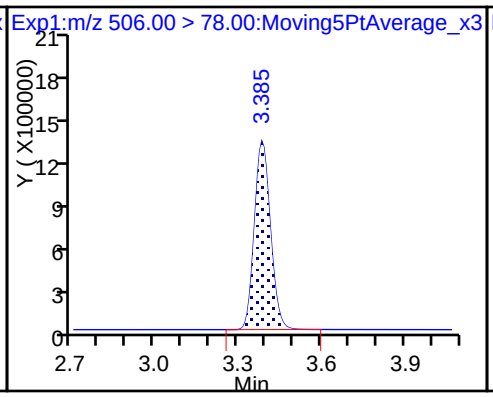
20 Perfluorononanoic acid



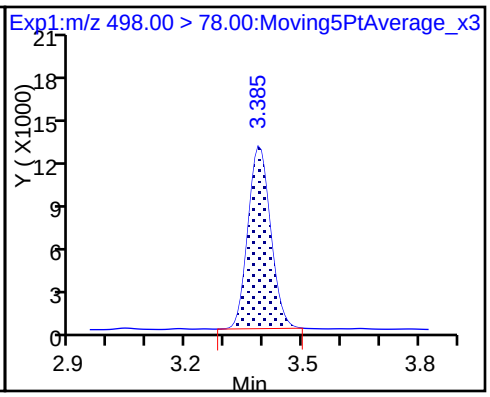
20 Perfluorononanoic acid



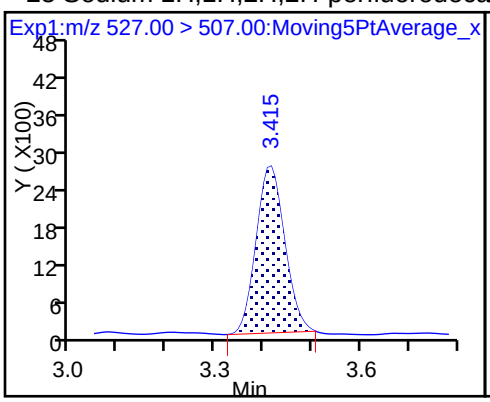
D 21 13C8 FOSA



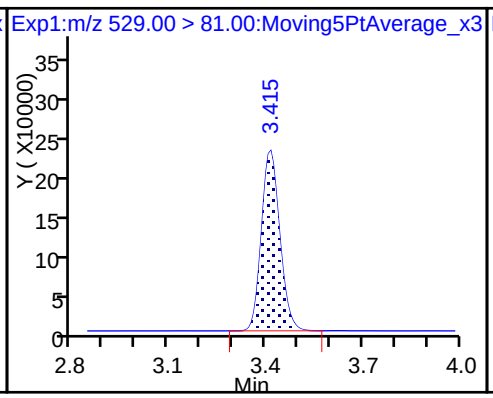
22 Perfluorooctane Sulfonamide



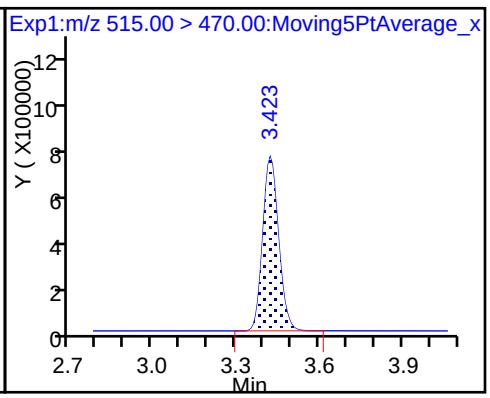
25 Sodium 1H,1H,2H,2H-perfluorodecane



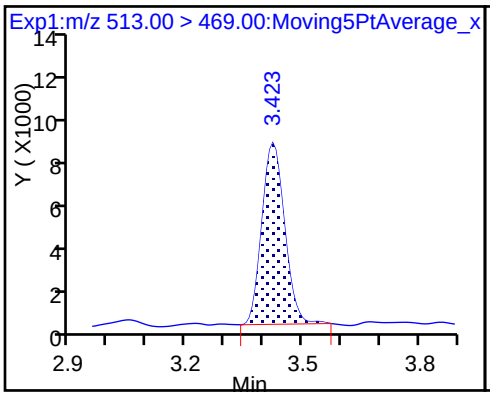
D 26 M2-8:2FTS



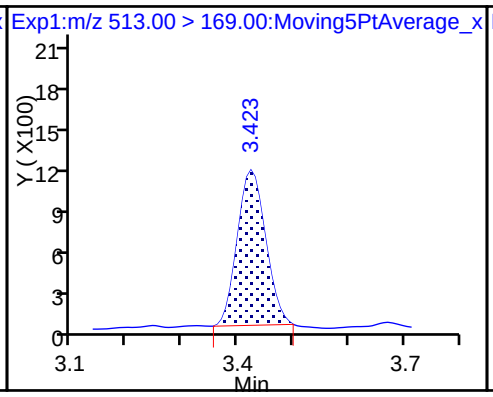
D 23 13C2 PFDA



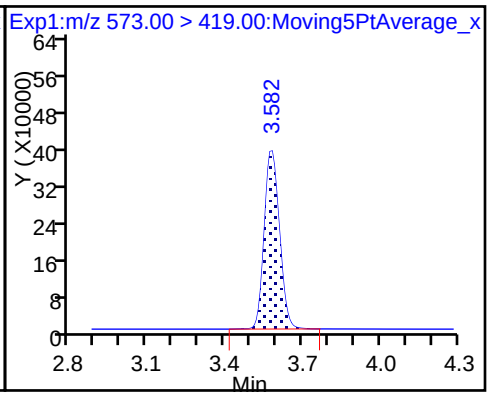
24 Perfluorodecanoic acid



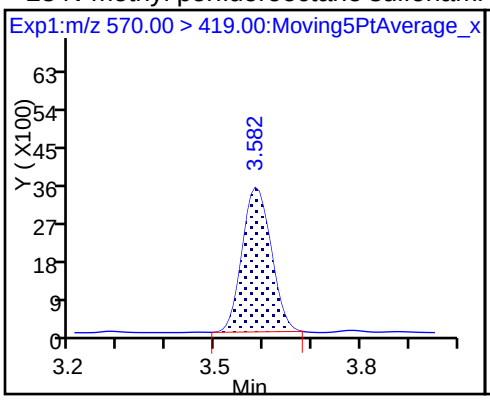
24 Perfluorodecanoic acid



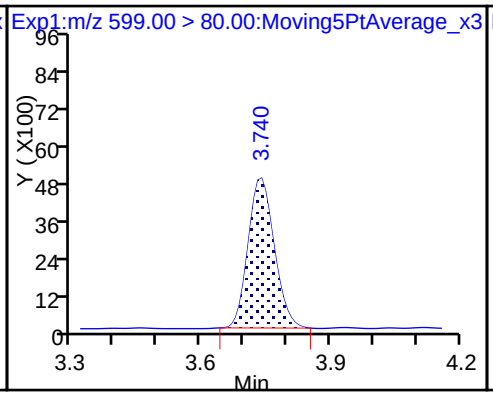
D 27 d3-NMeFOSAA



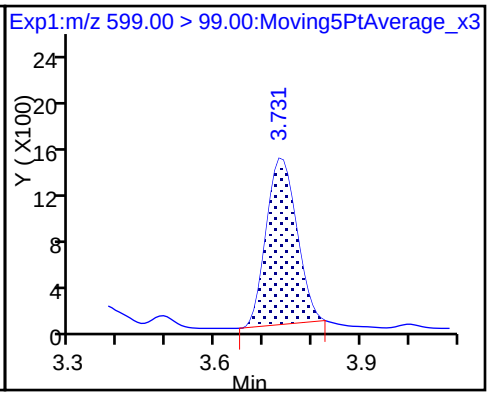
28 N-methyl perfluorooctane sulfonami



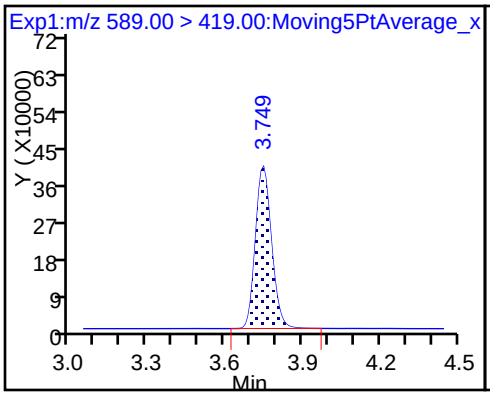
29 Perfluorodecane Sulfonic acid



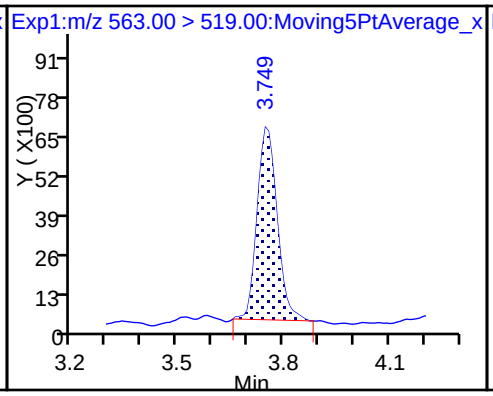
29 Perfluorodecane Sulfonic acid



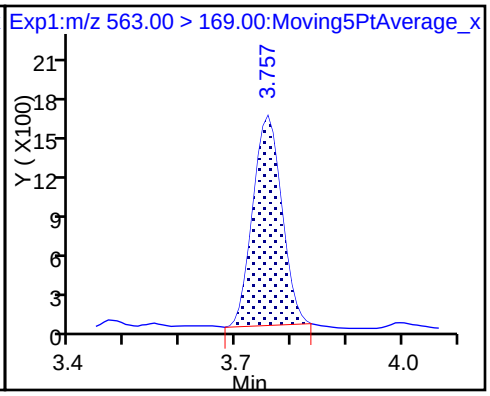
D 32 d5-NEtFOSAA



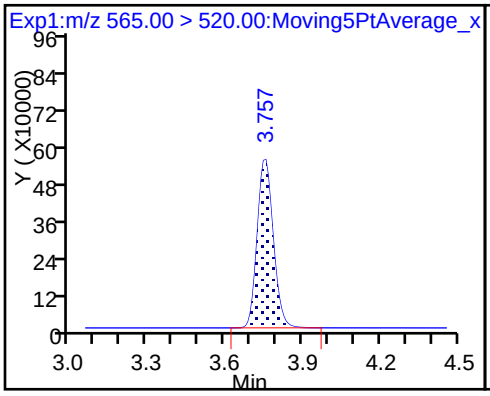
31 Perfluoroundecanoic acid



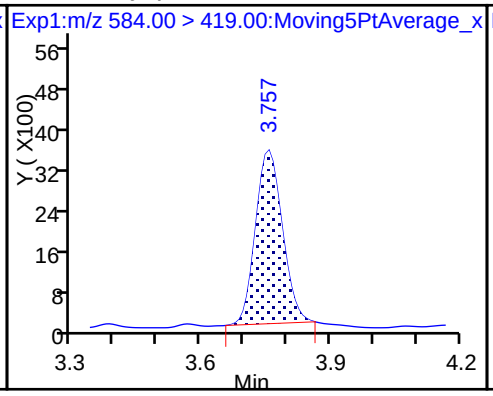
31 Perfluoroundecanoic acid



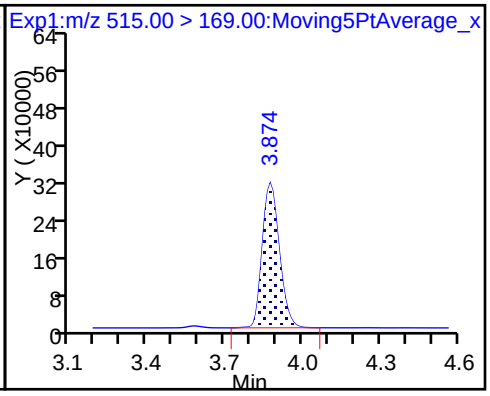
D 30 13C2 PFUnA



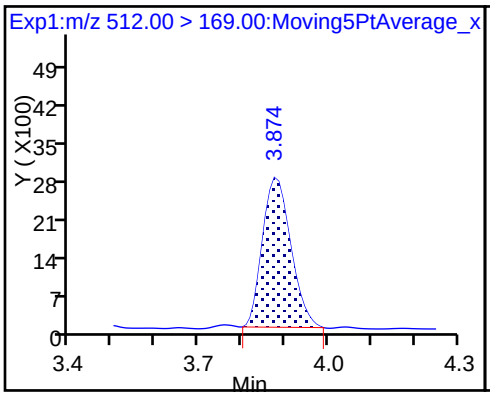
33 N-ethyl perfluorooctane sulfonamid



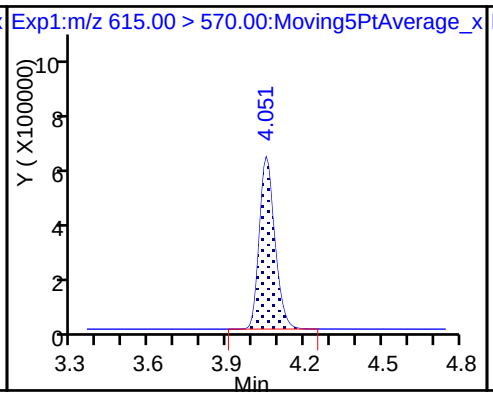
D 34 d-N-MeFOSA-M



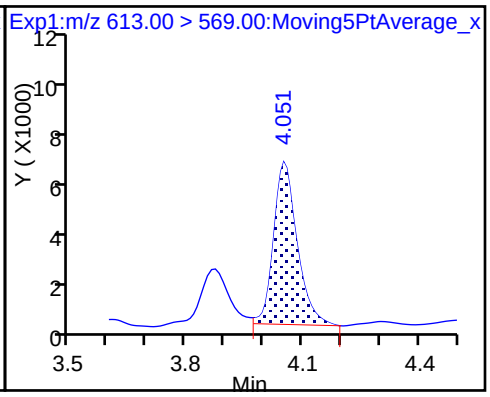
35 MeFOSA



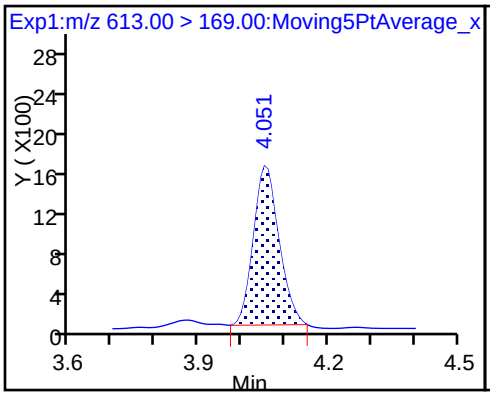
D 36 13C2 PFDoA



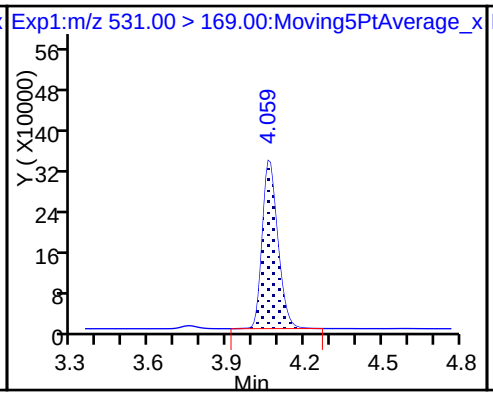
37 Perfluorododecanoic acid



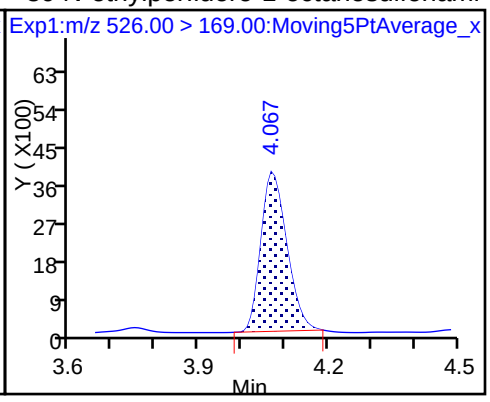
37 Perfluorododecanoic acid



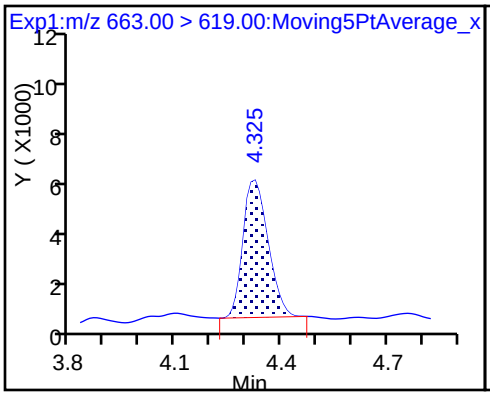
D 38 d-N-EtFOSA-M



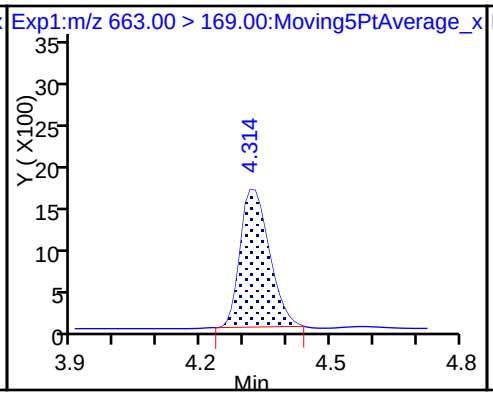
39 N-ethylperfluoro-1-octanesulfonami



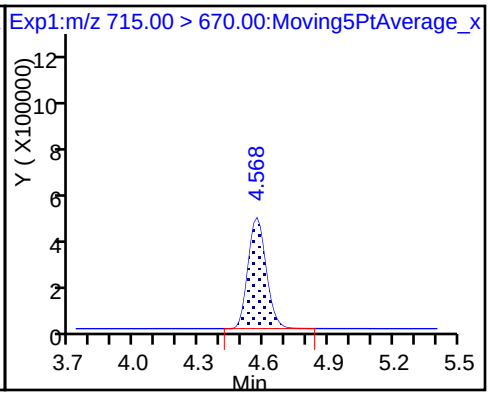
41 Perfluorotridecanoic acid



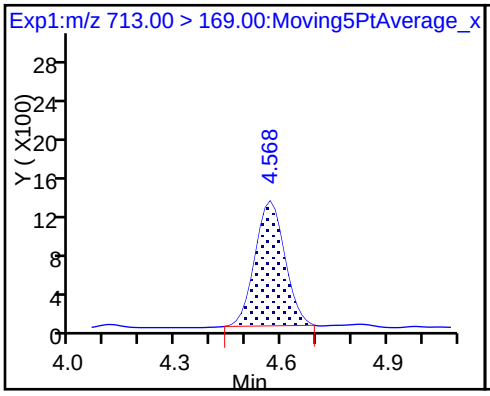
41 Perfluorotridecanoic acid



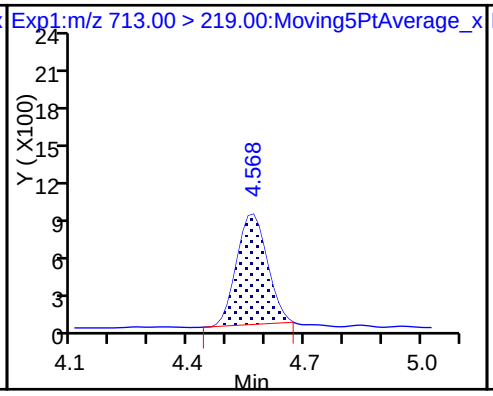
D 43 13C2-PFTeDA



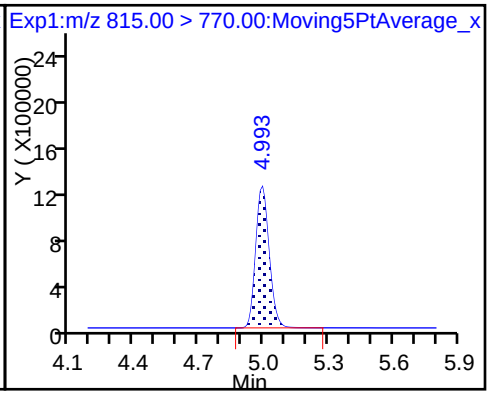
42 Perfluorotetradecanoic acid



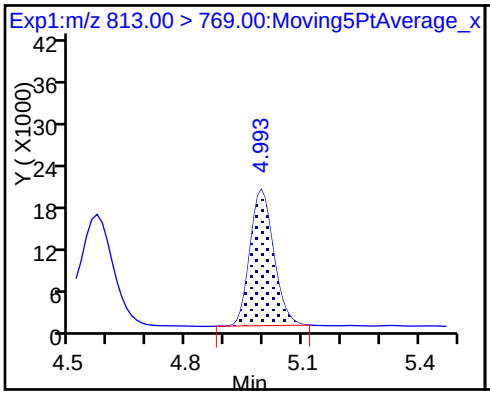
42 Perfluorotetradecanoic acid



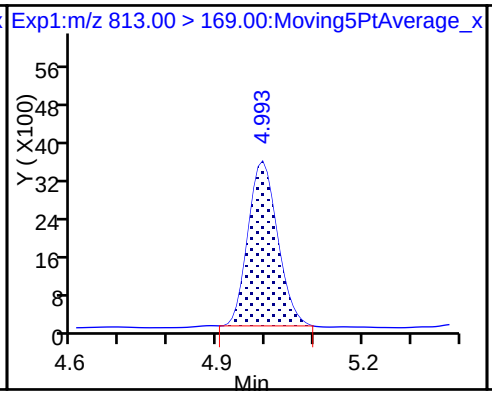
D 44 13C2-PFHxDA



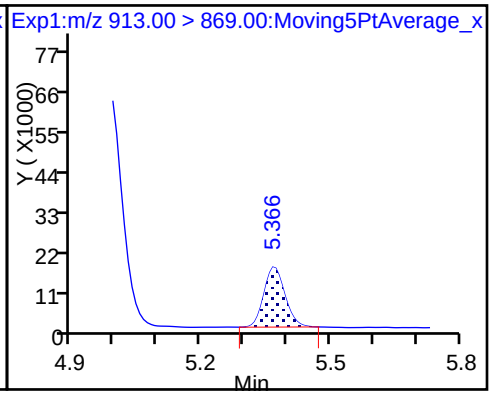
45 Perfluorohexadecanoic acid



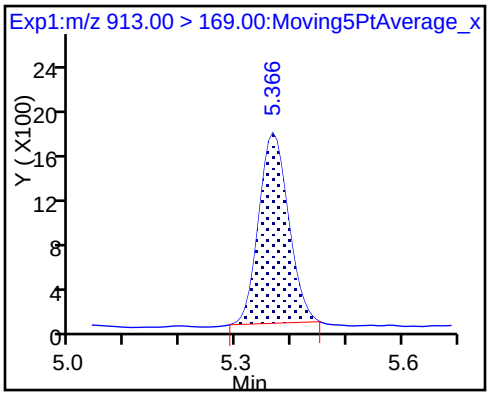
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento

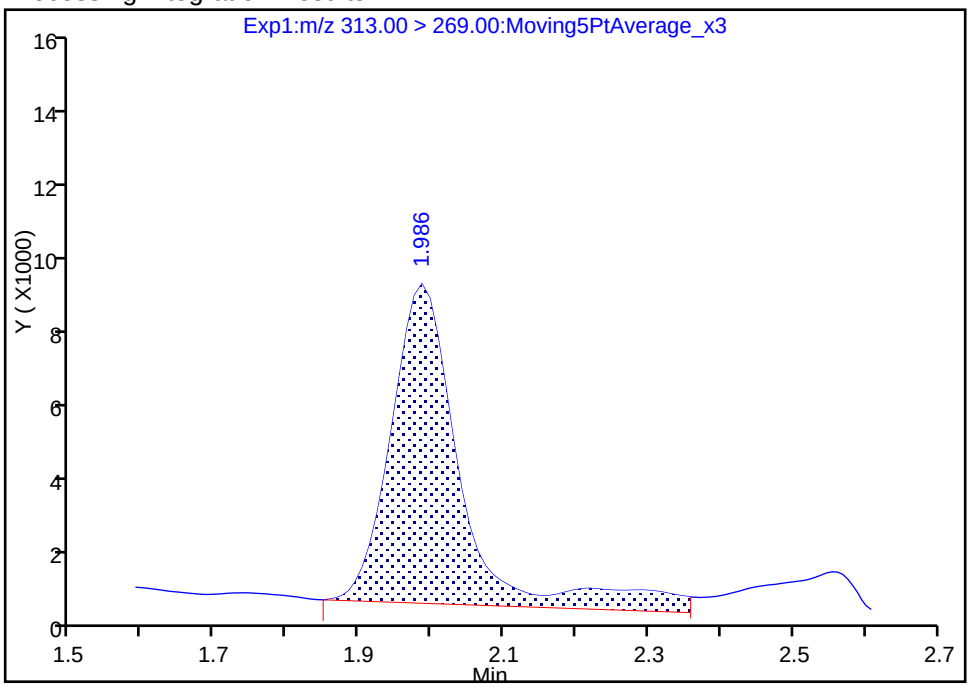
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_002.d
Injection Date: 26-Dec-2017 16:55:57 Instrument ID: A8_N
Lims ID: IC L1 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

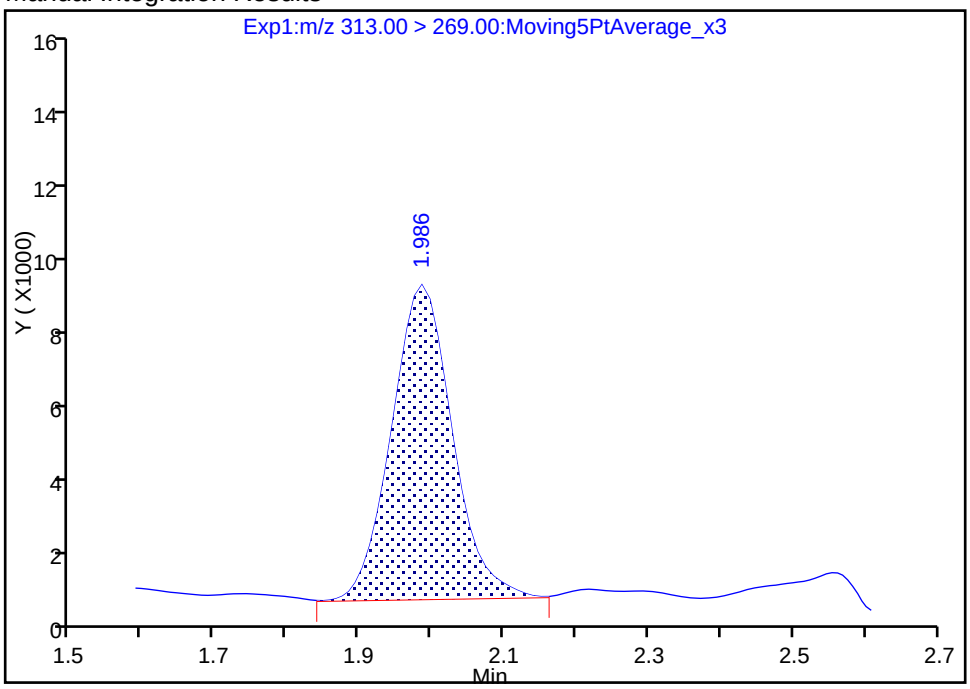
Processing Integration Results

RT: 1.99
Area: 56576
Amount: 0.027815
Amount Units: ng/ml



Manual Integration Results

RT: 1.99
Area: 48315
Amount: 0.024246
Amount Units: ng/ml



Reviewer: roycea, 27-Dec-2017 08:23:47
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

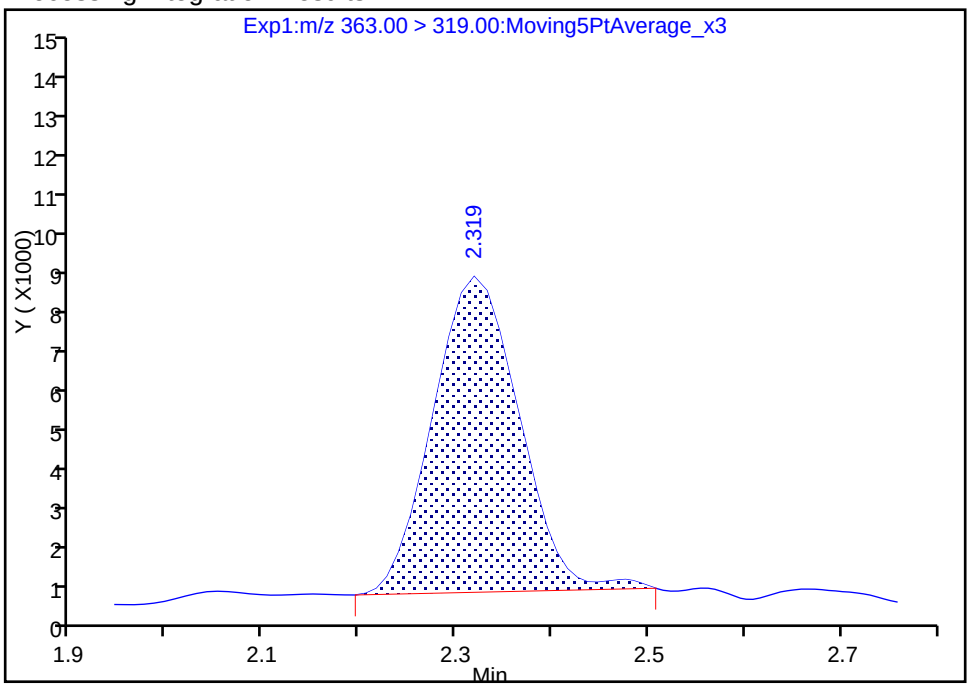
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_002.d
Injection Date: 26-Dec-2017 16:55:57 Instrument ID: A8_N
Lims ID: IC L1 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

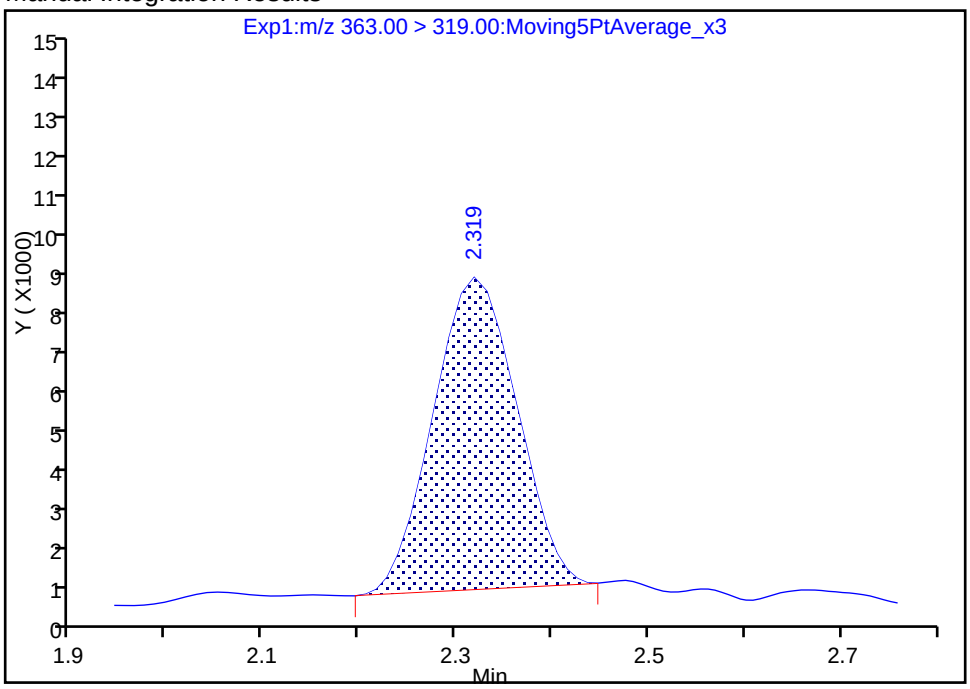
Processing Integration Results

RT: 2.32
Area: 49184
Amount: 0.025000
Amount Units: ng/ml



Manual Integration Results

RT: 2.32
Area: 47197
Amount: 0.024112
Amount Units: ng/ml



Reviewer: roycea, 27-Dec-2017 08:24:15
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_003.d
Lims ID: IC L2 Full
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 26-Dec-2017 17:03:44 ALS Bottle#: 11 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L2-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:21 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:26:51

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.430	1.433	-0.003	0.534	8093540	2.46		98.5	27173	
2 Perfluorobutyric acid										
212.90 > 169.00	1.430	1.434	-0.004	1.000	144778	0.0490		97.9	34.5	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.687	1.691	-0.005	1.000	103239	0.0484		96.8	82.5	
D 3 13C5-PFPeA										
267.90 > 223.00	1.687	1.692	-0.006	0.630	4755578	2.48		99.3	38107	
D 47 13C3-PFBS										
301.90 > 83.00	1.722	1.725	-0.003	0.643	91775	2.21		95.1	2857	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.722	1.730	-0.008	1.000	133946	0.0453		103	657	
298.90 > 99.00	1.722	1.730	-0.008	1.000	57264		2.34(1.25-3.74)	103	426	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.940	1.941	-0.001	1.000	25890	0.0411		88.0	1173	
D 7 13C2 PFHxA										
315.00 > 270.00	1.971	1.976	-0.005	0.736	5041052	2.45		97.9	51934	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.971	1.979	-0.008	1.000	102335	0.0508		102	257	
313.00 > 119.00	1.971	1.979	-0.008	1.000	9090		11.26(5.03-15.10)	102	178	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.314	2.311	0.003	1.000	105299	0.0524		105	183	
363.00 > 169.00	2.314	2.311	0.003	1.000	39708		2.65(1.13-3.40)	105	433	
D 9 13C4-PFHpA										
367.00 > 322.00	2.314	2.311	0.003	0.864	4804811	2.51		100	35881	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.328	2.324	0.004	1.000	127811	0.0469		103	798	
399.00 > 99.00	2.328	2.324	0.004	1.000	38467		3.32(1.50-4.49)	103	304	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.328	2.328	0.0	0.869	5894550	2.43		103	35045	
D 12 M2-6:2FTS										
429.00 > 81.00	2.649	2.649	0.0	0.989	867710	2.39		101	19171	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.649	2.651	-0.002	1.000	29222	0.0477		101	918	
D 14 13C4 PFOA										
417.00 > 372.00	2.678	2.674	0.004	1.000	4837751	2.48		99.1	27746	
* 62 13C2-PFOA										
415.00 > 370.00	2.678	2.676	0.002		4748115	2.50			42824	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.678	2.677	0.001	1.000	108356	0.0529		106	62.6	
413.00 > 169.00	2.678	2.677	0.001	1.000	59877		1.81(0.84-2.52)	106	513	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.685	2.683	0.002	1.000	94992	0.0476		99.9	2105	
449.00 > 99.00	2.685	2.683	0.002	1.000	28619		3.32(1.94-5.82)	99.9	982	
D 18 13C4 PFOS										
503.00 > 80.00	3.047	3.048	-0.001	1.138	3890029	2.42		101	26139	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.054	3.050	0.004	1.003	82304	0.0471		102	20.6	
499.00 > 99.00	3.054	3.050	0.004	1.003	19990		4.12(2.31-6.93)	102	25.4	
D 19 13C5 PFNA										
468.00 > 423.00	3.054	3.051	0.003	1.141	3974719	2.55		102	26659	
20 Perfluorononanoic acid										
463.00 > 419.00	3.054	3.052	0.002	1.000	72562	0.0468		93.7	174	
463.00 > 169.00	3.054	3.052	0.002	1.000	17272		4.20(1.90-5.69)	93.7	441	
D 21 13C8 FOSA										
506.00 > 78.00	3.376	3.377	-0.001	1.261	5229999	2.40		96.1	22874	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.376	3.378	-0.002	1.000	101559	0.0511		102	2852	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.399	3.402	-0.003	0.998	23092	0.0496		104	992	
D 26 M2-8:2FTS										
529.00 > 81.00	3.407	3.403	0.004	1.272	887779	2.23		93.1	14694	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.414	3.414	0.0	1.000	64313	0.0528		106	316	
513.00 > 169.00	3.414	3.414	0.0	1.000	11769		5.46(2.36-7.09)	106	439	
D 23 13C2 PFDA										
515.00 > 470.00	3.414	3.414	0.0	1.275	3090301	2.44		97.5	30238	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.565	3.569	-0.004	1.331	1521826	2.32		92.9	18055	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.573	3.574	-0.001	1.002	34208	0.0531		106	308	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.729	3.730	-0.001	1.000	42501	0.0441		91.5	2055	
599.00 > 99.00	3.729	3.730	-0.001	1.000	16157		2.63(1.39-4.16)	91.5	647	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.738	3.740	-0.002	1.396	1696531	2.54		102	10162	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.746	3.746	0.0	1.000	45365	0.0520		104	269	
563.00 > 169.00	3.746	3.746	0.0	1.000	9983		4.54(0.00-0.00)	104	836	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.746	3.747	-0.001	1.002	30941	0.0472		94.5	806	
D 30 13C2 PFUnA										
565.00 > 520.00	3.746	3.747	-0.001	1.399	2329187	2.43		97.1	33988	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.862	3.867	-0.005	1.442	1477752	2.39		95.6	3267	
35 MeFOSA										
512.00 > 169.00	3.872	3.873	-0.001	1.003	25700	0.0450		90.1	568	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.042	4.045	-0.003	1.000	50283	0.0492		98.3	166	
613.00 > 169.00	4.042	4.045	-0.003	1.000	11868		4.24(2.13-6.40)	98.3	732	
D 36 13C2 PFDoA										
615.00 > 570.00	4.042	4.045	-0.003	1.509	2575132	2.47		98.8	33508	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.058	4.058	0.0	1.515	1395515	2.37		94.8	3004	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.058	4.065	-0.007	1.000	29885	0.0494		98.8	905	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.308	4.312	-0.004	1.000	58362	0.0526		105	198	
663.00 > 169.00	4.308	4.312	-0.004	1.000	18920		3.08(1.25-3.76)	105	1050	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.560	4.557	0.003	1.000	14138	0.0500		99.9	631	
713.00 > 219.00	4.546	4.557	-0.011	0.997	9550		1.48(0.71-2.13)	99.9	418	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.560	4.557	0.003	1.703	2779842	2.45		98.1	20812	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.979	4.984	-0.005	1.000	137526	0.0533		107	85.5	
813.00 > 169.00	4.979	4.984	-0.005	1.000	23485		5.86(2.86-8.58)	107	610	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.979	4.984	-0.005	1.859	5259637	2.53		101	14695	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.363	5.361	0.002	1.000	111852	0.0495		99.0	30.6	
913.00 > 169.00	5.356	5.361	-0.005	0.999	14368		7.78(0.00-0.00)	99.0	273	

Reagents:

LCPFC_LL2_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:23 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_003.d

Injection Date: 26-Dec-2017 17:03:44 Instrument ID: A8_N

Lims ID: IC L2 Full

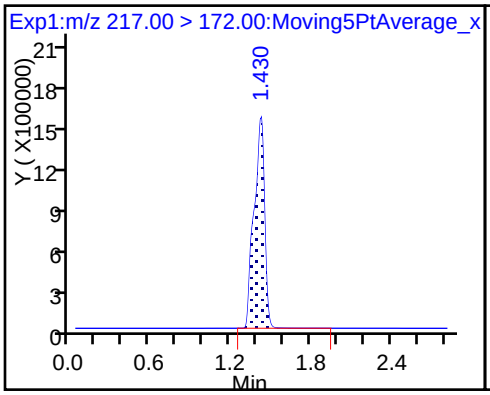
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Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 3

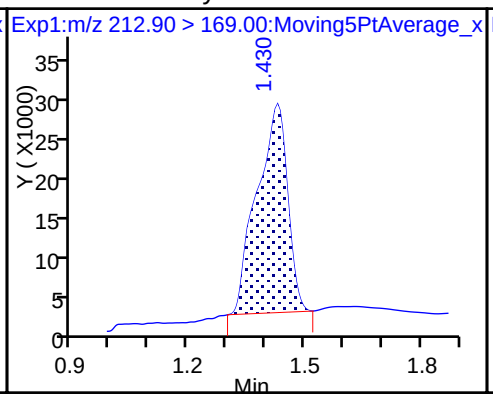
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

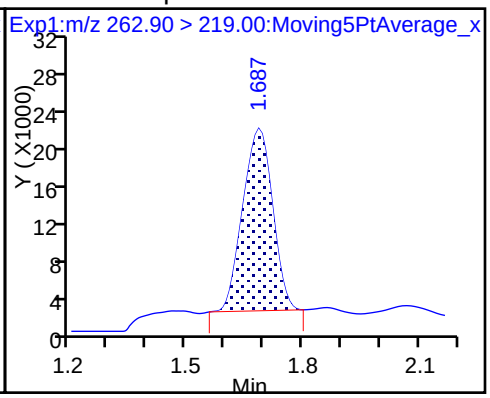
D 1 13C4 PFBA



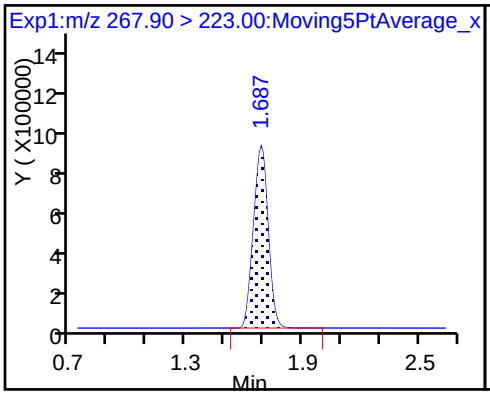
2 Perfluorobutyric acid



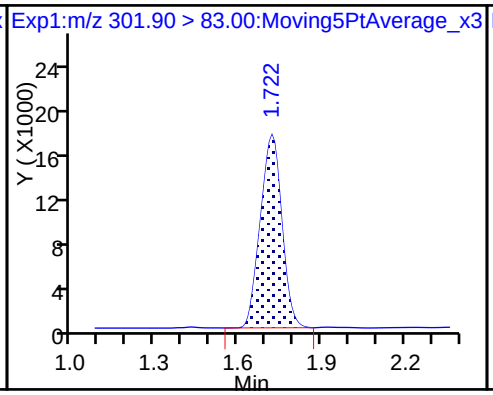
4 Perfluoropentanoic acid



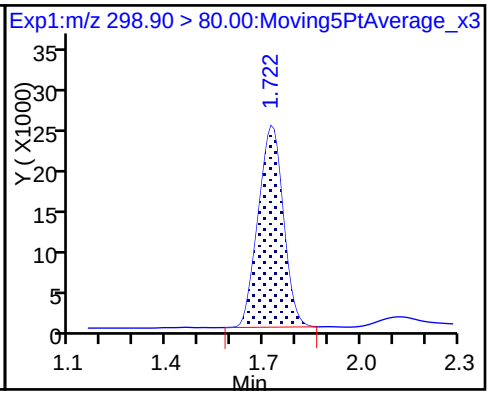
D 3 13C5-PFPeA



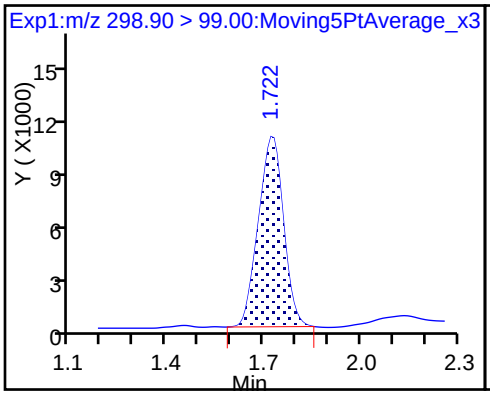
D 47 13C3-PFBS



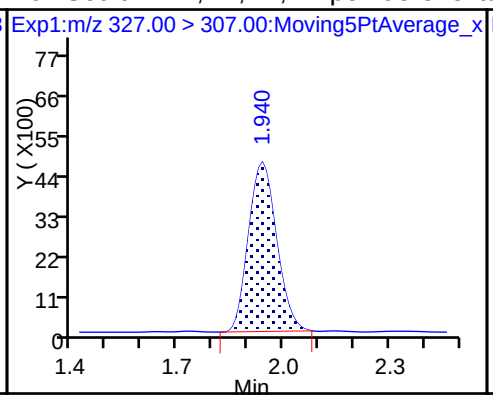
5 Perfluorobutanesulfonic acid



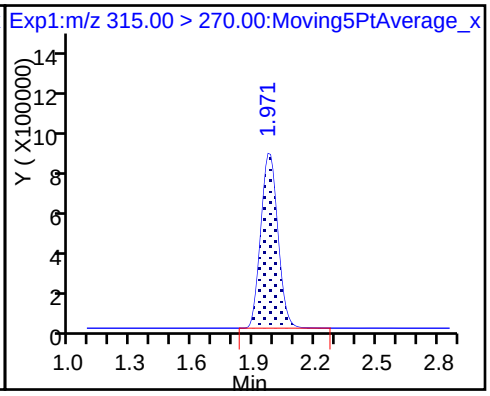
5 Perfluorobutanesulfonic acid



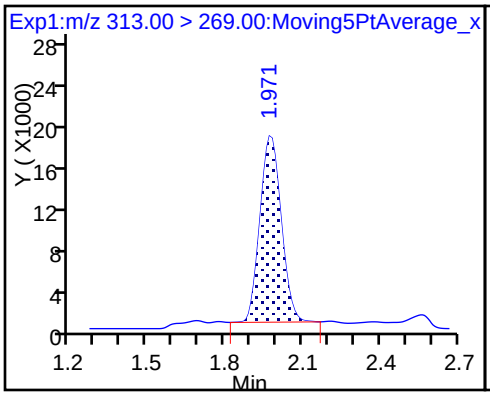
61 Sodium 1H,1H,2H,2H-perfluorohexa



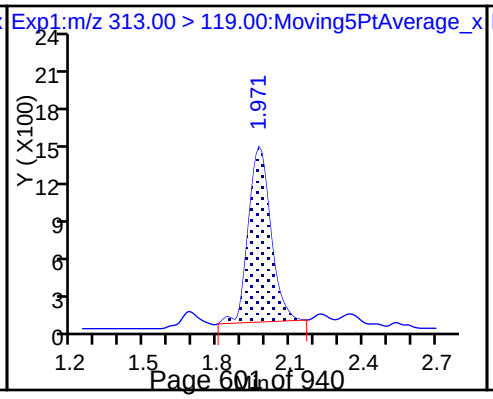
D 7 13C2 PFHxA



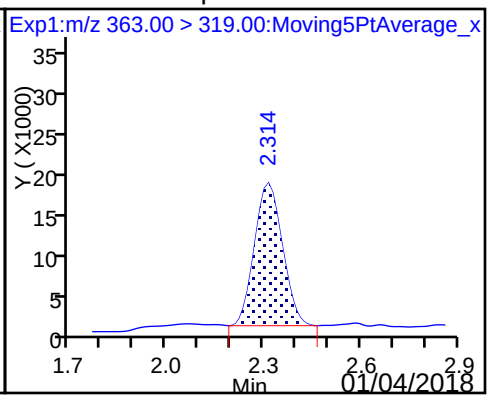
6 Perfluorohexanoic acid



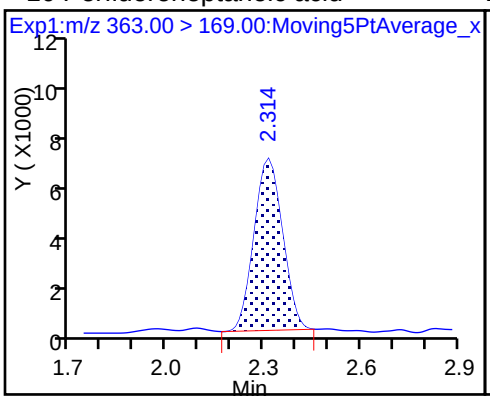
6 Perfluorohexanoic acid



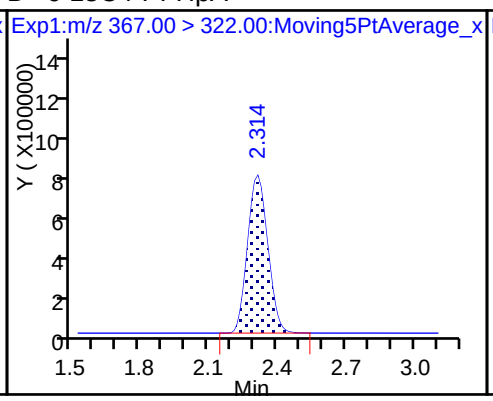
10 Perfluoroheptanoic acid



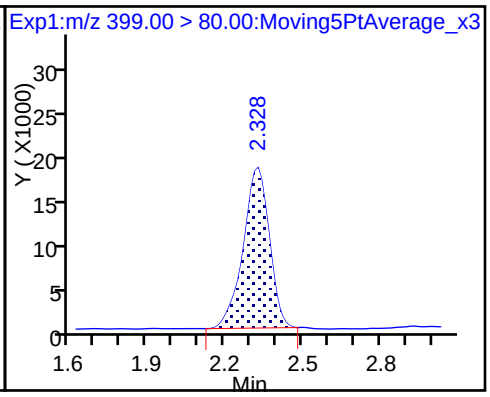
10 Perfluoroheptanoic acid



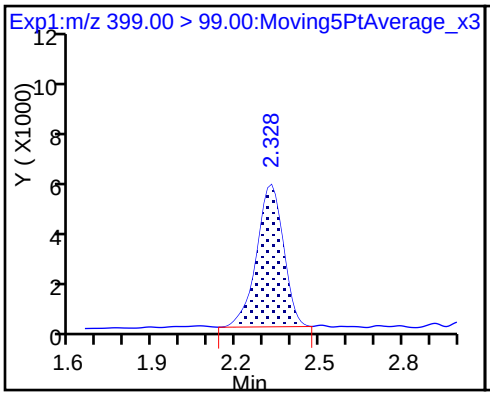
D 9 13C4-PFHpA



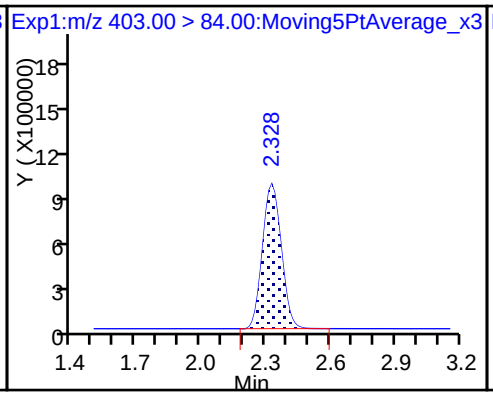
8 Perfluorohexanesulfonic acid



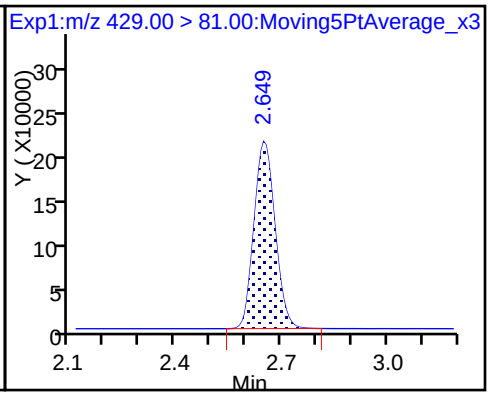
8 Perfluorohexanesulfonic acid



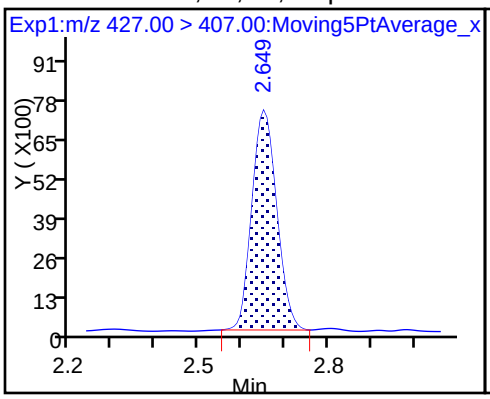
D 11 18O2 PFHxS



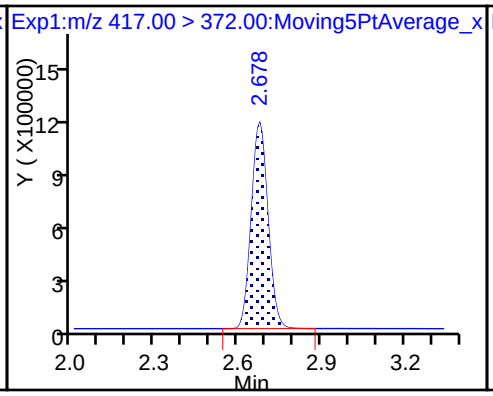
D 12 M2-6:2FTS



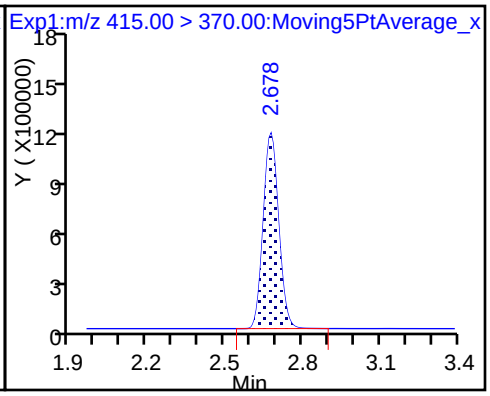
13 Sodium 1H,1H,2H,2H-perfluorooctane



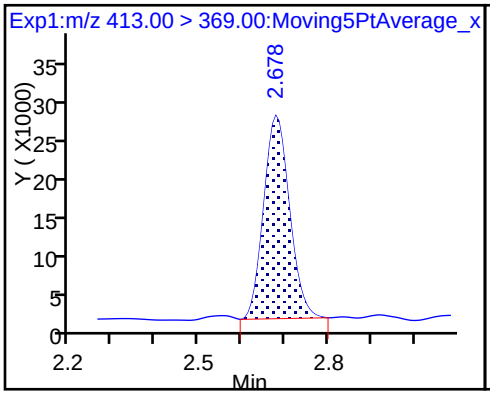
D 14 13C4 PFOA



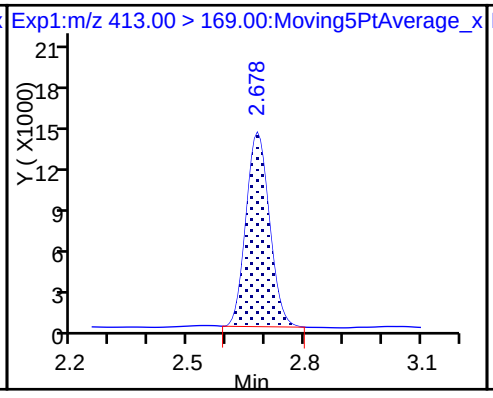
* 62 13C2-PFOA



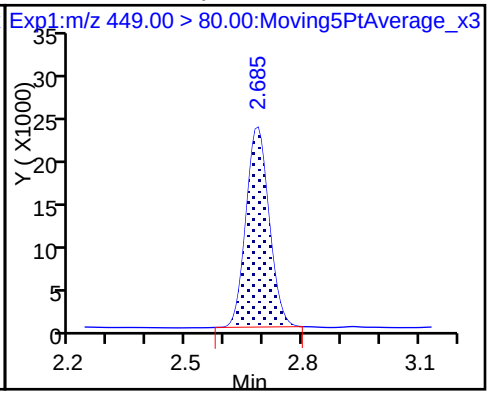
15 Perfluorooctanoic acid



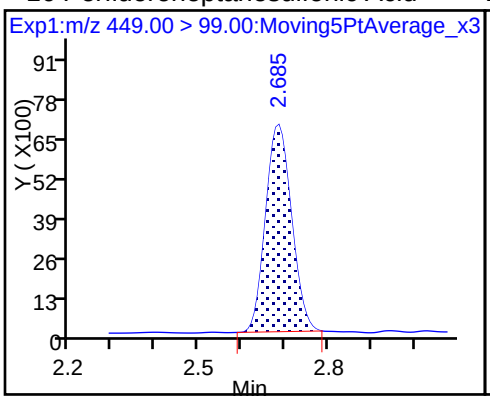
15 Perfluorooctanoic acid



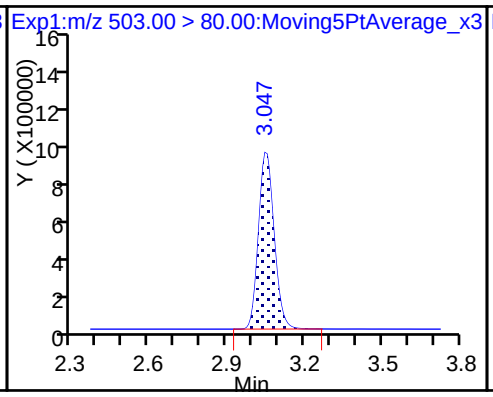
16 Perfluoroheptanesulfonic Acid



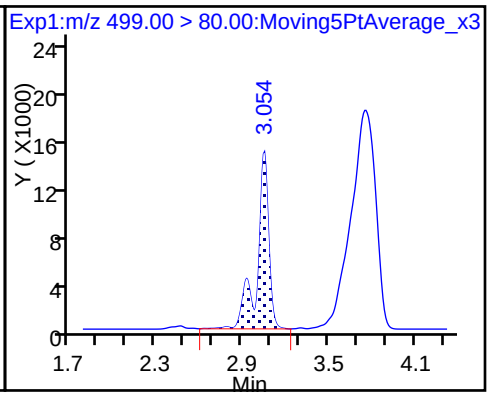
16 Perfluoroheptanesulfonic Acid



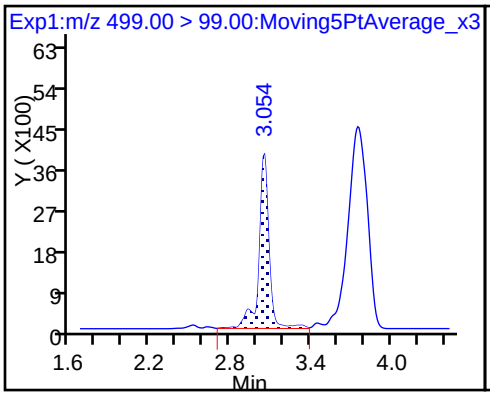
D 18 13C4 PFOS



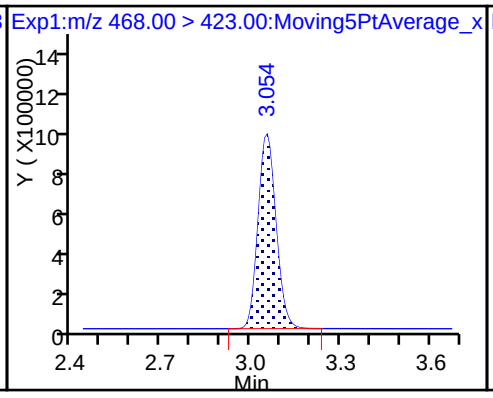
17 Perfluorooctane sulfonic acid



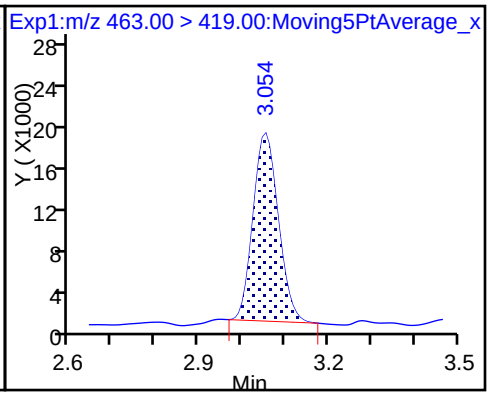
17 Perfluorooctane sulfonic acid



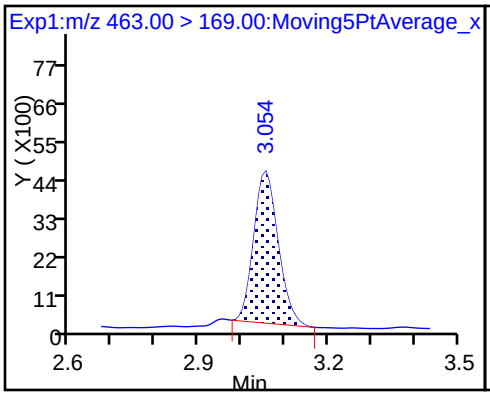
D 19 13C5 PFNA



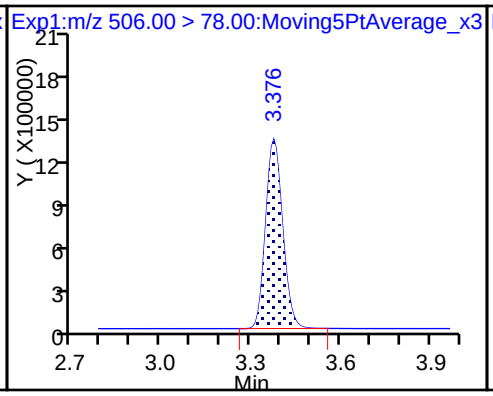
20 Perfluorononanoic acid



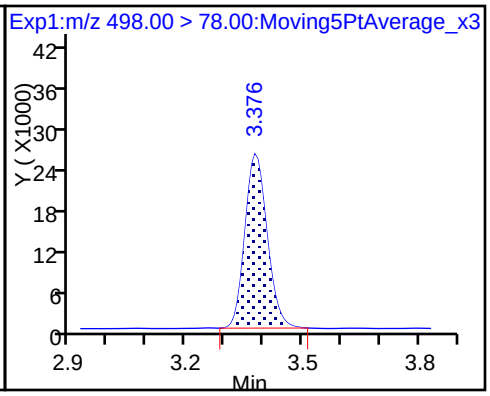
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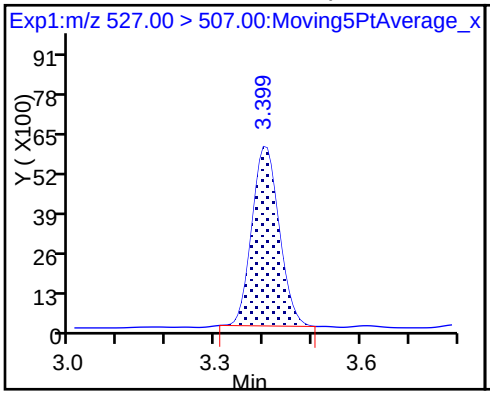
D 21 13C8 FOSA



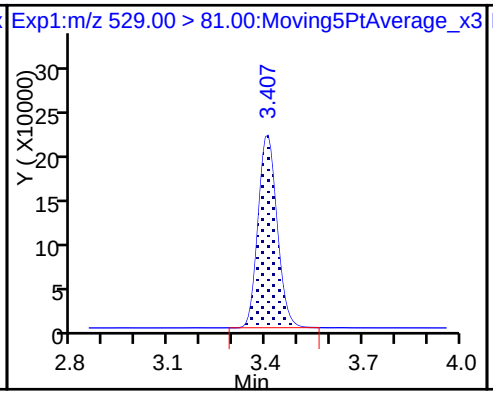
22 Perfluorooctane Sulfonamide



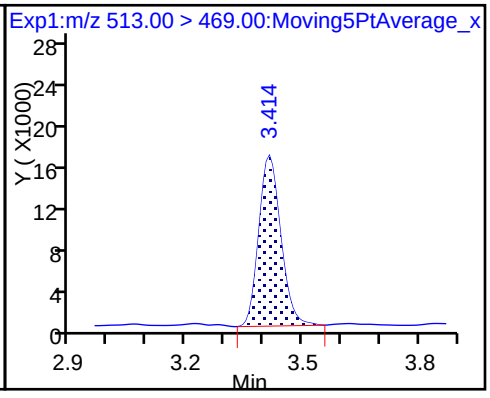
25 Sodium 1H,1H,2H,2H-perfluorodecane



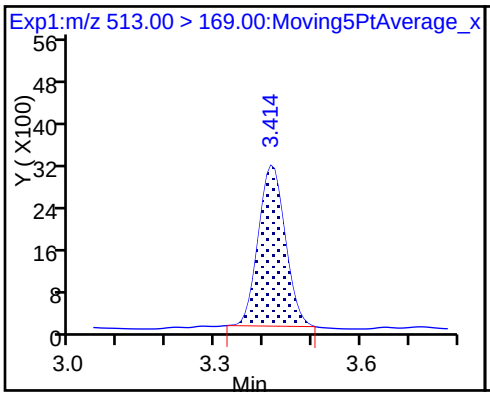
D 26 M2-8:2FTS



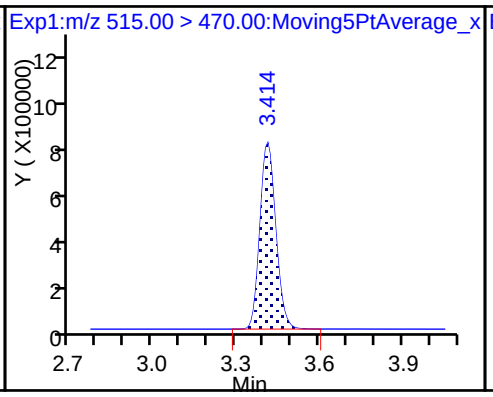
24 Perfluorodecanoic acid



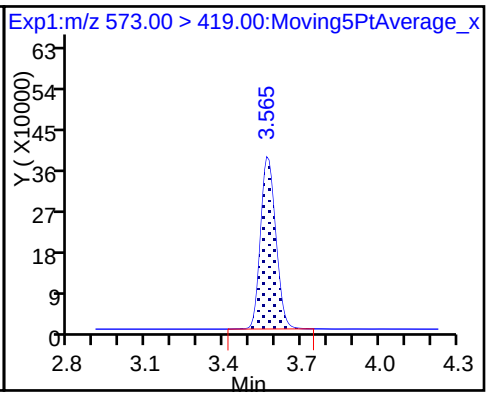
24 Perfluorodecanoic acid



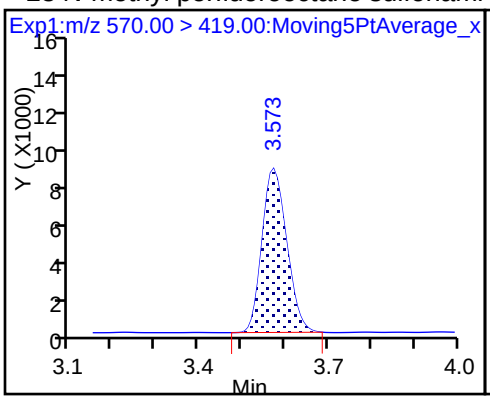
D 23 13C2 PFDA



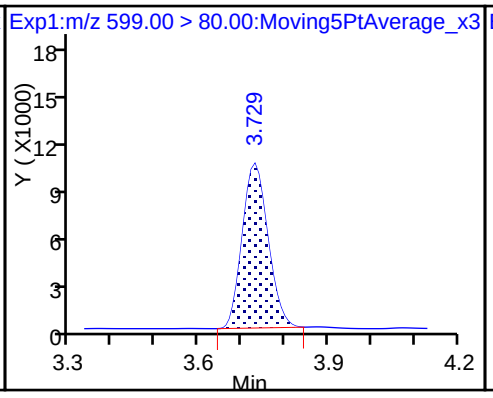
D 27 d3-NMeFOSAA



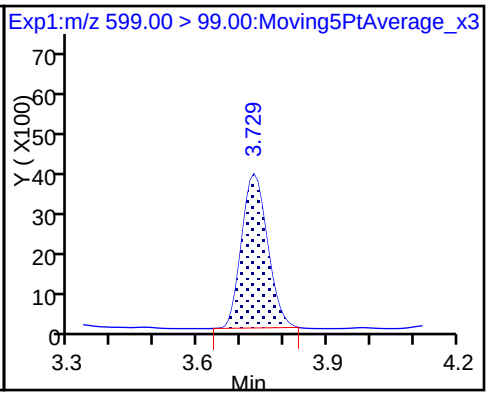
28 N-methyl perfluorooctane sulfonami



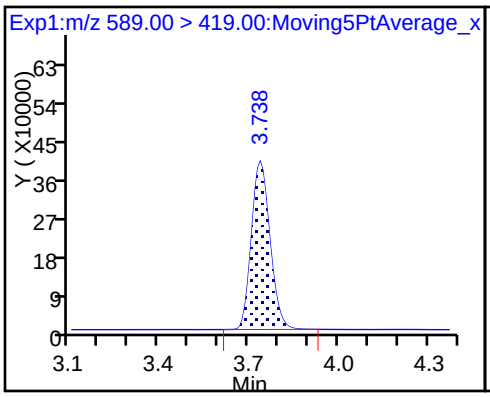
29 Perfluorodecane Sulfonic acid



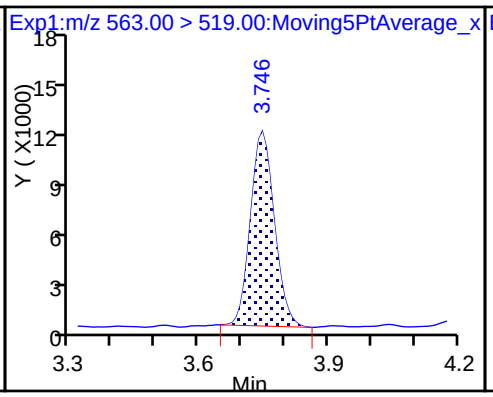
29 Perfluorodecane Sulfonic acid



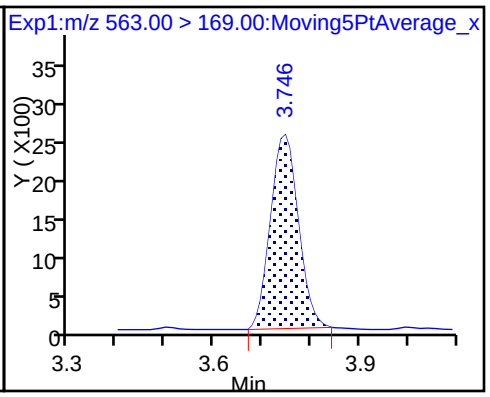
D 32 d5-NEtFOSAA



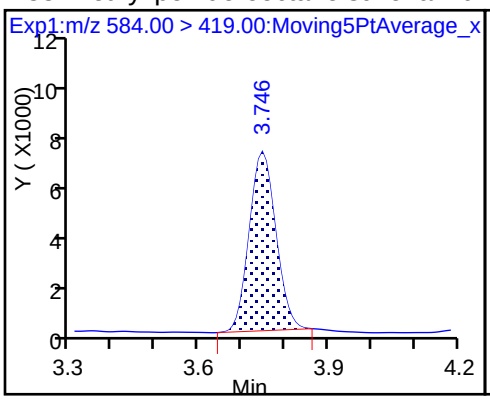
31 Perfluoroundecanoic acid



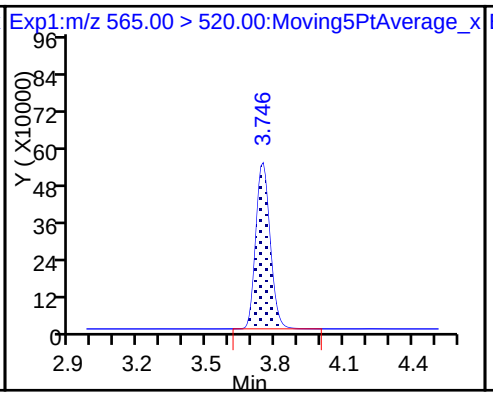
31 Perfluoroundecanoic acid



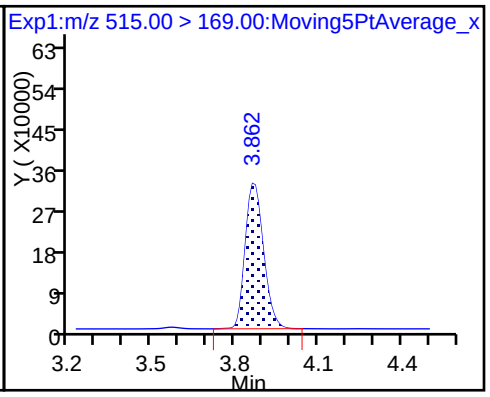
33 N-ethyl perfluorooctane sulfonamid



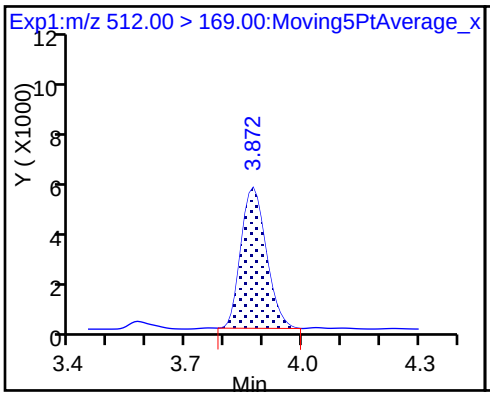
D 30 13C2 PFUnA



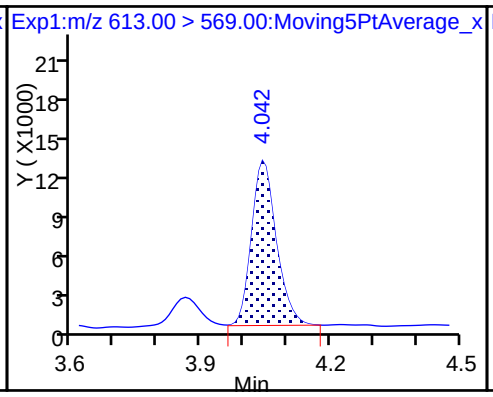
D 34 d-N-MeFOSA-M



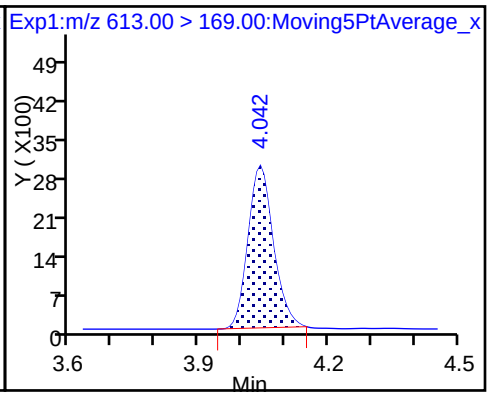
35 MeFOSA



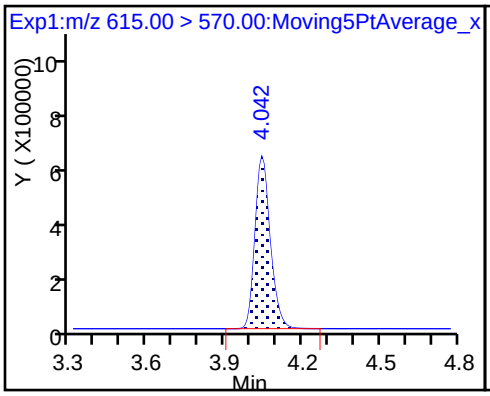
37 Perfluorododecanoic acid



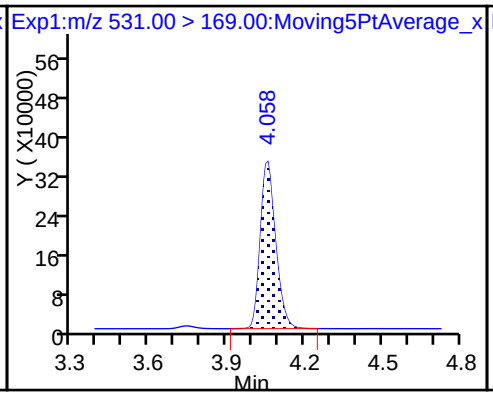
37 Perfluorododecanoic acid



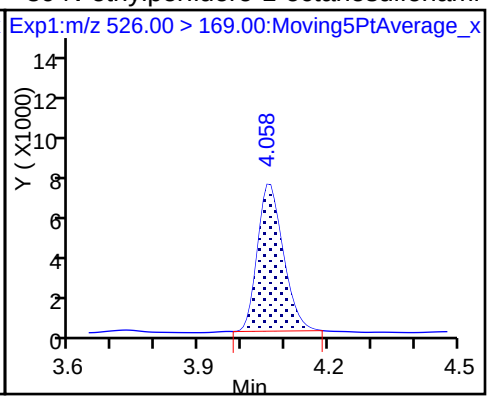
D 36 13C2 PFDoA



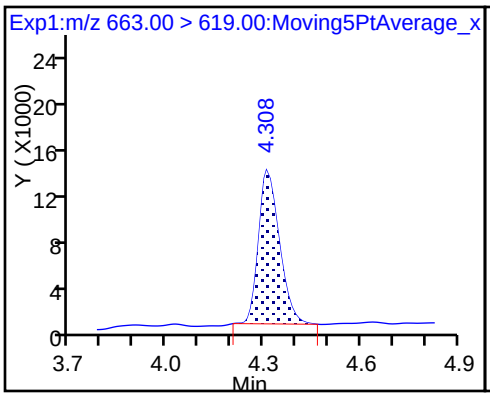
D 38 d-N-EtFOSA-M



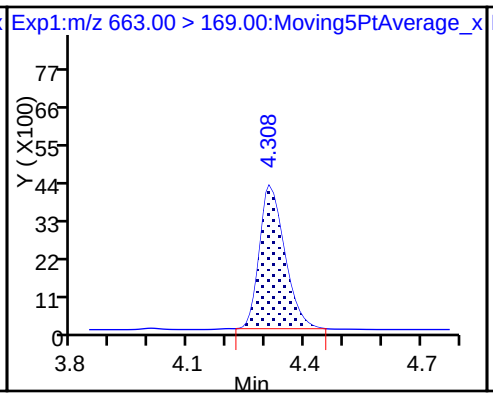
39 N-ethylperfluoro-1-octanesulfonami



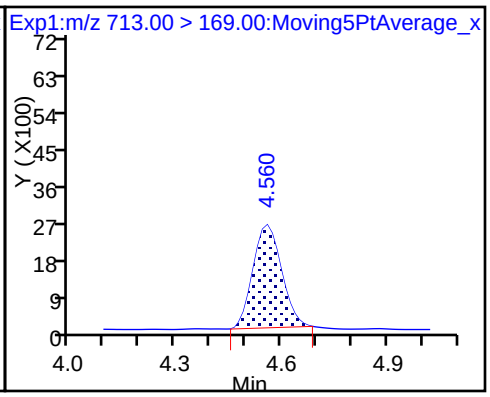
41 Perfluorotridecanoic acid



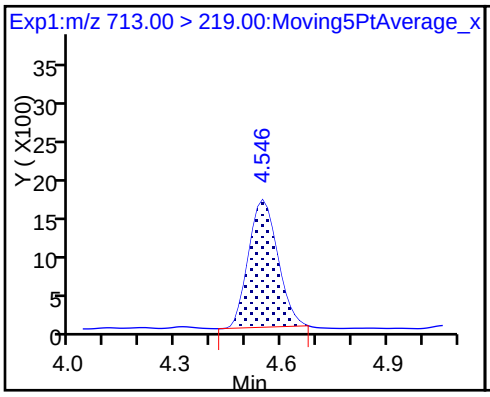
41 Perfluorotridecanoic acid



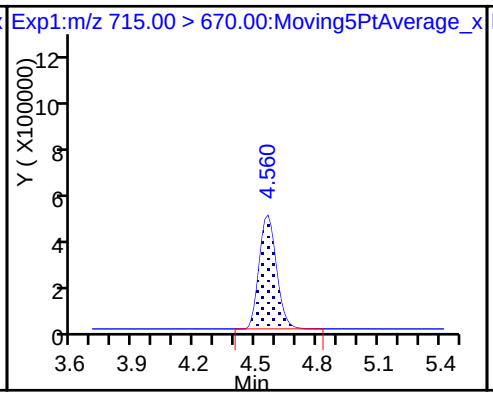
42 Perfluorotetradecanoic acid



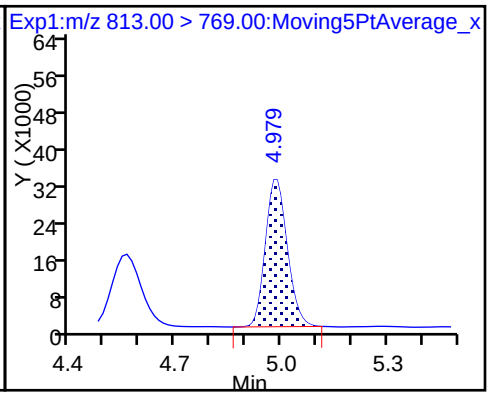
42 Perfluorotetradecanoic acid



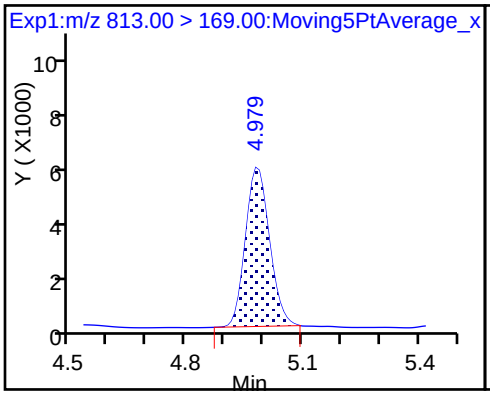
D 43 13C2-PFTeDA



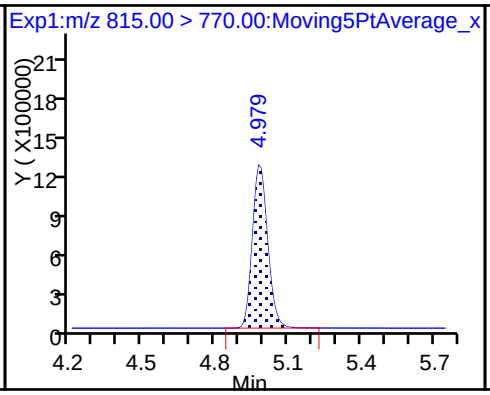
45 Perfluorohexadecanoic acid



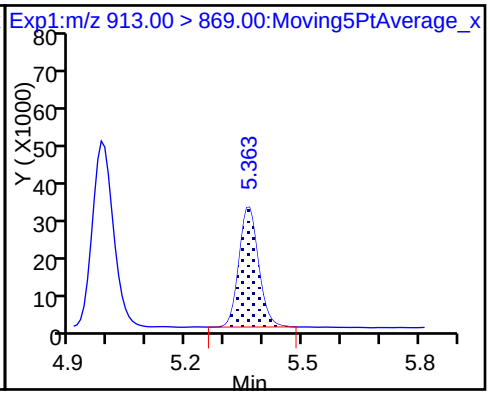
45 Perfluorohexadecanoic acid



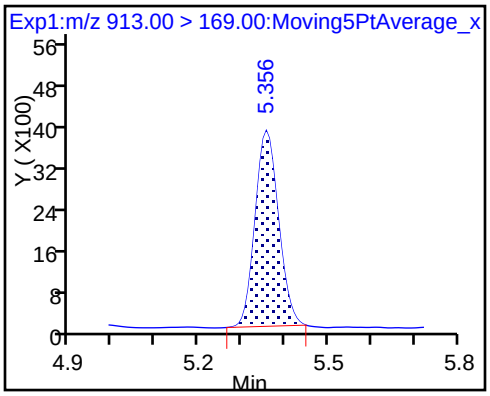
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_004.d
Lims ID: IC L3 Full
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 26-Dec-2017 17:11:33 ALS Bottle#: 12 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L3-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:25 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:32:21

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.432	1.433	-0.001	0.537	7829693	2.37		94.7	20057	
2 Perfluorobutyric acid										
212.90 > 169.00	1.432	1.434	-0.002	1.000	737647	0.2578		103	164	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.689	1.691	-0.002	1.000	520370	0.2536		101	469	
D 3 13C5-PFPeA										
267.90 > 223.00	1.689	1.692	-0.003	0.633	4574035	2.37		94.9	44851	
D 47 13C3-PFBS										
301.90 > 83.00	1.725	1.725	0.0	0.647	92839	2.22		95.6	3419	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.725	1.730	-0.005	1.000	697674	0.2335		106	3145	
298.90 > 99.00	1.725	1.730	-0.005	1.000	292036		2.39(1.25-3.74)	106	2245	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.934	1.941	-0.007	1.000	141774	0.2332		99.9	6493	
D 7 13C2 PFHxA										
315.00 > 270.00	1.975	1.976	-0.001	0.741	5027849	2.43		97.1	46885	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.975	1.979	-0.004	1.000	522846	0.2603		104	1427	
313.00 > 119.00	1.975	1.979	-0.004	1.000	47985		10.90(5.03-15.10)	104	1195	
D 9 13C4-PFHpA										
367.00 > 322.00	2.305	2.311	-0.006	0.865	4792396	2.49		99.7	30349	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.305	2.311	-0.006	1.000	491641	0.2453		98.1	869	
363.00 > 169.00	2.305	2.311	-0.006	1.000	197717		2.49(1.13-3.40)	98.1	1608	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.318	2.324	-0.006	1.000	596575	0.2271		99.8	3254	
399.00 > 99.00	2.318	2.324	-0.006	1.000	187550		3.18(1.50-4.49)	99.8	1460	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.318	2.328	-0.010	0.869	5685104	2.33		98.5	33230	
D 12 M2-6:2FTS										
429.00 > 81.00	2.645	2.649	-0.004	0.992	837345	2.30		96.7	15750	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.645	2.651	-0.006	1.000	136209	0.2304		97.2	3736	
D 14 13C4 PFOA										
417.00 > 372.00	2.666	2.674	-0.008	1.000	4886883	2.49		99.6	45665	
* 62 13C2-PFOA										
415.00 > 370.00	2.666	2.676	-0.010		4774787	2.50			46430	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.674	2.677	-0.003	1.003	519951	0.2513		101	320	
413.00 > 169.00	2.666	2.677	-0.011	1.000	292109		1.78(0.84-2.52)	101	2064	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.674	2.683	-0.009	1.000	483689	0.2498		105	7735	
449.00 > 99.00	2.674	2.683	-0.009	1.000	132872		3.64(1.94-5.82)	105	4556	
D 18 13C4 PFOS										
503.00 > 80.00	3.040	3.048	-0.008	1.140	3772073	2.33		97.5	22238	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.040	3.050	-0.010	1.000	391800	0.2313		99.7	105	
499.00 > 99.00	3.040	3.050	-0.010	1.000	87153		4.50(2.31-6.93)	99.7	114	
D 19 13C5 PFNA										
468.00 > 423.00	3.048	3.051	-0.003	1.143	3733459	2.38		95.2	38737	
20 Perfluorononanoic acid										
463.00 > 419.00	3.048	3.052	-0.004	1.000	391513	0.2691		108	961	
463.00 > 169.00	3.048	3.052	-0.004	1.000	92758		4.22(1.90-5.69)	108	2063	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.377	-0.007	1.264	5148264	2.35		94.1	21204	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.378	0.0	1.002	532911	0.2726		109	10318	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.401	3.402	-0.001	1.000	121442	0.2527		106	4483	
D 26 M2-8:2FTS										
529.00 > 81.00	3.401	3.403	-0.002	1.275	916789	2.29		95.6	13620	
D 23 13C2 PFDA										
515.00 > 470.00	3.408	3.414	-0.006	1.278	3075185	2.41		96.5	29088	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.408	3.414	-0.006	1.000	277028	0.2285		91.4	1235	
513.00 > 169.00	3.408	3.414	-0.006	1.000	55091		5.03(2.36-7.09)	91.4	1417	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.567	3.569	-0.002	1.338	1603494	2.43		97.3	20022	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.574	3.574	0.0	1.002	173841	0.2560		102	1450	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.723	3.730	-0.007	1.000	242327	0.2593		108	6362	
599.00 > 99.00	3.723	3.730	-0.007	1.000	78845		3.07(1.39-4.16)	108	2063	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.740	3.740	0.0	1.403	1645600	2.45		98.0	10586	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.740	3.746	-0.006	1.000	215650	0.2312		92.5	1260	
563.00 > 169.00	3.740	3.746	-0.006	1.000	51272		4.21(0.00-0.00)	92.5	2779	
D 30 13C2 PFUnA										
565.00 > 520.00	3.740	3.747	-0.007	1.403	2488514	2.58		103	25565	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.740	3.747	-0.007	1.000	161240	0.2538		102	4096	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.865	3.867	-0.002	1.449	1434437	2.31		92.3	3395	
35 MeFOSA										
512.00 > 169.00	3.875	3.873	0.002	1.003	144476	0.2609		104	1982	
D 36 13C2 PFDoA										
615.00 > 570.00	4.044	4.045	-0.001	1.517	2564160	2.45		97.8	27821	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.044	4.045	-0.001	1.000	263014	0.2583		103	974	
613.00 > 169.00	4.044	4.045	-0.001	1.000	63718		4.13(2.13-6.40)	103	3151	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.059	4.058	0.001	1.522	1387238	2.34		93.7	3120	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.067	4.065	0.002	1.002	158363	0.2633		105	2260	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.313	4.312	0.001	1.000	291263	0.2635		105	1030	
663.00 > 169.00	4.313	4.312	0.001	1.000	87311		3.34(1.25-3.76)	105	3626	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.554	4.557	-0.003	1.708	2986990	2.62		105	19238	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.554	4.557	-0.003	1.000	73103	0.2404		96.2	3169	
713.00 > 219.00	4.554	4.557	-0.003	1.000	49116		1.49(0.71-2.13)	96.2	2105	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.984	4.984	0.0	1.869	5204116	2.49		99.6	17138	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.984	4.984	0.0	1.000	475445	0.2443		97.7	290	
813.00 > 169.00	4.984	4.984	0.0	1.000	92673		5.13(2.86-8.58)	97.7	2410	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.359	5.361	-0.002	1.000	592170	0.2647		106	157	
913.00 > 169.00	5.359	5.361	-0.002	1.000	73825		8.02(0.00-0.00)	106	872	

Reagents:

LCPFC_LL3_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:27 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_004.d

Injection Date: 26-Dec-2017 17:11:33 Instrument ID: A8_N

Lims ID: IC L3 Full

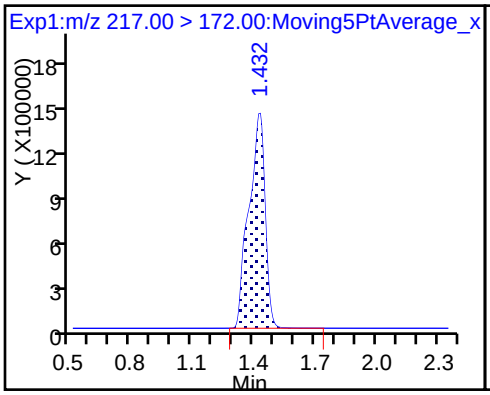
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 12 Worklist Smp#: 4

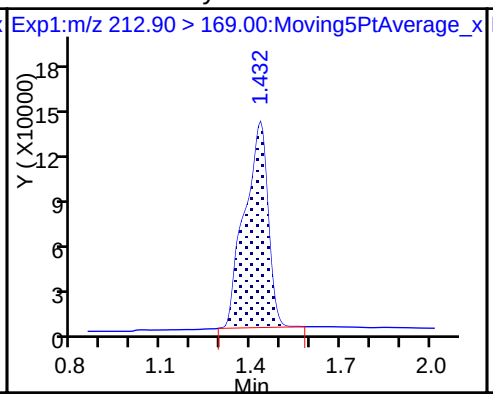
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

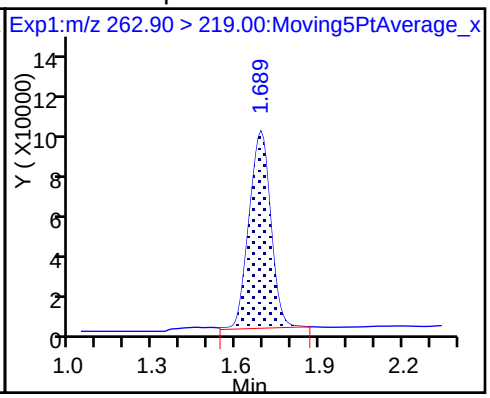
D 1 13C4 PFBA



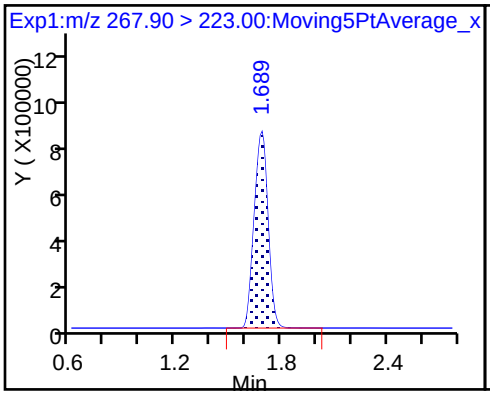
2 Perfluorobutyric acid



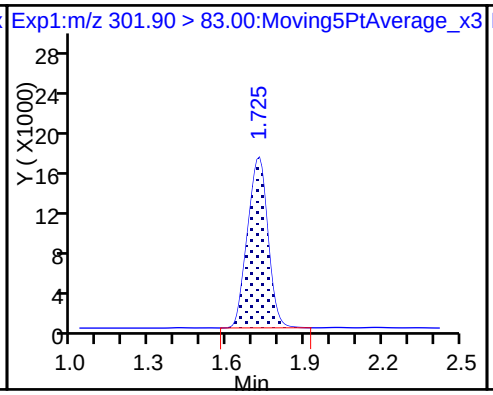
4 Perfluoropentanoic acid



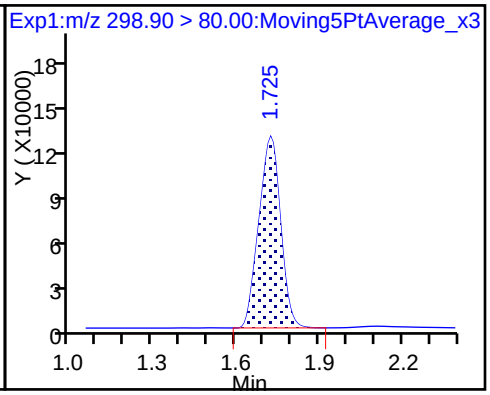
D 3 13C5-PFPeA



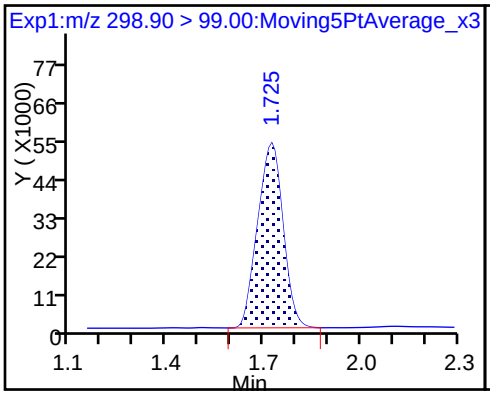
D 47 13C3-PFBS



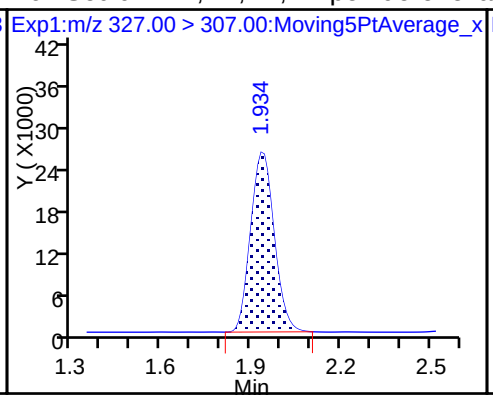
5 Perfluorobutanesulfonic acid



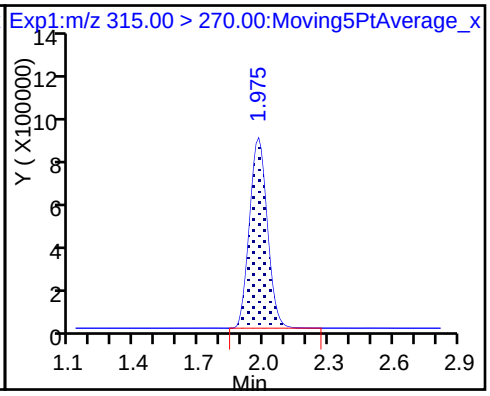
5 Perfluorobutanesulfonic acid



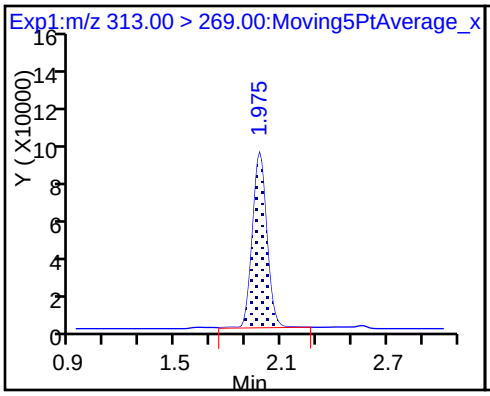
61 Sodium 1H,1H,2H,2H-perfluorohexa



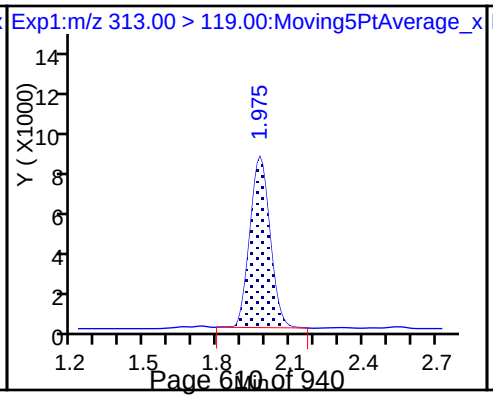
D 7 13C2 PFHxA



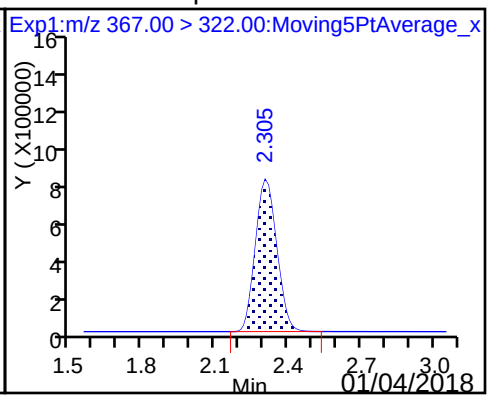
6 Perfluorohexanoic acid



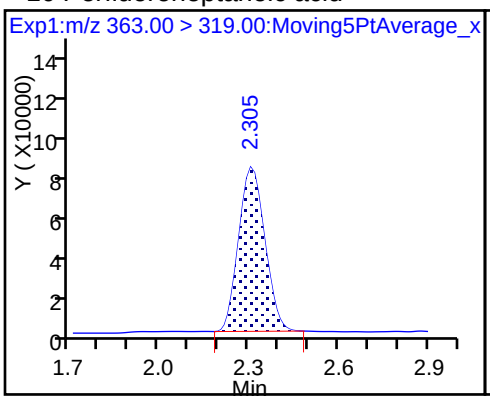
6 Perfluorohexanoic acid



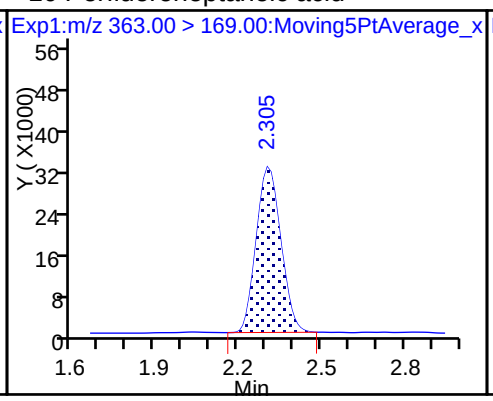
D 9 13C4-PFHpA



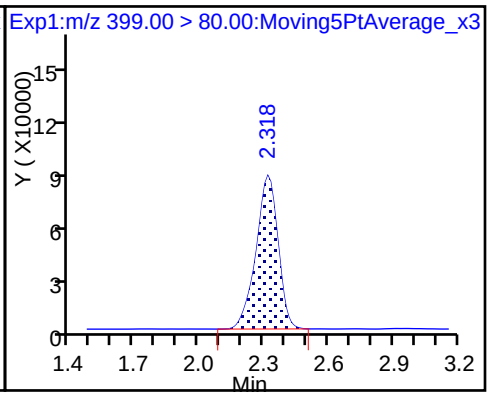
10 Perfluoroheptanoic acid



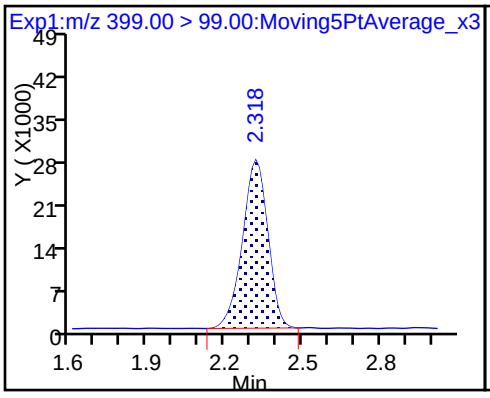
10 Perfluoroheptanoic acid



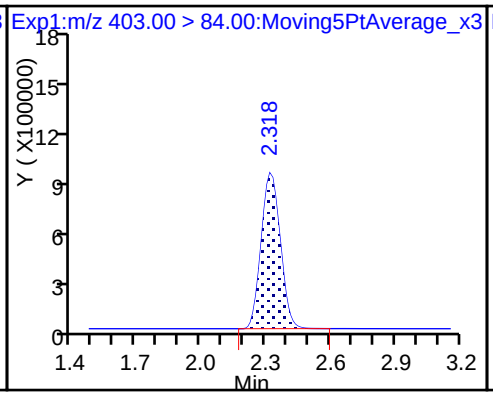
8 Perfluorohexanesulfonic acid



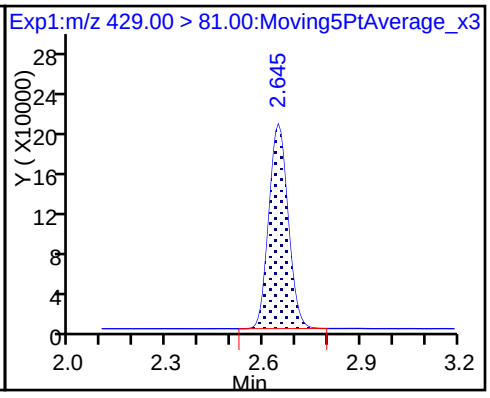
8 Perfluorohexanesulfonic acid



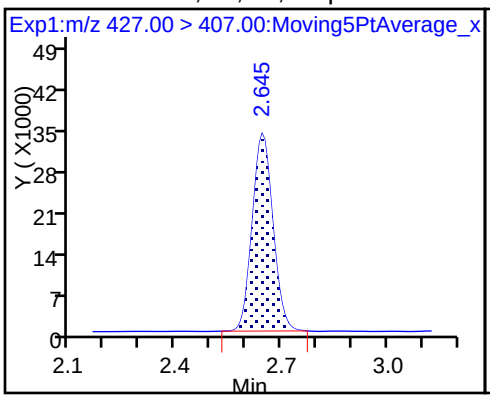
D 11 18O2 PFHxS



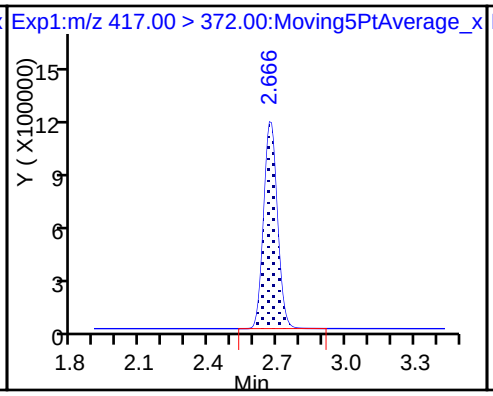
D 12 M2-6:2FTS



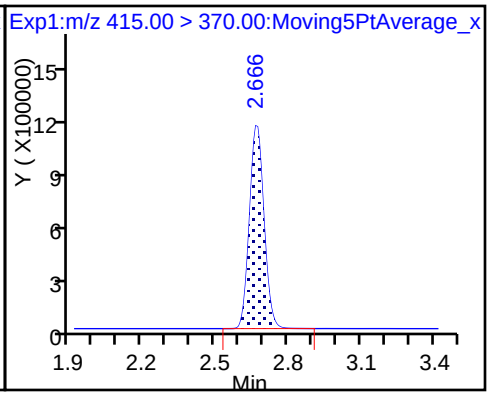
13 Sodium 1H,1H,2H,2H-perfluorooctane



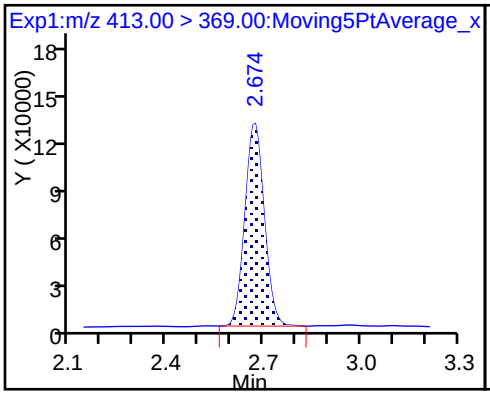
D 14 13C4 PFOA



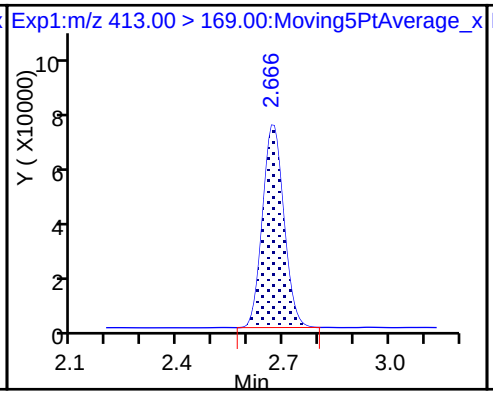
* 62 13C2-PFOA



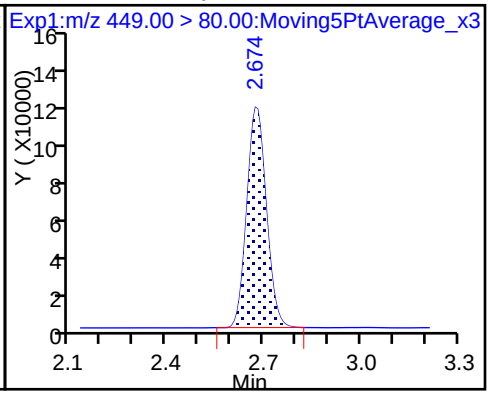
15 Perfluorooctanoic acid



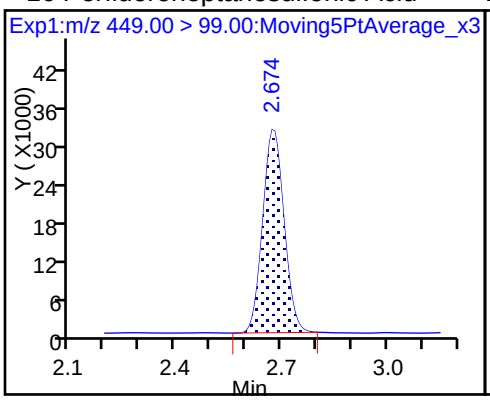
15 Perfluorooctanoic acid



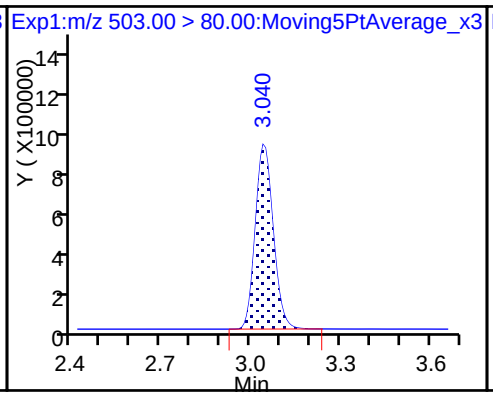
16 Perfluoroheptanesulfonic Acid



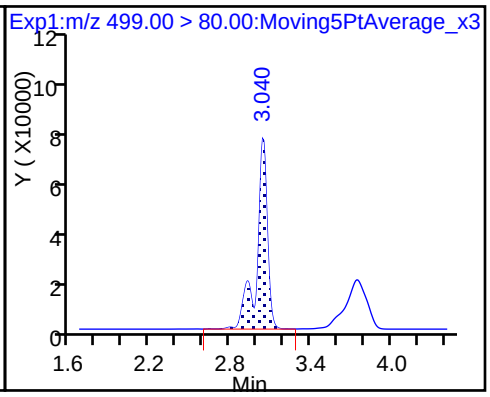
16 Perfluoroheptanesulfonic Acid



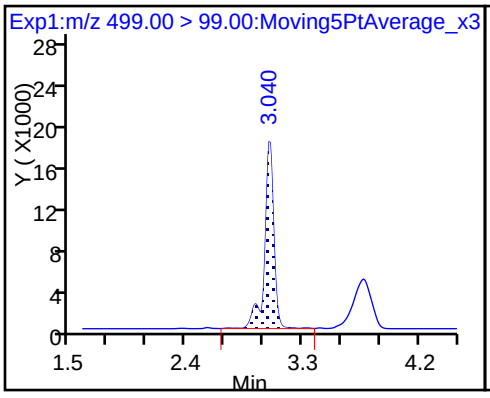
D 18 13C4 PFOS



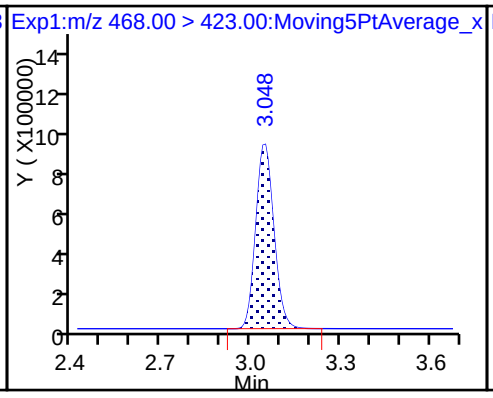
17 Perfluorooctane sulfonic acid



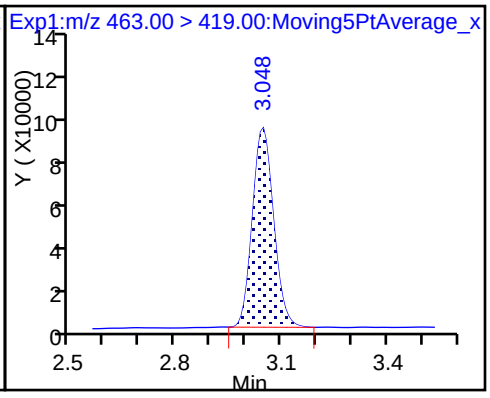
17 Perfluorooctane sulfonic acid



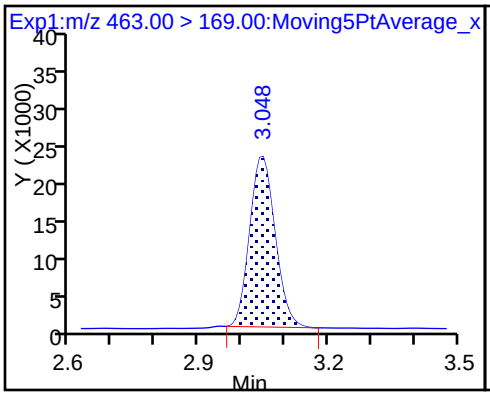
D 19 13C5 PFNA



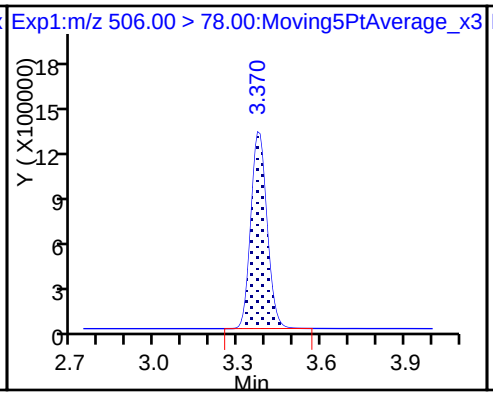
20 Perfluorononanoic acid



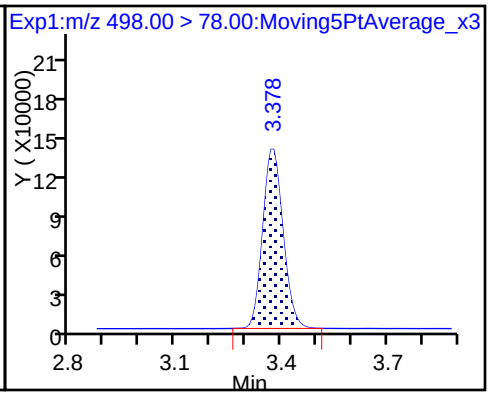
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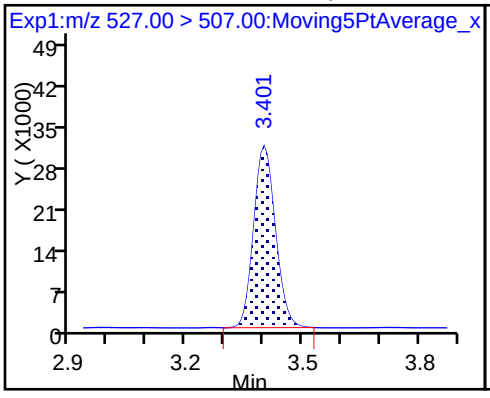
D 21 13C8 FOSA



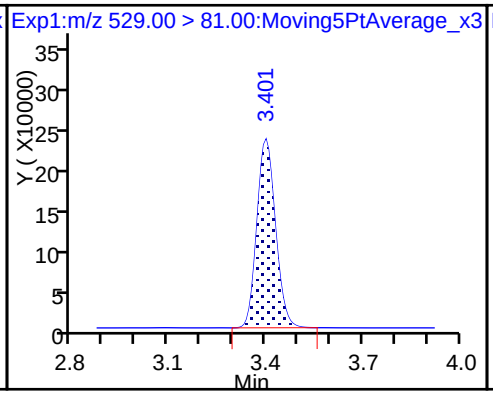
22 Perfluorooctane Sulfonamide



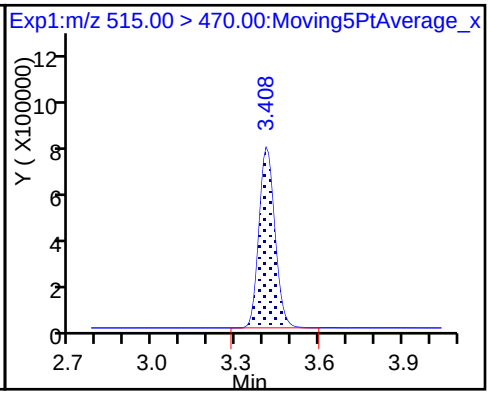
25 Sodium 1H,1H,2H,2H-perfluorodecane



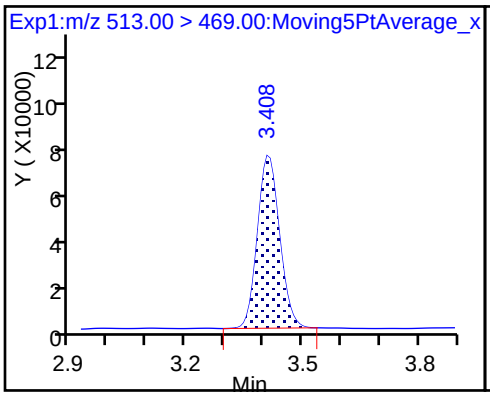
D 26 M2-8:2FTS



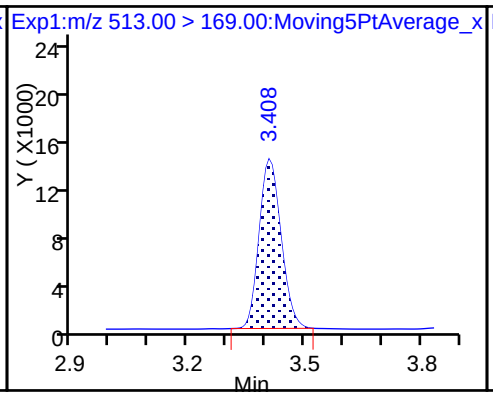
D 23 13C2 PFDA



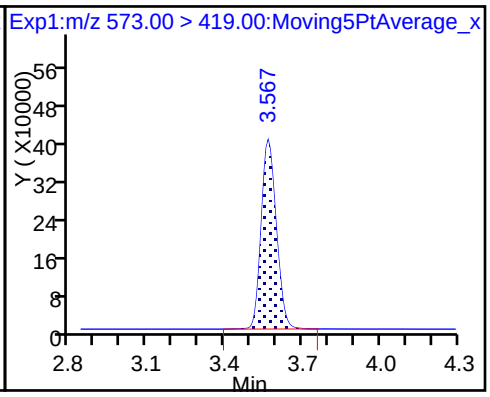
24 Perfluorodecanoic acid



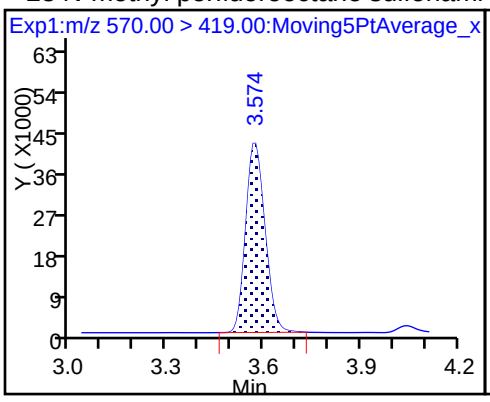
24 Perfluorodecanoic acid



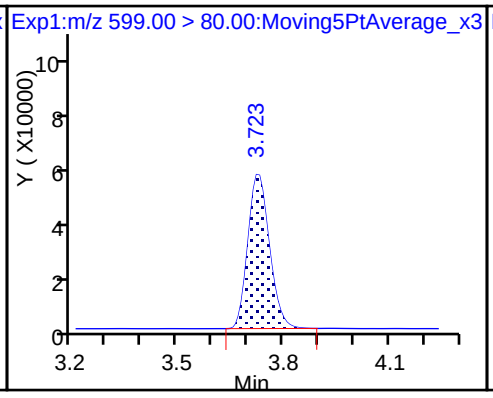
D 27 d3-NMeFOSAA



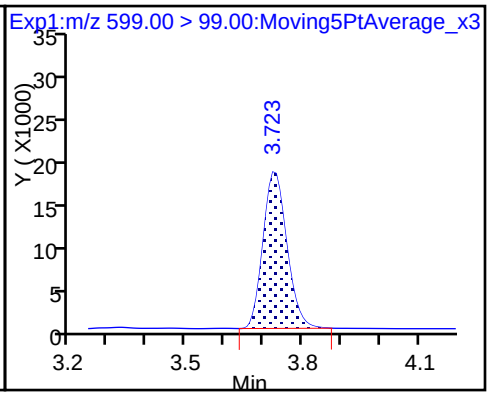
28 N-methyl perfluorooctane sulfonami



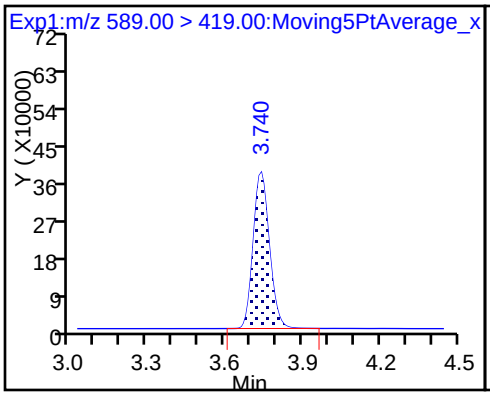
29 Perfluorodecane Sulfonic acid



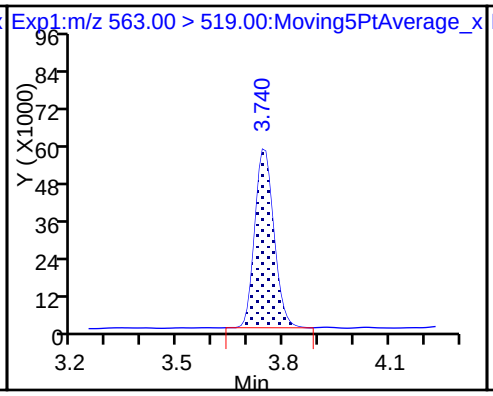
29 Perfluorodecane Sulfonic acid



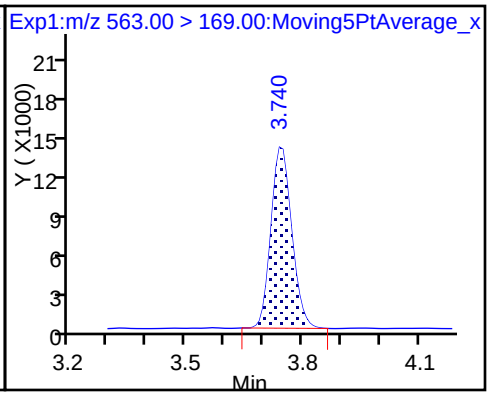
D 32 d5-NEtFOSAA



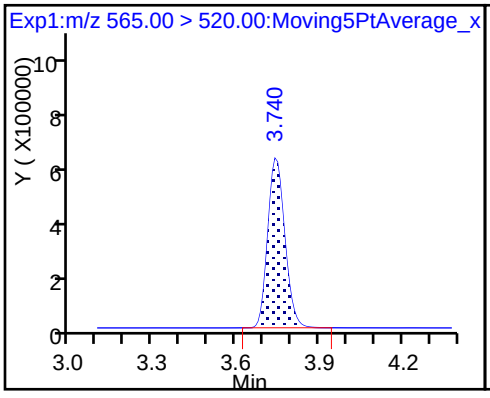
31 Perfluoroundecanoic acid



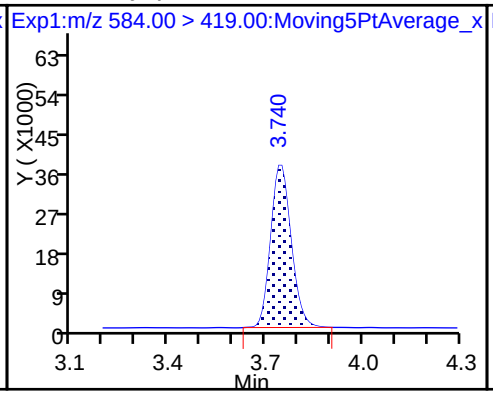
31 Perfluoroundecanoic acid



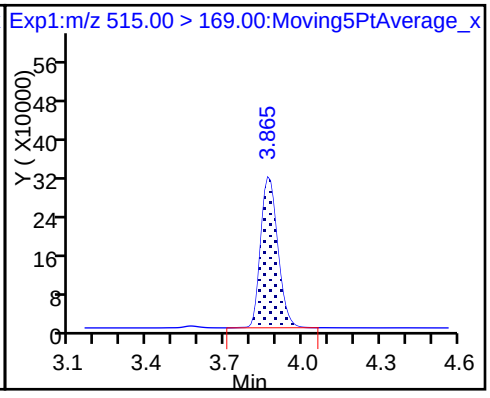
D 30 13C2 PFUnA



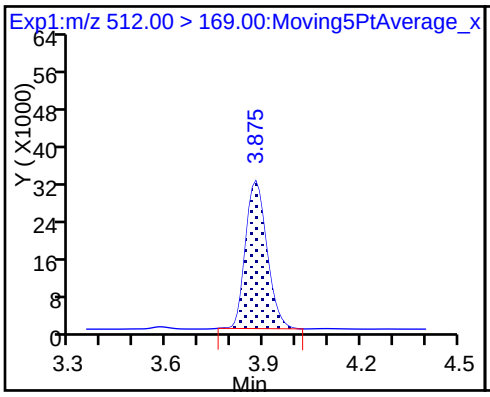
33 N-ethyl perfluorooctane sulfonamid



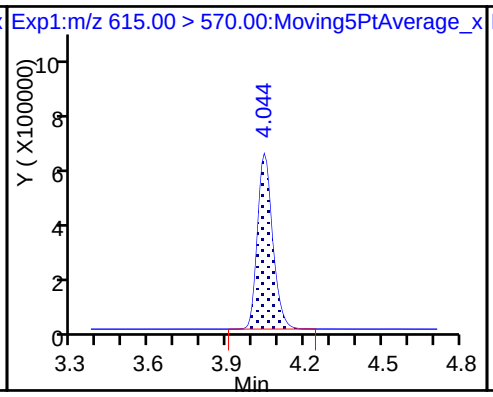
D 34 d-N-MeFOSA-M



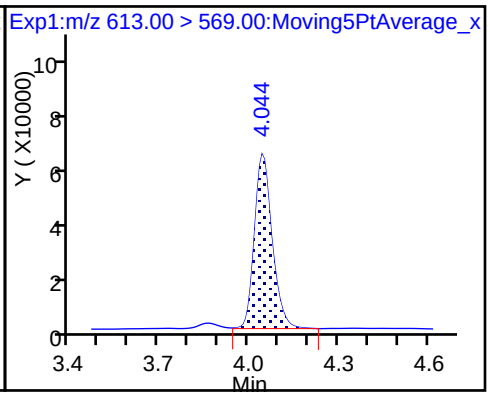
35 MeFOSA



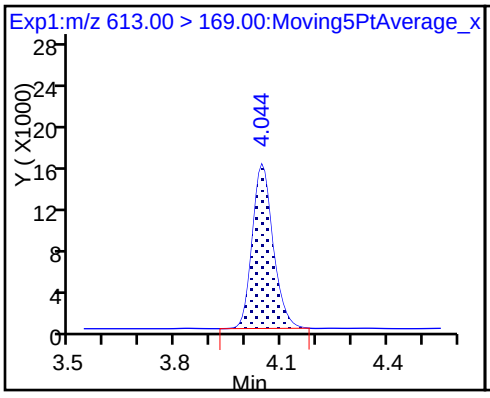
D 36 13C2 PFDoA



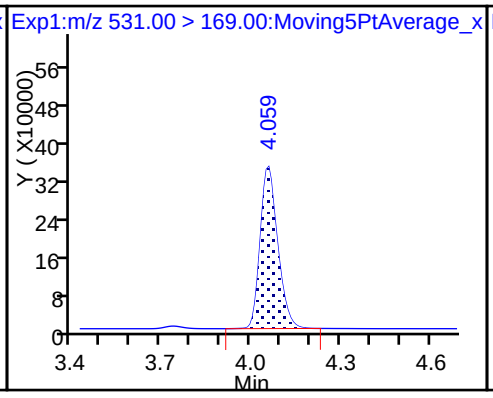
37 Perfluorododecanoic acid



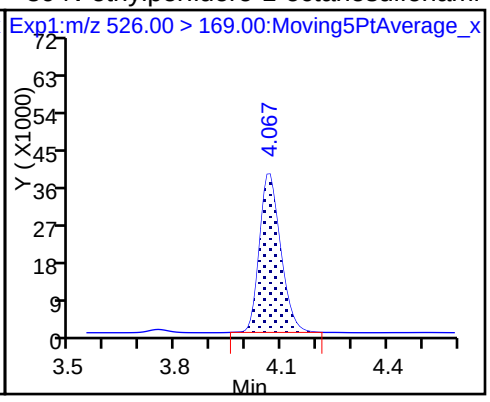
37 Perfluorododecanoic acid



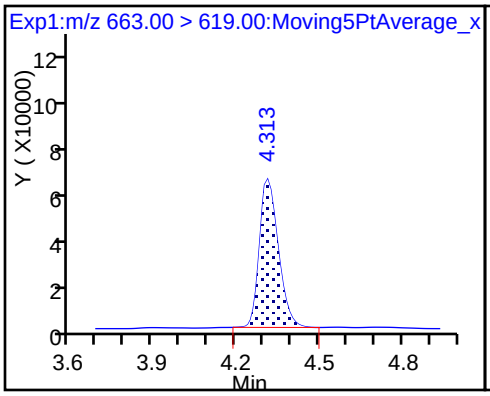
D 38 d-N-EtFOSA-M



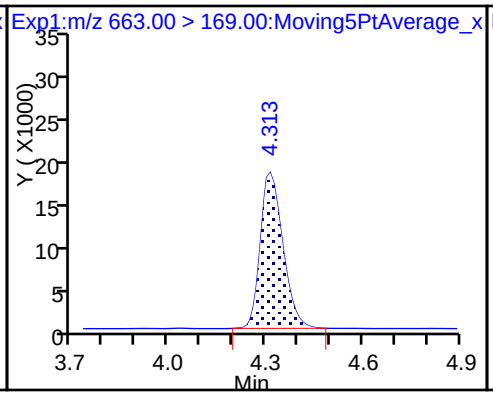
39 N-ethylperfluoro-1-octanesulfonami



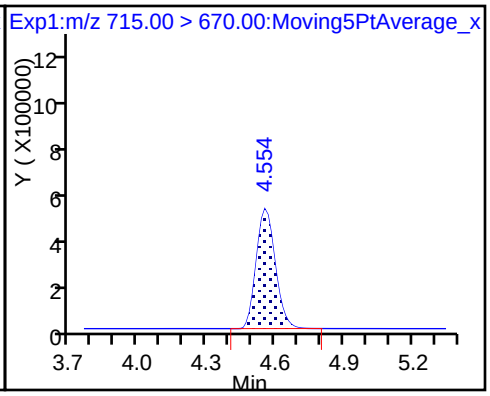
41 Perfluorotridecanoic acid



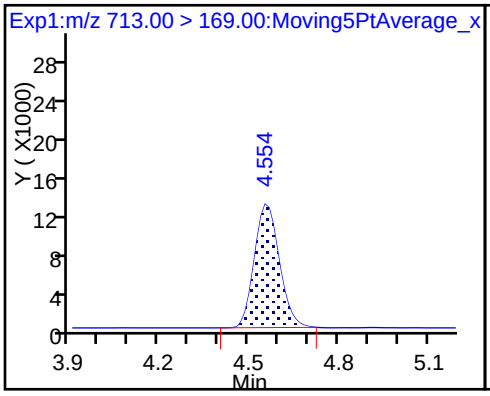
41 Perfluorotridecanoic acid



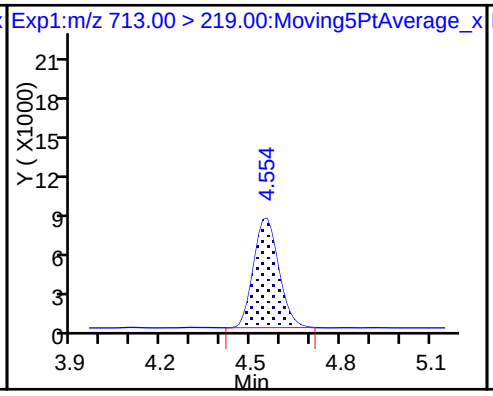
D 43 13C2-PFTeDA



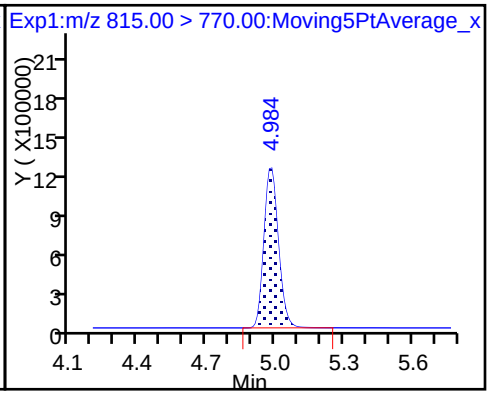
42 Perfluorotetradecanoic acid



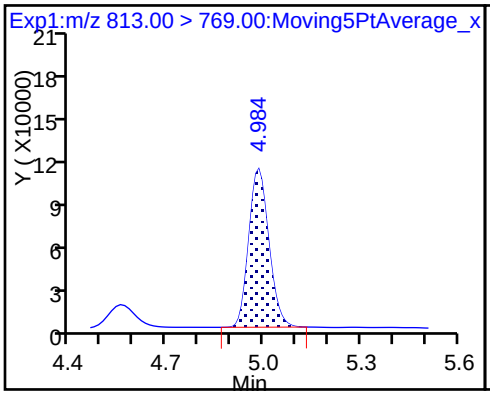
42 Perfluorotetradecanoic acid



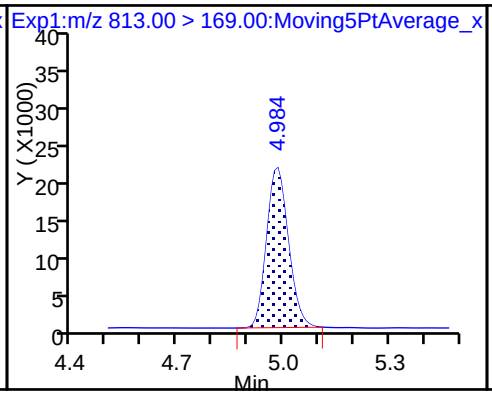
D 44 13C2-PFHxDA



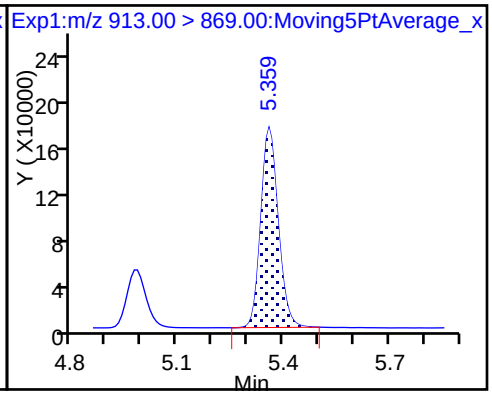
45 Perfluorohexadecanoic acid



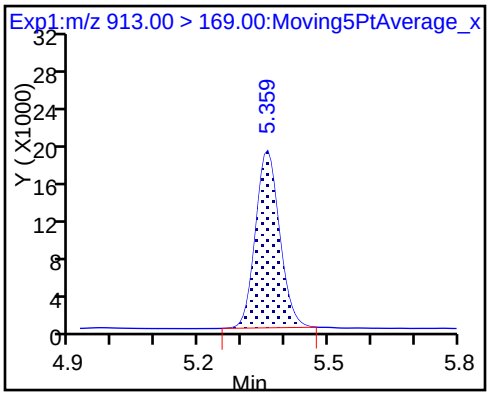
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_005.d
Lims ID: IC L4 Full
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 26-Dec-2017 17:19:20 ALS Bottle#: 13 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L4-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:32 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:33:19

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.432	1.433	-0.001	0.536	7777171	2.52		101	22799	
2 Perfluorobutyric acid										
212.90 > 169.00	1.432	1.434	-0.002	1.000	2950135	1.04		104	660	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.690	1.691	-0.001	1.000	2085741	1.01		101	1874	
D 3 13C5-PFPeA										
267.90 > 223.00	1.690	1.692	-0.002	0.632	4608857	2.56		102	60828	
D 47 13C3-PFBS										
301.90 > 83.00	1.725	1.725	0.0	0.645	91938	2.35		101	3415	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.734	1.730	0.004	1.005	2759873	0.9326		105	11394	
298.90 > 99.00	1.725	1.730	-0.005	1.000	1125798		2.45(1.25-3.74)	105	7915	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.945	1.941	0.004	1.000	544834	0.8954		95.9	19526	
D 7 13C2 PFHxA										
315.00 > 270.00	1.976	1.976	0.0	0.739	4862371	2.51		100	42430	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.976	1.979	-0.003	1.000	1987330	1.02		102	6475	
313.00 > 119.00	1.976	1.979	-0.003	1.000	188164		10.56(5.03-15.10)	102	5478	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.311	-0.005	1.000	1979668	1.05		105	3382	
363.00 > 169.00	2.306	2.311	-0.005	1.000	751812		2.63(1.13-3.40)	105	5572	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.311	-0.005	0.862	4499410	2.50		100	34680	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.319	2.324	-0.005	0.994	2252723	0.8829		97.0	8874	
399.00 > 99.00	2.319	2.324	-0.005	0.994	745132		3.02(1.50-4.49)	97.0	4981	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.332	2.328	0.004	0.872	5521966	2.42		102	32866	
D 12 M2-6:2FTS										
429.00 > 81.00	2.646	2.649	-0.003	0.989	838193	2.46		103	20294	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.646	2.651	-0.005	1.000	557497	0.9420		99.4	14742	
D 14 13C4 PFOA										
417.00 > 372.00	2.674	2.674	0.0	1.000	4803148	2.62		105	38572	
* 62 13C2-PFOA										
415.00 > 370.00	2.674	2.676	-0.002		4464319	2.50			41230	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.674	2.677	-0.003	1.000	2026680	1.00		99.6	1363	
413.00 > 169.00	2.674	2.677	-0.003	1.000	1057501		1.92(0.84-2.52)	99.6	7660	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.681	2.683	-0.002	1.000	1844898	0.9535		100	17649	
449.00 > 99.00	2.681	2.683	-0.002	1.000	520223		3.55(1.94-5.82)	100	13676	
D 18 13C4 PFOS										
503.00 > 80.00	3.050	3.048	0.002	1.140	3768876	2.49		104	25234	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.050	3.050	0.0	1.000	1585381	0.9368		101	402	
499.00 > 99.00	3.050	3.050	0.0	1.000	321908		4.92(2.31-6.93)	101	444	
D 19 13C5 PFNA										
468.00 > 423.00	3.050	3.051	-0.001	1.140	3730637	2.54		102	33169	
20 Perfluorononanoic acid										
463.00 > 419.00	3.050	3.052	-0.002	1.000	1475904	1.02		102	3191	
463.00 > 169.00	3.050	3.052	-0.002	1.000	363728		4.06(1.90-5.69)	102	10961	
D 21 13C8 FOSA										
506.00 > 78.00	3.380	3.377	0.003	1.264	5167594	2.52		101	29169	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.378	0.002	1.000	2046159	1.04		104	22356	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.403	3.402	0.001	1.000	460111	1.01		105	12697	
D 26 M2-8:2FTS										
529.00 > 81.00	3.403	3.403	0.0	1.272	869900	2.32		97.0	18317	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.410	3.414	-0.004	1.000	1192652	0.99		99.5	6157	
513.00 > 169.00	3.410	3.414	-0.004	1.000	222211		5.37(2.36-7.09)	99.5	2473	
D 23 13C2 PFDA										
515.00 > 470.00	3.410	3.414	-0.004	1.275	3040696	2.55		102	28352	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.569	3.569	0.0	1.335	1572643	2.55		102	17497	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.576	3.574	0.002	1.002	653198	0.9808		98.1	5203	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.734	3.730	0.004	1.000	885572	0.9485		98.4	18887	
599.00 > 99.00	3.734	3.730	0.004	1.000	307976		2.88(1.39-4.16)	98.4	7221	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.743	3.740	0.003	1.400	1670090	2.66		106	9985	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.751	3.746	0.005	1.000	841868	0.9742		97.4	4290	
563.00 > 169.00	3.751	3.746	0.005	1.000	178596		4.71(0.00-0.00)	97.4	9487	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.751	3.747	0.004	1.002	625935	0.9707		97.1	10428	
D 30 13C2 PFUnA										
565.00 > 520.00	3.751	3.747	0.004	1.403	2306014	2.56		102	25525	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.867	0.0	1.446	1406560	2.42		96.8	3269	
35 MeFOSA										
512.00 > 169.00	3.877	3.873	0.004	1.003	585874	1.08		108	3190	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.046	4.045	0.001	1.000	959989	0.9771		97.7	2911	
613.00 > 169.00	4.046	4.045	0.001	1.000	253954		3.78(2.13-6.40)	97.7	15448	
D 36 13C2 PFDoA										
615.00 > 570.00	4.046	4.045	0.001	1.513	2473793	2.52		101	27540	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.062	4.058	0.004	1.519	1375190	2.48		99.4	2997	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.070	4.065	0.005	1.002	578423	0.9703		97.0	2896	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.315	4.312	0.003	1.000	1058292	0.99		99.3	3565	
663.00 > 169.00	4.315	4.312	0.003	1.000	345329		3.06(1.25-3.76)	99.3	14547	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.556	4.557	-0.001	1.000	269030	0.9714		97.1	7679	
713.00 > 219.00	4.556	4.557	-0.001	1.000	195112		1.38(0.71-2.13)	97.1	8413	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.556	4.557	-0.001	1.704	2720794	2.55		102	17950	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.986	4.984	0.002	1.000	1829712	1.05		105	1096	
813.00 > 169.00	4.986	4.984	0.002	1.000	317309		5.77(2.86-8.58)	105	4933	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.986	4.984	0.002	1.864	4996906	2.56		102	13867	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.360	5.361	-0.001	1.000	2159431	1.01		101	511	
913.00 > 169.00	5.360	5.361	-0.001	1.000	277618		7.78(0.00-0.00)	101	2191	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:33 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_005.d

Injection Date: 26-Dec-2017 17:19:20 Instrument ID: A8_N

Lims ID: IC L4 Full

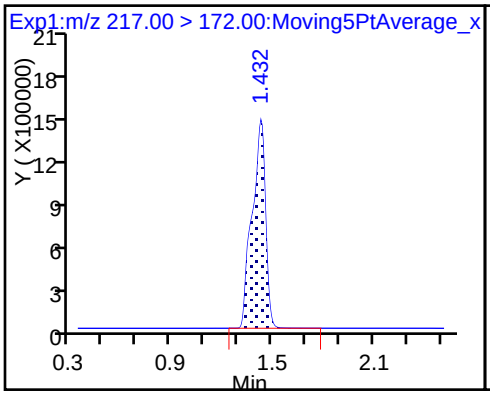
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 5

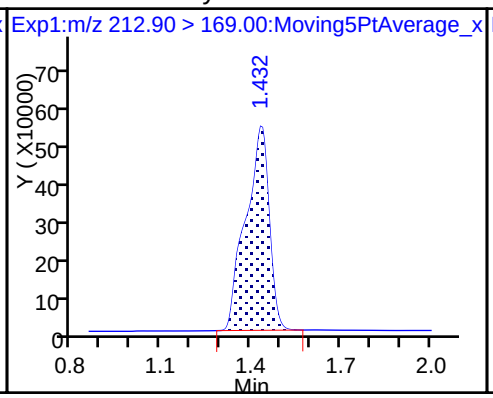
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

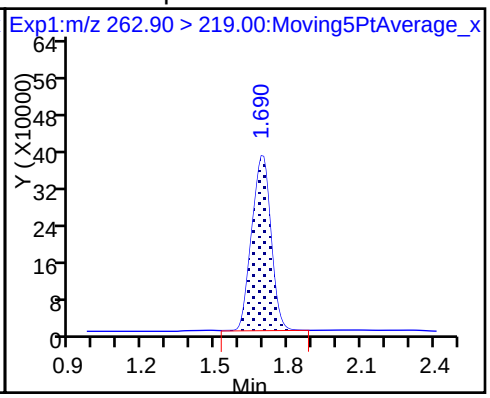
D 1 13C4 PFBA



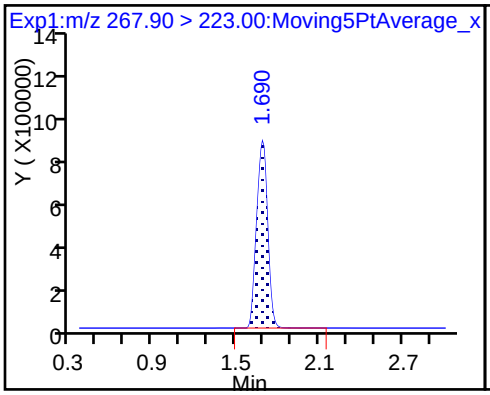
2 Perfluorobutyric acid



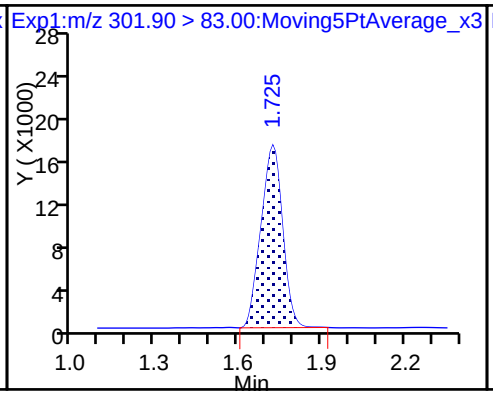
4 Perfluoropentanoic acid



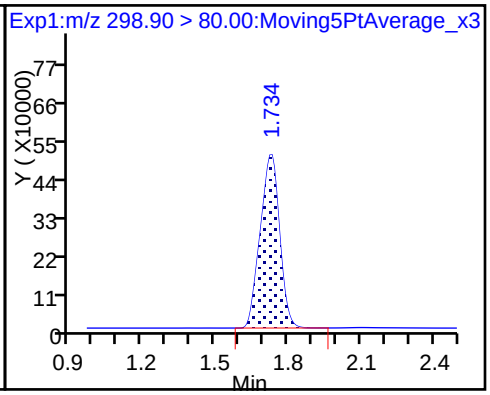
D 3 13C5-PFPeA



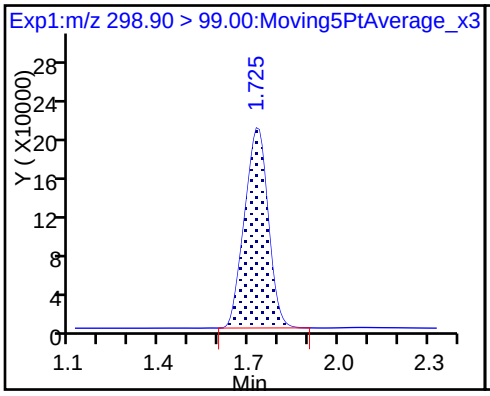
D 47 13C3-PFBS



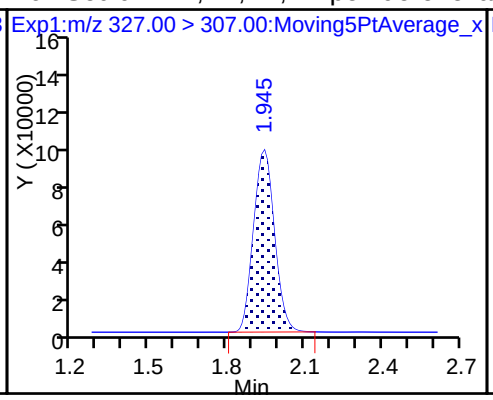
5 Perfluorobutanesulfonic acid



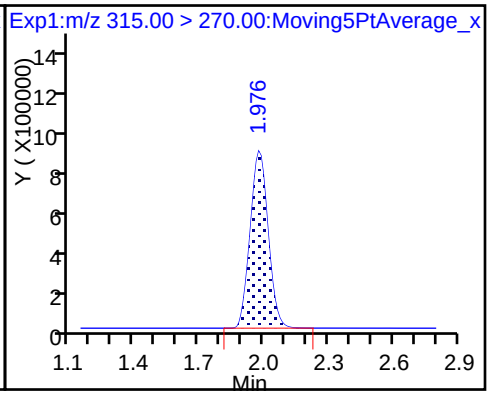
5 Perfluorobutanesulfonic acid



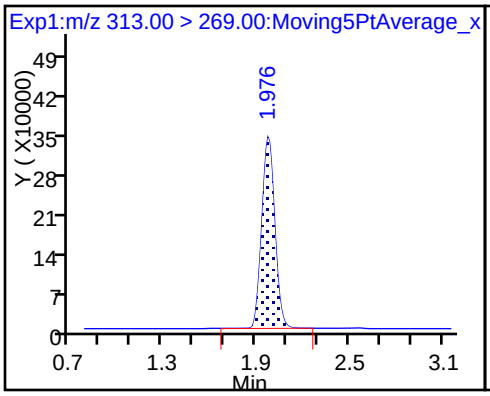
61 Sodium 1H,1H,2H,2H-perfluorohexa



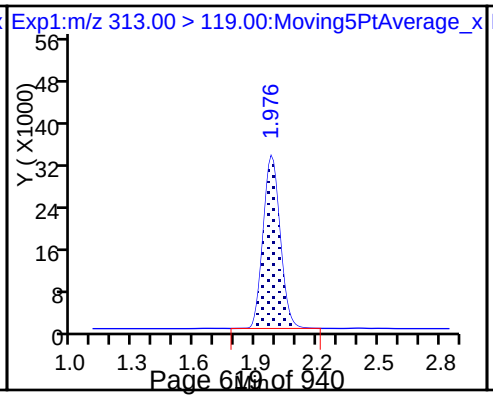
D 7 13C2 PFHxA



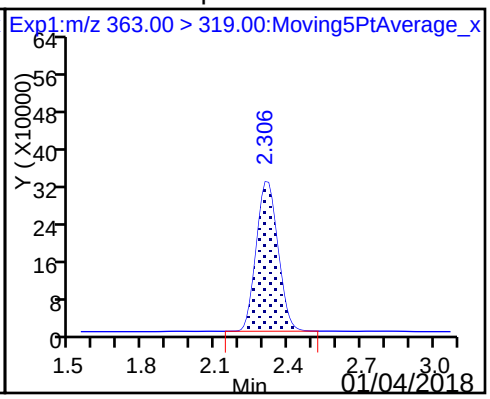
6 Perfluorohexanoic acid



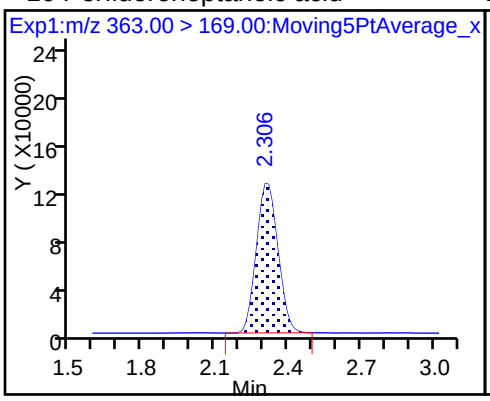
6 Perfluorohexanoic acid



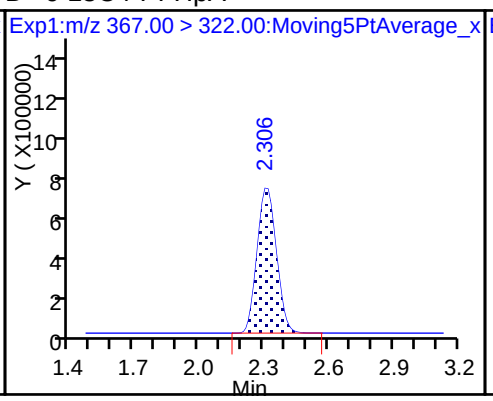
10 Perfluoroheptanoic acid



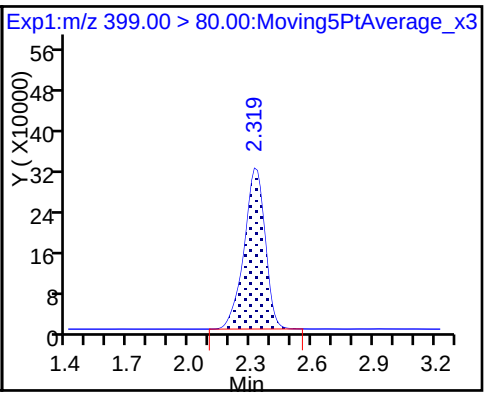
10 Perfluoroheptanoic acid



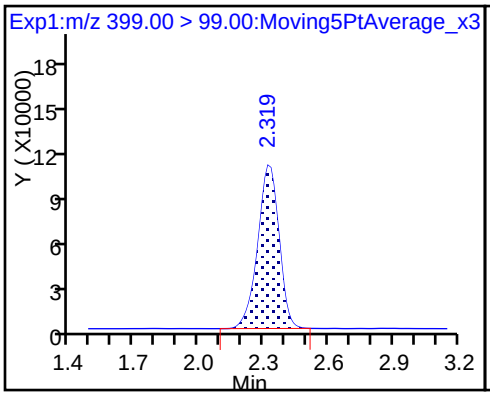
D 9 13C4-PFHpA



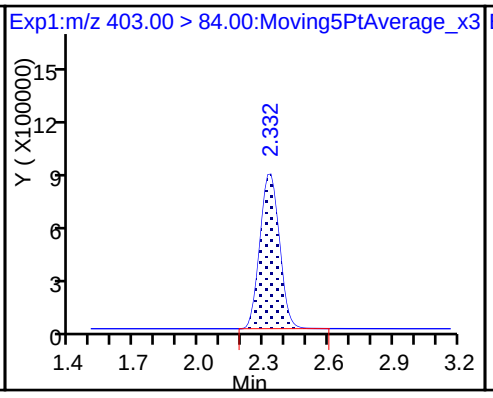
8 Perfluorohexanesulfonic acid



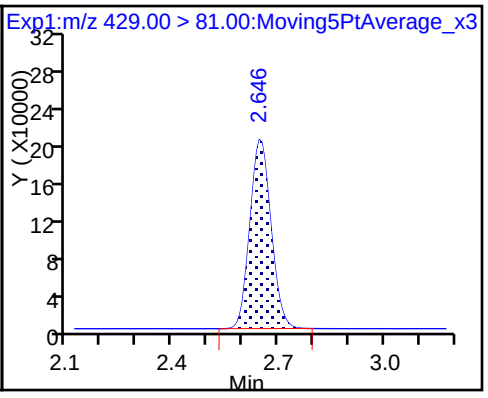
8 Perfluorohexanesulfonic acid



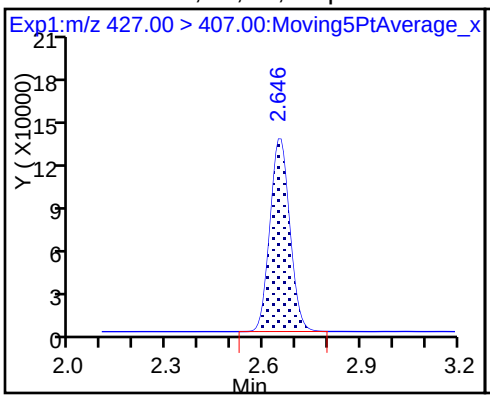
D 11 18O2 PFHxS



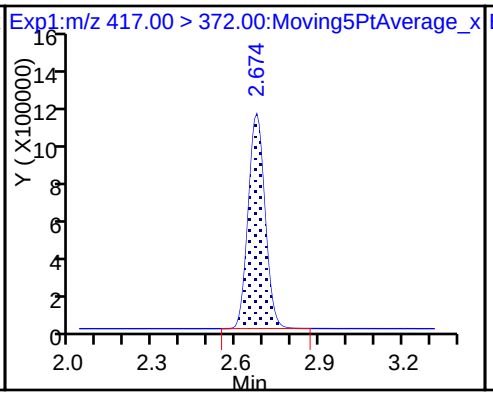
D 12 M2-6:2FTS



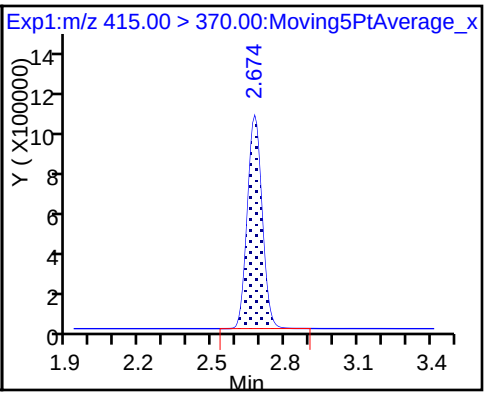
13 Sodium 1H,1H,2H,2H-perfluorooctane



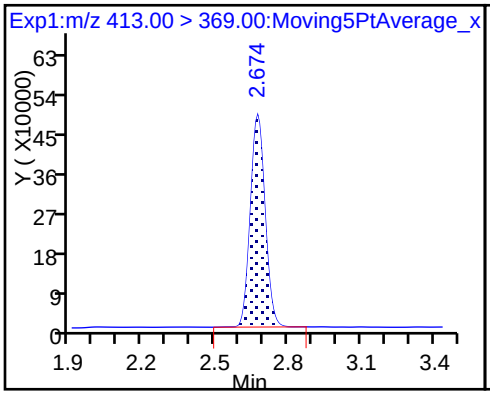
D 14 13C4 PFOA



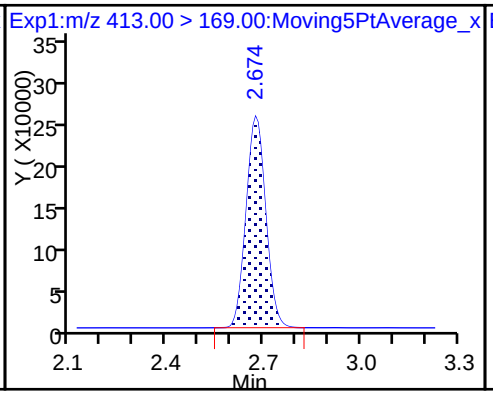
* 62 13C2-PFOA



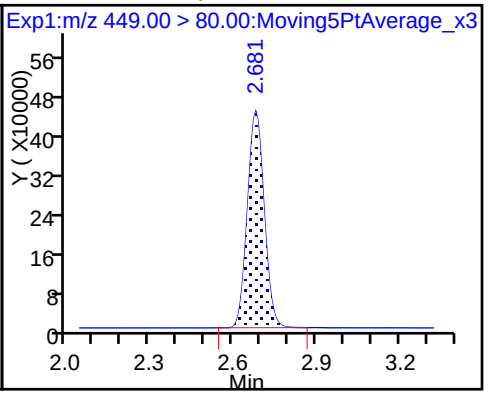
15 Perfluorooctanoic acid



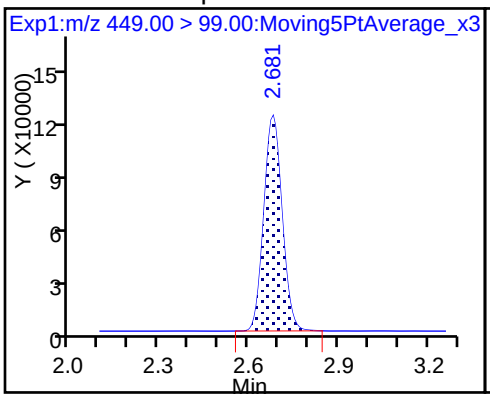
15 Perfluorooctanoic acid



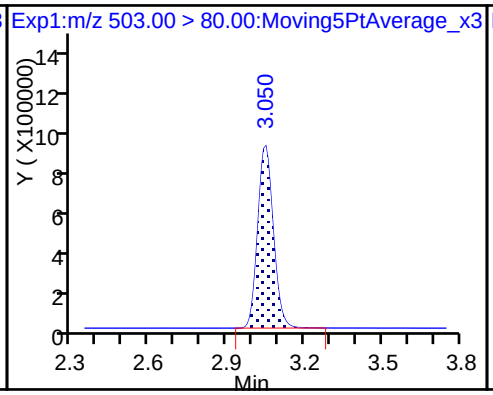
16 Perfluoroheptanesulfonic Acid



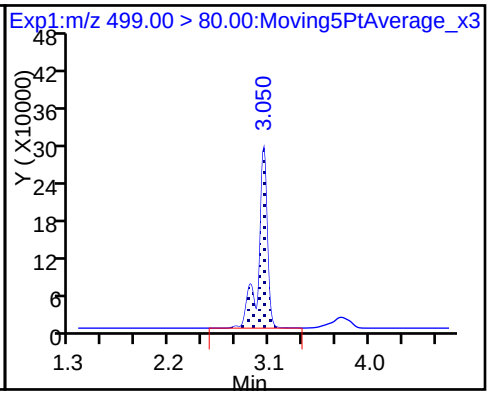
16 Perfluoroheptanesulfonic Acid



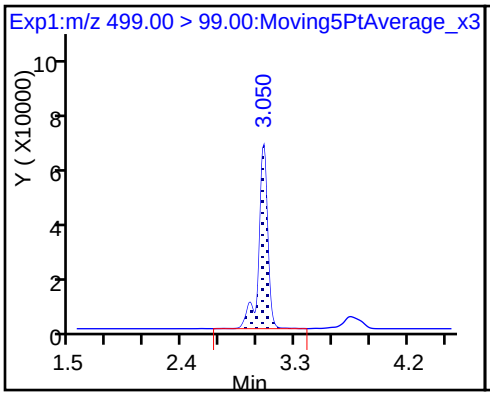
D 18 13C4 PFOS



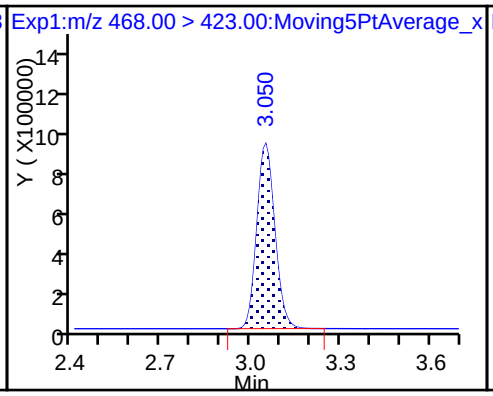
17 Perfluorooctane sulfonic acid



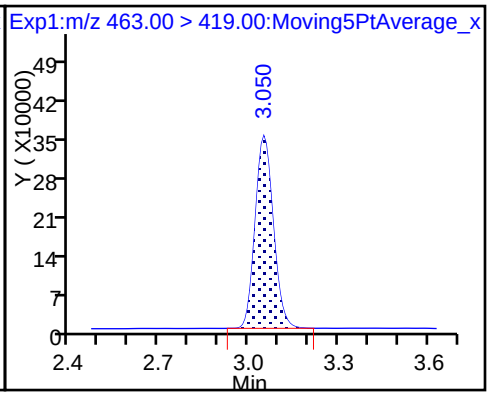
17 Perfluorooctane sulfonic acid



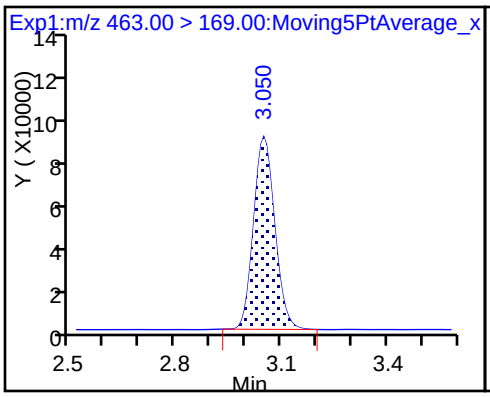
D 19 13C5 PFNA



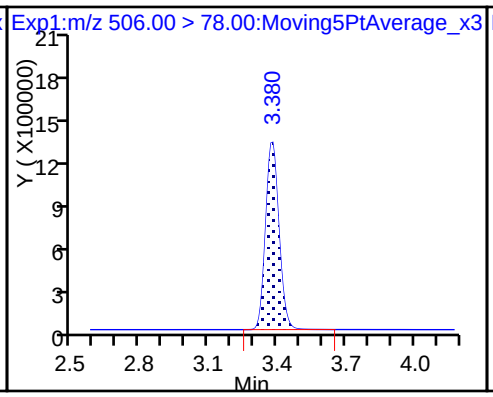
20 Perfluorononanoic acid



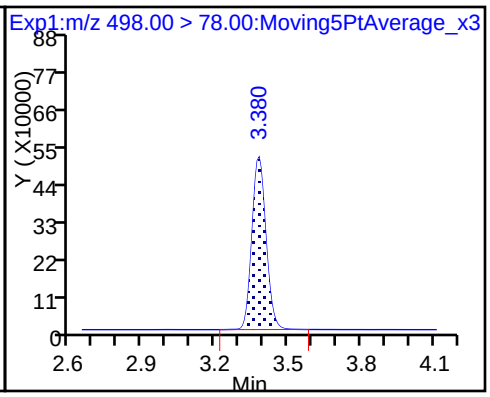
20 Perfluorononanoic acid



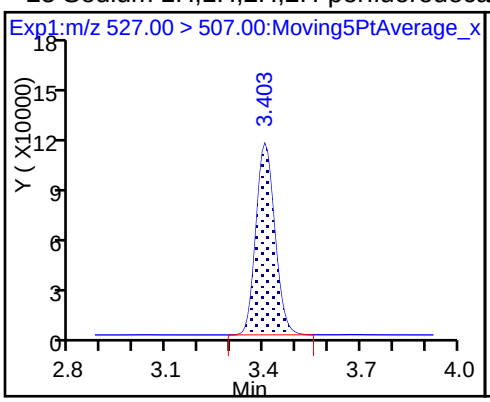
D 21 13C8 FOSA



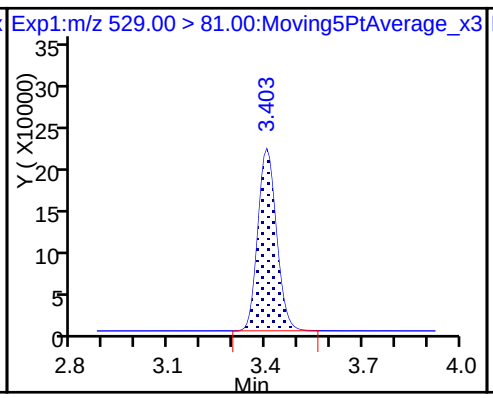
22 Perfluorooctane Sulfonamide



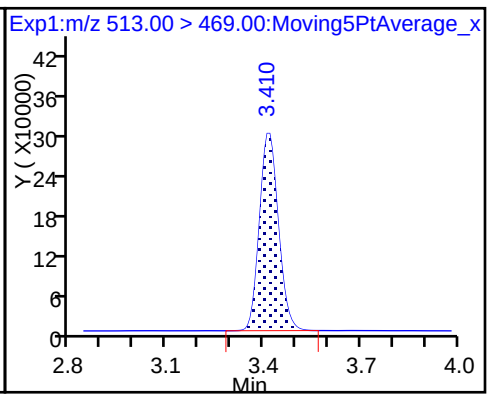
25 Sodium 1H,1H,2H,2H-perfluorodecane



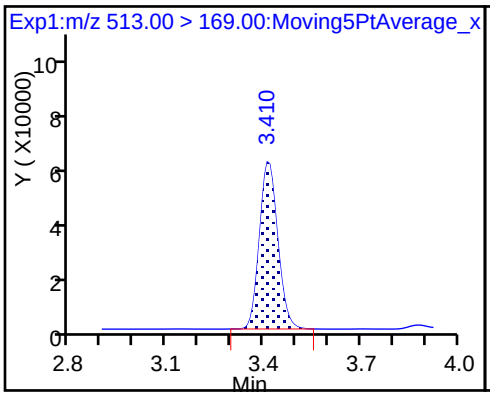
D 26 M2-8:2FTS



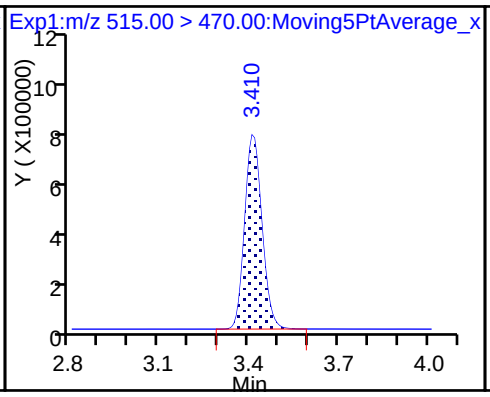
24 Perfluorodecanoic acid



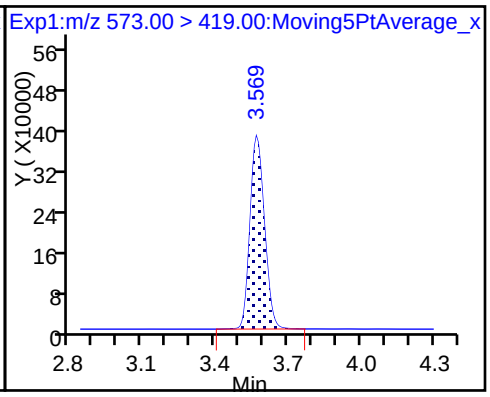
24 Perfluorodecanoic acid



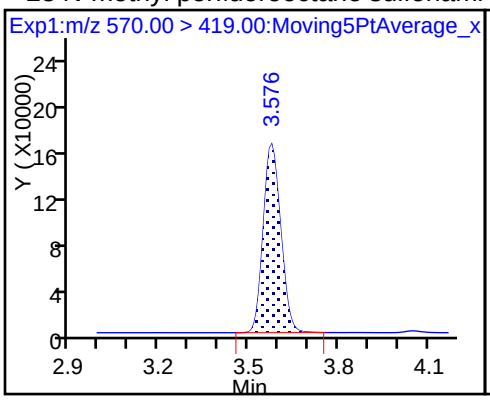
D 23 13C2 PFDA



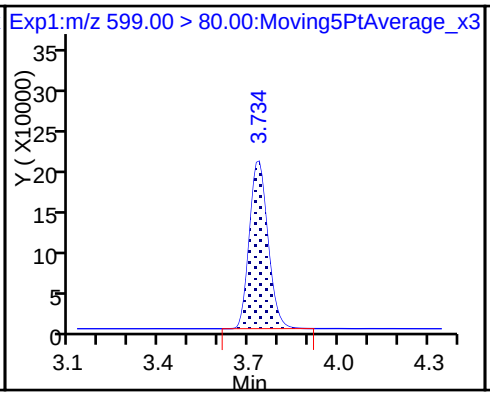
D 27 d3-NMeFOSAA



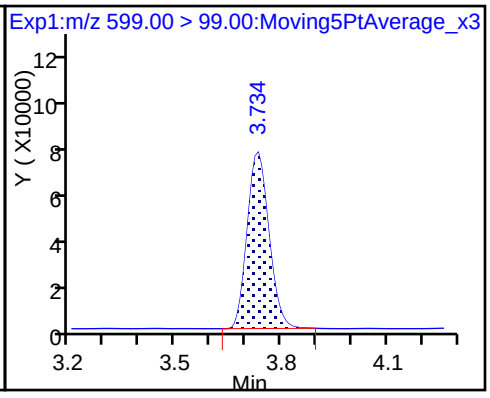
28 N-methyl perfluorooctane sulfonami



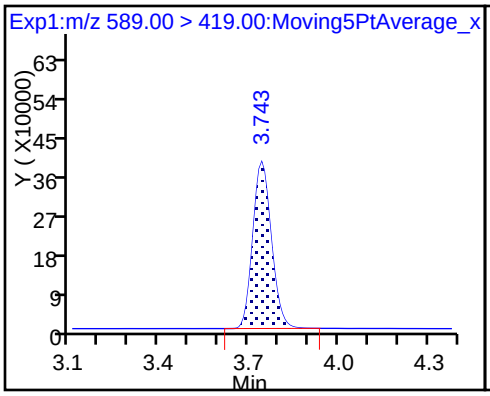
29 Perfluorodecane Sulfonic acid



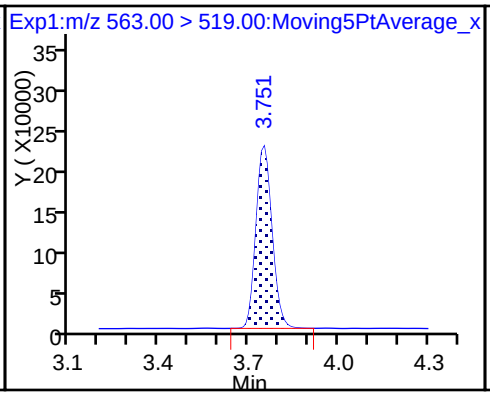
29 Perfluorodecane Sulfonic acid



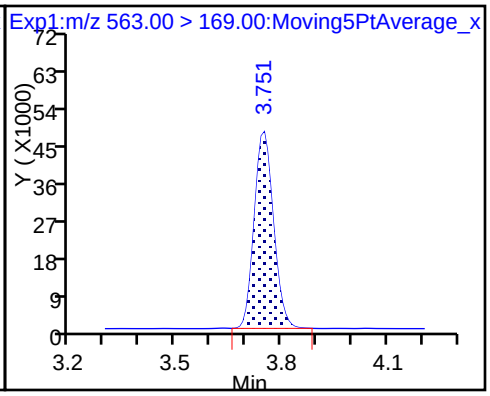
D 32 d5-NEtFOSAA



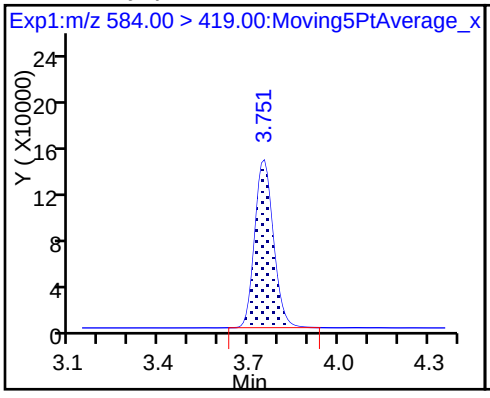
31 Perfluoroundecanoic acid



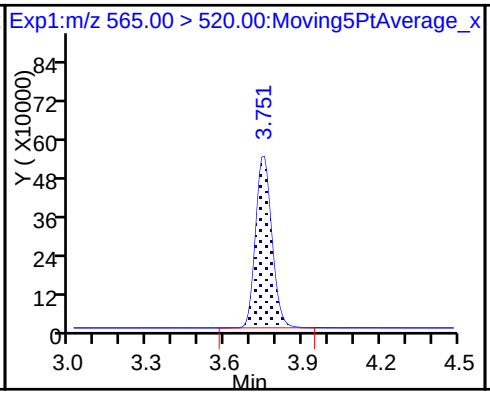
31 Perfluoroundecanoic acid



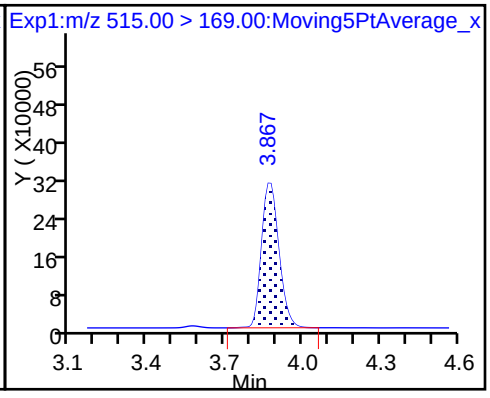
33 N-ethyl perfluorooctane sulfonamid



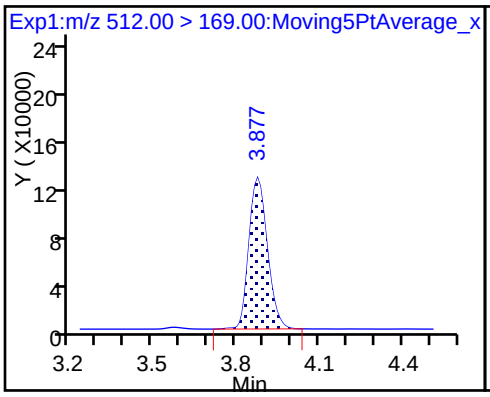
D 30 13C2 PFUnA



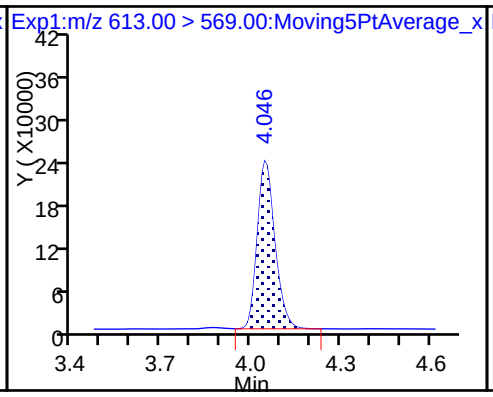
D 34 d-N-MeFOSA-M



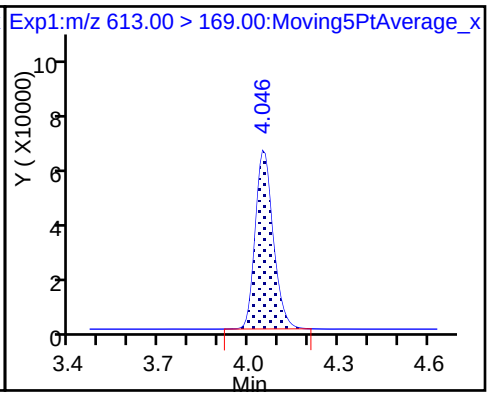
35 MeFOSA



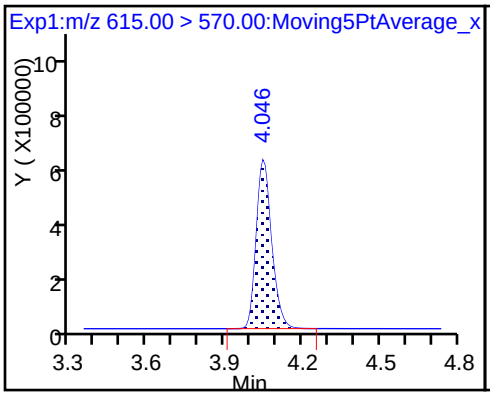
37 Perfluorododecanoic acid



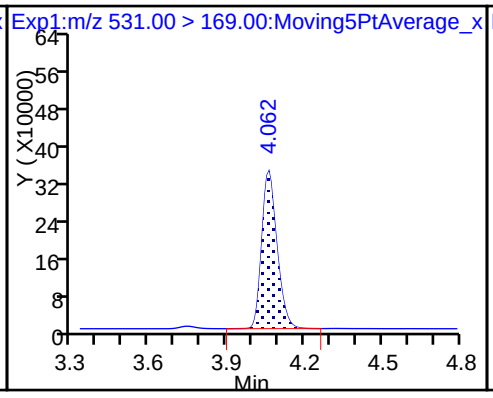
37 Perfluorododecanoic acid



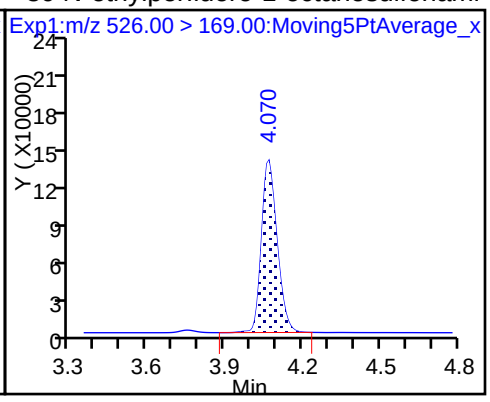
D 36 13C2 PFDoA



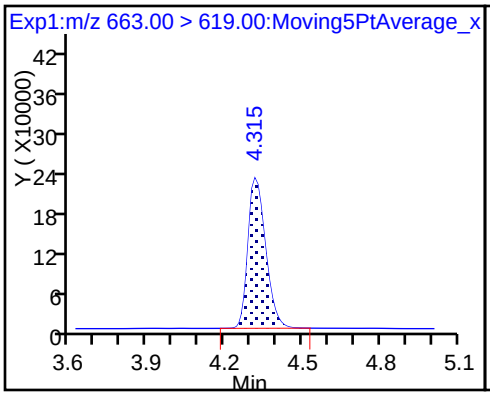
D 38 d-N-EtFOSA-M



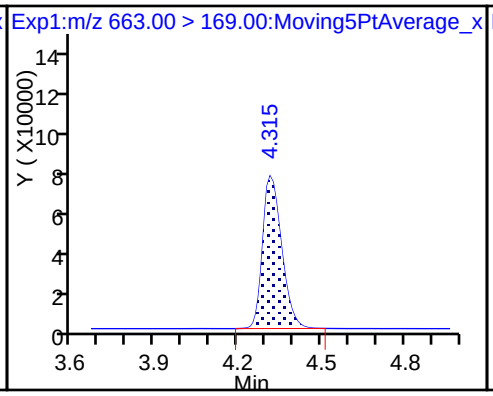
39 N-ethylperfluoro-1-octanesulfonami



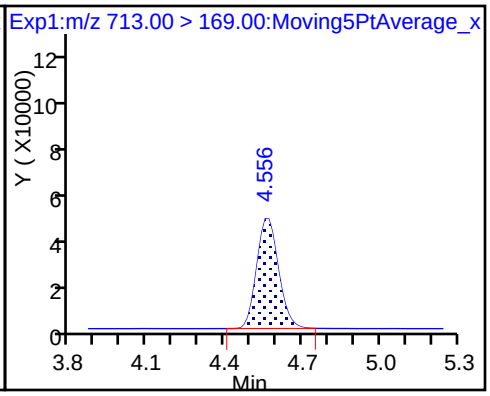
41 Perfluorotridecanoic acid



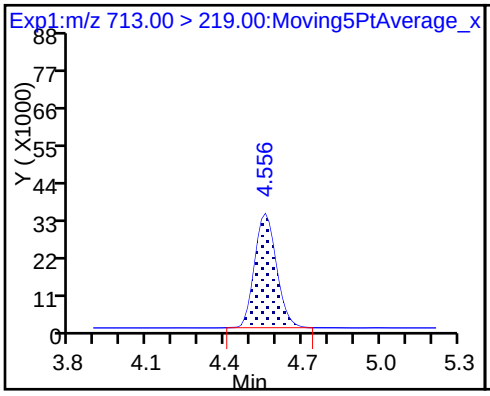
41 Perfluorotridecanoic acid



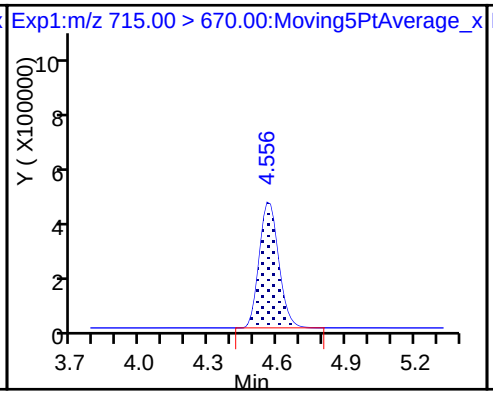
42 Perfluorotetradecanoic acid



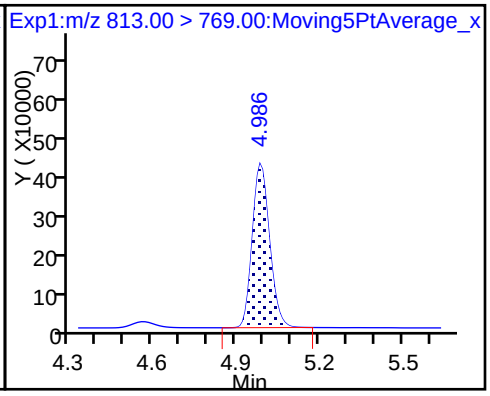
42 Perfluorotetradecanoic acid



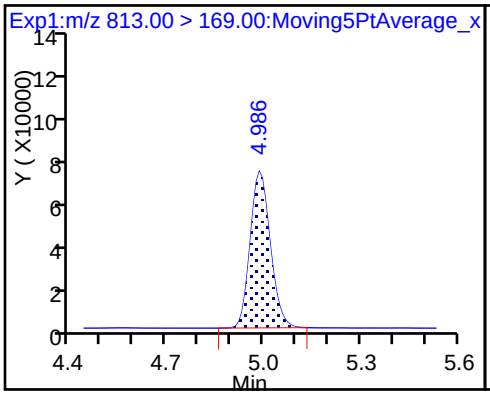
D 43 13C2-PFTeDA



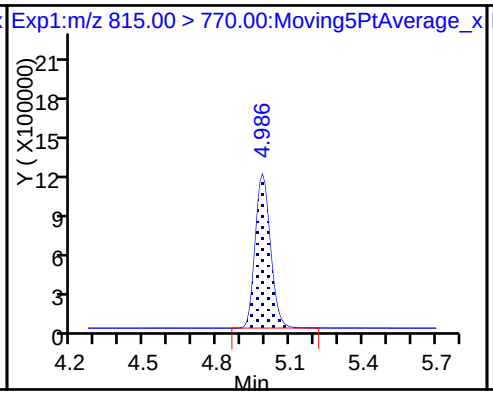
45 Perfluorohexadecanoic acid



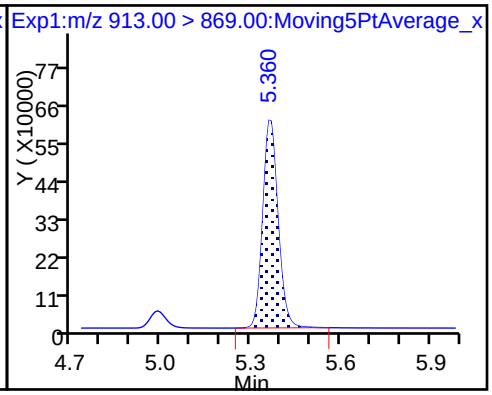
45 Perfluorohexadecanoic acid



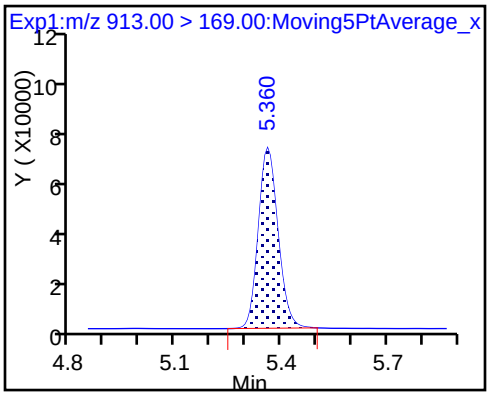
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_006.d
Lims ID: IC L5 Full
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 26-Dec-2017 17:27:07 ALS Bottle#: 14 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L5-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:36 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:34:27

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.432	1.433	-0.001	0.536	7592270	2.41		96.4	20813	
2 Perfluorobutyric acid										
212.90 > 169.00	1.438	1.434	0.004	1.004	7215132	2.60		104	2105	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.697	1.691	0.006	1.000	5057994	2.50		99.9	4753	
D 3 13C5-PFPeA										
267.90 > 223.00	1.697	1.692	0.005	0.635	4512747	2.46		98.3	43838	
D 47 13C3-PFBS										
301.90 > 83.00	1.723	1.725	-0.002	0.645	94194	2.37		102	3443	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.732	1.730	0.002	1.005	6842853	2.26		102	26134	
298.90 > 99.00	1.732	1.730	0.002	1.005	2815168		2.43(1.25-3.74)	102	19651	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.943	1.941	0.002	1.000	1343497	2.20		94.4	60592	
D 7 13C2 PFHxA										
315.00 > 270.00	1.974	1.976	-0.002	0.739	4748192	2.41		96.2	41016	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.984	1.979	0.005	1.005	4814503	2.54		102	10575	
313.00 > 119.00	1.984	1.979	0.005	1.005	447256		10.76(5.03-15.10)	102	11086	
D 9 13C4-PFHpA										
367.00 > 322.00	2.317	2.311	0.006	0.867	4386447	2.39		95.8	26505	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.317	2.311	0.006	1.000	4680522	2.55		102	8510	
363.00 > 169.00	2.317	2.311	0.006	1.000	1835748		2.55(1.13-3.40)	102	14189	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.330	2.324	0.006	1.000	5204397	2.10		92.3	15735	
399.00 > 99.00	2.330	2.324	0.006	1.000	1751617		2.97(1.50-4.49)	92.3	8041	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.330	2.328	0.002	0.872	5363875	2.31		97.5	35220	
D 12 M2-6:2FTS										
429.00 > 81.00	2.651	2.649	0.002	0.992	839958	2.42		102	14359	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.651	2.651	0.0	1.000	1293133	2.18		92.0	22082	
D 14 13C4 PFOA										
417.00 > 372.00	2.673	2.674	-0.002	1.000	4631352	2.48		99.1	44809	
* 62 13C2-PFOA										
415.00 > 370.00	2.673	2.676	-0.004		4548772	2.50			42176	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.673	2.677	-0.005	1.000	4846761	2.47		98.9	2973	
413.00 > 169.00	2.673	2.677	-0.005	1.000	2601855		1.86(0.84-2.52)	98.9	12623	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.680	2.683	-0.003	1.000	4556633	2.41		101	37329	
449.00 > 99.00	2.680	2.683	-0.003	1.000	1221389		3.73(1.94-5.82)	101	18124	
D 18 13C4 PFOS										
503.00 > 80.00	3.047	3.048	-0.001	1.140	3687036	2.39		100	30435	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.047	3.050	-0.003	1.000	3751539	2.27		97.7	923	
499.00 > 99.00	3.047	3.050	-0.003	1.000	816819		4.59(2.31-6.93)	97.7	1163	
D 19 13C5 PFNA										
468.00 > 423.00	3.047	3.051	-0.004	1.140	3801137	2.54		102	30588	
20 Perfluorononanoic acid										
463.00 > 419.00	3.047	3.052	-0.005	1.000	3563925	2.41		96.2	8064	
463.00 > 169.00	3.047	3.052	-0.005	1.000	896497		3.98(1.90-5.69)	96.2	17913	
D 21 13C8 FOSA										
506.00 > 78.00	3.376	3.377	-0.001	1.263	5073935	2.43		97.3	21699	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.376	3.378	-0.002	1.000	5151365	2.67		107	31556	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.399	3.402	-0.003	1.000	1111148	2.38		99.5	19889	
D 26 M2-8:2FTS										
529.00 > 81.00	3.399	3.403	-0.004	1.272	889422	2.33		97.3	14954	
D 23 13C2 PFDA										
515.00 > 470.00	3.414	3.414	0.0	1.278	2914623	2.40		96.0	29144	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.414	3.414	0.0	1.000	2932219	2.55		102	13553	
513.00 > 169.00	3.414	3.414	0.0	1.000	514170		5.70(2.36-7.09)	102	2167	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.572	3.569	0.003	1.337	1528404	2.44		97.4	16269	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.572	3.574	-0.002	1.000	1684592	2.60		104	10710	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.729	3.730	-0.001	1.000	2224619	2.44		101	33182	
599.00 > 99.00	3.729	3.730	-0.001	1.000	709285		3.14(1.39-4.16)	101	11220	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.738	3.740	-0.002	1.399	1498056	2.34		93.7	7917	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.746	3.746	0.0	1.000	1988655	2.44		97.6	10151	
563.00 > 169.00	3.746	3.746	0.0	1.000	459156		4.33(0.00-0.00)	97.6	11247	
D 30 13C2 PFUnA										
565.00 > 520.00	3.746	3.747	-0.001	1.402	2175375	2.37		94.7	25597	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.746	3.747	-0.001	1.002	1547839	2.68		107	19854	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.872	3.867	0.005	1.449	1446301	2.44		97.6	3727	
35 MeFOSA										
512.00 > 169.00	3.872	3.873	-0.001	1.000	1375295	2.46		98.5	2935	
D 36 13C2 PFDoA										
615.00 > 570.00	4.050	4.045	0.005	1.515	2491473	2.49		99.8	25392	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.050	4.045	0.005	1.000	2356820	2.38		95.3	8201	
613.00 > 169.00	4.050	4.045	0.005	1.000	631409		3.73(2.13-6.40)	95.3	17068	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.057	4.058	-0.001	1.518	1369301	2.43		97.1	2573	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.065	4.065	0.0	1.002	1416206	2.39		95.4	2677	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.308	4.312	-0.004	1.000	2653986	2.47		98.9	10197	
663.00 > 169.00	4.308	4.312	-0.004	1.000	862685		3.08(1.25-3.76)	98.9	31127	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.560	4.557	0.003	1.706	2525276	2.33		93.0	15515	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.560	4.557	0.003	1.000	650265	2.53		101	15939	
713.00 > 219.00	4.546	4.557	-0.011	0.997	466221		1.39(0.71-2.13)	101	13193	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.988	4.984	0.004	1.866	4868961	2.45		97.8	14566	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.988	4.984	0.004	1.000	4284648	2.55		102	2299	
813.00 > 169.00	4.988	4.984	0.004	1.000	769322		5.57(2.86-8.58)	102	7423	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.362	5.361	0.001	1.000	5460461	2.61		104	1186	
913.00 > 169.00	5.362	5.361	0.001	1.000	662817		8.24(0.00-0.00)	104	2979	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:38 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_006.d

Injection Date: 26-Dec-2017 17:27:07 Instrument ID: A8_N

Lims ID: IC L5 Full

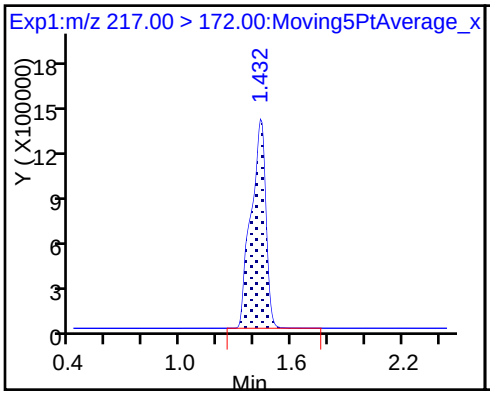
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Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 6

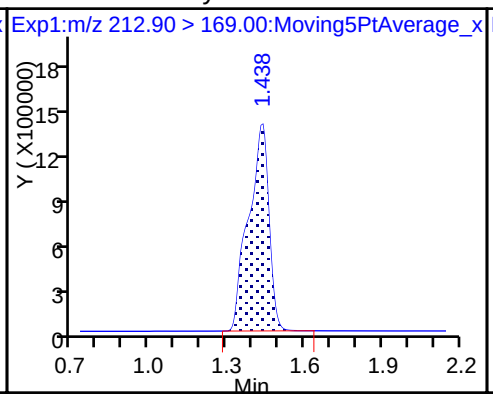
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

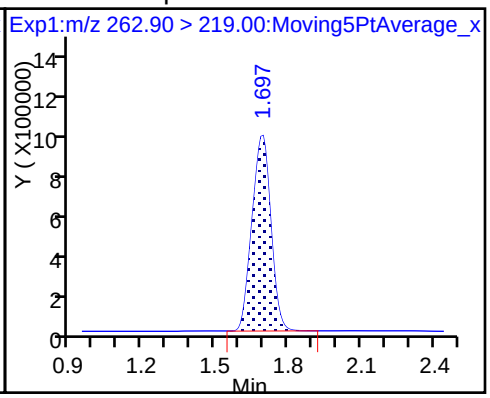
D 1 13C4 PFBA



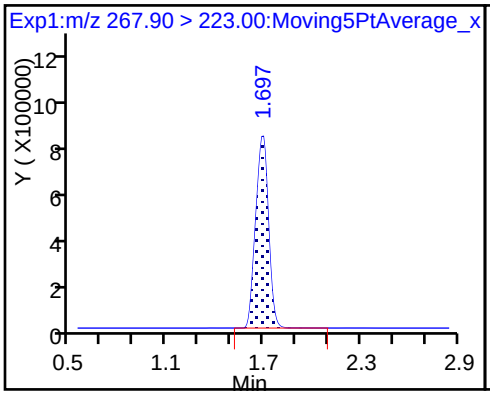
2 Perfluorobutyric acid



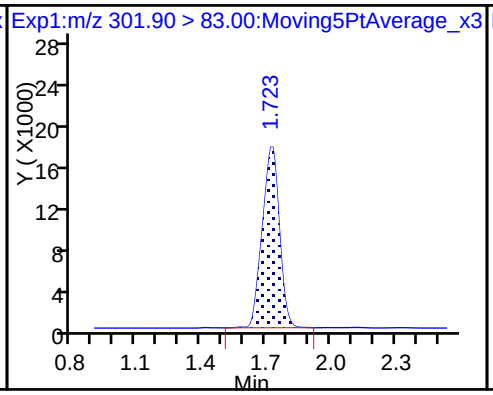
4 Perfluoropentanoic acid



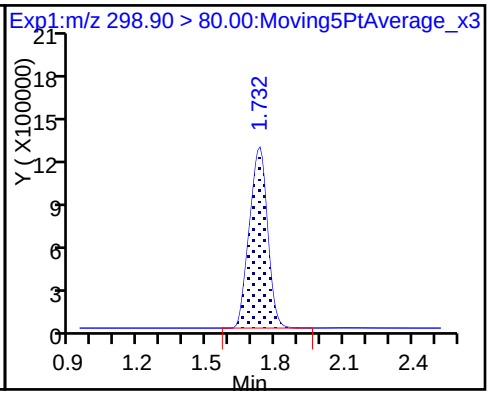
D 3 13C5-PFPeA



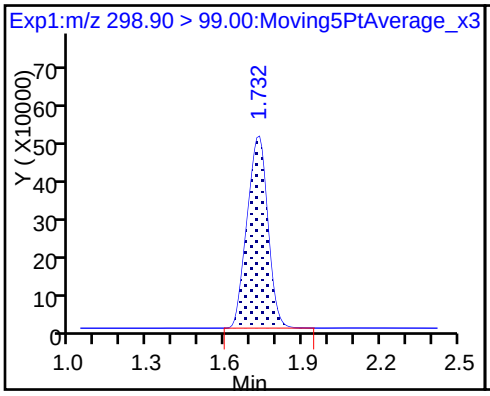
D 47 13C3-PFBS



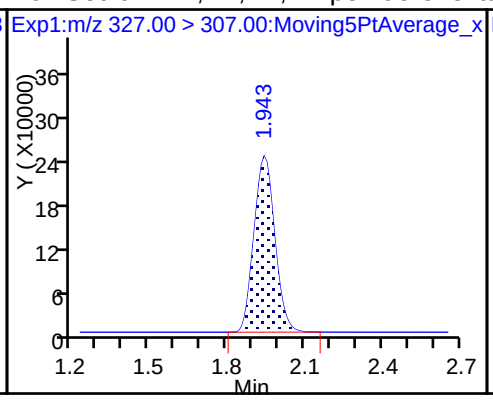
5 Perfluorobutanesulfonic acid



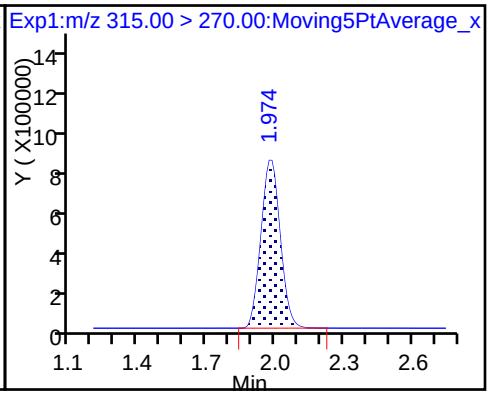
5 Perfluorobutanesulfonic acid



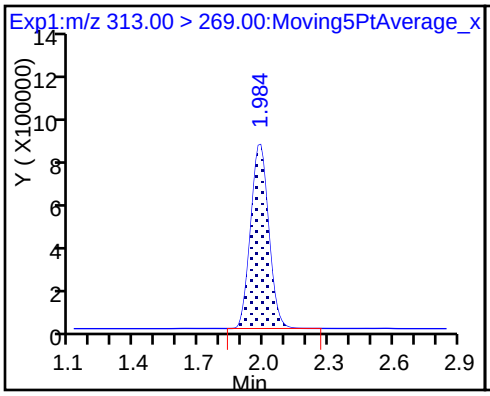
61 Sodium 1H,1H,2H,2H-perfluorohexa



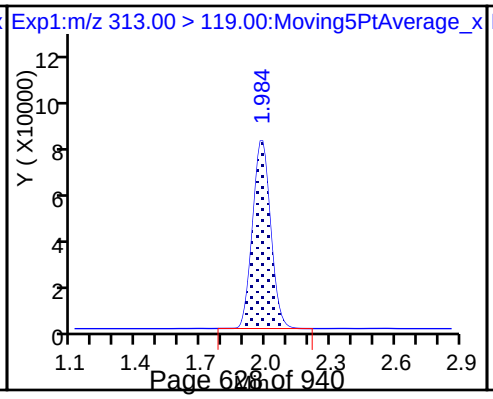
D 7 13C2 PFHxA



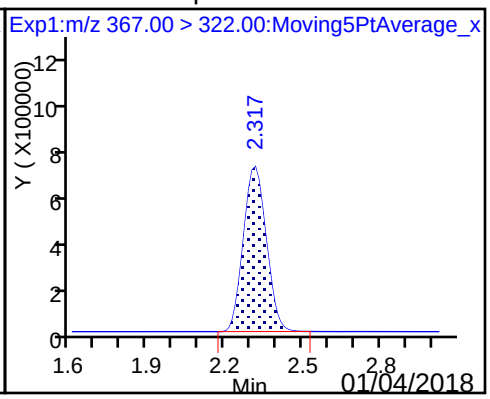
6 Perfluorohexanoic acid



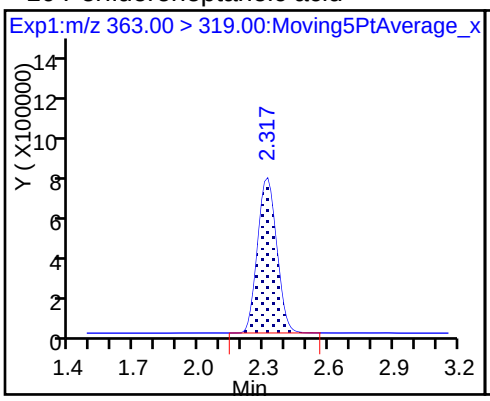
6 Perfluorohexanoic acid



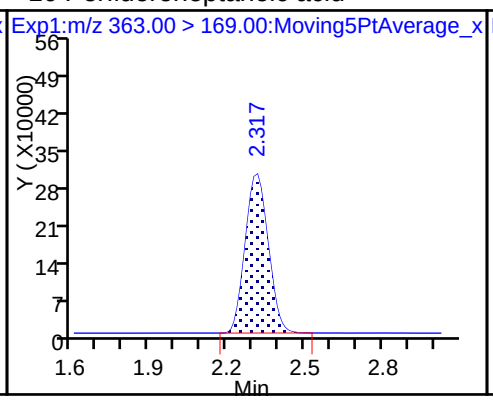
D 9 13C4-PFHpA



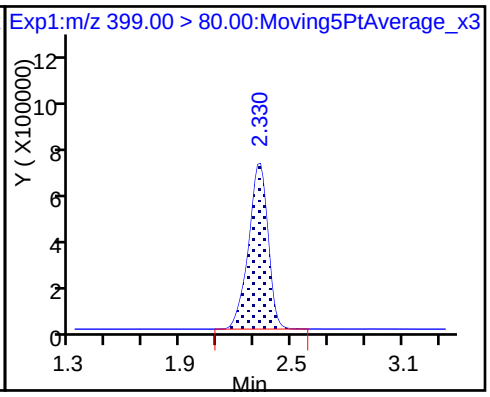
10 Perfluoroheptanoic acid



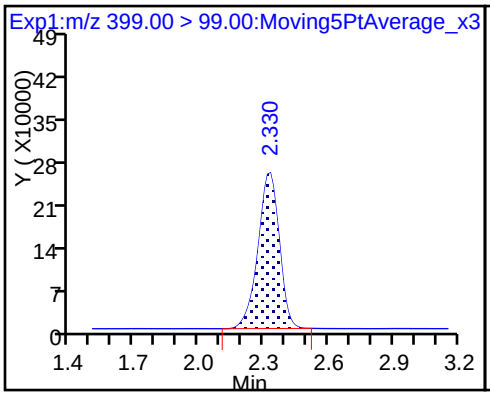
10 Perfluoroheptanoic acid



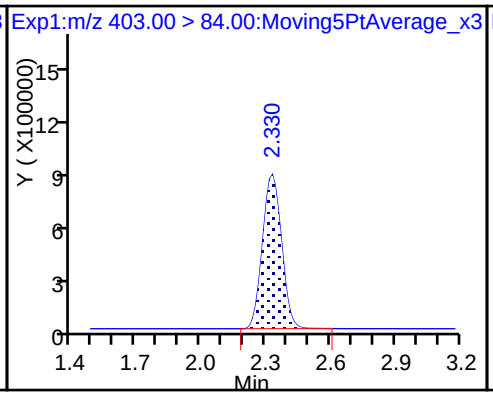
8 Perfluorohexanesulfonic acid



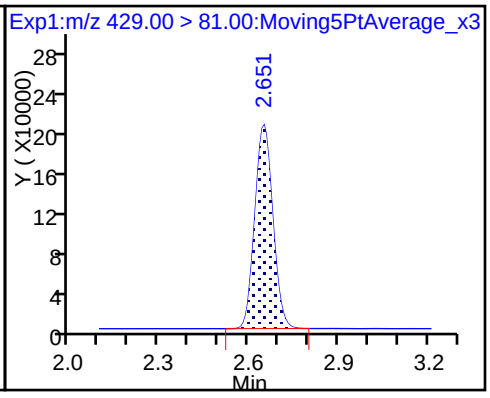
8 Perfluorohexanesulfonic acid



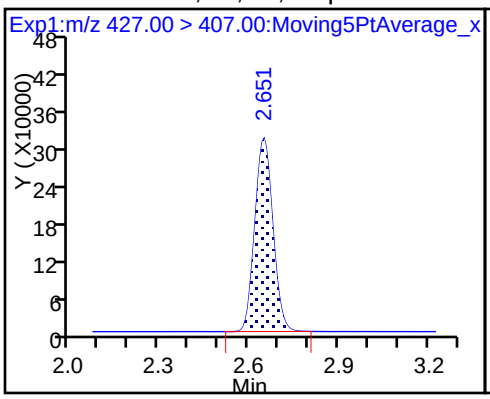
D 11 18O2 PFHxS



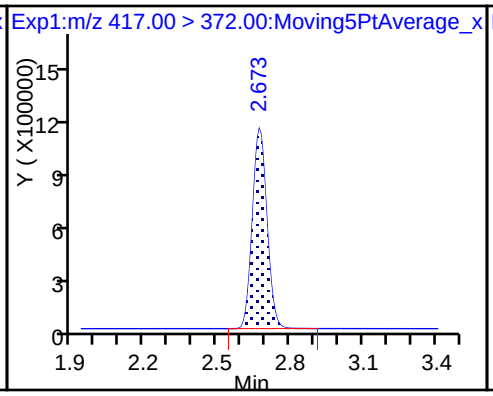
D 12 M2-6:2FTS



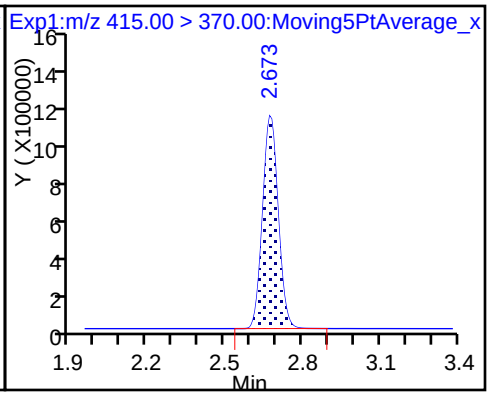
13 Sodium 1H,1H,2H,2H-perfluorooctane



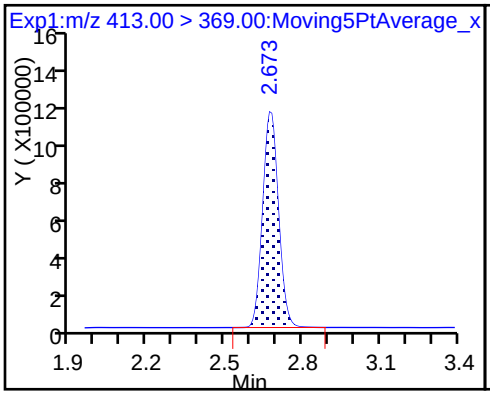
D 14 13C4 PFOA



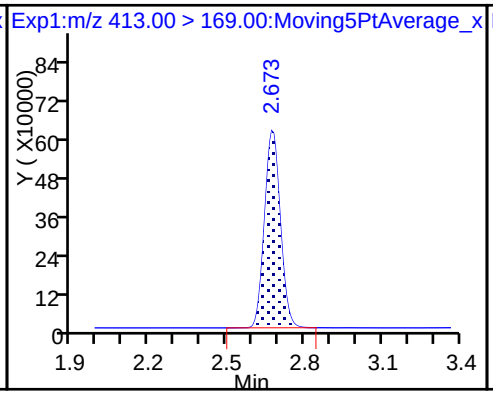
* 62 13C2-PFOA



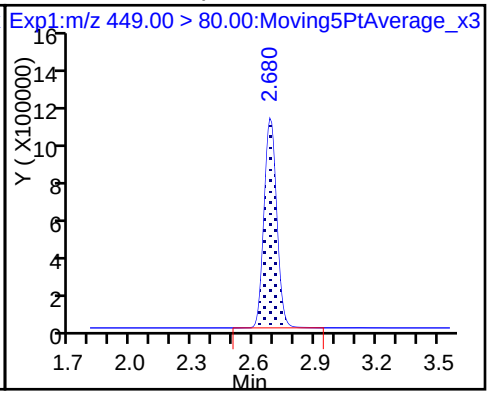
15 Perfluorooctanoic acid



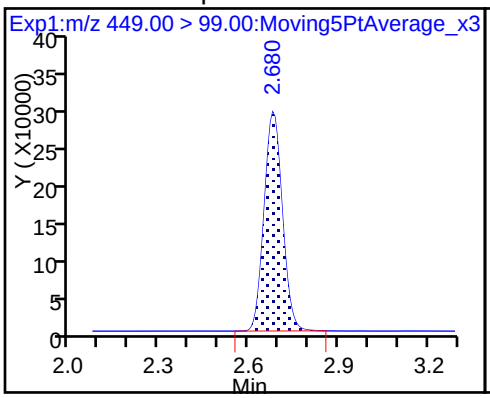
15 Perfluorooctanoic acid



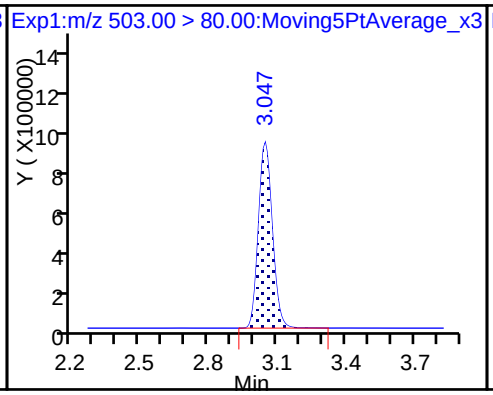
16 Perfluoroheptanesulfonic Acid



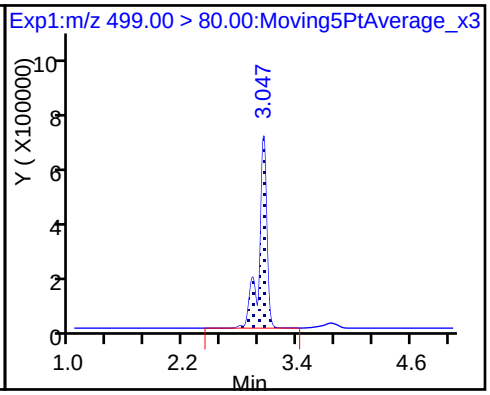
16 Perfluoroheptanesulfonic Acid



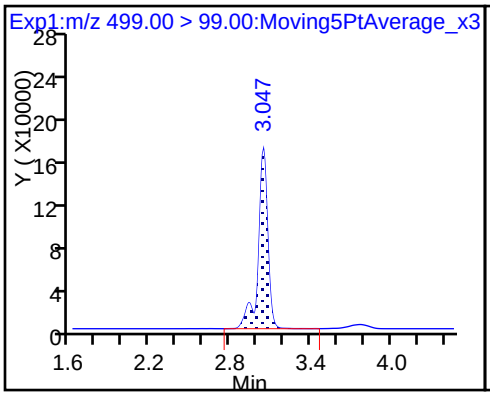
D 18 13C4 PFOS



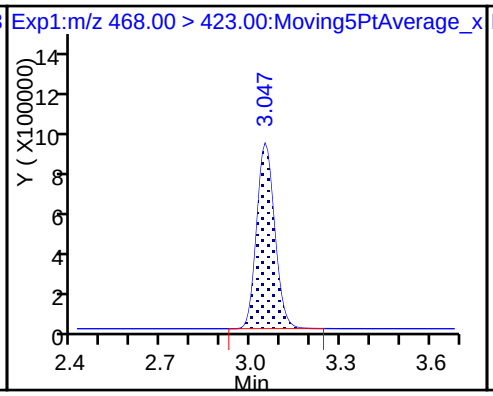
17 Perfluorooctane sulfonic acid



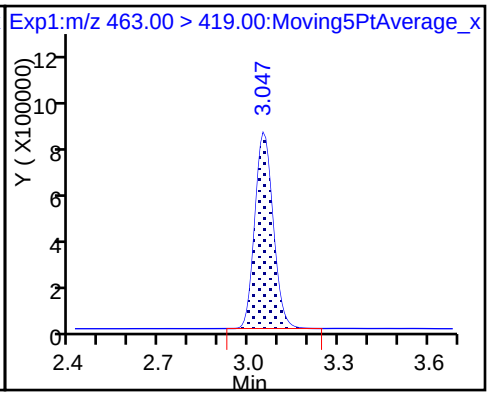
17 Perfluorooctane sulfonic acid



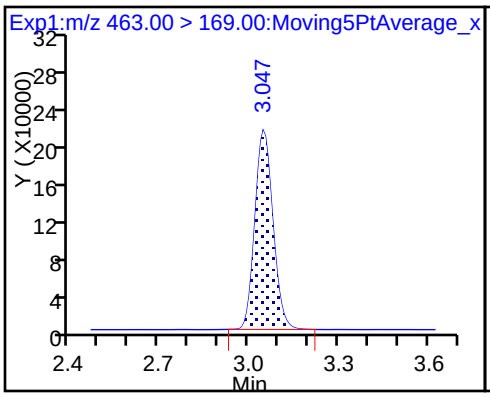
D 19 13C5 PFNA



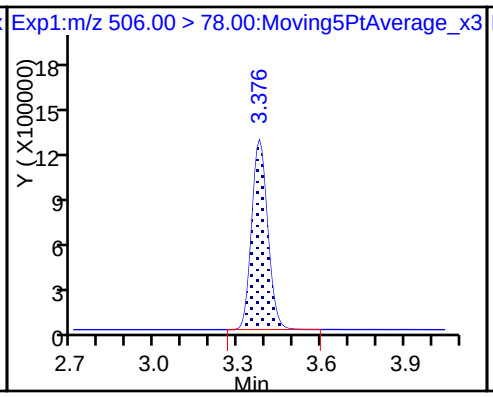
20 Perfluorononanoic acid



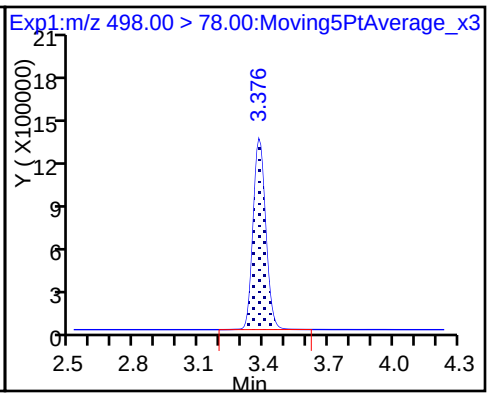
20 Perfluorononanoic acid



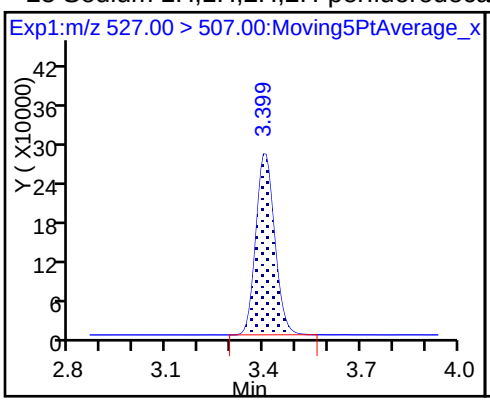
D 21 13C8 FOSA



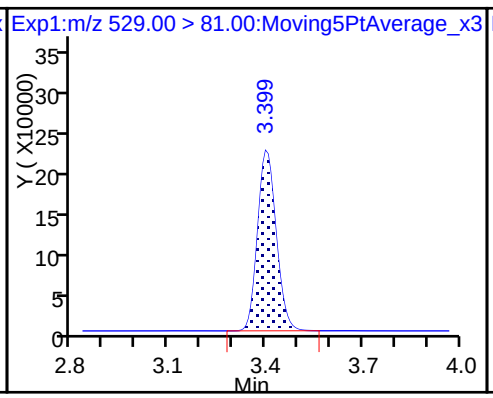
22 Perfluorooctane Sulfonamide



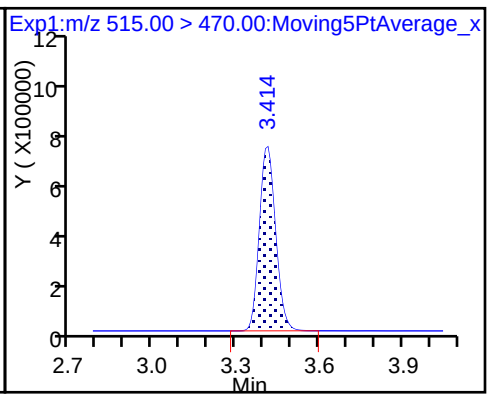
25 Sodium 1H,1H,2H,2H-perfluorodecane



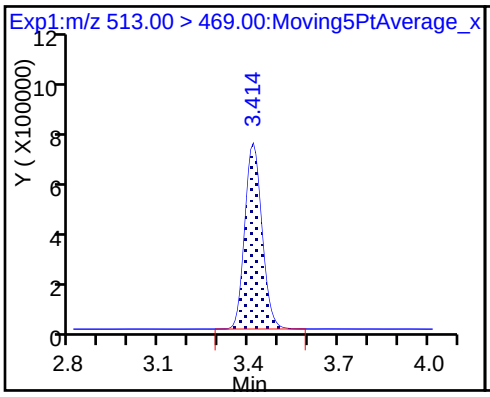
D 26 M2-8:2FTS



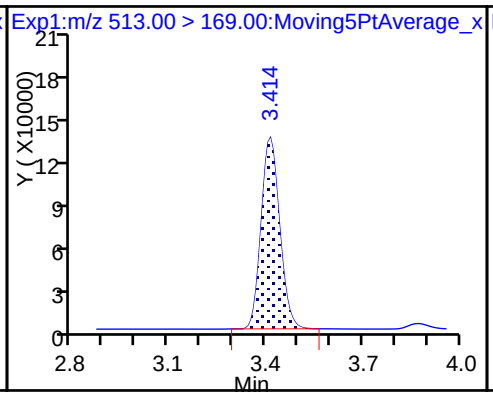
D 23 13C2 PFDA



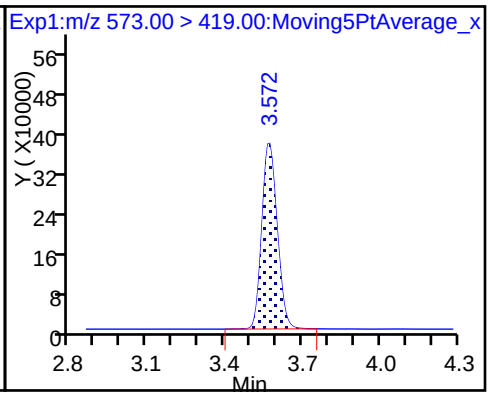
24 Perfluorodecanoic acid



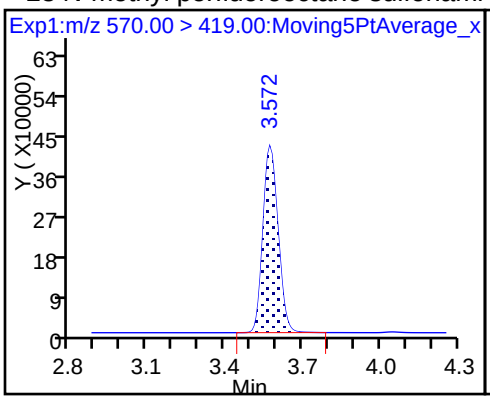
24 Perfluorodecanoic acid



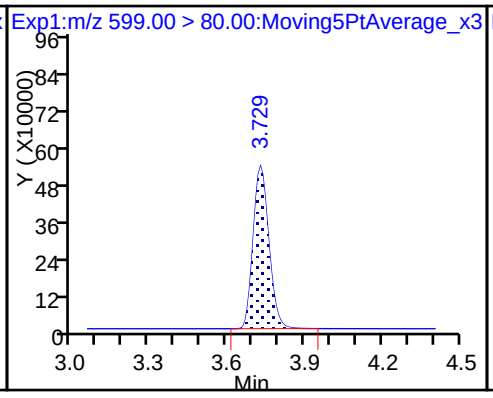
D 27 d3-NMeFOSAA



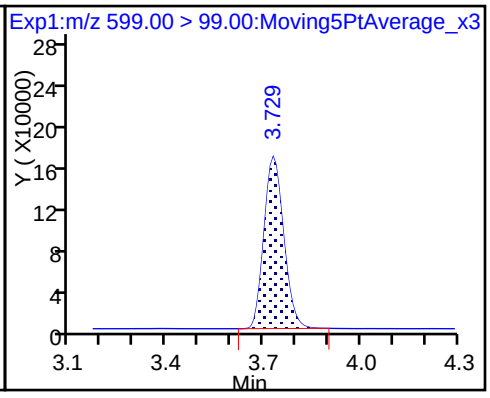
28 N-methyl perfluorooctane sulfonami



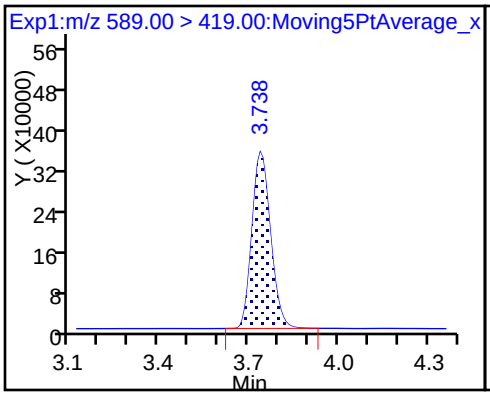
29 Perfluorodecane Sulfonic acid



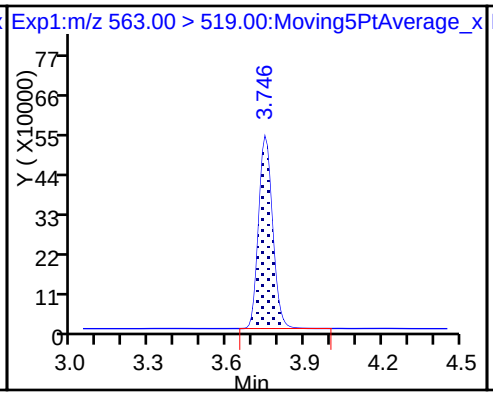
29 Perfluorodecane Sulfonic acid



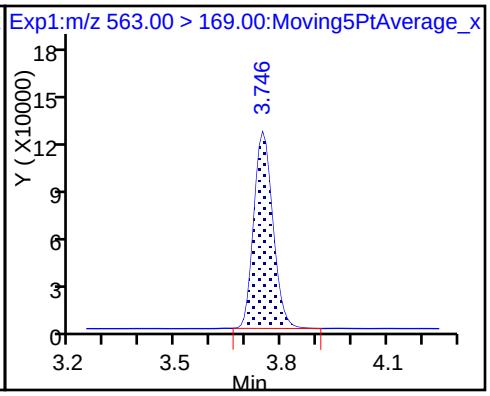
D 32 d5-NEtFOSAA



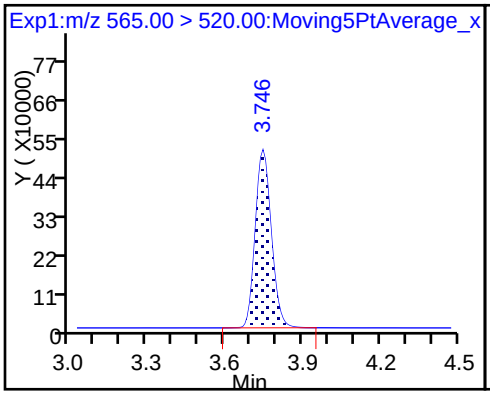
31 Perfluoroundecanoic acid



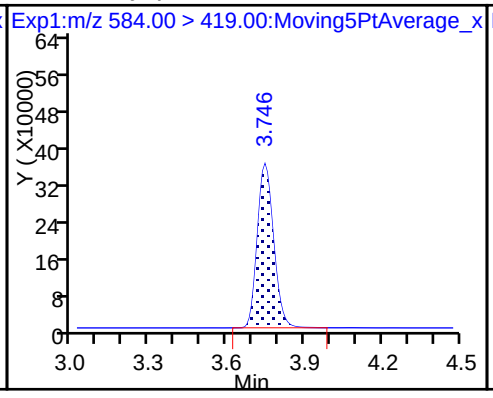
31 Perfluoroundecanoic acid



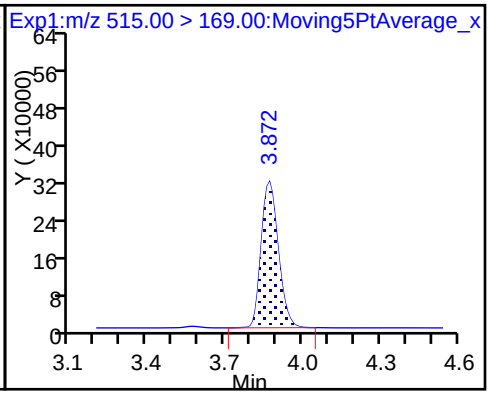
D 30 13C2 PFUnA



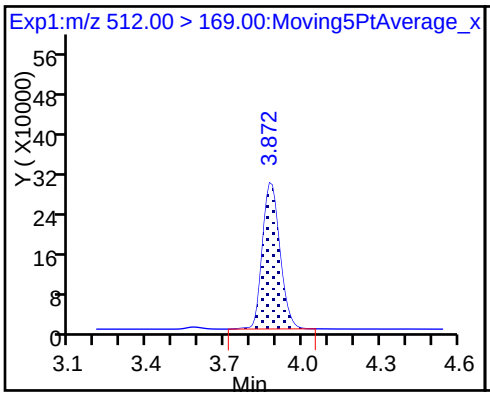
33 N-ethyl perfluorooctane sulfonamid



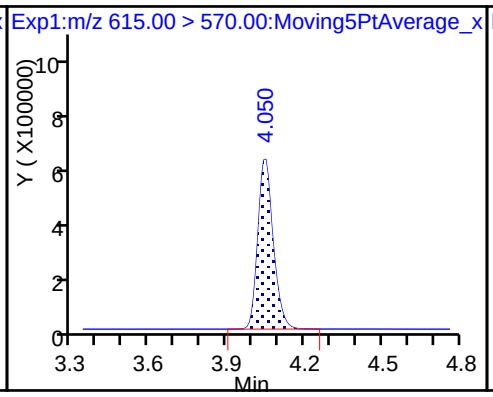
D 34 d-N-MeFOSA-M



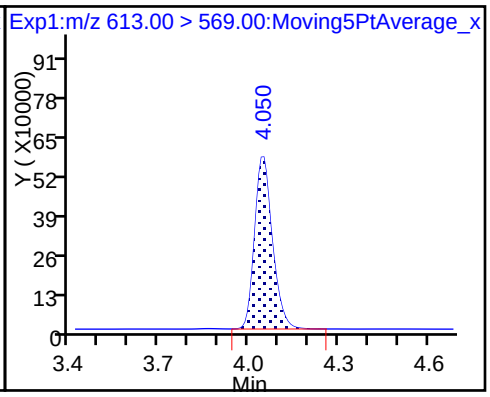
35 MeFOSA



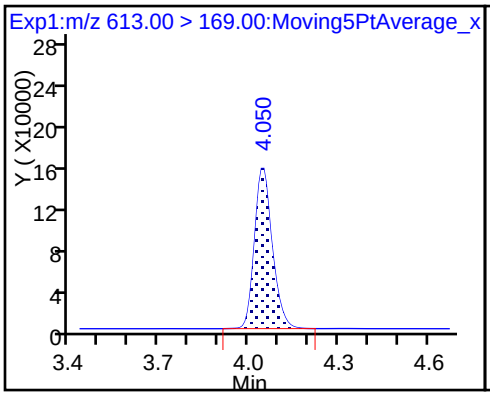
D 36 13C2 PFDoA



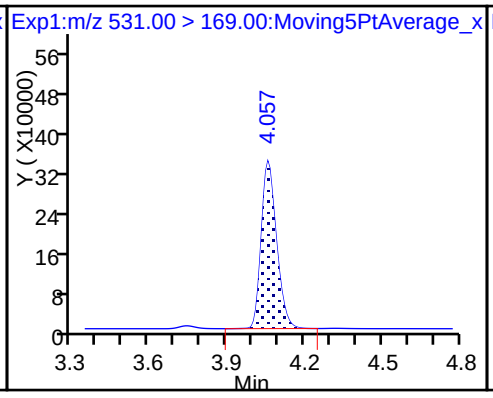
37 Perfluorododecanoic acid



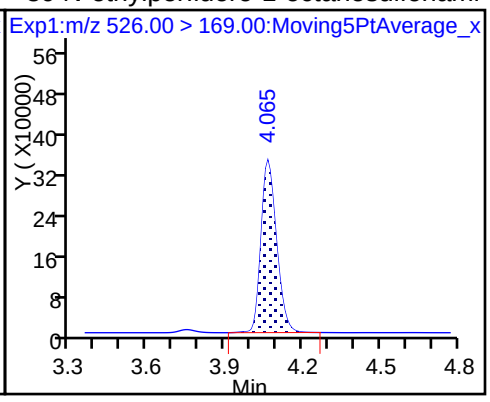
37 Perfluorododecanoic acid



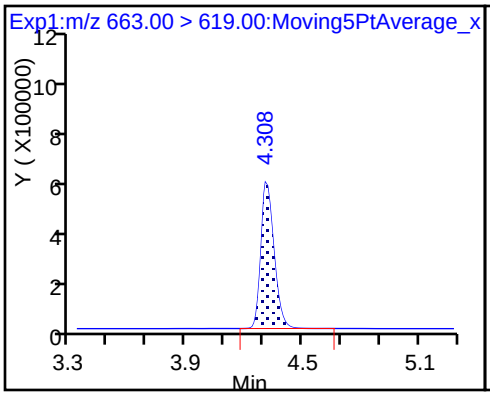
D 38 d-N-EtFOSA-M



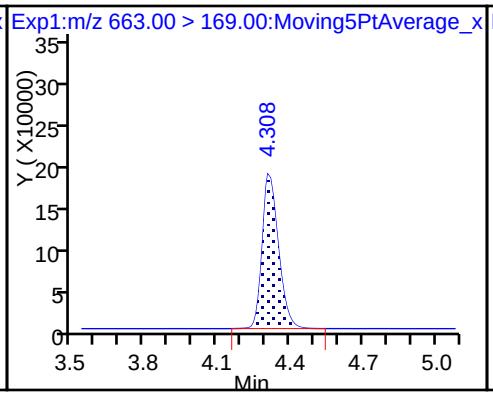
39 N-ethylperfluoro-1-octanesulfonami



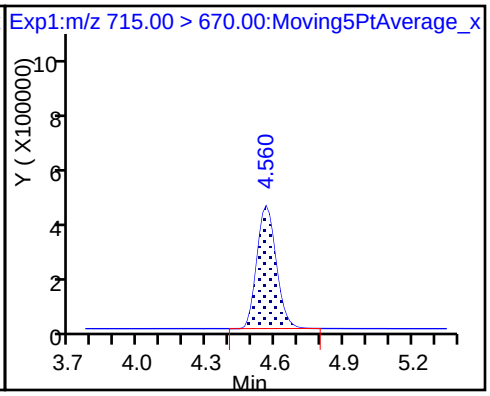
41 Perfluorotridecanoic acid



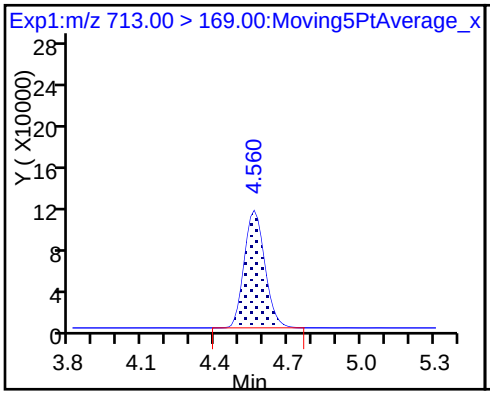
41 Perfluorotridecanoic acid



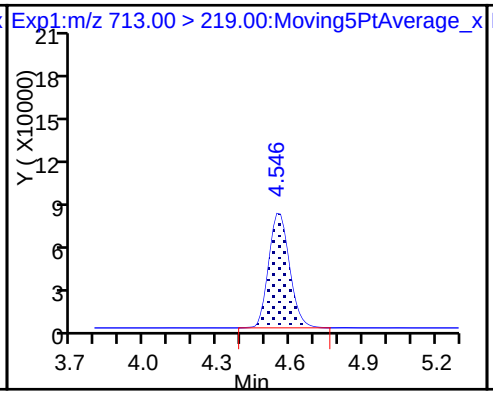
D 43 13C2-PFTeDA



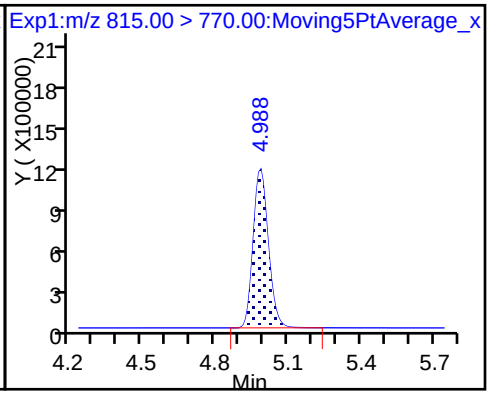
42 Perfluorotetradecanoic acid



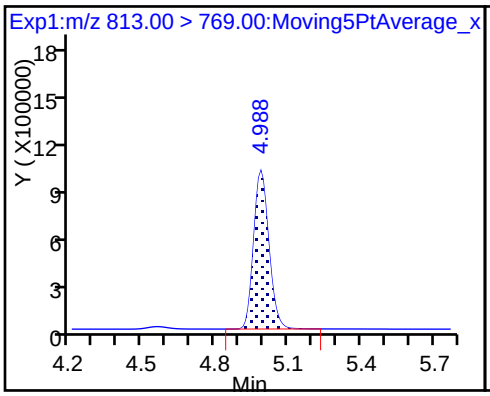
42 Perfluorotetradecanoic acid



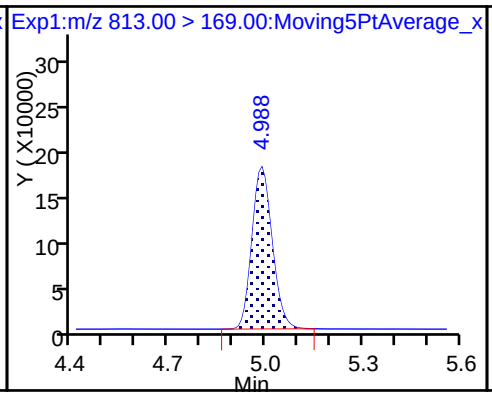
D 44 13C2-PFHxDA



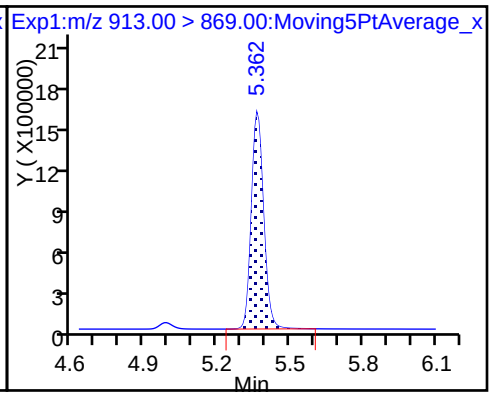
45 Perfluorohexadecanoic acid



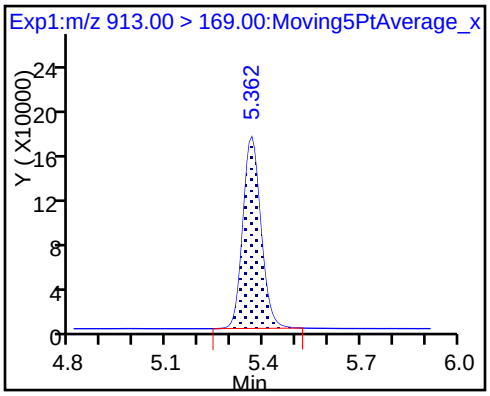
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_007.d
Lims ID: IC L6 Full
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 26-Dec-2017 17:34:55 ALS Bottle#: 15 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L6-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:41 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:36:06

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.438	1.433	0.005	0.536	7511739	2.45		97.9	22344	
2 Perfluorobutyric acid										
212.90 > 169.00	1.438	1.434	0.004	1.000	14203669	5.17		103	4279	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.698	1.691	0.007	1.000	10121089	5.10		102	9580	
D 3 13C5-PFPeA										
267.90 > 223.00	1.698	1.692	0.006	0.633	4419838	2.47		98.8	58450	
D 47 13C3-PFBS										
301.90 > 83.00	1.725	1.725	0.0	0.643	87517	2.26		97.1	2228	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.734	1.730	0.004	1.005	13087862	4.65		105	46401	
298.90 > 99.00	1.734	1.730	0.004	1.005	5556812		2.36(1.25-3.74)	105	33240	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.945	1.941	0.004	1.000	2614250	4.51		96.6	79247	
D 7 13C2 PFHxA										
315.00 > 270.00	1.976	1.976	0.0	0.737	4692826	2.44		97.6	34225	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.986	1.979	0.007	1.005	9593038	5.12		102	21441	
313.00 > 119.00	1.986	1.979	0.007	1.005	882827		10.87(5.03-15.10)	102	21917	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.319	2.311	0.008	1.000	9505442	5.21		104	14155	
363.00 > 169.00	2.319	2.311	0.008	1.000	3629564		2.62(1.13-3.40)	104	22031	
D 9 13C4-PFHpA										
367.00 > 322.00	2.319	2.311	0.008	0.865	4358026	2.44		97.6	30871	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.332	2.324	0.008	1.000	10555612	4.39		96.6	16761	
399.00 > 99.00	2.332	2.324	0.008	1.000	3571255		2.96(1.50-4.49)	96.6	14384	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.332	2.328	0.004	0.870	5199716	2.29		97.0	28546	
D 12 M2-6:2FTS										
429.00 > 81.00	2.652	2.649	0.003	0.989	798471	2.36		99.3	16249	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.652	2.651	0.001	1.000	2686799	4.77		101	32747	
D 14 13C4 PFOA										
417.00 > 372.00	2.674	2.674	0.0	0.997	4527981	2.48		99.4	36247	
* 62 13C2-PFOA										
415.00 > 370.00	2.681	2.676	0.005		4433844	2.50			32506	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.681	2.677	0.004	1.003	9320979	4.86		97.2	5737	
413.00 > 169.00	2.681	2.677	0.004	1.003	5052632		1.84(0.84-2.52)	97.2	22690	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.688	2.683	0.005	1.000	8838018	4.94		104	48617	
449.00 > 99.00	2.688	2.683	0.005	1.000	2382151		3.71(1.94-5.82)	104	21958	
D 18 13C4 PFOS										
503.00 > 80.00	3.049	3.048	0.001	1.137	3484225	2.32		97.0	16428	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.049	3.050	-0.001	1.000	7195168	4.60		99.1	1651	
499.00 > 99.00	3.049	3.050	-0.001	1.000	1576347		4.56(2.31-6.93)	99.1	2115	
D 19 13C5 PFNA										
468.00 > 423.00	3.049	3.051	-0.002	1.137	3650887	2.51		100	27053	
20 Perfluorononanoic acid										
463.00 > 419.00	3.057	3.052	0.005	1.003	7111284	5.00		100.0	15606	
463.00 > 169.00	3.057	3.052	0.005	1.003	1788508		3.98(1.90-5.69)	100.0	26580	
D 21 13C8 FOSA										
506.00 > 78.00	3.380	3.377	0.003	1.261	5095113	2.51		100	33145	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.378	0.002	1.000	9642474	4.98		99.7	29656	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.402	3.402	0.0	1.000	2167139	4.43		92.5	29731	
D 26 M2-8:2FTS										
529.00 > 81.00	3.402	3.403	-0.001	1.269	932907	2.51		105	13712	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.418	3.414	0.004	1.000	5881010	5.12		102	22200	
513.00 > 169.00	3.418	3.414	0.004	1.000	1022172		5.75(2.36-7.09)	102	2412	
D 23 13C2 PFDA										
515.00 > 470.00	3.418	3.414	0.004	1.275	2914567	2.46		98.5	25428	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.569	3.569	0.0	1.331	1500701	2.45		98.1	20350	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.576	3.574	0.002	1.002	3336986	5.25		105	19044	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.734	3.730	0.004	1.000	4472709	5.18		108	31176	
599.00 > 99.00	3.734	3.730	0.004	1.000	1393547		3.21(1.39-4.16)	108	21841	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.742	3.740	0.002	1.396	1513745	2.43		97.1	10618	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.751	3.746	0.005	1.000	4066019	4.83		96.6	19942	
563.00 > 169.00	3.751	3.746	0.005	1.000	892562		4.56(0.00-0.00)	96.6	16878	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.751	3.747	0.004	1.002	3021821	5.17		103	23940	
D 30 13C2 PFUnA										
565.00 > 520.00	3.751	3.747	0.004	1.399	2246031	2.51		100	29162	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.867	0.0	1.442	1429812	2.48		99.0	3277	
35 MeFOSA										
512.00 > 169.00	3.877	3.873	0.004	1.003	2889157	5.23		105	3534	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.046	4.045	0.001	1.000	4968481	5.34		107	13360	
613.00 > 169.00	4.046	4.045	0.001	1.000	1174384		4.23(2.13-6.40)	107	36312	
D 36 13C2 PFDoA										
615.00 > 570.00	4.046	4.045	0.001	1.509	2341893	2.41		96.2	28852	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.061	4.058	0.003	1.515	1368153	2.49		99.6	2344	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.069	4.065	0.004	1.002	2991200	5.04		101	3033	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.315	4.312	0.003	1.000	5113548	5.07		101	16277	
663.00 > 169.00	4.315	4.312	0.003	1.000	1580679		3.24(1.25-3.76)	101	30267	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.555	4.557	-0.002	1.000	1319883	4.84		96.7	22658	
713.00 > 219.00	4.555	4.557	-0.002	1.000	984677		1.34(0.71-2.13)	96.7	15201	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.555	4.557	-0.002	1.699	2681614	2.53		101	14962	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.985	4.984	0.001	1.000	8316601	5.04		101	4317	
813.00 > 169.00	4.985	4.984	0.001	1.000	1557132		5.34(2.86-8.58)	101	11343	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.985	4.984	0.001	1.859	4814545	2.48		99.3	17455	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.360	5.361	-0.001	1.000	10596626	5.12		102	1973	
913.00 > 169.00	5.360	5.361	-0.001	1.000	1260344		8.41(0.00-0.00)	102	3437	

Reagents:

LCPFC_LL6_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:42 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_007.d

Injection Date: 26-Dec-2017 17:34:55 Instrument ID: A8_N

Lims ID: IC L6 Full

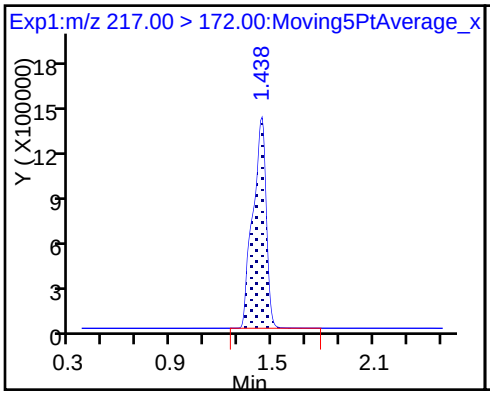
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 15 Worklist Smp#: 7

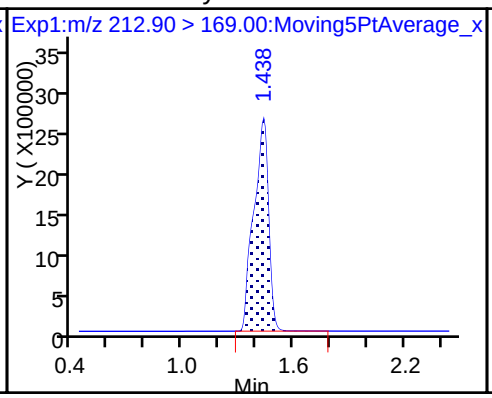
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

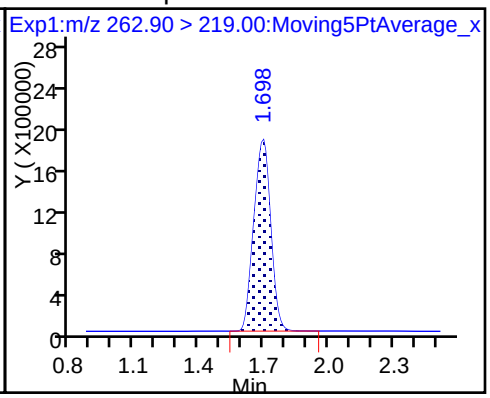
D 1 13C4 PFBA



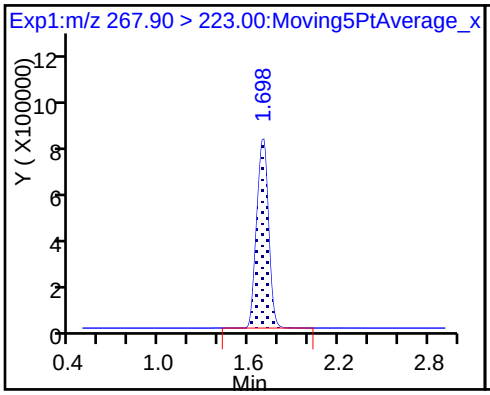
2 Perfluorobutyric acid



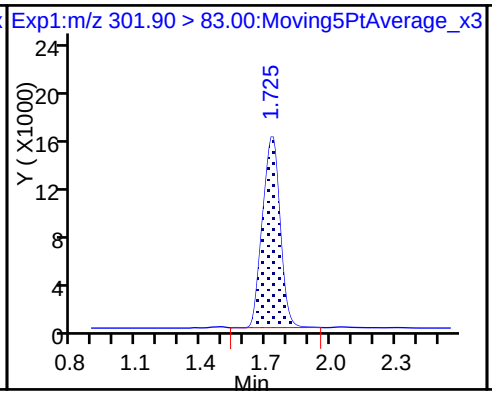
4 Perfluoropentanoic acid



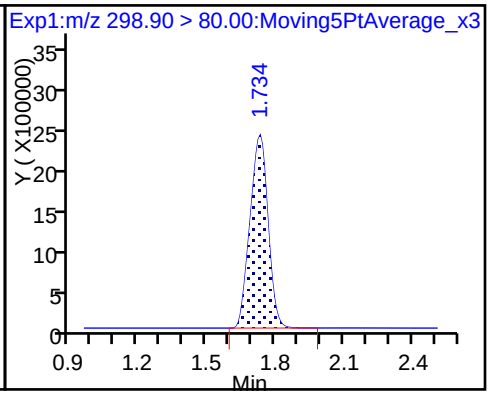
D 3 13C5-PFPeA



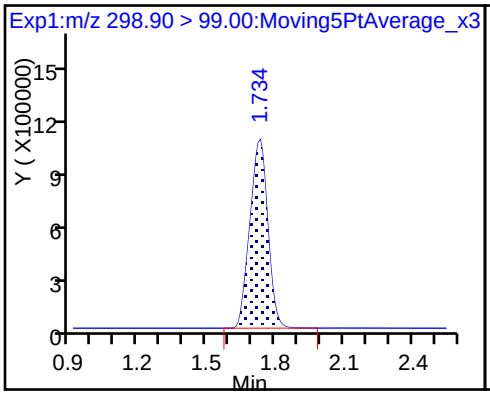
D 47 13C3-PFBS



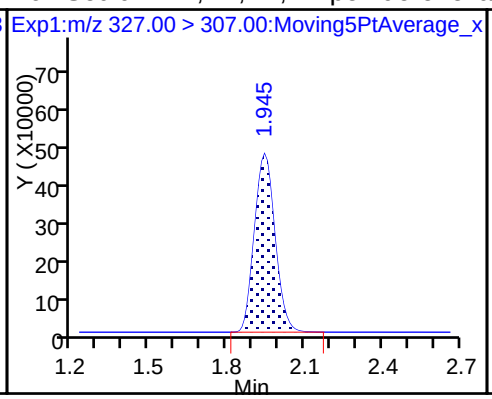
5 Perfluorobutanesulfonic acid



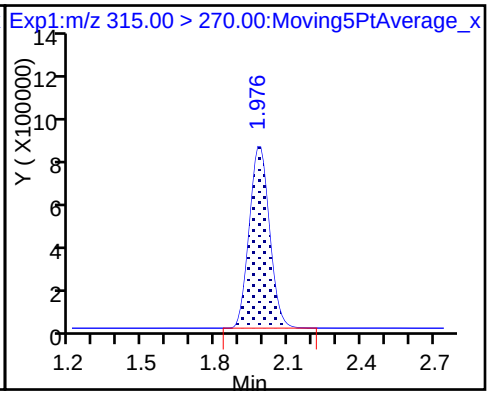
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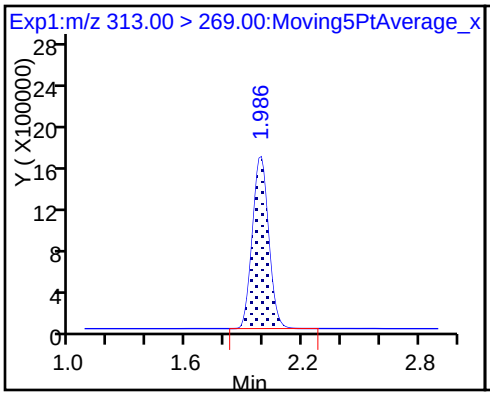
61 Sodium 1H,1H,2H,2H-perfluorohexa



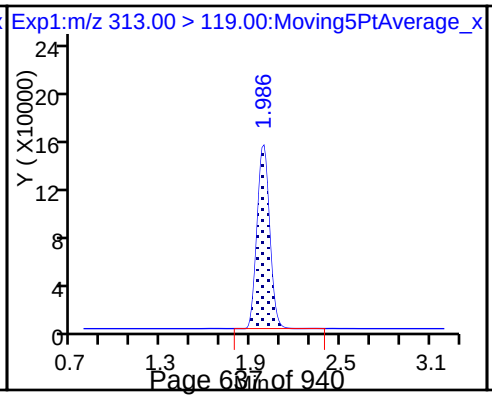
D 7 13C2 PFHxA



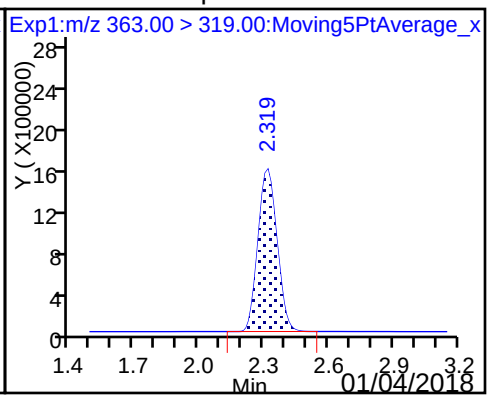
6 Perfluorohexanoic acid



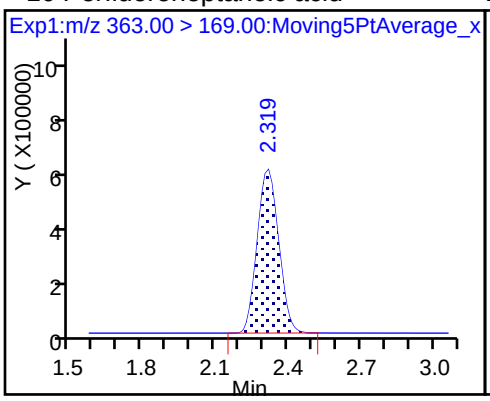
6 Perfluorohexanoic acid



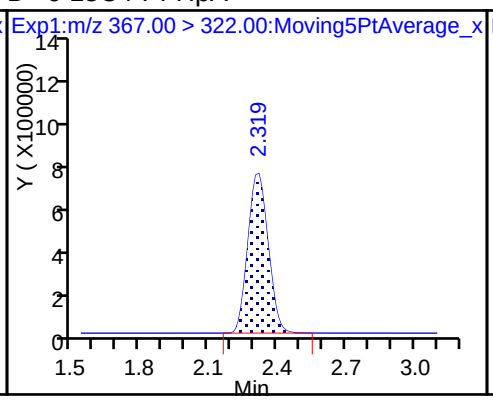
10 Perfluoroheptanoic acid



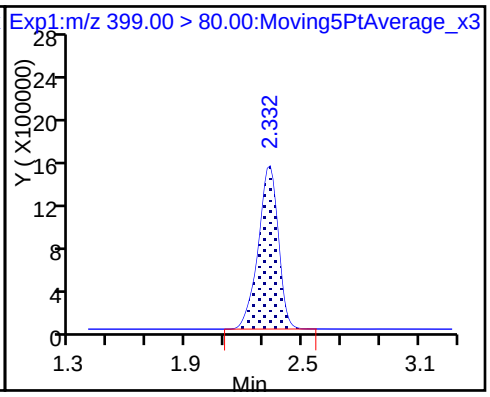
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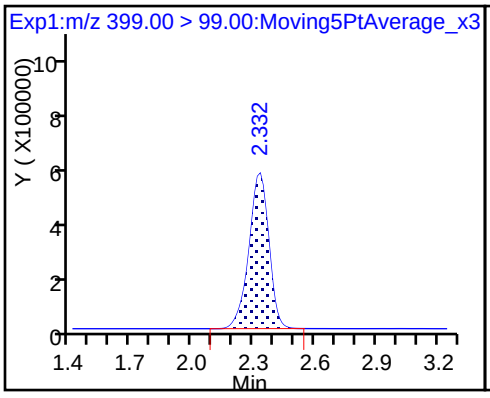
D 9 13C4-PFHpA



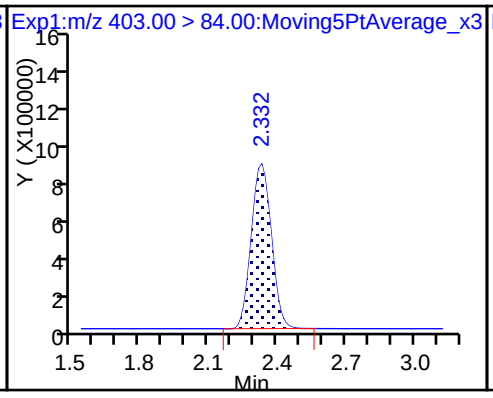
8 Perfluorohexanesulfonic acid



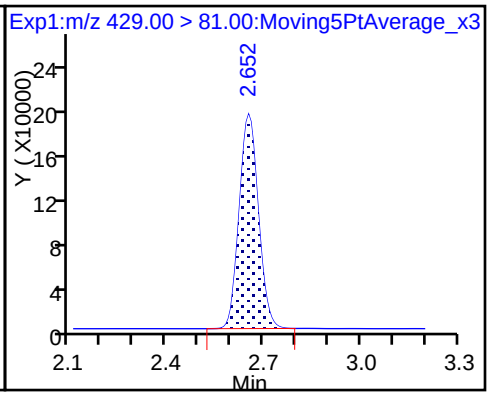
8 Perfluorohexanesulfonic acid



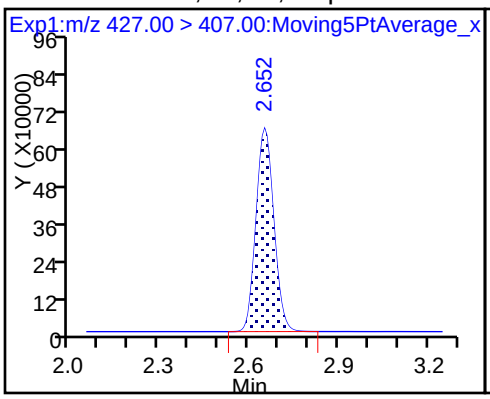
D 11 18O2 PFHxS



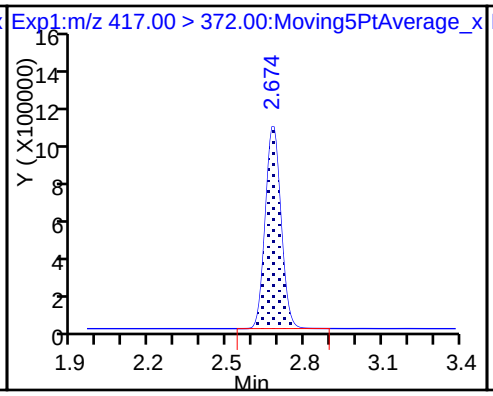
D 12 M2-6:2FTS



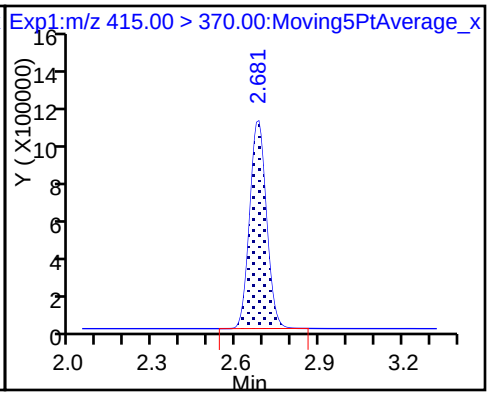
13 Sodium 1H,1H,2H,2H-perfluorooctane



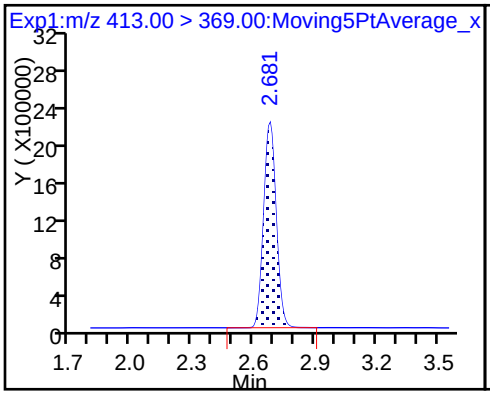
D 14 13C4 PFOA



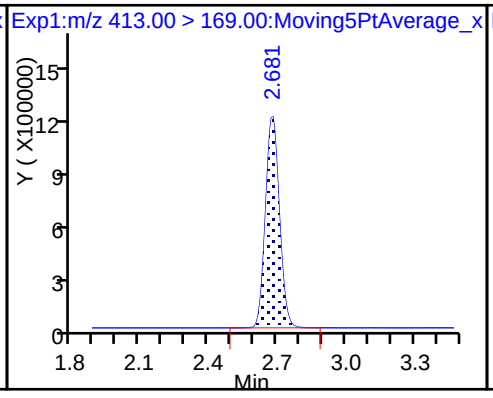
* 62 13C2-PFOA



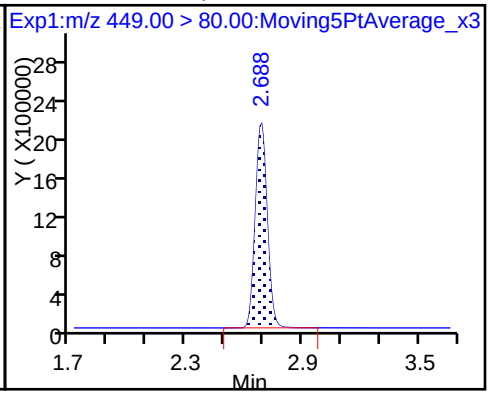
15 Perfluorooctanoic acid



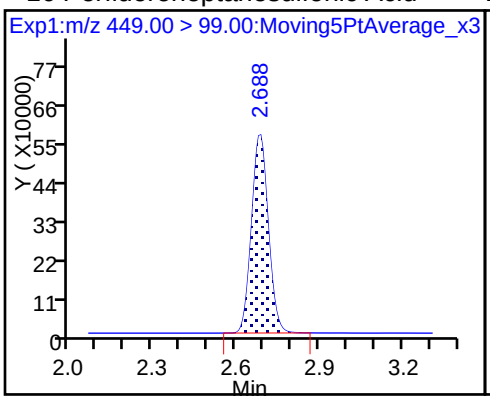
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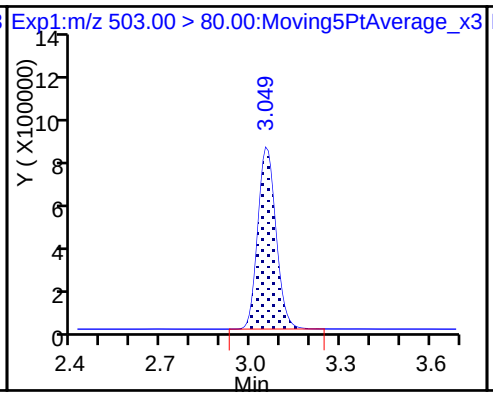
16 Perfluoroheptanesulfonic Acid



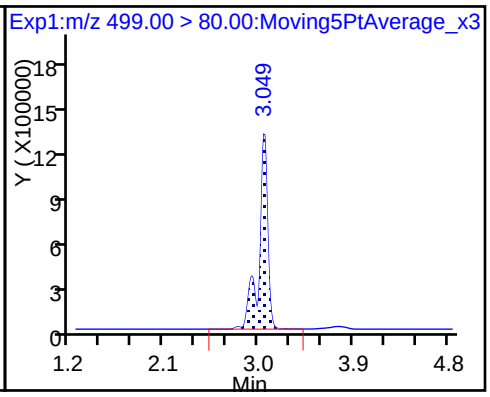
16 Perfluoroheptanesulfonic Acid



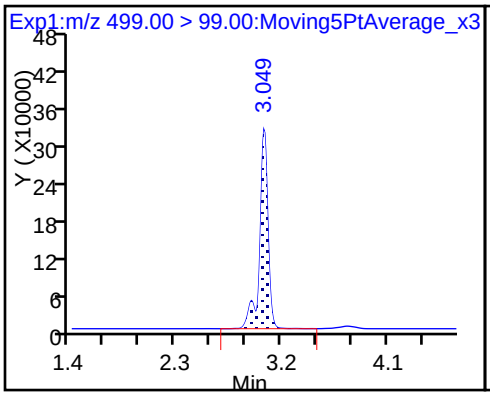
D 18 13C4 PFOS



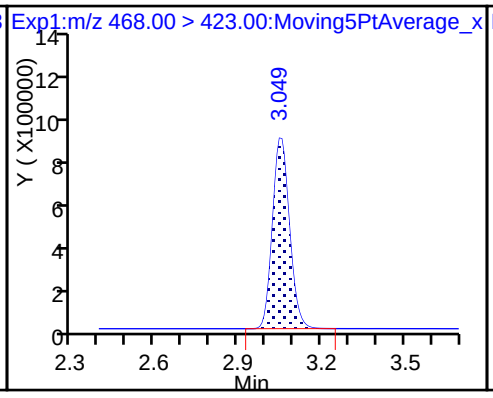
17 Perfluorooctane sulfonic acid



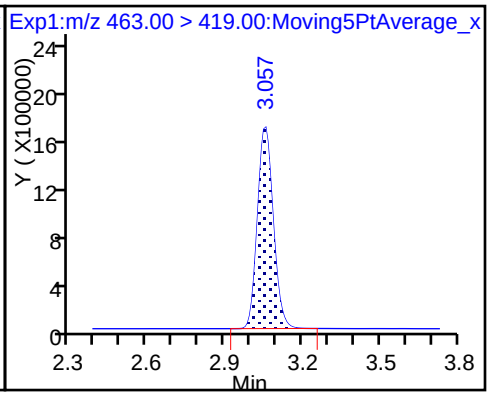
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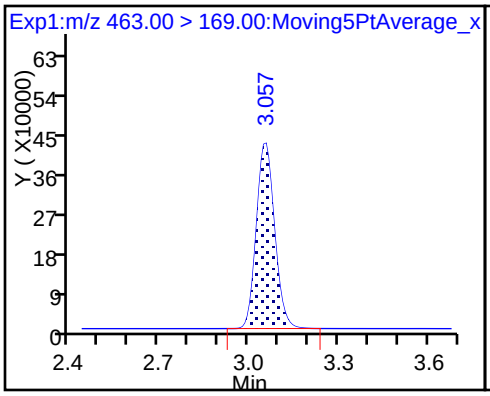
D 19 13C5 PFNA



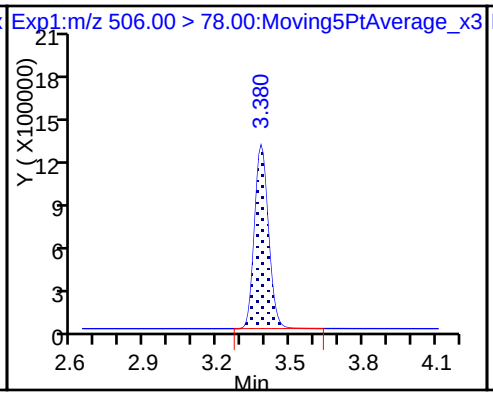
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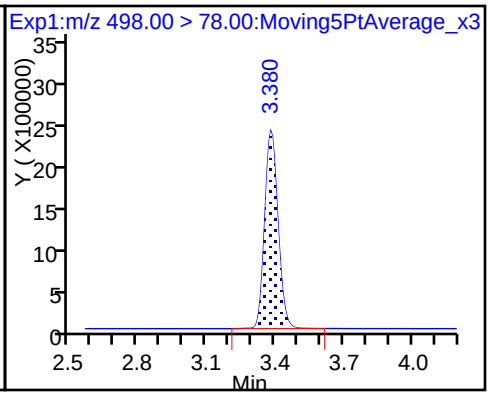
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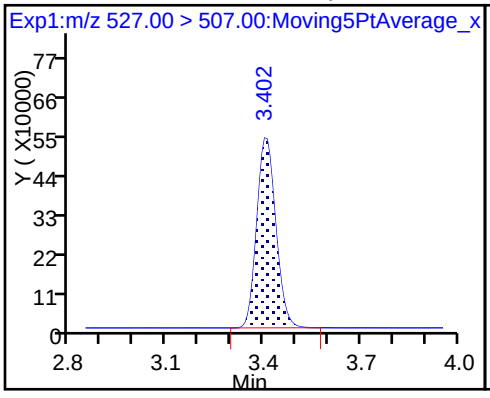
D 21 13C8 FOSA



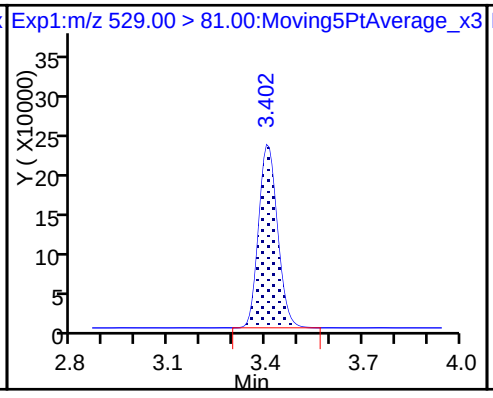
22 Perfluorooctane Sulfonamide



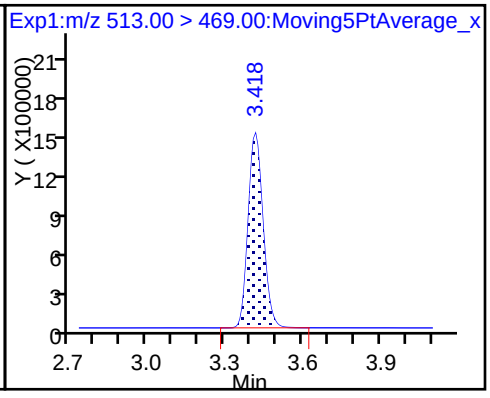
25 Sodium 1H,1H,2H,2H-perfluorodecane



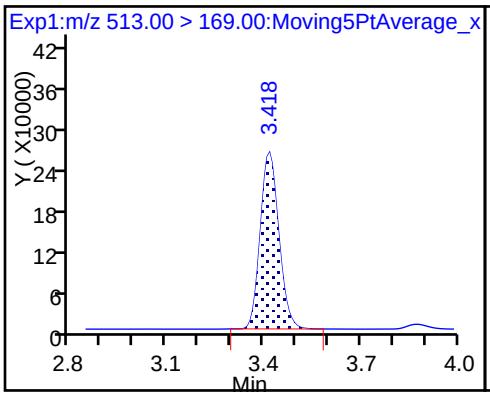
D 26 M2-8:2FTS



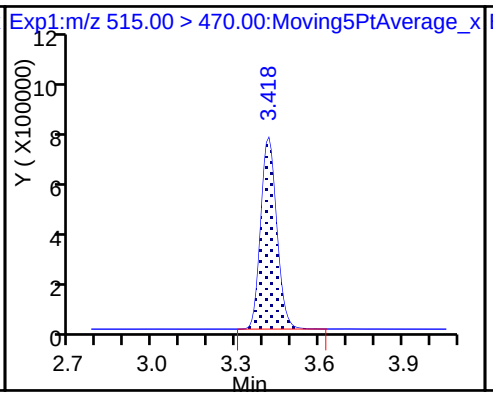
24 Perfluorodecanoic acid



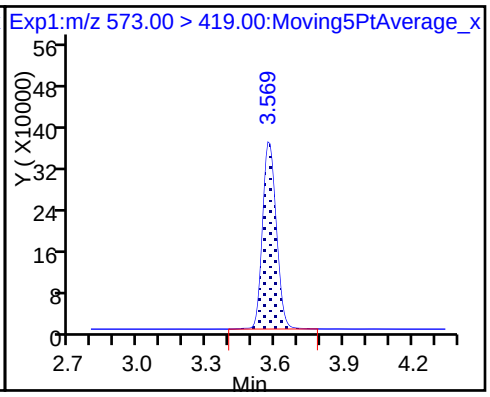
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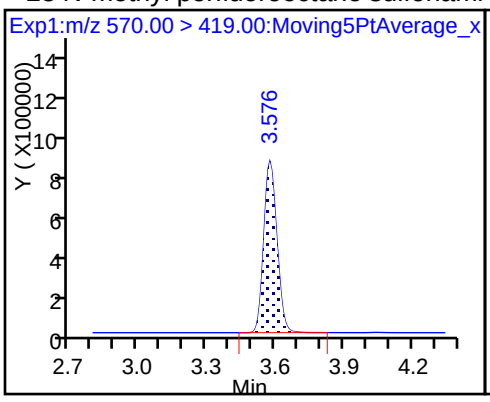
D 23 13C2 PFDA



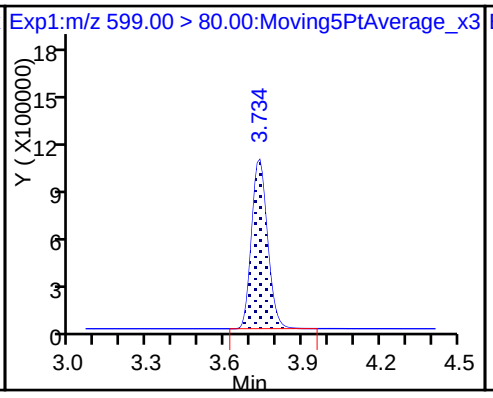
D 27 d3-NMeFOSAA



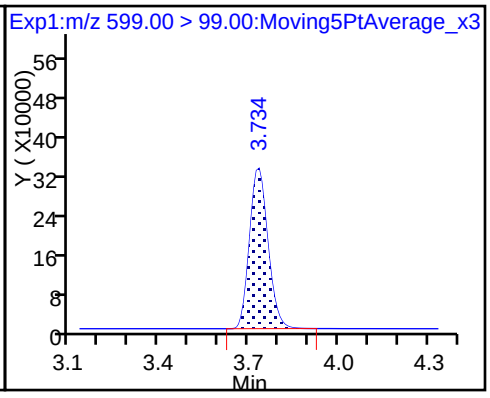
28 N-methyl perfluorooctane sulfonami



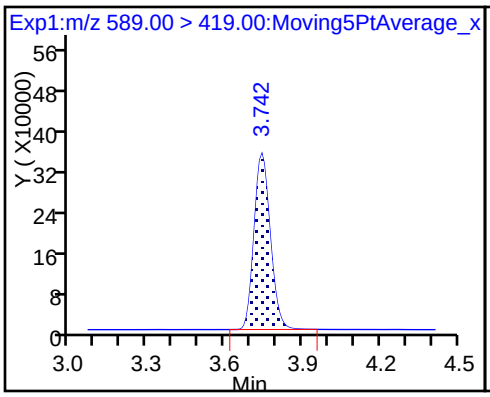
29 Perfluorodecane Sulfonic acid



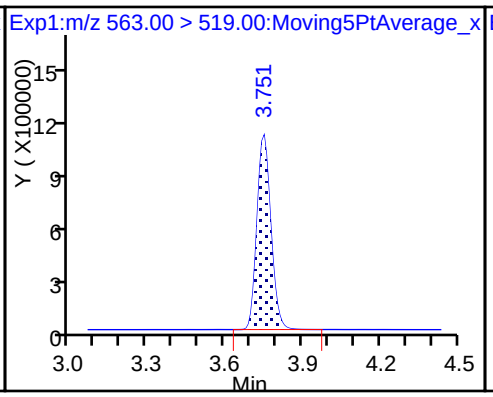
29 Perfluorodecane Sulfonic acid



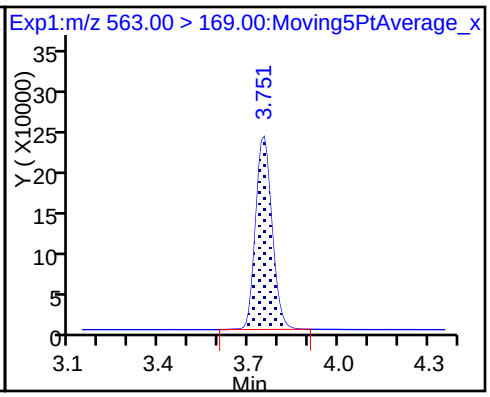
D 32 d5-NEtFOSAA



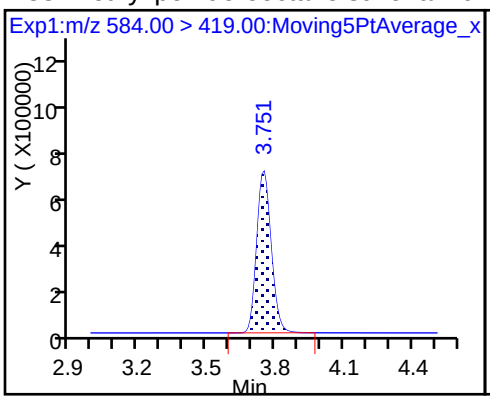
31 Perfluoroundecanoic acid



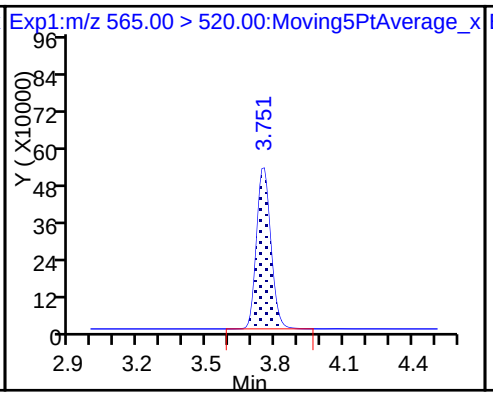
31 Perfluoroundecanoic acid



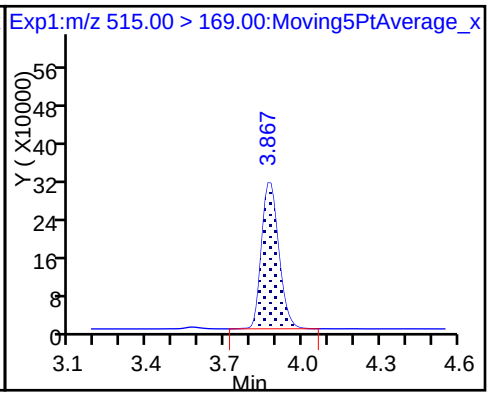
33 N-ethyl perfluorooctane sulfonamid



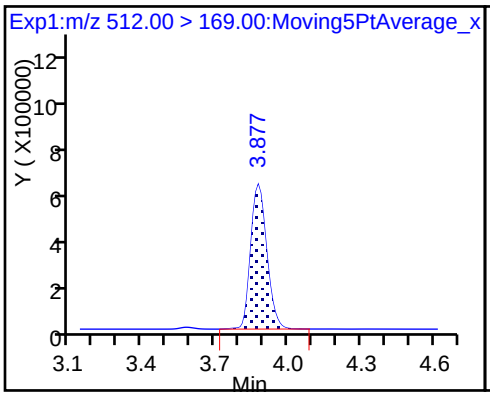
D 30 13C2 PFUnA



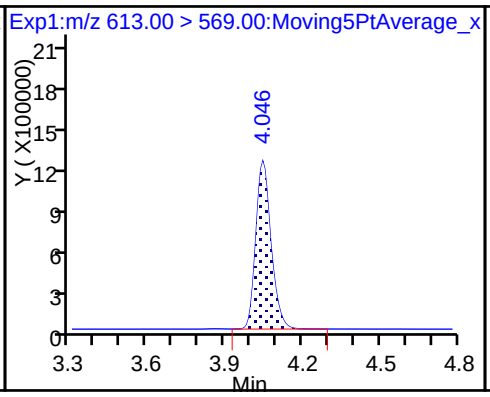
D 34 d-N-MeFOSA-M



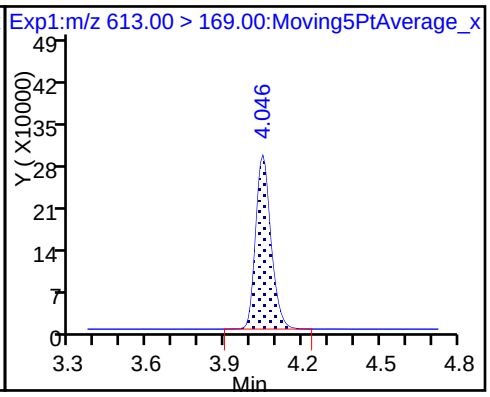
35 MeFOSA



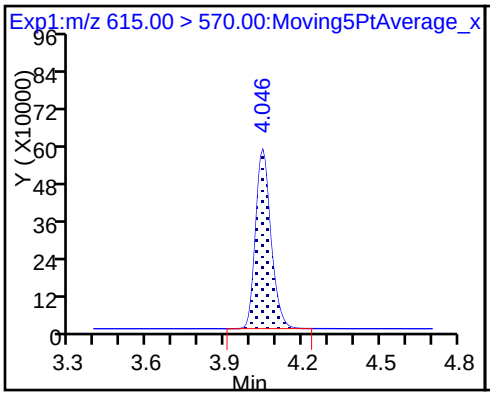
37 Perfluorododecanoic acid



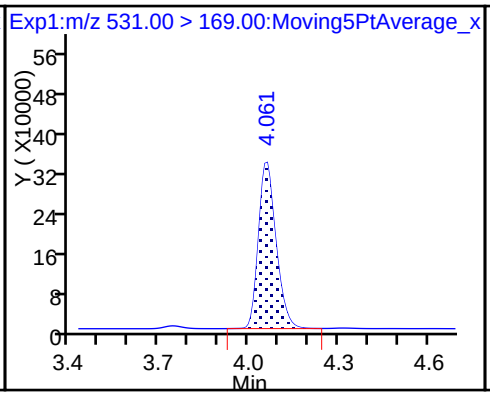
37 Perfluorododecanoic acid



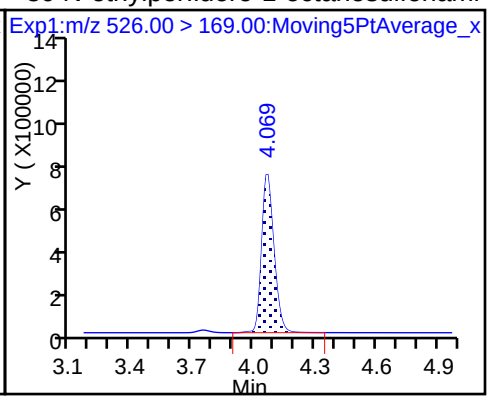
D 36 13C2 PFDoA



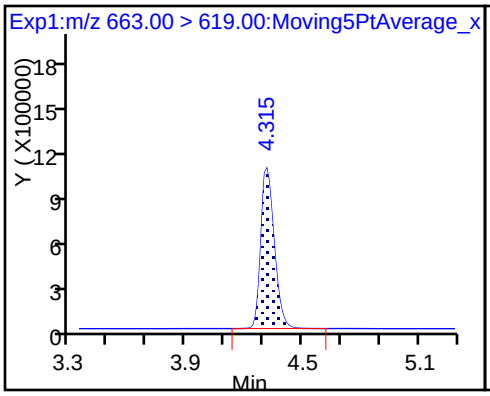
D 38 d-N-EtFOSA-M



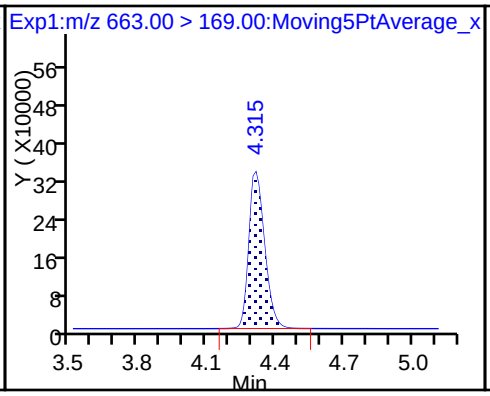
39 N-ethylperfluoro-1-octanesulfonami



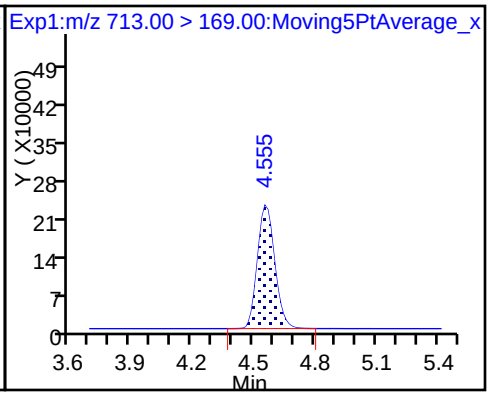
41 Perfluorotridecanoic acid



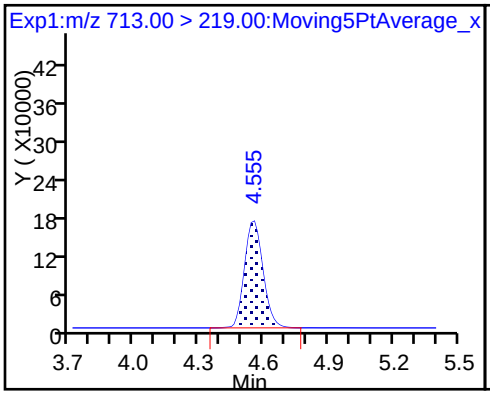
41 Perfluorotridecanoic acid



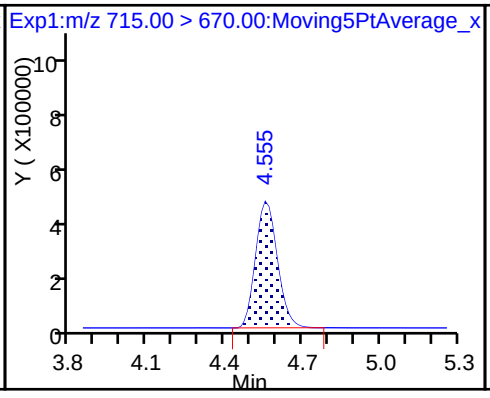
42 Perfluorotetradecanoic acid



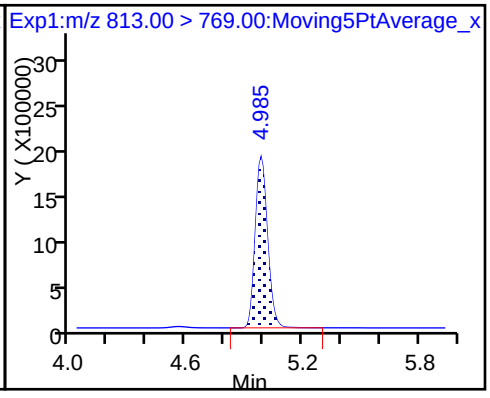
42 Perfluorotetradecanoic acid



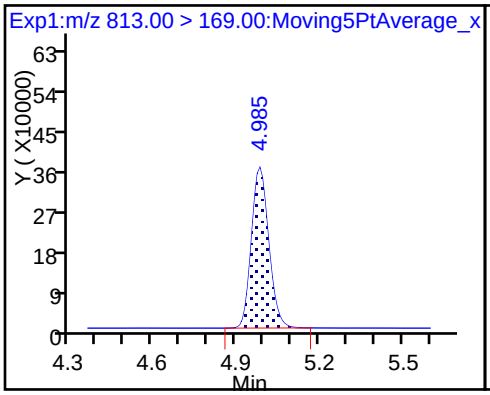
D 43 13C2-PFTeDA



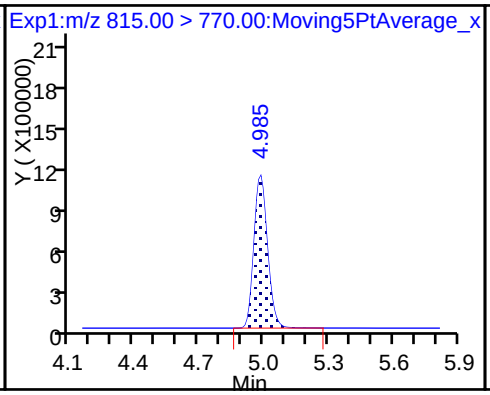
45 Perfluorohexadecanoic acid



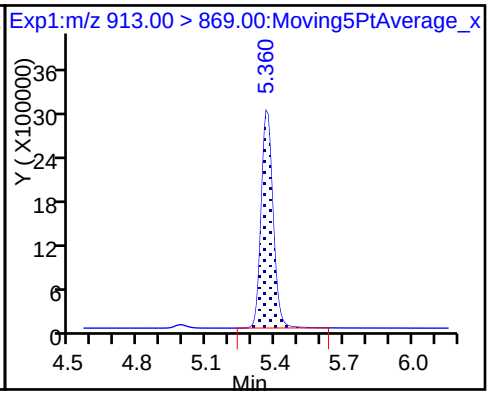
45 Perfluorohexadecanoic acid



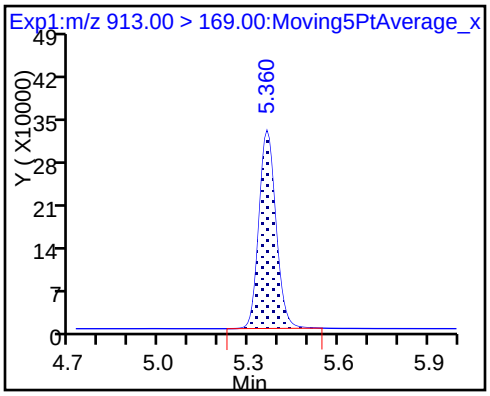
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_008.d
Lims ID: IC L7 Full
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 26-Dec-2017 17:42:43 ALS Bottle#: 16 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L7-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:46 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:36:49

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.433	1.433	0.0	0.536	7445728	2.60		104	21011	
2 Perfluorobutyric acid										
212.90 > 169.00	1.439	1.434	0.005	1.004	27172681	9.99		99.9	6424	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.690	1.691	-0.001	1.000	18729644	9.81		98.1	18971	
D 3 13C5-PFPeA										
267.90 > 223.00	1.690	1.692	-0.002	0.632	4257151	2.55		102	41463	
D 47 13C3-PFBS										
301.90 > 83.00	1.725	1.725	0.0	0.645	86415	2.39		103	2598	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.734	1.730	0.004	1.005	24367996	8.76		99.1	62875	
298.90 > 99.00	1.734	1.730	0.004	1.005	10696312		2.28(1.25-3.74)	99.1	60923	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.945	1.941	0.004	1.000	5379700	9.91		106	138906	
D 7 13C2 PFHxA										
315.00 > 270.00	1.976	1.976	0.0	0.739	4670780	2.60		104	37047	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.976	1.979	-0.003	1.000	18626791	9.98		99.8	81760	
313.00 > 119.00	1.976	1.979	-0.003	1.000	1750607		10.64(5.03-15.10)	99.8	33892	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.311	-0.005	0.863	4192372	2.51		101	29516	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.311	-0.005	1.000	17812933	10.2		102	29608	
363.00 > 169.00	2.306	2.311	-0.005	1.000	7407007		2.40(1.13-3.40)	102	42808	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.319	2.324	-0.005	0.994	19924018	8.31		91.3	28819	
399.00 > 99.00	2.319	2.324	-0.005	0.994	7038929		2.83(1.50-4.49)	91.3	22320	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.332	2.328	0.004	0.872	5189898	2.45		104	26346	
D 12 M2-6:2FTS										
429.00 > 81.00	2.645	2.649	-0.004	0.989	747693	2.36		99.5	12874	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.652	2.651	0.001	1.003	5122011	9.70		102	61944	
D 14 13C4 PFOA										
417.00 > 372.00	2.673	2.674	-0.001	1.000	4171184	2.45		98.0	28237	
* 62 13C2-PFOA										
415.00 > 370.00	2.673	2.676	-0.003		4141309	2.50			32958	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.673	2.677	-0.004	1.000	17746633	10.0		100	10144	
413.00 > 169.00	2.673	2.677	-0.004	1.000	9890524		1.79(0.84-2.52)	100	27468	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.680	2.683	-0.003	1.000	16381911	9.71		102	39045	
449.00 > 99.00	2.680	2.683	-0.003	1.000	4645115		3.53(1.94-5.82)	102	34472	
D 18 13C4 PFOS										
503.00 > 80.00	3.048	3.048	0.0	1.140	3286507	2.34		97.9	19080	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.048	3.050	-0.002	1.000	14080471	9.54		103	3133	
499.00 > 99.00	3.048	3.050	-0.002	1.000	3124070		4.51(2.31-6.93)	103	4152	
D 19 13C5 PFNA										
468.00 > 423.00	3.048	3.051	-0.003	1.140	3334889	2.45		98.1	39631	
20 Perfluorononanoic acid										
463.00 > 419.00	3.048	3.052	-0.004	1.000	13302133	10.2		102	26369	
463.00 > 169.00	3.048	3.052	-0.004	1.000	3497622		3.80(1.90-5.69)	102	41348	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.377	0.001	1.263	4898779	2.58		103	26857	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.378	0.0	1.000	17901266	9.62		96.2	50507	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.400	3.402	-0.002	1.000	4336415	9.51		99.3	49066	
D 26 M2-8:2FTS										
529.00 > 81.00	3.400	3.403	-0.003	1.272	869684	2.50		105	14530	
D 23 13C2 PFDA										
515.00 > 470.00	3.415	3.414	0.001	1.278	2839256	2.57		103	37561	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.415	3.414	0.001	1.000	10946670	9.78		97.8	35120	
513.00 > 169.00	3.415	3.414	0.001	1.000	1998874		5.48(2.36-7.09)	97.8	2012	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.566	3.569	-0.003	1.334	1504595	2.63		105	18463	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.574	3.574	0.0	1.002	6513260	10.2		102	23335	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.731	3.730	0.001	1.000	8292975	10.2		106	43669	
599.00 > 99.00	3.723	3.730	-0.007	0.998	2709225		3.06(1.39-4.16)	106	20476	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.740	3.740	0.0	1.399	1470594	2.53		101	6939	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.749	3.746	0.003	1.000	7873695	9.84		98.4	32613	
563.00 > 169.00	3.749	3.746	0.003	1.000	1731361		4.55(0.00-0.00)	98.4	32563	
D 30 13C2 PFUnA										
565.00 > 520.00	3.749	3.747	0.002	1.402	2136125	2.55		102	22842	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.749	3.747	0.002	1.002	5776426	10.2		102	30609	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.864	3.867	-0.003	1.446	1429377	2.65		106	3457	
35 MeFOSA										
512.00 > 169.00	3.874	3.873	0.001	1.003	5759747	10.4		104	3277	
D 36 13C2 PFDoA										
615.00 > 570.00	4.044	4.045	-0.001	1.513	2262816	2.49		99.6	36892	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.044	4.045	-0.001	1.000	8935107	9.94		99.4	26278	
613.00 > 169.00	4.044	4.045	-0.001	1.000	2242324		3.98(2.13-6.40)	99.4	36761	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.059	4.058	0.001	1.519	1365210	2.66		106	2090	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.067	4.065	0.002	1.002	5860552	9.90		99.0	3126	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.314	4.312	0.002	1.000	9560205	9.80		98.0	31725	
663.00 > 169.00	4.314	4.312	0.002	1.000	3352461		2.85(1.25-3.76)	98.0	47156	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.554	4.557	-0.003	1.704	2423995	2.45		98.1	12962	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.554	4.557	-0.003	1.000	2578342	10.4		104	27636	
713.00 > 219.00	4.554	4.557	-0.003	1.000	1706191		1.51(0.71-2.13)	104	22393	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.984	4.984	0.0	1.865	4413224	2.44		97.4	15585	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.984	4.984	0.0	1.000	15523204	10.3		103	8073	
813.00 > 169.00	4.984	4.984	0.0	1.000	2747486		5.65(2.86-8.58)	103	14050	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.367	5.361	0.006	1.000	18489170	9.75		97.5	2953	
913.00 > 169.00	5.360	5.361	-0.001	0.999	2389804		7.74(0.00-0.00)	97.5	4519	

Reagents:

LCPFC_LL7_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:48 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_008.d

Injection Date: 26-Dec-2017 17:42:43 Instrument ID: A8_N

Lims ID: IC L7 Full

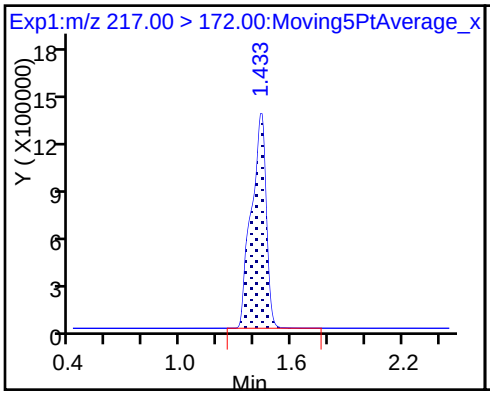
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 16 Worklist Smp#: 8

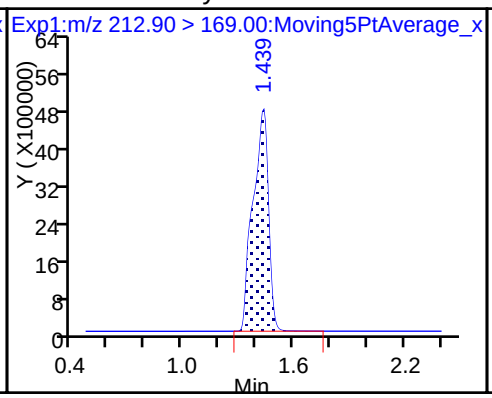
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

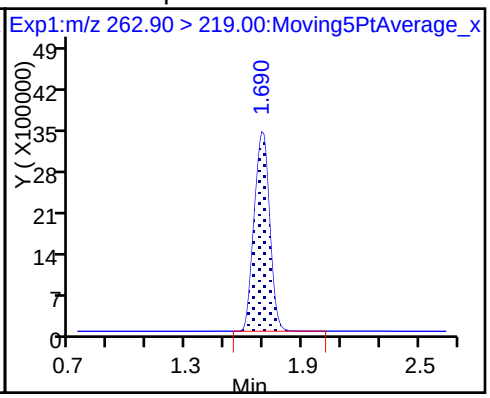
D 1 13C4 PFBA



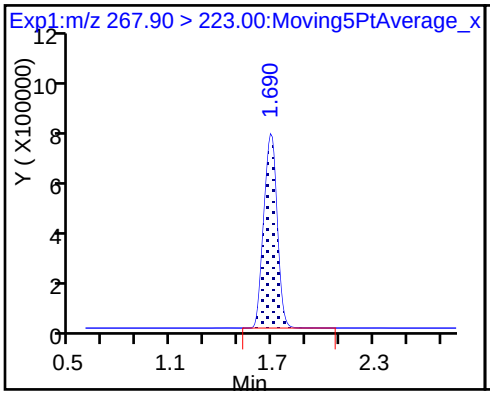
2 Perfluorobutyric acid



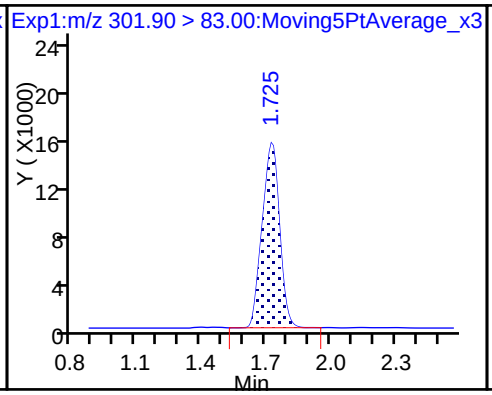
4 Perfluoropentanoic acid



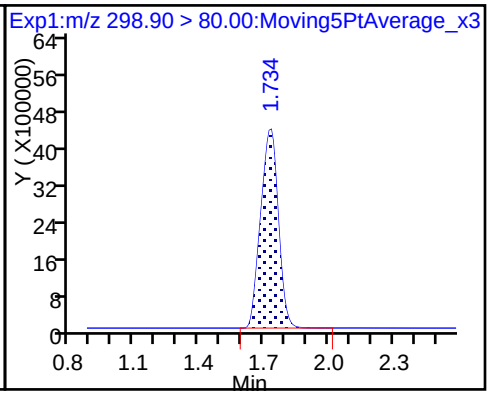
D 3 13C5-PFPeA



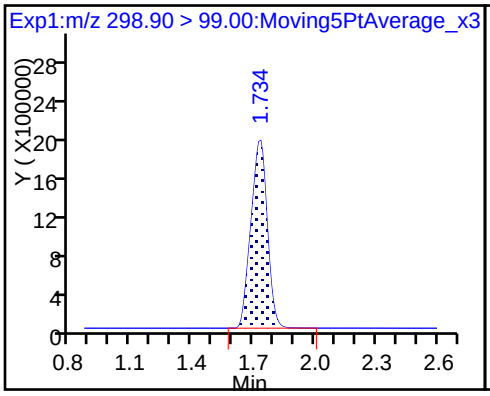
D 47 13C3-PFBS



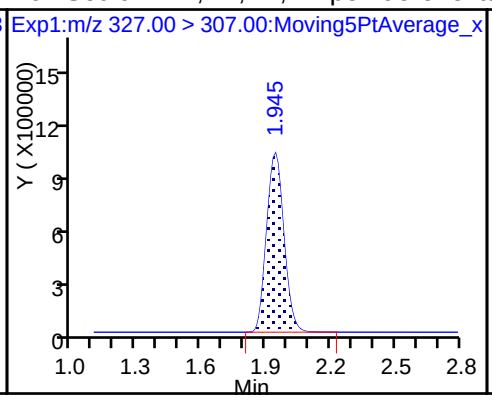
5 Perfluorobutanesulfonic acid



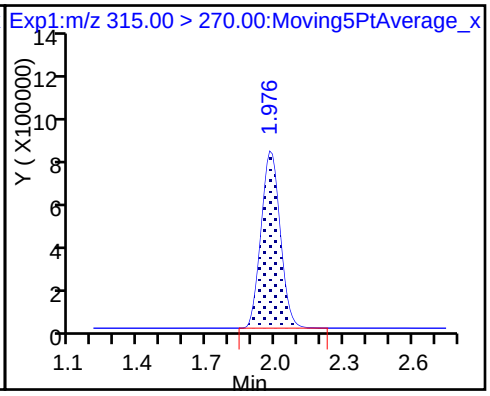
5 Perfluorobutanesulfonic acid



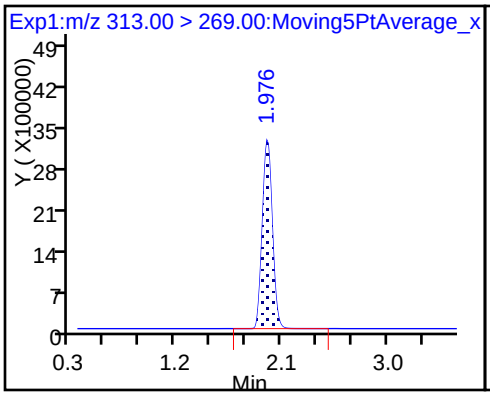
61 Sodium 1H,1H,2H,2H-perfluorohexa



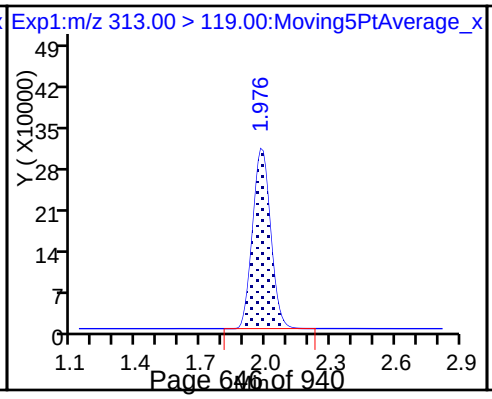
D 7 13C2 PFHxA



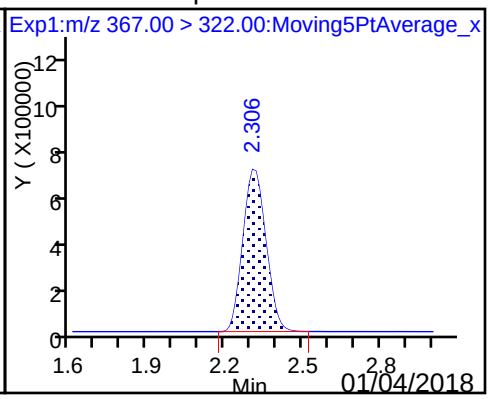
6 Perfluorohexanoic acid



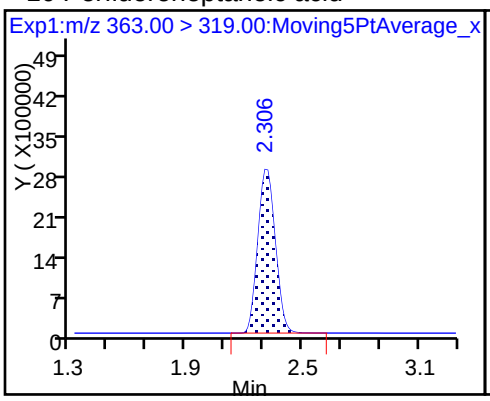
6 Perfluorohexanoic acid



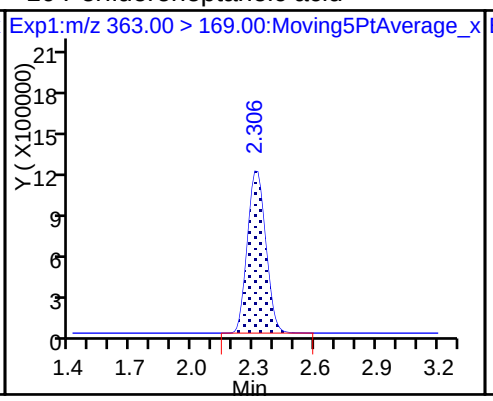
D 9 13C4-PFHpA



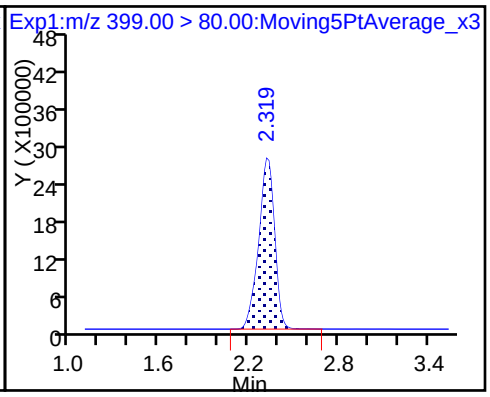
10 Perfluoroheptanoic acid



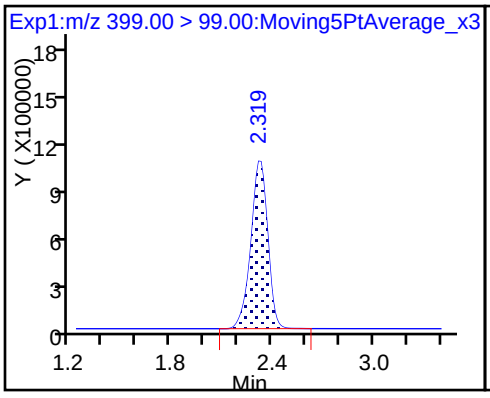
10 Perfluoroheptanoic acid



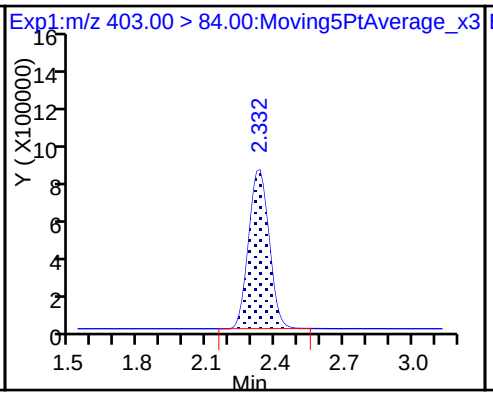
8 Perfluorohexanesulfonic acid



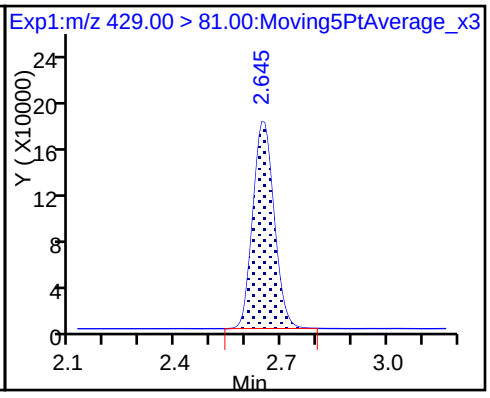
8 Perfluorohexanesulfonic acid



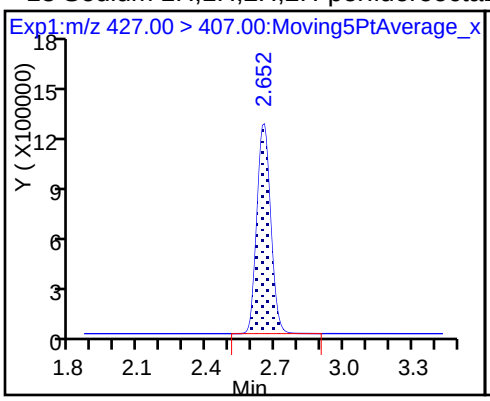
D 11 18O2 PFHxS



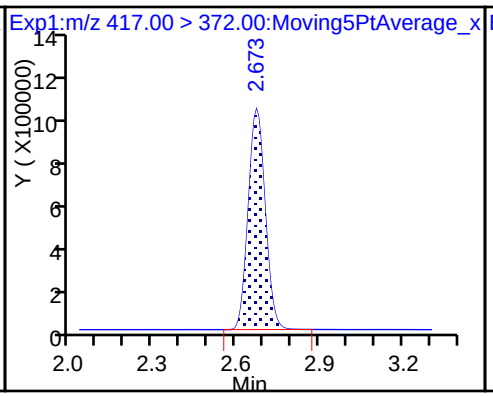
D 12 M2-6:2FTS



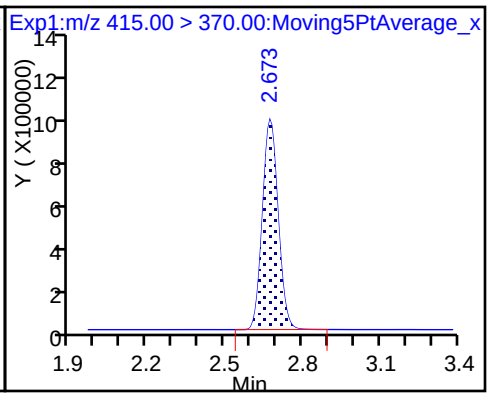
13 Sodium 1H,1H,2H,2H-perfluorooctane



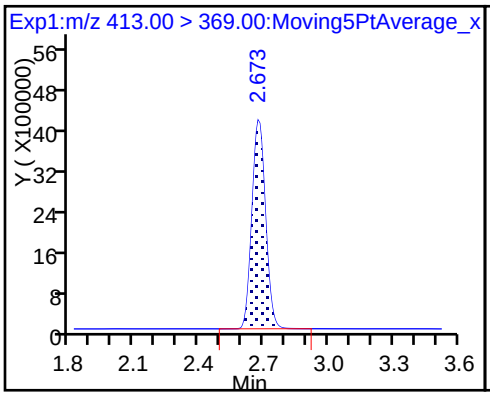
D 14 13C4 PFOA



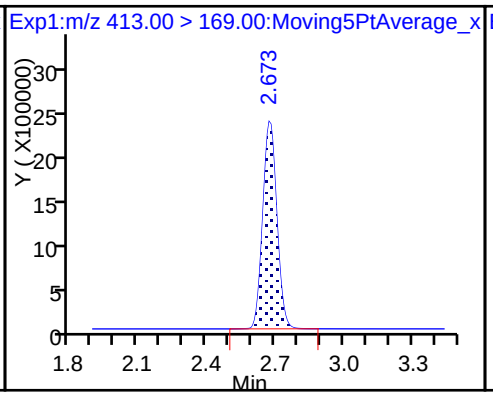
* 62 13C2-PFOA



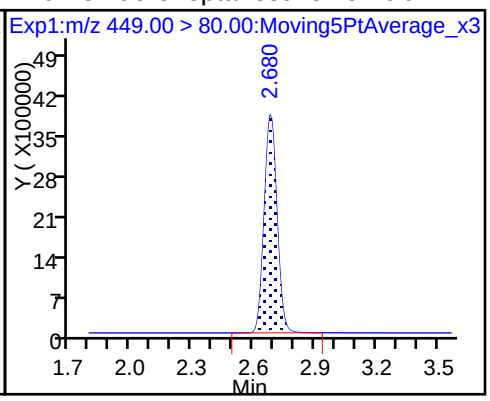
15 Perfluorooctanoic acid



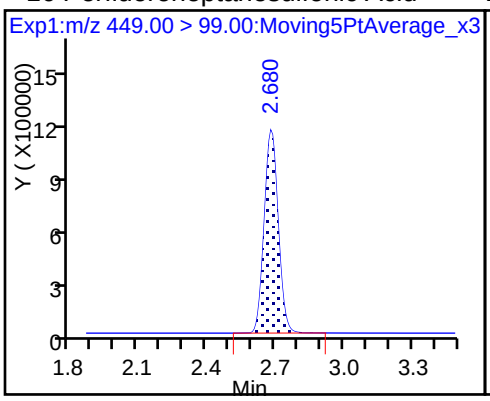
15 Perfluorooctanoic acid



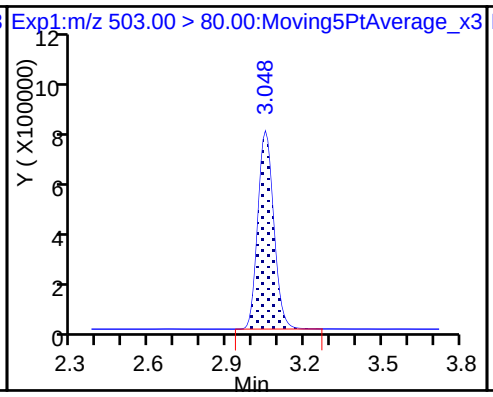
16 Perfluoroheptanesulfonic Acid



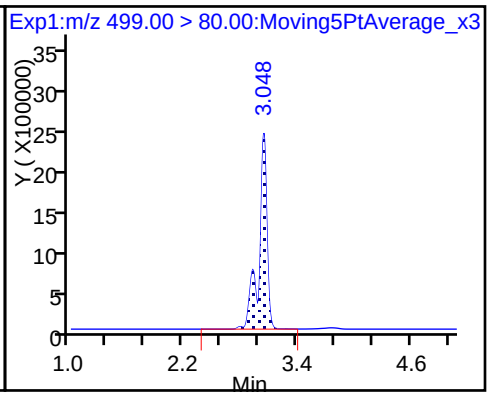
16 Perfluoroheptanesulfonic Acid



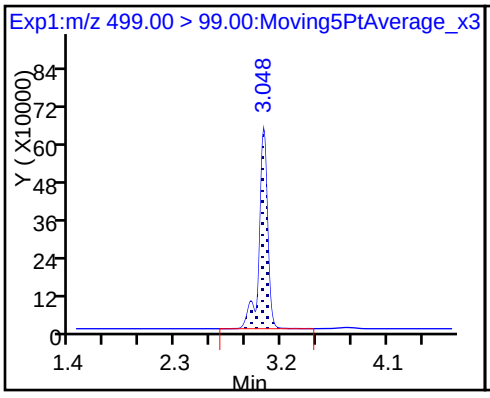
D 18 13C4 PFOS



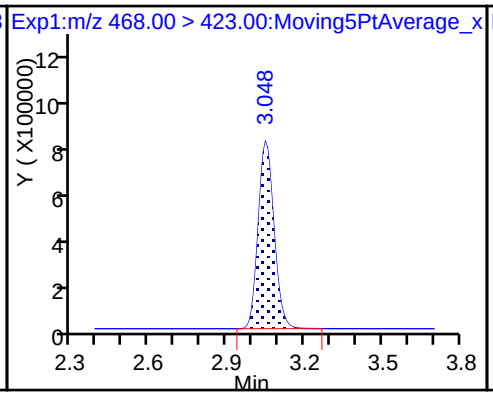
17 Perfluorooctane sulfonic acid



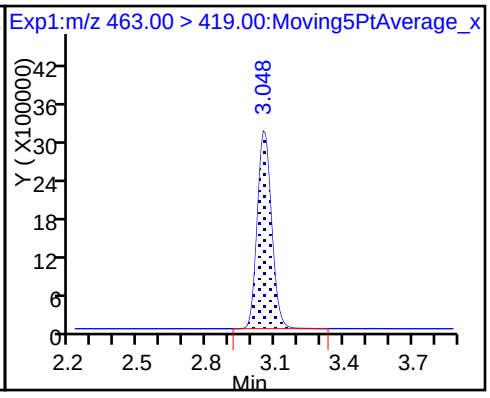
17 Perfluorooctane sulfonic acid



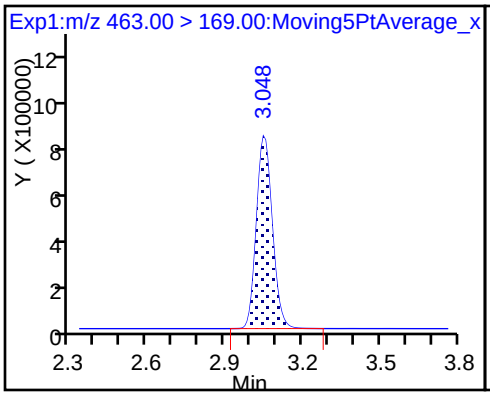
D 19 13C5 PFNA



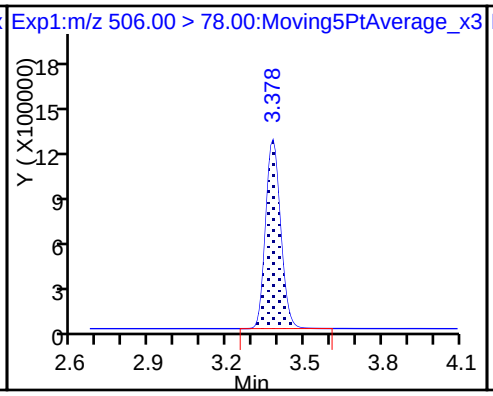
20 Perfluorononanoic acid



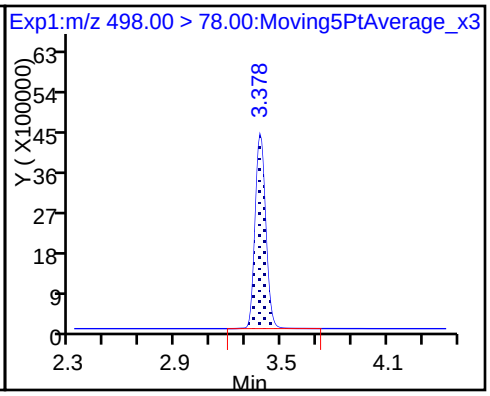
20 Perfluorononanoic acid



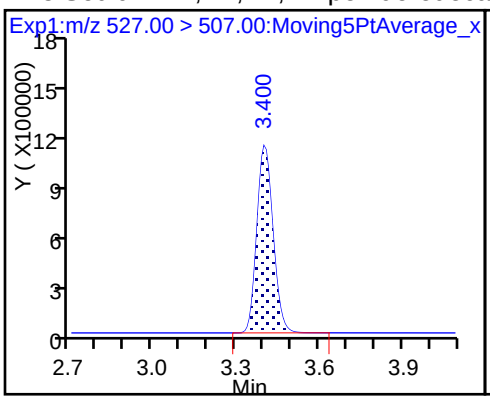
D 21 13C8 FOSA



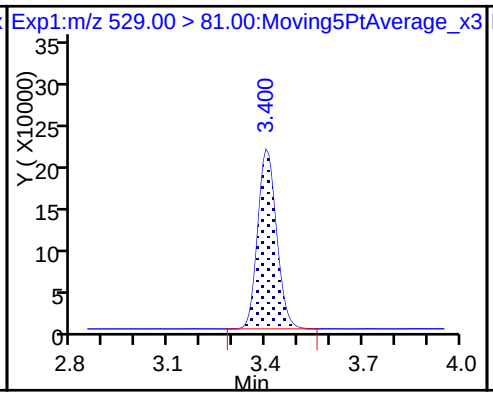
22 Perfluorooctane Sulfonamide



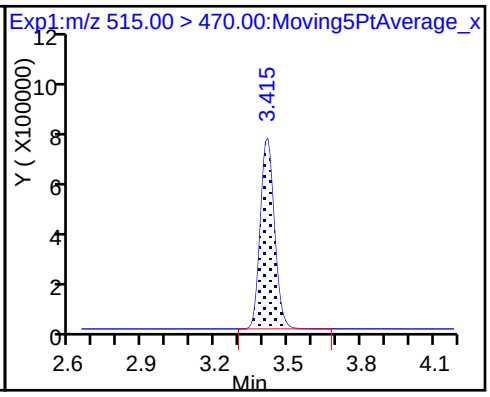
25 Sodium 1H,1H,2H,2H-perfluorodecane



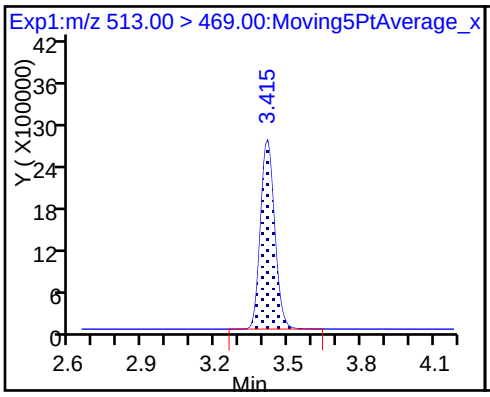
D 26 M2-8:2FTS



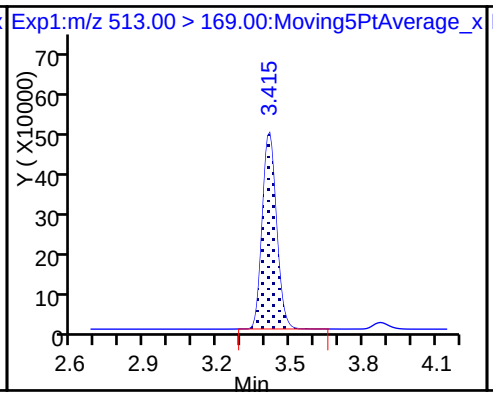
D 23 13C2 PFDA



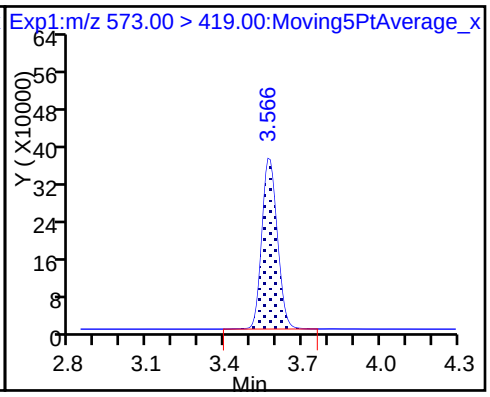
24 Perfluorodecanoic acid



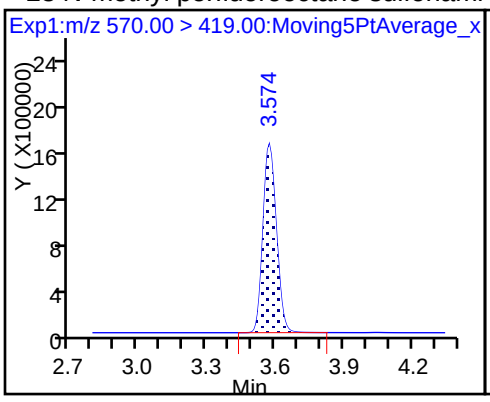
24 Perfluorodecanoic acid



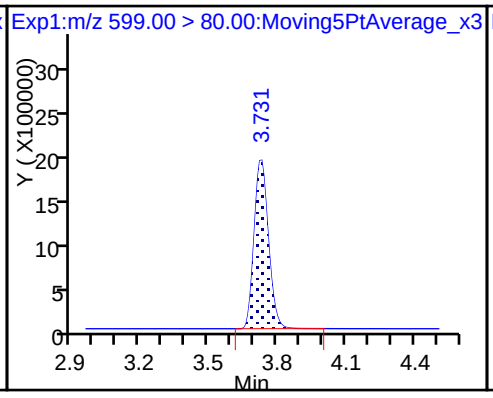
D 27 d3-NMeFOSAA



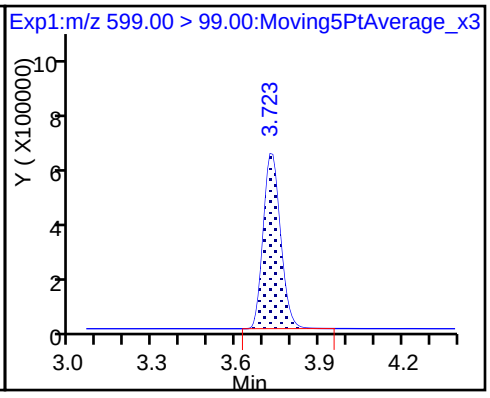
28 N-methyl perfluorooctane sulfonami



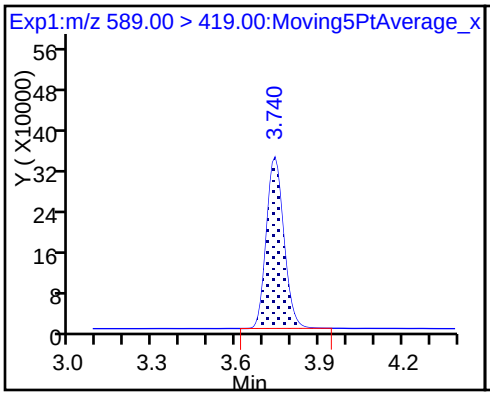
29 Perfluorodecane Sulfonic acid



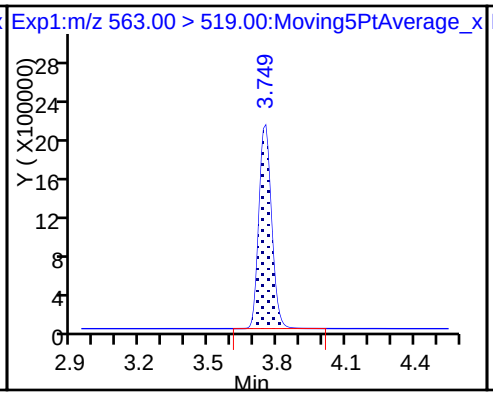
29 Perfluorodecane Sulfonic acid



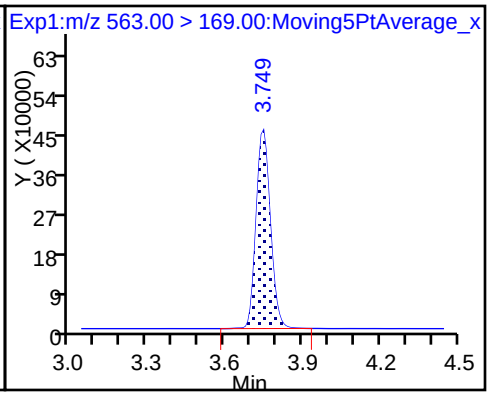
D 32 d5-NEtFOSAA



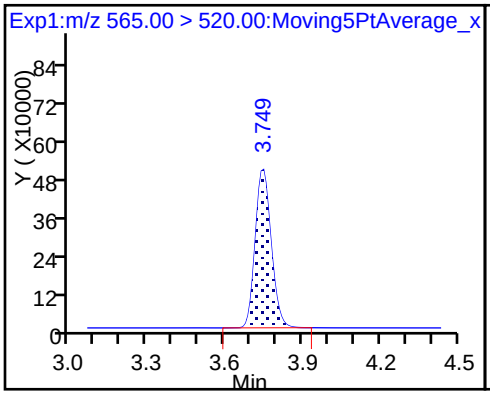
31 Perfluoroundecanoic acid



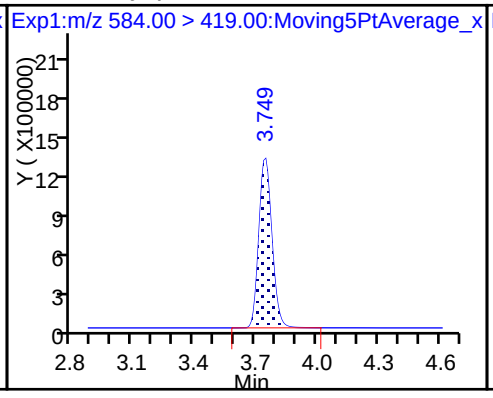
31 Perfluoroundecanoic acid



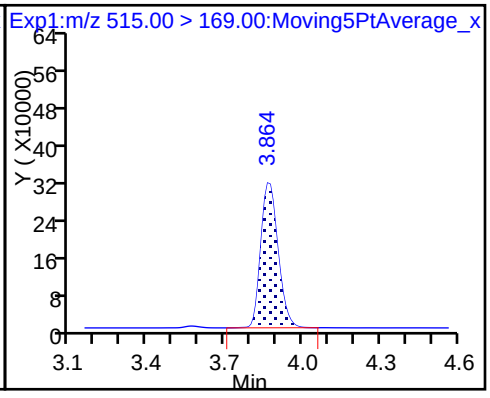
D 30 13C2 PFUnA



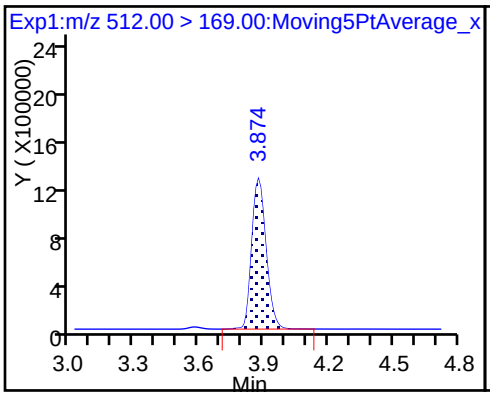
33 N-ethyl perfluorooctane sulfonamid



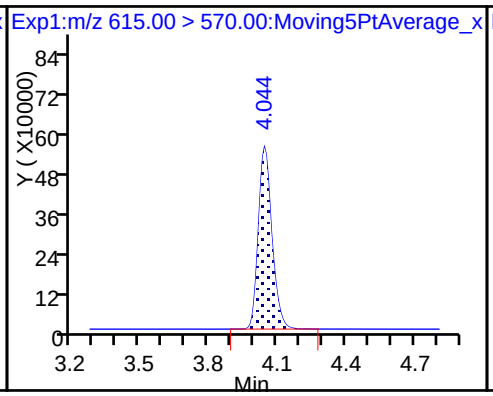
D 34 d-N-MeFOSA-M



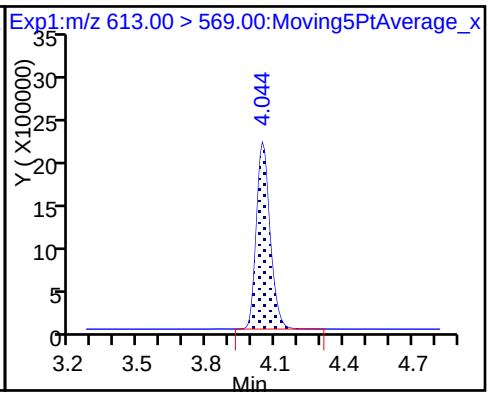
35 MeFOSA



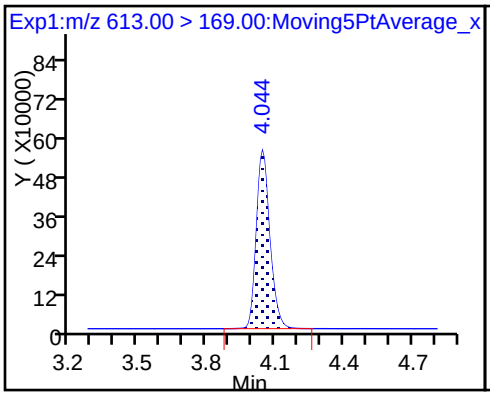
D 36 13C2 PFDoA



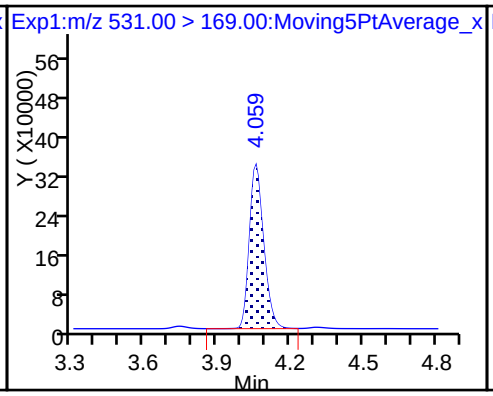
37 Perfluorododecanoic acid



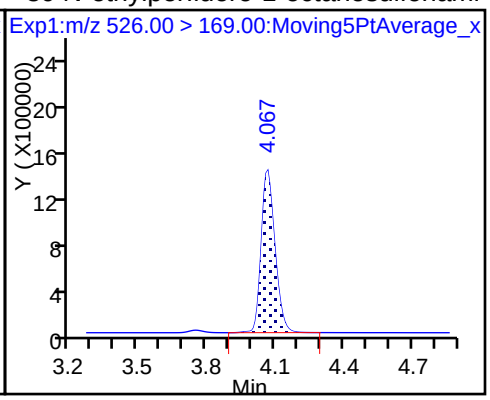
37 Perfluorododecanoic acid



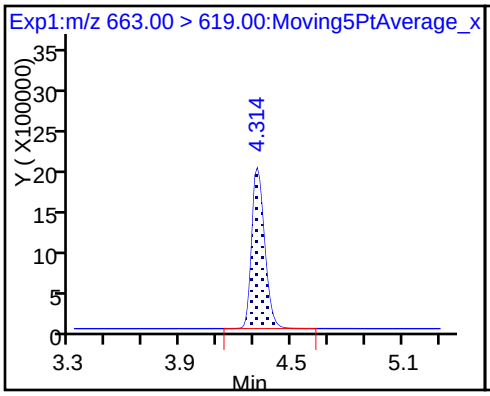
D 38 d-N-EtFOSA-M



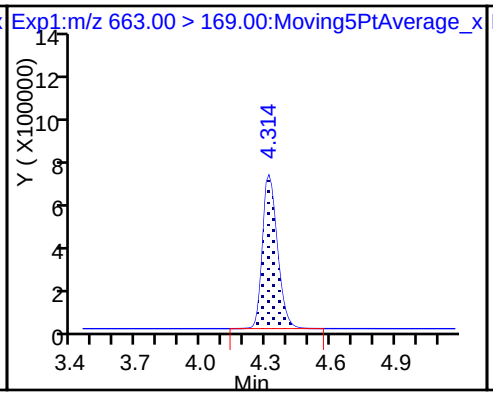
39 N-ethylperfluoro-1-octanesulfonami



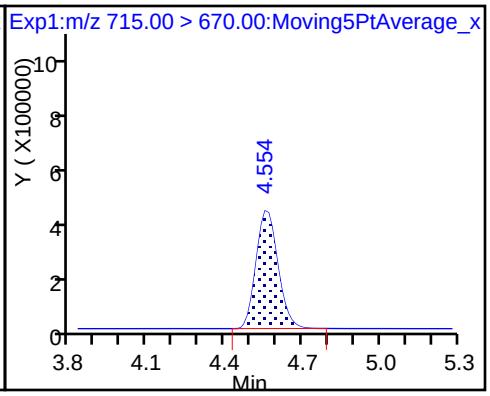
41 Perfluorotridecanoic acid



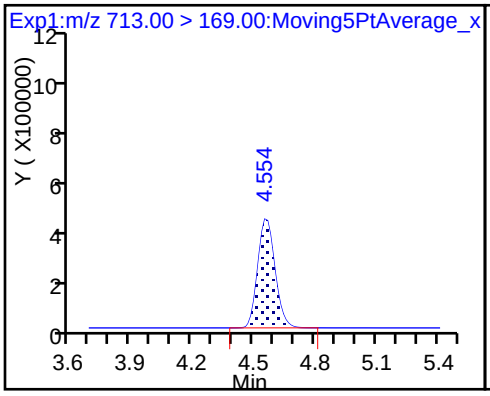
41 Perfluorotridecanoic acid



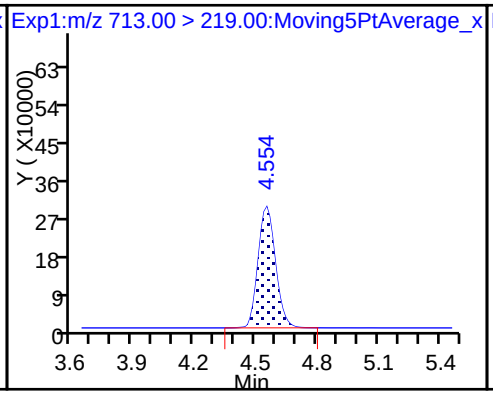
D 43 13C2-PFTeDA



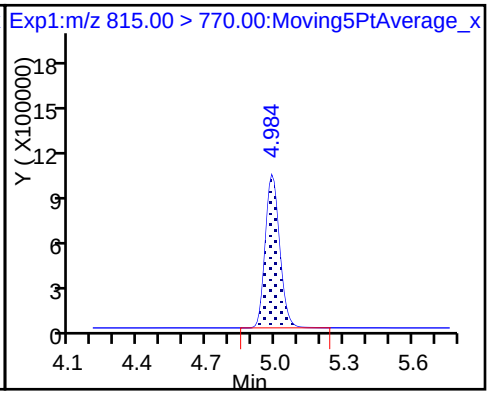
42 Perfluorotetradecanoic acid



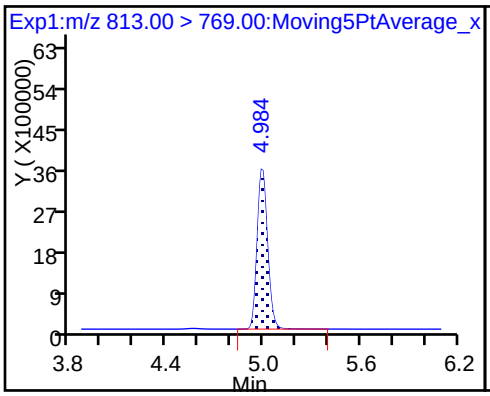
42 Perfluorotetradecanoic acid



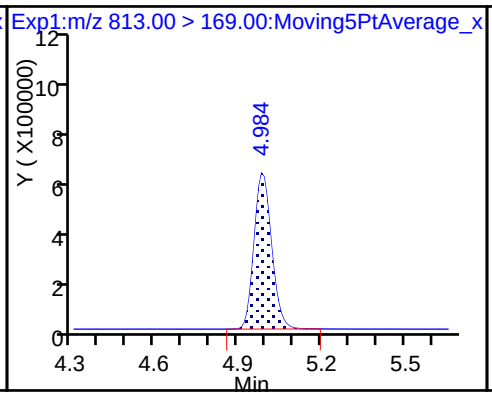
D 44 13C2-PFHxDA



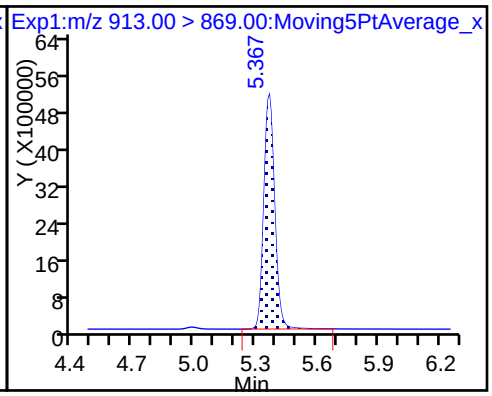
45 Perfluorohexadecanoic acid



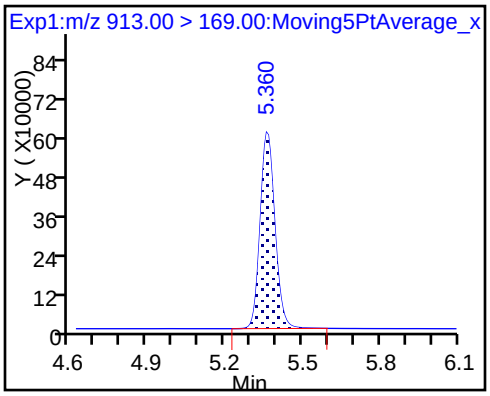
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_009.d
Lims ID: IC L8 Full
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 26-Dec-2017 17:50:30 ALS Bottle#: 17 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L8-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:53 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:37:34

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.433	-0.007	0.534	7226697	2.68		107	19135	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.434	-0.008	1.000	46354837	17.6		87.8	8872	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.691	-0.012	0.995	32601407	18.0		89.9	26591	
D 3 13C5-PFPeA										
267.90 > 223.00	1.688	1.692	-0.004	0.632	4040100	2.57		103	48904	
D 47 13C3-PFBS										
301.90 > 83.00	1.724	1.725	-0.001	0.645	83195	2.44		105	3013	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.724	1.730	-0.006	1.000	39328701	14.7		83.1	75629	
298.90 > 99.00	1.724	1.730	-0.006	1.000	19460610		2.02(1.25-3.74)	83.1	83299	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.933	1.941	-0.008	1.000	9840365	19.0		101	124201	
D 7 13C2 PFHxA										
315.00 > 270.00	1.974	1.976	-0.002	0.739	4385774	2.60		104	33283	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.974	1.979	-0.005	1.000	31962029	18.2		91.2	92173	
313.00 > 119.00	1.974	1.979	-0.005	1.000	3236652		9.88(5.03-15.10)	91.2	79384	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.304	2.311	-0.007	1.000	29220142	17.5		87.6	39612	
363.00 > 169.00	2.304	2.311	-0.007	1.000	13201244		2.21(1.13-3.40)	87.6	48598	
D 9 13C4-PFHpA										
367.00 > 322.00	2.304	2.311	-0.007	0.862	3987961	2.54		102	29396	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.317	2.324	-0.007	1.000	35148833	16.6		91.4	26000	
399.00 > 99.00	2.317	2.324	-0.007	1.000	12545412		2.80(1.50-4.49)	91.4	24350	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.317	2.328	-0.011	0.867	4571610	2.30		97.1	25618	
D 12 M2-6:2FTS										
429.00 > 81.00	2.644	2.649	-0.005	0.989	715095	2.40		101	14406	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.644	2.651	-0.007	1.000	9050597	17.9		94.5	69582	
D 14 13C4 PFOA										
417.00 > 372.00	2.666	2.674	-0.008	0.997	3875680	2.42		96.9	23268	
* 62 13C2-PFOA										
415.00 > 370.00	2.673	2.676	-0.003		3892531	2.50			33540	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.673	2.677	-0.004	1.003	29376734	17.9		89.5	13029	
413.00 > 169.00	2.673	2.677	-0.004	1.003	17004172		1.73(0.84-2.52)	89.5	39852	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.680	2.683	-0.003	1.000	26846157	16.4		86.3	68858	
449.00 > 99.00	2.680	2.683	-0.003	1.000	8422413		3.19(1.94-5.82)	86.3	55773	
D 18 13C4 PFOS										
503.00 > 80.00	3.040	3.048	-0.008	1.137	3181407	2.41		101	15830	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.047	3.050	-0.003	1.003	25298467	17.7		95.4	5069	
499.00 > 99.00	3.040	3.050	-0.010	1.000	5696686		4.44(2.31-6.93)	95.4	280018	
D 19 13C5 PFNA										
468.00 > 423.00	3.047	3.051	-0.004	1.140	3162653	2.47		99.0	26666	
20 Perfluorononanoic acid										
463.00 > 419.00	3.047	3.052	-0.005	1.000	23256124	18.9		94.3	28485	
463.00 > 169.00	3.047	3.052	-0.005	1.000	6303733		3.69(1.90-5.69)	94.3	33602	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.377	-0.007	1.261	4686465	2.63		105	21117	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.378	-0.008	1.000	29190141	16.4		82.0	72920	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.400	3.402	-0.002	1.000	8278171	18.8		98.4	50011	
D 26 M2-8:2FTS										
529.00 > 81.00	3.400	3.403	-0.003	1.272	837806	2.57		107	12855	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.407	3.414	-0.007	1.000	19481461	17.8		89.1	64389	
513.00 > 169.00	3.407	3.414	-0.007	1.000	3900201		4.99(2.36-7.09)	89.1	2003	
D 23 13C2 PFDA										
515.00 > 470.00	3.407	3.414	-0.007	1.275	2771267	2.67		107	30288	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.558	3.569	-0.011	1.331	1407992	2.62		105	15017	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.566	3.574	-0.008	1.002	11447795	19.2		96.0	22667	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.721	3.730	-0.009	1.000	14451481	18.3		95.1	58012	
599.00 > 99.00	3.721	3.730	-0.009	1.000	4902979		2.95(1.39-4.16)	95.1	40924	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.730	3.740	-0.010	1.396	1282388	2.34		93.7	7305	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.738	3.746	-0.008	1.000	14075331	19.9		99.3	53761	
563.00 > 169.00	3.738	3.746	-0.008	1.000	3104755		4.53(0.00-0.00)	99.3	22821	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.738	3.747	-0.009	1.002	10284337	20.8		104	30468	
D 30 13C2 PFUnA										
565.00 > 520.00	3.738	3.747	-0.009	1.399	1891947	2.41		96.2	20035	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.863	3.867	-0.004	1.445	1454317	2.87		115	3237	
35 MeFOSA										
512.00 > 169.00	3.863	3.873	-0.010	1.000	11128006	19.8		99.1	3612	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.035	4.045	-0.010	1.000	16112569	18.9		94.4	52064	
613.00 > 169.00	4.035	4.045	-0.010	1.000	4108901		3.92(2.13-6.40)	94.4	39851	
D 36 13C2 PFDoA										
615.00 > 570.00	4.035	4.045	-0.010	1.510	2148062	2.51		101	22730	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.050	4.058	-0.008	1.515	1318213	2.73		109	1629	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.058	4.065	-0.007	1.002	11185811	19.6		97.9	3524	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.301	4.312	-0.011	1.000	18648248	20.1		101	43751	
663.00 > 169.00	4.301	4.312	-0.011	1.000	6108083		3.05(1.25-3.76)	101	100211	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.553	4.557	-0.004	1.000	4566597	19.5		97.6	33616	
713.00 > 219.00	4.540	4.557	-0.017	0.997	3287900		1.39(0.71-2.13)	97.6	31009	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.553	4.557	-0.004	1.704	2299500	2.47		99.0	15057	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.975	4.984	-0.009	1.000	24984763	17.7		88.3	11882	
813.00 > 169.00	4.975	4.984	-0.009	1.000	5123043		4.88(2.86-8.58)	88.3	21302	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.975	4.984	-0.009	1.861	4139140	2.43		97.2	11388	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.353	5.361	-0.008	1.000	31703202	17.8		89.1	3799	
913.00 > 169.00	5.353	5.361	-0.008	1.000	4538709		6.99(0.00-0.00)	89.1	4973	

Reagents:

LCPFC_LL8_00001 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:54 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_009.d

Injection Date: 26-Dec-2017 17:50:30 Instrument ID: A8_N

Lims ID: IC L8 Full

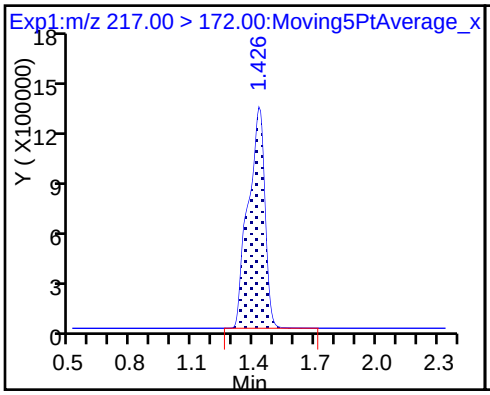
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Operator ID: SACINSTLCMS01 ALS Bottle#: 17 Worklist Smp#: 9

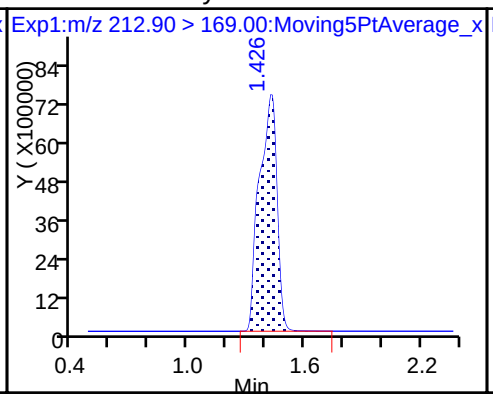
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

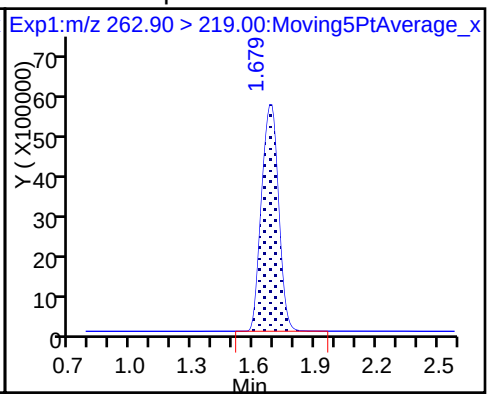
D 1 13C4 PFBA



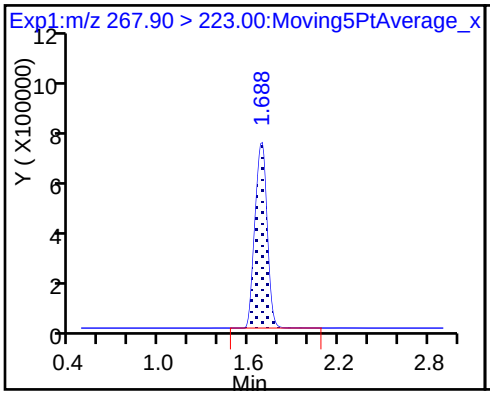
2 Perfluorobutyric acid



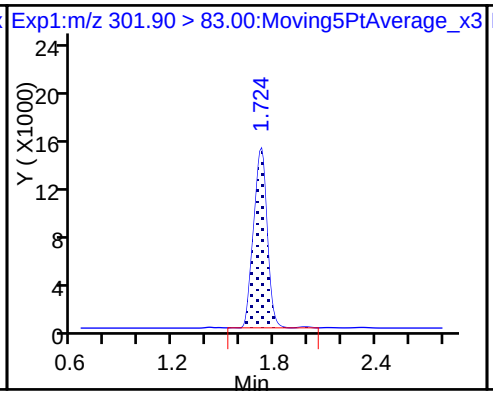
4 Perfluoropentanoic acid



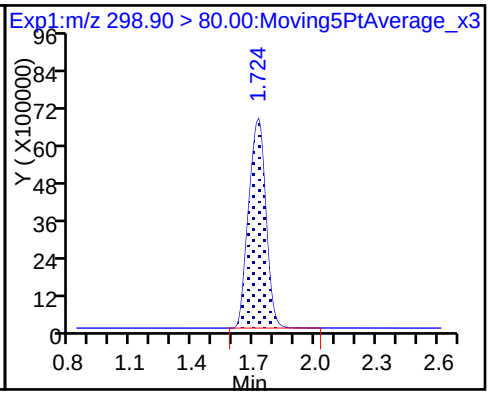
D 3 13C5-PFPeA



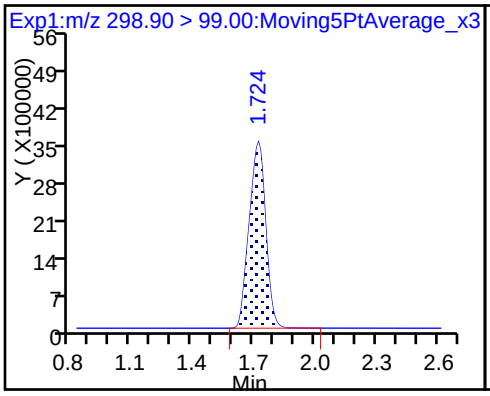
D 47 13C3-PFBS



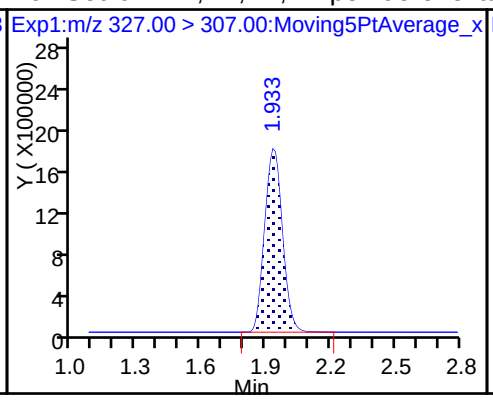
5 Perfluorobutanesulfonic acid



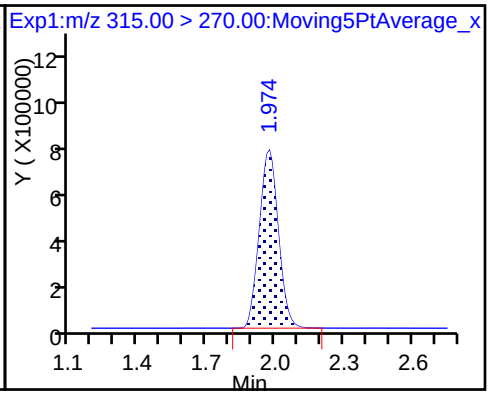
5 Perfluorobutanesulfonic acid



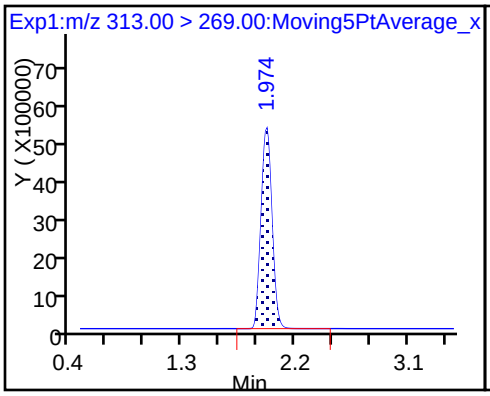
61 Sodium 1H,1H,2H,2H-perfluorohexa



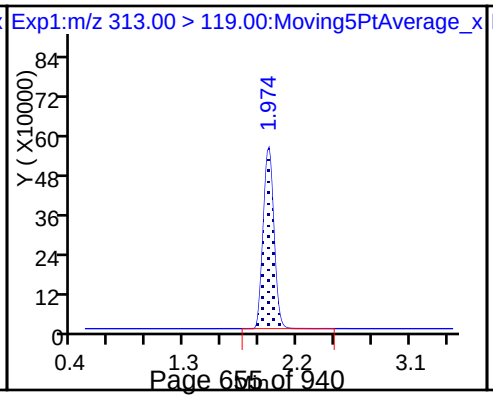
D 7 13C2 PFHxA



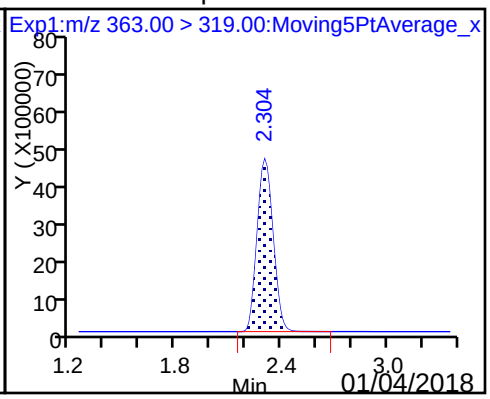
6 Perfluorohexanoic acid



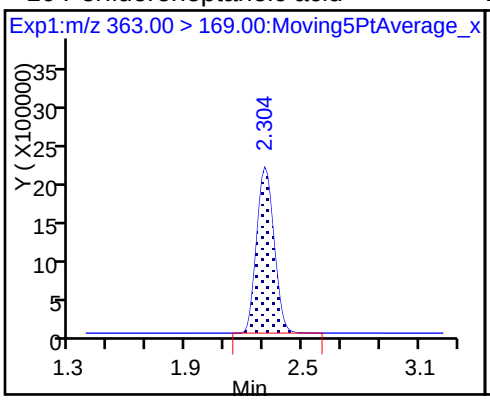
6 Perfluorohexanoic acid



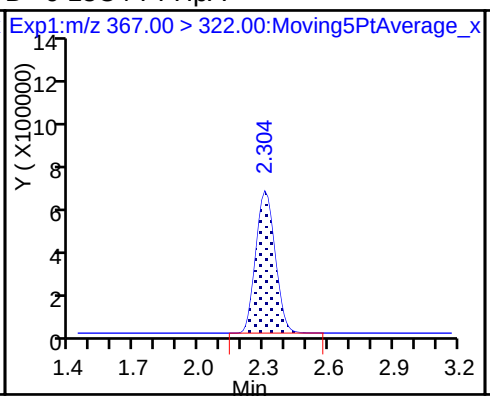
10 Perfluoroheptanoic acid



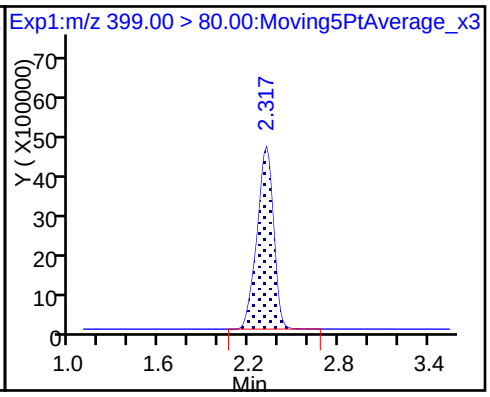
10 Perfluoroheptanoic acid



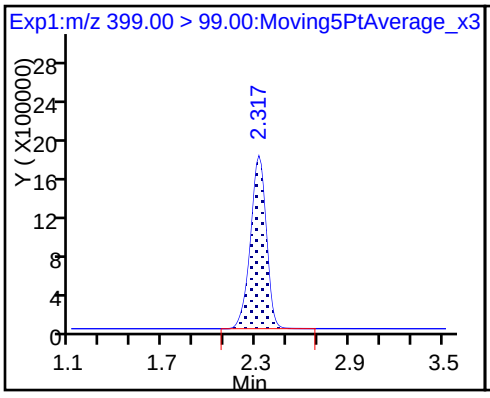
D 9 13C4-PFHpA



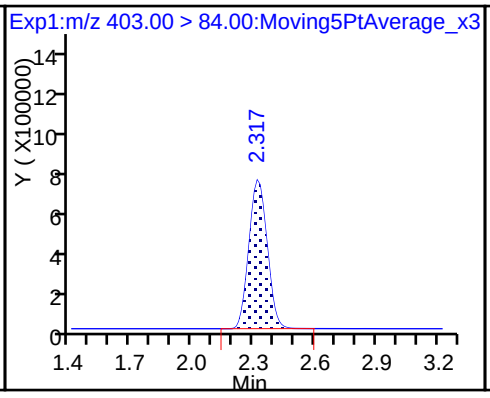
8 Perfluorohexanesulfonic acid



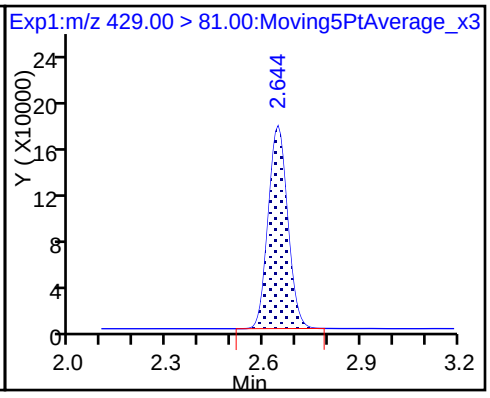
8 Perfluorohexanesulfonic acid



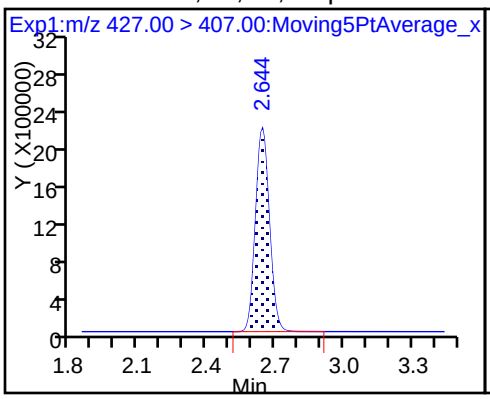
D 11 18O2 PFHxS



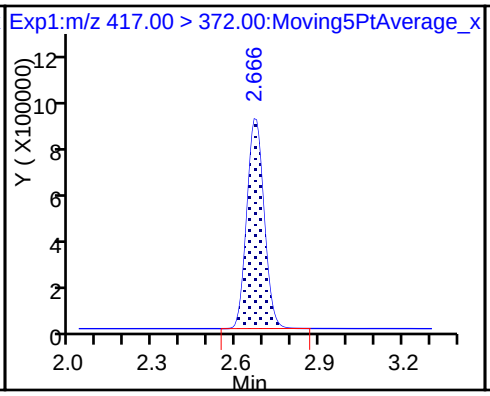
D 12 M2-6:2FTS



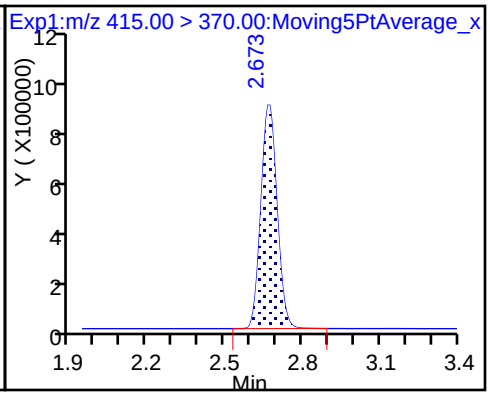
13 Sodium 1H,1H,2H,2H-perfluorooctane



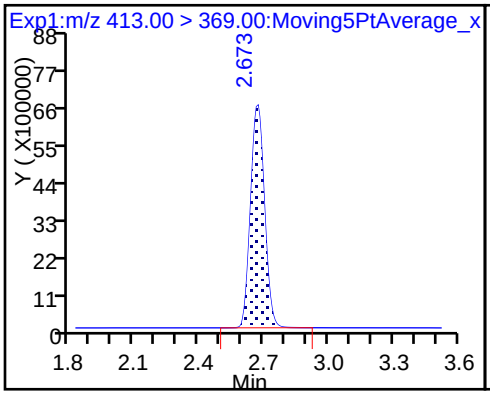
D 14 13C4 PFOA



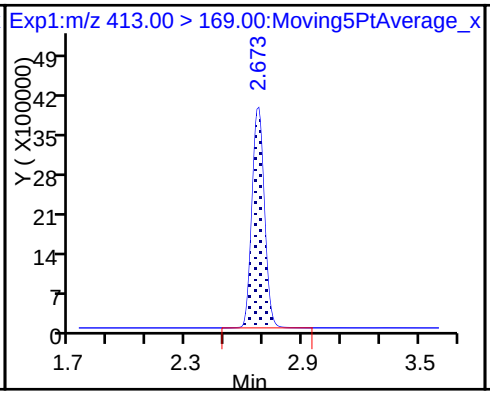
* 62 13C2-PFOA



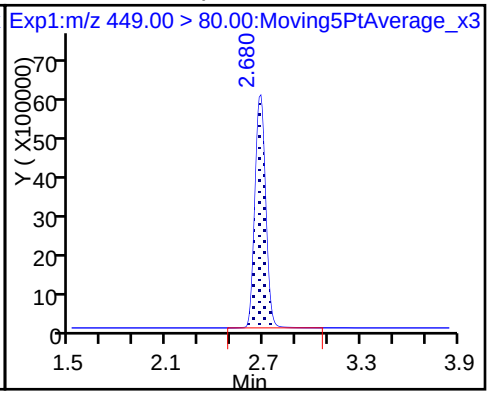
15 Perfluorooctanoic acid



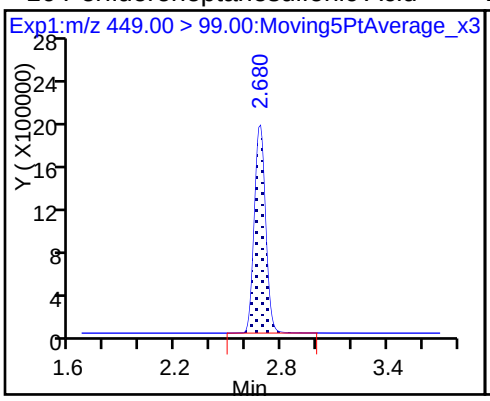
15 Perfluorooctanoic acid



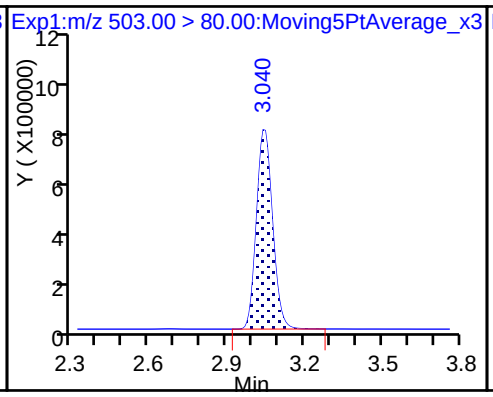
16 Perfluoroheptanesulfonic Acid



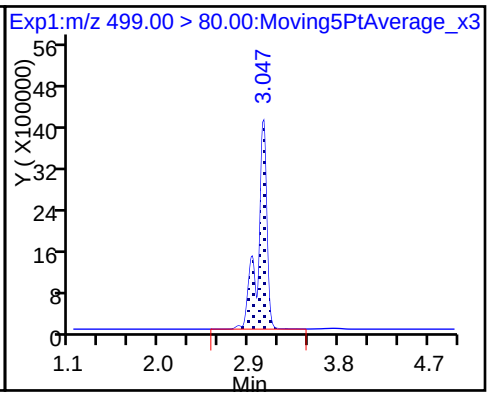
16 Perfluoroheptanesulfonic Acid



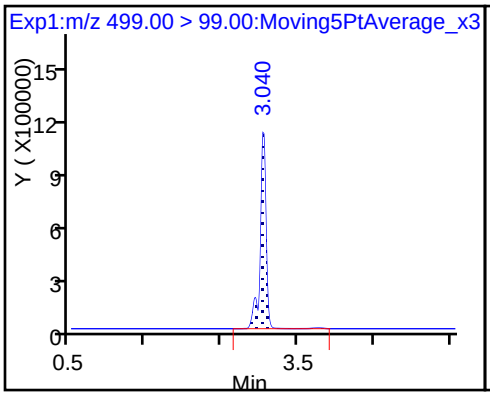
D 18 13C4 PFOS



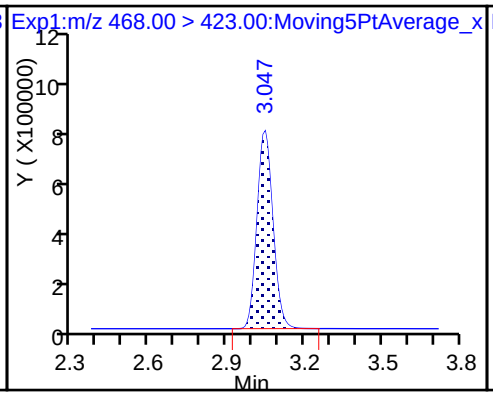
17 Perfluorooctane sulfonic acid



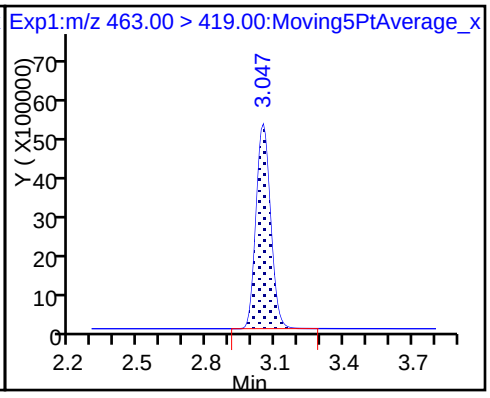
17 Perfluorooctane sulfonic acid



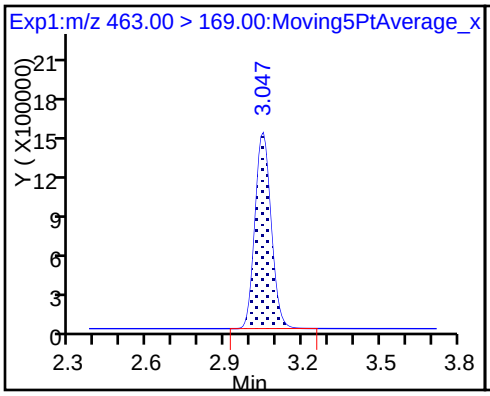
D 19 13C5 PFNA



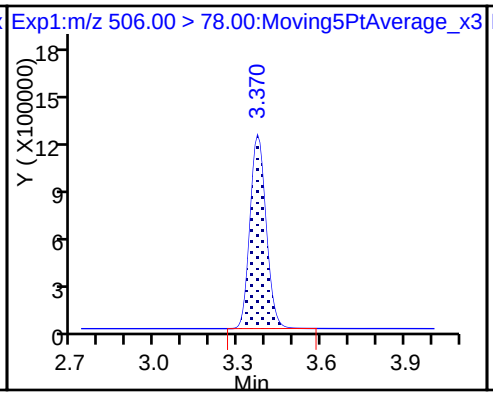
20 Perfluorononanoic acid



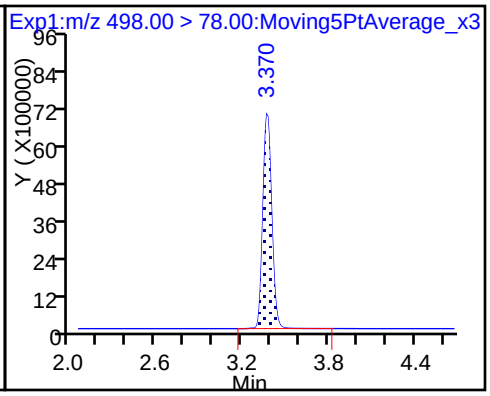
20 Perfluorononanoic acid



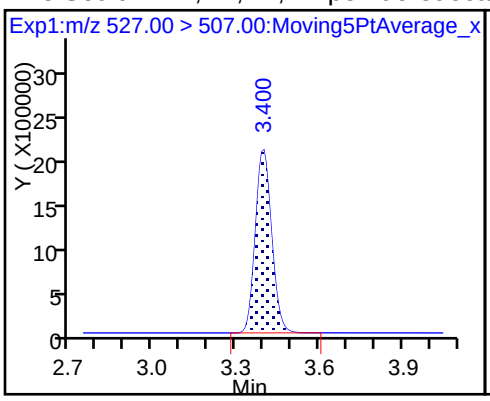
D 21 13C8 FOSA



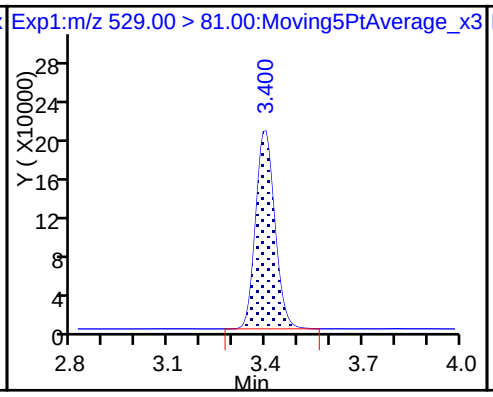
22 Perfluorooctane Sulfonamide



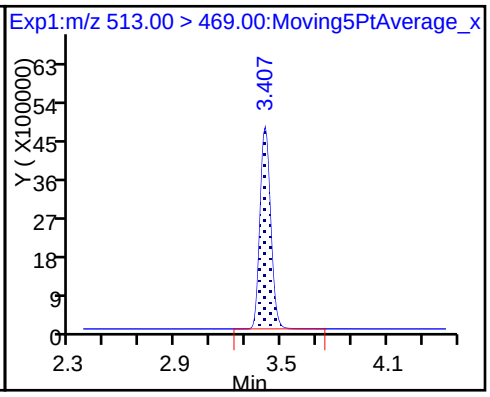
25 Sodium 1H,1H,2H,2H-perfluorodecane



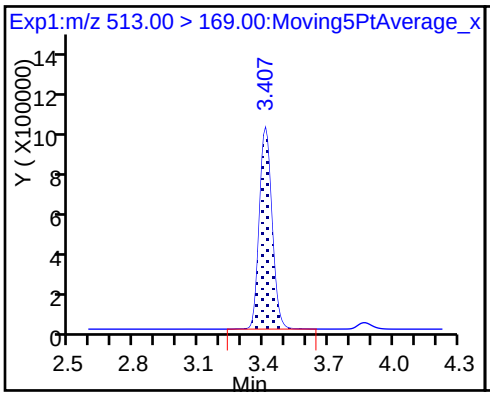
D 26 M2-8:2FTS



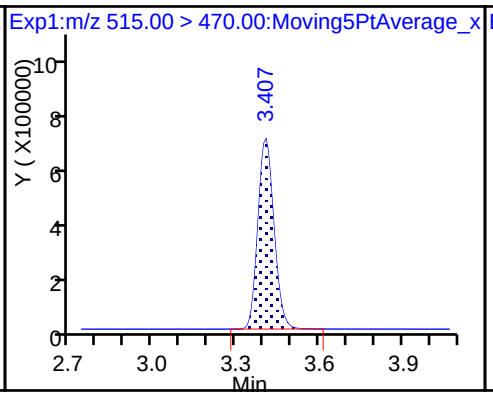
24 Perfluorodecanoic acid



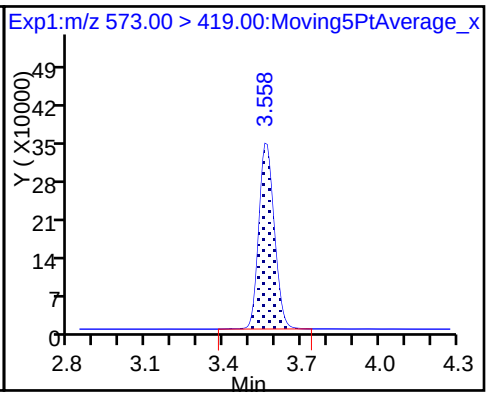
24 Perfluorodecanoic acid



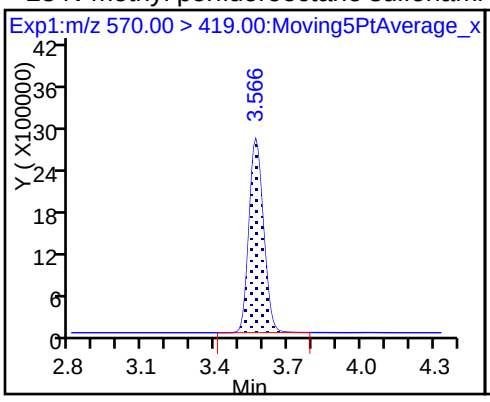
D 23 13C2 PFDA



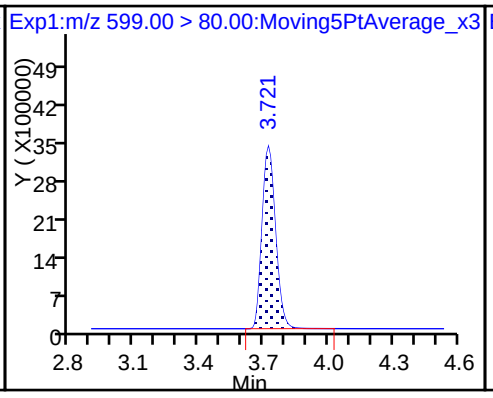
D 27 d3-NMeFOSAA



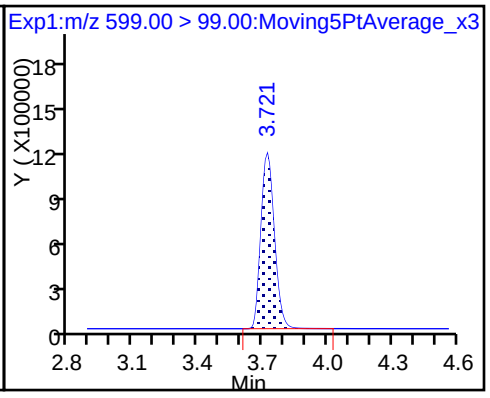
28 N-methyl perfluorooctane sulfonami



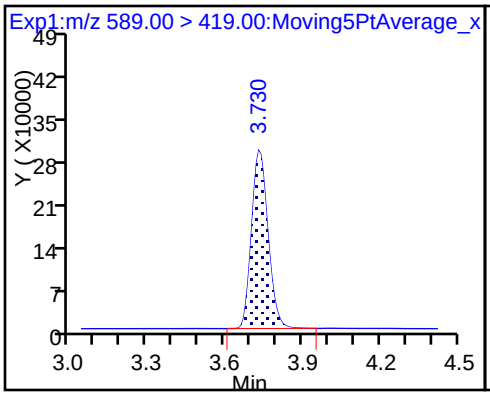
29 Perfluorodecane Sulfonic acid



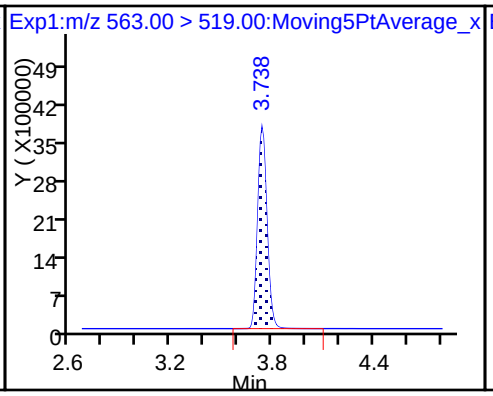
29 Perfluorodecane Sulfonic acid



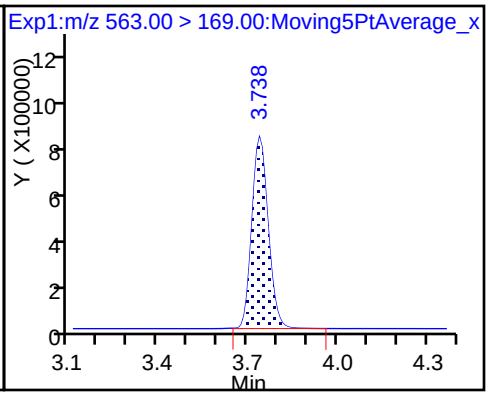
D 32 d5-NEtFOSAA



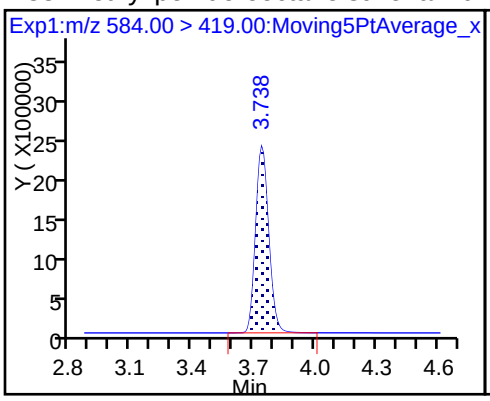
31 Perfluoroundecanoic acid



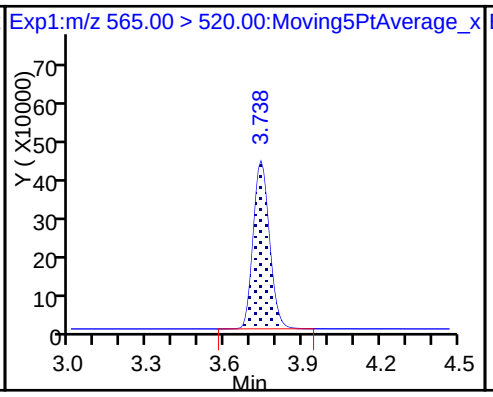
31 Perfluoroundecanoic acid



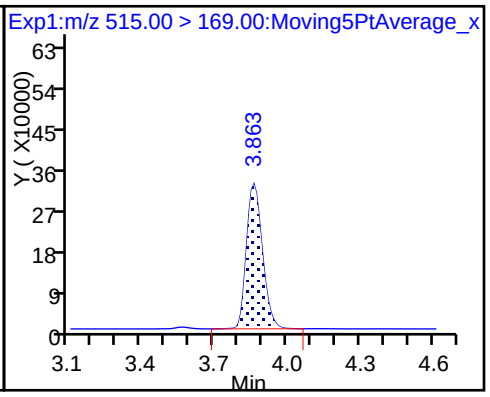
33 N-ethyl perfluorooctane sulfonamid



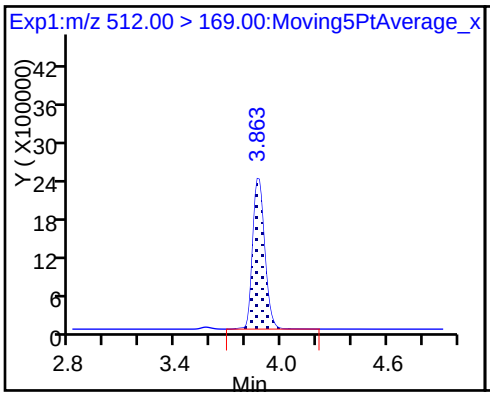
D 30 13C2 PFUnA



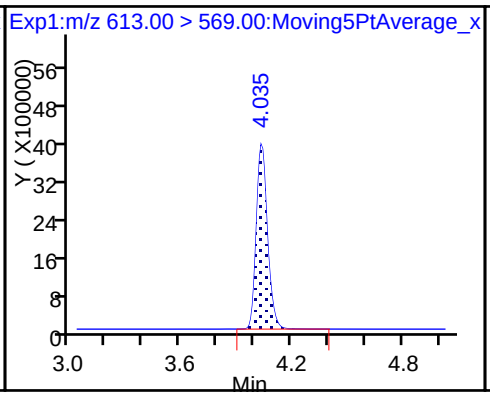
D 34 d-N-MeFOSA-M



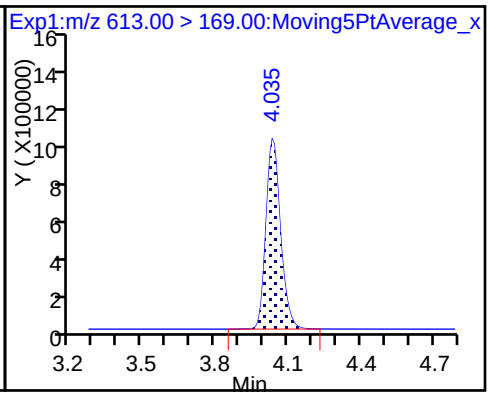
35 MeFOSA



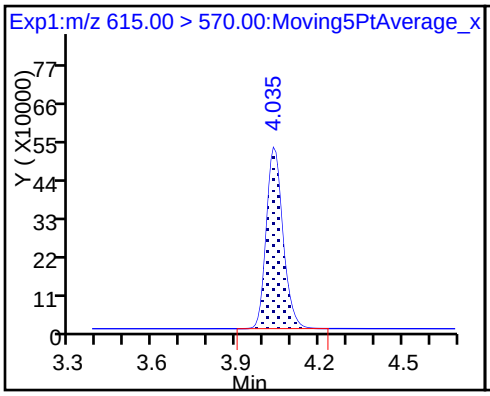
37 Perfluorododecanoic acid



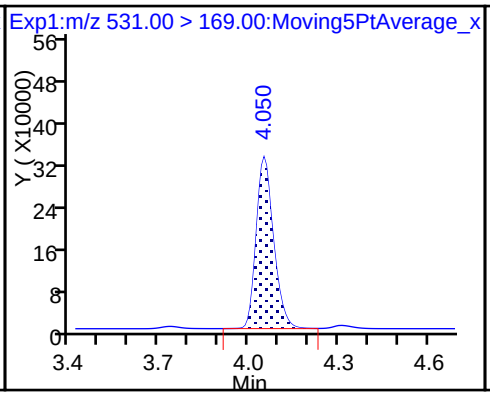
37 Perfluorododecanoic acid



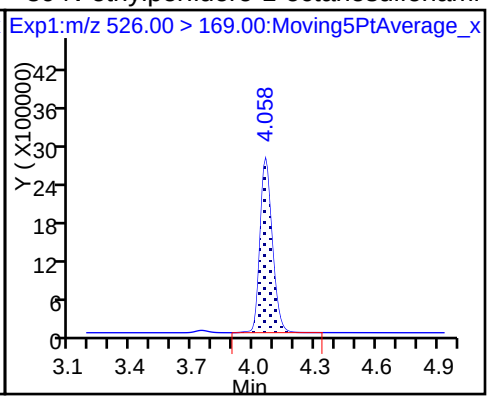
D 36 13C2 PFDoA



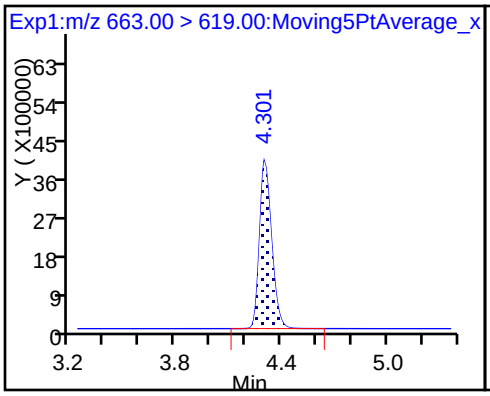
D 38 d-N-EtFOSA-M



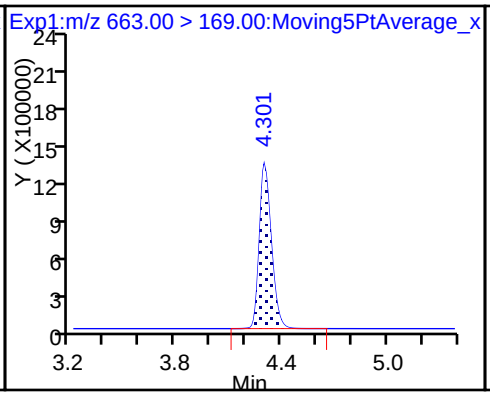
39 N-ethylperfluoro-1-octanesulfonami



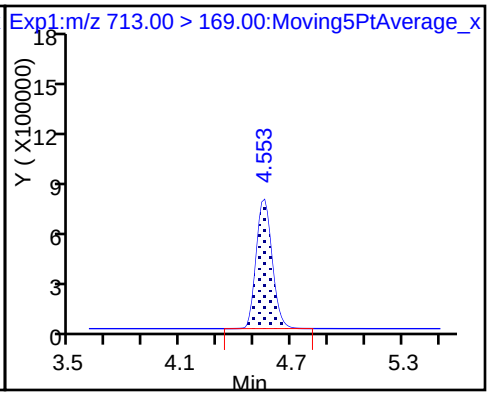
41 Perfluorotridecanoic acid



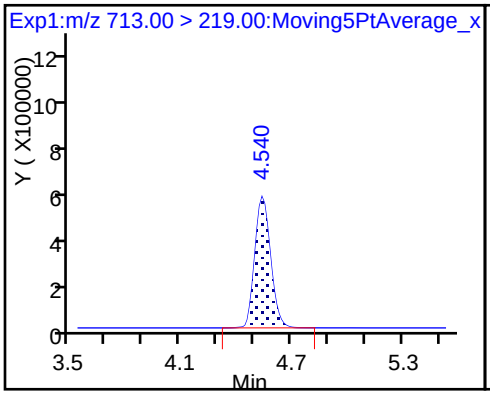
41 Perfluorotridecanoic acid



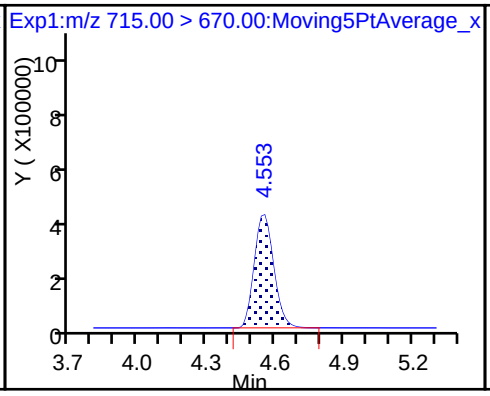
42 Perfluorotetradecanoic acid



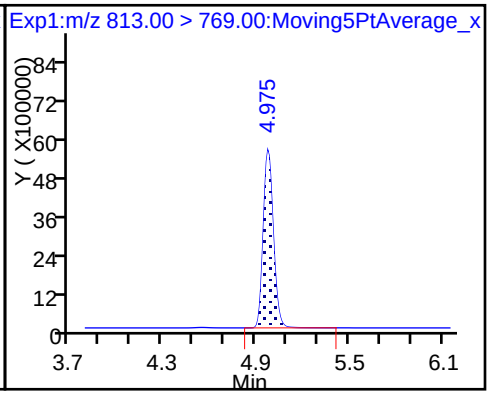
42 Perfluorotetradecanoic acid



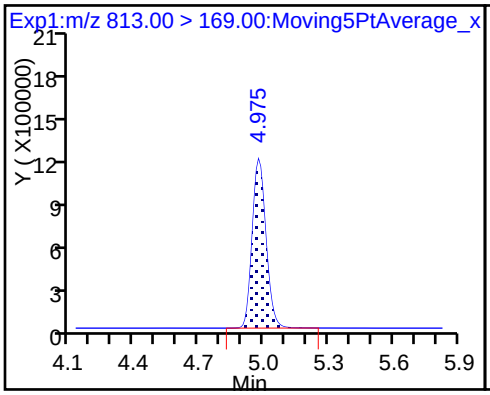
D 43 13C2-PFTeDA



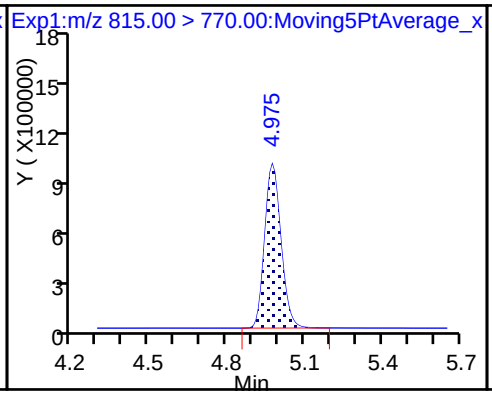
45 Perfluorohexadecanoic acid



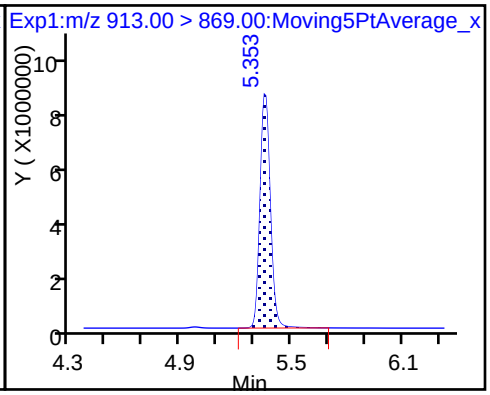
45 Perfluorohexadecanoic acid



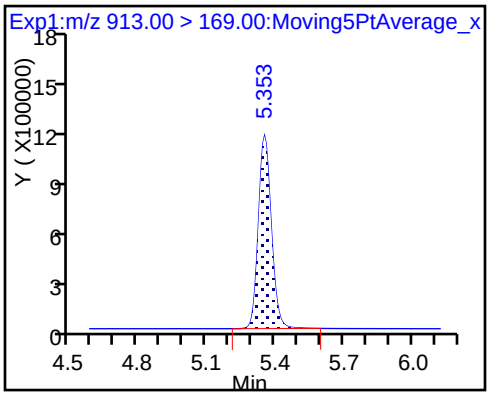
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d
Lims ID: IC M2-4:2FTS
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 26-Dec-2017 17:58:18 ALS Bottle#: 22 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: M2:4-2FTS Calibration Std
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 08:56:58 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 08:38:11

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 60 M2-4:2FTS										
329.00 > 81.00	1.955	1.955	0.0	0.729	413908	2.34		100	18385	
* 62 13C2-PFOA										
415.00 > 370.00	2.681	2.676	0.005		5396276	2.50			45732	

Reagents:

LCM2-4:2LLIC_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 08:56:58 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Injection Date: 26-Dec-2017 17:58:18 Instrument ID: A8_N

Lims ID: IC M2-4:2FTS

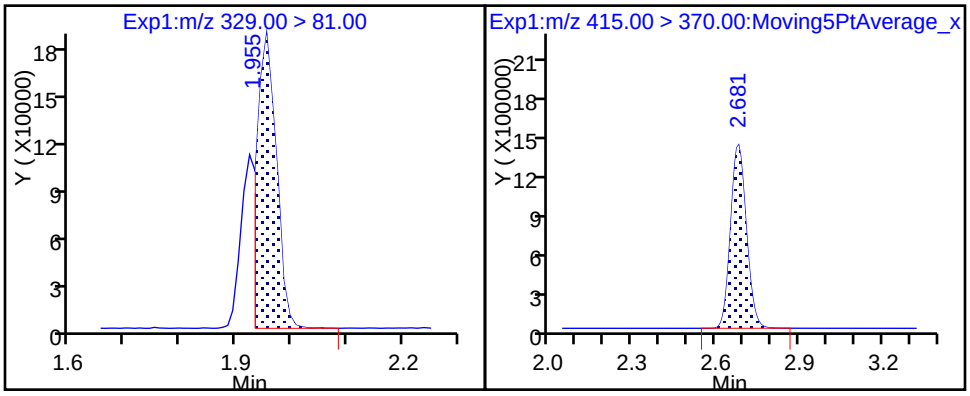
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 22 Worklist Smp#: 10

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

D 60 M2-4:2FTS * 62 13C2-PFOA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: ICV 320-199988/12 Calibration Date: 12/14/2017 17:11

Instrument ID: A8_N Calib Start Date: 12/14/2017 15:52

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/14/2017 16:55

Lab File ID: 2017.12.14ICAL_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9017	0.9202		2.55	2.50	2.1	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.112	1.106		2.49	2.50	-0.6	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	73.33	82.01		2.48	2.21	11.8	50.0
4:2 FTS	AveID	0.4676	0.3987		1.99	2.34	-14.7	50.0
Perfluorohexanoic acid (PFHxA)	AveID	0.9862	1.019		2.58	2.50	3.4	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.037	1.120		2.70	2.50	8.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.104	1.031		2.21	2.36	-6.6	40.0
6:2FTS	AveID	1.573	1.352		2.04	2.37	-14.1	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.063	1.105		2.60	2.50	4.0	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.475	1.318		2.13	2.38	-10.6	50.0
Perfluorononanoic acid (PFNA)	AveID	0.996	1.049		2.63	2.50	5.3	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	0.9666		2.17	2.39	-9.1	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9462	0.9372		2.48	2.50	-1.0	40.0
8:2FTS	AveID	1.217	1.180		2.32	2.40	-3.1	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9664	0.9824		2.54	2.50	1.7	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.044	0.9870		2.36	2.50	-5.5	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5939	0.6386		2.59	2.41	7.5	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9651	0.9040		2.34	2.50	-6.3	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9075	0.9036		2.49	2.50	-0.4	40.0
MeFOSA	AveID	1.002	0.9803		2.45	2.50	-2.2	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9736	1.069		2.75	2.50	9.8	40.0
N-EtFOSA-M	AveID	1.033	1.020		2.47	2.50	-1.2	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.104	1.185		2.68	2.50	7.4	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2499	0.2413		2.41	2.50	-3.4	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9819		2.77	2.50	10.8	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.128	1.187		2.63	2.50	5.2	50.0
13C4 PFBA	Ave	1.463	1.425		2.44	2.50	-2.6	50.0
13C5 PFPeA	Ave	0.8617	0.8366		2.43	2.50	-2.9	50.0
13C3-PFBS	Ave	0.0185	0.0170		2.14	2.33	-8.0	50.0
13C2 PFHxA	Ave	0.9002	0.8797		2.44	2.50	-2.3	50.0
13C4-PFHpA	Ave	0.8445	0.8197		2.43	2.50	-2.9	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: ICV 320-199988/12 Calibration Date: 12/14/2017 17:11

Instrument ID: A8_N Calib Start Date: 12/14/2017 15:52

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/14/2017 16:55

Lab File ID: 2017.12.14ICAL_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.051	1.029		2.31	2.37	-2.2	50.0
M2-6:2FTS	Ave	0.4590	0.5401		2.80	2.38	17.7	40.0
13C4 PFOA	Ave	1.021	0.9658		2.37	2.50	-5.4	50.0
13C4 PFOS	Ave	0.6631	0.6864		2.47	2.39	3.5	50.0
13C5 PFNA	Ave	0.6758	0.6438		2.38	2.50	-4.7	50.0
13C8 FOSA	Ave	0.9504	0.9111		2.40	2.50	-4.1	50.0
M2-8:2FTS	Ave	0.1522	0.1584		2.49	2.40	4.0	40.0
13C2 PFDA	Ave	0.5506	0.5497		2.50	2.50	-0.2	50.0
d3-NMeFOSAA	Ave	0.2625	0.2626		2.50	2.50	0.0	50.0
d5-NEtFOSAA	Ave	0.2616	0.2671		2.55	2.50	2.1	50.0
13C2 PFUnA	Ave	0.4188	0.4117		2.46	2.50	-1.7	50.0
d-N-MeFOSA-M	Ave	0.2786	0.2826		2.54	2.50	1.4	50.0
13C2 PFDoA	Ave	0.4477	0.4165		2.33	2.50	-7.0	50.0
d-N-EtFOSA-M	Ave	0.2578	0.2542		2.47	2.50	-1.4	50.0
13C2-PFTeDA	Ave	0.4855	0.4821		2.48	2.50	-0.7	50.0
13C2-PFHxDA	Ave	0.8900	0.8037		2.26	2.50	-9.7	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_012.d
Lims ID: ICV Full
Client ID:
Sample Type: ICV
Inject. Date: 14-Dec-2017 17:11:19 ALS Bottle#: 18 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist:

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 15-Dec-2017 09:56:51 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: hannigana Date: 15-Dec-2017 09:00:42

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.401	1.406	-0.005	0.533	8121172	2.44		97.4	30690	
2 Perfluorobutyric acid										
212.90 > 169.00	1.401	1.408	-0.007	1.000	7473252	2.55			1422	
D 3 13C5-PFPeA										
267.90 > 223.00	1.652	1.656	-0.004	0.628	4767349	2.43		97.1	99598	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.652	1.656	-0.004	1.000	5272094	2.49			9807	
D 47 13C3-PFBS										
301.90 > 83.00	1.679	1.690	-0.011	0.638	90189	2.14		92.0	3287	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.688	1.692	-0.004	1.005	7038814	2.47			30680	
298.90 > 99.00	1.688	1.692	-0.004	1.005	2879309		2.44(1.25-3.74)		20819	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.892	1.902	-0.010	1.000	1146147	1.99			41218	
D 7 13C2 PFHxA										
315.00 > 270.00	1.933	1.938	-0.005	0.735	5013242	2.44		97.7	51317	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.933	1.939	-0.006	1.000	5110102	2.58			15419	
313.00 > 119.00	1.933	1.939	-0.006	1.000	480922		10.63(5.03-15.10)		10713	
D 9 13C4-PFHpA										
367.00 > 322.00	2.264	2.272	-0.008	0.861	4671325	2.43		97.1	32959	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.264	2.273	-0.009	1.000	5232045	2.70			13087	
363.00 > 169.00	2.264	2.273	-0.009	1.000	1996308		2.62(1.13-3.40)		13480	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.278	2.285	-0.007	1.000	5710912	2.21			23534	
399.00 > 99.00	2.278	2.285	-0.007	1.000	1778099		3.21(1.50-4.49)		10520	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.278	2.286	-0.008	0.866	5544451	2.31		97.8	44442	
D 12 M2-6:2FTS										
429.00 > 81.00	2.616	2.625	-0.009	0.995	2923857	2.79		118	86923	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.623	2.625	-0.002	1.003	3943835	2.04			79539	
D 14 13C4 PFOA										
417.00 > 372.00	2.630	2.637	-0.007	1.000	5503388	2.37		94.6	46435	
* 62 13C2-PFOA										
415.00 > 370.00	2.630	2.638	-0.008		5698548	2.50			55913	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.630	2.640	-0.010	1.000	6083832	2.60			14686	
413.00 > 169.00	2.630	2.640	-0.010	1.000	3230848		1.88(0.84-2.52)		21162	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.637	2.644	-0.007	1.000	4907350	2.13			43000	
449.00 > 99.00	2.637	2.644	-0.007	1.000	1287075		3.81(1.94-5.82)		23303	
D 18 13C4 PFOS										
503.00 > 80.00	3.008	3.014	-0.006	1.144	3739456	2.47		104	33373	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.008	3.015	-0.007	1.000	3610827	2.17			13268	
499.00 > 99.00	3.008	3.015	-0.007	1.000	840236		4.30(2.31-6.93)		14235	
D 19 13C5 PFNA										
468.00 > 423.00	3.008	3.015	-0.007	1.144	3668593	2.38		95.3	36367	
20 Perfluorononanoic acid										
463.00 > 419.00	3.008	3.017	-0.009	1.000	3847704	2.63			18179	
463.00 > 169.00	3.008	3.017	-0.009	1.000	910299		4.23(1.90-5.69)		24014	
D 21 13C8 FOSA										
506.00 > 78.00	3.347	3.354	-0.007	1.273	5191827	2.40		95.9	24194	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.347	3.356	-0.009	1.000	4865661	2.48			25886	
D 26 M2-8:2FTS										
529.00 > 81.00	3.362	3.368	-0.006	1.278	864451	2.49		104	21549	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.362	3.369	-0.007	1.000	1019897	2.32			25717	
D 23 13C2 PFDA										
515.00 > 470.00	3.370	3.379	-0.009	1.281	3132439	2.50		99.8	41350	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.370	3.379	-0.009	1.000	3077222	2.54			23194	
513.00 > 169.00	3.370	3.379	-0.009	1.000	534123		5.76(2.36-7.09)		2560	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.529	3.535	-0.006	1.342	1496133	2.50		100	24690	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.529	3.538	-0.009	1.000	1476728	2.36			8327	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.687	3.692	-0.005	1.000	2410491	2.59			42188	
599.00 > 99.00	3.687	3.692	-0.005	1.000	777196		3.10(1.39-4.16)		23655	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.696	3.704	-0.008	1.405	1522234	2.55		102	6928	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.704	3.709	-0.005	1.408	2345828	2.46		98.3	32770	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.704	3.710	-0.006	1.002	1376167	2.34			31964	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.704	3.711	-0.007	1.000	2119757	2.49			22131	
563.00 > 169.00	3.704	3.711	-0.007	1.000	486314		4.36(0.00-0.00)		25829	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.843	3.850	-0.007	1.461	1610209	2.54		101	4481	
35 MeFOSA										
512.00 > 169.00	3.852	3.856	-0.004	1.002	1578416	2.44			3694	
D 36 13C2 PFDoA										
615.00 > 570.00	3.996	4.008	-0.012	1.519	2373247	2.33		93.0	44351	
37 Perfluorododecanoic acid										
613.00 > 569.00	3.996	4.008	-0.012	1.000	2537233	2.75			9880	
613.00 > 169.00	3.996	4.008	-0.012	1.000	605636		4.19(2.13-6.40)		29112	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.035	4.039	-0.004	1.534	1448412	2.47		98.6	2994	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.043	4.047	-0.004	1.002	1477454	2.47			3614	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.269	4.275	-0.006	1.000	2812454	2.68			21068	
663.00 > 169.00	4.269	4.275	-0.006	1.000	850585		3.31(1.25-3.76)		31694	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.519	-0.006	1.716	2747313	2.48		99.3	27453	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.513	4.519	-0.006	1.000	662908	2.41			18686	
713.00 > 219.00	4.499	4.519	-0.020	0.997	492363		1.35(0.71-2.13)		14240	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.921	4.935	-0.014	1.871	4580158	2.26		90.3	12539	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.930	4.935	-0.005	1.002	4497205	2.77			2779	
813.00 > 169.00	4.921	4.935	-0.014	1.000	788646		5.70(2.86-8.58)		9455	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.288	5.299	-0.011	1.000	5436501	2.63			1455	
913.00 > 169.00	5.288	5.299	-0.011	1.000	654295		8.31(0.00-0.00)		2553	

Reagents:

LCPFCIC_FULL_00007 Amount Added: 0.25 Units: mL

Report Date: 15-Dec-2017 09:56:52 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_012.d

Injection Date: 14-Dec-2017 17:11:19 Instrument ID: A8_N

Lims ID: ICV Full

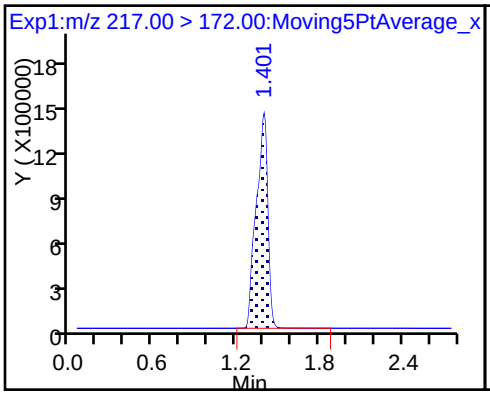
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 18 Worklist Smp#: 12

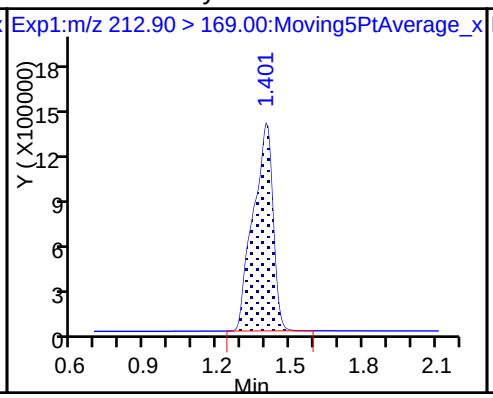
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

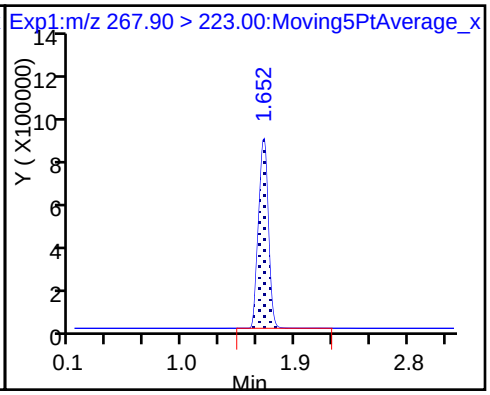
D 1 13C4 PFBA



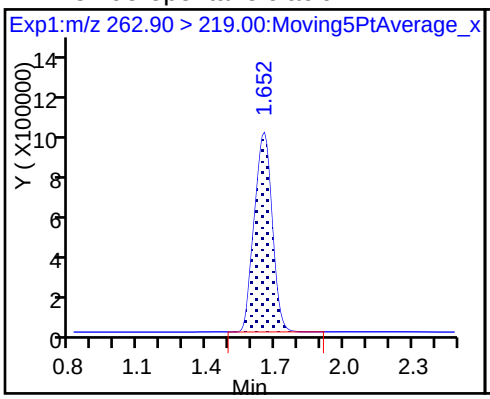
2 Perfluorobutyric acid



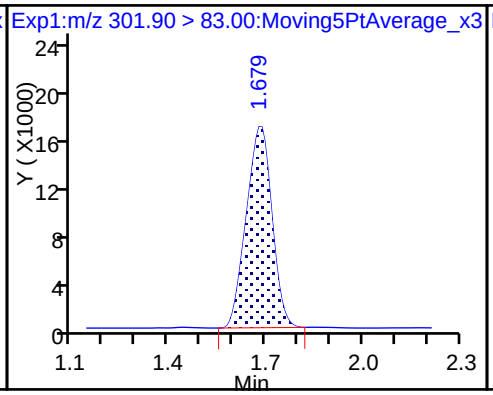
D 3 13C5-PFPeA



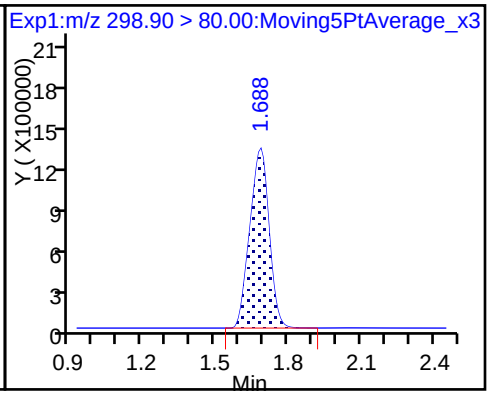
4 Perfluoropentanoic acid



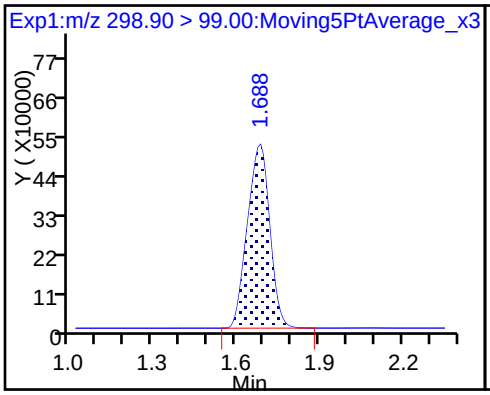
D 47 13C3-PFBS



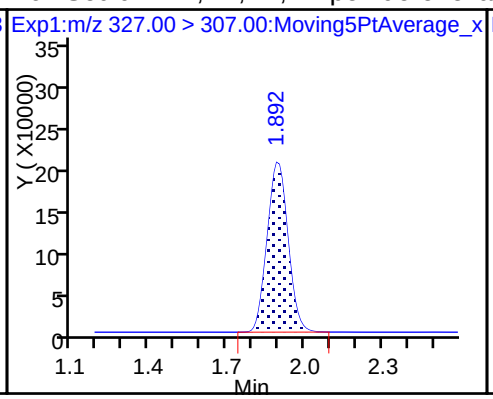
5 Perfluorobutanesulfonic acid



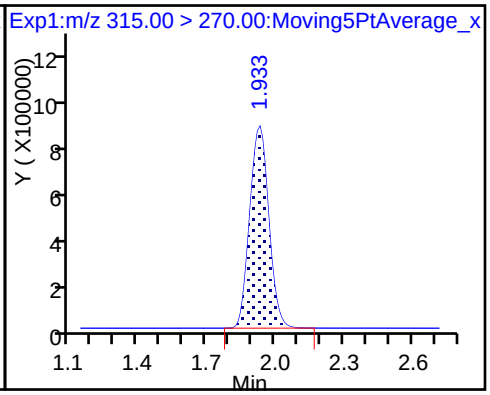
5 Perfluorobutanesulfonic acid



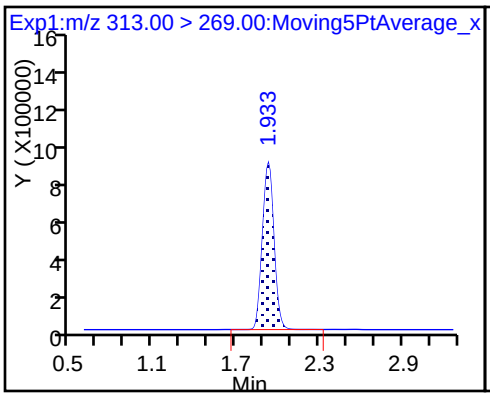
61 Sodium 1H,1H,2H,2H-perfluorohexa



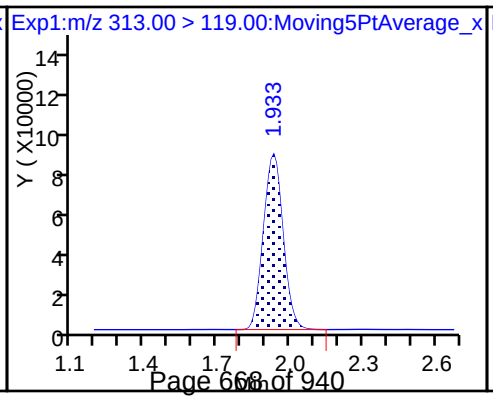
D 7 13C2 PFHxA



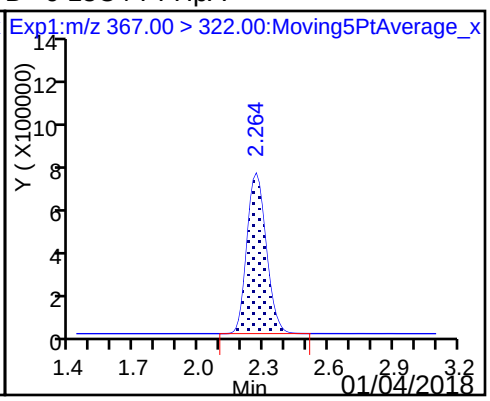
6 Perfluorohexanoic acid



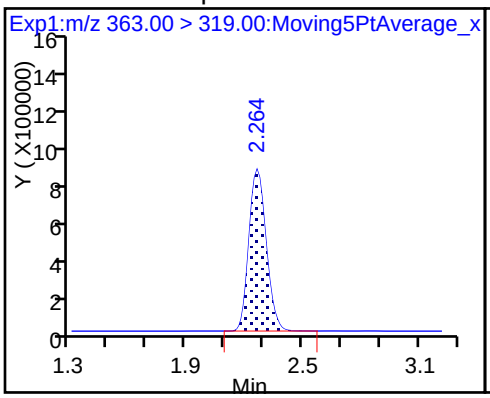
6 Perfluorohexanoic acid



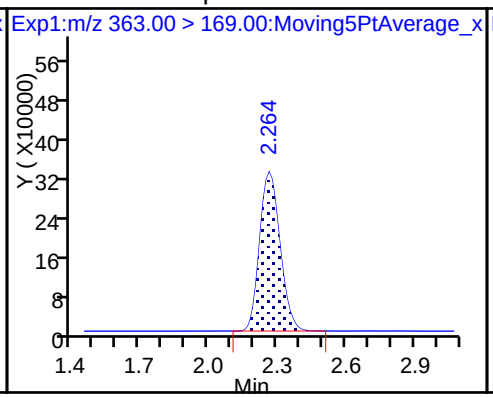
D 9 13C4-PFHpA



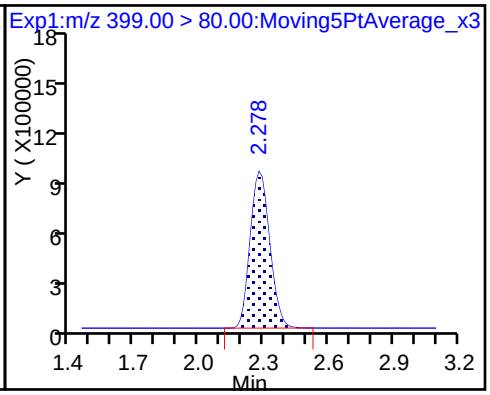
10 Perfluoroheptanoic acid



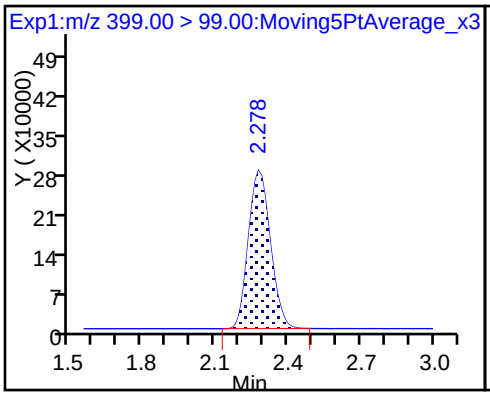
10 Perfluoroheptanoic acid



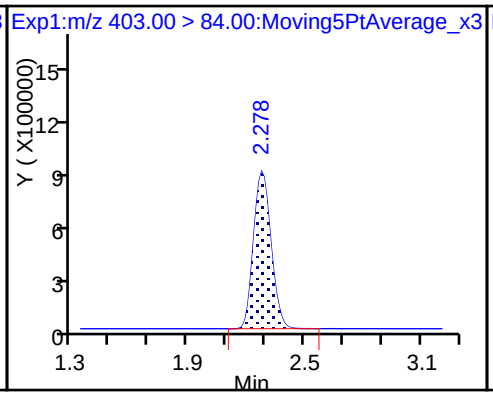
8 Perfluorohexanesulfonic acid



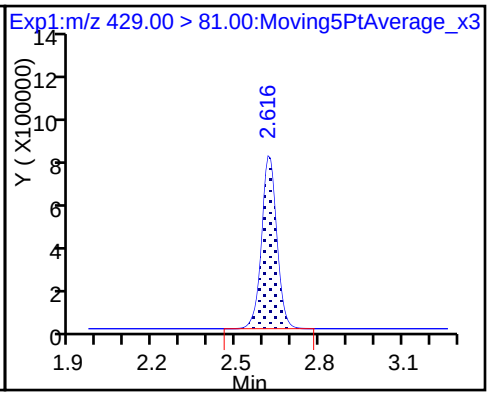
8 Perfluorohexanesulfonic acid



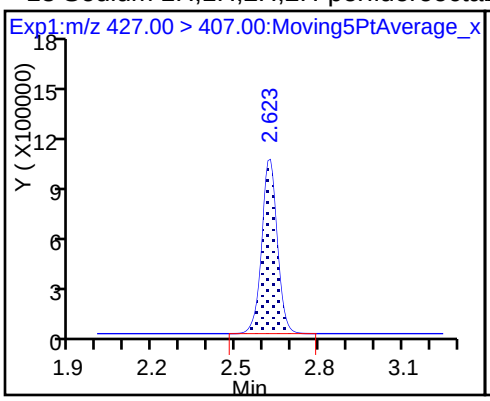
D 11 18O2 PFHxS



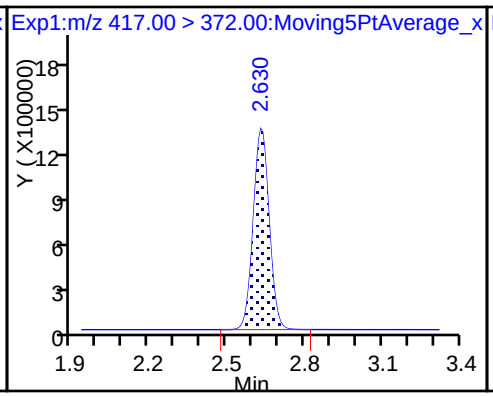
D 12 M2-6:2FTS



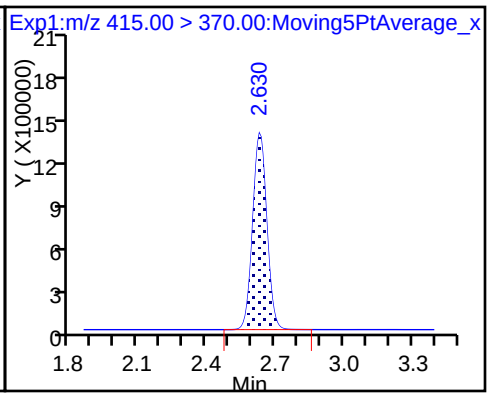
13 Sodium 1H,1H,2H,2H-perfluorooctane



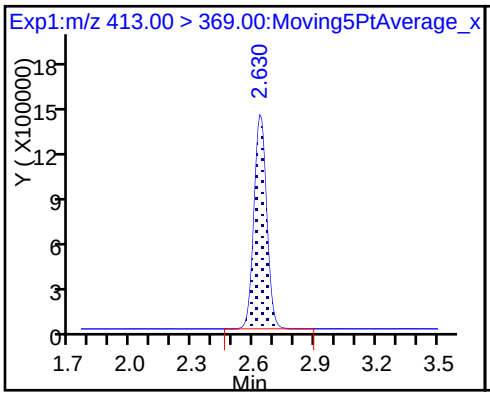
D 14 13C4 PFOA



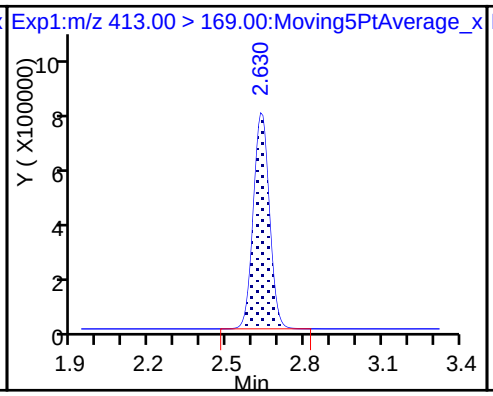
* 62 13C2-PFOA



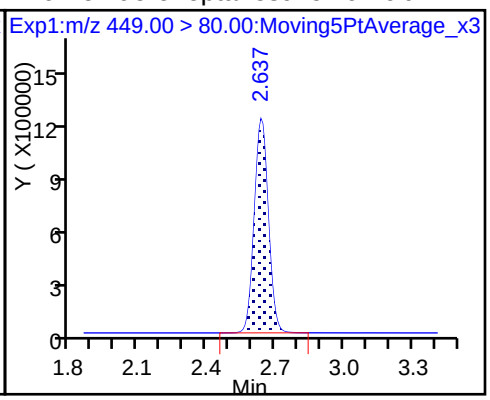
15 Perfluorooctanoic acid



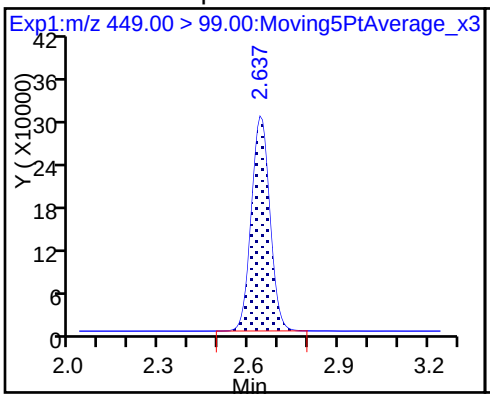
15 Perfluorooctanoic acid



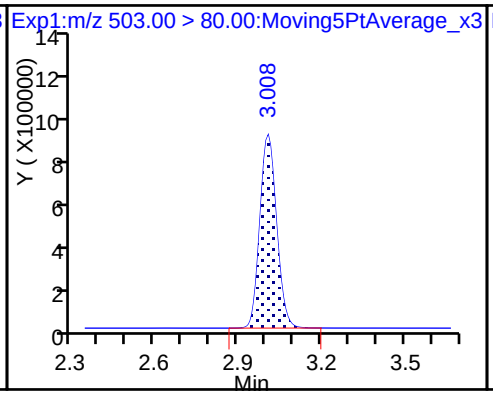
16 Perfluoroheptanesulfonic Acid



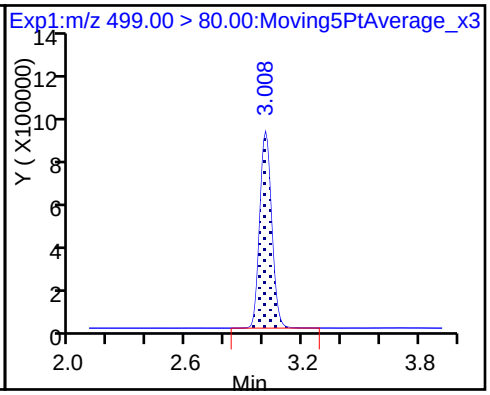
16 Perfluoroheptanesulfonic Acid



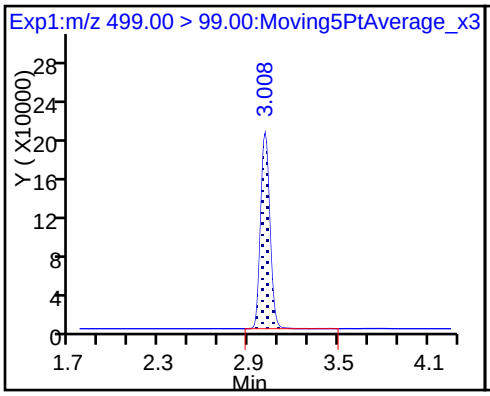
D 18 13C4 PFOS



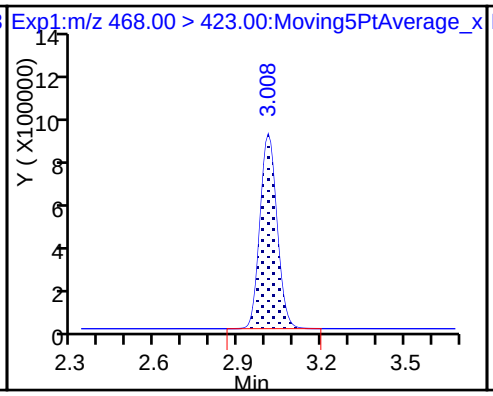
17 Perfluorooctane sulfonic acid



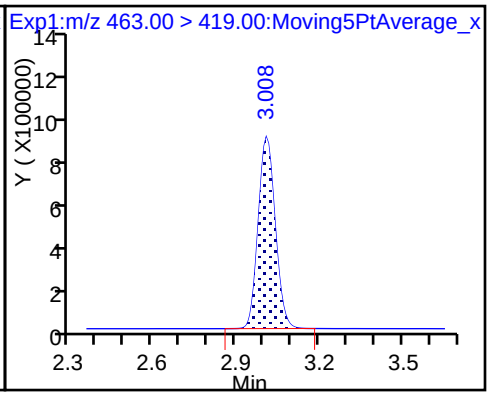
17 Perfluorooctane sulfonic acid



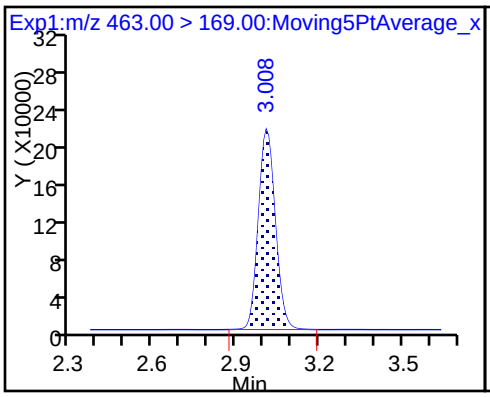
D 19 13C5 PFNA



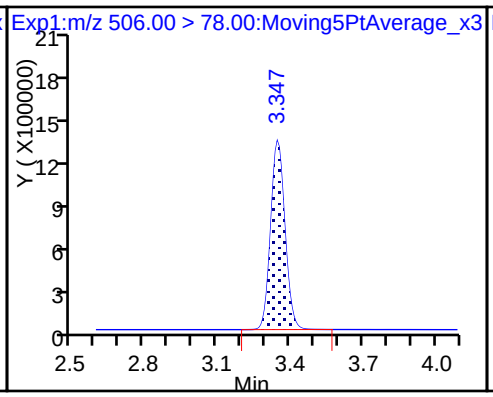
20 Perfluorononanoic acid



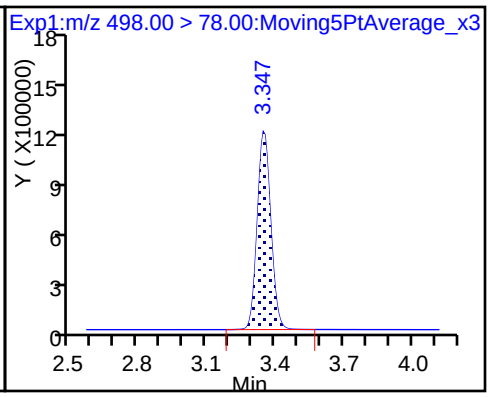
20 Perfluorononanoic acid



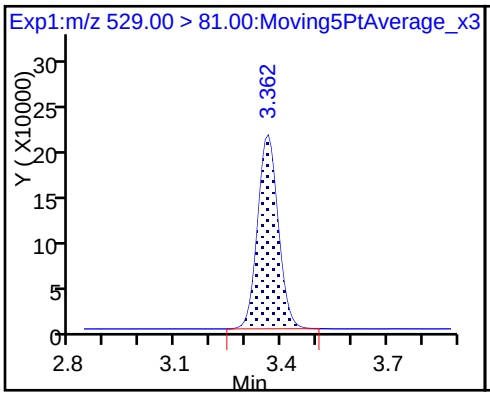
D 21 13C8 FOSA



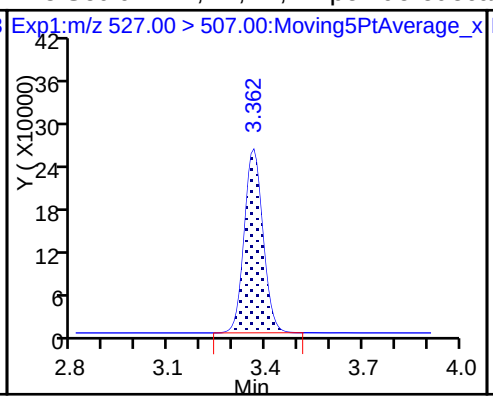
22 Perfluorooctane Sulfonamide



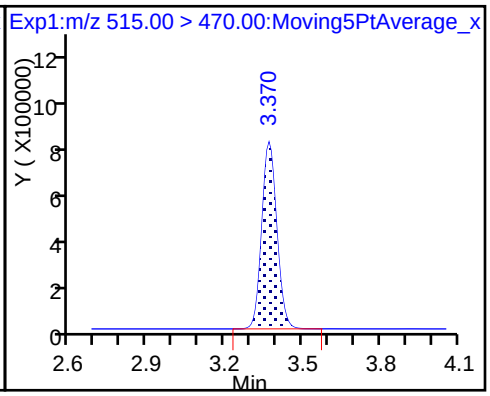
D 26 M2-8:2FTS



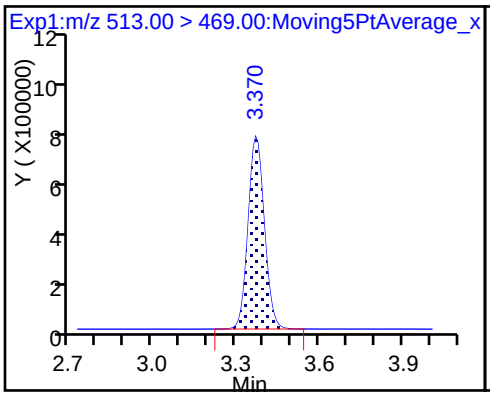
25 Sodium 1H,1H,2H,2H-perfluorodecane



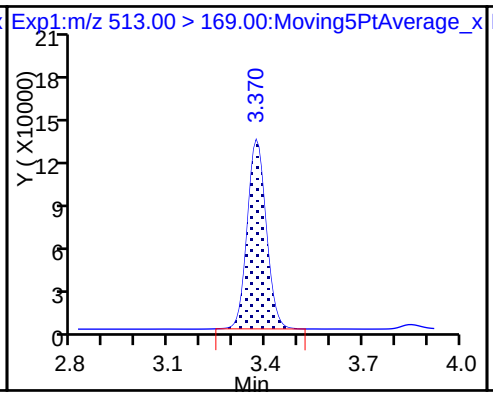
D 23 13C2 PFDA



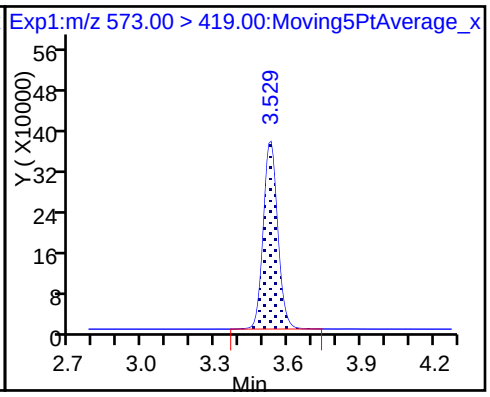
24 Perfluorodecanoic acid



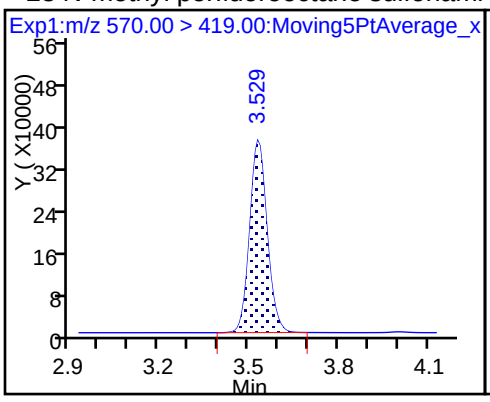
24 Perfluorodecanoic acid



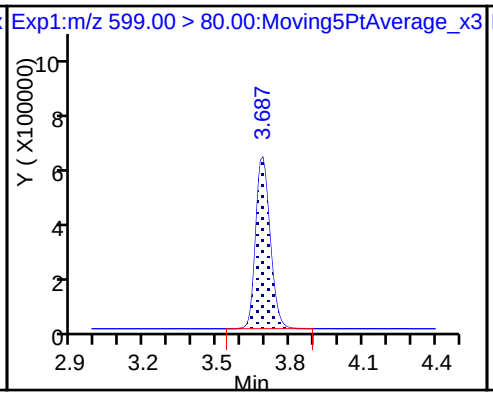
D 27 d3-NMeFOSAA



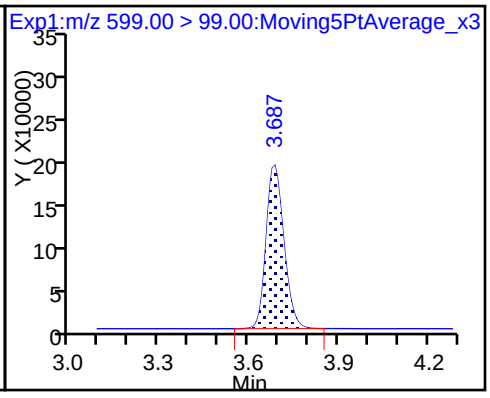
28 N-methyl perfluorooctane sulfonami



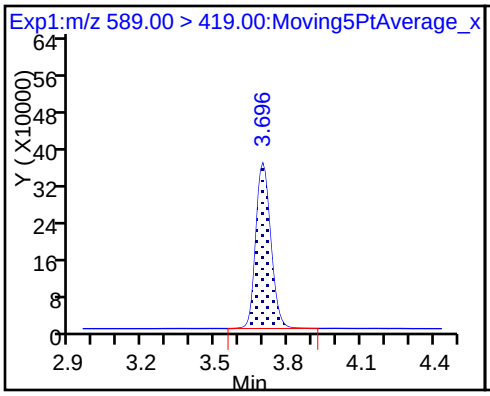
29 Perfluorodecane Sulfonic acid



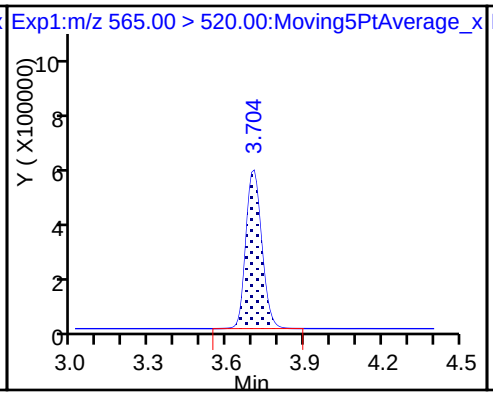
29 Perfluorodecane Sulfonic acid



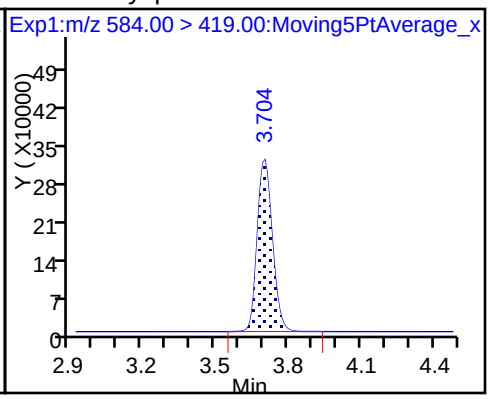
D 32 d5-NEtFOSAA



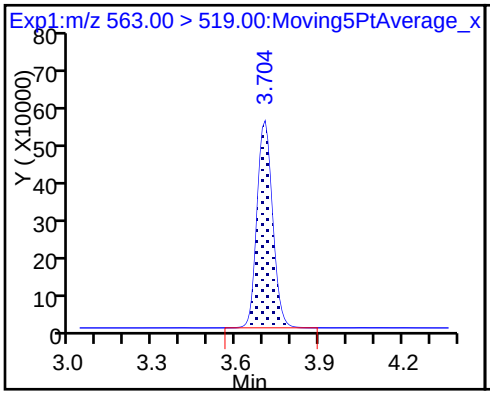
D 30 13C2 PFUnA



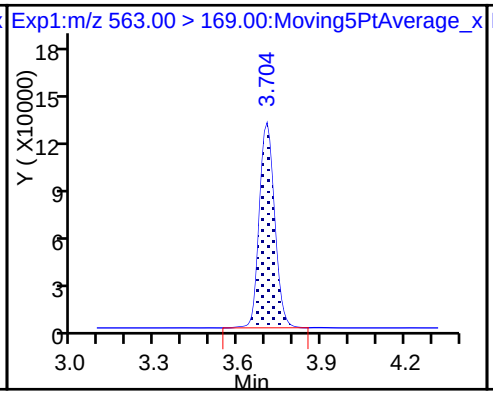
33 N-ethyl perfluorooctane sulfonamid



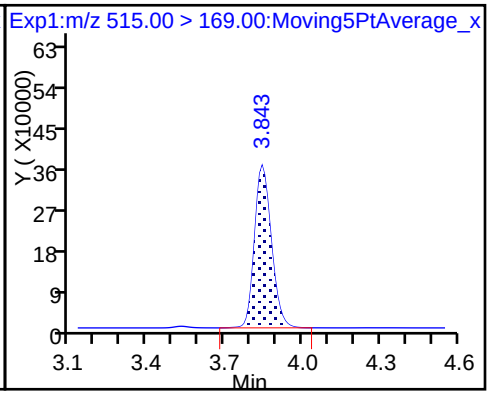
31 Perfluoroundecanoic acid



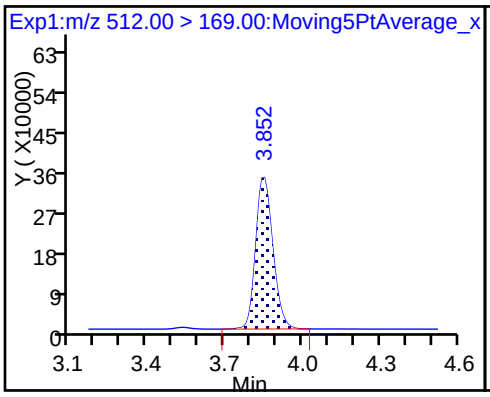
31 Perfluoroundecanoic acid



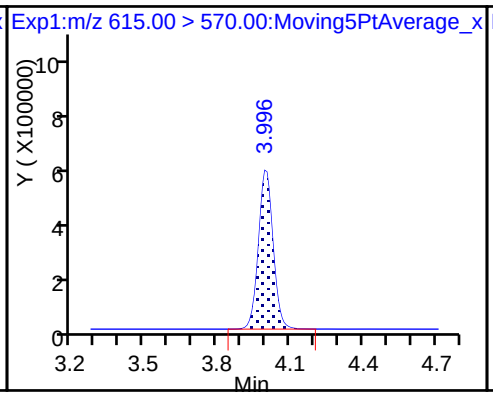
D 34 d-N-MeFOSA-M



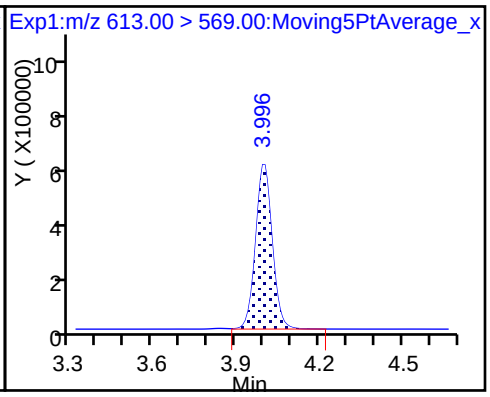
35 MeFOSA



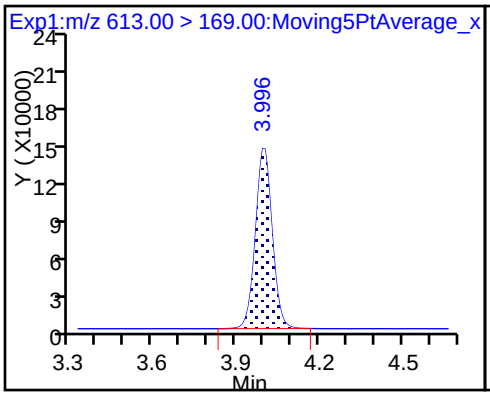
D 36 13C2 PFDoA



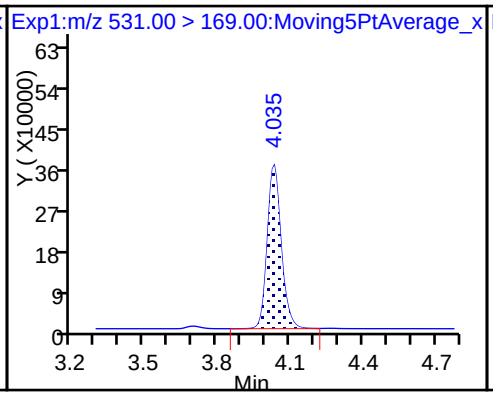
37 Perfluorododecanoic acid



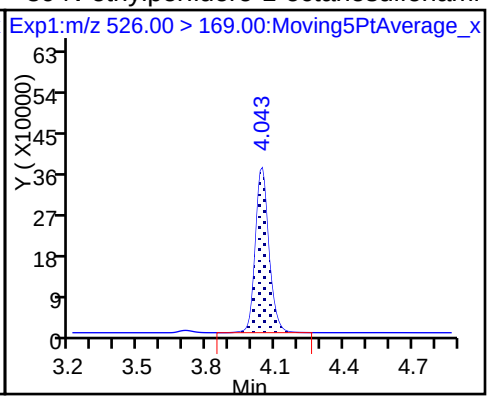
37 Perfluorododecanoic acid



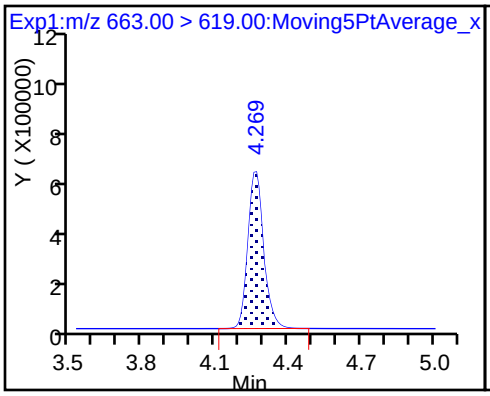
D 38 d-N-EtFOSA-M



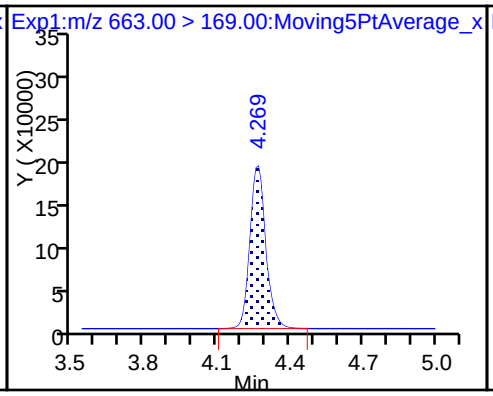
39 N-ethylperfluoro-1-octanesulfonami



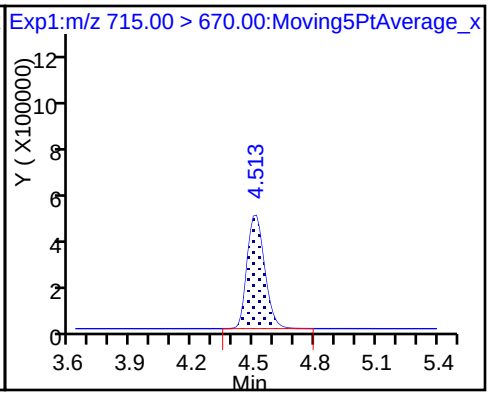
41 Perfluorotridecanoic acid



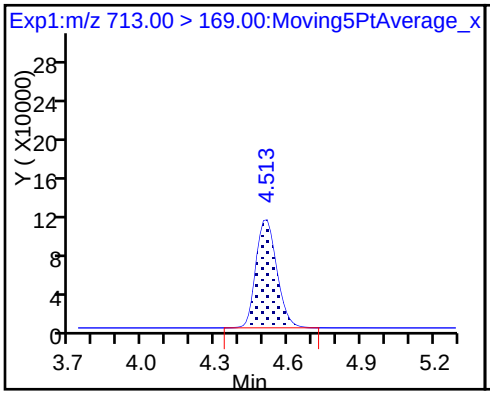
41 Perfluorotridecanoic acid



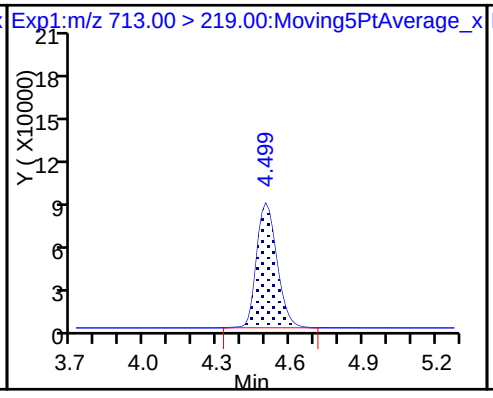
D 43 13C2-PFTeDA



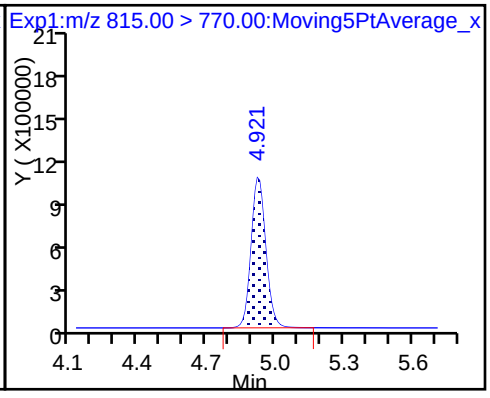
42 Perfluorotetradecanoic acid



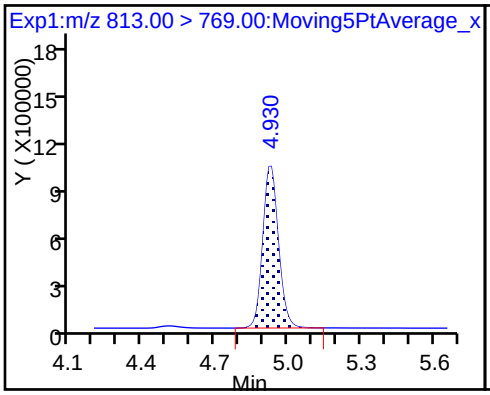
42 Perfluorotetradecanoic acid



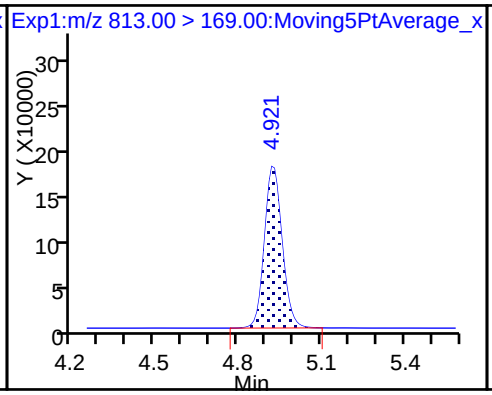
D 44 13C2-PFHxDA



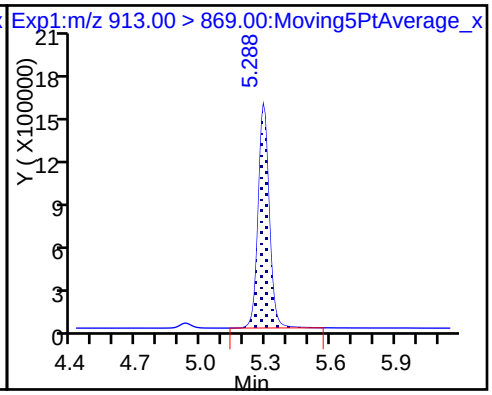
45 Perfluorohexadecanoic acid



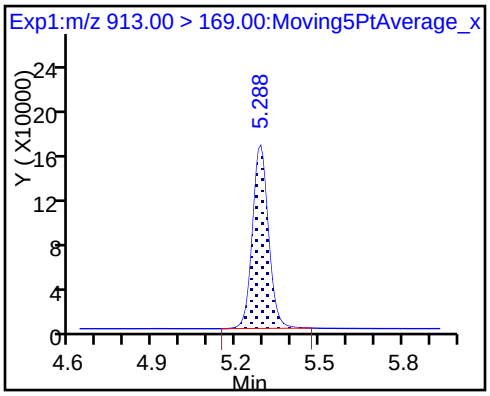
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCVL 320-200485/1 Calibration Date: 12/19/2017 11:52

Instrument ID: A8_N Calib Start Date: 12/14/2017 15:52

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/14/2017 16:55

Lab File ID: 2017.12.19LLAX_003.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9017	0.9186		0.0509	0.0500	1.9	50.0
Perfluoropentanoic acid (PFPeA)	AveID	1.112	1.184		0.0532	0.0500	6.4	50.0
Perfluorobutanesulfonic acid (PFBS)	AveID	73.33	82.31		0.0496	0.0442	12.2	50.0
4:2 FTS	AveID	0.4676	0.4139		0.413	0.467	-11.5	
Perfluorohexanoic acid (PFHxA)	AveID	0.9862	1.157		0.0587	0.0500	17.3	50.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.037	1.073		0.0518	0.0500	3.5	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.104	1.227		0.0506	0.0455	11.1	50.0
6:2FTS	AveID	1.573	1.496		0.451	0.474	-4.9	50.0
Perfluorooctanoic acid (PFOA)	AveID	1.063	1.067		0.0502	0.0500	0.3	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.475	1.421		0.0459	0.0476	-3.6	50.0
Perfluorononanoic acid (PFNA)	AveID	0.996	0.9778		0.0491	0.0500	-1.9	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	1.090		0.0476	0.0464	2.6	50.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9462	0.9375		0.0495	0.0500	-0.9	50.0
8:2FTS	AveID	1.217	1.187		0.467	0.479	-2.5	50.0
Perfluorodecanoic acid (PFDA)	AveID	0.9664	1.008		0.0522	0.0500	4.3	50.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.044	1.028		0.492	0.500	-1.5	50.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5939	0.6409		0.0520	0.0482	7.9	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9651	0.9418		0.488	0.500	-2.4	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9075	0.9409		0.0518	0.0500	3.7	50.0
MeFOSA	AveID	1.002	1.005		0.750	0.500	0.3	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9736	0.9633		0.0495	0.0500	-1.1	50.0
N-EtFOSA-M	AveID	1.033	1.049		1.00	0.500	1.5	50.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.104	1.210		0.0548	0.0500	9.7	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2499	0.2600		0.0520	0.0500	4.1	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		1.259		0.0485	0.0500	-3.1	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.128	1.089		0.0483	0.0500	-3.5	50.0
13C4 PFBA	Ave	1.463	1.373		2.35	2.50	-6.1	50.0
13C5 PFPeA	Ave	0.8617	0.8246		2.39	2.50	-4.3	50.0
13C3-PFBS	Ave	0.0185	0.0167		2.10	2.33	-9.7	50.0
13C2 PFHxA	Ave	0.9002	0.8942		2.48	2.50	-0.7	50.0
13C4-PFHpA	Ave	0.8445	0.8065		2.39	2.50	-4.5	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCVL 320-200485/1 Calibration Date: 12/19/2017 11:52

Instrument ID: A8_N Calib Start Date: 12/14/2017 15:52

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/14/2017 16:55

Lab File ID: 2017.12.19LLAX_003.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.051	1.057		2.38	2.37	0.6	50.0
M2-6:2FTS	Ave	0.4590	0.5689		2.94	2.38	23.9	50.0
13C4 PFOA	Ave	1.021	1.042		2.55	2.50	2.1	50.0
13C4 PFOS	Ave	0.6631	0.6739		2.43	2.39	1.6	50.0
13C5 PFNA	Ave	0.6758	0.6632		2.45	2.50	-1.9	50.0
13C8 FOSA	Ave	0.9504	0.9277		2.44	2.50	-2.4	50.0
M2-8:2FTS	Ave	0.1522	0.1467		2.31	2.40	-3.6	50.0
13C2 PFDA	Ave	0.5506	0.5380		2.44	2.50	-2.3	50.0
d3-NMeFOSAA	Ave	0.2625	0.2650		2.52	2.50	0.9	50.0
d5-NEtFOSAA	Ave	0.2616	0.2861		2.73	2.50	9.4	50.0
13C2 PFUnA	Ave	0.4188	0.4188		2.50	2.50	0.0	50.0
d-N-MeFOSA-M	Ave	0.2786	0.2574		2.31	2.50	-7.6	50.0
13C2 PFDoA	Ave	0.4477	0.4323		2.41	2.50	-3.4	50.0
d-N-EtFOSA-M	Ave	0.2578	0.2453		2.38	2.50	-4.9	50.0
13C2-PFTeDA	Ave	0.4855	0.5044		2.60	2.50	3.9	50.0
13C2-PFHxDA	Ave	0.8900	0.9532		2.68	2.50	7.1	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51917.b\2017.12.19LLAX_003.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 19-Dec-2017 11:52:04 ALS Bottle#: 21 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCVL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51917.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 19-Dec-2017 12:07:20 Calib Date: 14-Dec-2017 16:55:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171214-51773.b\2017.12.14ICAL_010.d

Column 1 : Det: EXP1
Process Host: XAWRK008

First Level Reviewer: roycea Date: 19-Dec-2017 12:06:49

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.406	0.008	0.533	8279759	2.35		93.9	33061	
2 Perfluorobutyric acid										
212.90 > 169.00	1.414	1.408	0.006	1.000	152117	0.0509		102	22.7	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.656	0.016	1.005	117718	0.0532		106	132	
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.656	0.007	0.627	4971812	2.39		95.7	64742	
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.690	0.008	0.640	93652	2.10		90.3	4178	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.707	1.692	0.015	1.005	146537	0.0496		112	832	
298.90 > 99.00	1.698	1.692	0.006	1.000	61983		2.36(1.25-3.74)		592	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.914	1.902	0.012	1.000	265139	0.4134		88.5	9439	
D 7 13C2 PFHxA										
315.00 > 270.00	1.945	1.938	0.007	0.733	5391133	2.48		99.3	51207	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.955	1.939	0.016	1.005	124786	0.0587		117	308	
313.00 > 119.00	1.955	1.939	0.016	1.005	10093		12.36(5.03-15.10)		285	
D 9 13C4-PFHpA										
367.00 > 322.00	2.279	2.272	0.007	0.859	4862186	2.39		95.5	30825	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.279	2.273	0.006	1.000	104345	0.0518		104	197	
363.00 > 169.00	2.279	2.273	0.006	1.000	38733		2.69(1.13-3.40)		344	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.292	2.285	0.007	1.000	142410	0.0506		111	1173	
399.00 > 99.00	2.292	2.285	0.007	1.000	43407		3.28(1.50-4.49)		526	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.292	2.286	0.006	0.864	6031053	2.38		101	35198	
D 12 M2-6:2FTS										
429.00 > 81.00	2.638	2.625	0.013	0.995	3258186	2.94		124	123452	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.625	0.013	1.000	972925	0.4508		95.1	25219	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.637	0.016	1.000	6283560	2.55		102	53073	
* 62 13C2-PFOA										
415.00 > 370.00	2.653	2.638	0.015		6029044	2.50			47771	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.653	2.640	0.013	1.000	134043	0.0502		100	137	
413.00 > 169.00	2.653	2.640	0.013	1.000	77291		1.73(0.84-2.52)		634	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.660	2.644	0.016	1.000	109939	0.0459		96.4	3675	
449.00 > 99.00	2.660	2.644	0.016	1.000	30696		3.58(1.94-5.82)		1007	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.014	0.012	1.141	3884380	2.43		102	31758	
D 19 13C5 PFNA										
468.00 > 423.00	3.026	3.015	0.011	1.141	3998368	2.45		98.1	38885	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.026	3.015	0.011	1.000	82234	0.0476		103	170	
499.00 > 99.00	3.026	3.015	0.011	1.000	19597		4.20(2.31-6.93)		169	
20 Perfluorononanoic acid										
463.00 > 419.00	3.026	3.017	0.009	1.000	78188	0.0491		98.1	236	
463.00 > 169.00	3.026	3.017	0.009	1.000	17873		4.37(1.90-5.69)		430	
D 21 13C8 FOSA										
506.00 > 78.00	3.365	3.354	0.011	1.268	5592929	2.44		97.6	37229	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.356	0.009	1.000	104868	0.0495		99.1	4298	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.368	0.012	1.274	847554	2.31		96.4	15098	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.380	3.369	0.011	1.000	201244	0.4672		97.5	8374	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.395	3.379	0.016	1.000	65386	0.0522		104	429	
513.00 > 169.00	3.387	3.379	0.008	0.998	11714		5.58(2.36-7.09)		214	
D 23 13C2 PFDA										
515.00 > 470.00	3.395	3.379	0.016	1.280	3243360	2.44		97.7	38572	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.546	3.535	0.011	1.337	1597775	2.52		101	21055	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.554	3.538	0.016	1.002	328610	0.4924		98.5	2514	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.708	3.692	0.016	1.000	50208	0.0520		108	2377	
599.00 > 99.00	3.708	3.692	0.016	1.000	15606		3.22(1.39-4.16)		966	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.716	3.704	0.012	1.401	1725078	2.73		109	6835	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.725	3.709	0.016	1.404	2524877	2.50		100	29722	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.725	3.710	0.015	1.002	324946	0.4879		97.6	5786	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.725	3.711	0.014	1.000	47514	0.0518		104	308	
563.00 > 169.00	3.725	3.711	0.014	1.000	11299		4.21(0.00-0.00)		578	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.850	0.006	1.454	1551998	2.31		92.4	3904	
35 MeFOSA										
512.00 > 169.00	3.867	3.856	0.011	1.003	312059	0.5014		100	2626	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.022	4.008	0.014	1.000	50207	0.0495		98.9	159	
613.00 > 169.00	4.022	4.008	0.014	1.000	13607		3.69(2.13-6.40)		858	
D 36 13C2 PFDoA										
615.00 > 570.00	4.022	4.008	0.014	1.516	2606083	2.41		96.6	40815	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.039	0.007	1.525	1478723	2.38		95.1	3328	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.047	0.007	1.002	310141	0.5077		102	1994	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.289	4.275	0.014	1.000	63091	0.0548		110	330	
663.00 > 169.00	4.289	4.275	0.014	1.000	22846		2.76(1.25-3.76)		997	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.528	4.519	0.009	1.000	15814	0.0520		104	688	
713.00 > 219.00	4.528	4.519	0.009	1.000	10946		1.44(0.71-2.13)		634	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.528	4.519	0.009	1.707	3040796	2.60		104	19983	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.959	4.935	0.024	1.002	144752	0.0485		96.9	90.9	
813.00 > 169.00	4.950	4.935	0.015	1.000	26728		5.42(2.86-8.58)		907	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.950	4.935	0.015	1.866	5746841	2.68		107	21896	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.318	5.299	0.019	1.000	125119	0.0483		96.5	36.2	
913.00 > 169.00	5.311	5.299	0.012	0.999	14879		8.41(0.00-0.00)		266	

Reagents:

LCPFC_CCVL_00001 Amount Added: 1.00 Units: mL

Report Date: 19-Dec-2017 12:07:21 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51917.b\2017.12.19LLAX_003.d

Injection Date: 19-Dec-2017 11:52:04 Instrument ID: A8_N

Lims ID: CCVL

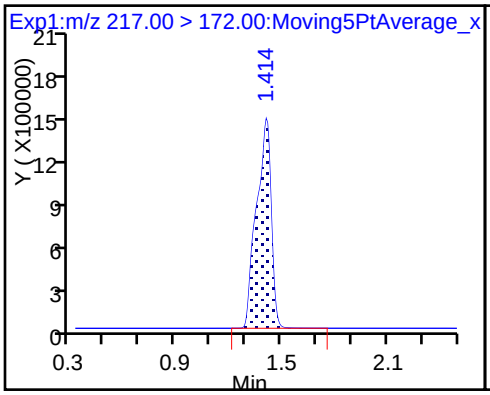
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 21 Worklist Smp#: 1

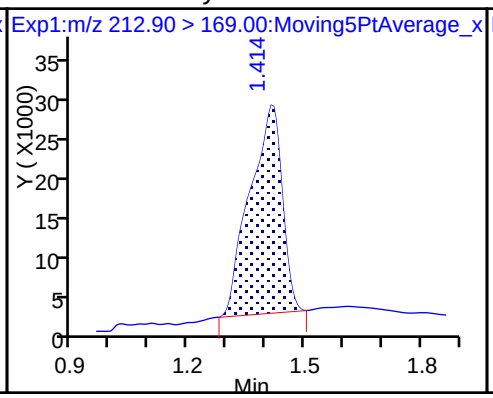
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

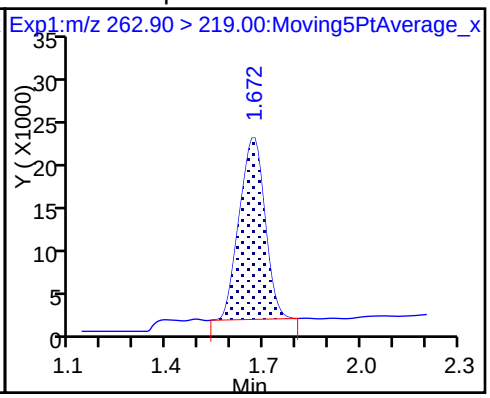
D 1 13C4 PFBA



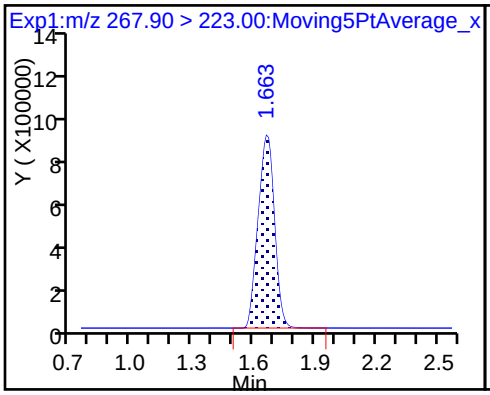
2 Perfluorobutyric acid



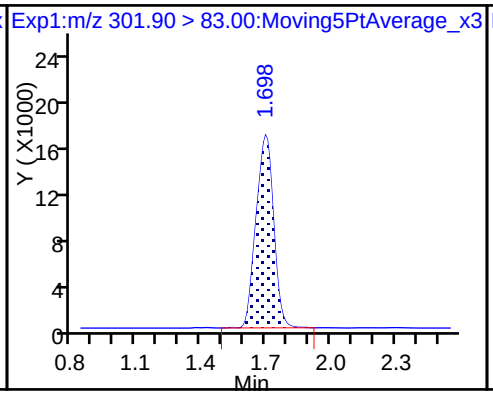
4 Perfluoropentanoic acid



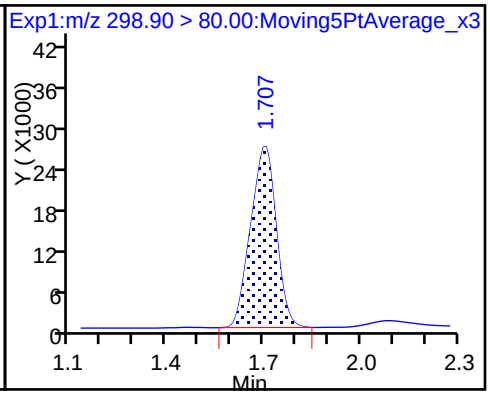
D 3 13C5-PFPeA



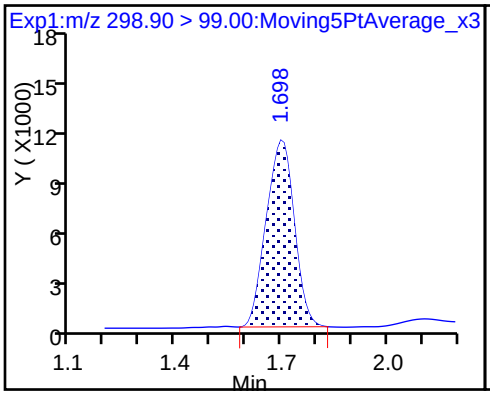
D 47 13C3-PFBS



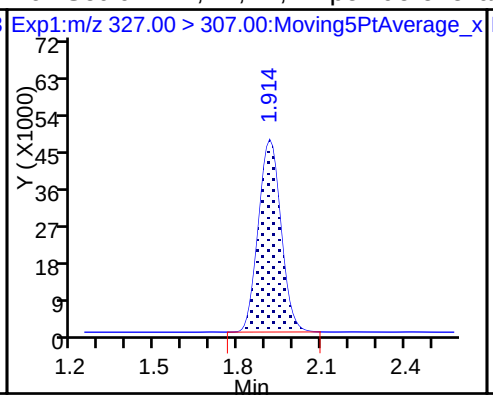
5 Perfluorobutanesulfonic acid



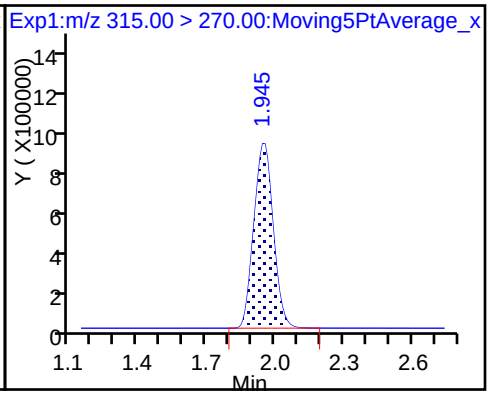
5 Perfluorobutanesulfonic acid



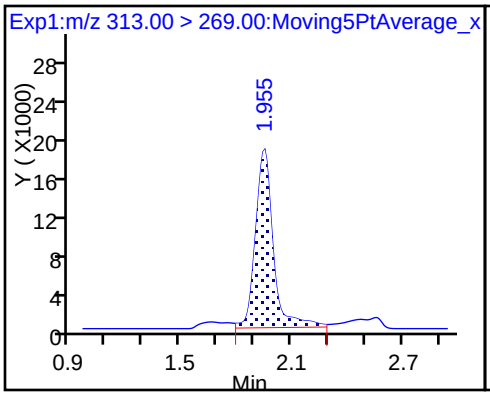
61 Sodium 1H,1H,2H,2H-perfluorohexa



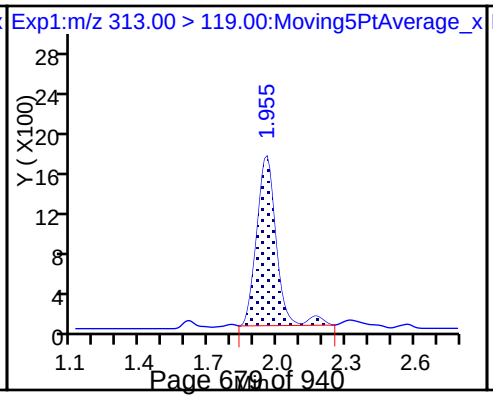
D 7 13C2 PFHxA



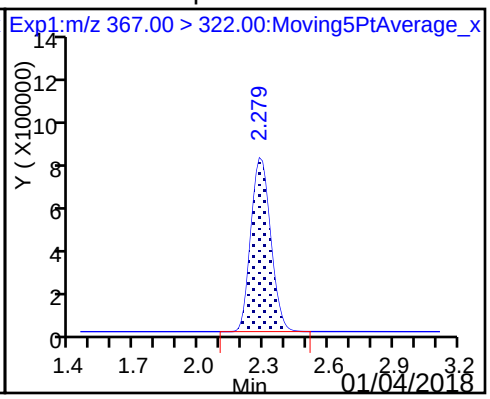
6 Perfluorohexanoic acid



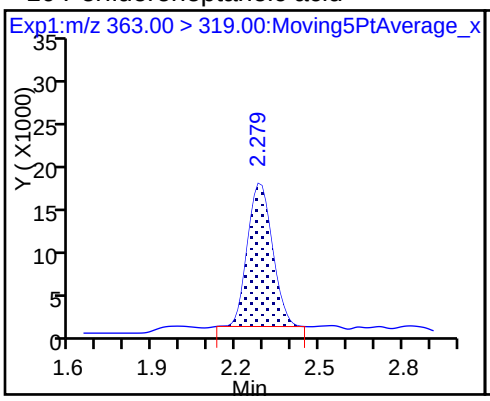
6 Perfluorohexanoic acid



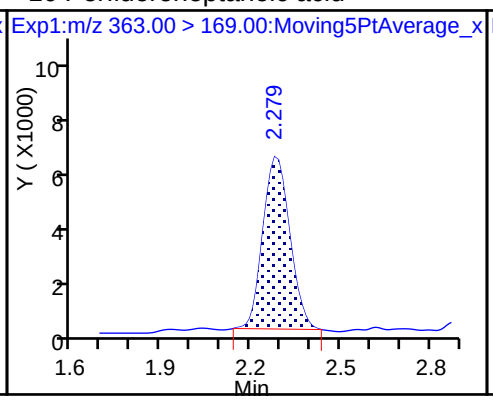
D 9 13C4-PFHpA



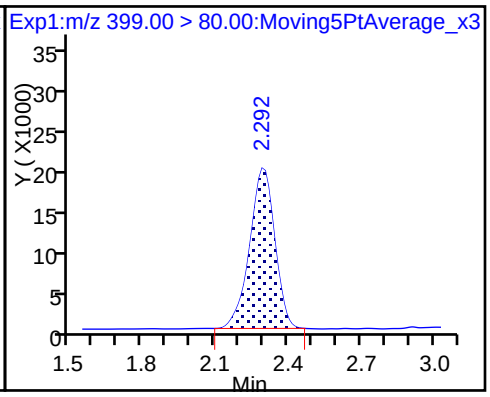
10 Perfluoroheptanoic acid



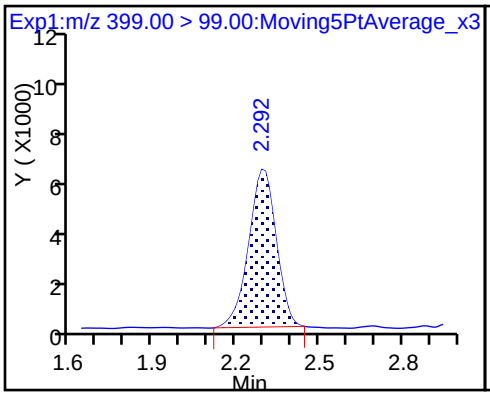
10 Perfluoroheptanoic acid



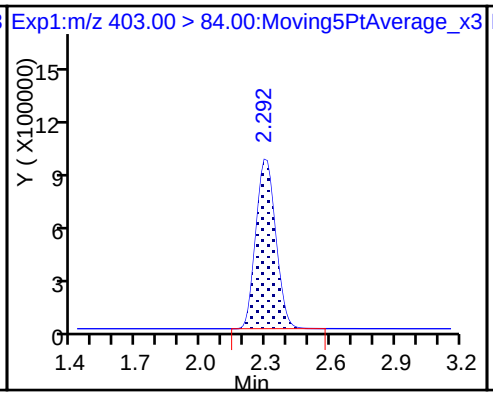
8 Perfluorohexanesulfonic acid



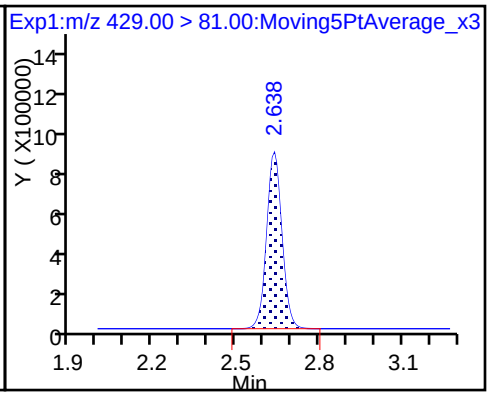
8 Perfluorohexanesulfonic acid



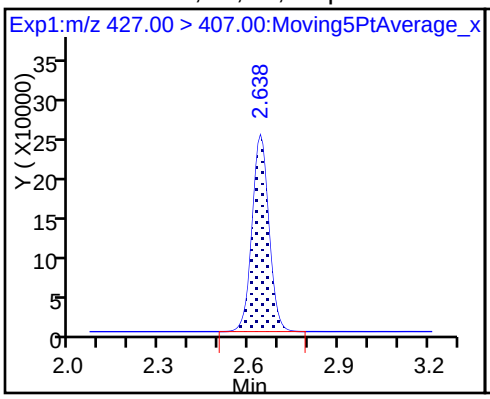
D 11 18O2 PFHxS



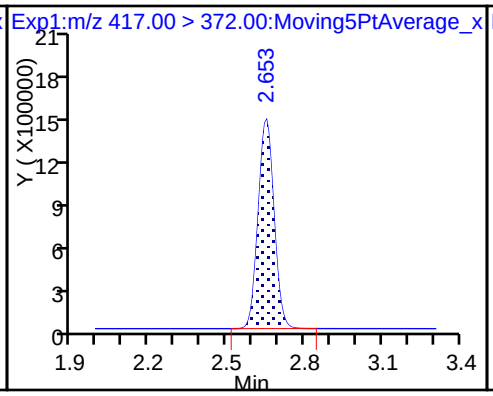
D 12 M2-6:2FTS



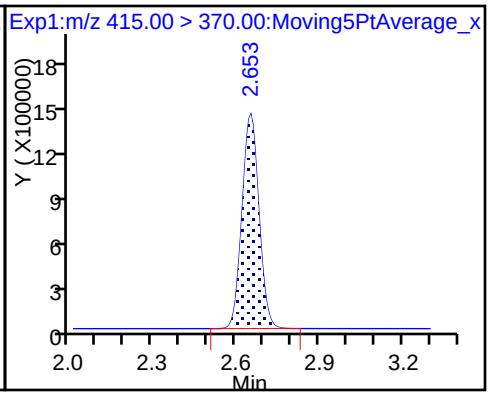
13 Sodium 1H,1H,2H,2H-perfluorooctane



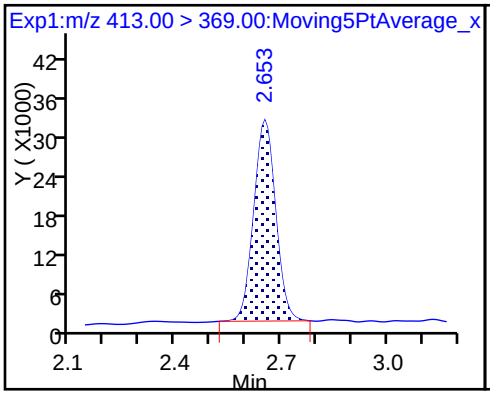
D 14 13C4 PFOA



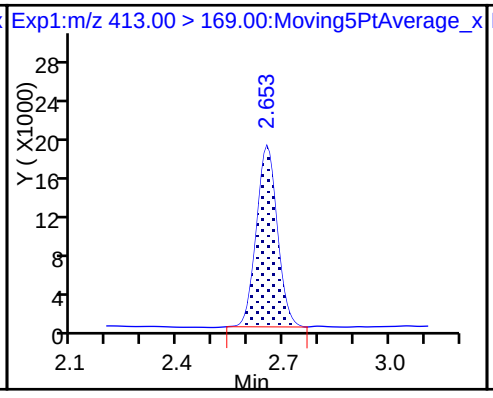
* 62 13C2-PFOA



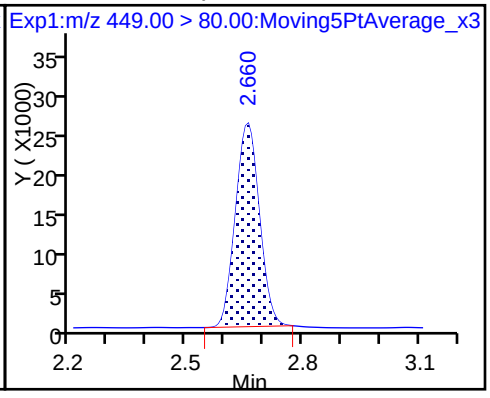
15 Perfluorooctanoic acid



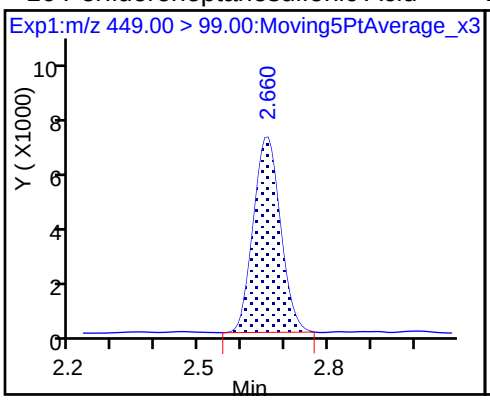
15 Perfluorooctanoic acid



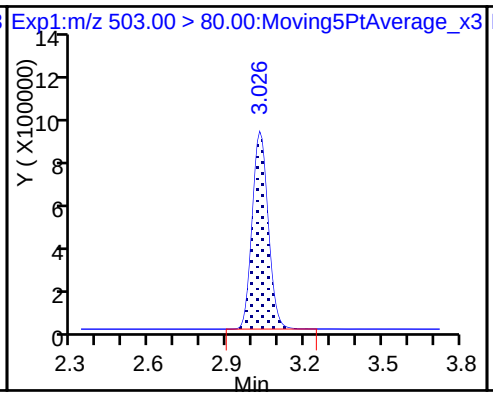
16 Perfluoroheptanesulfonic Acid



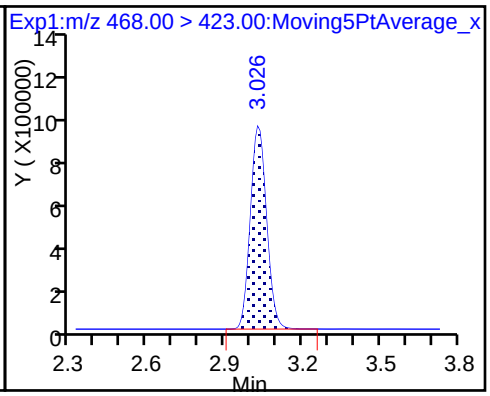
16 Perfluoroheptanesulfonic Acid



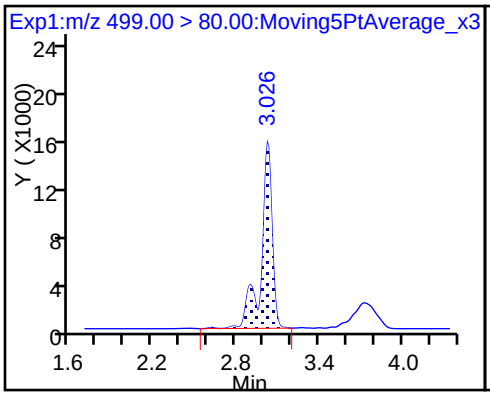
D 18 13C4 PFOS



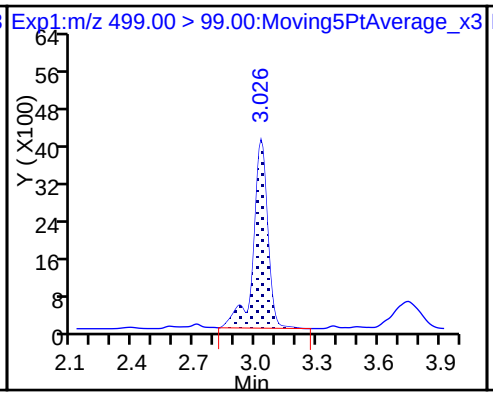
D 19 13C5 PFNA



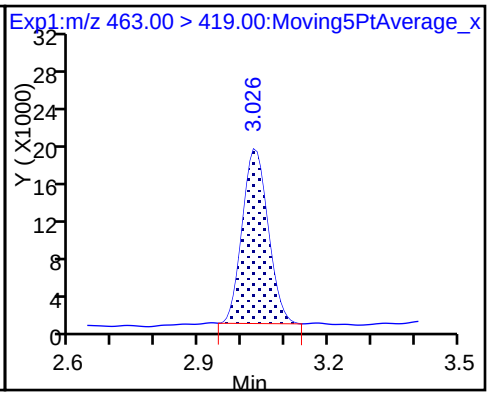
17 Perfluorooctane sulfonic acid



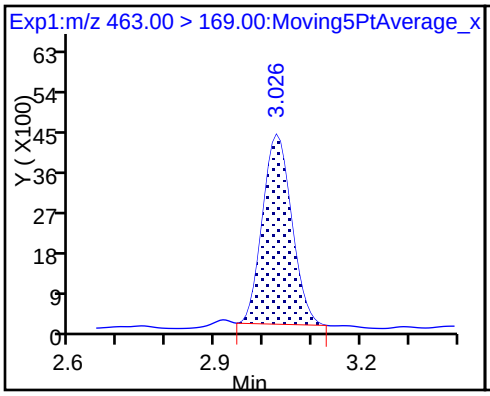
17 Perfluorooctane sulfonic acid



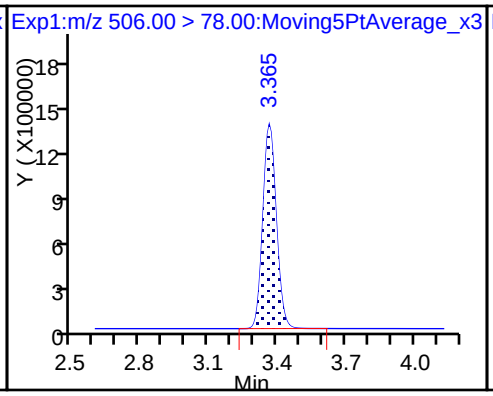
20 Perfluorononanoic acid



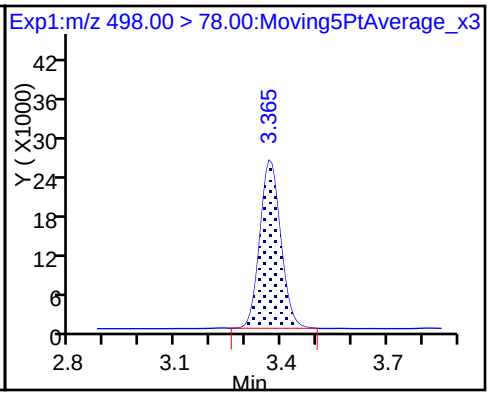
20 Perfluorononanoic acid



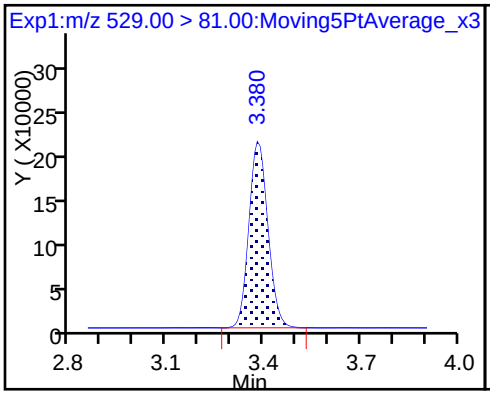
D 21 13C8 FOSA



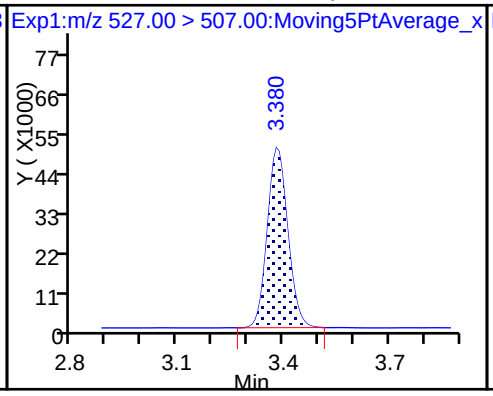
22 Perfluorooctane Sulfonamide



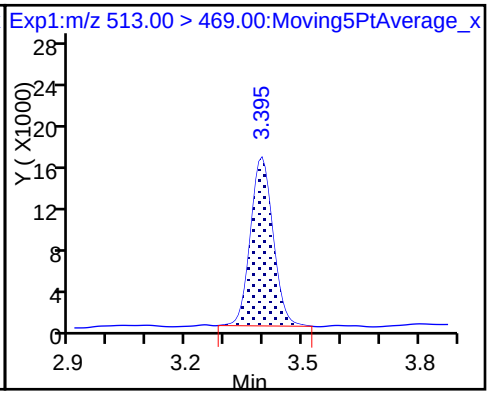
D 26 M2-8:2FTS



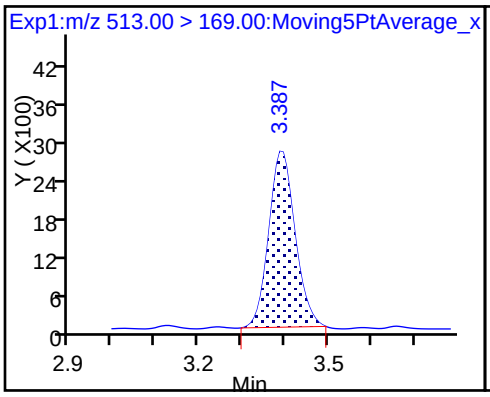
25 Sodium 1H,1H,2H,2H-perfluorodecan



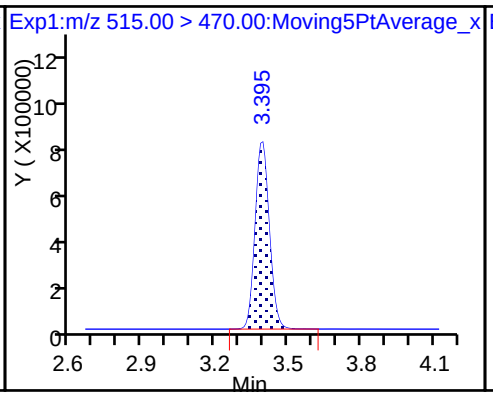
24 Perfluorodecanoic acid



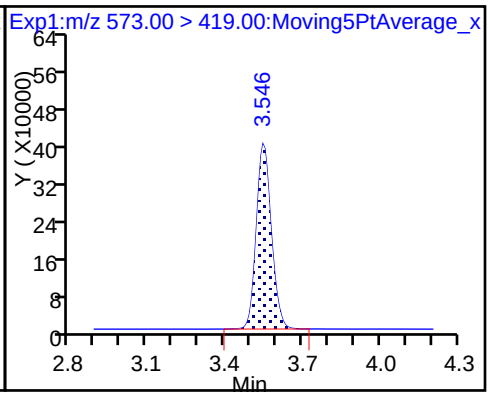
24 Perfluorodecanoic acid



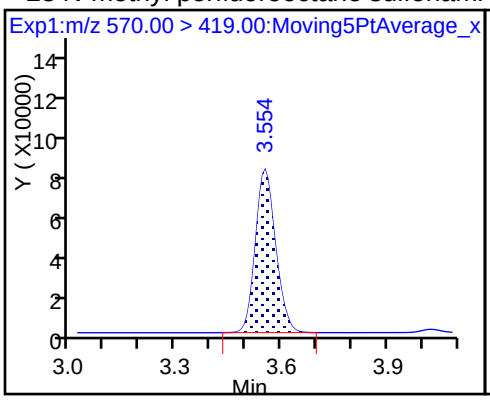
D 23 13C2 PFDA



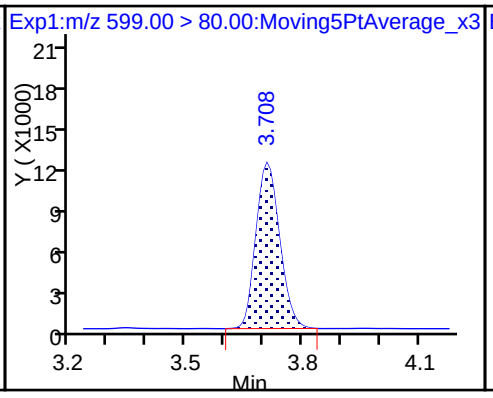
D 27 d3-NMeFOSAA



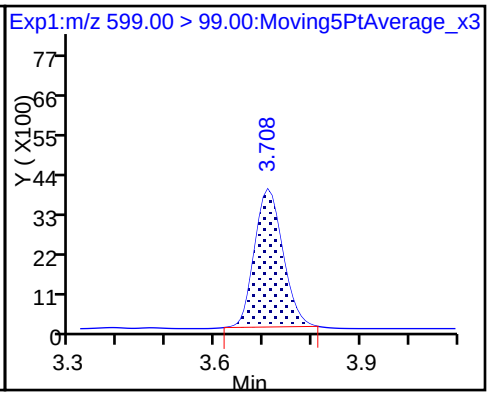
28 N-methyl perfluorooctane sulfonami



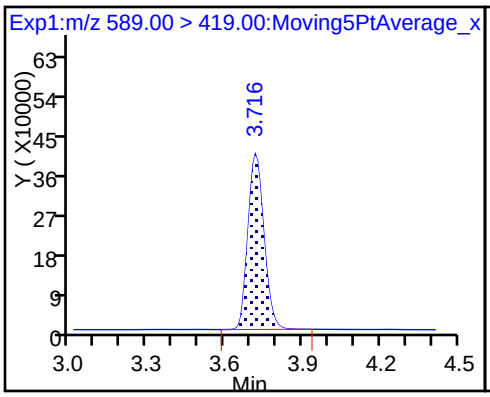
29 Perfluorodecane Sulfonic acid



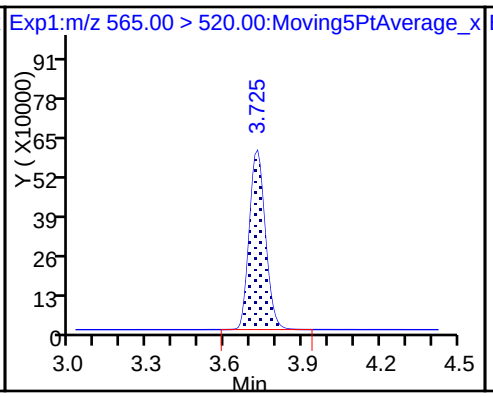
29 Perfluorodecane Sulfonic acid



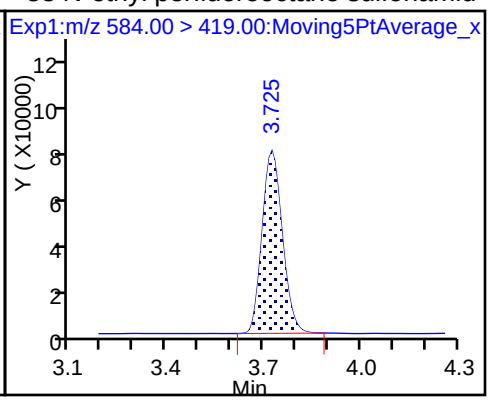
D 32 d5-NEtFOSAA



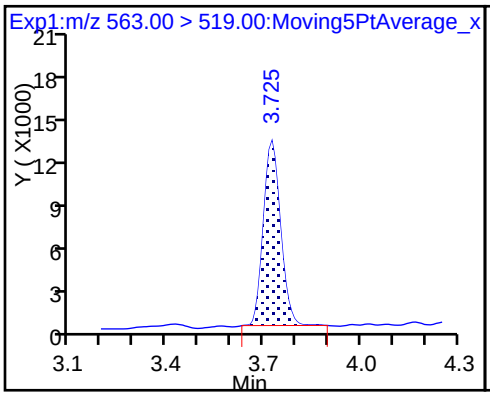
D 30 13C2 PFUnA



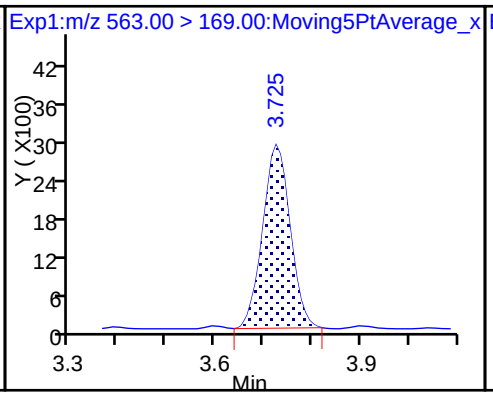
33 N-ethyl perfluorooctane sulfonamid



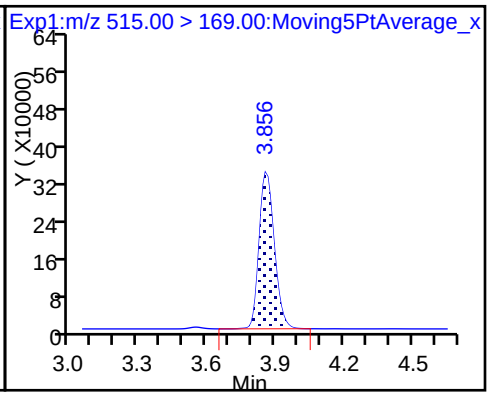
31 Perfluoroundecanoic acid



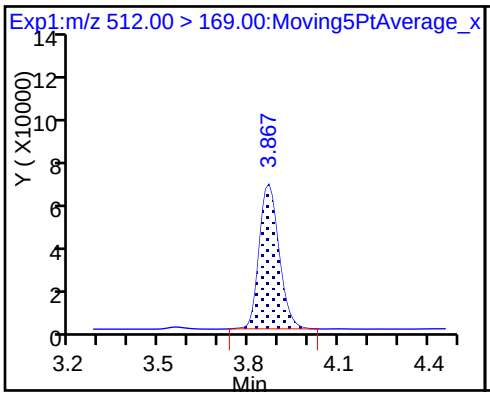
31 Perfluoroundecanoic acid



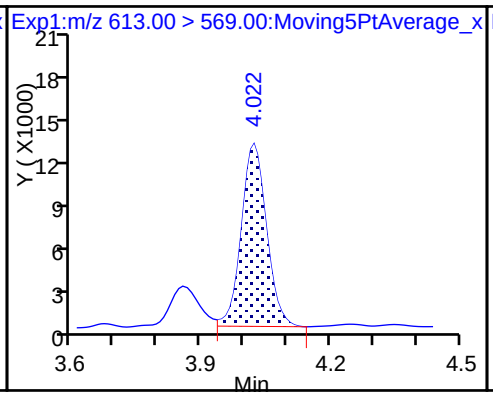
D 34 d-N-MeFOSA-M



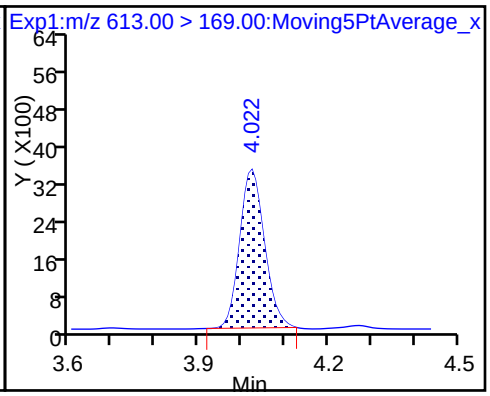
35 MeFOSA



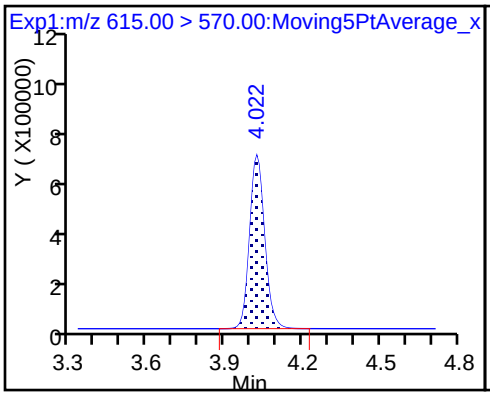
37 Perfluorododecanoic acid



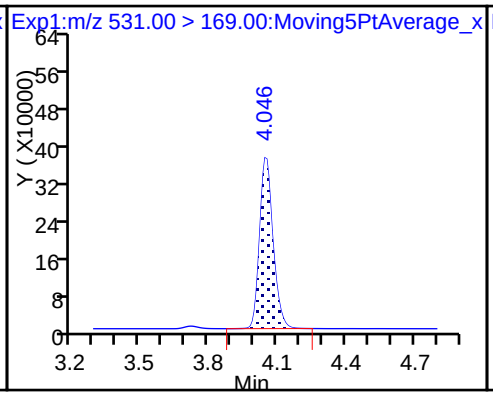
37 Perfluorododecanoic acid



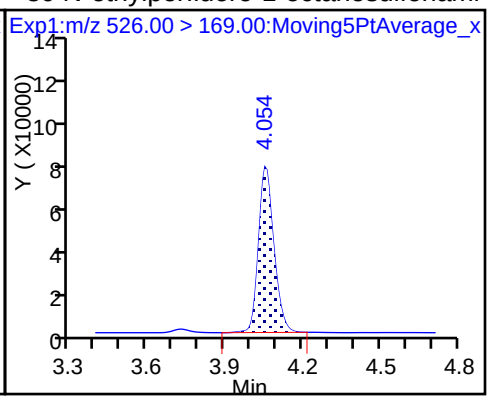
D 36 13C2 PFDoA



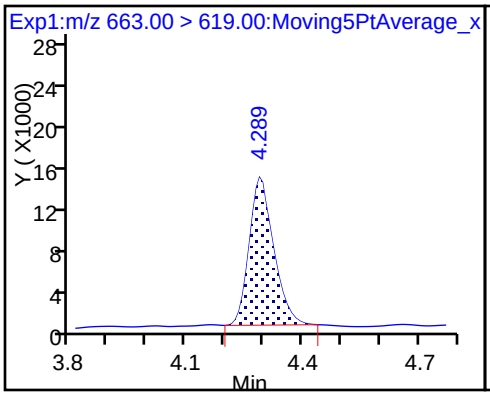
D 38 d-N-EtFOSA-M



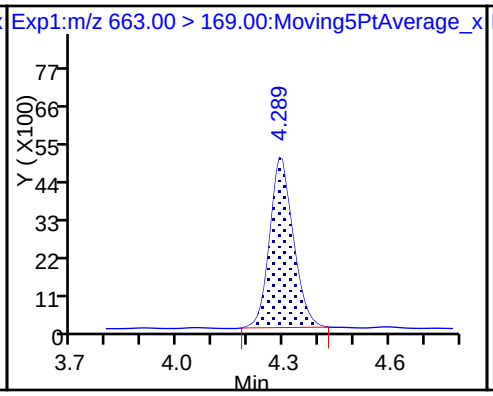
39 N-ethylperfluoro-1-octanesulfonami



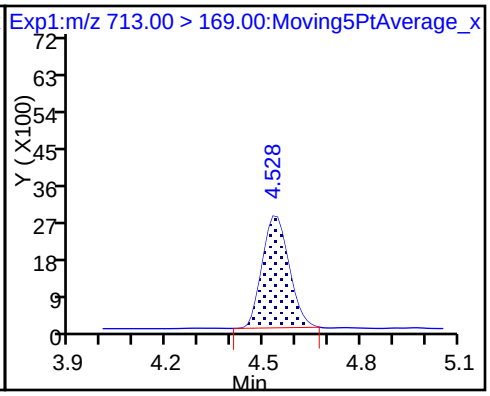
41 Perfluorotridecanoic acid



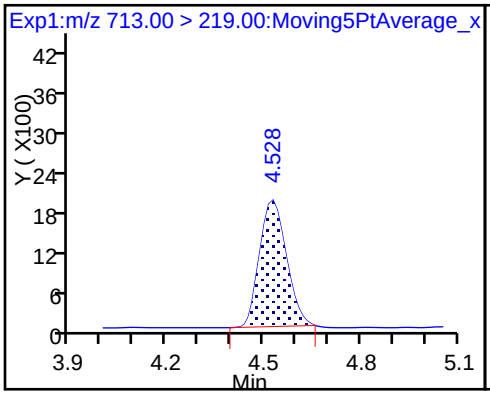
41 Perfluorotridecanoic acid



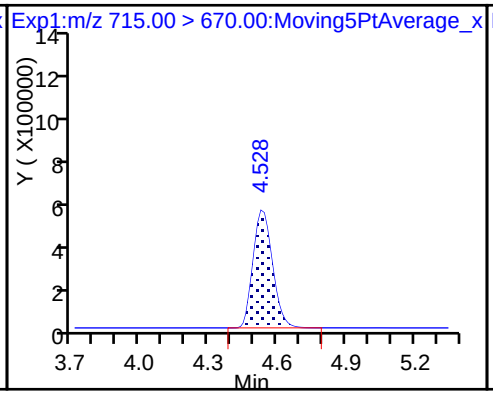
42 Perfluorotetradecanoic acid



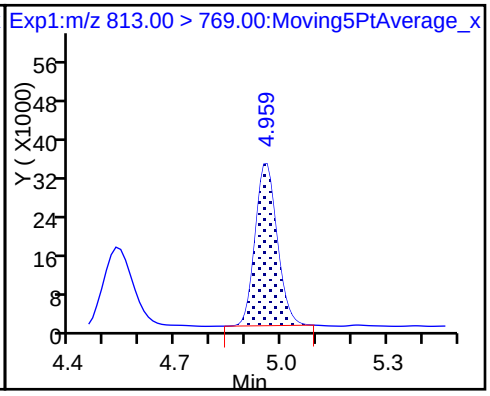
42 Perfluorotetradecanoic acid



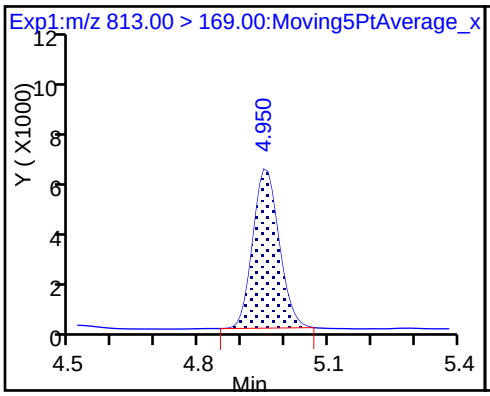
D 43 13C2-PFTeDA



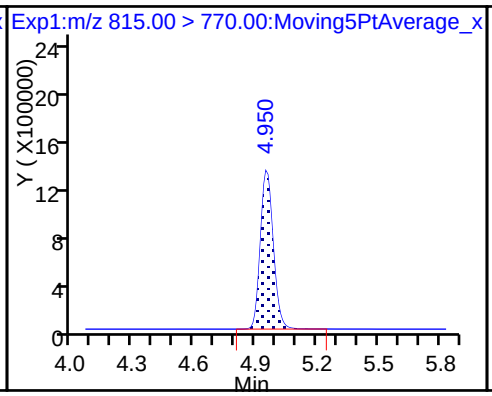
45 Perfluorohexadecanoic acid



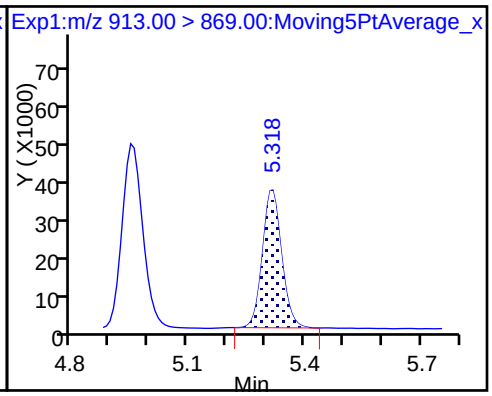
45 Perfluorohexadecanoic acid



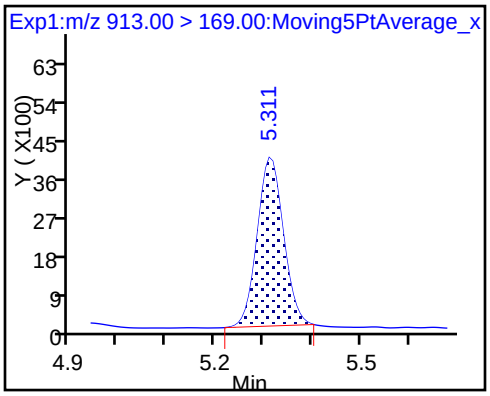
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: ICV 320-200596/12 Calibration Date: 12/19/2017 15:08

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19ICALX_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9123	0.8959		2.46	2.50	-1.8	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.105	1.114		2.52	2.50	0.7	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.75	81.26		2.41	2.21	8.7	50.0
4:2 FTS	AveID	0.6286	0.5064		1.88	2.34	-19.4	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.000	1.025		2.56	2.50	2.5	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.030	1.094		2.66	2.50	6.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.087	1.026		2.23	2.36	-5.6	40.0
6:2FTS	AveID	1.602	1.455		2.15	2.37	-9.2	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.055	1.075		2.55	2.50	1.9	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.439	1.364		2.26	2.38	-5.2	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9691	1.045		2.70	2.50	7.8	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	1.041		2.34	2.39	-2.1	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9454	0.9597		2.54	2.50	1.5	40.0
8:2FTS	AveID	1.216	1.188		2.34	2.40	-2.3	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	1.053		2.66	2.50	6.4	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.031	0.9922		2.41	2.50	-3.7	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5860	0.6089		2.51	2.41	3.9	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9745	0.9063		2.33	2.50	-7.0	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9047	0.8741		2.42	2.50	-3.4	40.0
MeFOSA	AveID	0.9820	0.9629		2.45	2.50	-1.9	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9602	1.029		2.68	2.50	7.2	40.0
N-EtFOSA-M	AveID	1.054	1.039		2.47	2.50	-1.4	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.146	1.163		2.54	2.50	1.5	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2530	0.2553		2.52	2.50	0.9	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9718		2.77	2.50	10.7	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.112	1.153		2.59	2.50	3.7	50.0
13C4 PFBA	Ave	1.474	1.474		2.50	2.50	-0.0	50.0
13C5 PFPeA	Ave	0.8683	0.8444		2.43	2.50	-2.8	50.0
13C3-PFBS	Ave	0.0184	0.0176		2.23	2.33	-4.3	50.0
13C2 PFHxA	Ave	0.9209	0.8760		2.38	2.50	-4.9	50.0
13C4-PFHpA	Ave	0.8611	0.8278		2.40	2.50	-3.9	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: ICV 320-200596/12 Calibration Date: 12/19/2017 15:08

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19ICALX_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.066	1.057		2.35	2.37	-0.8	50.0
M2-6:2FTS	Ave	0.3575	0.4334		2.88	2.38	21.2	40.0
13C4 PFOA	Ave	1.034	0.9946		2.40	2.50	-3.8	50.0
13C4 PFOS	Ave	0.6857	0.6767		2.36	2.39	-1.3	50.0
13C5 PFNA	Ave	0.6950	0.6535		2.35	2.50	-6.0	50.0
13C8 FOSA	Ave	0.9692	0.9331		2.41	2.50	-3.7	50.0
M2-8:2FTS	Ave	0.1524	0.1535		2.41	2.40	0.7	40.0
13C2 PFDA	Ave	0.5561	0.5476		2.46	2.50	-1.5	50.0
d3-NMeFOSAA	Ave	0.2564	0.2638		2.57	2.50	2.9	50.0
13C2 PFUnA	Ave	0.4284	0.4262		2.49	2.50	-0.5	50.0
d5-NEtFOSAA	Ave	0.2642	0.2734		2.59	2.50	3.5	50.0
d-N-MeFOSA-M	Ave	0.2856	0.2832		2.48	2.50	-0.8	50.0
13C2 PFDoA	Ave	0.4554	0.4414		2.42	2.50	-3.1	50.0
d-N-EtFOSA-M	Ave	0.2693	0.2649		2.46	2.50	-1.6	50.0
13C2-PFTeDA	Ave	0.4999	0.4705		2.35	2.50	-5.9	50.0
13C2-PFHxDA	Ave	0.9134	0.8706		2.38	2.50	-4.7	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_012.d
Lims ID: ICV Full
Client ID:
Sample Type: ICV
Inject. Date: 19-Dec-2017 15:08:03 ALS Bottle#: 18 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist:

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 20-Dec-2017 08:28:52 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK002

First Level Reviewer: roycea Date: 20-Dec-2017 08:23:21

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.533	7331217	2.50		100.0	23973	
2 Perfluorobutyric acid										
212.90 > 169.00	1.414	1.412	0.002	1.000	6567904	2.45			1488	
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.627	4200138	2.43		97.2	42187	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.663	1.664	-0.001	1.000	4676989	2.52			7052	
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.640	81272	2.23		95.7	3016	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.698	1.703	-0.005	1.000	6284237	2.40			31625	
298.90 > 99.00	1.698	1.703	-0.005	1.000	2617220		2.40(1.25-3.74)		20315	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.914	1.909	0.005	1.000	1019540	1.88			37839	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.955	1.949	0.006	1.000	4464971	2.56			10164	
313.00 > 119.00	1.955	1.949	0.006	1.000	416492		10.72(5.03-15.10)		10487	
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.949	0.006	0.737	4357421	2.38		95.1	42685	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.280	2.286	-0.006	1.000	4506225	2.66			9476	
363.00 > 169.00	2.280	2.286	-0.006	1.000	1757450		2.56(1.13-3.40)		11475	
D 9 13C4-PFHpA										
367.00 > 322.00	2.280	2.286	-0.006	0.859	4117409	2.40		96.1	30550	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.299	0.007	0.869	4974250	2.35		99.2	31094	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.299	0.007	1.000	5096160	2.23			21258	
399.00 > 99.00	2.306	2.299	0.007	1.000	1609139		3.17(1.50-4.49)		12393	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.639	2.640	-0.001	1.000	2973157	2.15			45480	
D 12 M2-6:2FTS										
429.00 > 81.00	2.639	2.640	-0.001	0.995	2047733	2.88		121	67218	
* 62 13C2-PFOA										
415.00 > 370.00	2.653	2.643	0.010		4974081	2.50			50259	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.647	0.006	1.000	4947229	2.40		96.2	40296	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.653	2.649	0.004	1.000	5318832	2.55			9932	
413.00 > 169.00	2.653	2.649	0.004	1.000	2868819		1.85(0.84-2.52)		15301	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.660	2.654	0.006	1.000	4371912	2.26			36959	
449.00 > 99.00	2.660	2.654	0.006	1.000	1147000		3.81(1.94-5.82)		21483	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.026	3.025	0.001	1.000	3346648	2.34			7513	
499.00 > 99.00	3.026	3.025	0.001	1.000	770586		4.34(2.31-6.93)		8377	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.141	3217660	2.36		98.7	33612	
20 Perfluorononanoic acid										
463.00 > 419.00	3.026	3.026	0.0	1.000	3396730	2.70			13633	
463.00 > 169.00	3.026	3.026	0.0	1.000	838468		4.05(1.90-5.69)		18347	
D 19 13C5 PFNA										
468.00 > 423.00	3.026	3.026	0.0	1.141	3250323	2.35		94.0	35429	
D 21 13C8 FOSA										
506.00 > 78.00	3.365	3.362	0.003	1.268	4641215	2.41		96.3	30793	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.365	0.0	1.000	4454094	2.54			28714	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.375	0.005	1.274	731364	2.41		101	15202	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.380	3.376	0.004	1.000	868915	2.34			24178	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.387	0.001	1.277	2723711	2.46		98.5	26729	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.388	3.388	0.0	1.000	2868997	2.66			23018	
513.00 > 169.00	3.388	3.388	0.0	1.000	524644		5.47(2.36-7.09)		1921	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.547	3.541	0.006	1.337	1312071	2.57		103	18215	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.547	3.547	0.0	1.000	1301775	2.41			8182	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.699	3.701	-0.002	1.000	1977813	2.51			31659	
599.00 > 99.00	3.699	3.701	-0.002	1.000	672243		2.94(1.39-4.16)		14739	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.717	3.711	0.006	1.401	1359912	2.59		103	6415	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.401	2120072	2.49		99.5	26712	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.717	3.718	-0.001	1.000	1853194	2.42			14295	
563.00 > 169.00	3.717	3.718	-0.001	1.000	437398		4.24(0.00-0.00)		13226	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.717	3.718	-0.001	1.000	1232463	2.33			22006	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.454	1408703	2.48		99.2	4275	
35 MeFOSA										
512.00 > 169.00	3.867	3.863	0.004	1.003	1356483	2.45			3342	
D 36 13C2 PFDoA										
615.00 > 570.00	4.015	4.015	0.0	1.513	2195742	2.42		96.9	45918	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.015	4.016	-0.001	1.000	2259162	2.68			8695	
613.00 > 169.00	4.015	4.016	-0.001	1.000	568491		3.97(2.13-6.40)		20443	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.525	1317643	2.46		98.4	3062	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.002	1368972	2.46			2872	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.281	4.285	-0.004	1.000	2554697	2.54			22845	
663.00 > 169.00	4.281	4.285	-0.004	1.000	864893		2.95(1.25-3.76)		38882	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.529	4.522	0.007	1.707	2340185	2.35		94.1	16633	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.529	4.522	0.007	1.000	597469	2.52			12815	
713.00 > 219.00	4.515	4.522	-0.007	0.997	424877		1.41(0.71-2.13)		14554	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.941	4.944	-0.003	1.863	4330223	2.38		95.3	13965	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.950	4.945	0.005	1.002	4208000	2.77			2821	
813.00 > 169.00	4.950	4.945	0.005	1.002	734735		5.73(2.86-8.58)		9464	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.311	5.309	0.002	1.000	4991492	2.59			1312	
913.00 > 169.00	5.304	5.309	-0.005	0.999	616384		8.10(0.00-0.00)		2371	

Reagents:

LCPFCIC_FULL_00007 Amount Added: 0.25 Units: mL

Report Date: 20-Dec-2017 08:28:53 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_012.d

Injection Date: 19-Dec-2017 15:08:03 Instrument ID: A8_N

Lims ID: ICV Full

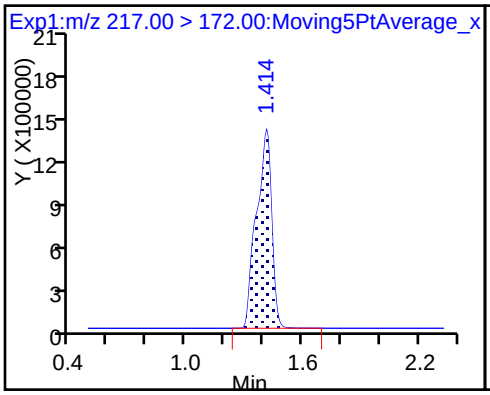
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 18 Worklist Smp#: 12

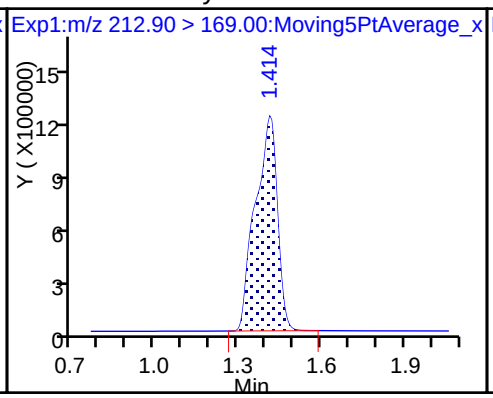
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

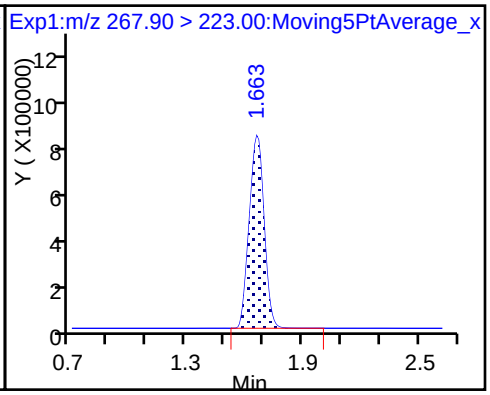
D 1 13C4 PFBA



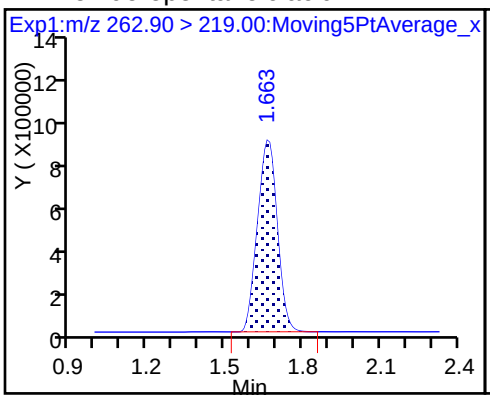
2 Perfluorobutyric acid



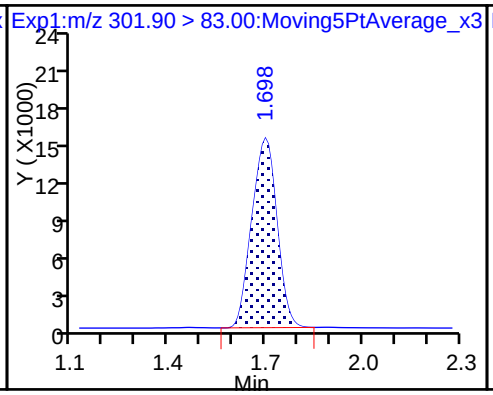
D 3 13C5-PFPeA



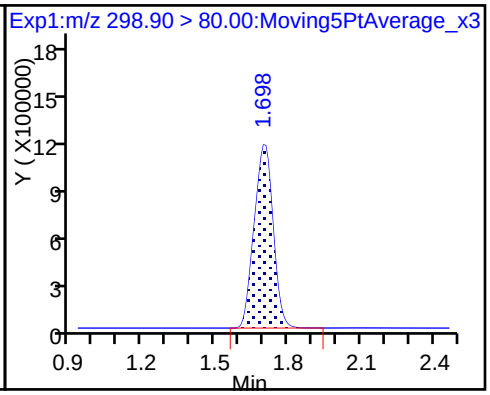
4 Perfluoropentanoic acid



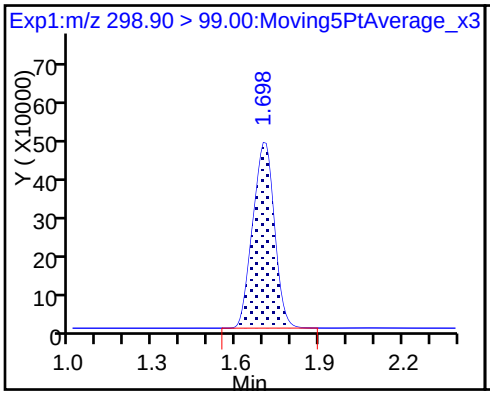
D 47 13C3-PFBS



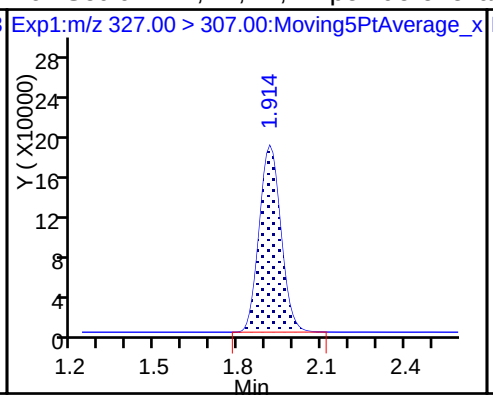
5 Perfluorobutanesulfonic acid



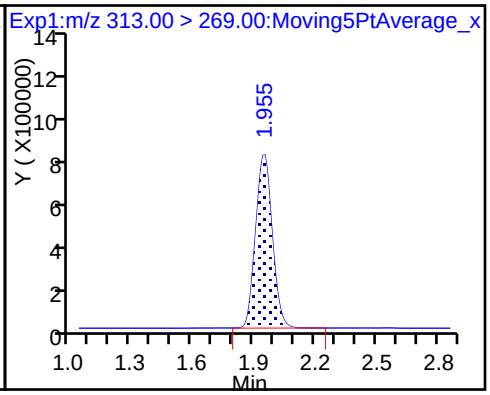
5 Perfluorobutanesulfonic acid



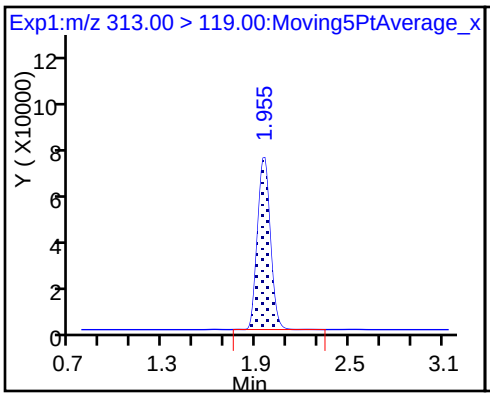
61 Sodium 1H,1H,2H,2H-perfluorohexane



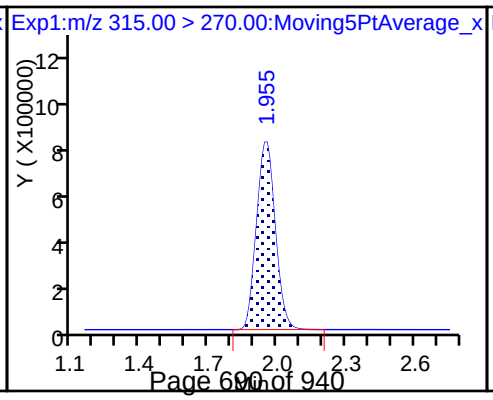
6 Perfluorohexanoic acid



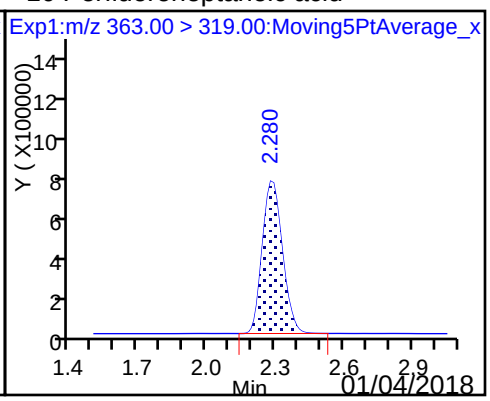
6 Perfluorohexanoic acid



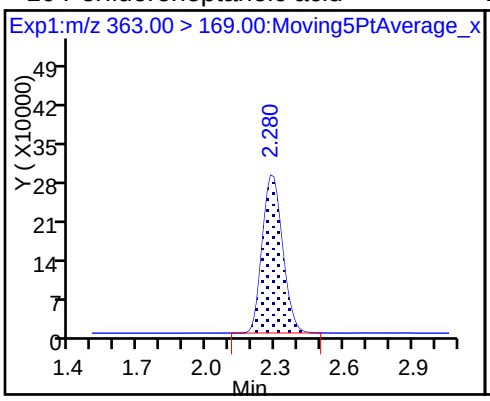
D 7 13C2 PFHxA



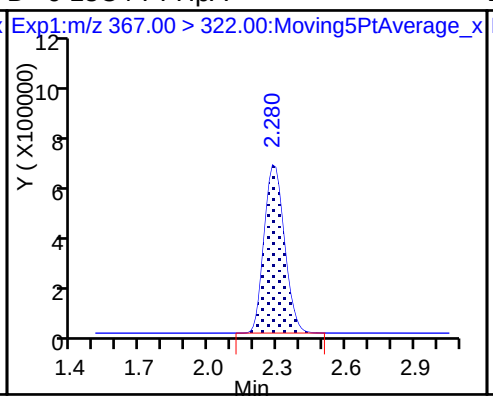
10 Perfluoroheptanoic acid



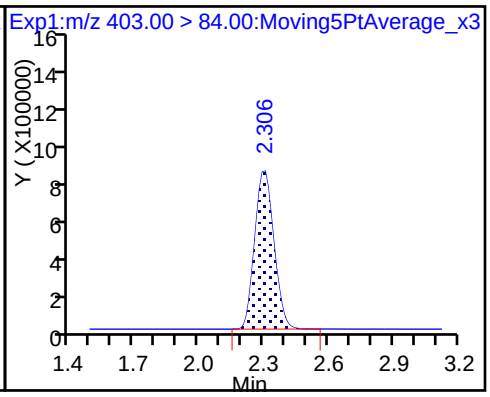
10 Perfluoroheptanoic acid



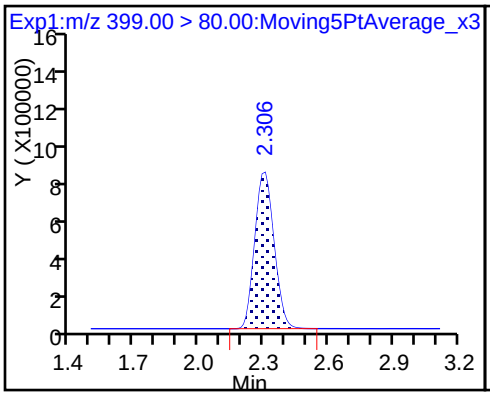
D 9 13C4-PFHpA



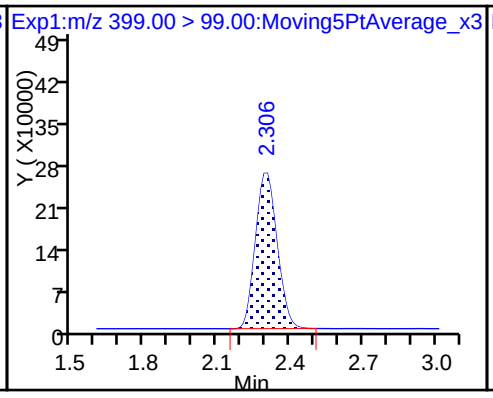
D 11 18O2 PFHxS



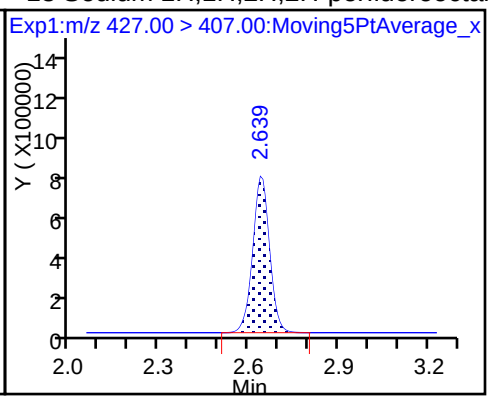
8 Perfluorohexanesulfonic acid



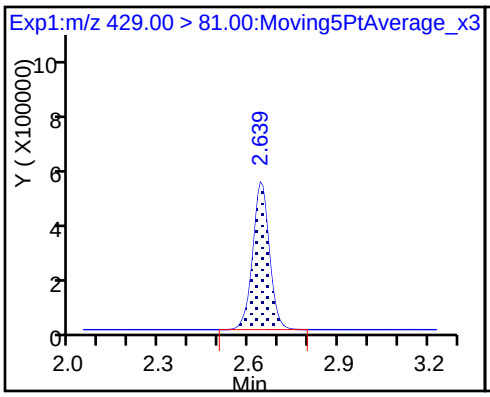
8 Perfluorohexanesulfonic acid



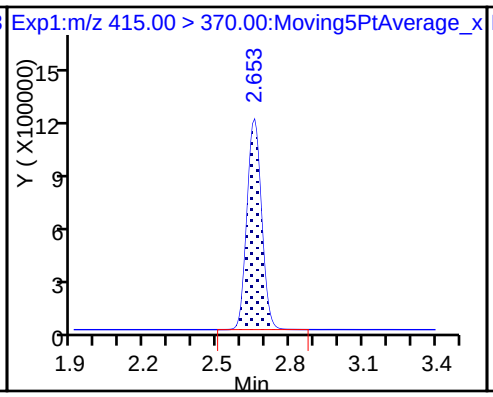
13 Sodium 1H,1H,2H,2H-perfluorooctane



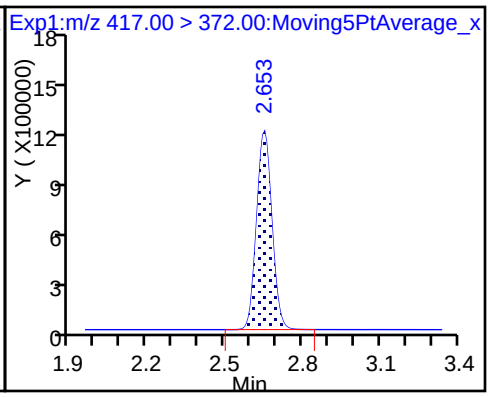
D 12 M2-6:2FTS



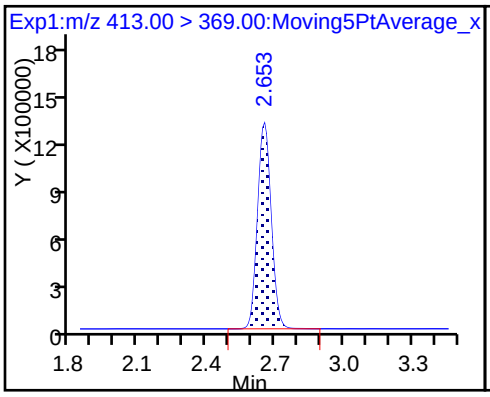
* 62 13C2-PFOA



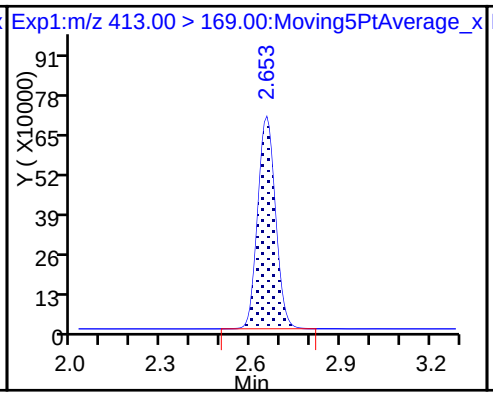
D 14 13C4 PFOA



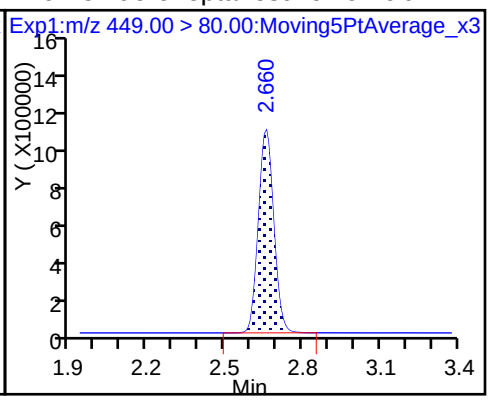
15 Perfluorooctanoic acid



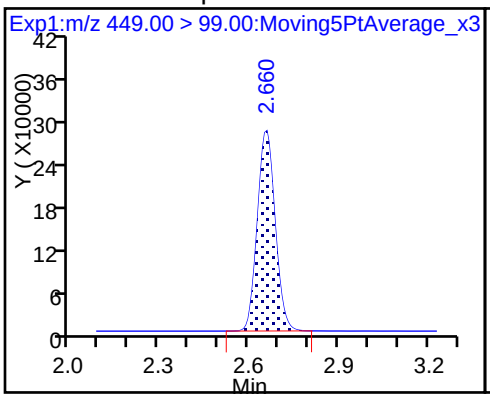
15 Perfluorooctanoic acid



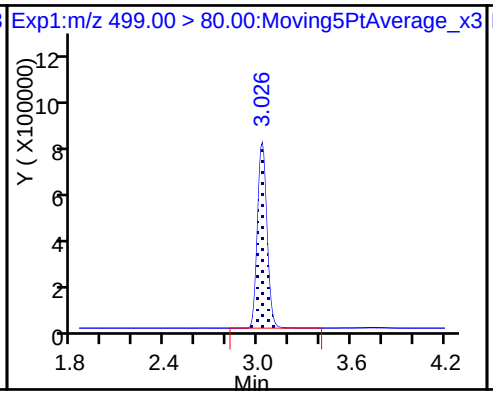
16 Perfluoroheptanesulfonic Acid



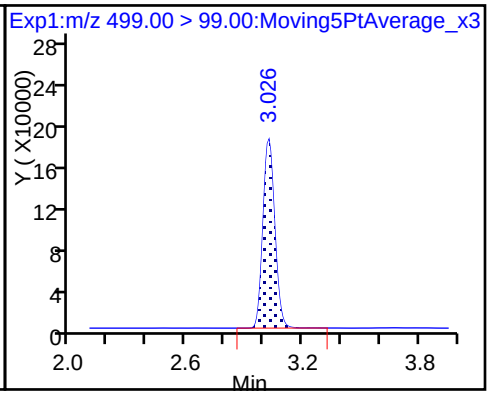
16 Perfluoroheptanesulfonic Acid



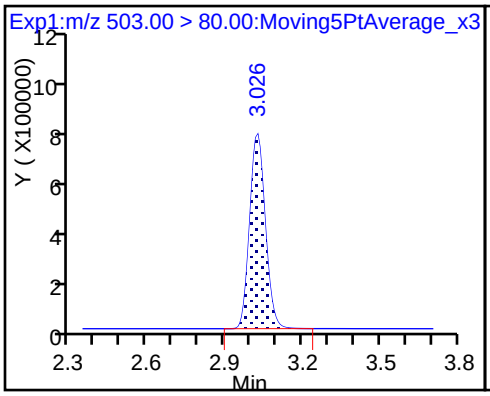
17 Perfluorooctane sulfonic acid



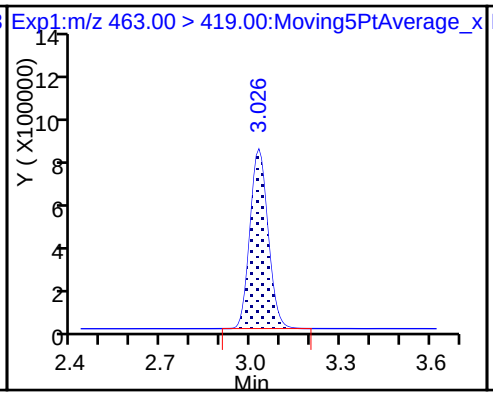
17 Perfluorooctane sulfonic acid



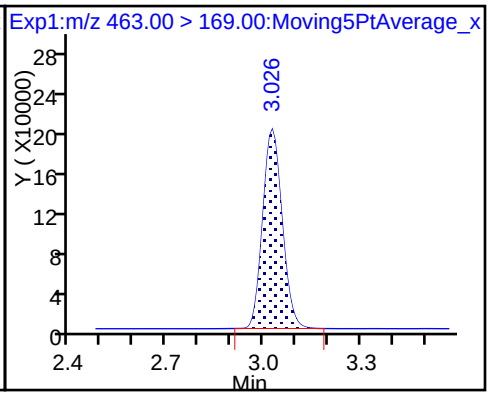
D 18 13C4 PFOS



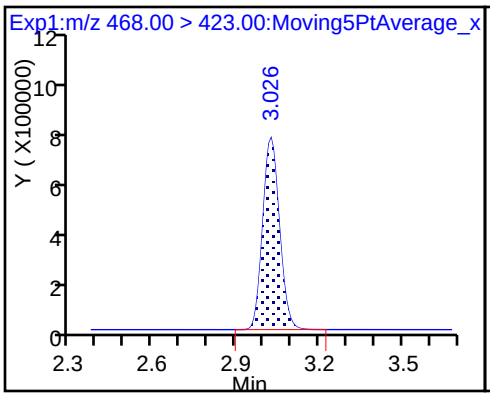
20 Perfluorononanoic acid



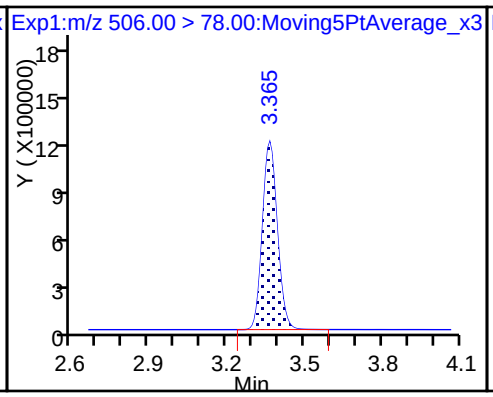
20 Perfluorononanoic acid



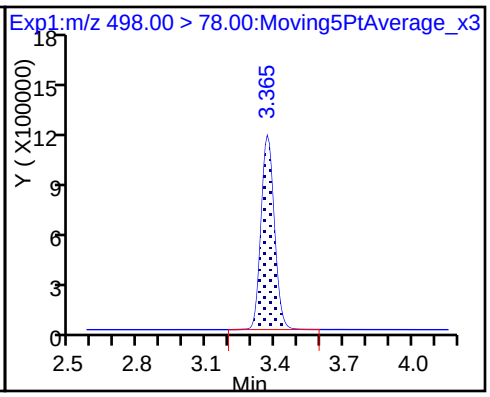
D 19 13C5 PFNA



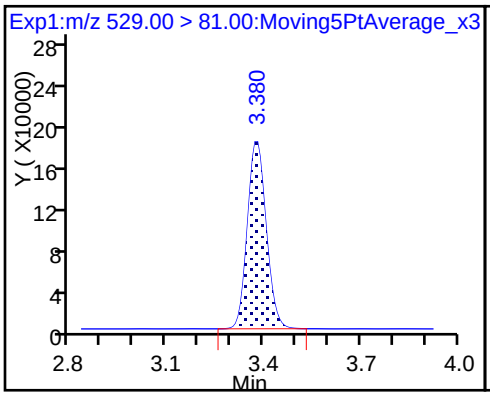
D 21 13C8 FOSA



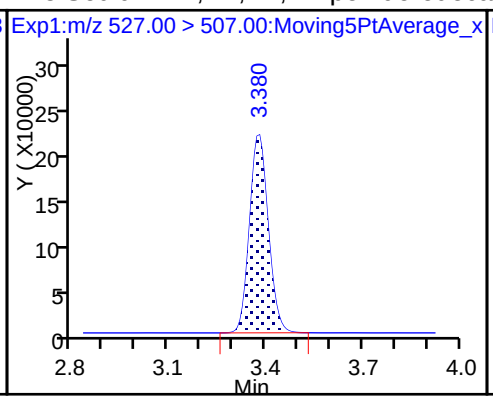
22 Perfluorooctane Sulfonamide



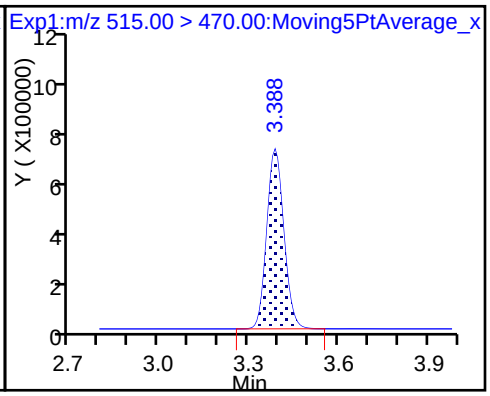
D 26 M2-8:2FTS



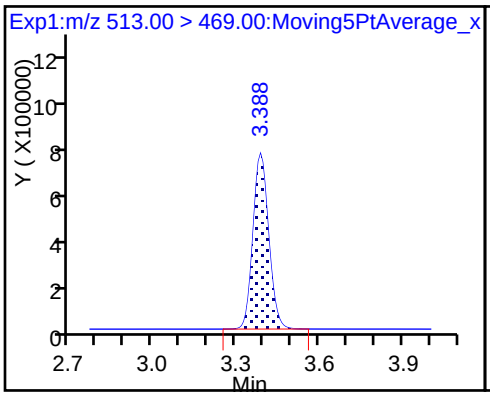
25 Sodium 1H,1H,2H,2H-perfluorodecane



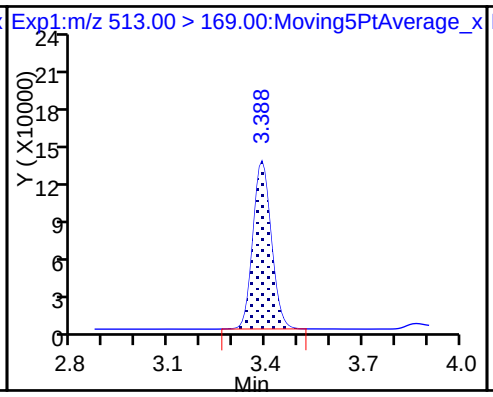
D 23 13C2 PFDA



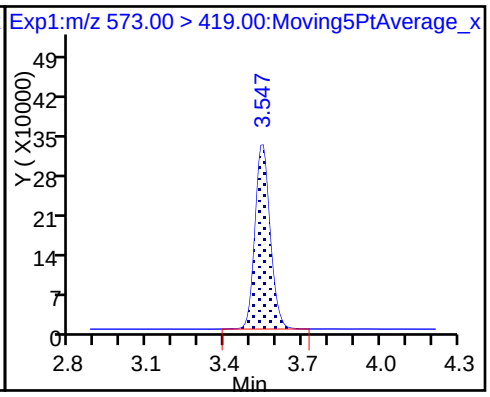
24 Perfluorodecanoic acid



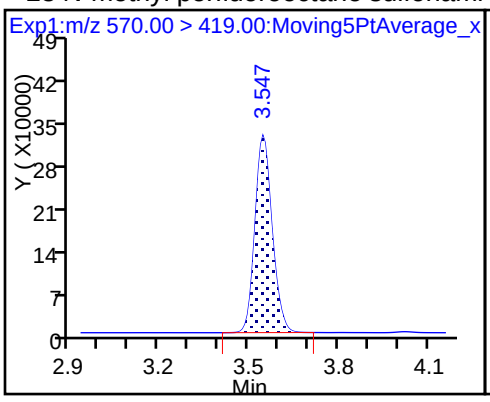
24 Perfluorodecanoic acid



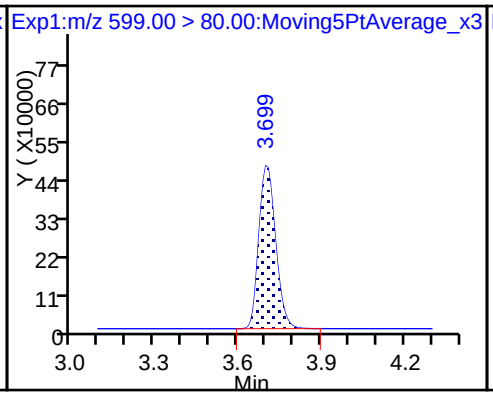
D 27 d3-NMeFOSAA



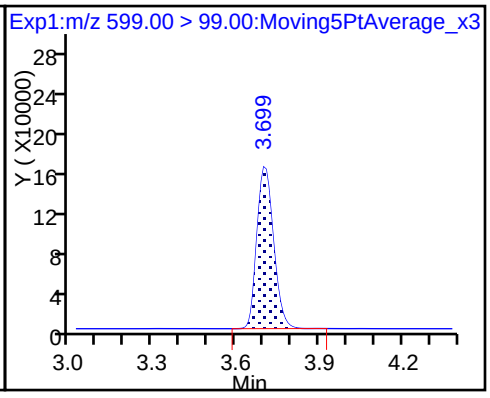
28 N-methyl perfluorooctane sulfonami



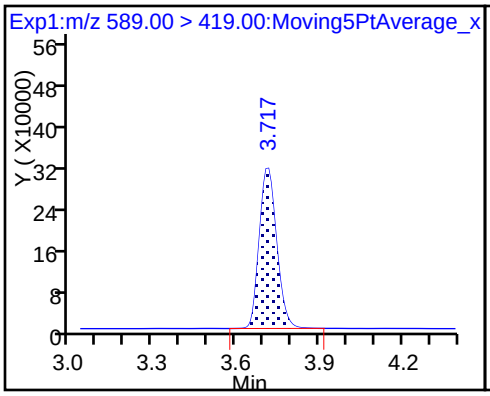
29 Perfluorodecane Sulfonic acid



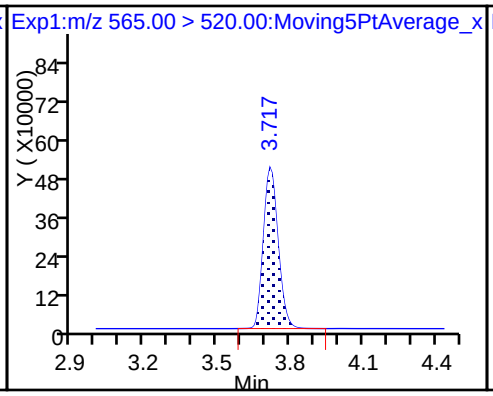
29 Perfluorodecane Sulfonic acid



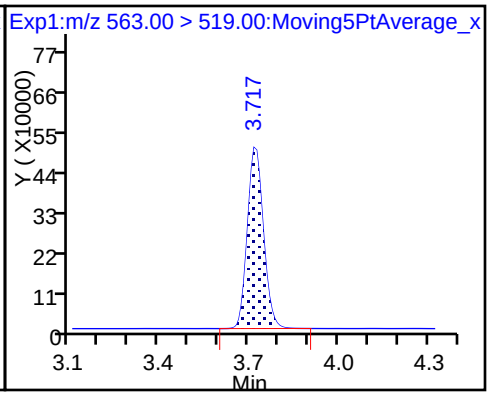
D 32 d5-NEtFOSAA



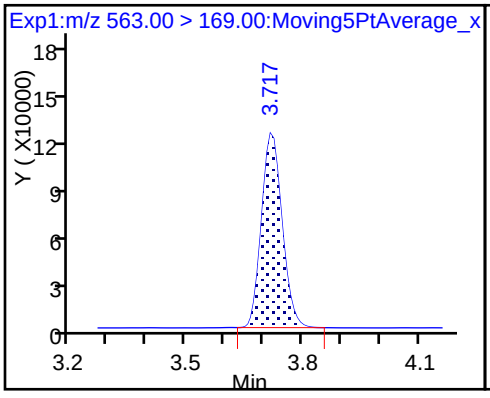
D 30 13C2 PFUnA



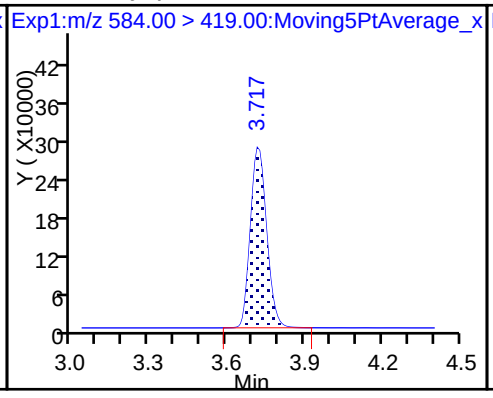
31 Perfluoroundecanoic acid



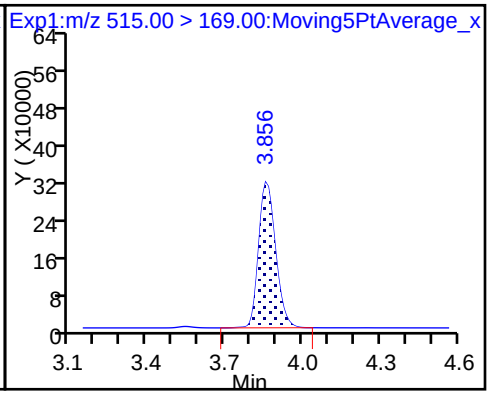
31 Perfluoroundecanoic acid



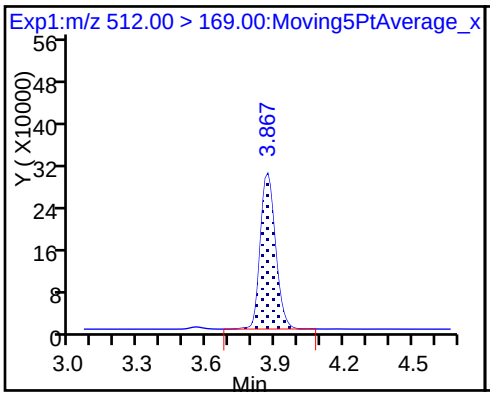
33 N-ethyl perfluorooctane sulfonamid



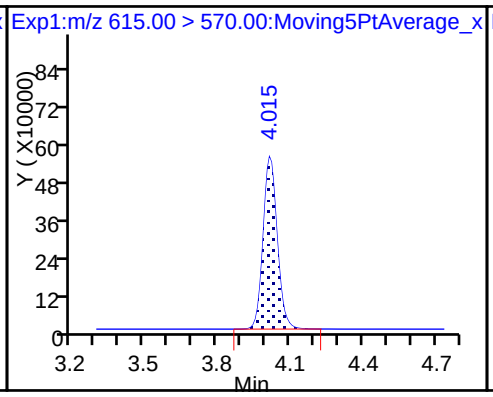
D 34 d-N-MeFOSA-M



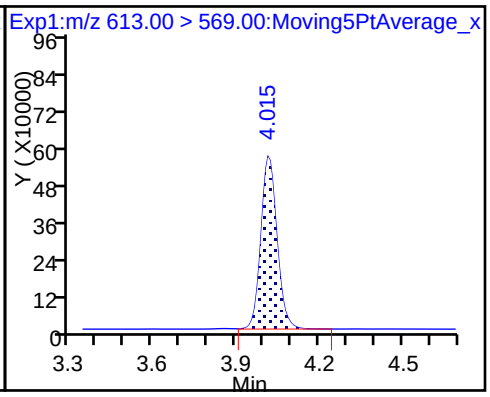
35 MeFOSA



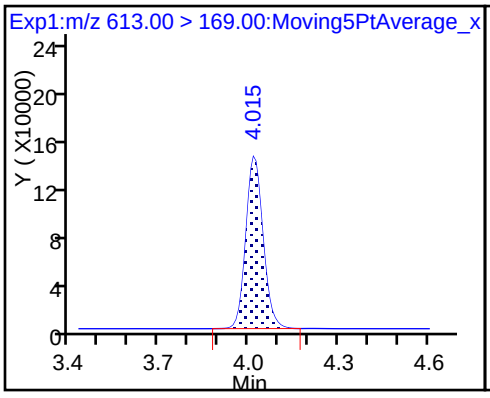
D 36 13C2 PFDoA



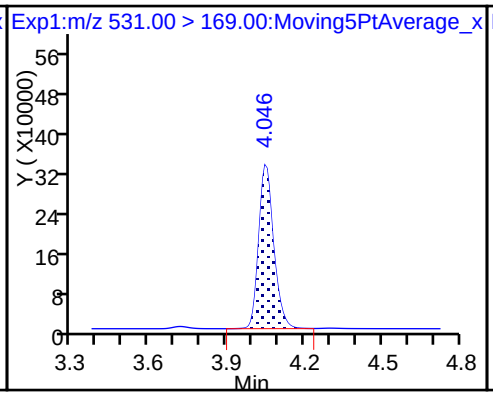
37 Perfluorododecanoic acid



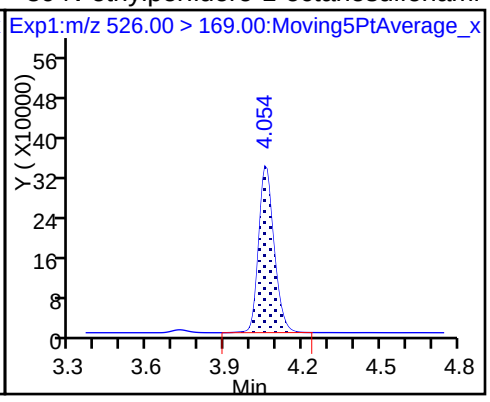
37 Perfluorododecanoic acid



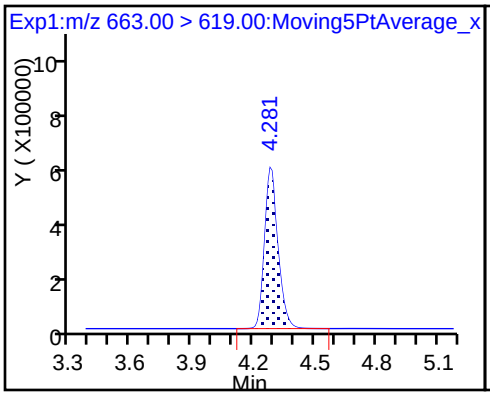
D 38 d-N-EtFOSA-M



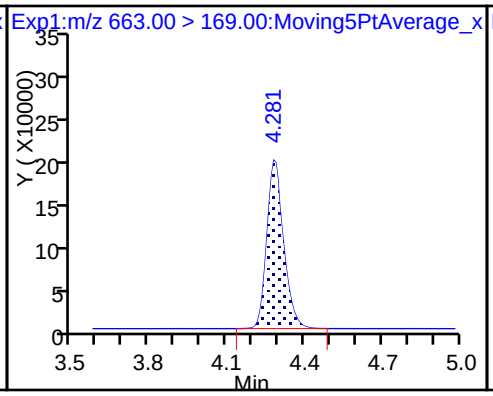
39 N-ethylperfluoro-1-octanesulfonami



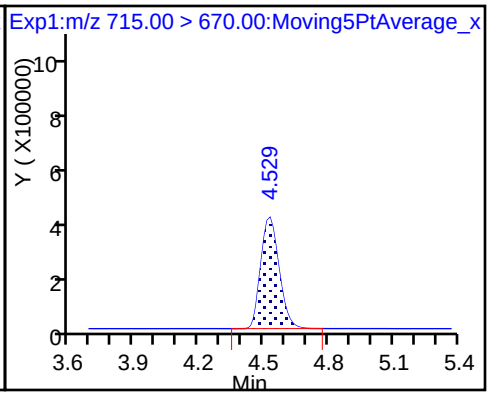
41 Perfluorotridecanoic acid



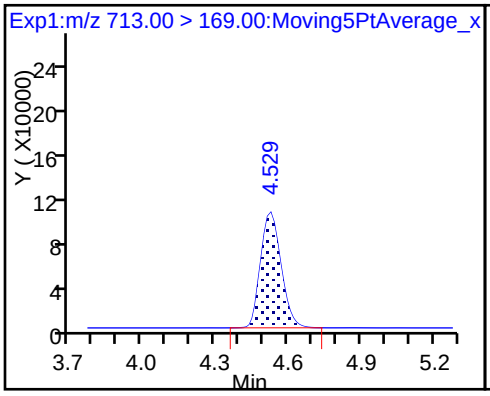
41 Perfluorotridecanoic acid



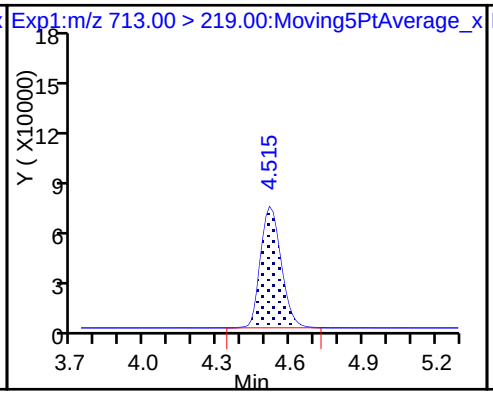
D 43 13C2-PFTeDA



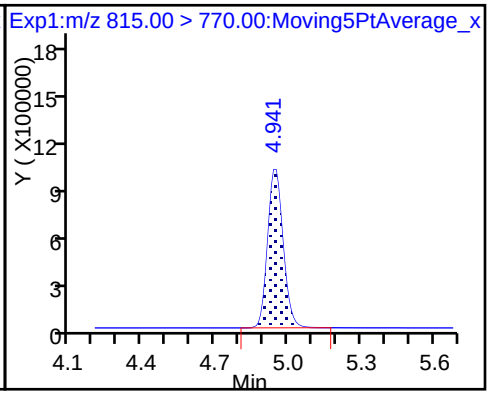
42 Perfluorotetradecanoic acid



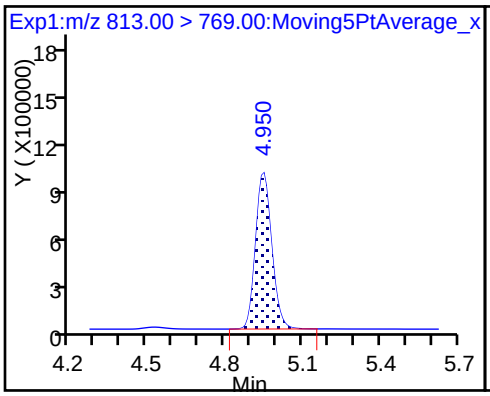
42 Perfluorotetradecanoic acid



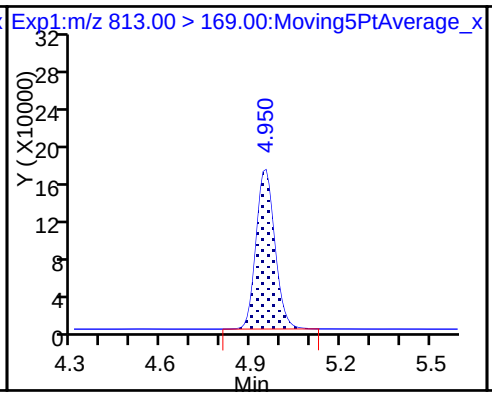
D 44 13C2-PFHxDA



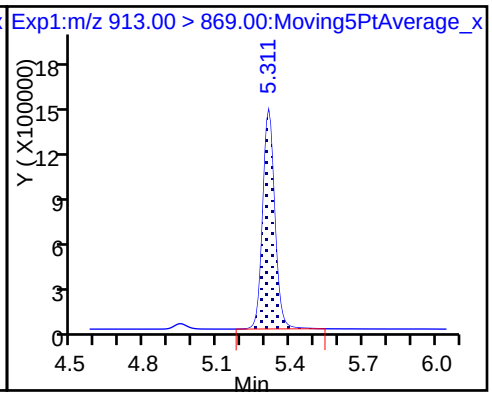
45 Perfluorohexadecanoic acid



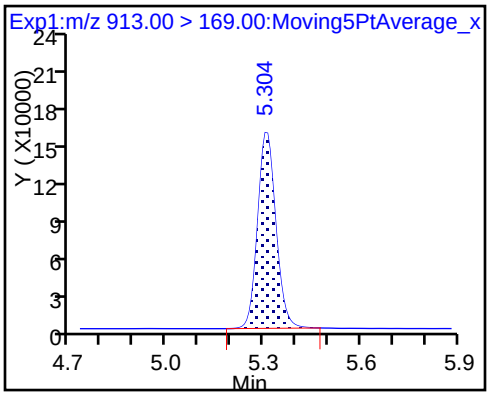
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200662/1 Calibration Date: 12/20/2017 06:30

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_016.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9123	0.9459		2.59	2.50	3.7	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.105	1.120		2.53	2.50	1.3	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.75	77.48		2.29	2.21	3.6	50.0
4:2 FTS	AveID	0.6286	0.5658		2.10	2.34	-10.0	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.000	1.014		2.54	2.50	1.4	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.030	1.080		2.62	2.50	4.9	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.087	1.094		2.29	2.28	0.6	40.0
6:2FTS	AveID	1.602	1.650		2.44	2.37	3.0	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.055	1.040		2.46	2.50	-1.5	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.439	1.364		2.26	2.38	-5.2	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9691	1.019		2.63	2.50	5.1	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	1.027		2.24	2.32	-3.4	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9454	0.9448		2.50	2.50	-0.0	40.0
8:2FTS	AveID	1.216	1.333		2.63	2.40	9.7	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	0.9778		2.47	2.50	-1.2	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.031	1.047		2.54	2.50	1.6	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5860	0.6416		2.64	2.41	9.5	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9745	0.9334		2.40	2.50	-4.2	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9047	0.8679		2.40	2.50	-4.1	40.0
MeFOSA	AveID	0.9820	0.9908		2.52	2.50	0.9	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9602	0.998		2.60	2.50	4.0	40.0
N-EtFOSA-M	AveID	1.054	1.095		2.60	2.50	3.9	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.146	1.099		2.40	2.50	-4.1	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2530	0.2291		2.26	2.50	-9.5	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9130		2.60	2.50	3.9	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.112	1.072		2.41	2.50	-3.5	50.0
13C4 PFBA	Ave	1.474	1.409		2.39	2.50	-4.5	50.0
13C5 PFPeA	Ave	0.8683	0.8575		2.47	2.50	-1.2	50.0
13C3-PFBS	Ave	0.0184	0.0179		2.26	2.33	-2.6	50.0
13C2 PFHxA	Ave	0.9209	0.9059		2.46	2.50	-1.6	50.0
13C4-PFHpA	Ave	0.8611	0.8356		2.43	2.50	-3.0	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200662/1 Calibration Date: 12/20/2017 06:30

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_016.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.066	1.049		2.33	2.37	-1.6	50.0
M2-6:2FTS	Ave	0.3575	0.5192		3.45	2.38	45.2*	40.0
13C4 PFOA	Ave	1.034	1.015		2.45	2.50	-1.9	50.0
13C4 PFOS	Ave	0.6857	0.7080		2.47	2.39	3.3	50.0
13C5 PFNA	Ave	0.6950	0.6863		2.47	2.50	-1.3	50.0
13C8 FOSA	Ave	0.9692	0.9657		2.49	2.50	-0.4	50.0
M2-8:2FTS	Ave	0.1524	0.1905		2.99	2.40	25.0	40.0
13C2 PFDA	Ave	0.5561	0.5777		2.60	2.50	3.9	50.0
d3-NMeFOSAA	Ave	0.2564	0.3056		2.98	2.50	19.2	50.0
d5-NEtFOSAA	Ave	0.2642	0.3084		2.92	2.50	16.8	50.0
13C2 PFUnA	Ave	0.4284	0.4370		2.55	2.50	2.0	50.0
d-N-MeFOSA-M	Ave	0.2856	0.2701		2.37	2.50	-5.4	50.0
13C2 PFDoA	Ave	0.4554	0.4957		2.72	2.50	8.8	50.0
d-N-EtFOSA-M	Ave	0.2693	0.2489		2.31	2.50	-7.6	50.0
13C2-PFTeDA	Ave	0.4999	0.5368		2.68	2.50	7.4	50.0
13C2-PFHxDA	Ave	0.9134	0.9783		2.68	2.50	7.1	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_016.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2017 06:30:18 ALS Bottle#: 14 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 14:50:01 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 14:43:19

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.536	8445989	2.39		95.5	30561	
2 Perfluorobutyric acid										
212.90 > 169.00	1.414	1.412	0.002	1.000	7989402	2.59		104	1801	
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.630	5142100	2.47		98.8	51549	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.663	1.664	-0.001	1.000	5759654	2.53		101	4249	
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.644	99651	2.26		97.4	2921	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.698	1.703	-0.005	1.000	7338701	2.29		104	26454	
298.90 > 99.00	1.698	1.703	-0.005	1.000	3115633		2.36(1.25-3.74)		23806	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.903	1.909	-0.006	1.000	1645134	2.10		90.0	47717	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.944	1.949	-0.005	1.000	5508165	2.54		101	17524	
313.00 > 119.00	1.944	1.949	-0.005	1.000	497159		11.08(5.03-15.10)		12063	
D 7 13C2 PFHxA										
315.00 > 270.00	1.944	1.949	-0.005	0.737	5431913	2.46		98.4	46155	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.279	2.286	-0.007	1.000	5411620	2.62		105	7523	
363.00 > 169.00	2.279	2.286	-0.007	1.000	2079921		2.60(1.13-3.40)		15703	
D 9 13C4-PFHpA										
367.00 > 322.00	2.279	2.286	-0.007	0.864	5010270	2.43		97.0	35995	
D 11 18O2 PFHxS										
403.00 > 84.00	2.292	2.299	-0.007	0.869	5948371	2.33		98.4	36265	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.292	2.299	-0.007	1.000	6257173	2.29		101	10144	
399.00 > 99.00	2.292	2.299	-0.007	1.000	2008730		3.11(1.50-4.49)		7915	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.640	-0.016	1.000	4870044	2.44		103	85524	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.640	-0.016	0.995	2957440	3.45		145	58895	
* 62 13C2-PFOA										
415.00 > 370.00	2.638	2.643	-0.005		5996338	2.50			40207	
D 14 13C4 PFOA										
417.00 > 372.00	2.638	2.647	-0.009	1.000	6083586	2.45		98.1	40823	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.638	2.649	-0.011	1.000	6325124	2.46		98.5	2629	
413.00 > 169.00	2.638	2.649	-0.011	1.000	3458641		1.83(0.84-2.52)		18590	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.645	2.654	-0.009	1.000	5511822	2.26		94.8	28304	
449.00 > 99.00	2.645	2.654	-0.009	1.000	1438655		3.83(1.94-5.82)		23561	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.009	3.025	-0.016	1.000	4044689	2.24		96.6	664	
499.00 > 99.00	3.009	3.025	-0.016	1.000	904444		4.47(2.31-6.93)		944	
D 18 13C4 PFOS										
503.00 > 80.00	3.009	3.025	-0.016	1.141	4058586	2.47		103	27516	
20 Perfluorononanoic acid										
463.00 > 419.00	3.009	3.026	-0.017	1.000	4191290	2.63		105	6182	
463.00 > 169.00	3.009	3.026	-0.017	1.000	1009141		4.15(1.90-5.69)		18562	
D 19 13C5 PFNA										
468.00 > 423.00	3.009	3.026	-0.017	1.141	4114983	2.47		98.7	37205	
D 21 13C8 FOSA										
506.00 > 78.00	3.355	3.362	-0.007	1.272	5790474	2.49		99.6	32351	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.355	3.365	-0.010	1.000	5471099	2.50		99.9	23506	
D 26 M2-8:2FTS										
529.00 > 81.00	3.363	3.375	-0.012	1.275	1094094	2.99		125	16162	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.363	3.376	-0.013	1.000	1458698	2.63		110	33189	
D 23 13C2 PFDA										
515.00 > 470.00	3.371	3.387	-0.016	1.278	3463914	2.60		104	31072	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.371	3.388	-0.017	1.000	3386970	2.47		98.8	17247	
513.00 > 169.00	3.371	3.388	-0.017	1.000	594448		5.70(2.36-7.09)		2067	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.530	3.541	-0.011	1.338	1832268	2.98		119	15799	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.530	3.547	-0.017	1.000	1919192	2.54		102	10817	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.689	3.701	-0.012	1.000	2625776	2.64		109	32107	
599.00 > 99.00	3.689	3.701	-0.012	1.000	825832		3.18(1.39-4.16)		18329	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.697	3.711	-0.014	1.402	1849508	2.92		117	11006	
D 30 13C2 PFUnA										
565.00 > 520.00	3.706	3.717	-0.011	1.405	2620650	2.55		102	29691	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.706	3.718	-0.012	1.000	2274558	2.40		95.9	10933	
563.00 > 169.00	3.706	3.718	-0.012	1.000	520315		4.37(0.00-0.00)		23358	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.706	3.718	-0.012	1.002	1726356	2.39		95.8	20288	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.854	3.856	-0.002	1.461	1619826	2.36		94.6	3519	
35 MeFOSA										
512.00 > 169.00	3.854	3.863	-0.009	1.000	1604988	2.52		101	3235	
D 36 13C2 PFDoA										
615.00 > 570.00	3.997	4.015	-0.018	1.515	2972167	2.72		109	33620	
37 Perfluorododecanoic acid										
613.00 > 569.00	3.997	4.016	-0.019	1.000	2966578	2.60		104	6986	
613.00 > 169.00	3.997	4.016	-0.019	1.000	720983		4.11(2.13-6.40)		22295	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.044	4.048	-0.004	1.533	1492500	2.31		92.4	2546	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.044	4.054	-0.010	1.000	1634428	2.60		104	2812	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.261	4.285	-0.024	1.000	3267643	2.40		95.9	10090	
663.00 > 169.00	4.261	4.285	-0.024	1.000	1050009		3.11(1.25-3.76)		30125	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.522	-0.009	1.711	3218670	2.68		107	18335	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.513	4.522	-0.009	1.000	737250	2.26		90.5	15716	
713.00 > 219.00	4.500	4.522	-0.022	0.997	530366		1.39(0.71-2.13)		11556	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.922	4.944	-0.022	1.866	5866049	2.68		107	13319	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.931	4.945	-0.014	1.002	5355427	2.60		104	2377	
813.00 > 169.00	4.922	4.945	-0.023	1.000	945141		5.67(2.86-8.58)		7824	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.281	5.309	-0.028	1.000	6290366	2.41		96.5	1042	
913.00 > 169.00	5.281	5.309	-0.028	1.000	762231		8.25(0.00-0.00)		2513	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 14:50:02 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_016.d

Injection Date: 20-Dec-2017 06:30:18 Instrument ID: A8_N

Lims ID: CCV L5

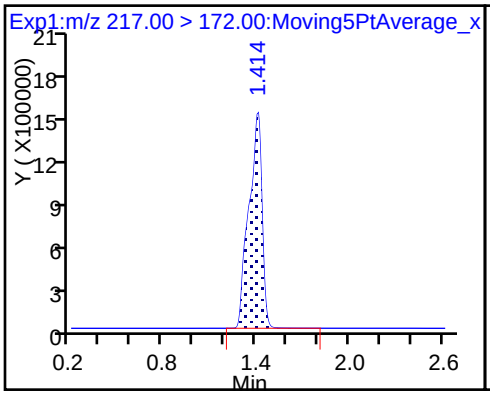
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Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 1

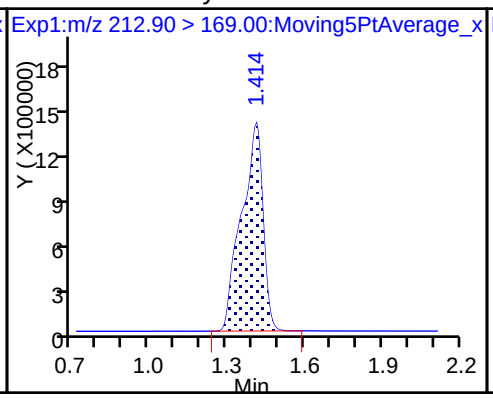
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

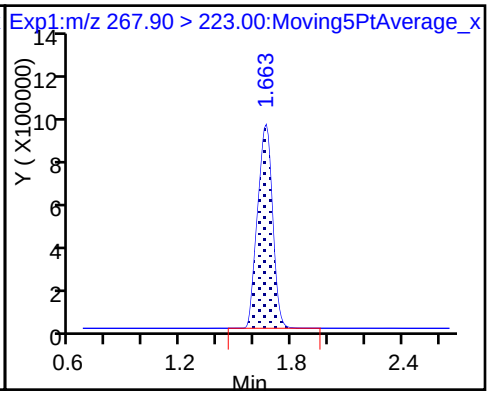
D 1 13C4 PFBA



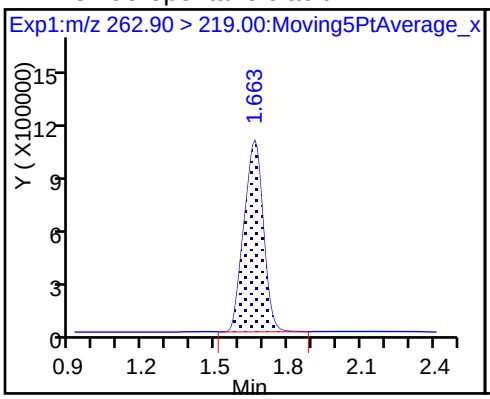
2 Perfluorobutyric acid



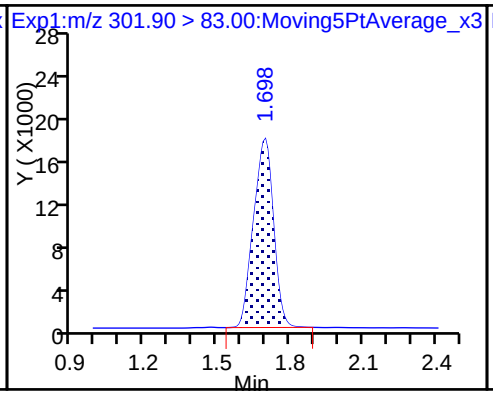
D 3 13C5-PFPeA



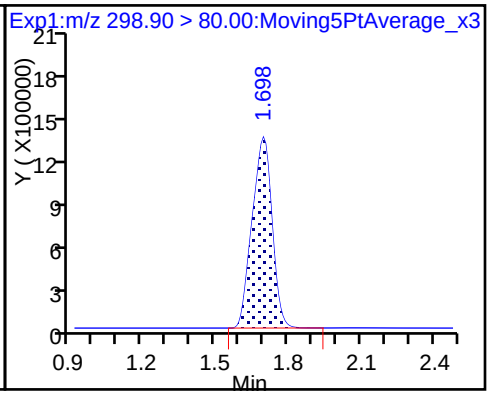
4 Perfluoropentanoic acid



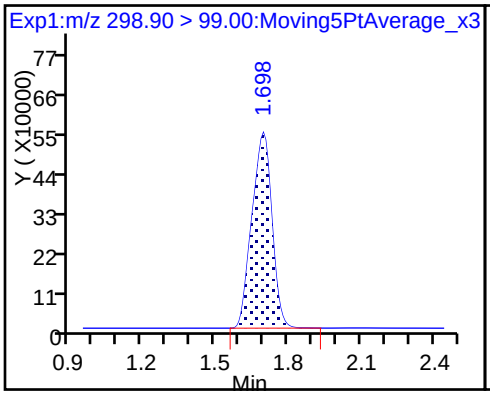
D 47 13C3-PFBS



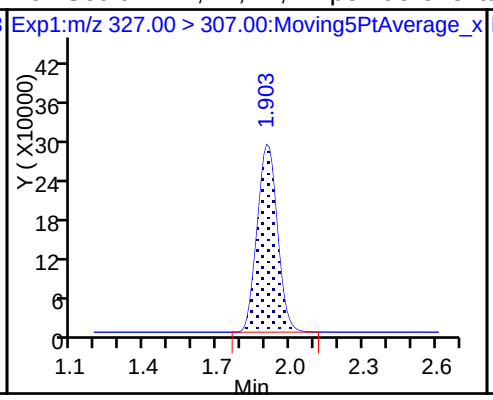
5 Perfluorobutanesulfonic acid



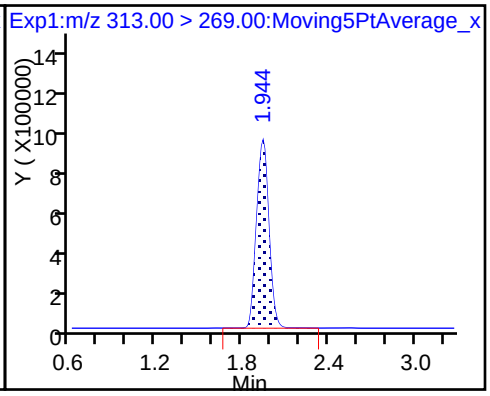
5 Perfluorobutanesulfonic acid



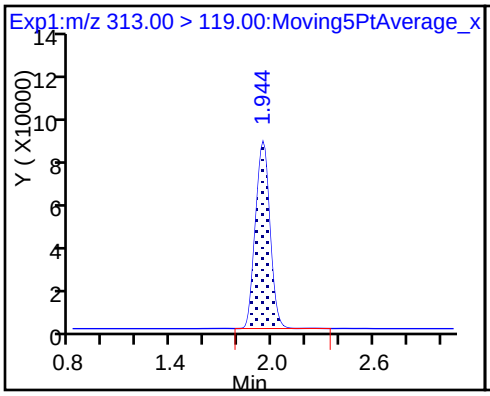
61 Sodium 1H,1H,2H,2H-perfluorohexane



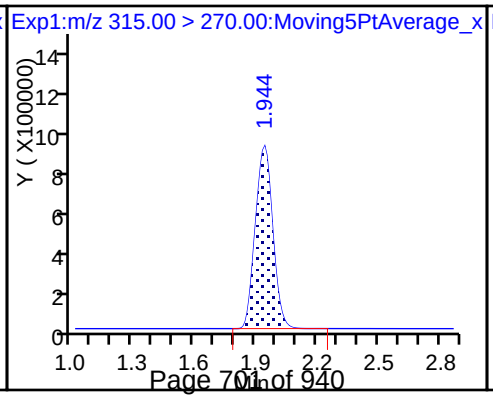
6 Perfluorohexanoic acid



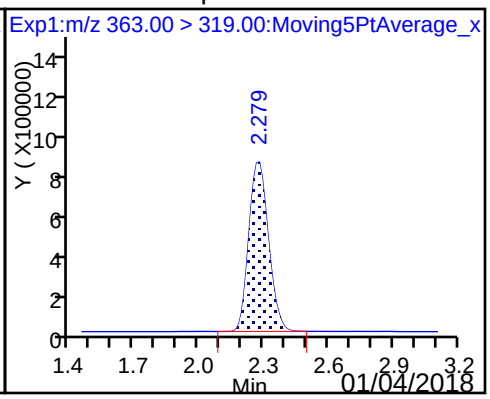
6 Perfluorohexanoic acid



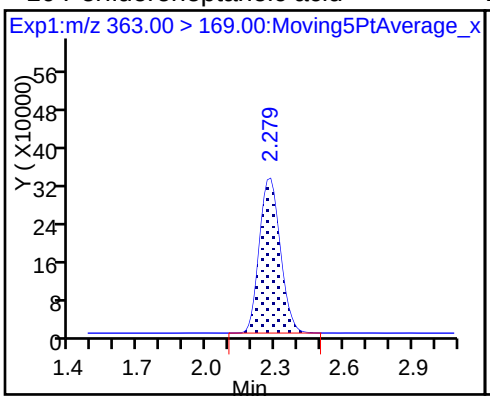
D 7 13C2 PFHxA



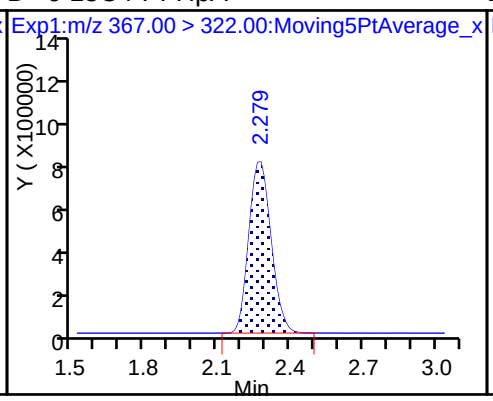
10 Perfluoroheptanoic acid



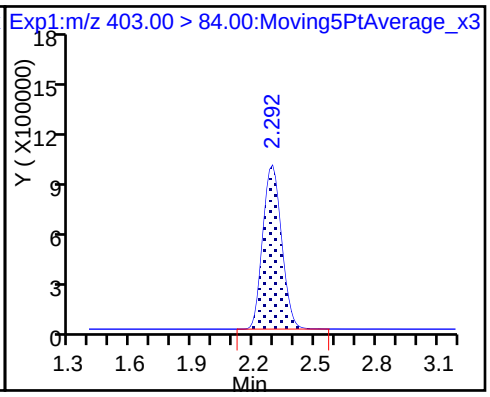
10 Perfluoroheptanoic acid



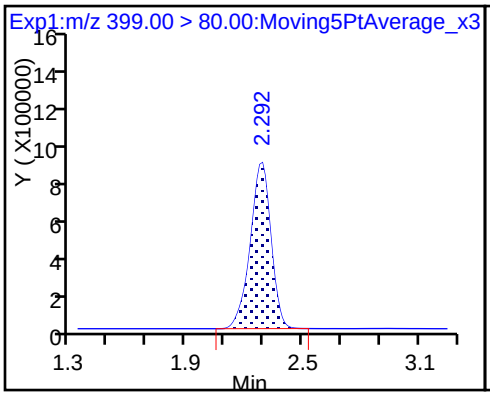
D 9 13C4-PFHpA



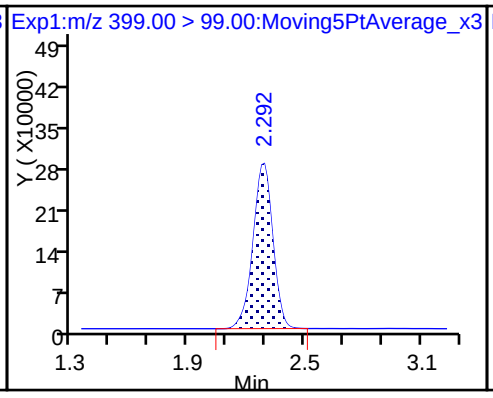
D 11 18O2 PFHxS



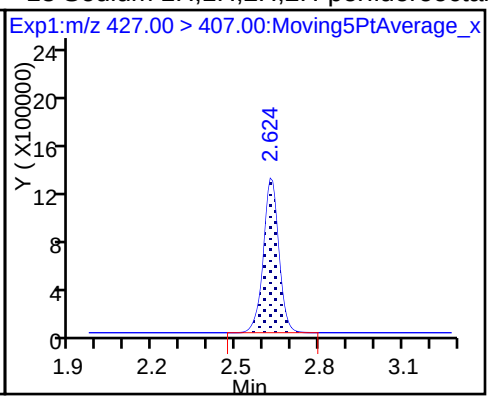
8 Perfluorohexanesulfonic acid



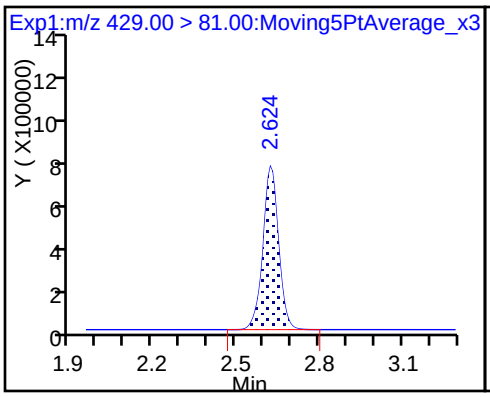
8 Perfluorohexanesulfonic acid



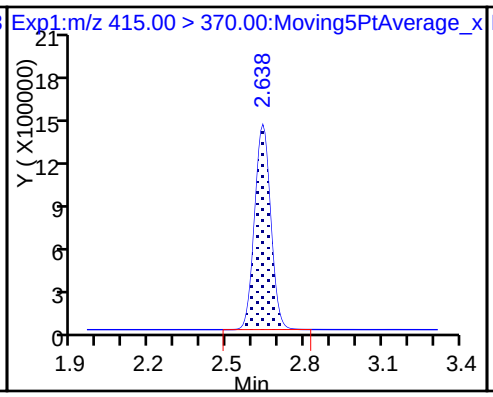
13 Sodium 1H,1H,2H,2H-perfluorooctane



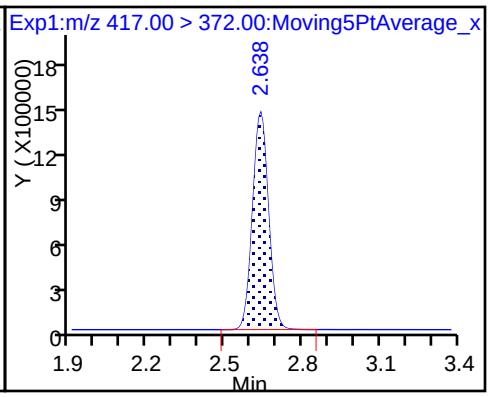
D 12 M2-6:2FTS



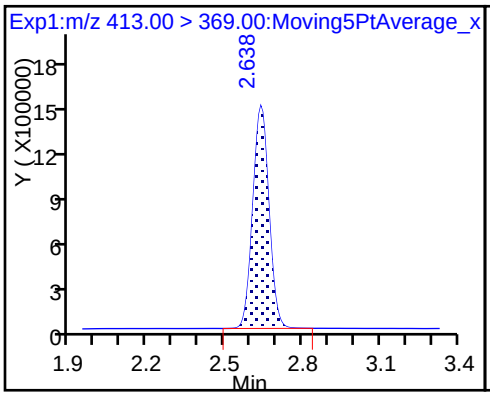
* 62 13C2-PFOA



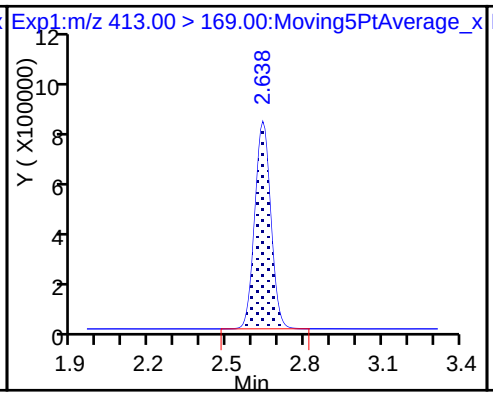
D 14 13C4 PFOA



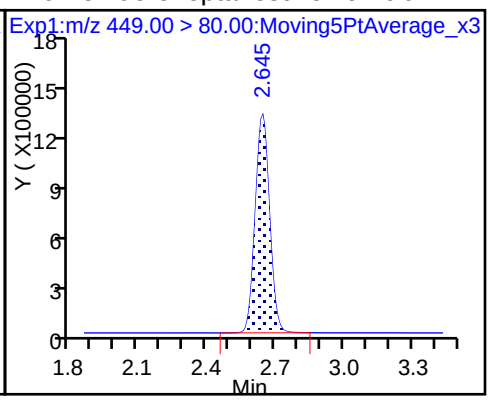
15 Perfluorooctanoic acid



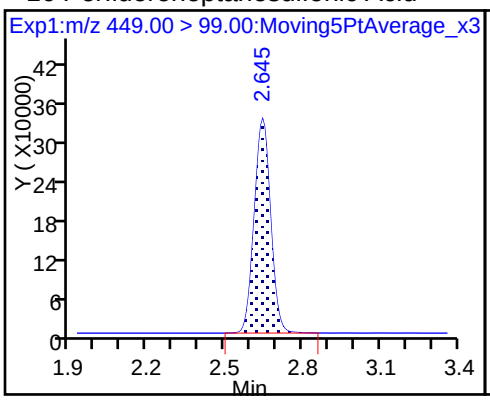
15 Perfluorooctanoic acid



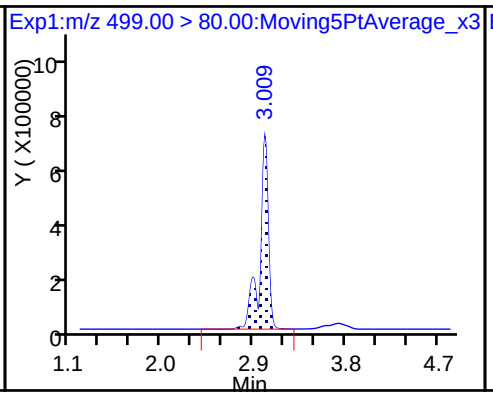
16 Perfluoroheptanesulfonic Acid



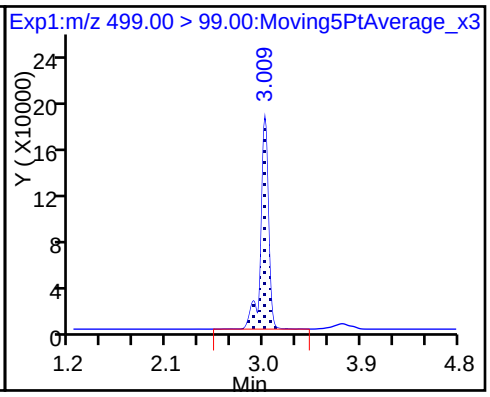
16 Perfluoroheptanesulfonic Acid



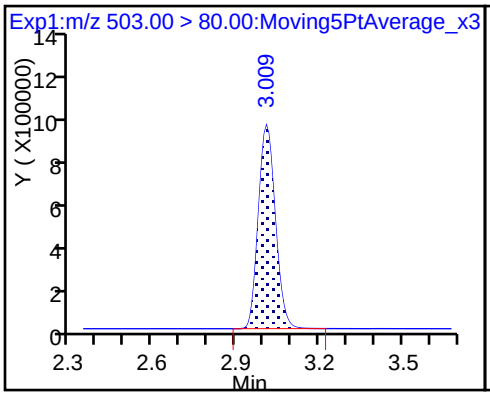
17 Perfluorooctane sulfonic acid



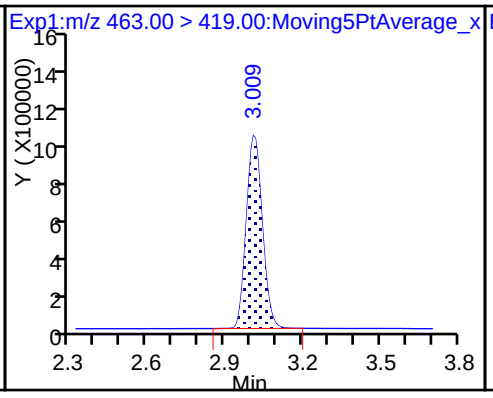
17 Perfluorooctane sulfonic acid



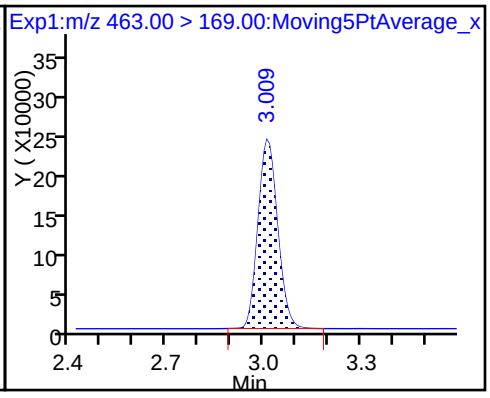
D 18 13C4 PFOS



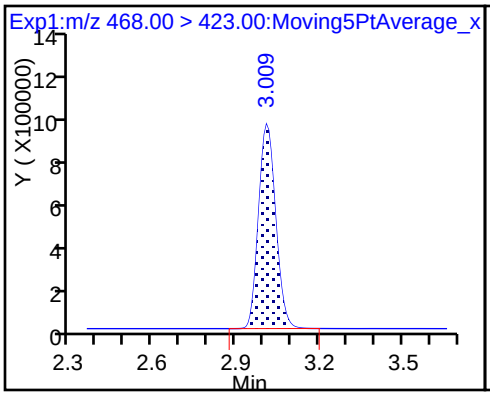
20 Perfluorononanoic acid



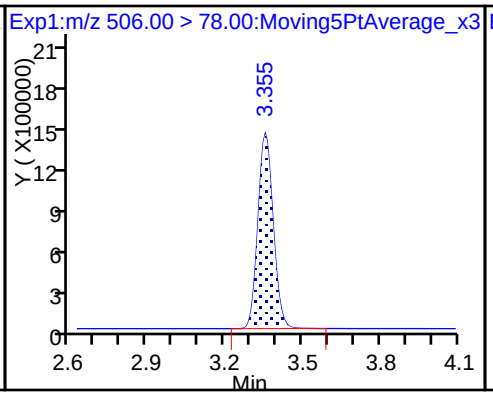
20 Perfluorononanoic acid



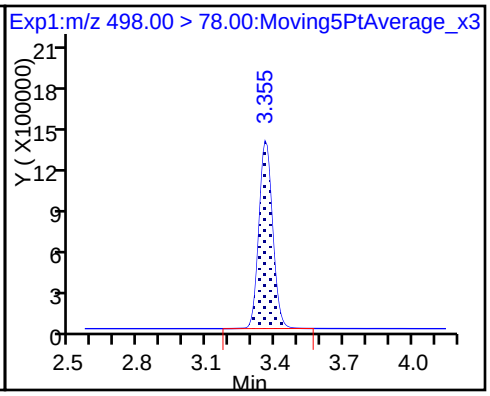
D 19 13C5 PFNA



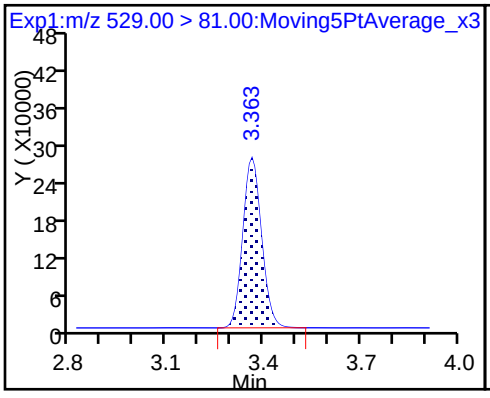
D 21 13C8 FOSA



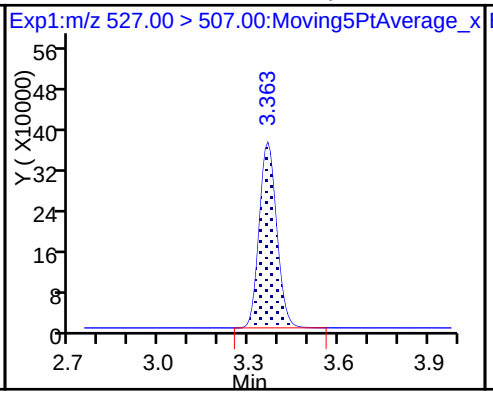
22 Perfluorooctane Sulfonamide



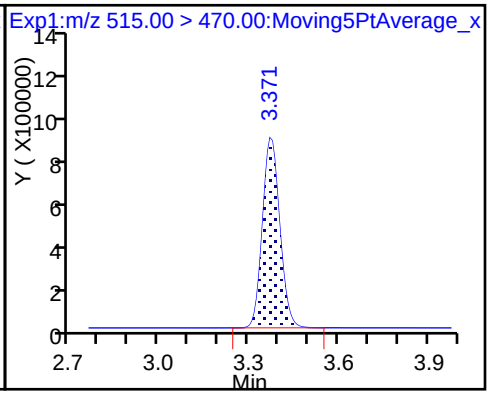
D 26 M2-8:2FTS



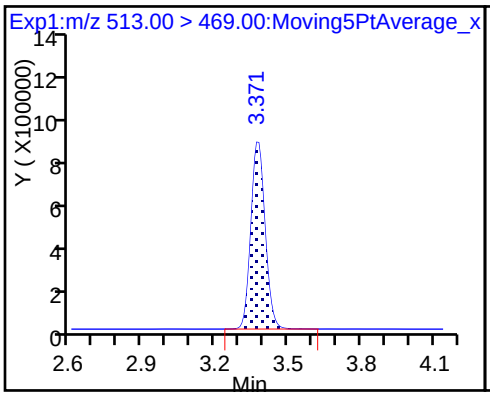
25 Sodium 1H,1H,2H,2H-perfluorodecane



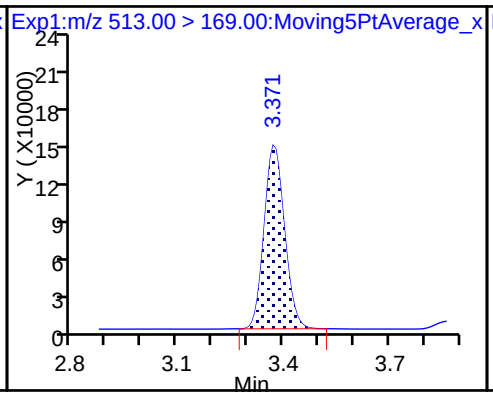
D 23 13C2 PFDA



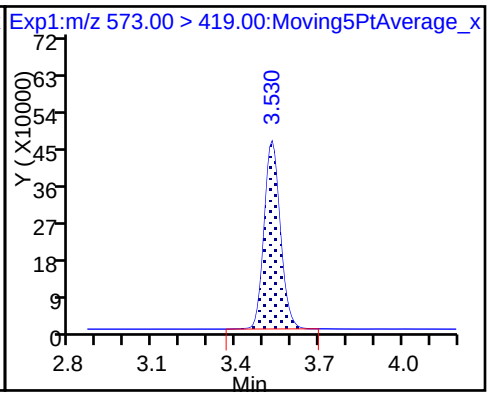
24 Perfluorodecanoic acid



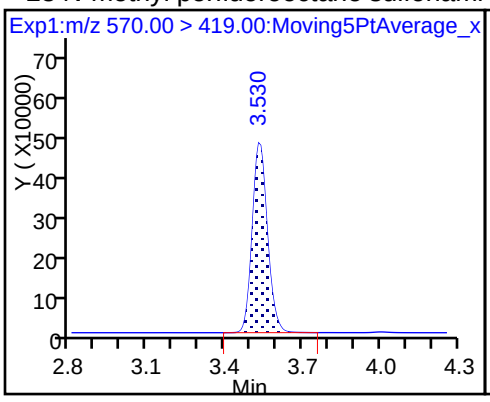
24 Perfluorodecanoic acid



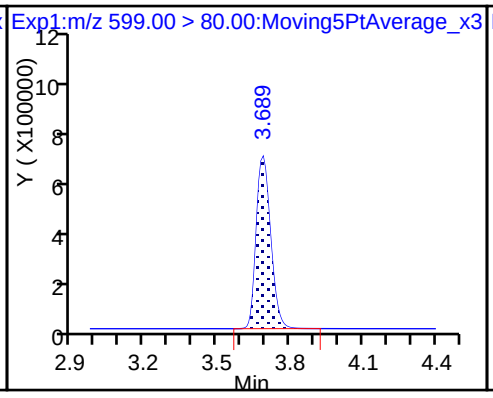
D 27 d3-NMeFOSAA



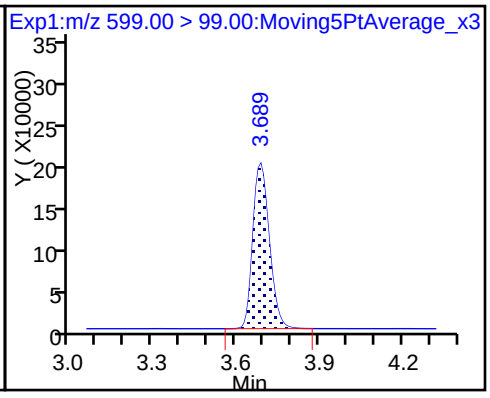
28 N-methyl perfluorooctane sulfonami



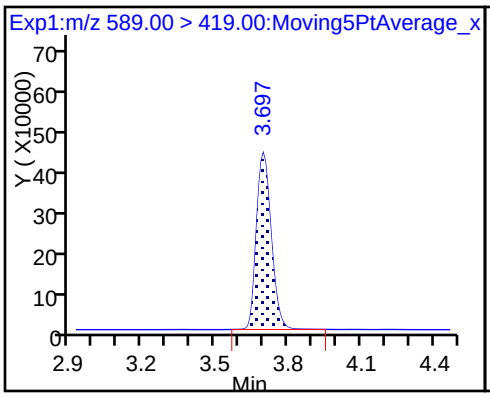
29 Perfluorodecane Sulfonic acid



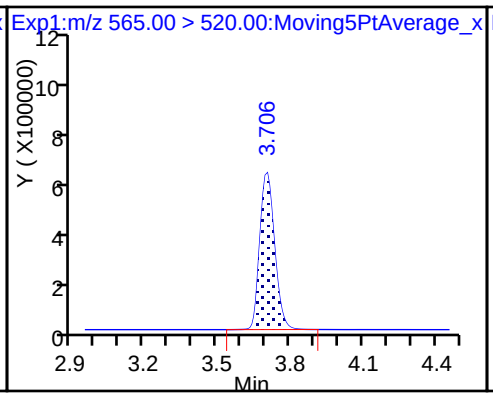
29 Perfluorodecane Sulfonic acid



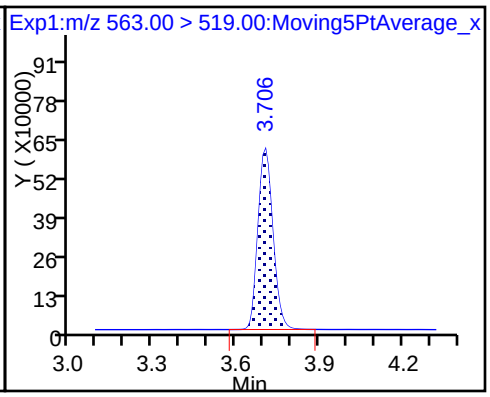
D 32 d5-NEtFOSAA



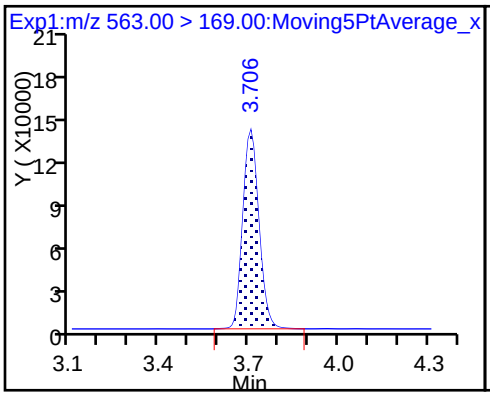
D 30 13C2 PFUnA



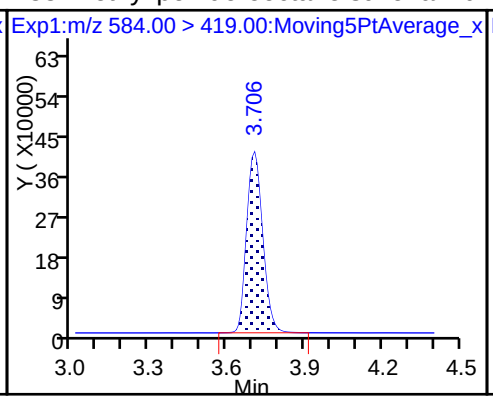
31 Perfluoroundecanoic acid



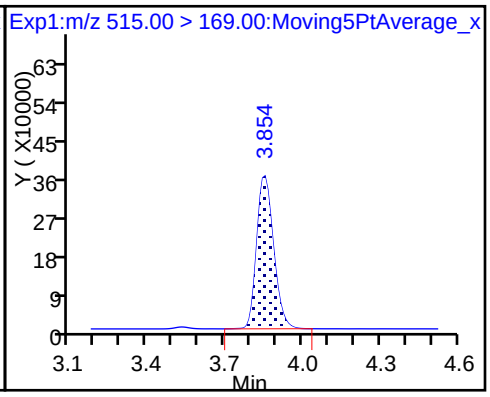
31 Perfluoroundecanoic acid



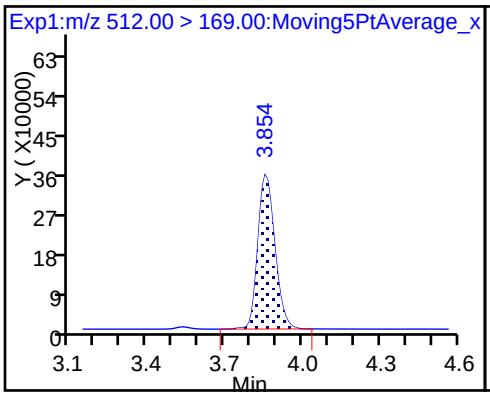
33 N-ethyl perfluorooctane sulfonamid



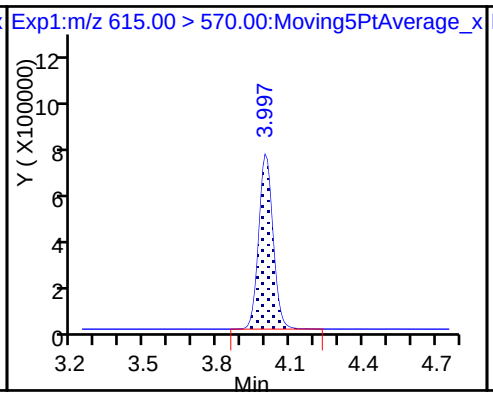
D 34 d-N-MeFOSA-M



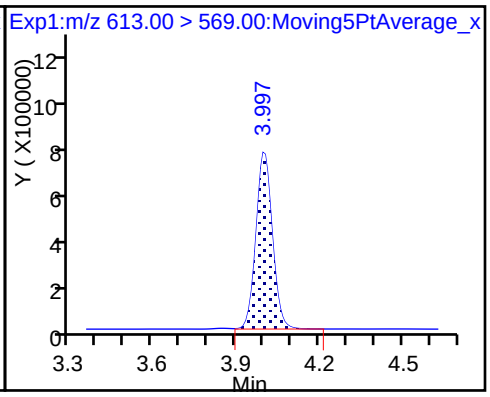
35 MeFOSA



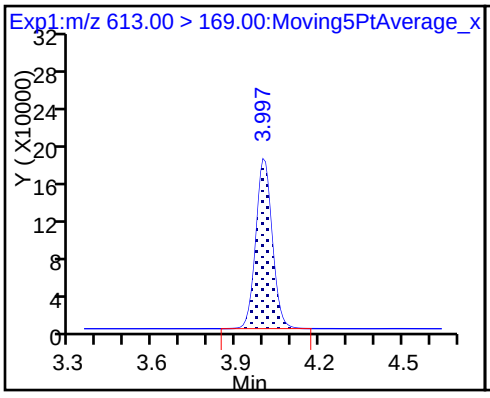
D 36 13C2 PFDoA



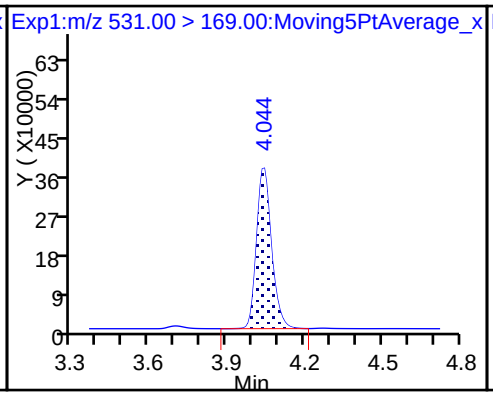
37 Perfluorododecanoic acid



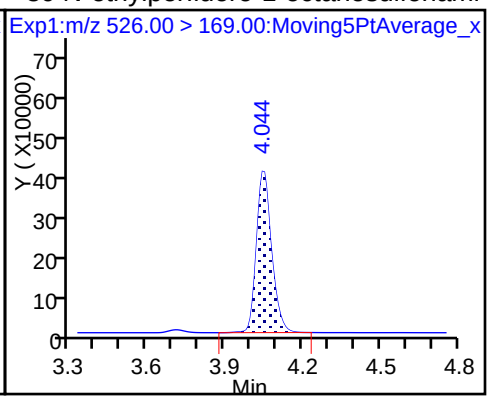
37 Perfluorododecanoic acid



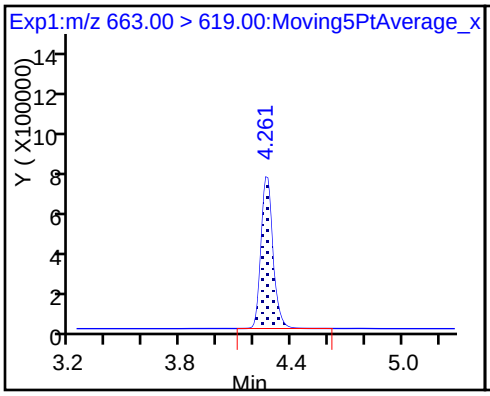
D 38 d-N-EtFOSA-M



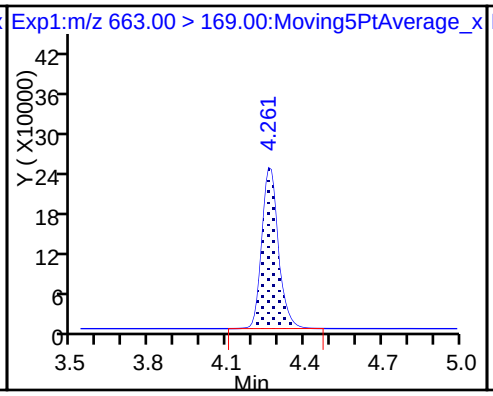
39 N-ethylperfluoro-1-octanesulfonami



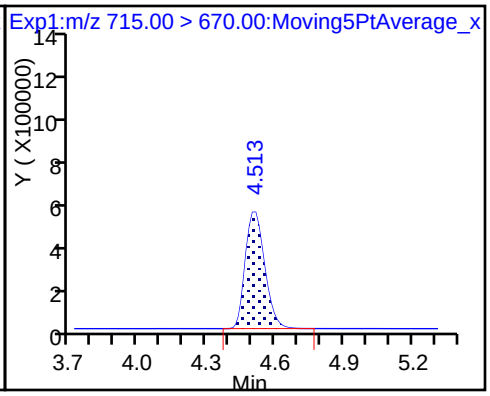
41 Perfluorotridecanoic acid



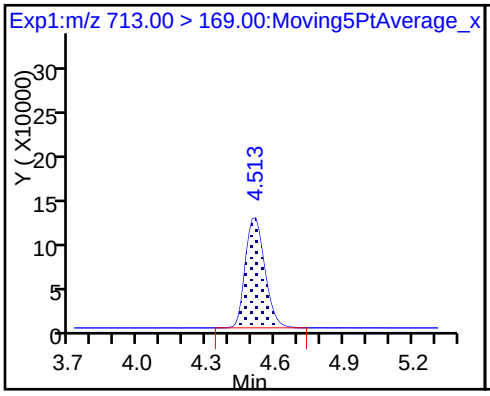
41 Perfluorotridecanoic acid



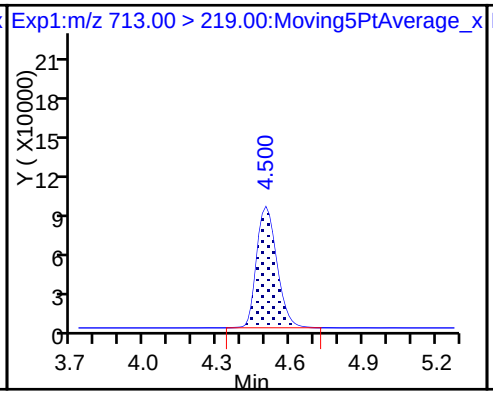
D 43 13C2-PFTeDA



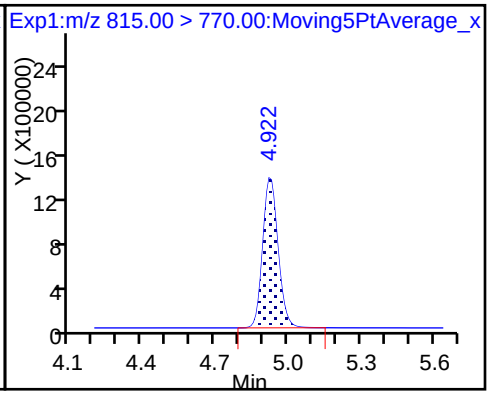
42 Perfluorotetradecanoic acid



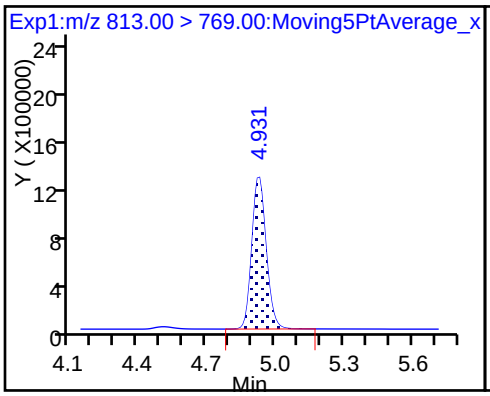
42 Perfluorotetradecanoic acid



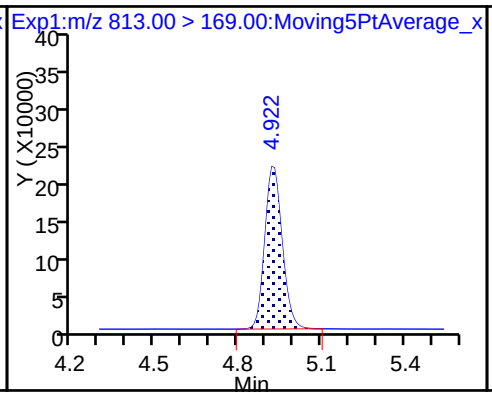
D 44 13C2-PFHxDA



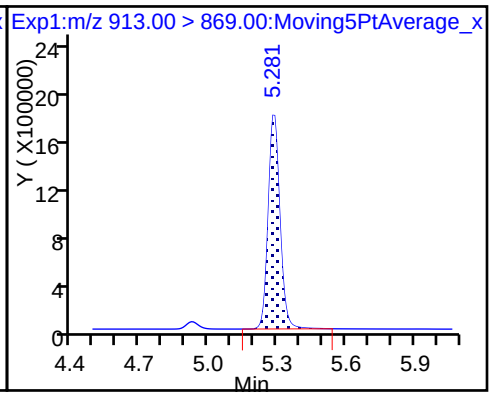
45 Perfluorohexadecanoic acid



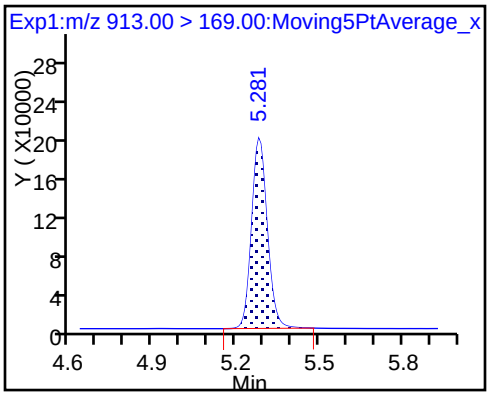
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200662/7 Calibration Date: 12/20/2017 07:17

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_022.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9123	0.9360		1.03	1.00	2.6	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.105	1.118		1.01	1.00	1.1	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.75	79.67		0.942	0.884	6.6	50.0
4:2 FTS	AveID	0.6286	0.5851		0.869	0.934	-6.9	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.000	0.9577		0.958	1.00	-4.2	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.030	1.055		1.03	1.00	2.5	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.087	1.057		0.885	0.910	-2.8	40.0
6:2FTS	AveID	1.602	1.644		0.972	0.948	2.6	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.055	1.041		0.986	1.00	-1.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.439	1.350		0.893	0.952	-6.2	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9691	1.011		1.04	1.00	4.3	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	1.062		0.927	0.928	-0.1	40.0
8:2FTS	AveID	1.216	1.278		1.01	0.958	5.1	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9454	1.010		1.07	1.00	6.8	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	1.014		1.03	1.00	2.5	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.031	1.092		1.06	1.00	6.0	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5860	0.6200		1.02	0.964	5.8	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9745	0.9675		0.993	1.00	-0.7	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9047	0.8700		0.962	1.00	-3.8	40.0
MeFOSA	AveID	0.9820	1.037		1.06	1.00	5.6	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9602	0.9521		0.992	1.00	-0.8	40.0
N-EtFOSA-M	AveID	1.054	1.079		1.02	1.00	2.4	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.146	1.091		0.952	1.00	-4.8	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2530	0.2442		0.965	1.00	-3.5	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.8730		0.979	1.00	-2.1	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.112	1.019		0.916	1.00	-8.4	50.0
13C4 PFBA	Ave	1.474	1.444		2.45	2.50	-2.0	50.0
13C5 PFPeA	Ave	0.8683	0.8685		2.50	2.50	0.0	50.0
13C3-PFBS	Ave	0.0184	0.0184		2.33	2.33	-0.0	50.0
13C2 PFHxA	Ave	0.9209	0.9546		2.59	2.50	3.7	50.0
13C4-PFHpA	Ave	0.8611	0.8835		2.57	2.50	2.6	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200662/7 Calibration Date: 12/20/2017 07:17

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_022.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.066	1.096		2.43	2.37	2.8	50.0
M2-6:2FTS	Ave	0.3575	0.5445		3.62	2.38	52.3*	40.0
13C4 PFOA	Ave	1.034	1.079		2.61	2.50	4.3	50.0
13C4 PFOS	Ave	0.6857	0.7405		2.58	2.39	8.0	50.0
13C5 PFNA	Ave	0.6950	0.7277		2.62	2.50	4.7	50.0
13C8 FOSA	Ave	0.9692	0.9769		2.52	2.50	0.8	50.0
M2-8:2FTS	Ave	0.1524	0.2021		3.18	2.40	32.6	40.0
13C2 PFDA	Ave	0.5561	0.5818		2.62	2.50	4.6	50.0
d3-NMeFOSAA	Ave	0.2564	0.3100		3.02	2.50	20.9	50.0
d5-NEtFOSAA	Ave	0.2642	0.3104		2.94	2.50	17.5	50.0
13C2 PFUnA	Ave	0.4284	0.4688		2.74	2.50	9.4	50.0
d-N-MeFOSA-M	Ave	0.2856	0.2768		2.42	2.50	-3.1	50.0
13C2 PFDoA	Ave	0.4554	0.5063		2.78	2.50	11.2	50.0
d-N-EtFOSA-M	Ave	0.2693	0.2581		2.40	2.50	-4.1	50.0
13C2-PFTeDA	Ave	0.4999	0.5357		2.68	2.50	7.2	50.0
13C2-PFHxDA	Ave	0.9134	1.093		2.99	2.50	19.6	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_022.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2017 07:17:50 ALS Bottle#: 13 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L4
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 14:50:14 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 14:42:59

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.534	8545411	2.45		98.0	34890	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.412	0.008	1.004	3199392	1.03		103	821	
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.629	5137870	2.50		100	54117	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.664	0.008	1.005	2297415	1.01		101	1586	
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.642	100953	2.32		100	2932	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.707	1.703	0.004	1.005	3058096	0.9421		107	12190	
298.90 > 99.00	1.707	1.703	0.004	1.005	1273648		2.40(1.25-3.74)		8600	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.914	1.909	0.005	1.000	704203	0.8694		93.1	30801	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.955	1.949	0.006	1.000	2163296	0.9579		95.8	5802	
313.00 > 119.00	1.955	1.949	0.006	1.000	207553		10.42(5.03-15.10)		4300	
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.949	0.006	0.739	5647039	2.59		104	50184	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.279	2.286	-0.007	1.000	2205373	1.02		102	3238	
363.00 > 169.00	2.279	2.286	-0.007	1.000	854403		2.58(1.13-3.40)		7174	
D 9 13C4-PFHpA										
367.00 > 322.00	2.279	2.286	-0.007	0.862	5226701	2.57		103	34409	
D 11 18O2 PFHxS										
403.00 > 84.00	2.292	2.299	-0.007	0.867	6134125	2.43		103	35707	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.292	2.299	-0.007	1.000	2493815	0.8846		97.2	5508	
399.00 > 99.00	2.292	2.299	-0.007	1.000	840631		2.97(1.50-4.49)		4018	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.640	-0.009	1.000	2007968	0.9724		103	47787	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.640	-0.009	0.995	3060365	3.62		152	61615	
* 62 13C2-PFOA										
415.00 > 370.00	2.645	2.643	0.002		5915869	2.50			43402	
D 14 13C4 PFOA										
417.00 > 372.00	2.645	2.647	-0.002	1.000	6380359	2.61		104	50179	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.645	2.649	-0.004	1.000	2656466	0.9864		98.6	1110	
413.00 > 169.00	2.645	2.649	-0.004	1.000	1369589		1.94(0.84-2.52)		10000	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.652	2.654	-0.002	1.000	2251996	0.8933		93.8	17451	
449.00 > 99.00	2.652	2.654	-0.002	1.000	599165		3.76(1.94-5.82)		17044	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.018	3.025	-0.007	1.000	1726596	0.9267		99.9	298	
499.00 > 99.00	3.018	3.025	-0.007	1.000	374261		4.61(2.31-6.93)		383	
D 18 13C4 PFOS										
503.00 > 80.00	3.018	3.025	-0.007	1.141	4187932	2.58		108	34171	
20 Perfluorononanoic acid										
463.00 > 419.00	3.018	3.026	-0.008	1.000	1741250	1.04		104	2701	
463.00 > 169.00	3.018	3.026	-0.008	1.000	421929		4.13(1.90-5.69)		9053	
D 19 13C5 PFNA										
468.00 > 423.00	3.018	3.026	-0.008	1.141	4304887	2.62		105	39166	
D 21 13C8 FOSA										
506.00 > 78.00	3.357	3.362	-0.005	1.269	5779324	2.52		101	33491	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.365	0.0	1.002	2334019	1.07		107	17785	
D 26 M2-8:2FTS										
529.00 > 81.00	3.365	3.375	-0.010	1.272	1145352	3.18		133	15702	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.365	3.376	-0.011	1.000	585656	1.01		105	12064	
D 23 13C2 PFDA										
515.00 > 470.00	3.380	3.387	-0.007	1.278	3441842	2.62		105	39286	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.380	3.388	-0.008	1.000	1396388	1.02		102	6281	
513.00 > 169.00	3.380	3.388	-0.008	1.000	241062		5.79(2.36-7.09)		1850	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.531	3.541	-0.010	1.335	1833844	3.02		121	30663	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.539	3.547	-0.008	1.002	801225	1.06		106	5900	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.701	-0.011	1.000	1047209	1.02		106	25620	
599.00 > 99.00	3.690	3.701	-0.011	1.000	347415		3.01(1.39-4.16)		8436	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.398	1836402	2.94		118	10120	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.402	2773483	2.74		109	36688	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.708	3.718	-0.010	1.000	965165	0.9616		96.2	4182	
563.00 > 169.00	3.708	3.718	-0.010	1.000	214924		4.49(0.00-0.00)		6361	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.718	-0.010	1.002	710716	0.99		99.3	9225	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.458	1637373	2.42		96.9	3208	
35 MeFOSA										
512.00 > 169.00	3.867	3.863	0.004	1.003	679048	1.06		106	3011	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.015	-0.009	1.515	2995081	2.78		111	22551	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.006	4.016	-0.010	1.000	1140696	0.99		99.2	2910	
613.00 > 169.00	4.006	4.016	-0.010	1.000	290812		3.92(2.13-6.40)		12059	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.529	1527017	2.40		95.9	2851	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.002	659307	1.02		102	2713	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.272	4.285	-0.013	1.000	1307522	0.9522		95.2	3374	
663.00 > 169.00	4.272	4.285	-0.013	1.000	401380		3.26(1.25-3.76)		15325	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.707	3168941	2.68		107	18949	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.522	-0.008	1.000	309544	0.9653		96.5	10634	
713.00 > 219.00	4.501	4.522	-0.021	0.997	234603		1.32(0.71-2.13)		8108	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.944	-0.012	1.864	6465135	2.99		120	17332	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.945	-0.013	1.000	2257489	0.9788		97.9	1082	
813.00 > 169.00	4.932	4.945	-0.013	1.000	401375		5.62(2.86-8.58)		5228	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.296	5.309	-0.013	1.000	2634929	0.9165		91.6	544	
913.00 > 169.00	5.296	5.309	-0.013	1.000	333515		7.90(0.00-0.00)		2071	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 14:50:15 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_022.d

Injection Date: 20-Dec-2017 07:17:50 Instrument ID: A8_N

Lims ID: CCV L4

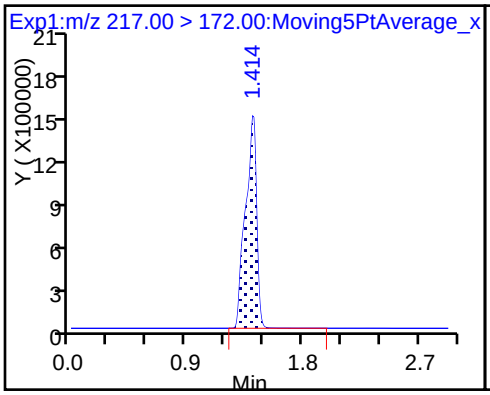
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Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 7

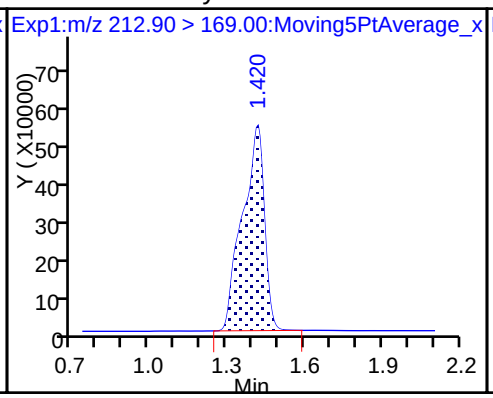
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

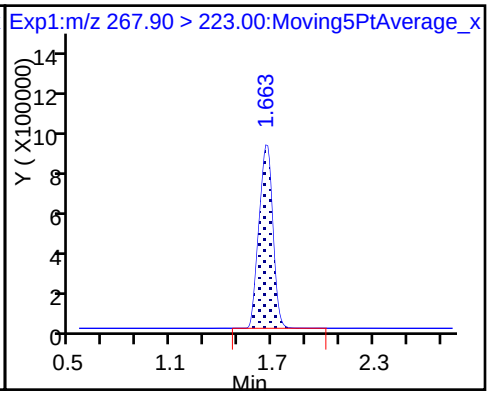
D 1 13C4 PFBA



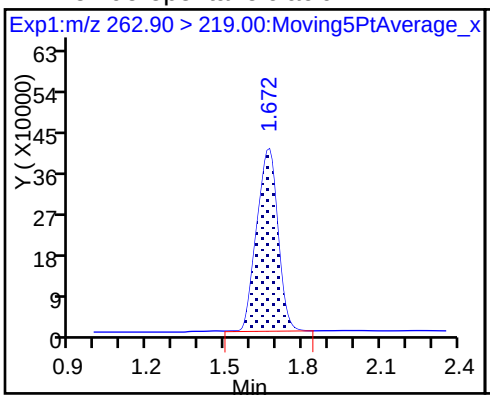
2 Perfluorobutyric acid



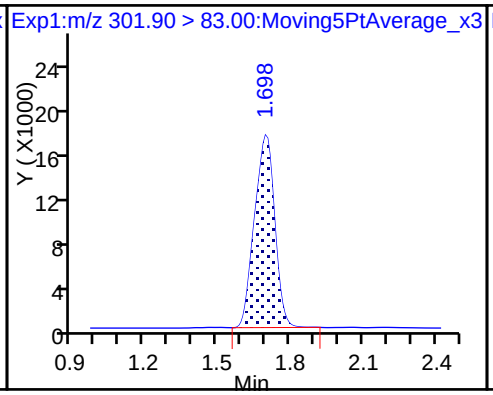
D 3 13C5-PFPeA



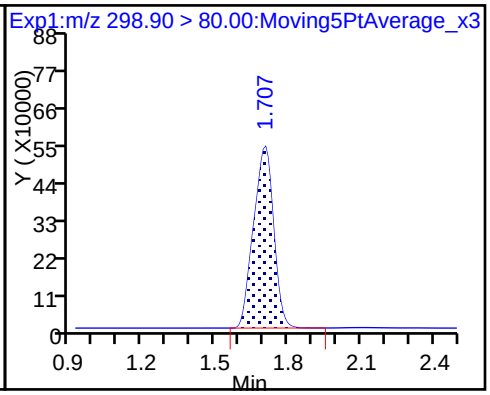
4 Perfluoropentanoic acid



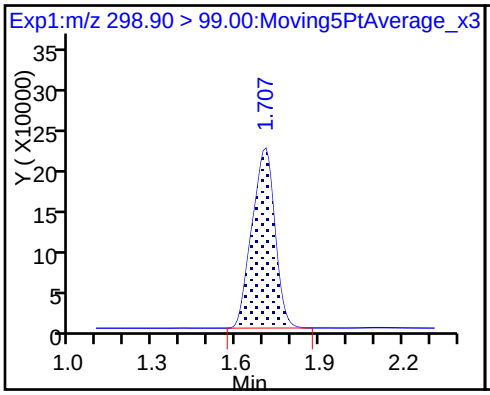
D 47 13C3-PFBS



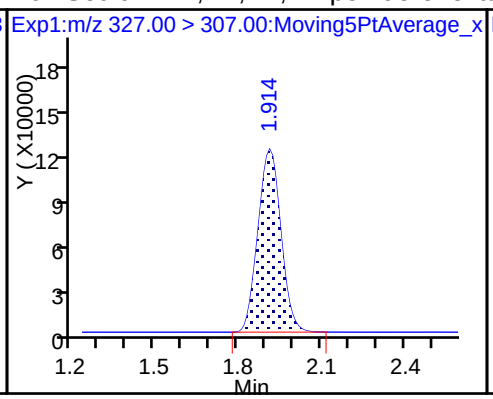
5 Perfluorobutanesulfonic acid



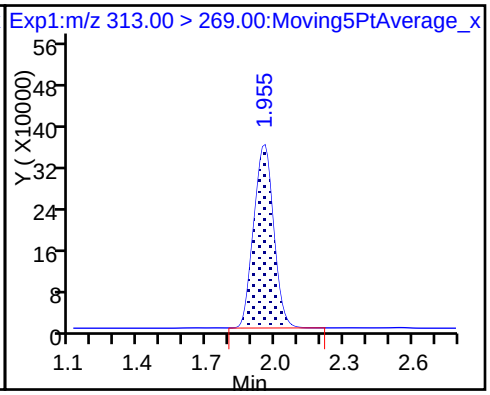
5 Perfluorobutanesulfonic acid



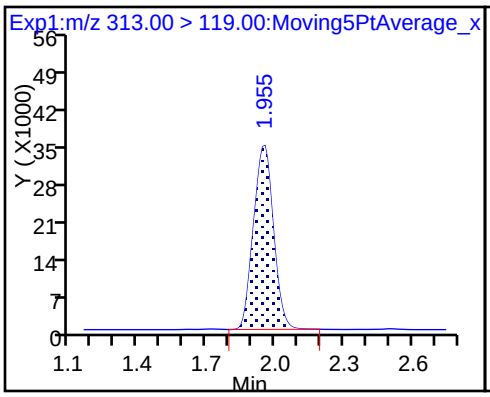
61 Sodium 1H,1H,2H,2H-perfluorohexane



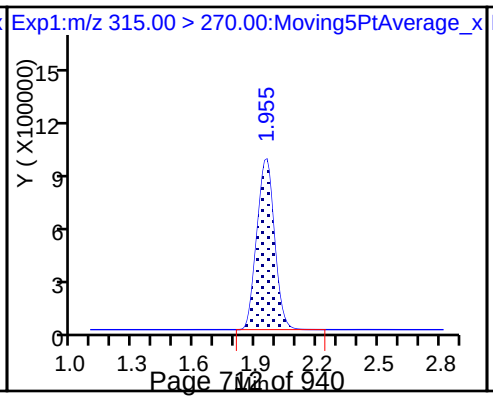
6 Perfluorohexanoic acid



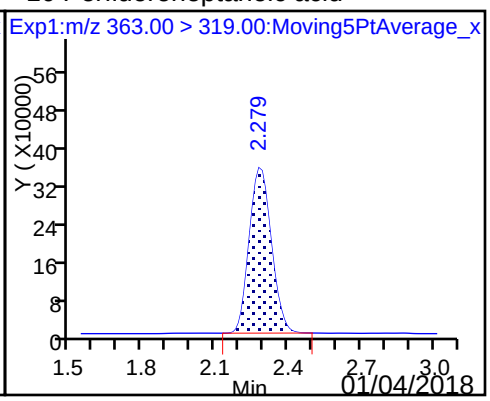
6 Perfluorohexanoic acid



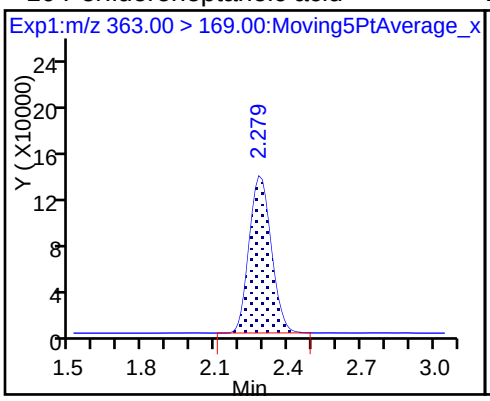
D 7 13C2 PFHxA



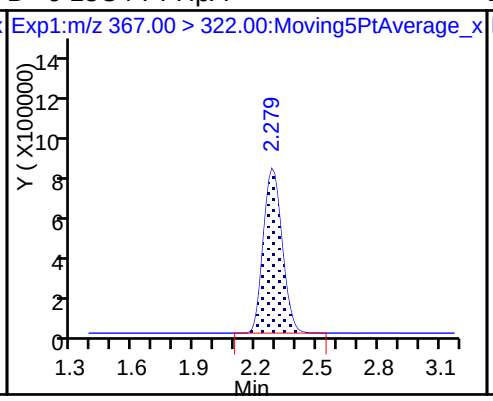
10 Perfluoroheptanoic acid



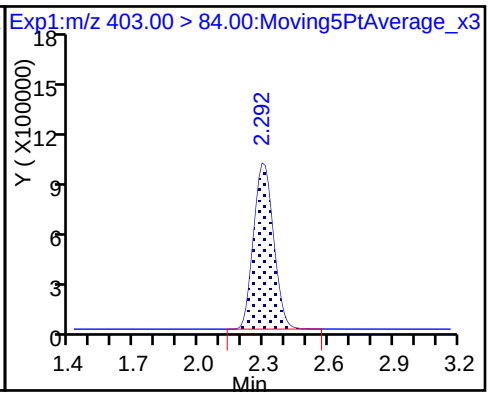
10 Perfluoroheptanoic acid



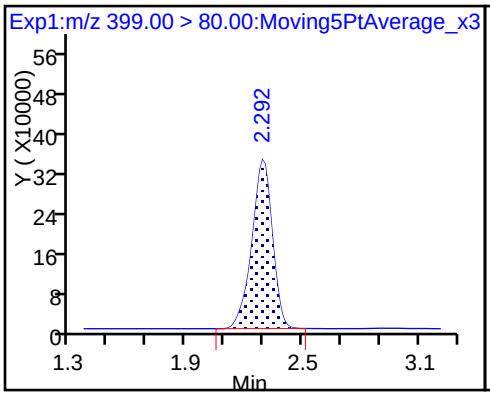
D 9 13C4-PFHpA



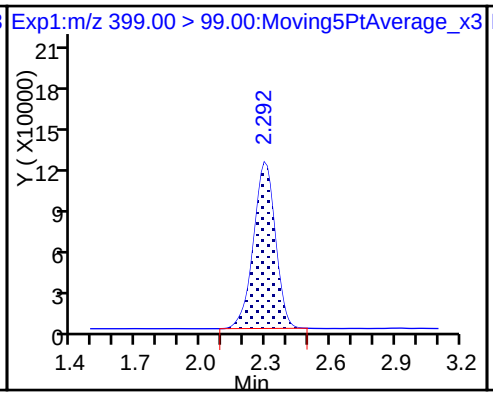
D 11 18O2 PFHxS



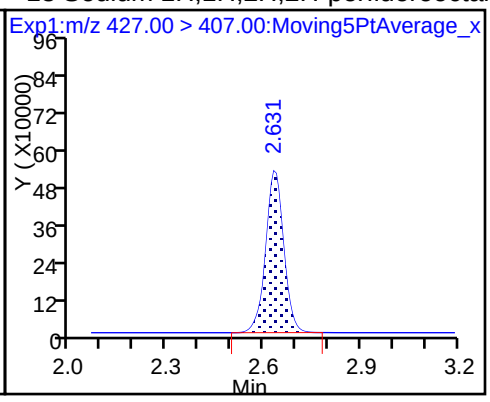
8 Perfluorohexanesulfonic acid



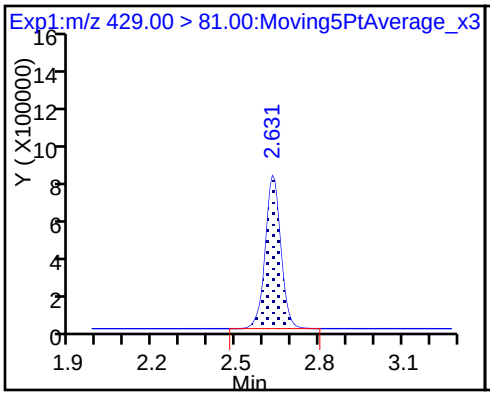
8 Perfluorohexanesulfonic acid



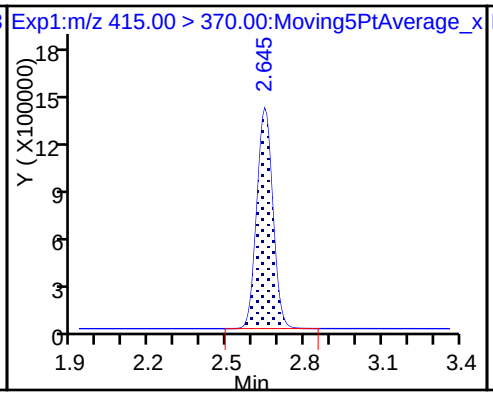
13 Sodium 1H,1H,2H,2H-perfluorooctane



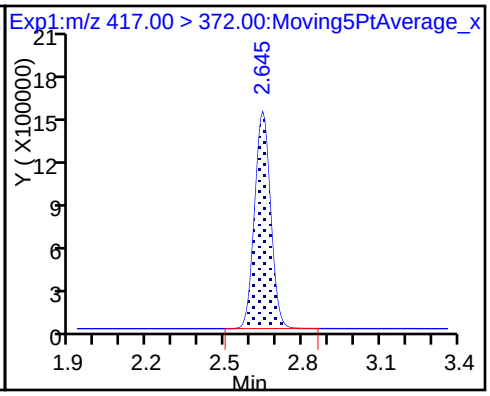
D 12 M2-6:2FTS



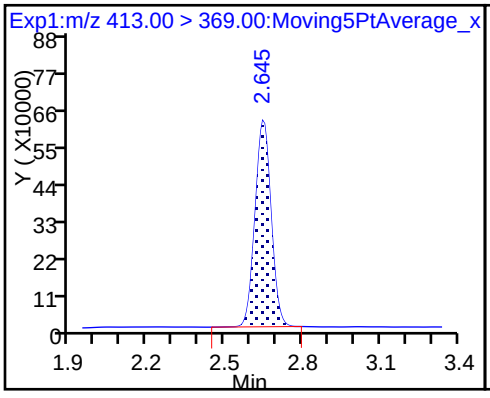
* 62 13C2-PFOA



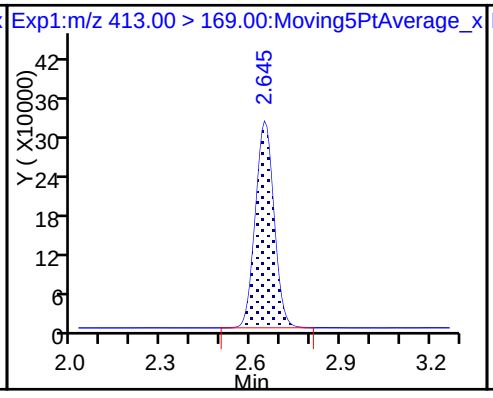
D 14 13C4 PFOA



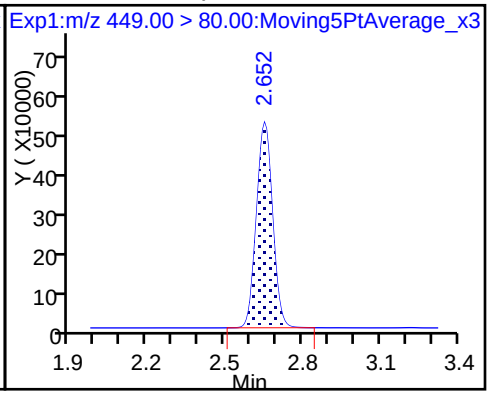
15 Perfluorooctanoic acid



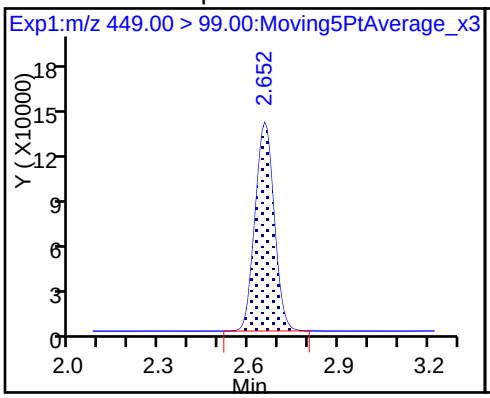
15 Perfluorooctanoic acid



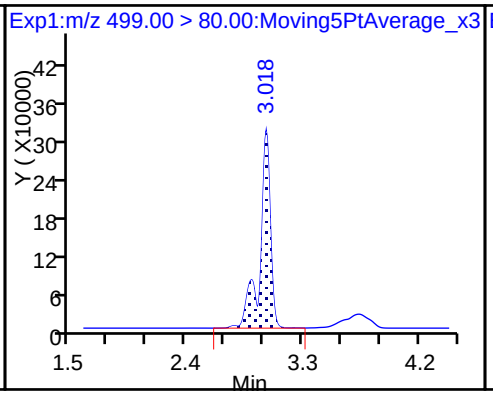
16 Perfluoroheptanesulfonic Acid



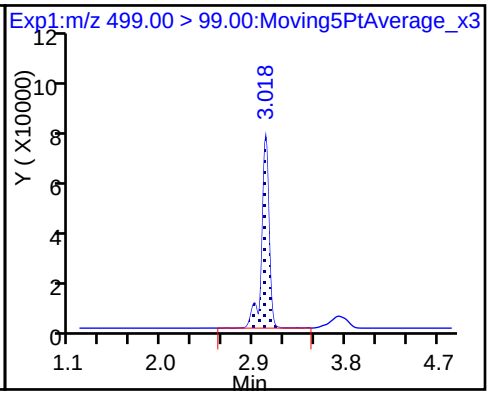
16 Perfluoroheptanesulfonic Acid



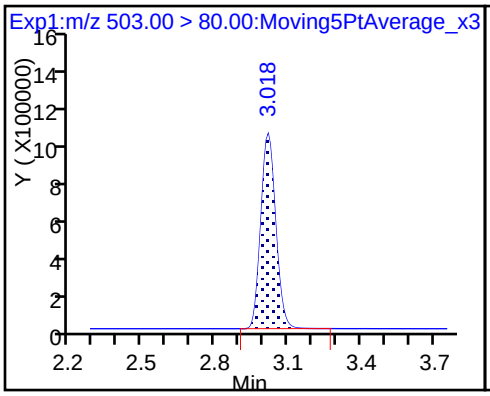
17 Perfluorooctane sulfonic acid



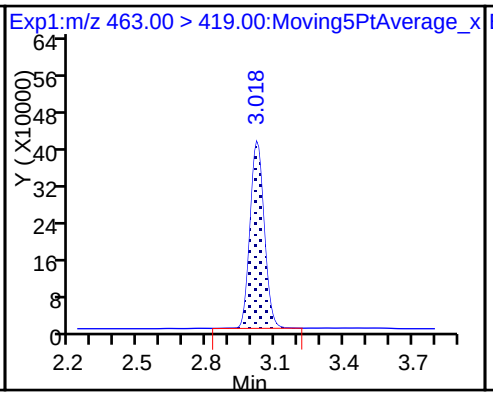
17 Perfluorooctane sulfonic acid



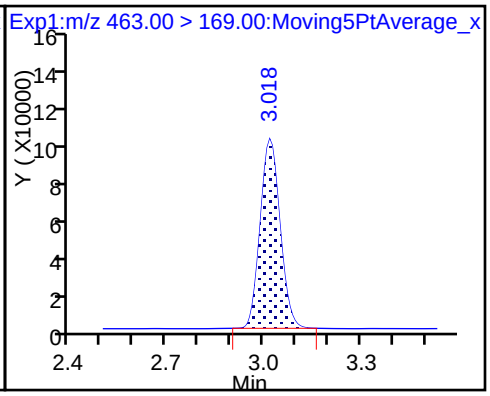
D 18 13C4 PFOS



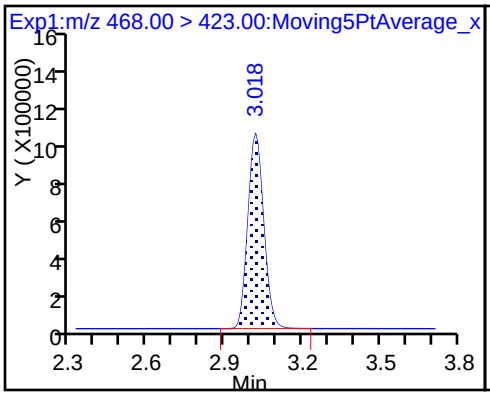
20 Perfluorononanoic acid



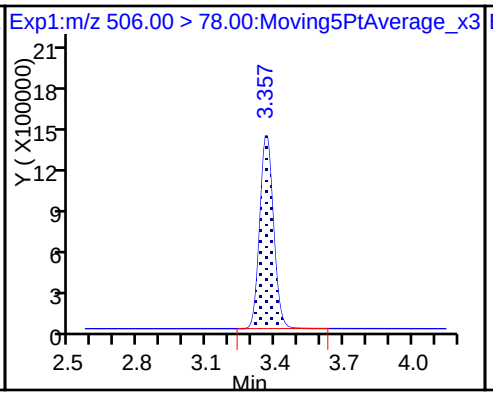
20 Perfluorononanoic acid



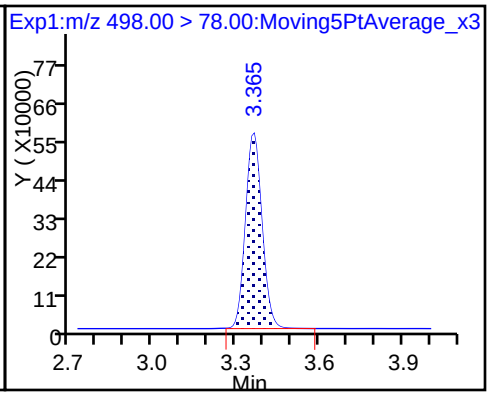
D 19 13C5 PFNA



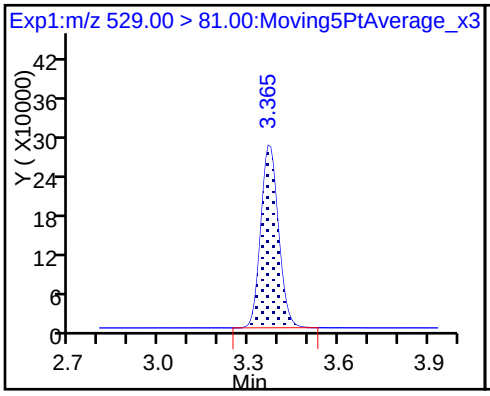
D 21 13C8 FOSA



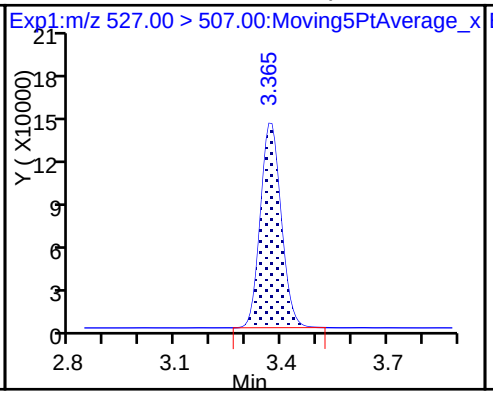
22 Perfluorooctane Sulfonamide



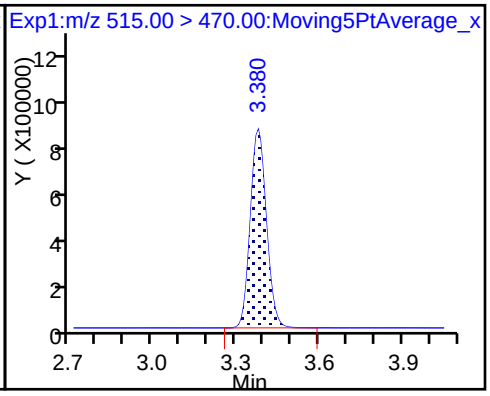
D 26 M2-8:2FTS



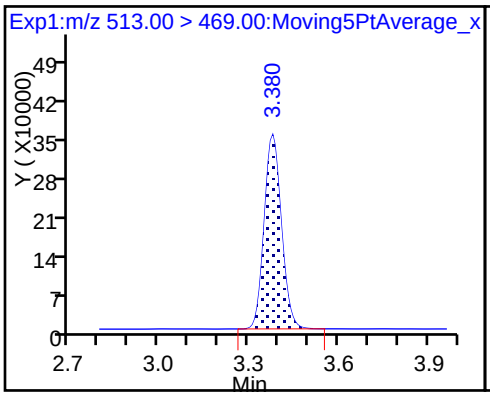
25 Sodium 1H,1H,2H,2H-perfluorodecane



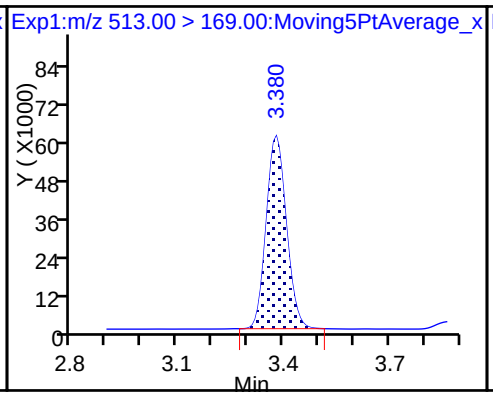
D 23 13C2 PFDA



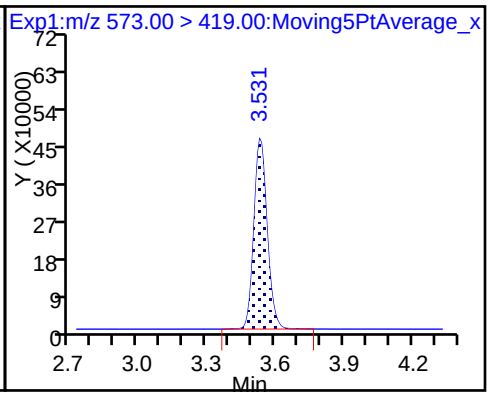
24 Perfluorodecanoic acid



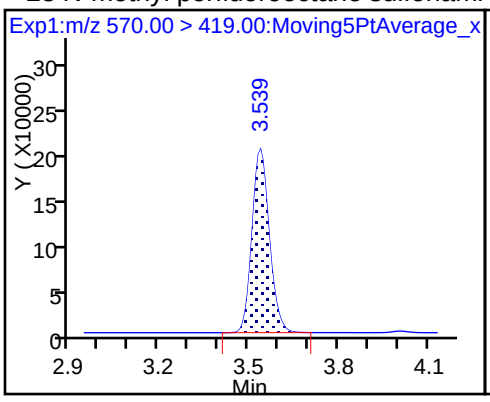
24 Perfluorodecanoic acid



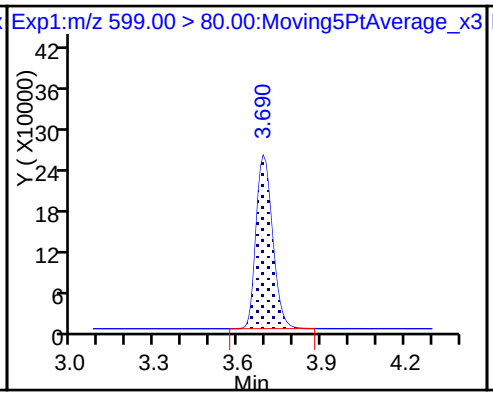
D 27 d3-NMeFOSAA



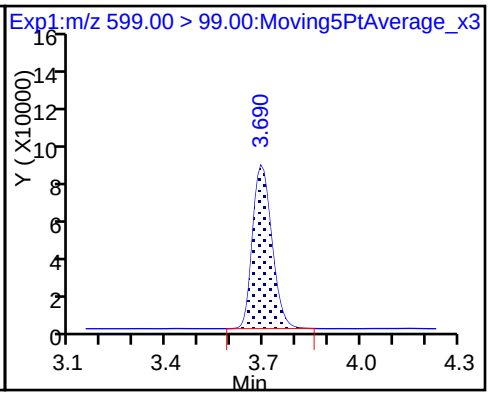
28 N-methyl perfluorooctane sulfonami



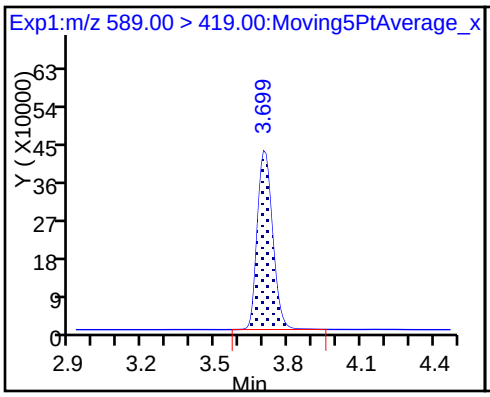
29 Perfluorodecane Sulfonic acid



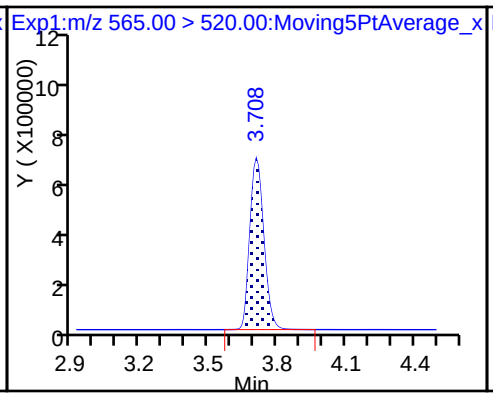
29 Perfluorodecane Sulfonic acid



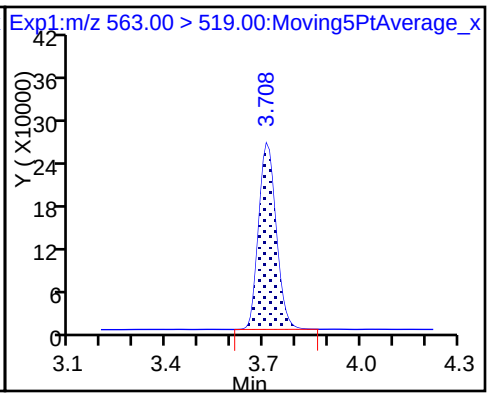
D 32 d5-NEtFOSAA



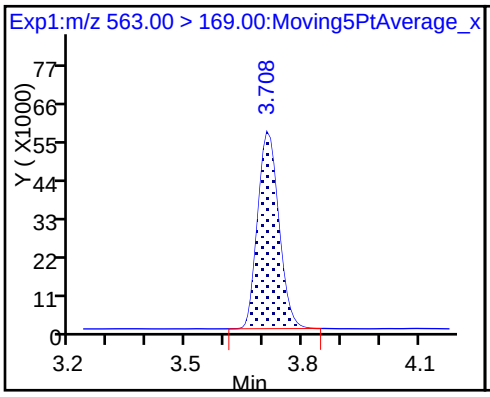
D 30 13C2 PFUnA



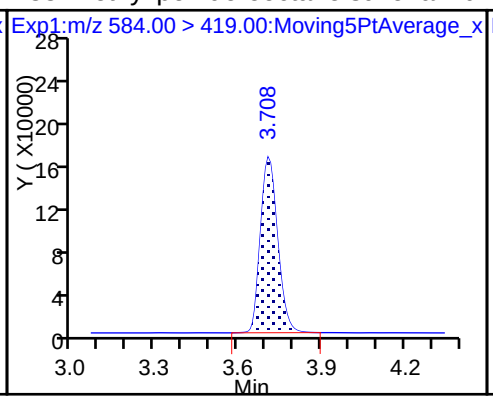
31 Perfluoroundecanoic acid



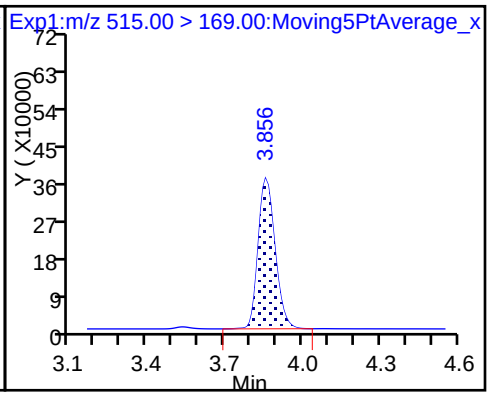
31 Perfluoroundecanoic acid



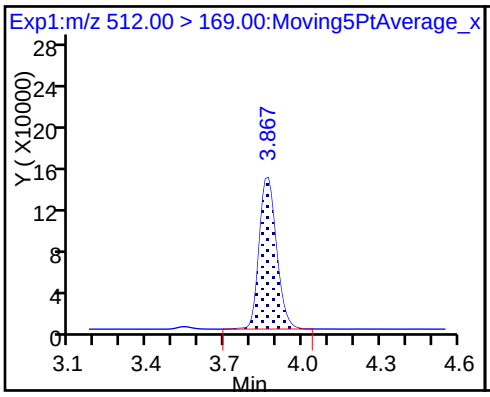
33 N-ethyl perfluorooctane sulfonamid



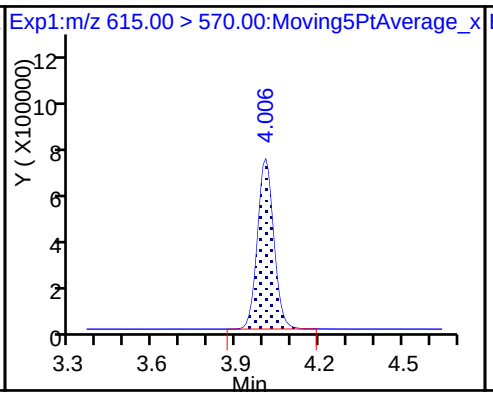
D 34 d-N-MeFOSA-M



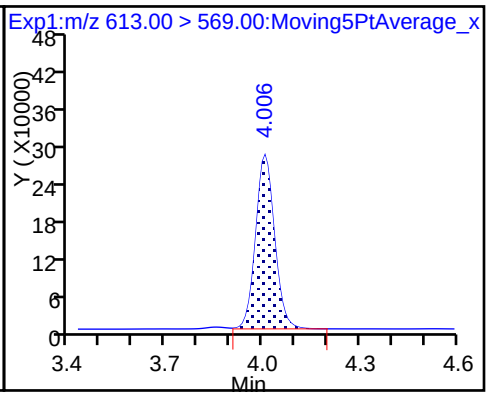
35 MeFOSA



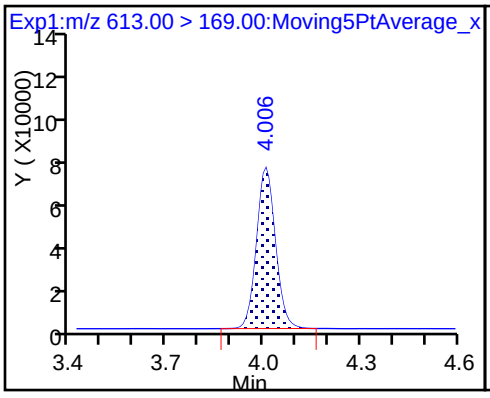
D 36 13C2 PFDoA



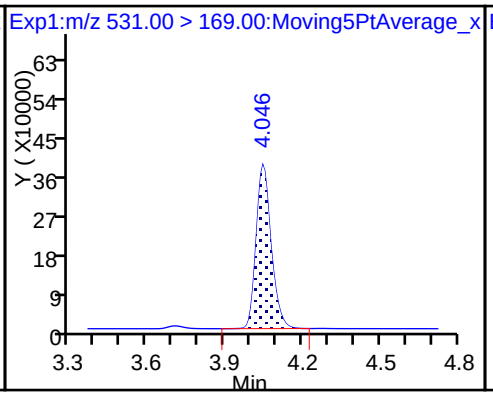
37 Perfluorododecanoic acid



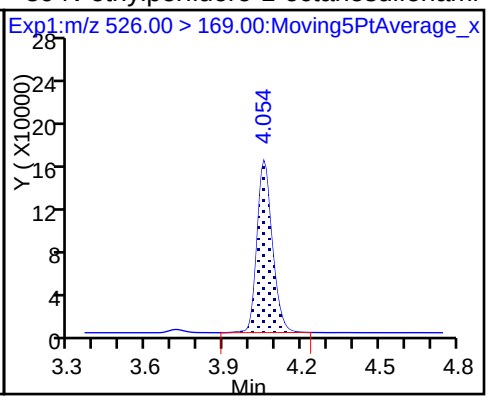
37 Perfluorododecanoic acid



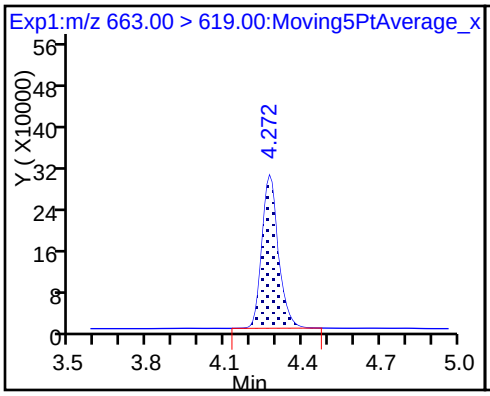
D 38 d-N-EtFOSA-M



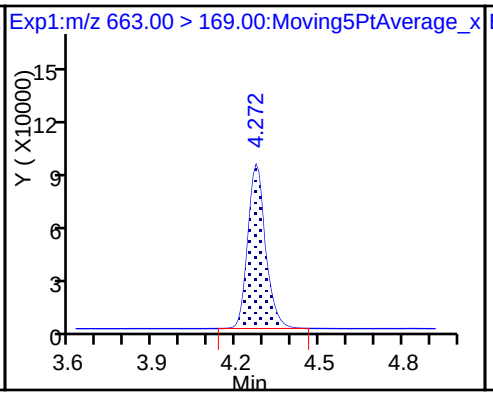
39 N-ethylperfluoro-1-octanesulfonami



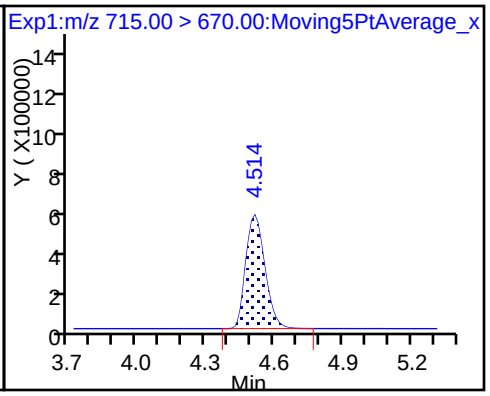
41 Perfluorotridecanoic acid



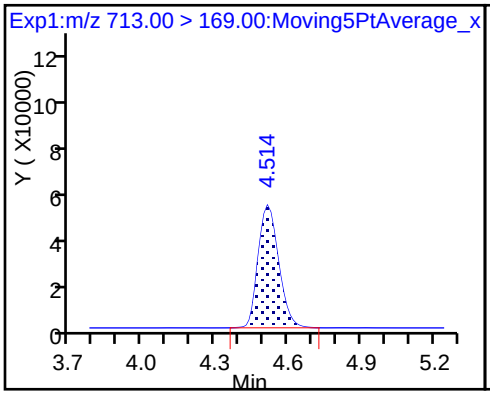
41 Perfluorotridecanoic acid



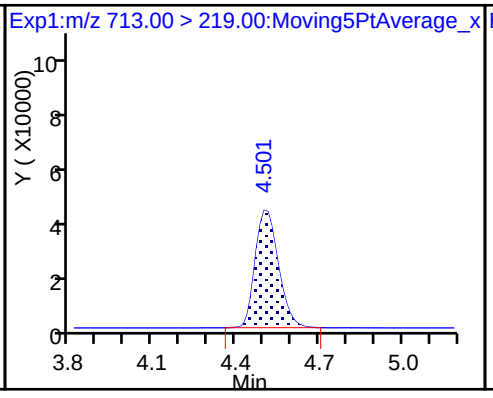
D 43 13C2-PFTeDA



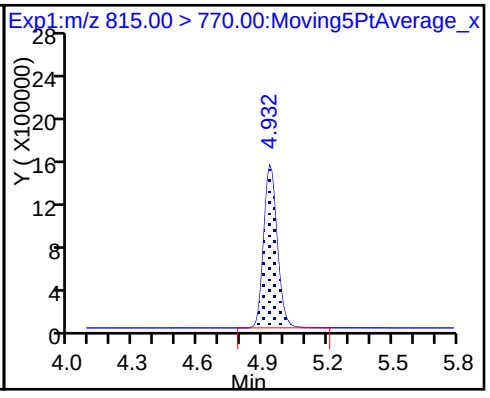
42 Perfluorotetradecanoic acid



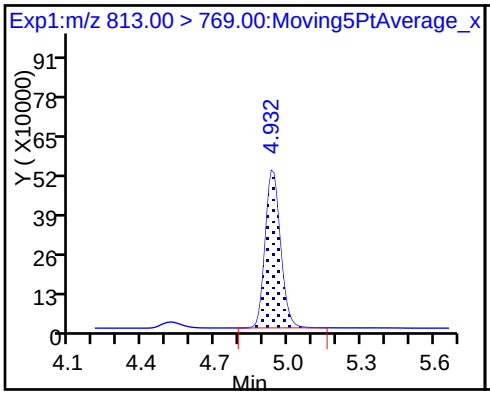
42 Perfluorotetradecanoic acid



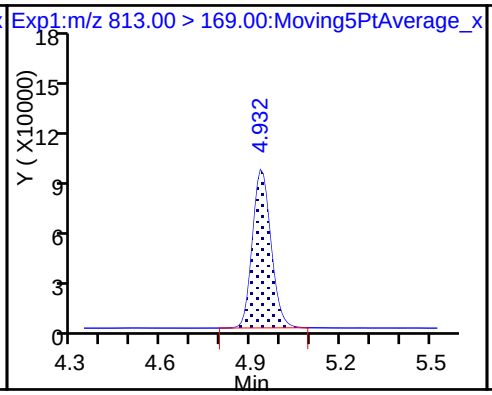
D 44 13C2-PFHxDA



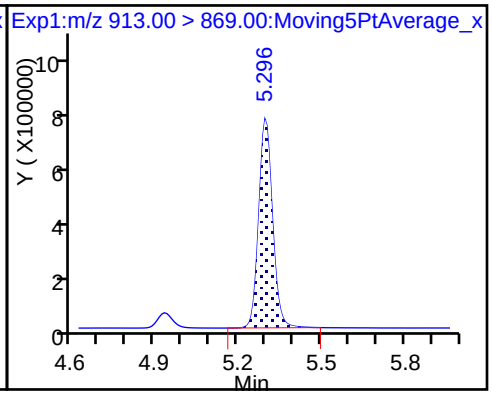
45 Perfluorohexadecanoic acid



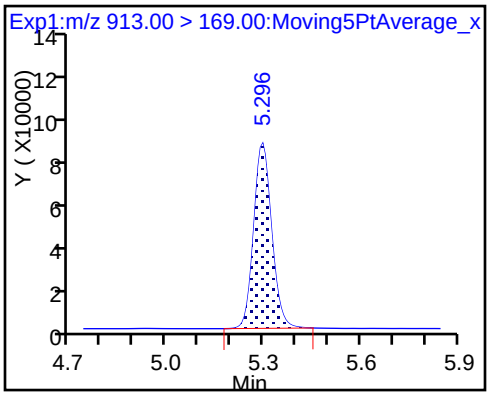
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200666/1 Calibration Date: 12/20/2017 07:25

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_023.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9123	0.9398		1.03	1.00	3.0	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.105	1.112		1.01	1.00	0.6	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.75	81.35		0.962	0.884	8.8	50.0
4:2 FTS	AveID	0.6286	0.5793		0.861	0.934	-7.8	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.000	0.9930		0.993	1.00	-0.7	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.030	1.040		1.01	1.00	1.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.087	1.011		0.846	0.910	-7.0	40.0
6:2FTS	AveID	1.602	1.588		0.940	0.948	-0.9	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.055	1.068		1.01	1.00	1.2	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.439	1.309		0.866	0.952	-9.0	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9691	0.9758		1.01	1.00	0.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	1.040		0.908	0.928	-2.1	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9454	0.9745		1.03	1.00	3.1	40.0
8:2FTS	AveID	1.216	1.225		0.965	0.958	0.7	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	0.9746		0.985	1.00	-1.5	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.031	1.063		1.03	1.00	3.1	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5860	0.6068		0.998	0.964	3.6	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9745	0.9913		1.02	1.00	1.7	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9047	0.8902		0.984	1.00	-1.6	40.0
MeFOSA	AveID	0.9820	0.9677		0.985	1.00	-1.5	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9602	1.009		1.05	1.00	5.1	40.0
N-EtFOSA-M	AveID	1.054	1.049		1.00	1.00	-0.4	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.146	1.070		0.933	1.00	-6.7	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2530	0.2626		1.04	1.00	3.8	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9399		1.06	1.00	5.6	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.112	1.091		0.982	1.00	-1.8	50.0
13C4 PFBA	Ave	1.474	1.413		2.40	2.50	-4.2	50.0
13C5 PFPeA	Ave	0.8683	0.8537		2.46	2.50	-1.7	50.0
13C3-PFBS	Ave	0.0184	0.0172		2.18	2.33	-6.3	50.0
13C2 PFHxA	Ave	0.9209	0.9121		2.48	2.50	-1.0	50.0
13C4-PFHpA	Ave	0.8611	0.8631		2.51	2.50	0.2	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200666/1 Calibration Date: 12/20/2017 07:25

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_023.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.066	1.101		2.44	2.37	3.2	50.0
M2-6:2FTS	Ave	0.3575	0.5251		3.49	2.38	46.9*	40.0
13C4 PFOA	Ave	1.034	1.019		2.46	2.50	-1.4	50.0
13C4 PFOS	Ave	0.6857	0.7174		2.50	2.39	4.6	50.0
13C5 PFNA	Ave	0.6950	0.7160		2.58	2.50	3.0	50.0
13C8 FOSA	Ave	0.9692	0.9649		2.49	2.50	-0.4	50.0
M2-8:2FTS	Ave	0.1524	0.2001		3.15	2.40	31.3	40.0
13C2 PFDA	Ave	0.5561	0.5834		2.62	2.50	4.9	50.0
d3-NMeFOSAA	Ave	0.2564	0.3089		3.01	2.50	20.5	50.0
d5-NEtFOSAA	Ave	0.2642	0.2923		2.77	2.50	10.6	50.0
13C2 PFUnA	Ave	0.4284	0.4523		2.64	2.50	5.6	50.0
d-N-MeFOSA-M	Ave	0.2856	0.2738		2.40	2.50	-4.1	50.0
13C2 PFDoA	Ave	0.4554	0.4830		2.65	2.50	6.1	50.0
d-N-EtFOSA-M	Ave	0.2693	0.2530		2.35	2.50	-6.1	50.0
13C2-PFTeDA	Ave	0.4999	0.5263		2.63	2.50	5.3	50.0
13C2-PFHxDA	Ave	0.9134	1.016		2.78	2.50	11.2	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_023.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2017 07:25:41 ALS Bottle#: 13 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L4
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:17:53

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.407	1.411	-0.004	0.534	8613375	2.40		95.8	36522	
2 Perfluorobutyric acid										
212.90 > 169.00	1.413	1.412	0.001	1.004	3238046	1.03		103	3008	
D 3 13C5-PFPeA										
267.90 > 223.00	1.661	1.664	-0.003	0.630	5204003	2.46		98.3	49231	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.661	1.664	-0.003	1.000	2315746	1.01		101	1862	
D 47 13C3-PFBS										
301.90 > 83.00	1.697	1.699	-0.002	0.644	97480	2.18		93.7	2919	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.697	1.703	-0.006	1.000	3014994	0.9620		109	11732	
298.90 > 99.00	1.697	1.703	-0.006	1.000	1339486		2.25(1.25-3.74)		10205	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.902	1.909	-0.007	1.000	692770	0.8608		92.2	30274	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.943	1.949	-0.006	1.000	2208413	0.99		99.3	7231	
313.00 > 119.00	1.943	1.949	-0.006	1.000	198132		11.15(5.03-15.10)		4780	
D 7 13C2 PFHxA										
315.00 > 270.00	1.943	1.949	-0.006	0.737	5560185	2.48		99.0	45046	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.278	2.286	-0.008	1.000	2187998	1.01		101	3537	
363.00 > 169.00	2.278	2.286	-0.008	1.000	886952		2.47(1.13-3.40)		7461	
D 9 13C4-PFHpA										
367.00 > 322.00	2.278	2.286	-0.008	0.864	5261235	2.51		100	33512	
D 11 18O2 PFHxS										
403.00 > 84.00	2.291	2.299	-0.008	0.869	6346895	2.44		103	30350	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.278	2.299	-0.021	0.994	2468905	0.8464		93.0	4773	
399.00 > 99.00	2.291	2.299	-0.008	1.000	809045		3.05(1.50-4.49)		3789	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.621	2.640	-0.019	1.000	1927892	0.9396		99.1	62501	
D 12 M2-6:2FTS										
429.00 > 81.00	2.621	2.640	-0.019	0.995	3040938	3.49		147	57048	
* 62 13C2-PFOA										
415.00 > 370.00	2.635	2.643	-0.008		6096037	2.50			46256	
D 14 13C4 PFOA										
417.00 > 372.00	2.635	2.647	-0.012	1.000	6214467	2.46		98.6	58201	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.635	2.649	-0.014	1.000	2655814	1.01		101	1185	
413.00 > 169.00	2.635	2.649	-0.014	1.000	1409529		1.88(0.84-2.52)		9749	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.642	2.654	-0.012	1.000	2180663	0.8664		91.0	17873	
449.00 > 99.00	2.642	2.654	-0.012	1.000	600132		3.63(1.94-5.82)		8057	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.007	3.025	-0.018	1.000	1689143	0.9081		97.9	272	
499.00 > 99.00	3.007	3.025	-0.018	1.000	382720		4.41(2.31-6.93)		414	
D 18 13C4 PFOS										
503.00 > 80.00	3.007	3.025	-0.018	1.141	4181032	2.50		105	25386	
20 Perfluorononanoic acid										
463.00 > 419.00	3.007	3.026	-0.019	1.000	1703834	1.01		101	2634	
463.00 > 169.00	3.007	3.026	-0.019	1.000	426829		3.99(1.90-5.69)		7829	
D 19 13C5 PFNA										
468.00 > 423.00	3.007	3.026	-0.019	1.141	4365034	2.58		103	41563	
D 21 13C8 FOSA										
506.00 > 78.00	3.353	3.362	-0.009	1.272	5882047	2.49		99.6	26720	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.353	3.365	-0.012	1.000	2292709	1.03		103	18887	
D 26 M2-8:2FTS										
529.00 > 81.00	3.361	3.375	-0.014	1.275	1168777	3.14		131	12706	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.361	3.376	-0.015	1.000	572660	0.9651		101	10950	
D 23 13C2 PFDA										
515.00 > 470.00	3.368	3.387	-0.019	1.278	3556640	2.62		105	34599	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.368	3.388	-0.020	1.000	1386557	0.9845		98.5	7739	
513.00 > 169.00	3.368	3.388	-0.020	1.000	239951		5.78(2.36-7.09)		1949	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.527	3.541	-0.014	1.339	1883304	3.01		121	21066	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.527	3.547	-0.020	1.000	800414	1.03		103	4768	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.685	3.701	-0.016	1.000	1023354	1.00		104	21058	
599.00 > 99.00	3.685	3.701	-0.016	1.000	348421		2.94(1.39-4.16)		10742	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.694	3.711	-0.017	1.402	1781906	2.77		111	12799	
D 30 13C2 PFUnA										
565.00 > 520.00	3.703	3.717	-0.014	1.405	2757190	2.64		106	26314	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.703	3.718	-0.015	1.000	981781	0.9840		98.4	4448	
563.00 > 169.00	3.703	3.718	-0.015	1.000	213470		4.60(0.00-0.00)		9475	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.703	3.718	-0.015	1.002	706588	1.02		102	9203	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.851	3.856	-0.005	1.461	1669185	2.40		95.9	3829	
35 MeFOSA										
512.00 > 169.00	3.851	3.863	-0.012	1.000	646130	0.9855		98.5	3252	
D 36 13C2 PFDoA										
615.00 > 570.00	3.994	4.015	-0.021	1.516	2944659	2.65		106	30355	
37 Perfluorododecanoic acid										
613.00 > 569.00	3.994	4.016	-0.022	1.000	1188854	1.05		105	3208	
613.00 > 169.00	3.994	4.016	-0.022	1.000	293128		4.06(2.13-6.40)		11909	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.033	4.048	-0.015	1.531	1542004	2.35		93.9	2654	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.041	4.054	-0.013	1.002	647278	1.00		99.6	2649	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.258	4.285	-0.027	1.000	1260177	0.9335		93.3	3044	
663.00 > 169.00	4.258	4.285	-0.027	1.000	410394		3.07(1.25-3.76)		15687	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.505	4.522	-0.017	1.709	3208110	2.63		105	22361	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.505	4.522	-0.017	1.000	337015	1.04		104	7342	
713.00 > 219.00	4.491	4.522	-0.031	0.997	214236		1.57(0.71-2.13)		9284	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.925	4.944	-0.019	1.869	6193794	2.78		111	20076	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.925	4.945	-0.020	1.000	2328679	1.06		106	1115	
813.00 > 169.00	4.925	4.945	-0.020	1.000	411006		5.67(2.86-8.58)		5065	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.291	5.309	-0.018	1.000	2703921	0.9817		98.2	549	
913.00 > 169.00	5.284	5.309	-0.025	0.999	325551		8.31(0.00-0.00)		1780	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 17:24:41 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_023.d

Injection Date: 20-Dec-2017 07:25:41 Instrument ID: A8_N

Lims ID: CCV L4

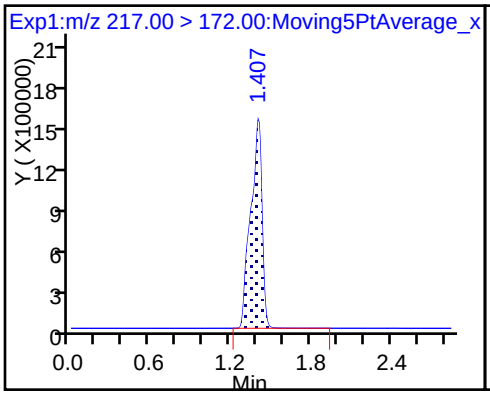
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 1

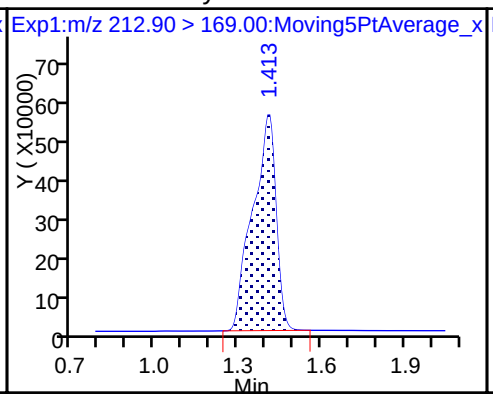
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

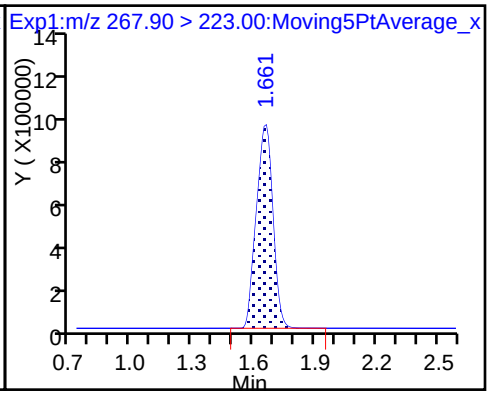
D 1 13C4 PFBA



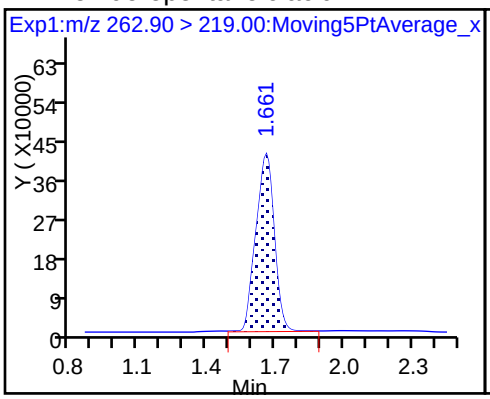
2 Perfluorobutyric acid



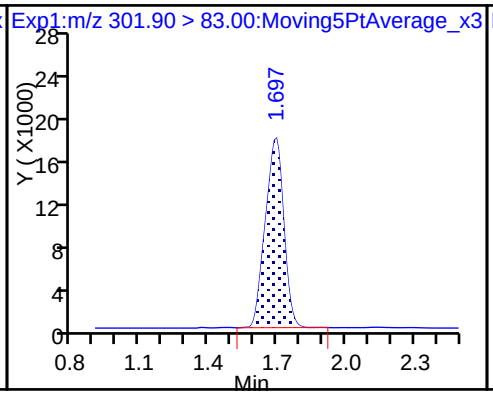
D 3 13C5-PFPeA



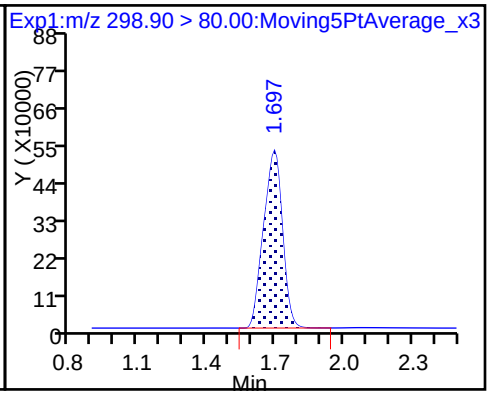
4 Perfluoropentanoic acid



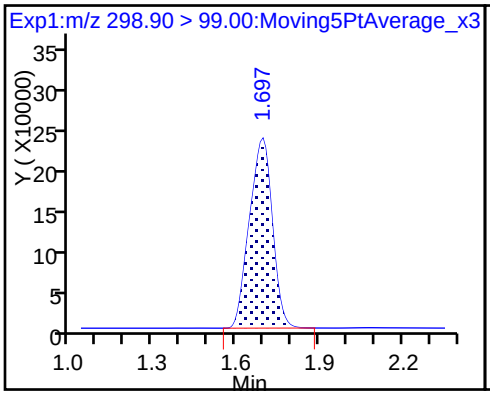
D 47 13C3-PFBS



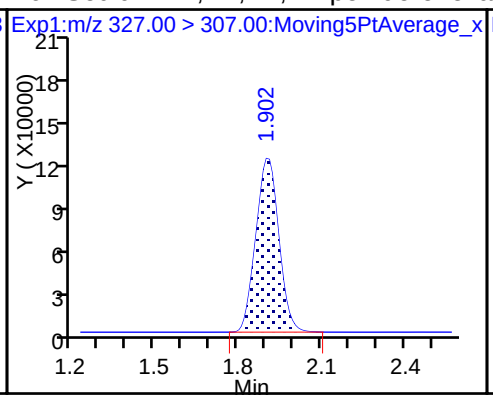
5 Perfluorobutanesulfonic acid



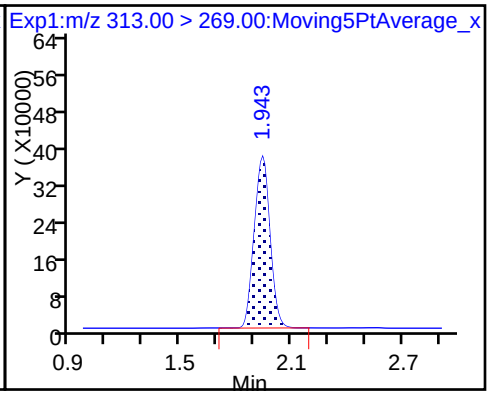
5 Perfluorobutanesulfonic acid



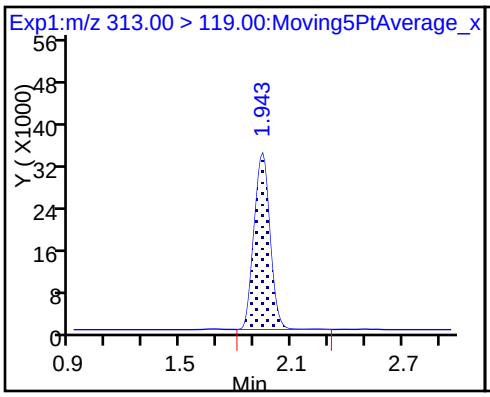
61 Sodium 1H,1H,2H,2H-perfluorohexane



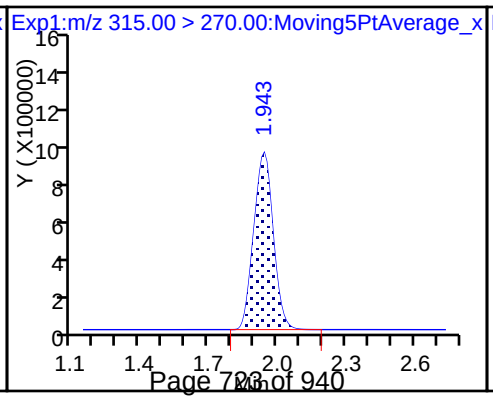
6 Perfluorohexanoic acid



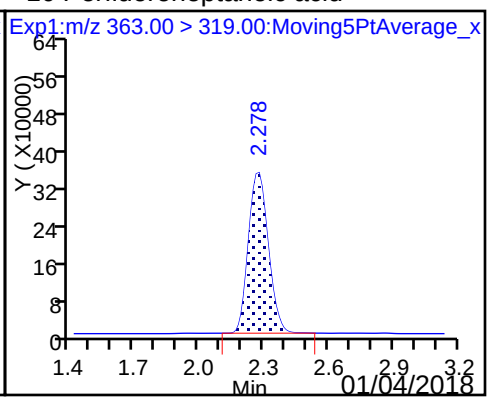
6 Perfluorohexanoic acid



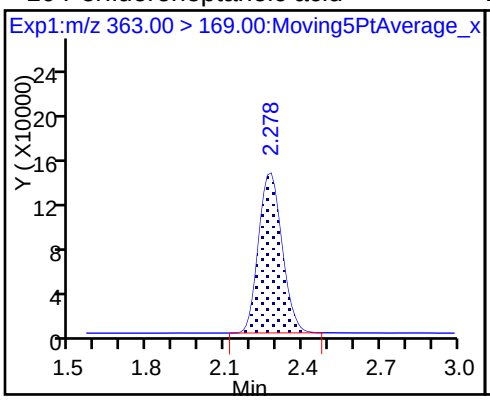
D 7 13C2 PFHxA



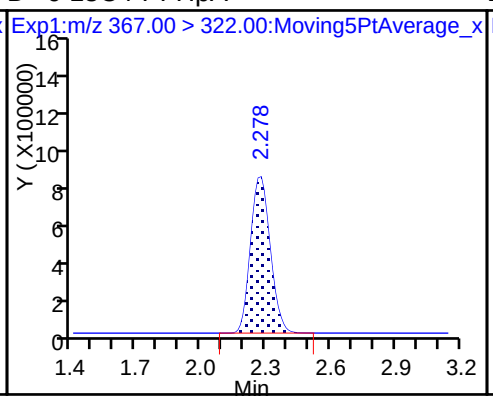
10 Perfluoroheptanoic acid



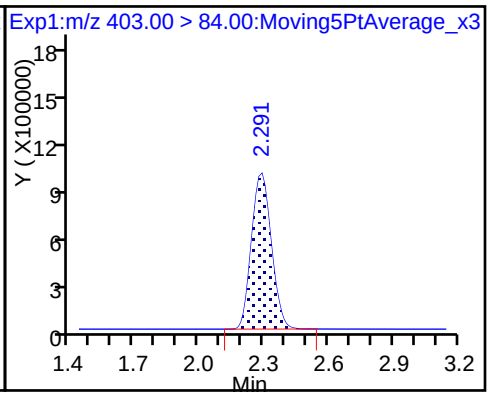
10 Perfluoroheptanoic acid



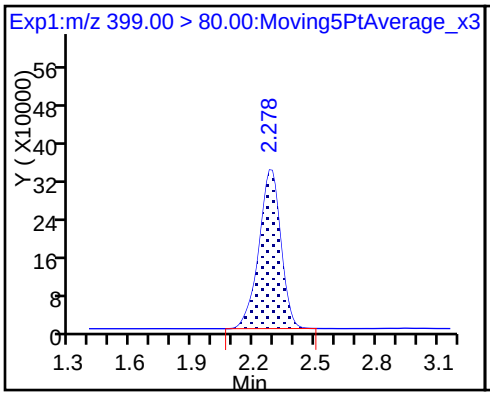
D 9 13C4-PFHpA



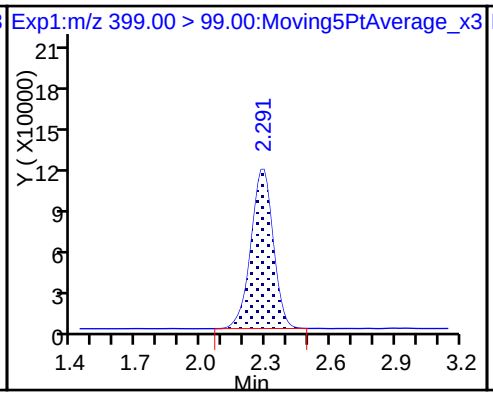
D 11 18O2 PFHxS



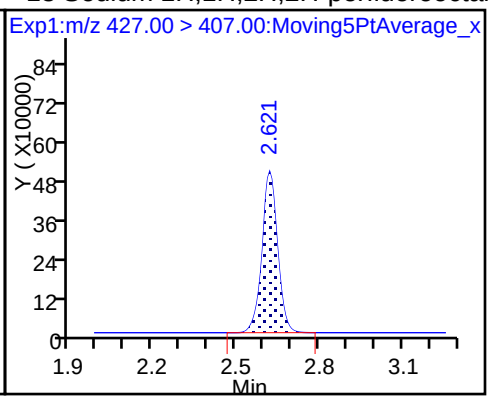
8 Perfluorohexanesulfonic acid



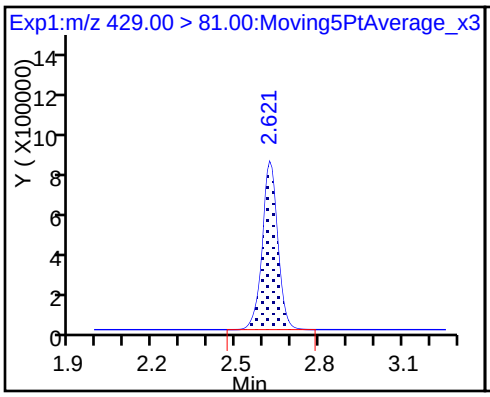
8 Perfluorohexanesulfonic acid



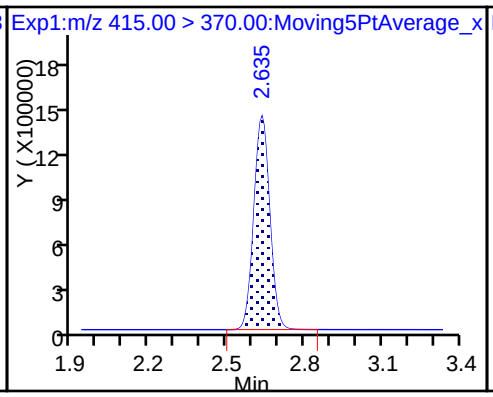
13 Sodium 1H,1H,2H,2H-perfluorooctane



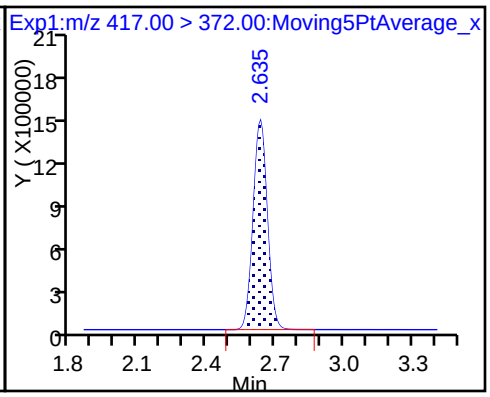
D 12 M2-6:2FTS



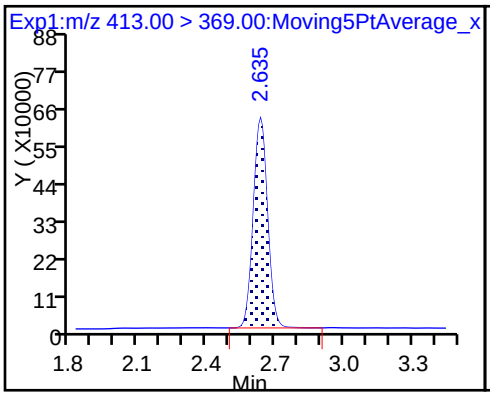
* 62 13C2-PFOA



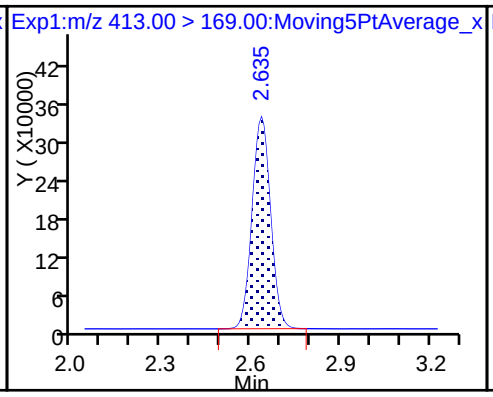
D 14 13C4 PFOA



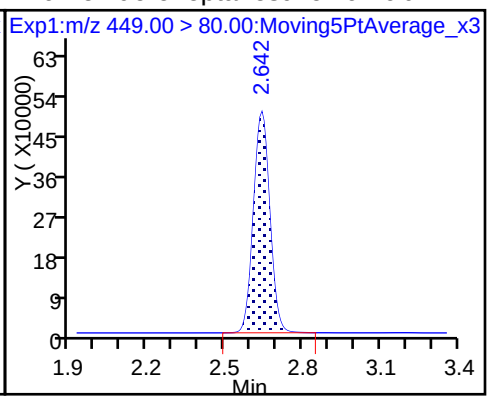
15 Perfluorooctanoic acid



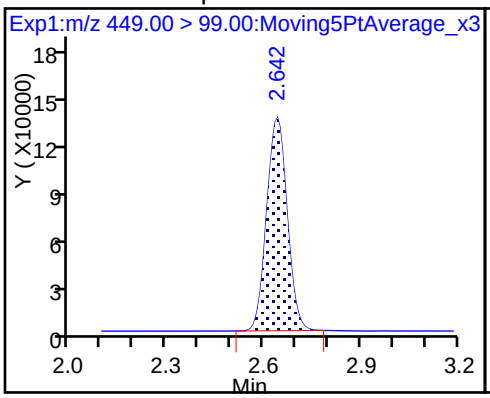
15 Perfluorooctanoic acid



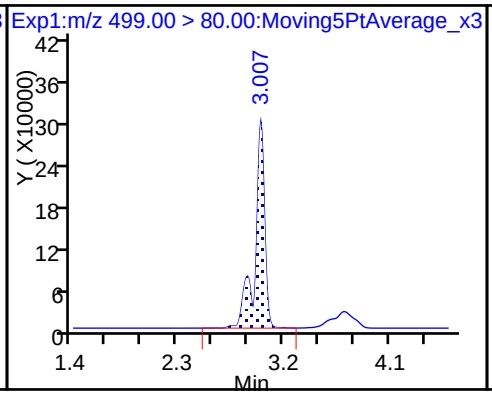
16 Perfluoroheptanesulfonic Acid



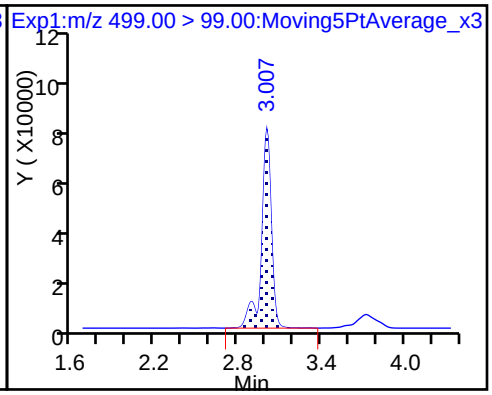
16 Perfluoroheptanesulfonic Acid



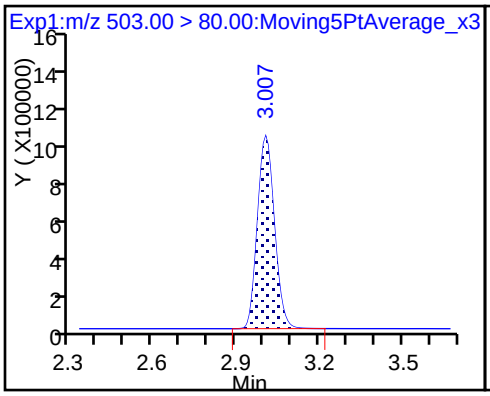
17 Perfluorooctane sulfonic acid



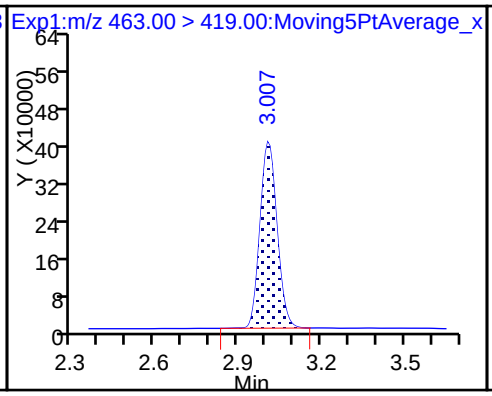
17 Perfluorooctane sulfonic acid



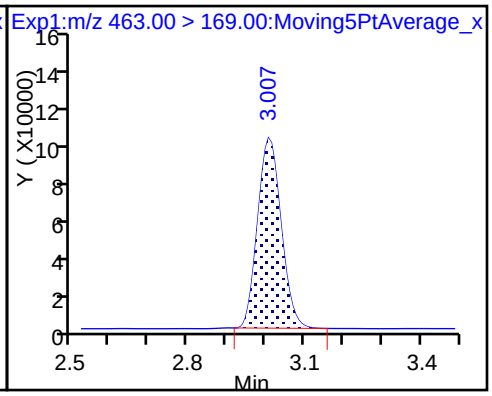
D 18 13C4 PFOS



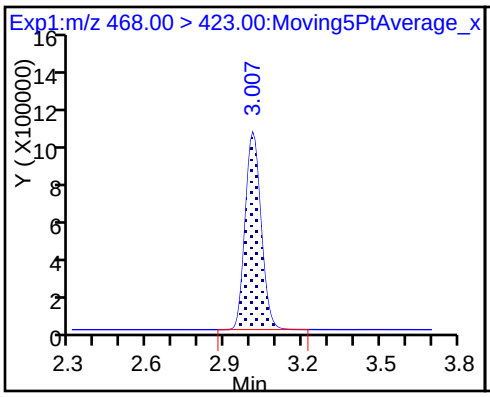
20 Perfluorononanoic acid



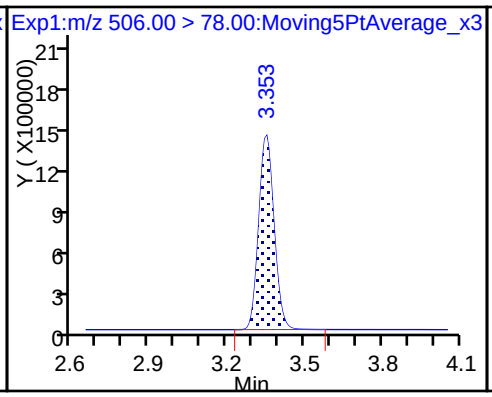
20 Perfluorononanoic acid



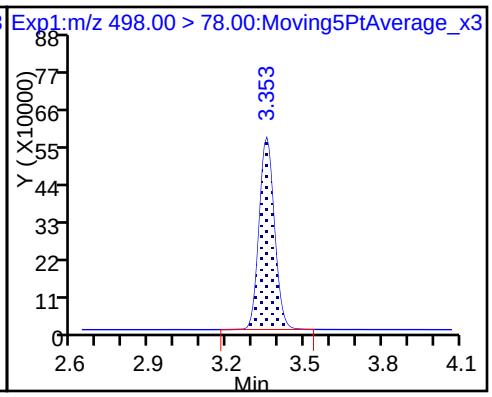
D 19 13C5 PFNA



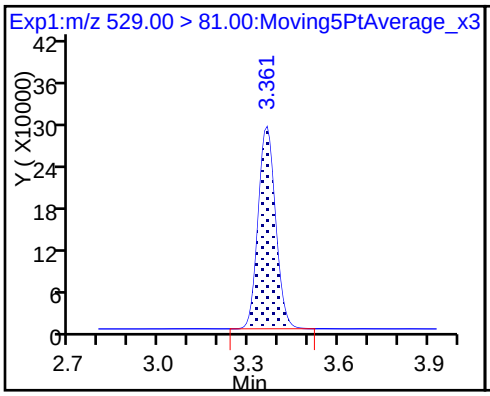
D 21 13C8 FOSA



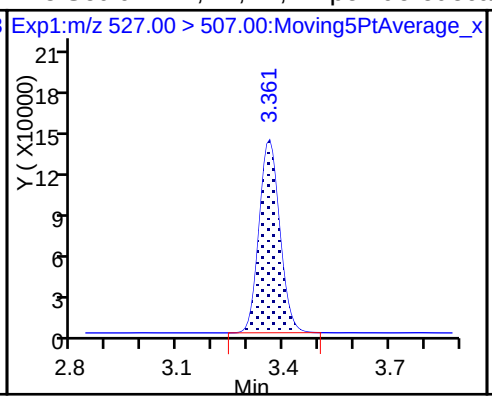
22 Perfluorooctane Sulfonamide



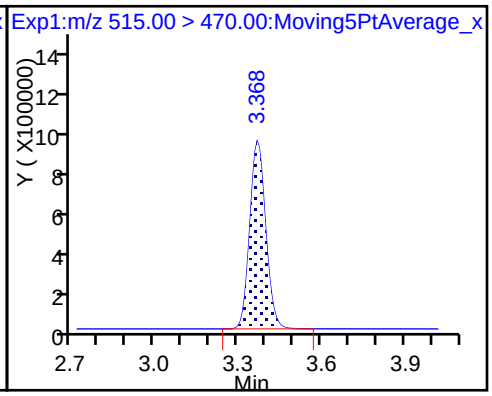
D 26 M2-8:2FTS



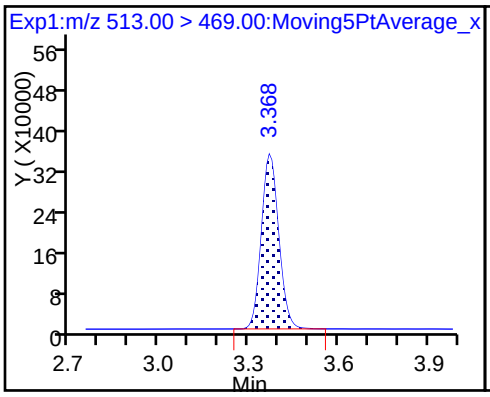
25 Sodium 1H,1H,2H,2H-perfluorodecane



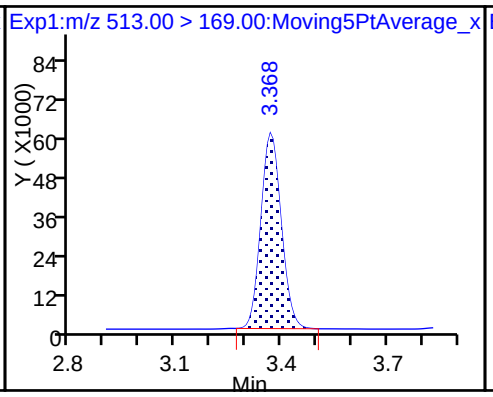
D 23 13C2 PFDA



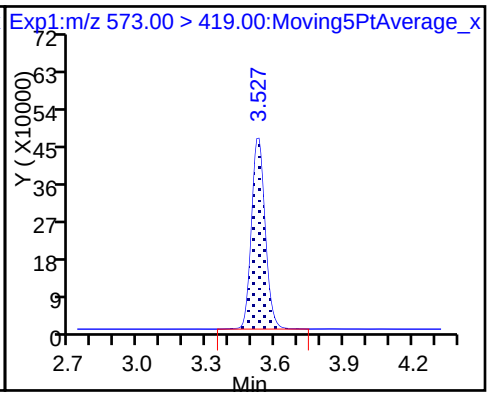
24 Perfluorodecanoic acid



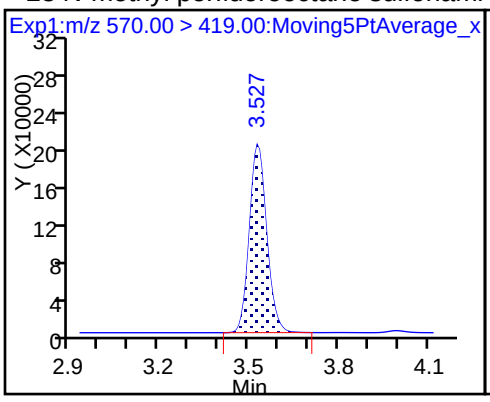
24 Perfluorodecanoic acid



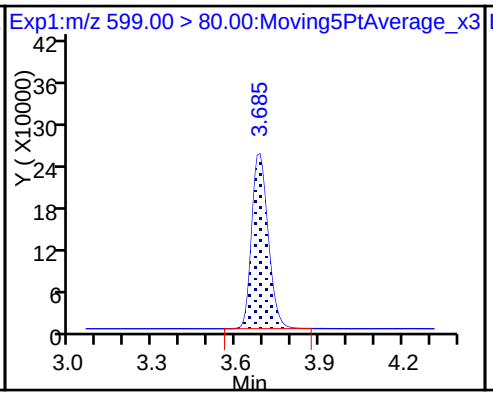
D 27 d3-NMeFOSAA



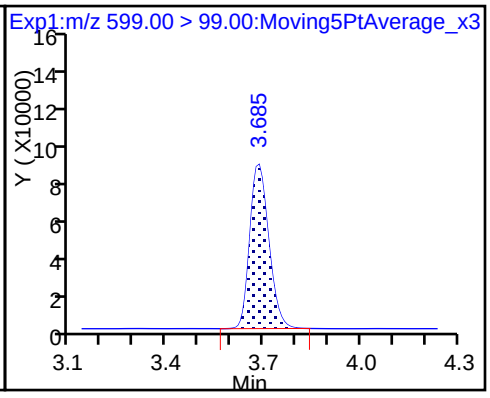
28 N-methyl perfluorooctane sulfonami



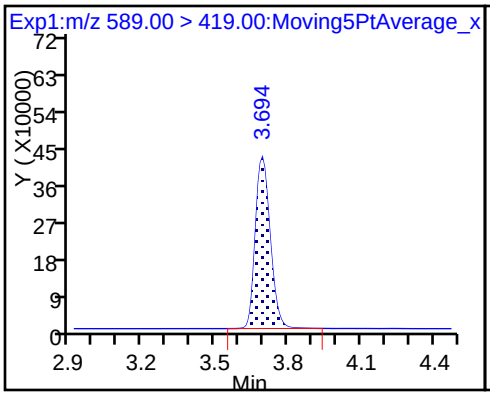
29 Perfluorodecane Sulfonic acid



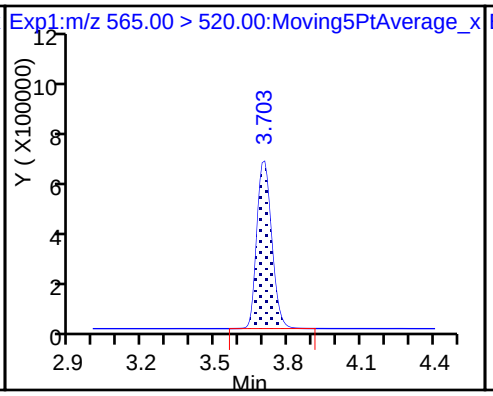
29 Perfluorodecane Sulfonic acid



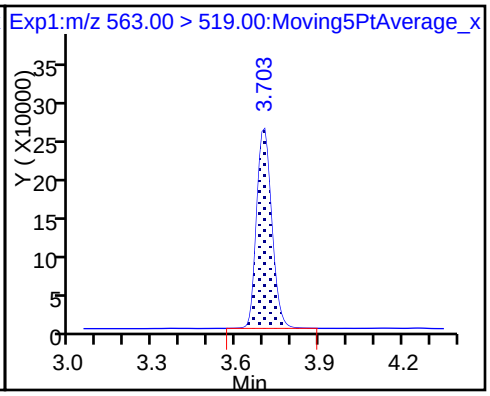
D 32 d5-NEtFOSAA



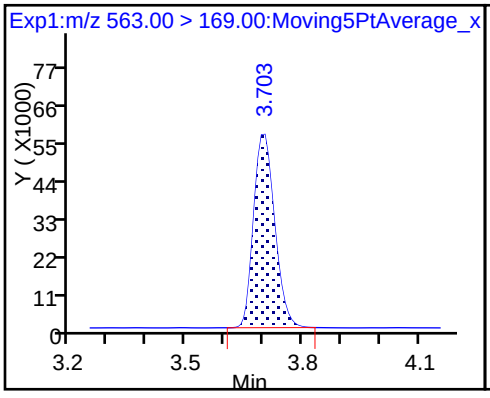
D 30 13C2 PFUnA



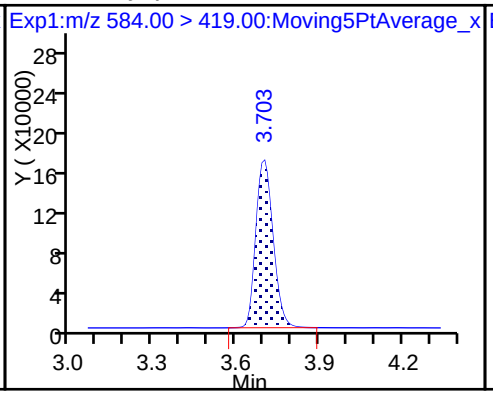
31 Perfluoroundecanoic acid



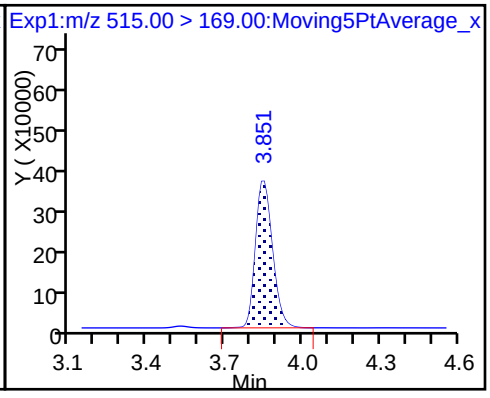
31 Perfluoroundecanoic acid



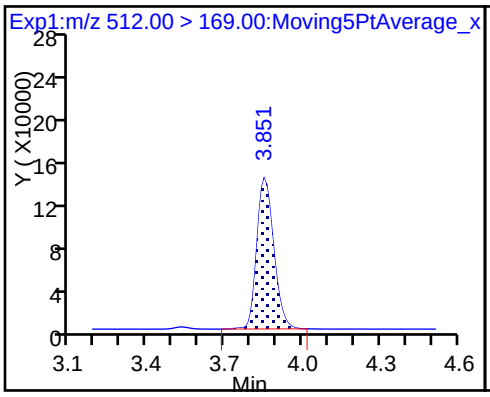
33 N-ethyl perfluorooctane sulfonamid



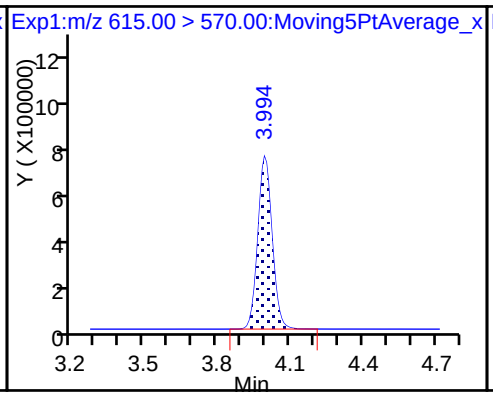
D 34 d-N-MeFOSA-M



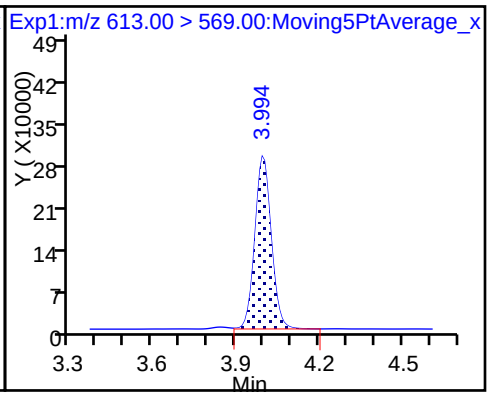
35 MeFOSA



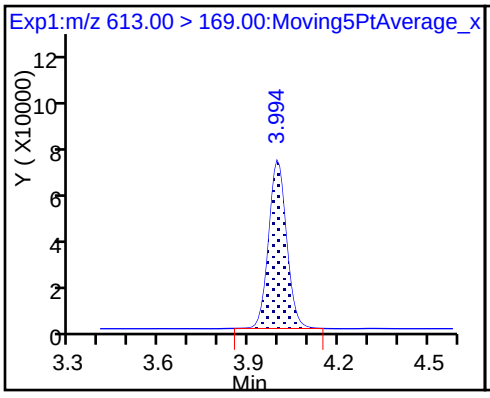
D 36 13C2 PFDoA



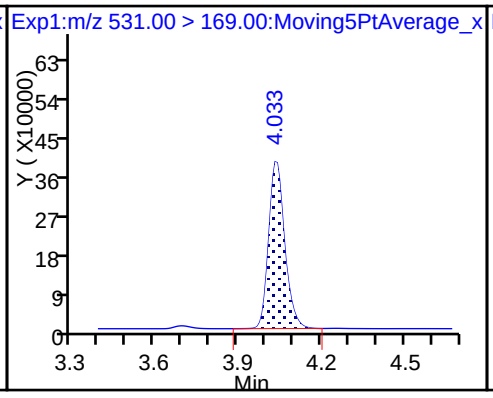
37 Perfluorododecanoic acid



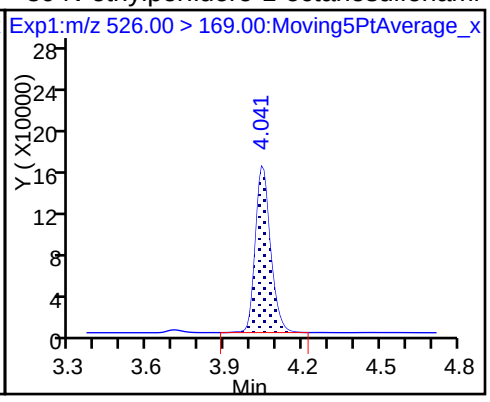
37 Perfluorododecanoic acid



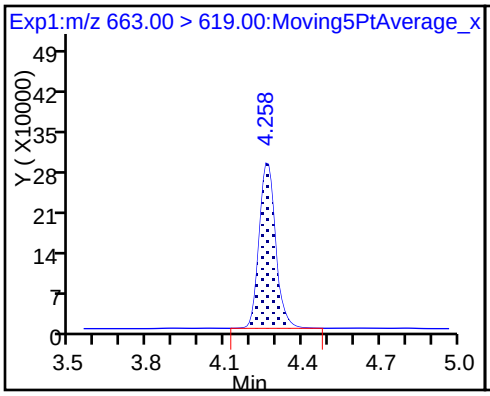
D 38 d-N-EtFOSA-M



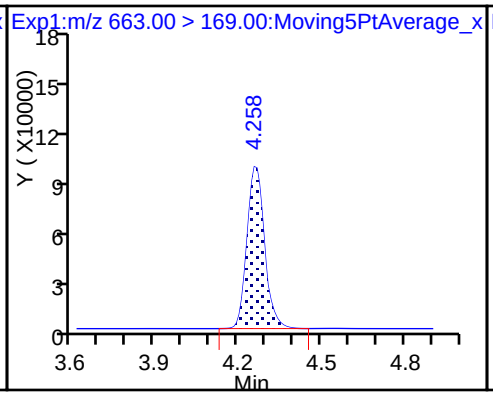
39 N-ethylperfluoro-1-octanesulfonami



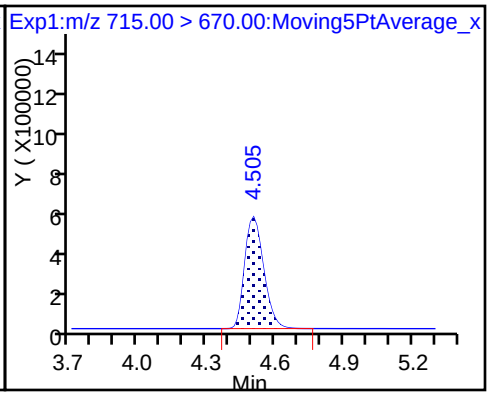
41 Perfluorotridecanoic acid



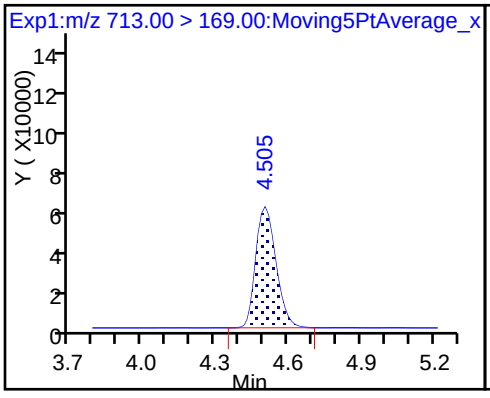
41 Perfluorotridecanoic acid



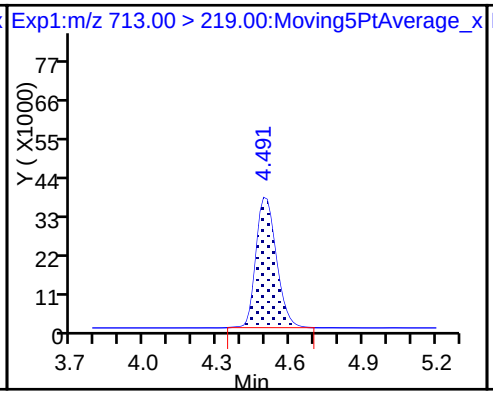
D 43 13C2-PFTeDA



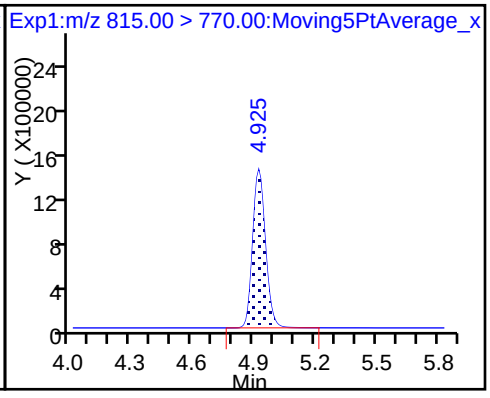
42 Perfluorotetradecanoic acid



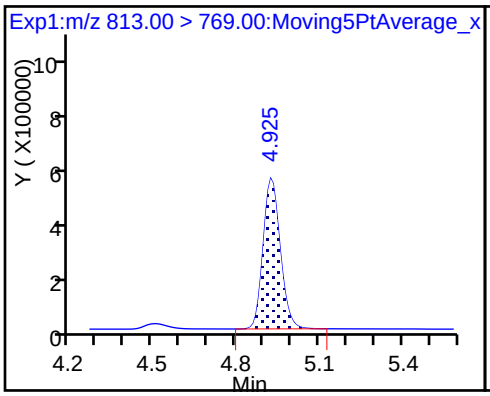
42 Perfluorotetradecanoic acid



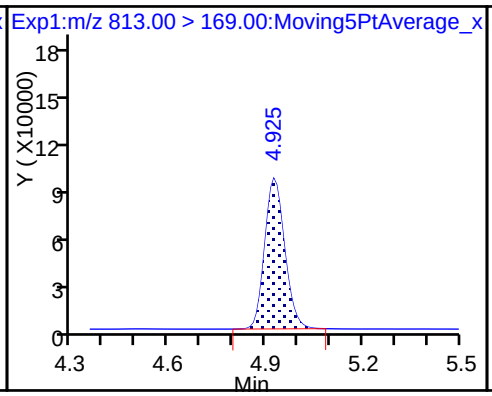
D 44 13C2-PFHxDA



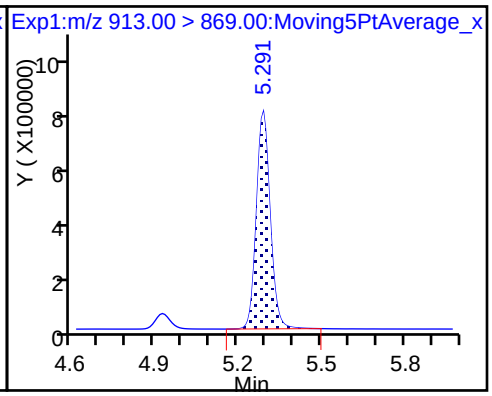
45 Perfluorohexadecanoic acid



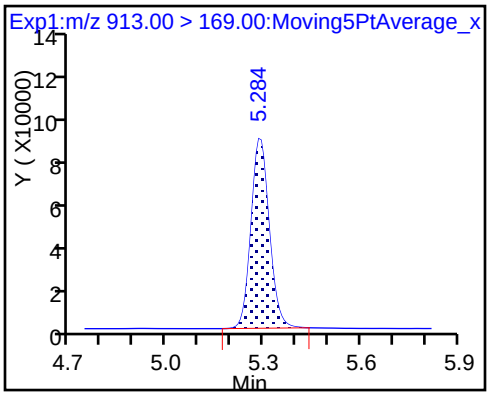
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200666/12 Calibration Date: 12/20/2017 08:52

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_034.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9123	0.9405		2.58	2.50	3.1	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.105	1.115		2.52	2.50	0.8	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.75	78.35		2.32	2.21	4.8	50.0
4:2 FTS	AveID	0.6286	0.5839		2.17	2.34	-7.1	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.000	0.9805		2.45	2.50	-1.9	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.030	1.072		2.60	2.50	4.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.087	1.071		2.24	2.28	-1.4	40.0
6:2FTS	AveID	1.602	1.623		2.40	2.37	1.3	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.055	1.045		2.48	2.50	-0.9	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.439	1.324		2.19	2.38	-8.0	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9691	0.9925		2.56	2.50	2.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	1.016		2.22	2.32	-4.5	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9454	0.9903		2.62	2.50	4.7	40.0
8:2FTS	AveID	1.216	1.241		2.44	2.40	2.0	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	0.9935		2.51	2.50	0.4	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.031	1.059		2.57	2.50	2.8	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5860	0.6167		2.54	2.41	5.2	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9745	0.9796		2.51	2.50	0.5	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9047	0.8636		2.39	2.50	-4.5	40.0
MeFOSA	AveID	0.9820	1.011		2.57	2.50	3.0	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9602	0.997		2.60	2.50	3.8	40.0
N-EtFOSA-M	AveID	1.054	1.079		2.56	2.50	2.4	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.146	1.133		2.47	2.50	-1.2	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2530	0.2462		2.43	2.50	-2.7	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9162		2.61	2.50	4.3	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.112	1.127		2.53	2.50	1.3	50.0
13C4 PFBA	Ave	1.474	1.435		2.43	2.50	-2.7	50.0
13C5 PFPeA	Ave	0.8683	0.8602		2.48	2.50	-0.9	50.0
13C3-PFBS	Ave	0.0184	0.0183		2.31	2.33	-0.5	50.0
13C2 PFHxA	Ave	0.9209	0.9172		2.49	2.50	-0.4	50.0
13C4-PFHpA	Ave	0.8611	0.8411		2.44	2.50	-2.3	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200666/12 Calibration Date: 12/20/2017 08:52

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_034.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.066	1.064		2.36	2.37	-0.1	50.0
M2-6:2FTS	Ave	0.3575	0.5331		3.54	2.38	49.1*	40.0
13C4 PFOA	Ave	1.034	1.025		2.48	2.50	-0.9	50.0
13C4 PFOS	Ave	0.6857	0.7339		2.56	2.39	7.0	50.0
13C5 PFNA	Ave	0.6950	0.6888		2.48	2.50	-0.9	50.0
13C8 FOSA	Ave	0.9692	0.9601		2.48	2.50	-0.9	50.0
M2-8:2FTS	Ave	0.1524	0.1960		3.08	2.40	28.6	40.0
13C2 PFDA	Ave	0.5561	0.5805		2.61	2.50	4.4	50.0
d3-NMeFOSAA	Ave	0.2564	0.3023		2.95	2.50	17.9	50.0
d5-NEtFOSAA	Ave	0.2642	0.2977		2.82	2.50	12.7	50.0
13C2 PFUnA	Ave	0.4284	0.4306		2.51	2.50	0.5	50.0
d-N-MeFOSA-M	Ave	0.2856	0.2718		2.38	2.50	-4.8	50.0
13C2 PFDoA	Ave	0.4554	0.4742		2.60	2.50	4.1	50.0
d-N-EtFOSA-M	Ave	0.2693	0.2520		2.34	2.50	-6.4	50.0
13C2-PFTeDA	Ave	0.4999	0.5371		2.69	2.50	7.4	50.0
13C2-PFHxDA	Ave	0.9134	0.9821		2.69	2.50	7.5	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_034.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2017 08:52:20 ALS Bottle#: 14 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:25:37 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:16:40

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.408	1.411	-0.003	0.534	8648892	2.43		97.3	24259	
2 Perfluorobutyric acid										
212.90 > 169.00	1.414	1.412	0.002	1.004	8134600	2.58		103	1871	
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.630	5184790	2.48		99.1	54578	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.663	1.664	-0.001	1.000	5780054	2.52		101	4210	
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.644	102313	2.31		99.5	2571	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.698	1.703	-0.005	1.000	7620197	2.32		105	27194	
298.90 > 99.00	1.698	1.703	-0.005	1.000	3184265		2.39(1.25-3.74)		21448	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.903	1.909	-0.006	1.000	1752510	2.17		92.9	61185	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.944	1.949	-0.005	1.000	5420379	2.45		98.1	13746	
313.00 > 119.00	1.944	1.949	-0.005	1.000	502627		10.78(5.03-15.10)		9353	
D 7 13C2 PFHxA										
315.00 > 270.00	1.944	1.949	-0.005	0.737	5528217	2.49		99.6	44497	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.279	2.286	-0.007	1.000	5432645	2.60		104	7806	
363.00 > 169.00	2.279	2.286	-0.007	1.000	2119329		2.56(1.13-3.40)		13415	
D 9 13C4-PFHpA										
367.00 > 322.00	2.279	2.286	-0.007	0.864	5069570	2.44		97.7	32022	
D 11 18O2 PFHxS										
403.00 > 84.00	2.292	2.299	-0.007	0.869	6069548	2.36		99.9	35321	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.292	2.299	-0.007	1.000	6255625	2.24		98.6	10540	
399.00 > 99.00	2.292	2.299	-0.007	1.000	2021982		3.09(1.50-4.49)		7912	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.640	-0.016	1.000	4945474	2.40		101	99381	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.640	-0.016	0.995	3052812	3.54		149	66660	
* 62 13C2-PFOA										
415.00 > 370.00	2.638	2.643	-0.005		6027536	2.50			42915	
D 14 13C4 PFOA										
417.00 > 372.00	2.638	2.647	-0.009	1.000	6175522	2.48		99.1	53457	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.638	2.649	-0.011	1.000	6454893	2.48		99.1	2719	
413.00 > 169.00	2.638	2.649	-0.011	1.000	3535621		1.83(0.84-2.52)		16534	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.645	2.654	-0.009	1.000	5576118	2.19		92.0	27758	
449.00 > 99.00	2.645	2.654	-0.009	1.000	1476358		3.78(1.94-5.82)		22583	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.009	3.025	-0.016	1.000	4170319	2.22		95.5	654	
499.00 > 99.00	3.009	3.025	-0.016	1.000	903761		4.61(2.31-6.93)		882	
D 18 13C4 PFOS										
503.00 > 80.00	3.009	3.025	-0.016	1.141	4229079	2.56		107	30484	
20 Perfluorononanoic acid										
463.00 > 419.00	3.009	3.026	-0.017	1.000	4120755	2.56		102	6482	
463.00 > 169.00	3.009	3.026	-0.017	1.000	1042722		3.95(1.90-5.69)		20545	
D 19 13C5 PFNA										
468.00 > 423.00	3.009	3.026	-0.017	1.141	4151807	2.48		99.1	28587	
D 21 13C8 FOSA										
506.00 > 78.00	3.355	3.362	-0.007	1.272	5787125	2.48		99.1	18948	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.355	3.365	-0.010	1.000	5730944	2.62		105	28998	
D 26 M2-8:2FTS										
529.00 > 81.00	3.363	3.375	-0.012	1.275	1131461	3.08		129	14240	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.363	3.376	-0.013	1.000	1403726	2.44		102	29100	
D 23 13C2 PFDA										
515.00 > 470.00	3.370	3.387	-0.017	1.278	3499167	2.61		104	30141	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.370	3.388	-0.018	1.000	3476236	2.51		100	13218	
513.00 > 169.00	3.370	3.388	-0.018	1.000	605141		5.74(2.36-7.09)		2108	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.530	3.541	-0.011	1.338	1822150	2.95		118	16906	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.530	3.547	-0.017	1.000	1930173	2.57		103	9979	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.689	3.701	-0.012	1.000	2629888	2.54		105	30610	
599.00 > 99.00	3.689	3.701	-0.012	1.000	871120		3.02(1.39-4.16)		16425	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.697	3.711	-0.014	1.402	1794484	2.82		113	10073	
D 30 13C2 PFUnA										
565.00 > 520.00	3.706	3.717	-0.011	1.405	2595492	2.51		101	29402	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.706	3.718	-0.012	1.000	2241340	2.39		95.5	10731	
563.00 > 169.00	3.706	3.718	-0.012	1.000	503806		4.45(0.00-0.00)		13440	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.706	3.718	-0.012	1.002	1757921	2.51		101	15343	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.854	3.856	-0.002	1.461	1638158	2.38		95.2	3497	
35 MeFOSA										
512.00 > 169.00	3.854	3.863	-0.009	1.000	1656612	2.57		103	3342	
D 36 13C2 PFDoA										
615.00 > 570.00	3.997	4.015	-0.018	1.515	2858174	2.60		104	26984	
37 Perfluorododecanoic acid										
613.00 > 569.00	3.997	4.016	-0.019	1.000	2848616	2.59		104	7916	
613.00 > 169.00	3.997	4.016	-0.019	1.000	706870		4.03(2.13-6.40)		28600	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.044	4.048	-0.004	1.533	1518910	2.34		93.6	2652	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.052	4.054	-0.002	1.002	1639512	2.56		102	2788	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.270	4.285	-0.015	1.000	3237150	2.47		98.8	8383	
663.00 > 169.00	4.270	4.285	-0.015	1.000	1016344		3.19(1.25-3.76)		28880	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.522	-0.009	1.711	3237642	2.69		107	19880	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.513	4.522	-0.009	1.000	797218	2.43		97.3	16915	
713.00 > 219.00	4.500	4.522	-0.022	0.997	559644		1.42(0.71-2.13)		16296	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.922	4.944	-0.022	1.866	5919525	2.69		108	16735	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.922	4.945	-0.023	1.000	5423561	2.61		104	2437	
813.00 > 169.00	4.922	4.945	-0.023	1.000	926826		5.85(2.86-8.58)		7626	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.288	5.309	-0.021	1.000	6668529	2.53		101	1211	
913.00 > 169.00	5.281	5.309	-0.028	0.999	800024		8.34(0.00-0.00)		2999	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 17:25:39 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_034.d

Injection Date: 20-Dec-2017 08:52:20 Instrument ID: A8_N

Lims ID: CCV L5

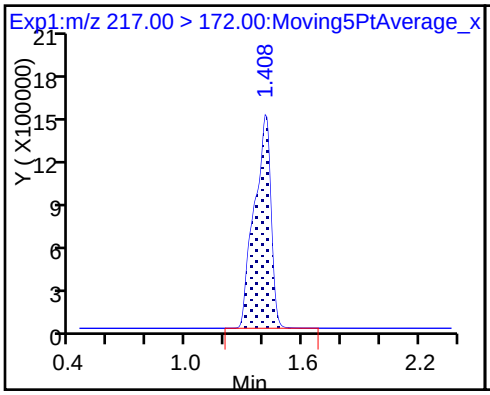
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Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 12

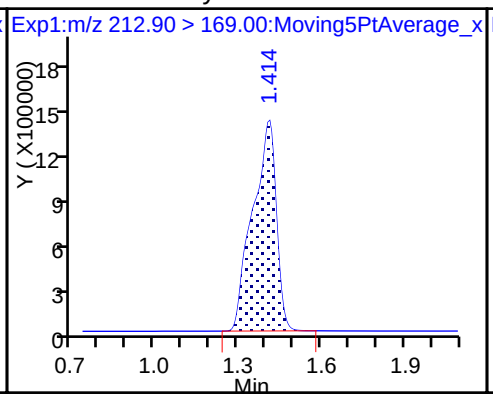
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

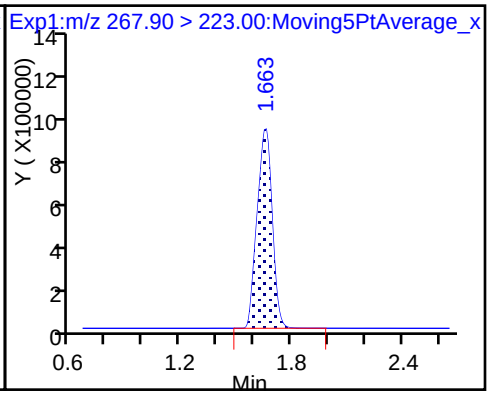
D 1 13C4 PFBA



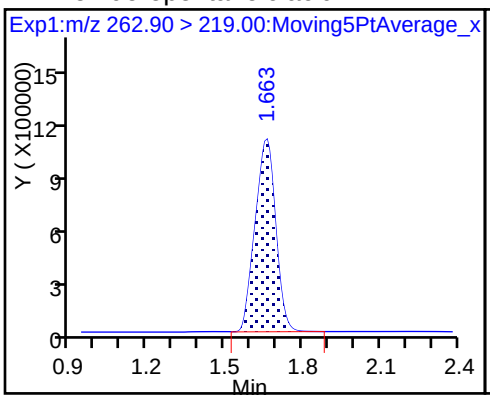
2 Perfluorobutyric acid



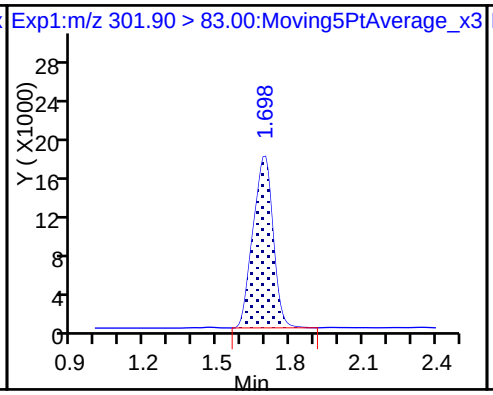
D 3 13C5-PFPeA



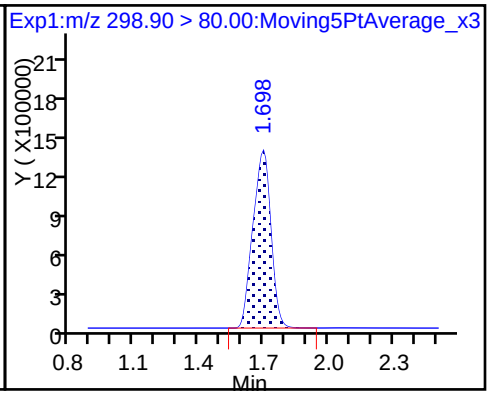
4 Perfluoropentanoic acid



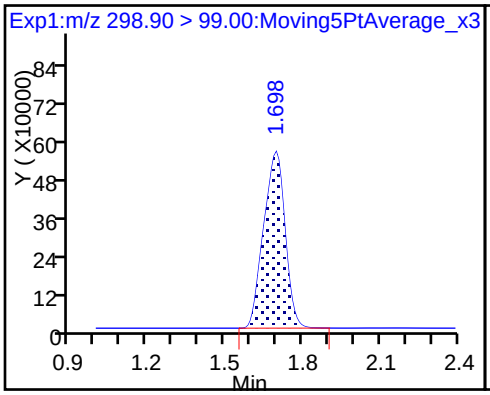
D 47 13C3-PFBS



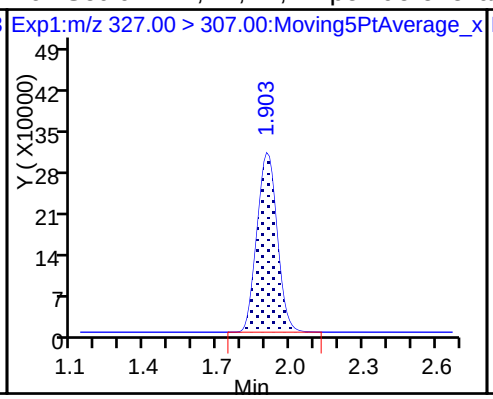
5 Perfluorobutanesulfonic acid



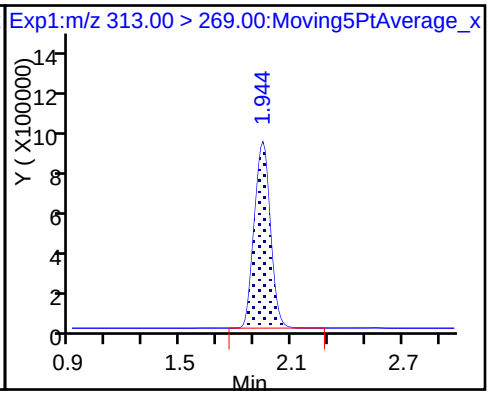
5 Perfluorobutanesulfonic acid



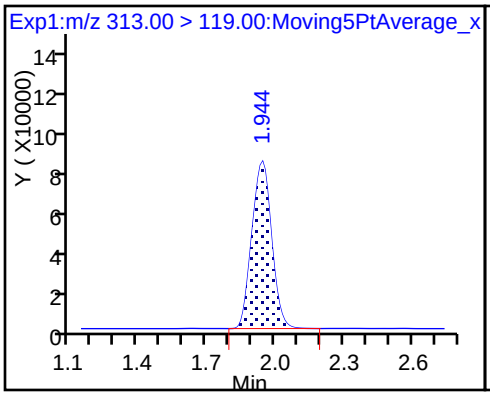
61 Sodium 1H,1H,2H,2H-perfluorohexane



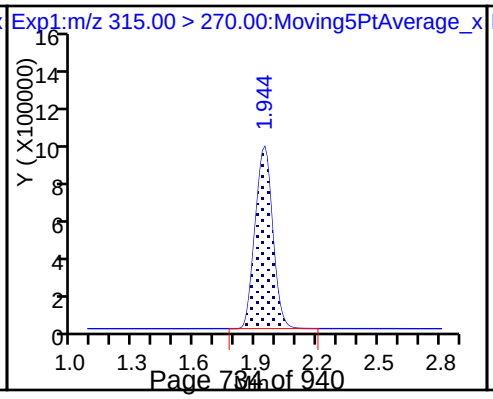
6 Perfluorohexanoic acid



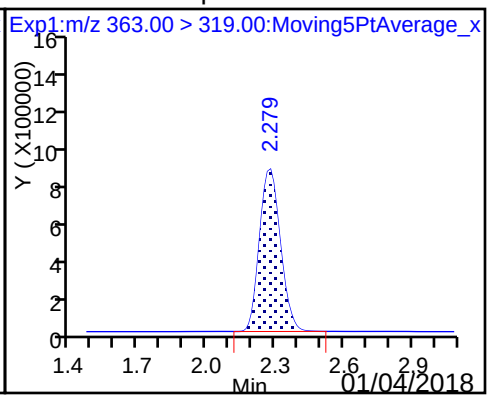
6 Perfluorohexanoic acid



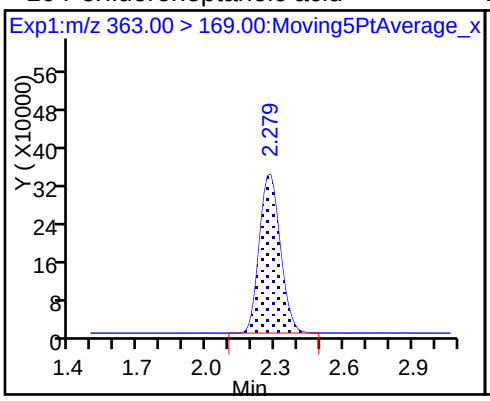
D 7 13C2 PFHxA



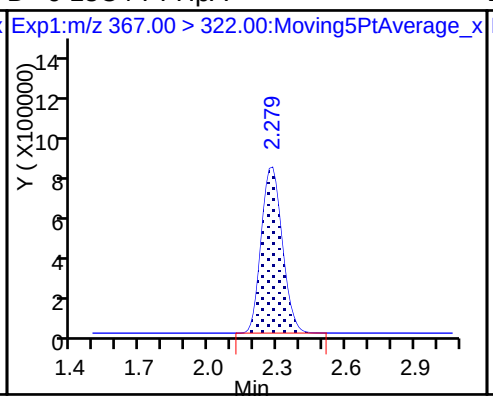
10 Perfluoroheptanoic acid



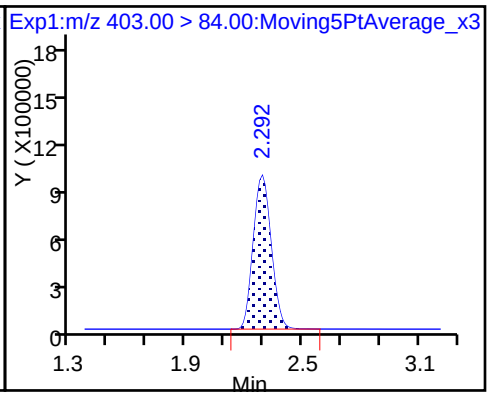
10 Perfluoroheptanoic acid



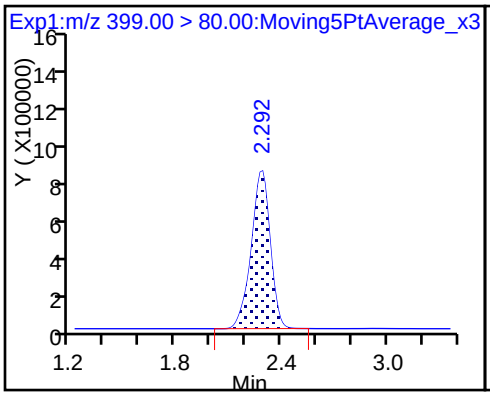
D 9 13C4-PFHpA



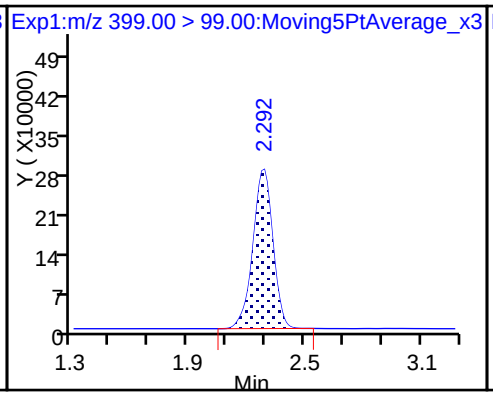
D 11 18O2 PFHxS



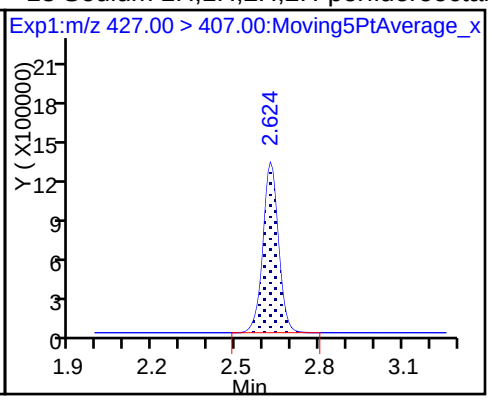
8 Perfluorohexanesulfonic acid



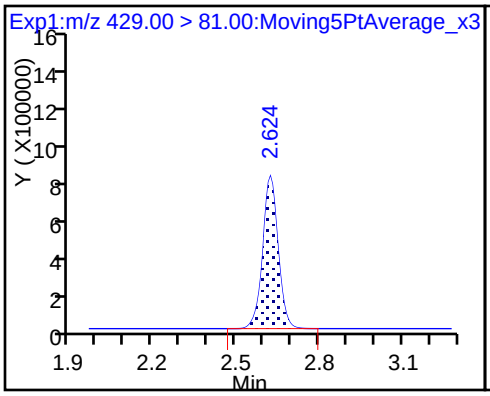
8 Perfluorohexanesulfonic acid



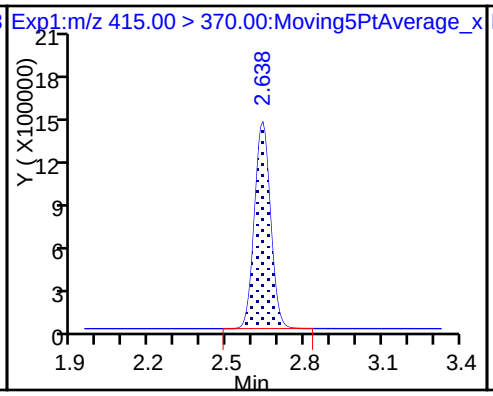
13 Sodium 1H,1H,2H,2H-perfluorooctane



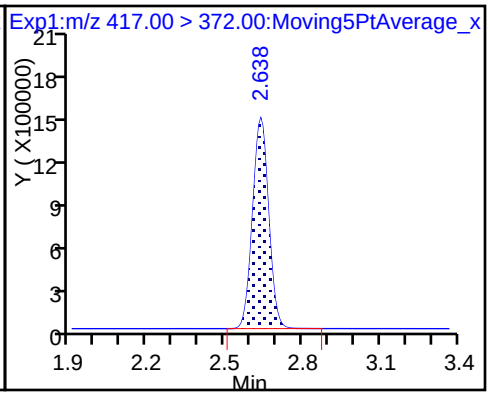
D 12 M2-6:2FTS



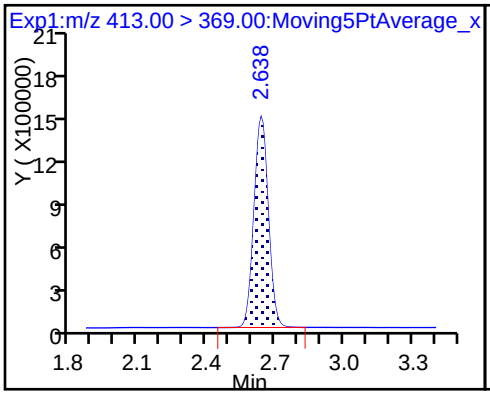
* 62 13C2-PFOA



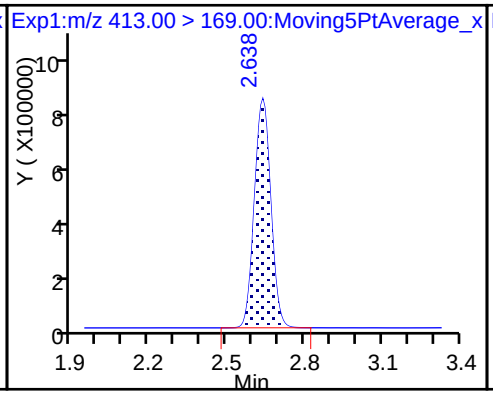
D 14 13C4 PFOA



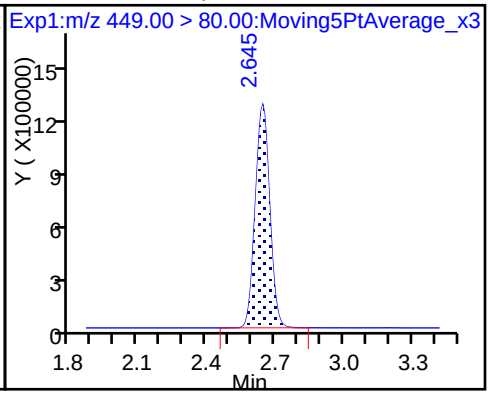
15 Perfluorooctanoic acid



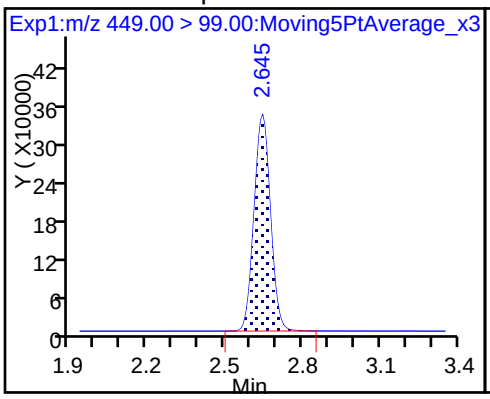
15 Perfluorooctanoic acid



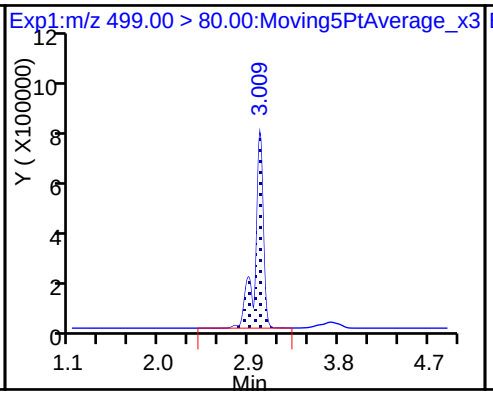
16 Perfluoroheptanesulfonic Acid



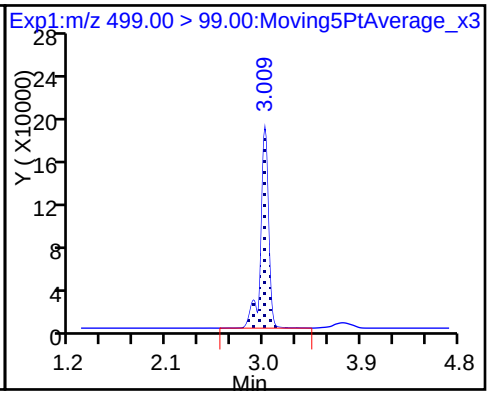
16 Perfluoroheptanesulfonic Acid



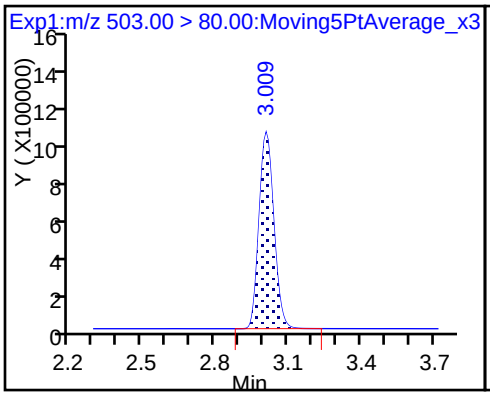
17 Perfluorooctane sulfonic acid



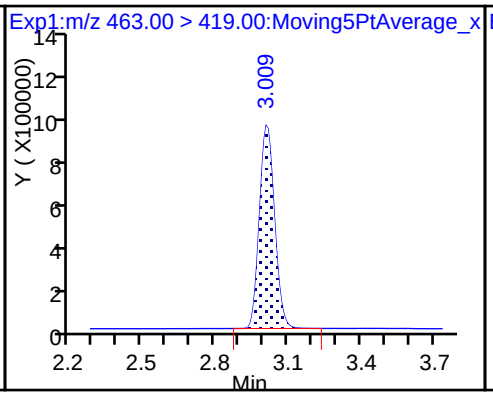
17 Perfluorooctane sulfonic acid



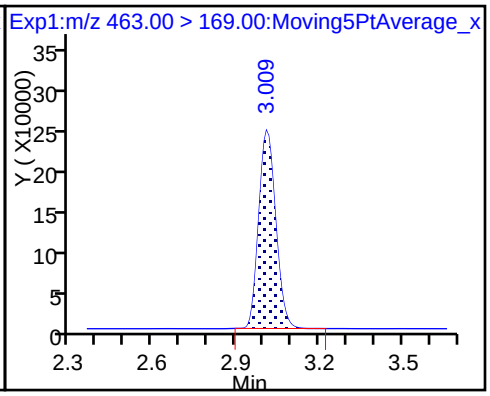
D 18 13C4 PFOS



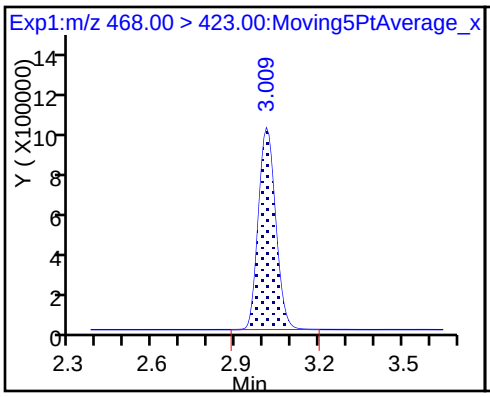
20 Perfluorononanoic acid



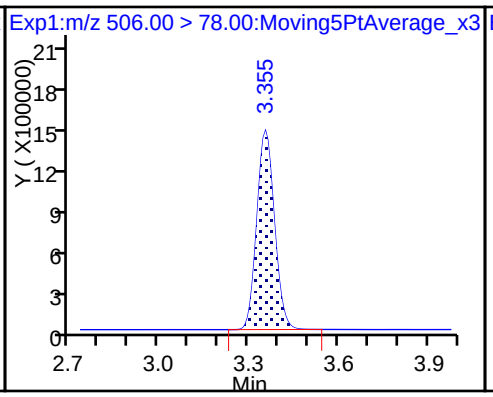
20 Perfluorononanoic acid



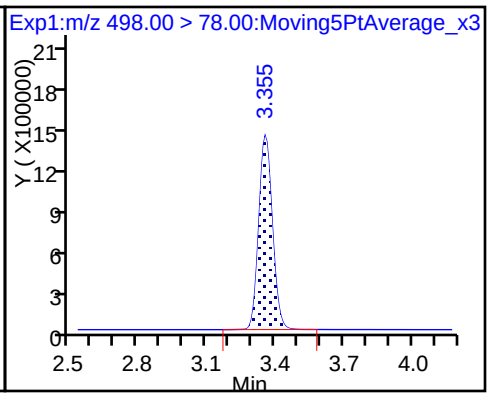
D 19 13C5 PFNA



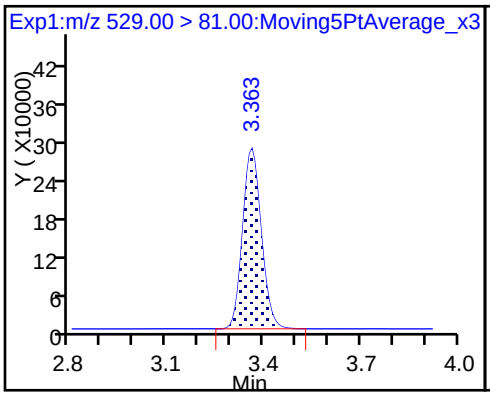
D 21 13C8 FOSA



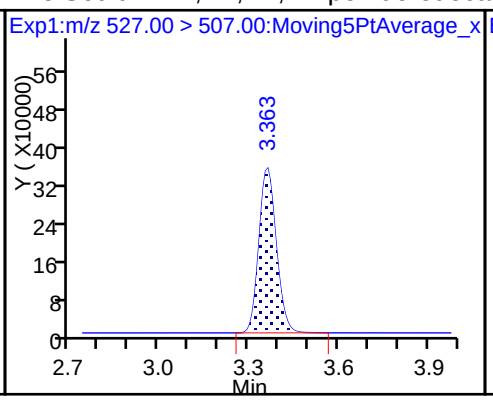
22 Perfluorooctane Sulfonamide



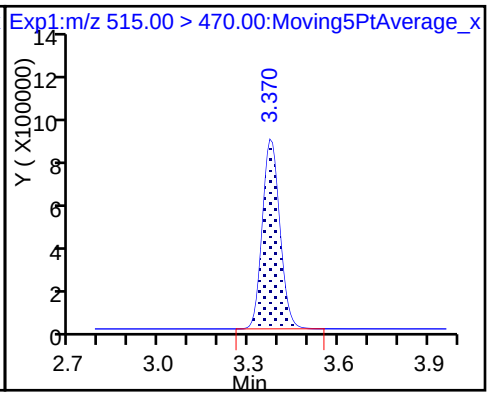
D 26 M2-8:2FTS



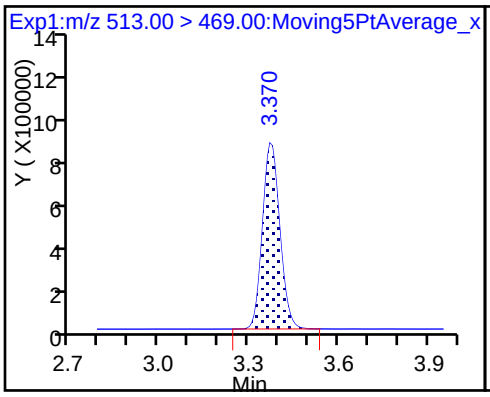
25 Sodium 1H,1H,2H,2H-perfluorodecane



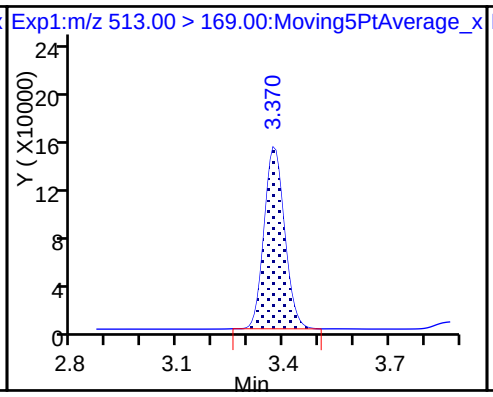
D 23 13C2 PFDA



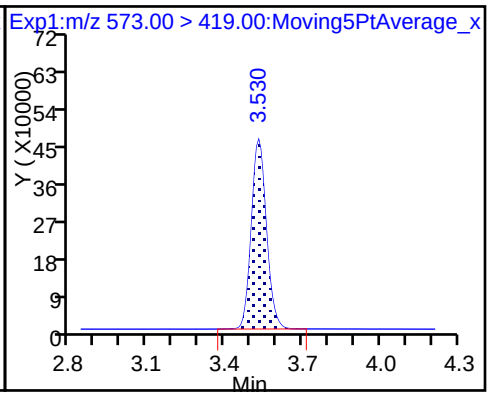
24 Perfluorodecanoic acid



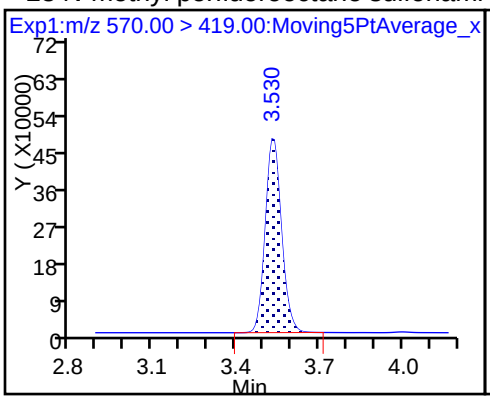
24 Perfluorodecanoic acid



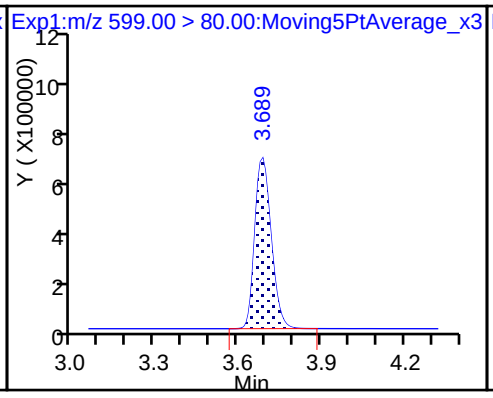
D 27 d3-NMeFOSAA



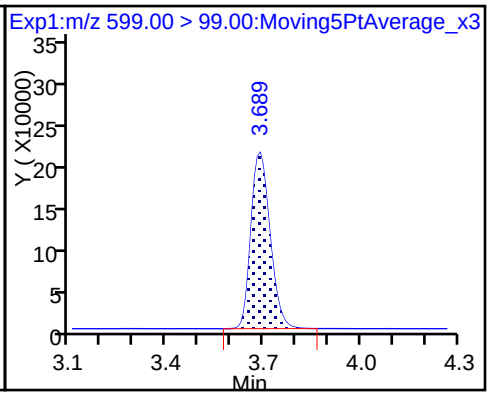
28 N-methyl perfluorooctane sulfonami



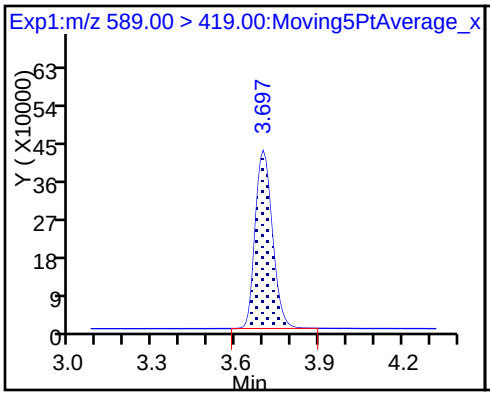
29 Perfluorodecane Sulfonic acid



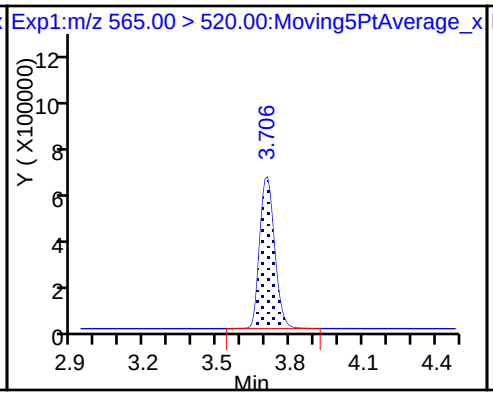
29 Perfluorodecane Sulfonic acid



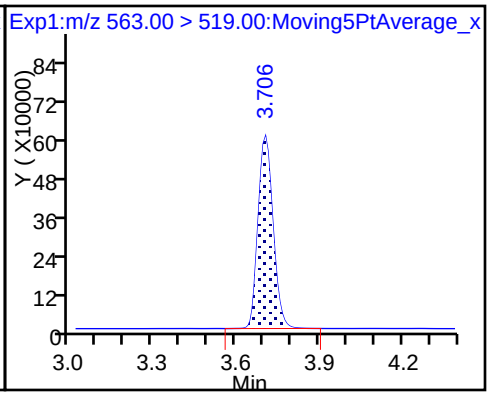
D 32 d5-NEtFOSAA



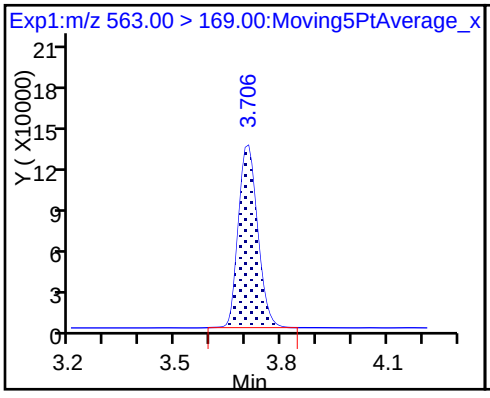
D 30 13C2 PFUnA



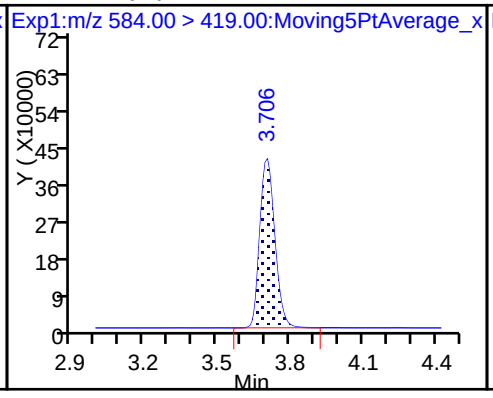
31 Perfluoroundecanoic acid



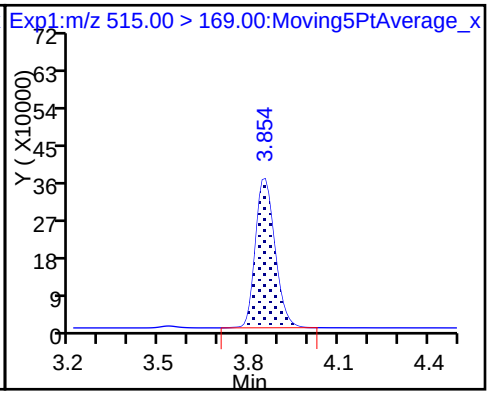
31 Perfluoroundecanoic acid



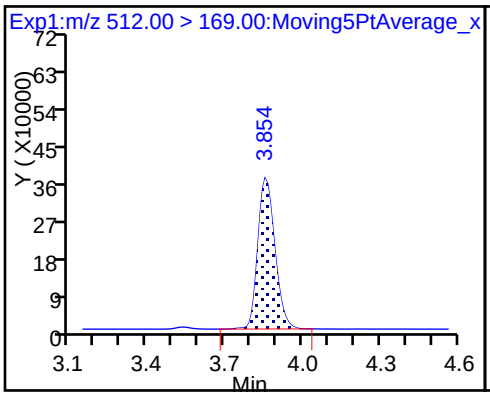
33 N-ethyl perfluorooctane sulfonamid



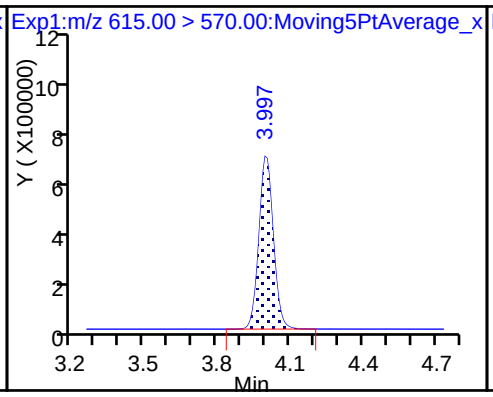
D 34 d-N-MeFOSA-M



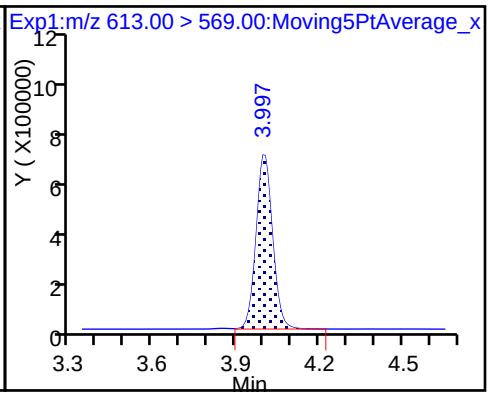
35 MeFOSA



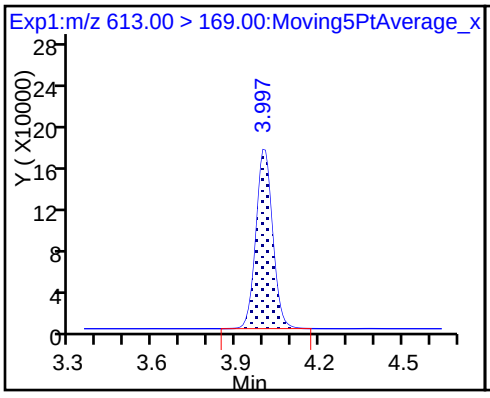
D 36 13C2 PFDoA



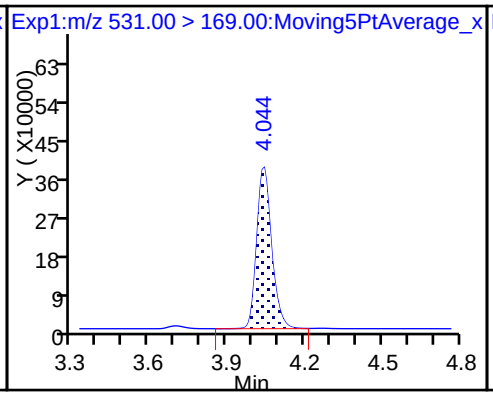
37 Perfluorododecanoic acid



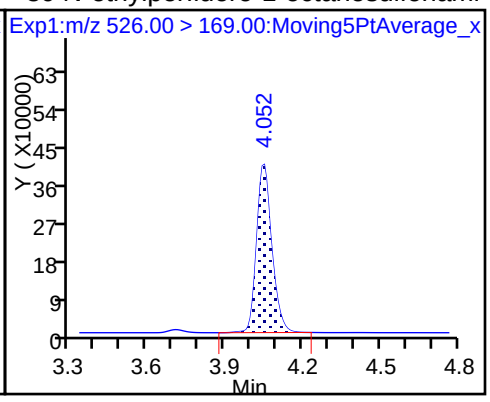
37 Perfluorododecanoic acid



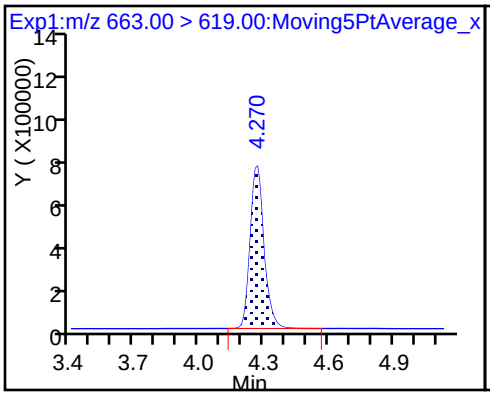
D 38 d-N-EtFOSA-M



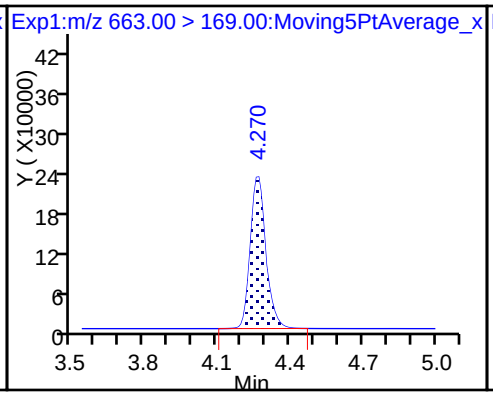
39 N-ethylperfluoro-1-octanesulfonami



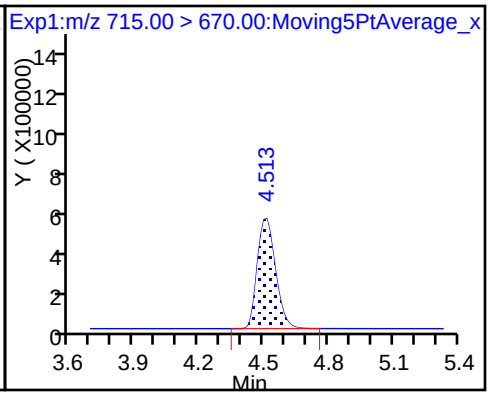
41 Perfluorotridecanoic acid



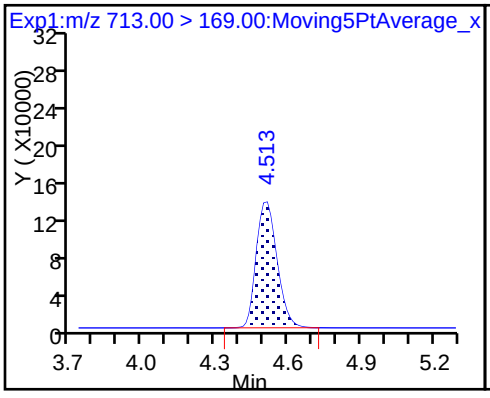
41 Perfluorotridecanoic acid



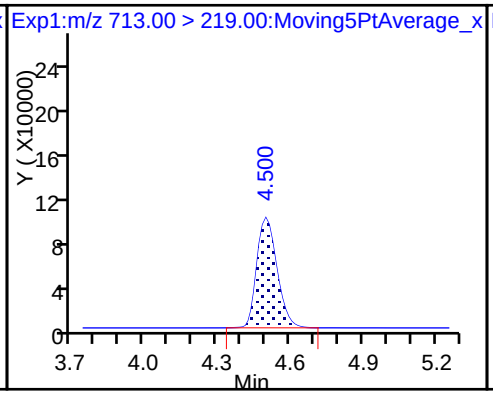
D 43 13C2-PFTeDA



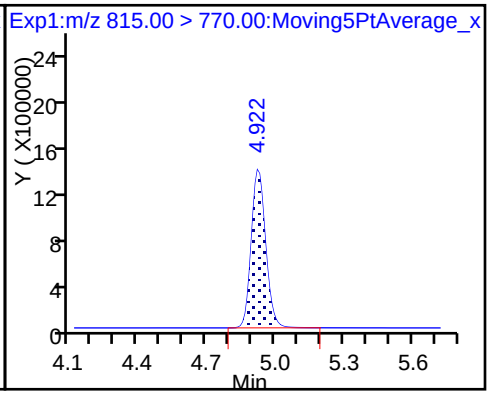
42 Perfluorotetradecanoic acid



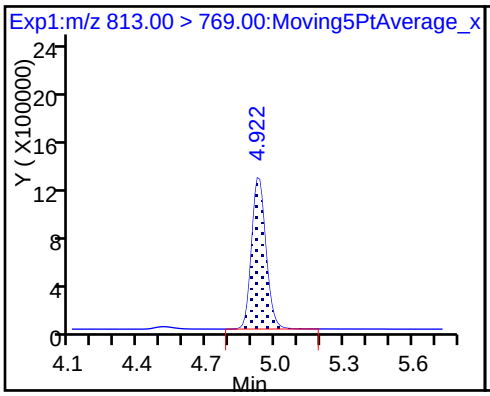
42 Perfluorotetradecanoic acid



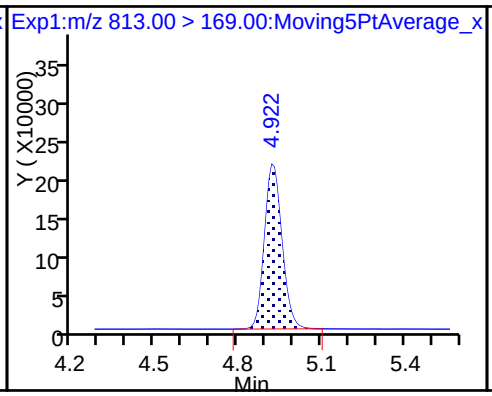
D 44 13C2-PFHxDA



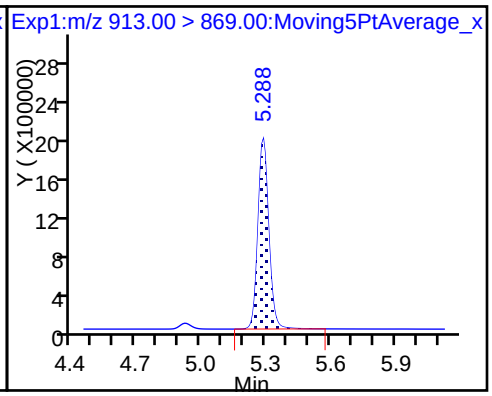
45 Perfluorohexadecanoic acid



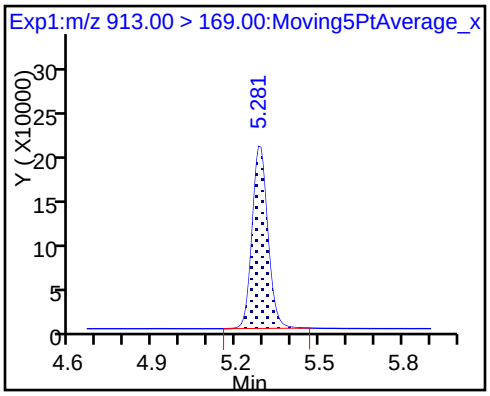
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200666/23 Calibration Date: 12/20/2017 10:18

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_045.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9123	0.9383		1.03	1.00	2.8	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.105	1.122		1.02	1.00	1.5	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.75	76.83		0.909	0.884	2.8	50.0
4:2 FTS	AveID	0.6286	0.5452		0.810	0.934	-13.3	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.000	0.9887		0.989	1.00	-1.1	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.030	1.000		0.971	1.00	-2.9	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.087	1.082		0.906	0.910	-0.5	40.0
6:2FTS	AveID	1.602	1.741		1.03	0.948	8.6	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.055	1.055		1.00	1.00	-0.0	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.439	1.341		0.887	0.952	-6.8	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9691	0.9617		0.992	1.00	-0.8	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	1.051		0.917	0.928	-1.2	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9454	1.021		1.08	1.00	7.9	40.0
8:2FTS	AveID	1.216	1.157		0.912	0.958	-4.8	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	0.9877		0.998	1.00	-0.2	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.031	1.047		1.02	1.00	1.6	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5860	0.6523		1.07	0.964	11.3	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9745	0.9696		0.995	1.00	-0.5	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9047	0.8775		0.970	1.00	-3.0	40.0
MeFOSA	AveID	0.9820	1.008		1.03	1.00	2.6	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9602	0.9594		0.999	1.00	-0.0	40.0
N-EtFOSA-M	AveID	1.054	1.030		1.00	1.00	-2.3	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.146	1.147		1.00	1.00	0.1	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2530	0.2550		1.01	1.00	0.8	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.8755		0.982	1.00	-1.8	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.112	1.072		0.964	1.00	-3.6	50.0
13C4 PFBA	Ave	1.474	1.468		2.49	2.50	-0.4	50.0
13C5 PFPeA	Ave	0.8683	0.8708		2.51	2.50	0.3	50.0
13C3-PFBS	Ave	0.0184	0.0189		2.40	2.33	3.1	50.0
13C2 PFHxA	Ave	0.9209	0.9491		2.58	2.50	3.1	50.0
13C4-PFHpA	Ave	0.8611	0.8826		2.56	2.50	2.5	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200666/23 Calibration Date: 12/20/2017 10:18

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_045.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.066	1.095		2.43	2.37	2.8	50.0
M2-6:2FTS	Ave	0.3575	0.5619		3.73	2.38	57.1*	40.0
13C4 PFOA	Ave	1.034	1.048		2.53	2.50	1.3	50.0
13C4 PFOS	Ave	0.6857	0.7510		2.62	2.39	9.5	50.0
13C5 PFNA	Ave	0.6950	0.7649		2.75	2.50	10.1	50.0
13C8 FOSA	Ave	0.9692	1.001		2.58	2.50	3.3	50.0
M2-8:2FTS	Ave	0.1524	0.2201		3.46	2.40	44.4*	40.0
13C2 PFDA	Ave	0.5561	0.5923		2.66	2.50	6.5	50.0
d3-NMeFOSAA	Ave	0.2564	0.3158		3.08	2.50	23.2	50.0
d5-NEtFOSAA	Ave	0.2642	0.3142		2.97	2.50	18.9	50.0
13C2 PFUnA	Ave	0.4284	0.4315		2.52	2.50	0.7	50.0
d-N-MeFOSA-M	Ave	0.2856	0.2809		2.46	2.50	-1.7	50.0
13C2 PFDoA	Ave	0.4554	0.4962		2.72	2.50	9.0	50.0
d-N-EtFOSA-M	Ave	0.2693	0.2606		2.42	2.50	-3.2	50.0
13C2-PFTeDA	Ave	0.4999	0.5462		2.73	2.50	9.3	50.0
13C2-PFHxDA	Ave	0.9134	1.103		3.02	2.50	20.7	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_045.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2017 10:18:56 ALS Bottle#: 13 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L4
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:26:25 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:17:11

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.412	1.411	0.001	0.535	8688881	2.49		99.6	29684	
2 Perfluorobutyric acid										
212.90 > 169.00	1.418	1.412	0.006	1.004	3261122	1.03		103	815	
D 3 13C5-PFPeA										
267.90 > 223.00	1.659	1.664	-0.005	0.628	5152741	2.51		100	84193	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.667	1.664	0.003	1.005	2313289	1.02		102	1631	
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.645	104074	2.40		103	3030	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.703	1.703	0.0	1.000	3040206	0.9085		103	12321	
298.90 > 99.00	1.703	1.703	0.0	1.000	1275001		2.38(1.25-3.74)		8968	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.908	1.909	-0.001	1.000	677234	0.8102		86.7	29420	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.949	1.949	0.0	1.000	2221045	0.9888		98.9	7262	
313.00 > 119.00	1.949	1.949	0.0	1.000	201209		11.04(5.03-15.10)		4838	
D 7 13C2 PFHxA										
315.00 > 270.00	1.949	1.949	0.0	0.738	5616205	2.58		103	59272	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.273	2.286	-0.013	1.000	2089515	0.9715		97.1	3376	
363.00 > 169.00	2.273	2.286	-0.013	1.000	870839		2.40(1.13-3.40)		8142	
D 9 13C4-PFHpA										
367.00 > 322.00	2.273	2.286	-0.013	0.861	5222408	2.56		102	29462	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.871	6131171	2.43		103	29792	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.286	2.299	-0.013	0.994	2551720	0.9056		99.5	5341	
399.00 > 99.00	2.286	2.299	-0.013	0.994	858130		2.97(1.50-4.49)		4208	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.626	2.640	-0.014	1.000	2194700	1.03		109	96700	
D 12 M2-6:2FTS										
429.00 > 81.00	2.626	2.640	-0.014	0.995	3158521	3.73		157	69097	
* 62 13C2-PFOA										
415.00 > 370.00	2.640	2.643	-0.003		5917297	2.50			36599	
D 14 13C4 PFOA										
417.00 > 372.00	2.640	2.647	-0.007	1.000	6199116	2.53		101	50195	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.640	2.649	-0.009	1.000	2616223	1.00		100.0	1097	
413.00 > 169.00	2.640	2.649	-0.009	1.000	1435806		1.82(0.84-2.52)		10225	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.647	2.654	-0.007	1.000	2268874	0.8871		93.2	15571	
449.00 > 99.00	2.647	2.654	-0.007	1.000	612103		3.71(1.94-5.82)		11765	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.012	3.025	-0.013	1.000	1733152	0.9169		98.8	258	
499.00 > 99.00	3.012	3.025	-0.013	1.000	378525		4.58(2.31-6.93)		348	
D 18 13C4 PFOS										
503.00 > 80.00	3.012	3.025	-0.013	1.141	4248451	2.62		110	27901	
20 Perfluorononanoic acid										
463.00 > 419.00	3.012	3.026	-0.014	1.000	1740956	0.99		99.2	2582	
463.00 > 169.00	3.012	3.026	-0.014	1.000	425808		4.09(1.90-5.69)		11085	
D 19 13C5 PFNA										
468.00 > 423.00	3.012	3.026	-0.014	1.141	4525977	2.75		110	39588	
D 21 13C8 FOSA										
506.00 > 78.00	3.358	3.362	-0.004	1.272	5925808	2.58		103	28153	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.358	3.365	-0.007	1.000	2418905	1.08		108	22105	
D 26 M2-8:2FTS										
529.00 > 81.00	3.366	3.375	-0.009	1.275	1247594	3.46		144	14822	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.366	3.376	-0.010	1.000	577388	0.9116		95.2	14560	
D 23 13C2 PFDA										
515.00 > 470.00	3.373	3.387	-0.014	1.278	3504565	2.66		107	30866	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.373	3.388	-0.015	1.000	1384631	1.00		99.8	6115	
513.00 > 169.00	3.373	3.388	-0.015	1.000	246780		5.61(2.36-7.09)		1913	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.541	-0.008	1.338	1868657	3.08		123	21349	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.533	3.547	-0.014	1.000	782584	1.02		102	6313	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.701	-0.011	1.000	1117703	1.07		111	21172	
599.00 > 99.00	3.690	3.701	-0.011	1.000	355884		3.14(1.39-4.16)		6754	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.401	1858894	2.97		119	12039	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.405	2553194	2.52		101	28721	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.708	3.718	-0.010	1.000	896134	0.9699		97.0	4069	
563.00 > 169.00	3.708	3.718	-0.010	1.000	208130		4.31(0.00-0.00)		14087	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.718	-0.010	1.002	720971	1.00		99.5	9894	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.461	1661887	2.46		98.3	3686	
35 MeFOSA										
512.00 > 169.00	3.856	3.863	-0.007	1.000	669797	1.03		103	3075	
D 36 13C2 PFDoA										
615.00 > 570.00	3.999	4.015	-0.016	1.515	2935891	2.72		109	28919	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.007	4.016	-0.009	1.002	1126705	1.00		99.9	2887	
613.00 > 169.00	4.007	4.016	-0.009	1.002	293707		3.84(2.13-6.40)		11938	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.533	1542027	2.42		96.8	2917	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.002	635099	0.9771		97.7	2502	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.272	4.285	-0.013	1.000	1347312	1.00		100	3421	
663.00 > 169.00	4.272	4.285	-0.013	1.000	424842		3.17(1.25-3.76)		9866	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.710	3232149	2.73		109	18618	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.515	4.522	-0.007	1.000	329640	1.01		101	11372	
713.00 > 219.00	4.501	4.522	-0.021	0.997	227715		1.45(0.71-2.13)		9818	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.944	-0.012	1.868	6524671	3.02		121	16131	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.945	-0.013	1.000	2284921	0.9817		98.2	1100	
813.00 > 169.00	4.932	4.945	-0.013	1.000	409429		5.58(2.86-8.58)		5594	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.290	5.309	-0.019	1.000	2797099	0.9640		96.4	613	
913.00 > 169.00	5.290	5.309	-0.019	1.000	345838		8.09(0.00-0.00)		2324	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 17:26:28 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_045.d

Injection Date: 20-Dec-2017 10:18:56 Instrument ID: A8_N

Lims ID: CCV L4

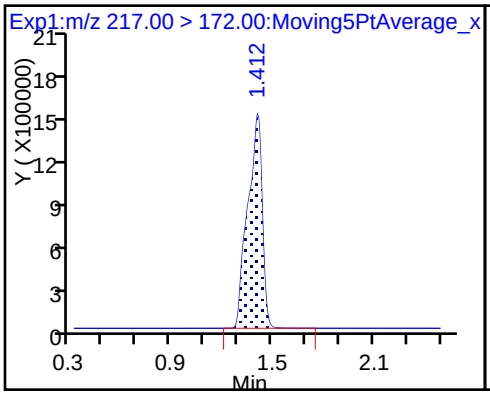
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Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 23

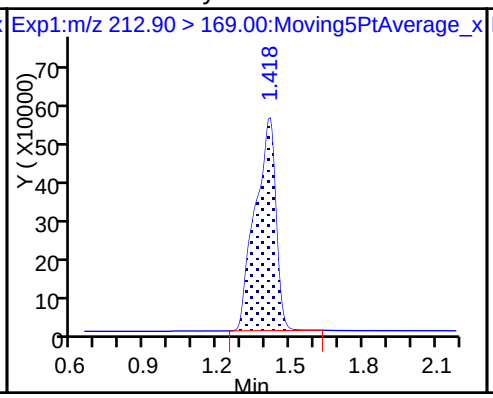
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Method: A8_N Limit Group: LC PFC ICAL

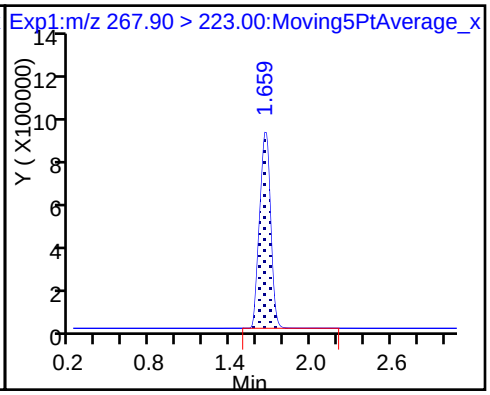
D 1 13C4 PFBA



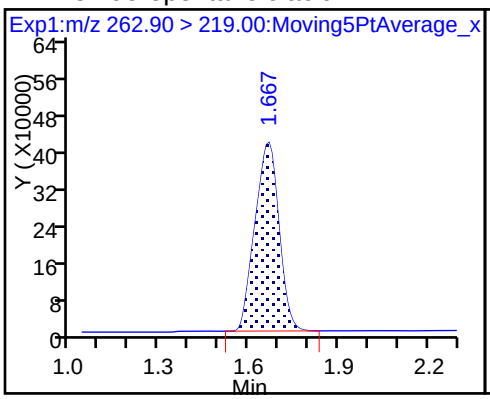
2 Perfluorobutyric acid



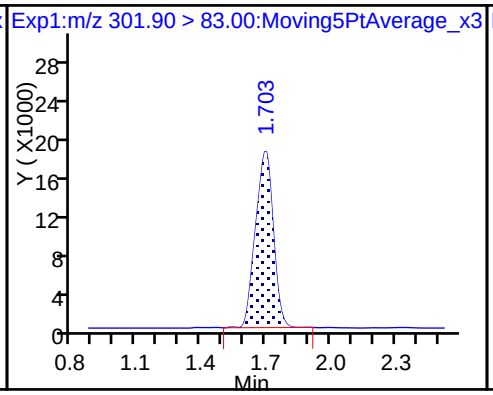
D 3 13C5-PFPeA



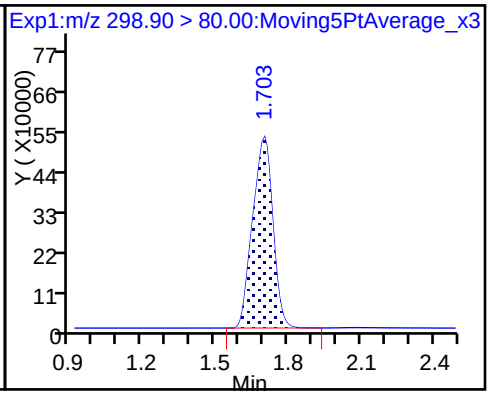
4 Perfluoropentanoic acid



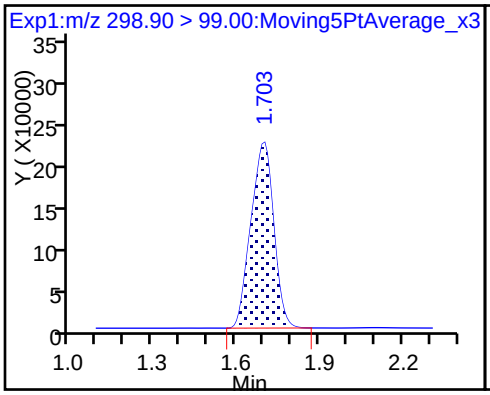
D 47 13C3-PFBS



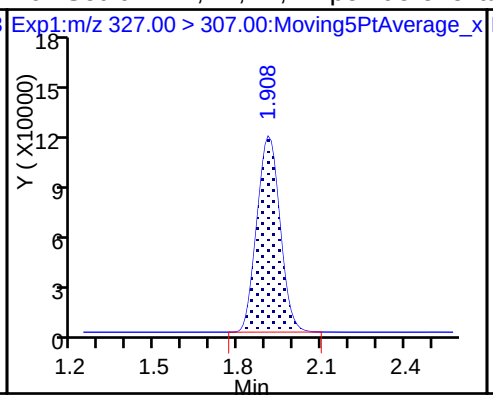
5 Perfluorobutanesulfonic acid



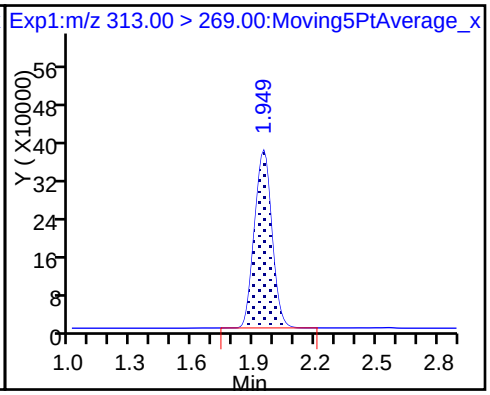
5 Perfluorobutanesulfonic acid



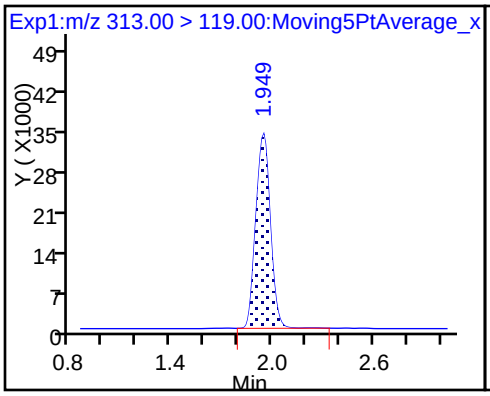
61 Sodium 1H,1H,2H,2H-perfluorohexane



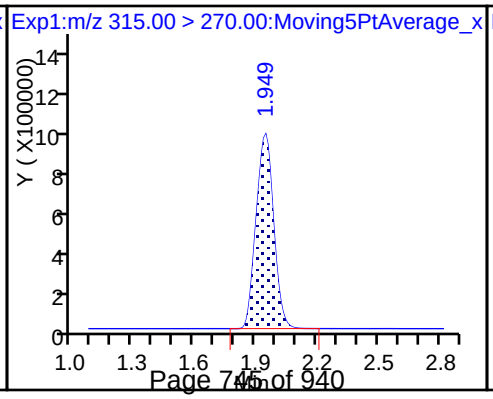
6 Perfluorohexanoic acid



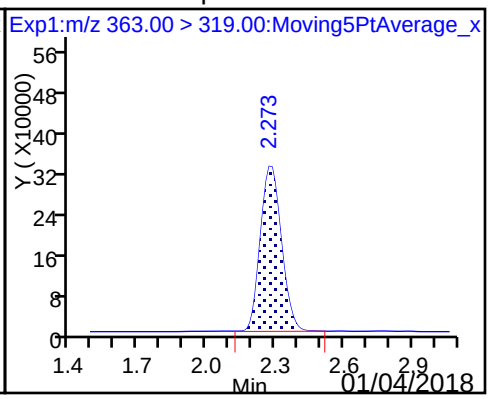
6 Perfluorohexanoic acid



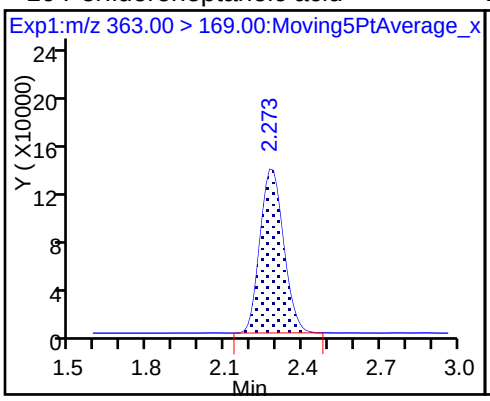
D 7 13C2 PFHxA



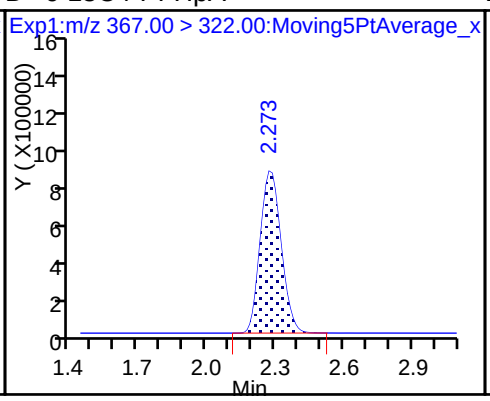
10 Perfluoroheptanoic acid



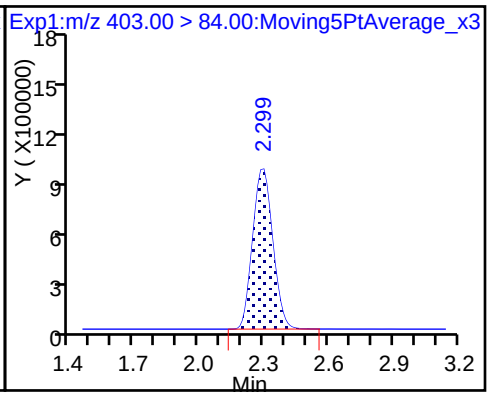
10 Perfluoroheptanoic acid



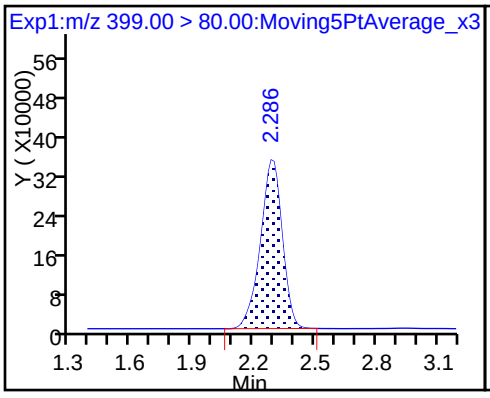
D 9 13C4-PFHpA



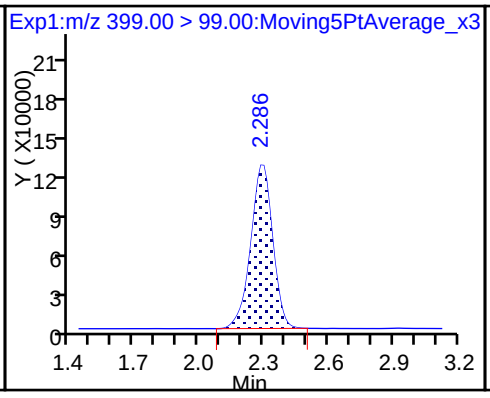
D 11 18O2 PFHxS



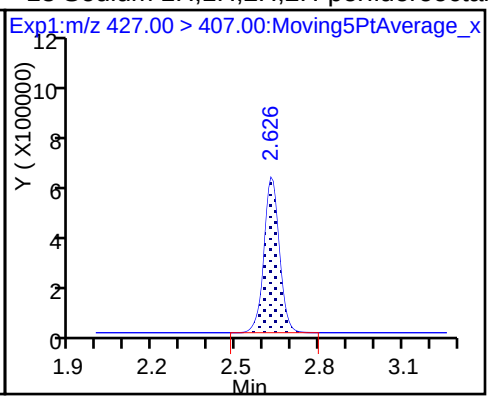
8 Perfluorohexanesulfonic acid



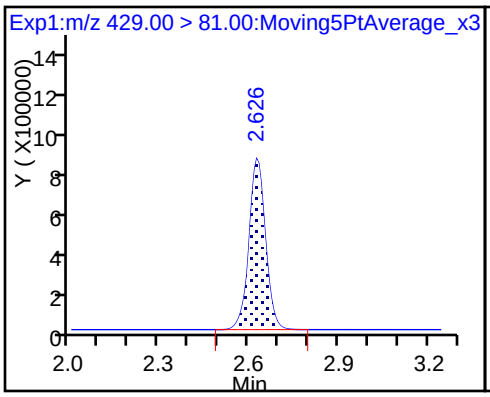
8 Perfluorohexanesulfonic acid



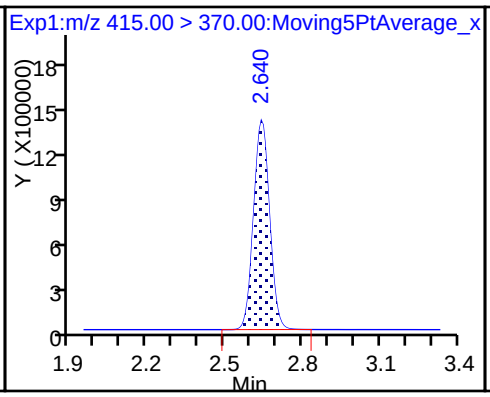
13 Sodium 1H,1H,2H,2H-perfluorooctane



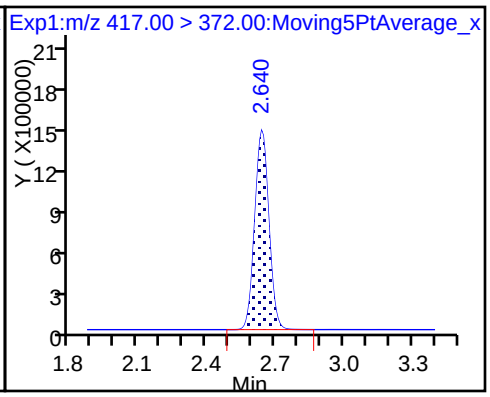
D 12 M2-6:2FTS



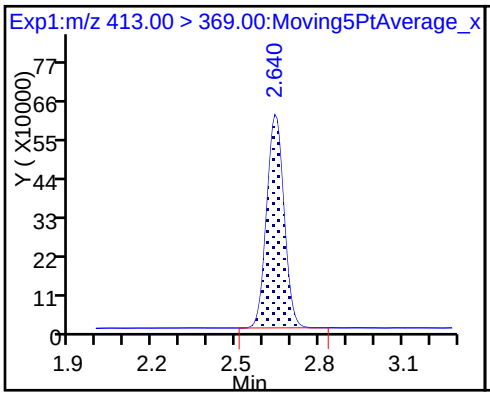
* 62 13C2-PFOA



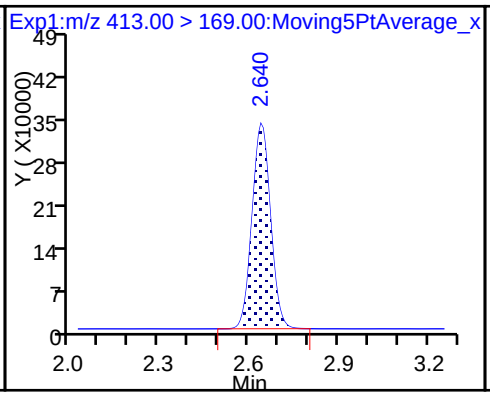
D 14 13C4 PFOA



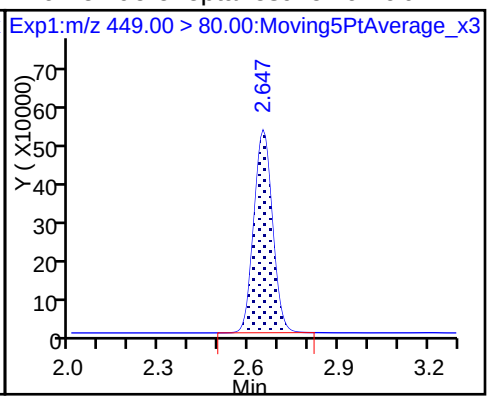
15 Perfluorooctanoic acid



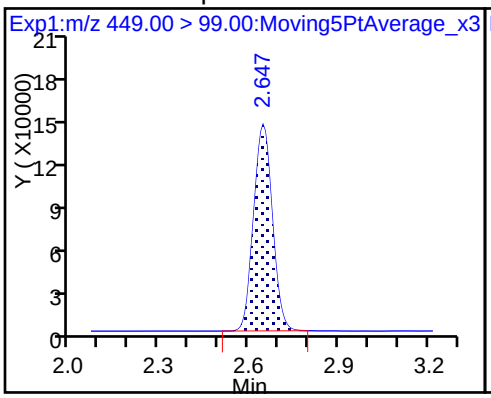
15 Perfluorooctanoic acid



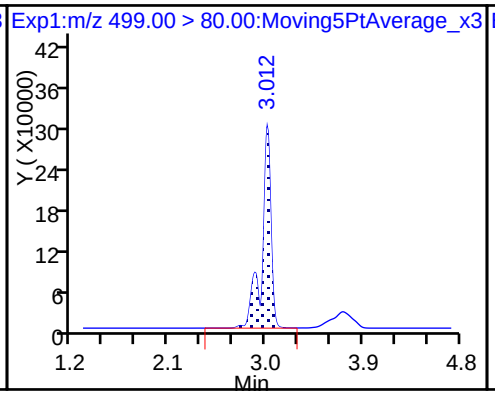
16 Perfluoroheptanesulfonic Acid



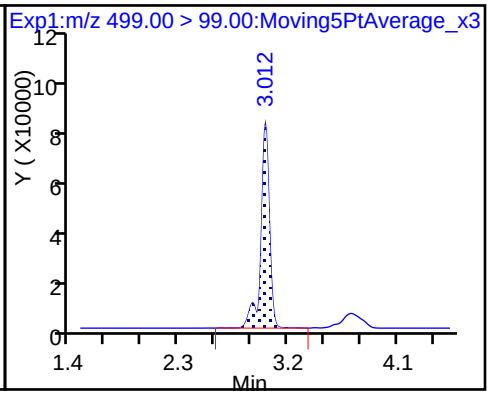
16 Perfluoroheptanesulfonic Acid



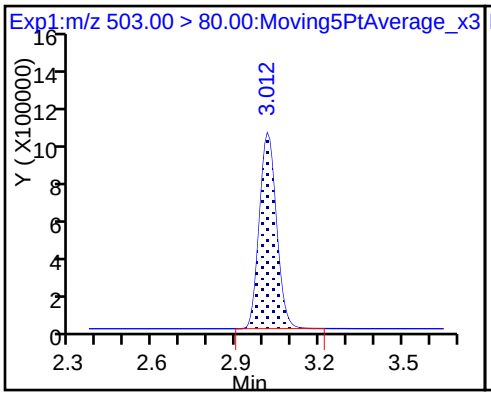
17 Perfluorooctane sulfonic acid



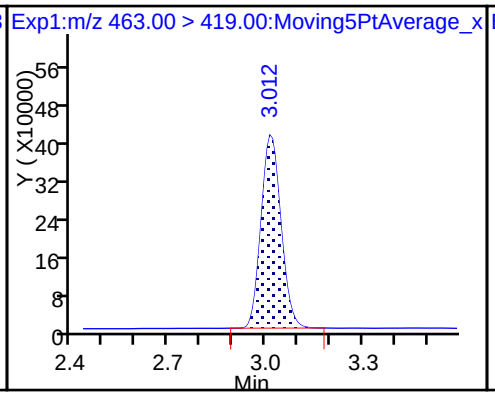
17 Perfluorooctane sulfonic acid



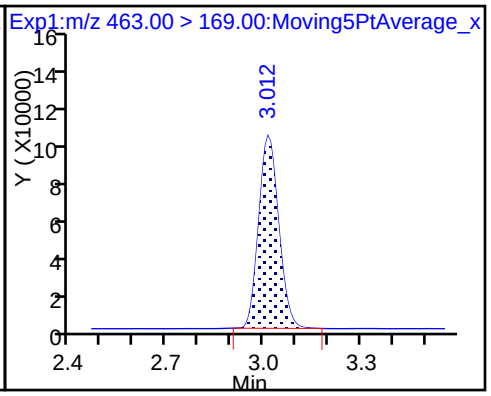
D 18 13C4 PFOS



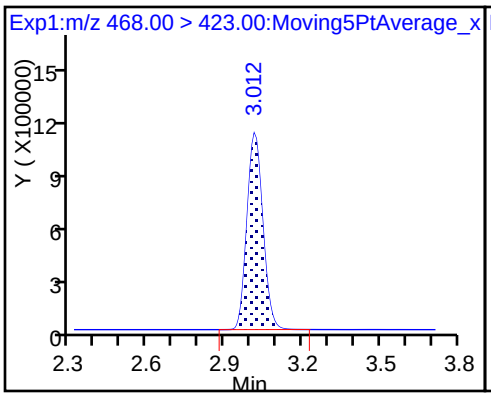
20 Perfluorononanoic acid



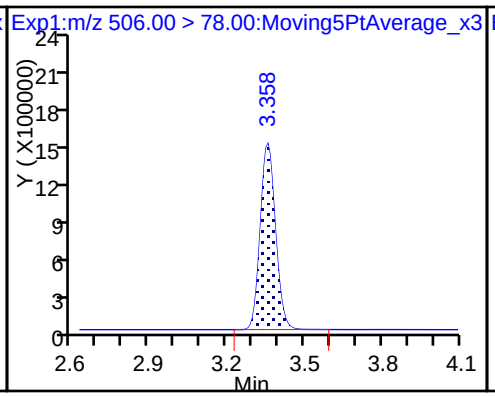
20 Perfluorononanoic acid



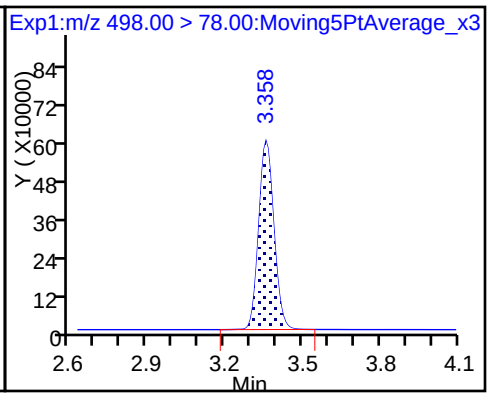
D 19 13C5 PFNA



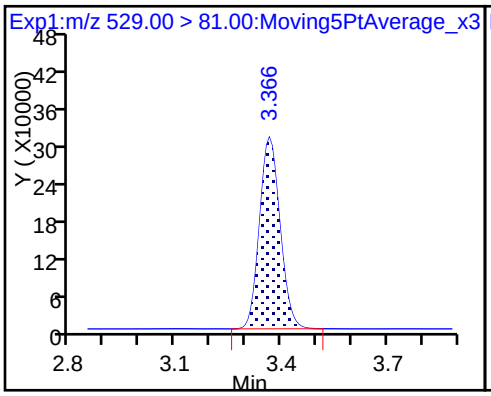
D 21 13C8 FOSA



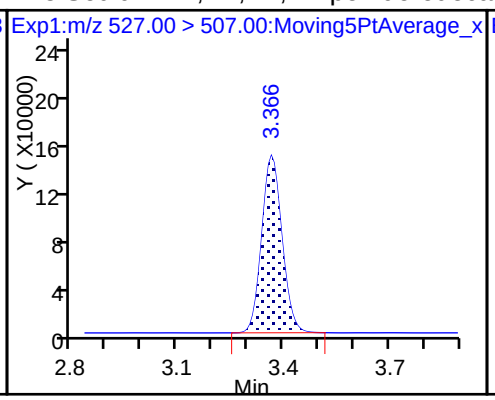
22 Perfluorooctane Sulfonamide



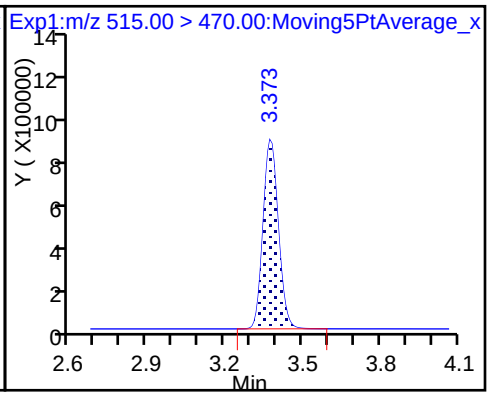
D 26 M2-8:2FTS



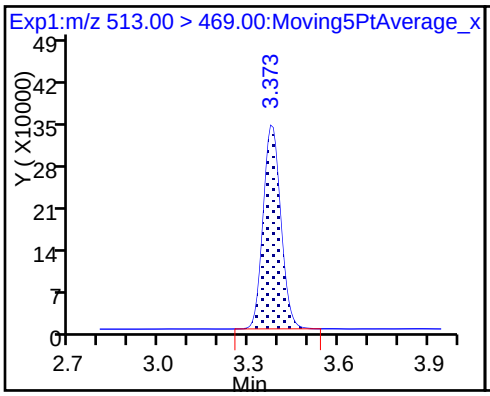
25 Sodium 1H,1H,2H,2H-perfluorodecane



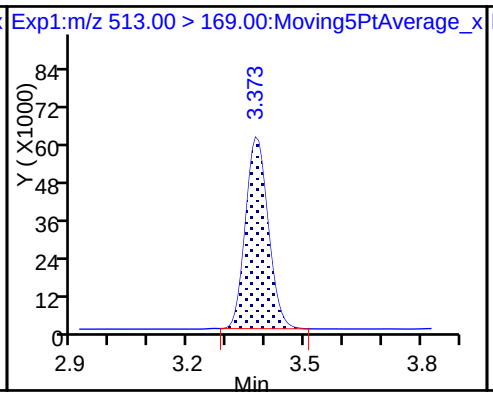
D 23 13C2 PFDA



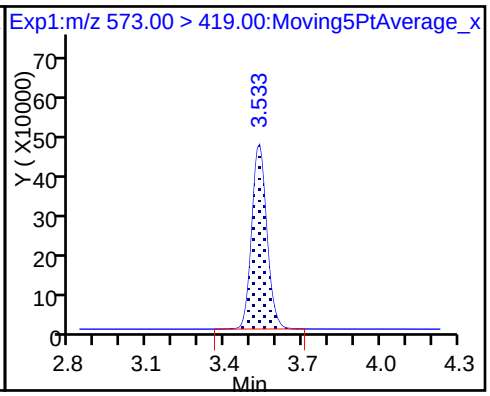
24 Perfluorodecanoic acid



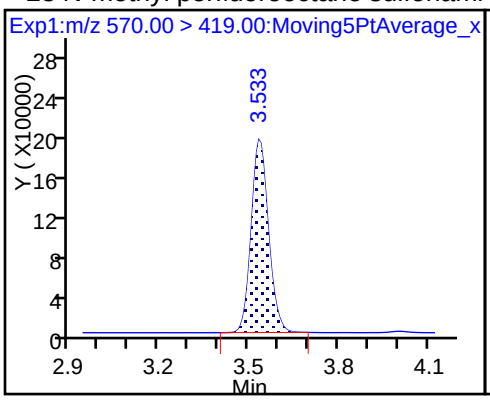
24 Perfluorodecanoic acid



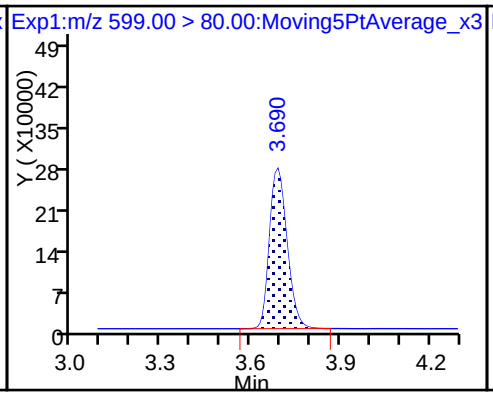
D 27 d3-NMeFOSAA



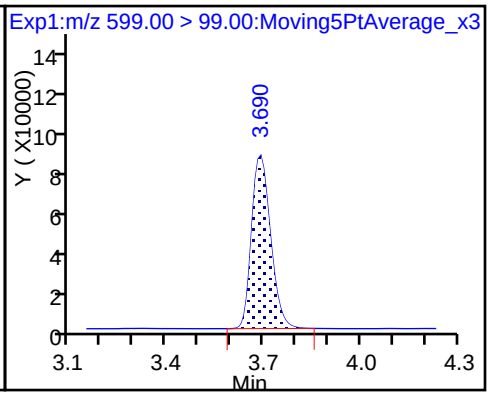
28 N-methyl perfluorooctane sulfonami



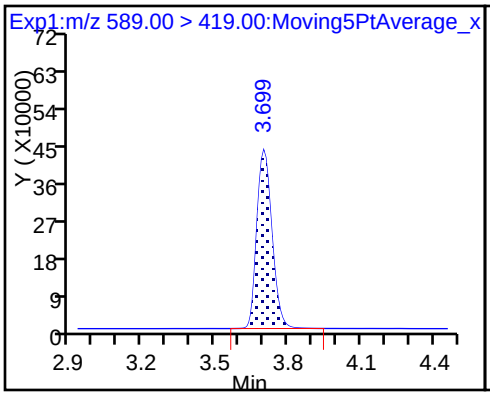
29 Perfluorodecane Sulfonic acid



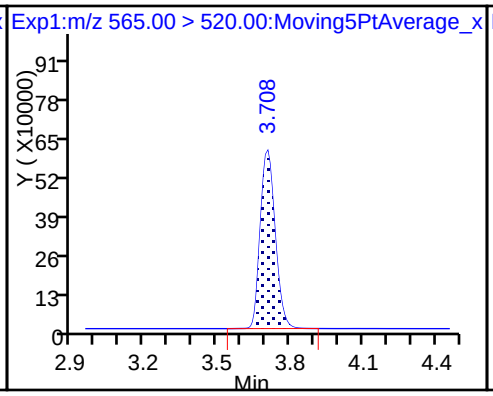
29 Perfluorodecane Sulfonic acid



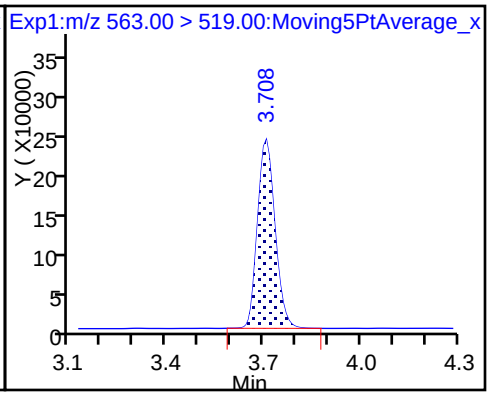
D 32 d5-NEtFOSAA



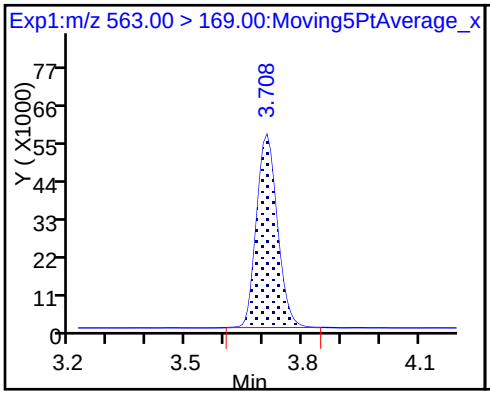
D 30 13C2 PFUnA



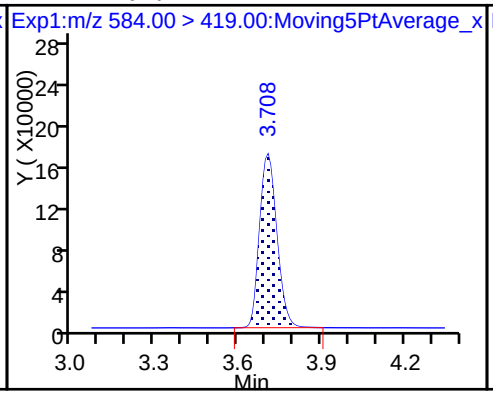
31 Perfluoroundecanoic acid



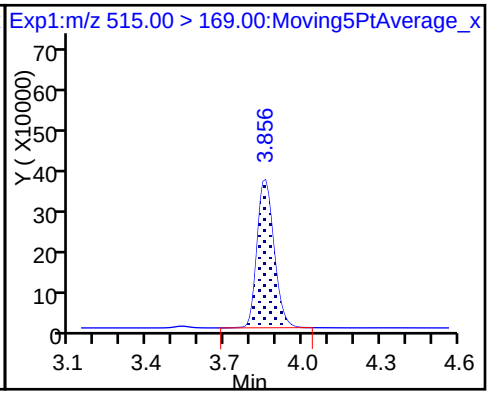
31 Perfluoroundecanoic acid



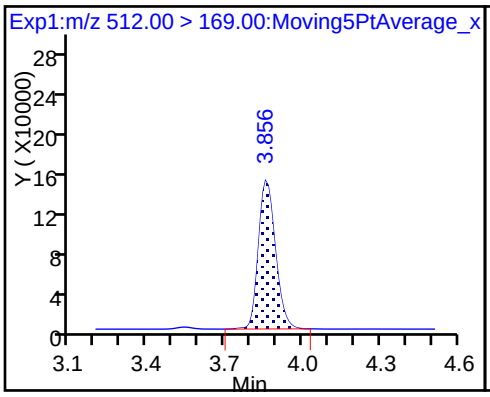
33 N-ethyl perfluorooctane sulfonamid



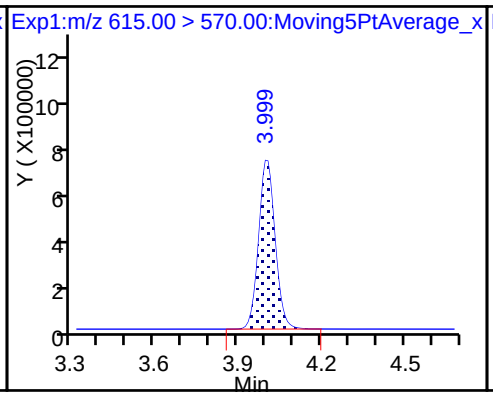
D 34 d-N-MeFOSA-M



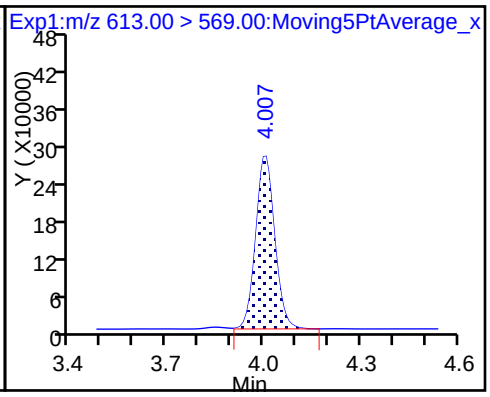
35 MeFOSA



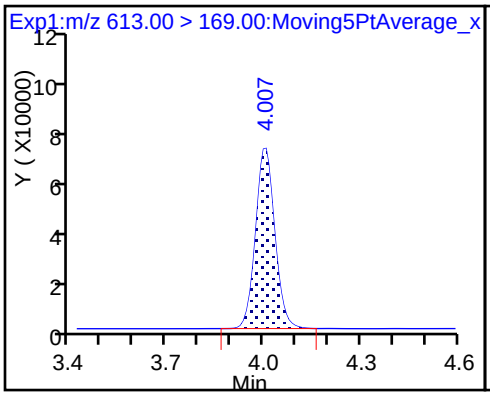
D 36 13C2 PFDoA



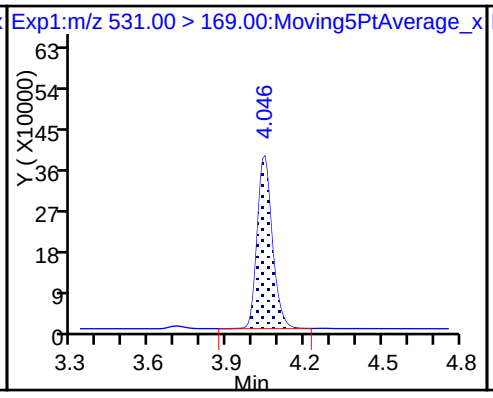
37 Perfluorododecanoic acid



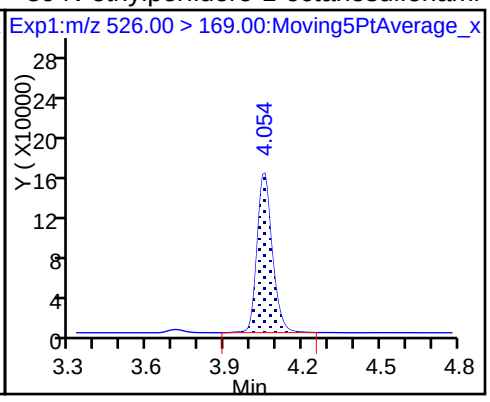
37 Perfluorododecanoic acid



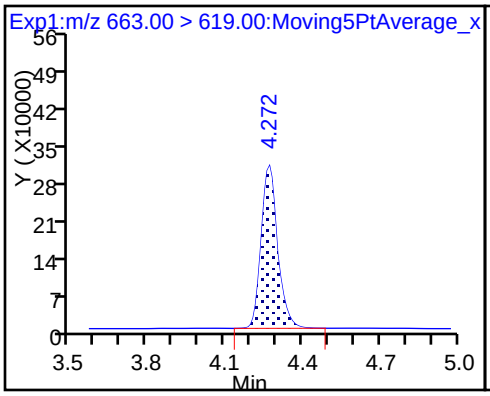
D 38 d-N-EtFOSA-M



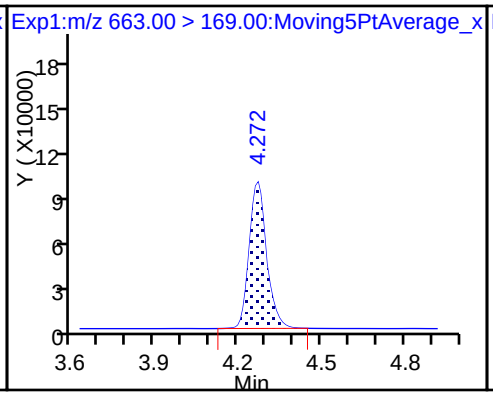
39 N-ethylperfluoro-1-octanesulfonami



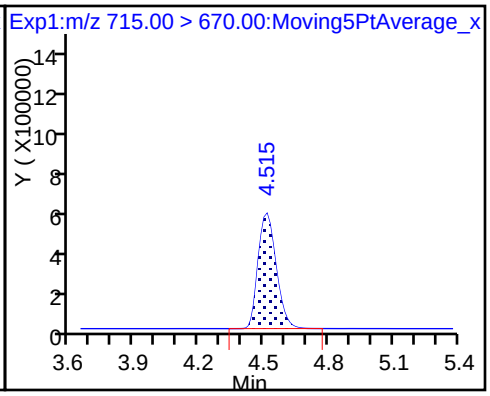
41 Perfluorotridecanoic acid



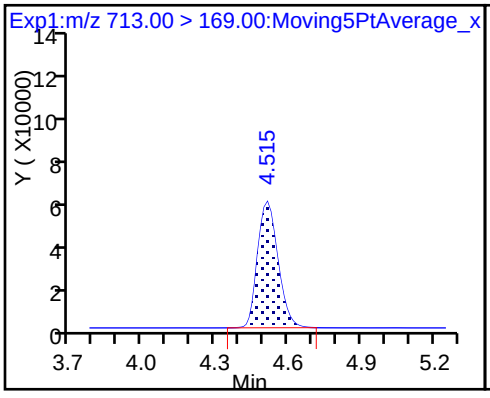
41 Perfluorotridecanoic acid



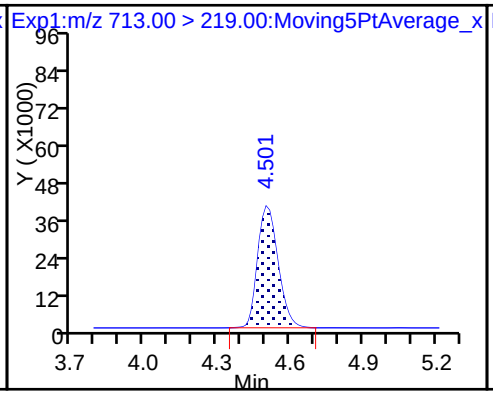
D 43 13C2-PFTeDA



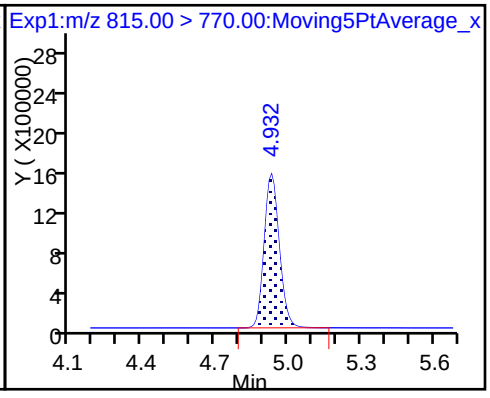
42 Perfluorotetradecanoic acid



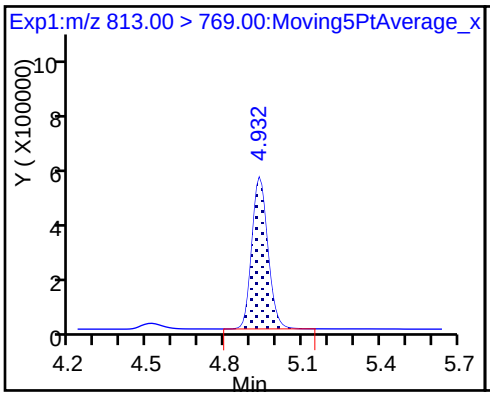
42 Perfluorotetradecanoic acid



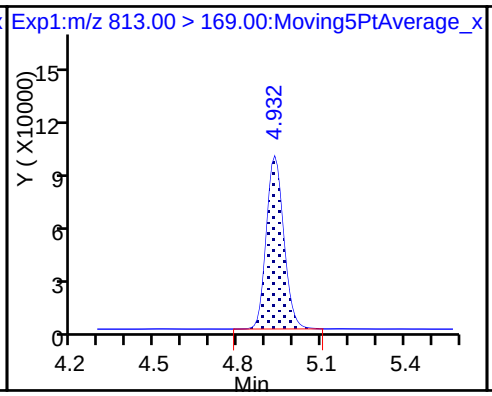
D 44 13C2-PFHxDA



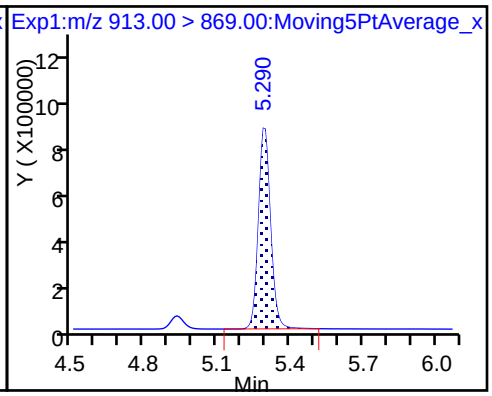
45 Perfluorohexadecanoic acid



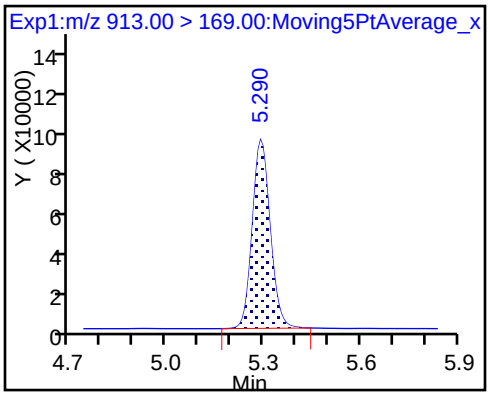
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200666/28 Calibration Date: 12/20/2017 10:58

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9123	0.9499		2.60	2.50	4.1	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.105	1.132		2.56	2.50	2.4	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.75	76.76		2.27	2.21	2.7	50.0
4:2 FTS	AveID	0.6286	0.5316		1.98	2.34	-15.4	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.000	0.9624		2.41	2.50	-3.7	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.030	1.031		2.50	2.50	0.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.087	1.068		2.24	2.28	-1.8	40.0
6:2FTS	AveID	1.602	1.700		2.51	2.37	6.1	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.055	1.055		2.50	2.50	-0.0	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.439	1.378		2.28	2.38	-4.2	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.063	1.072		2.34	2.32	0.8	40.0
Perfluorononanoic acid (PFNA)	AveID	0.9691	1.019		2.63	2.50	5.1	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9454	0.9773		2.58	2.50	3.4	40.0
8:2FTS	AveID	1.216	1.208		2.38	2.40	-0.7	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9899	0.9861		2.49	2.50	-0.4	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.031	1.083		2.63	2.50	5.1	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5860	0.6438		2.65	2.41	9.9	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9745	1.006		2.58	2.50	3.2	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9047	0.9114		2.52	2.50	0.7	40.0
MeFOSA	AveID	0.9820	0.9641		2.45	2.50	-1.8	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9602	1.008		2.63	2.50	5.0	40.0
N-EtFOSA-M	AveID	1.054	1.045		2.48	2.50	-0.8	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.146	1.144		2.49	2.50	-0.2	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2530	0.2404		2.38	2.50	-5.0	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.8945		2.55	2.50	1.8	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.112	1.040		2.34	2.50	-6.5	50.0
13C4 PFBA	Ave	1.474	1.436		2.44	2.50	-2.6	50.0
13C5 PFPeA	Ave	0.8683	0.8552		2.46	2.50	-1.5	50.0
13C3-PFBS	Ave	0.0184	0.0188		2.38	2.33	2.5	50.0
13C2 PFHxA	Ave	0.9209	0.9471		2.57	2.50	2.8	50.0
13C4-PFHpA	Ave	0.8611	0.8844		2.57	2.50	2.7	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-200666/28 Calibration Date: 12/20/2017 10:58

Instrument ID: A8_N Calib Start Date: 12/19/2017 13:49

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/19/2017 14:52

Lab File ID: 2017.12.19LLC_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.066	1.123		2.49	2.37	5.4	50.0
M2-6:2FTS	Ave	0.3575	0.5663		3.76	2.38	58.4*	40.0
13C4 PFOA	Ave	1.034	1.019		2.46	2.50	-1.5	50.0
13C4 PFOS	Ave	0.6857	0.7203		2.51	2.39	5.1	50.0
13C5 PFNA	Ave	0.6950	0.7301		2.63	2.50	5.0	50.0
13C8 FOSA	Ave	0.9692	0.9878		2.55	2.50	1.9	50.0
M2-8:2FTS	Ave	0.1524	0.2106		3.31	2.40	38.2	40.0
13C2 PFDA	Ave	0.5561	0.5862		2.64	2.50	5.4	50.0
d3-NMeFOSAA	Ave	0.2564	0.3053		2.98	2.50	19.1	50.0
d5-NEtFOSAA	Ave	0.2642	0.3032		2.87	2.50	14.8	50.0
13C2 PFUnA	Ave	0.4284	0.4352		2.54	2.50	1.6	50.0
d-N-MeFOSA-M	Ave	0.2856	0.2832		2.48	2.50	-0.8	50.0
13C2 PFDoA	Ave	0.4554	0.4827		2.65	2.50	6.0	50.0
d-N-EtFOSA-M	Ave	0.2693	0.2633		2.45	2.50	-2.2	50.0
13C2-PFTeDA	Ave	0.4999	0.5648		2.82	2.50	13.0	50.0
13C2-PFHxDA	Ave	0.9134	1.018		2.79	2.50	11.5	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_050.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2017 10:58:24 ALS Bottle#: 14 Worklist Smp#: 28
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:26:46 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:17:30

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.418	1.411	0.007	0.534	8443725	2.44		97.4	34687	
2 Perfluorobutyric acid										
212.90 > 169.00	1.424	1.412	0.012	1.004	8020671	2.60		104	2412	
D 3 13C5-PFPeA										
267.90 > 223.00	1.667	1.664	0.003	0.628	5027687	2.46		98.5	69794	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.676	1.664	0.012	1.005	5691179	2.56		102	4467	
D 47 13C3-PFBS										
301.90 > 83.00	1.703	1.699	0.004	0.642	102860	2.38		103	2576	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.712	1.703	0.009	1.005	7504816	2.27		103	26549	
298.90 > 99.00	1.712	1.703	0.009	1.005	3075710		2.44(1.25-3.74)		24181	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.918	1.909	0.009	1.000	1653063	1.97		84.6	57134	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.960	1.949	0.011	1.000	5358499	2.41		96.3	15296	
313.00 > 119.00	1.960	1.949	0.011	1.000	479724		11.17(5.03-15.10)		13354	
D 7 13C2 PFHxA										
315.00 > 270.00	1.960	1.949	0.011	0.738	5567837	2.57		103	46940	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.286	2.286	0.0	1.000	5359518	2.50		100	9895	
363.00 > 169.00	2.286	2.286	0.0	1.000	2127623		2.52(1.13-3.40)		14754	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.286	0.0	0.861	5199043	2.57		103	45806	
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.299	0.0	0.866	6245819	2.49		105	29880	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.299	0.0	1.000	6415997	2.24		98.2	10600	
399.00 > 99.00	2.299	2.299	0.0	1.000	2075422		3.09(1.50-4.49)		7648	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.640	2.640	0.0	1.000	5364684	2.51		106	109285	
D 12 M2-6:2FTS										
429.00 > 81.00	2.640	2.640	0.0	0.995	3162681	3.76		158	75249	
* 62 13C2-PFOA										
415.00 > 370.00	2.654	2.643	0.011		5878787	2.50			44302	
D 14 13C4 PFOA										
417.00 > 372.00	2.654	2.647	0.007	1.000	5990953	2.46		98.5	45135	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.654	2.649	0.005	1.000	6320574	2.50		100.0	2564	
413.00 > 169.00	2.654	2.649	0.005	1.000	3399639		1.86(0.84-2.52)		21067	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.661	2.654	0.007	1.000	5554792	2.28		95.8	28133	
449.00 > 99.00	2.661	2.654	0.007	1.000	1455056		3.82(1.94-5.82)		18518	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.020	3.025	-0.005	1.000	4213320	2.34		101	651	
499.00 > 99.00	3.020	3.025	-0.005	1.000	914302		4.61(2.31-6.93)		861	
D 18 13C4 PFOS										
503.00 > 80.00	3.020	3.025	-0.005	1.138	4048269	2.51		105	22842	
20 Perfluorononanoic acid										
463.00 > 419.00	3.028	3.026	0.002	1.003	4372139	2.63		105	7037	
463.00 > 169.00	3.028	3.026	0.002	1.003	1036463		4.22(1.90-5.69)		18664	
D 19 13C5 PFNA										
468.00 > 423.00	3.020	3.026	-0.006	1.138	4291833	2.63		105	37093	
D 21 13C8 FOSA										
506.00 > 78.00	3.366	3.362	0.004	1.268	5806743	2.55		102	31793	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.365	0.001	1.000	5675161	2.58		103	32988	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.375	-0.002	1.271	1186090	3.31		138	14900	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.373	3.376	-0.003	1.000	1432505	2.38		99.3	20826	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.387	0.001	1.277	3445844	2.64		105	31744	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.388	3.388	0.0	1.000	3397948	2.49		99.6	12256	
513.00 > 169.00	3.388	3.388	0.0	1.000	605372		5.61(2.36-7.09)		2007	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.541	-0.001	1.334	1794813	2.98		119	16703	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.548	3.547	0.001	1.002	1943899	2.63		105	8729	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.699	3.701	-0.002	1.000	2628212	2.65		110	31819	
599.00 > 99.00	3.699	3.701	-0.002	1.000	860232		3.06(1.39-4.16)		13099	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.711	-0.003	1.397	1782481	2.87		115	9948	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	-0.001	1.400	2558231	2.54		102	31646	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.717	3.718	-0.002	1.000	2331583	2.52		101	13898	
563.00 > 169.00	3.717	3.718	-0.002	1.000	532965		4.37(0.00-0.00)		15780	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.717	3.718	-0.002	1.002	1793387	2.58		103	20935	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.453	1665100	2.48		99.2	3749	
35 MeFOSA										
512.00 > 169.00	3.867	3.863	0.004	1.003	1605252	2.45		98.2	3265	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.015	-0.008	1.510	2837806	2.65		106	24132	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.007	4.016	-0.009	1.000	2860847	2.62		105	7787	
613.00 > 169.00	4.014	4.016	-0.002	1.002	700075		4.09(2.13-6.40)		19114	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.524	1548103	2.44		97.8	2659	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.002	1617704	2.48		99.2	3125	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.281	4.285	-0.004	1.000	3245048	2.49		99.8	7226	
663.00 > 169.00	4.272	4.285	-0.013	0.998	1028485		3.16(1.25-3.76)		33041	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.701	3320309	2.82		113	21242	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.515	4.522	-0.007	1.000	798118	2.38		95.0	19508	
713.00 > 219.00	4.515	4.522	-0.007	1.000	626933		1.27(0.71-2.13)		15367	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.941	4.944	-0.003	1.861	5986618	2.79		111	17771	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.941	4.945	-0.004	1.000	5355116	2.55		102	2616	
813.00 > 169.00	4.941	4.945	-0.004	1.000	925652		5.79(2.86-8.58)		8562	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.304	5.309	-0.005	1.000	6223225	2.34		93.5	1104	
913.00 > 169.00	5.297	5.309	-0.012	0.999	775248		8.03(0.00-0.00)		2827	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2017 17:26:49 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_050.d

Injection Date: 20-Dec-2017 10:58:24 Instrument ID: A8_N

Lims ID: CCV L5

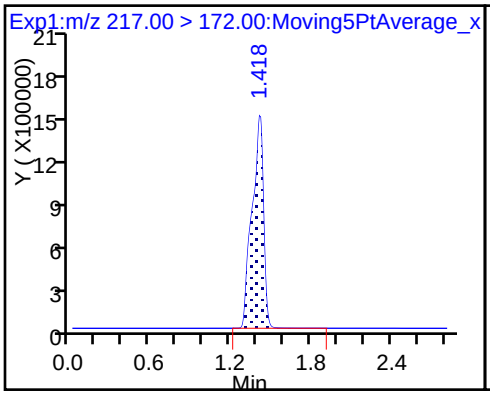
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 28

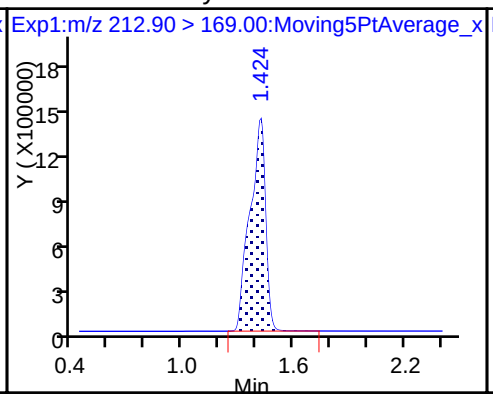
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

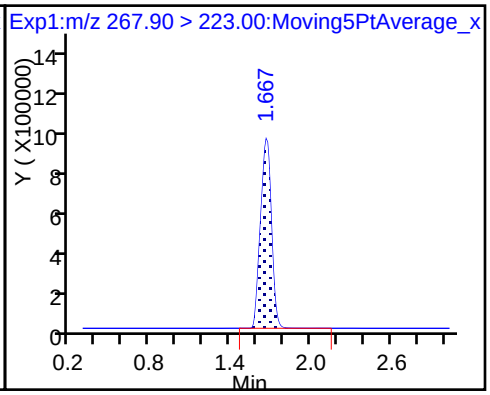
D 1 13C4 PFBA



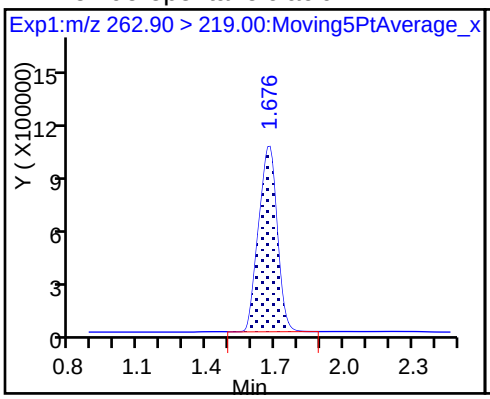
2 Perfluorobutyric acid



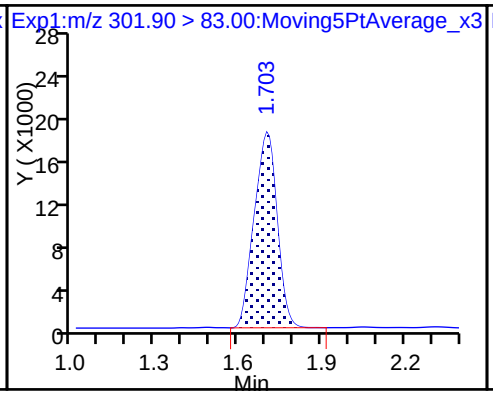
D 3 13C5-PFPeA



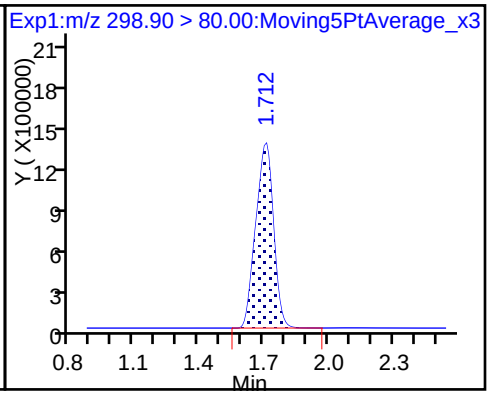
4 Perfluoropentanoic acid



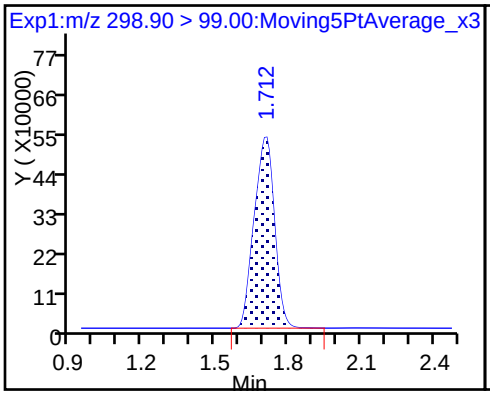
D 47 13C3-PFBS



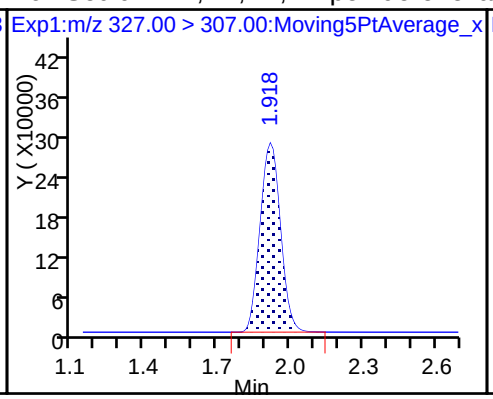
5 Perfluorobutanesulfonic acid



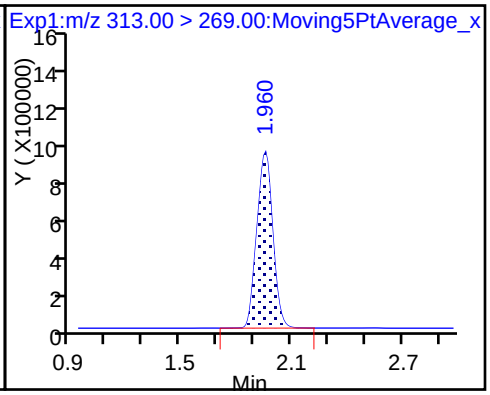
5 Perfluorobutanesulfonic acid



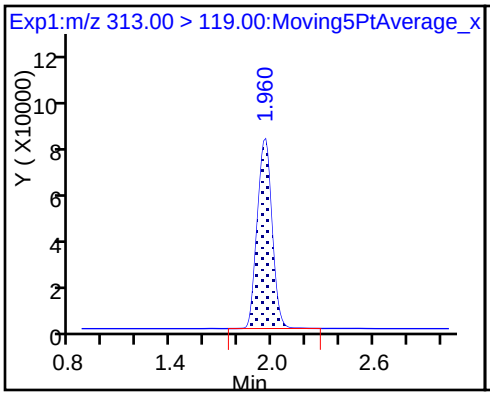
61 Sodium 1H,1H,2H,2H-perfluorohexane



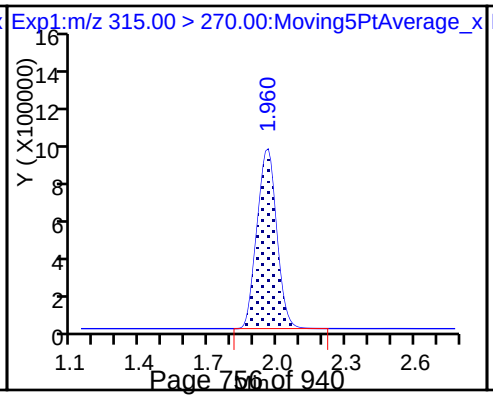
6 Perfluorohexanoic acid



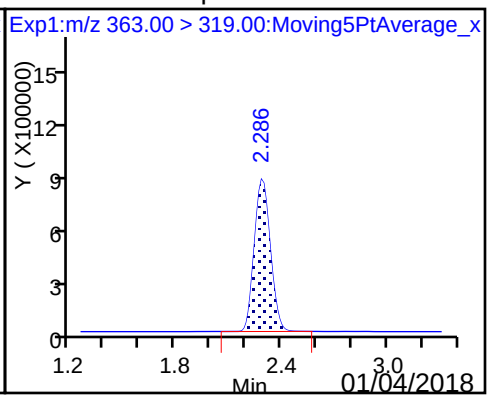
6 Perfluorohexanoic acid



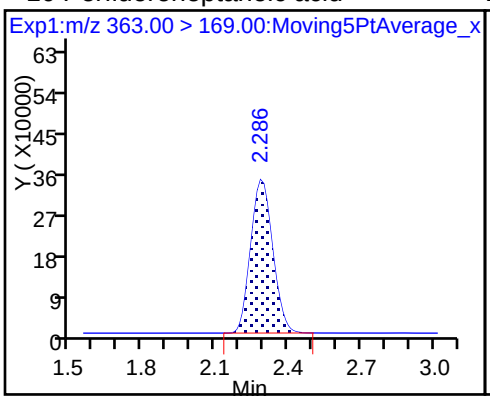
D 7 13C2 PFHxA



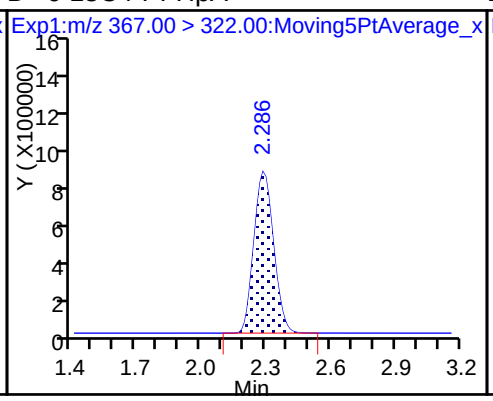
10 Perfluoroheptanoic acid



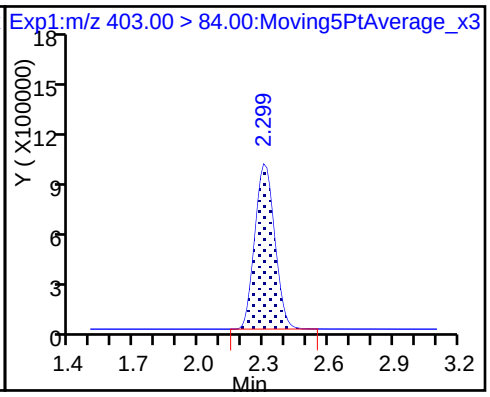
10 Perfluoroheptanoic acid



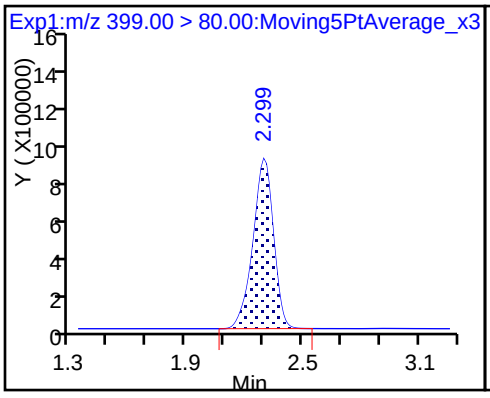
D 9 13C4-PFHpA



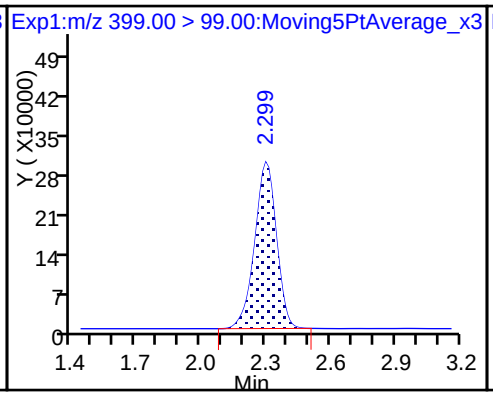
D 11 18O2 PFHxS



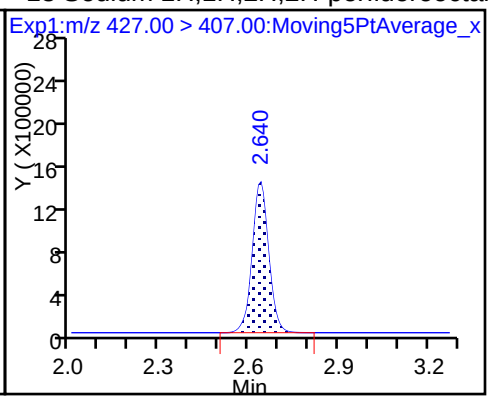
8 Perfluorohexanesulfonic acid



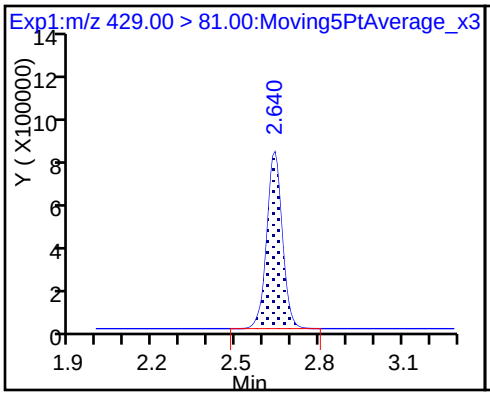
8 Perfluorohexanesulfonic acid



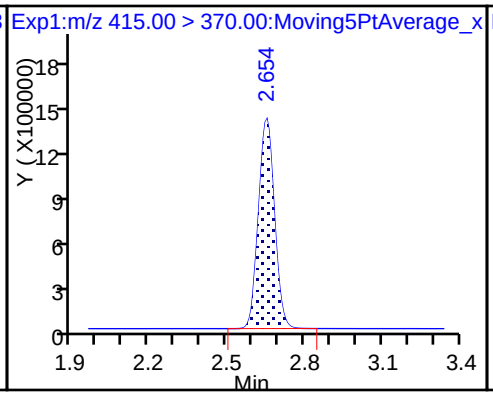
13 Sodium 1H,1H,2H,2H-perfluorooctane



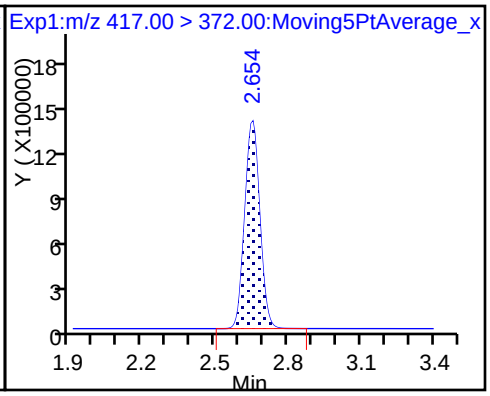
D 12 M2-6:2FTS



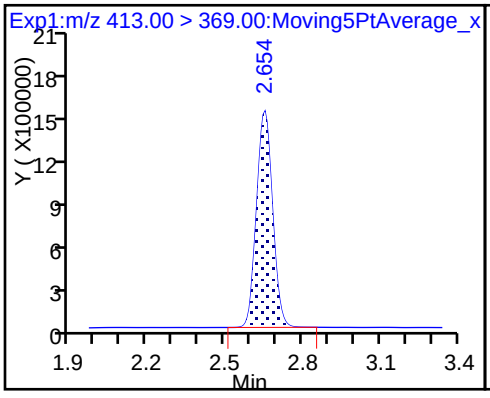
* 62 13C2-PFOA



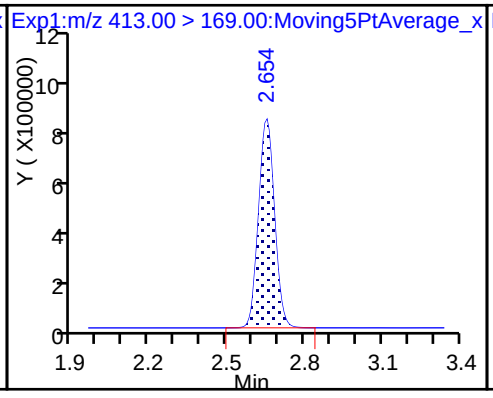
D 14 13C4 PFOA



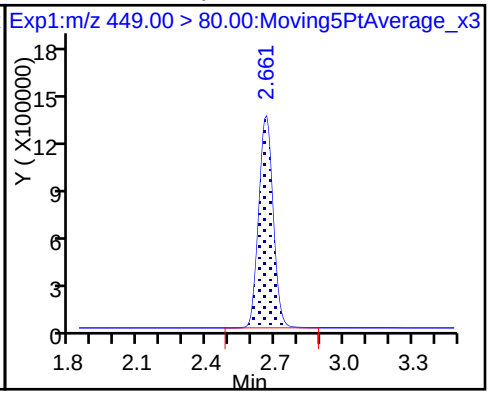
15 Perfluorooctanoic acid



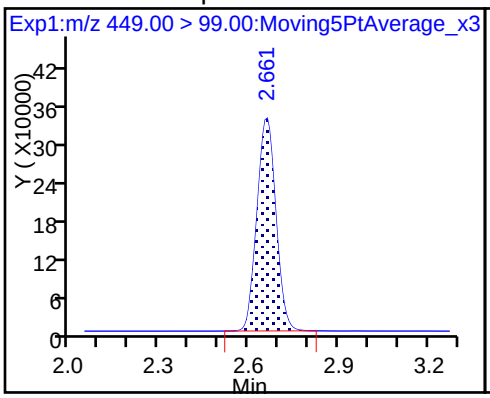
15 Perfluorooctanoic acid



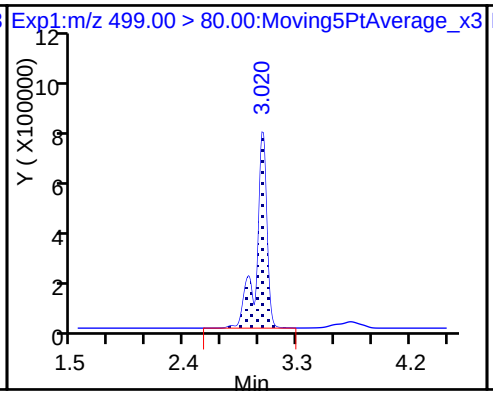
16 Perfluoroheptanesulfonic Acid



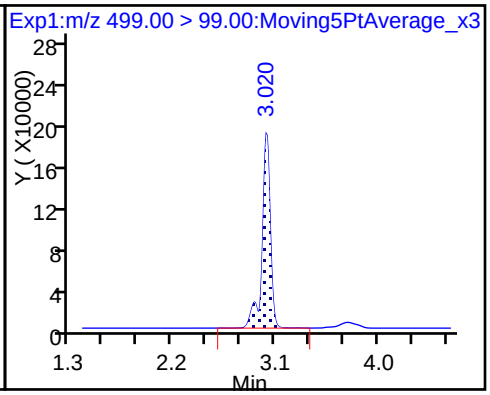
16 Perfluoroheptanesulfonic Acid



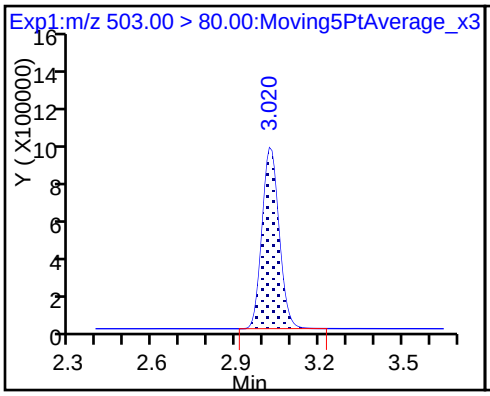
17 Perfluorooctane sulfonic acid



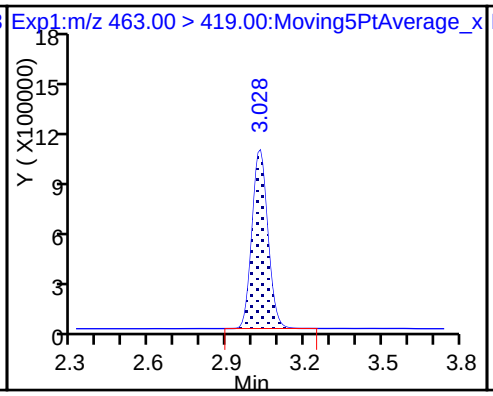
17 Perfluorooctane sulfonic acid



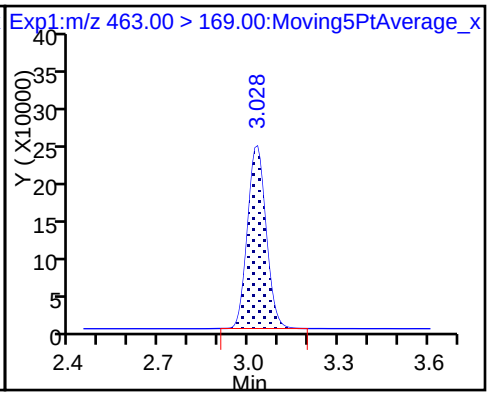
D 18 13C4 PFOS



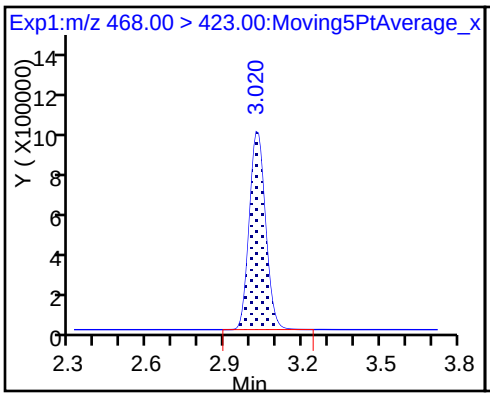
20 Perfluorononanoic acid



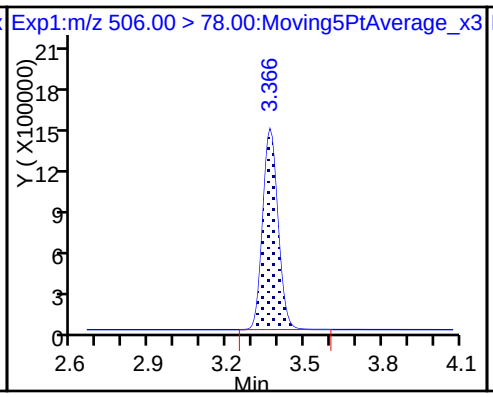
20 Perfluorononanoic acid



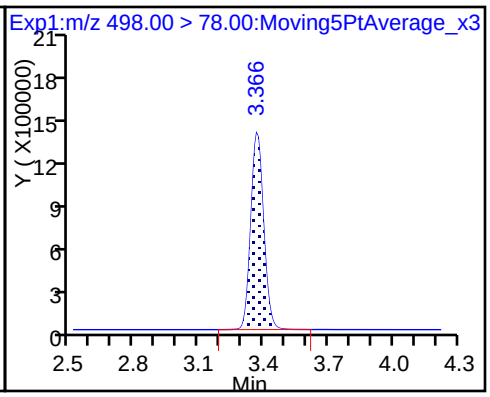
D 19 13C5 PFNA



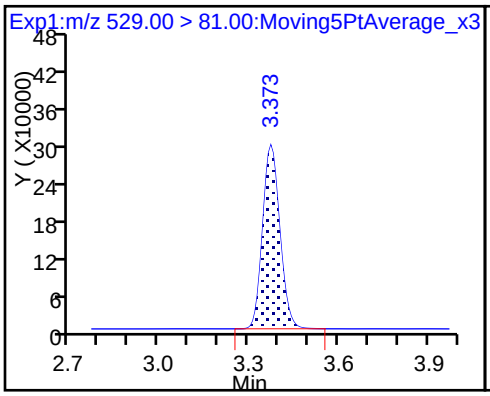
D 21 13C8 FOSA



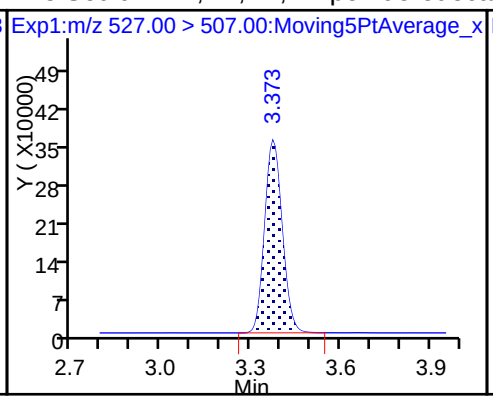
22 Perfluorooctane Sulfonamide



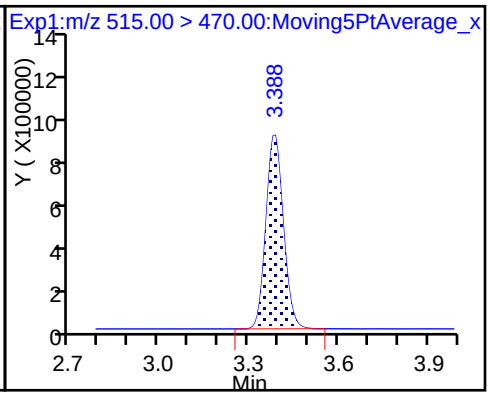
D 26 M2-8:2FTS



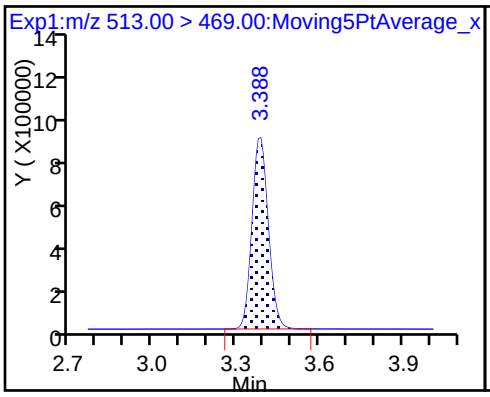
25 Sodium 1H,1H,2H,2H-perfluorodecane



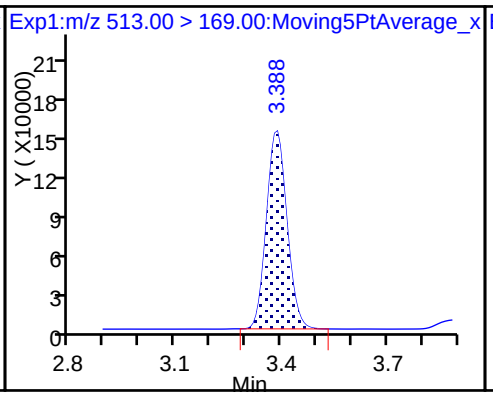
D 23 13C2 PFDA



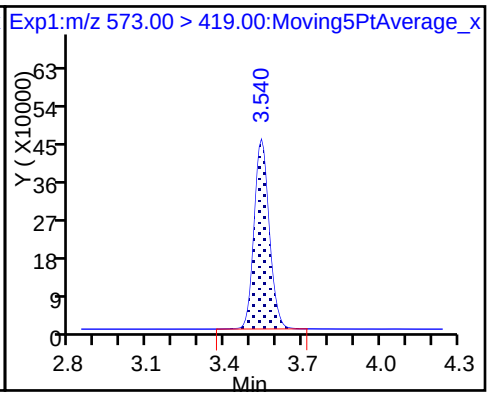
24 Perfluorodecanoic acid



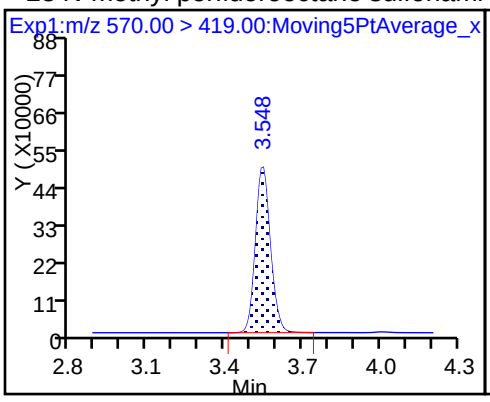
24 Perfluorodecanoic acid



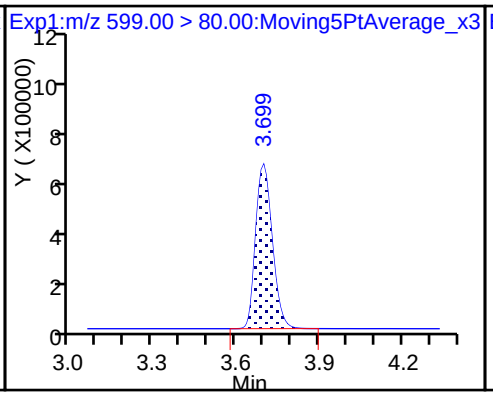
D 27 d3-NMeFOSAA



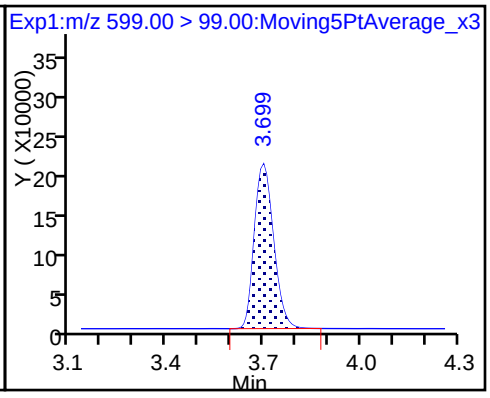
28 N-methyl perfluorooctane sulfonami



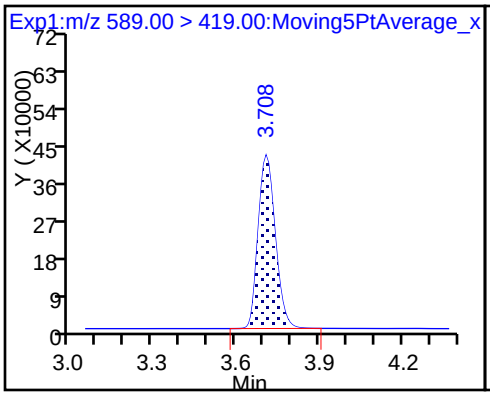
29 Perfluorodecane Sulfonic acid



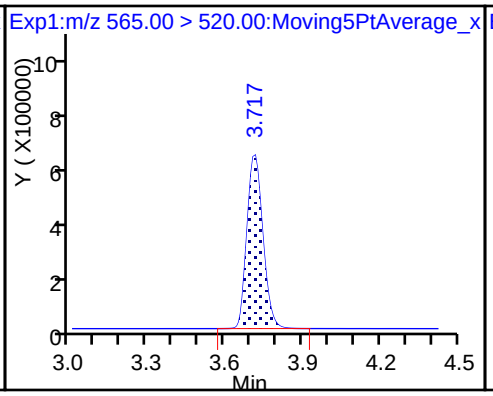
29 Perfluorodecane Sulfonic acid



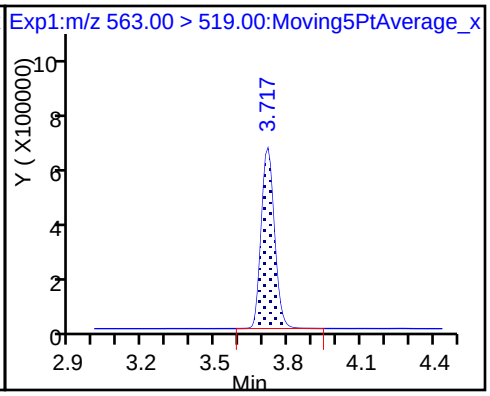
D 32 d5-NEtFOSAA



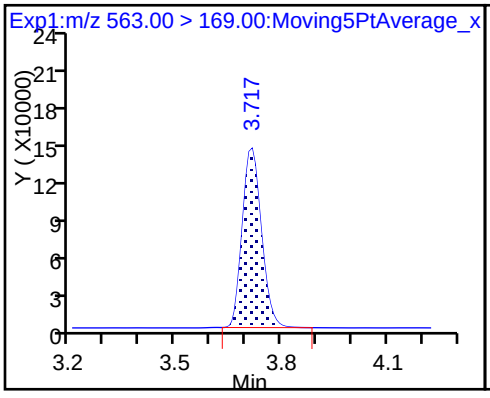
D 30 13C2 PFUnA



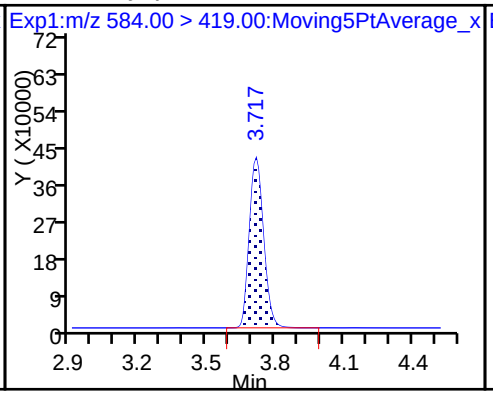
31 Perfluoroundecanoic acid



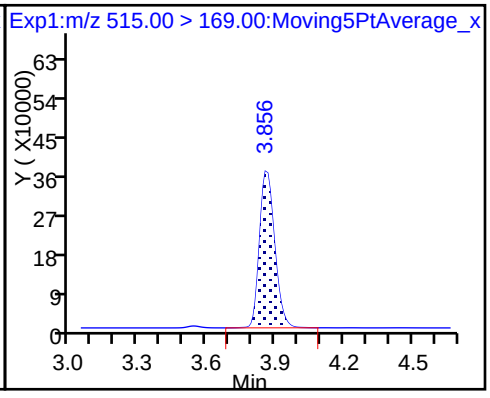
31 Perfluoroundecanoic acid



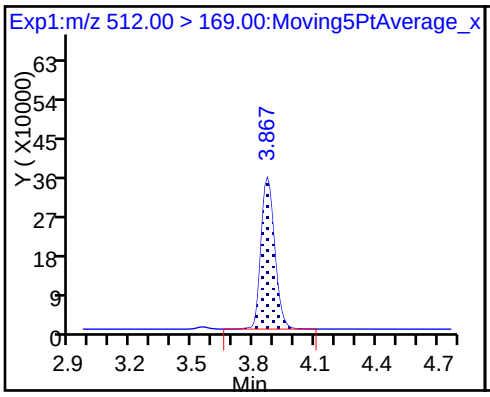
33 N-ethyl perfluorooctane sulfonamid



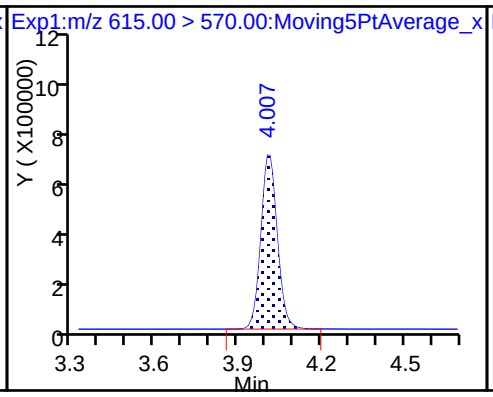
D 34 d-N-MeFOSA-M



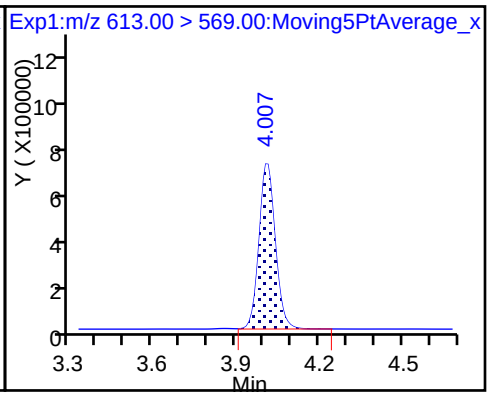
35 MeFOSA



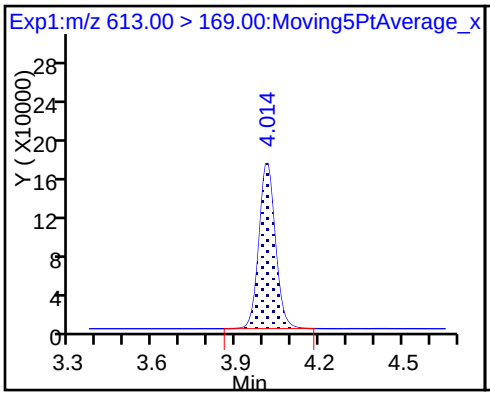
D 36 13C2 PFDoA



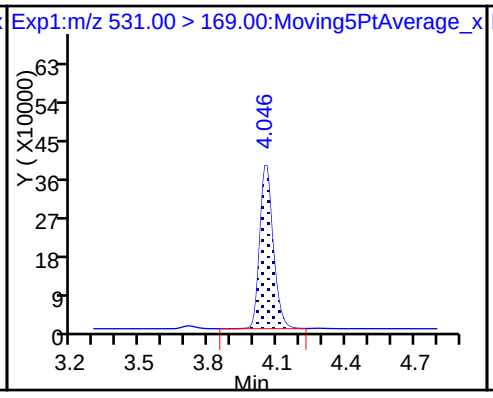
37 Perfluorododecanoic acid



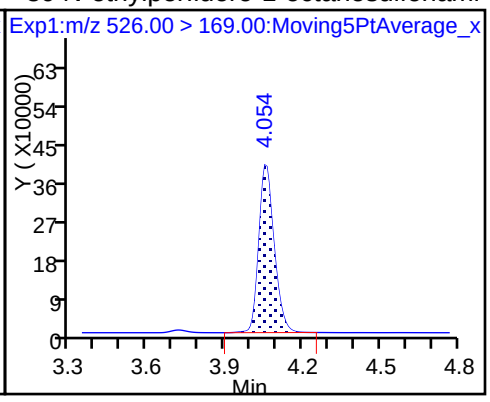
37 Perfluorododecanoic acid



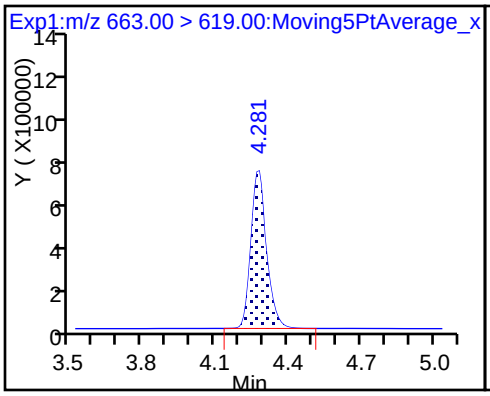
D 38 d-N-EtFOSA-M



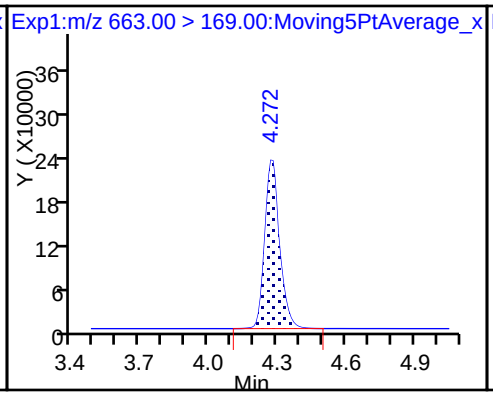
39 N-ethylperfluoro-1-octanesulfonami



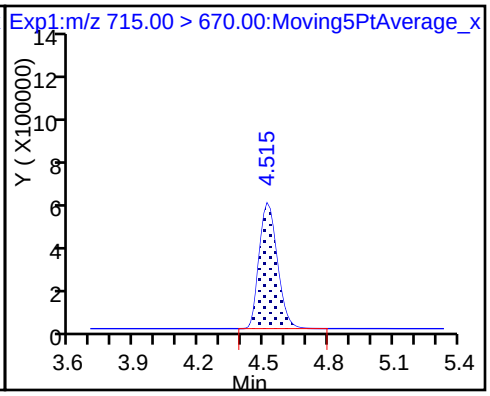
41 Perfluorotridecanoic acid



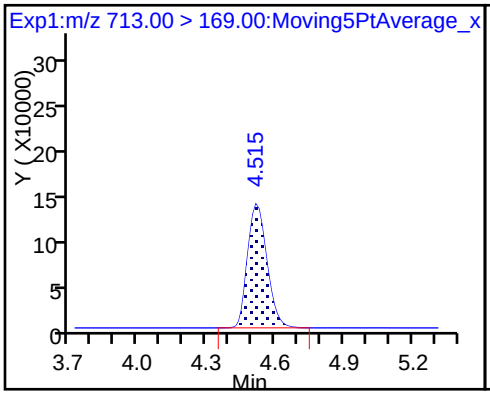
41 Perfluorotridecanoic acid



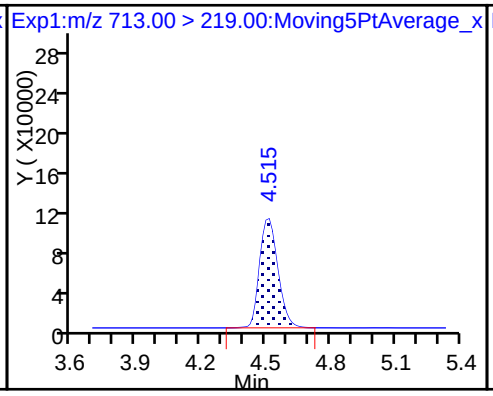
D 43 13C2-PFTeDA



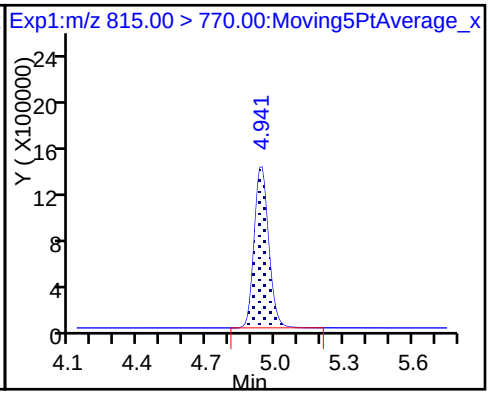
42 Perfluorotetradecanoic acid



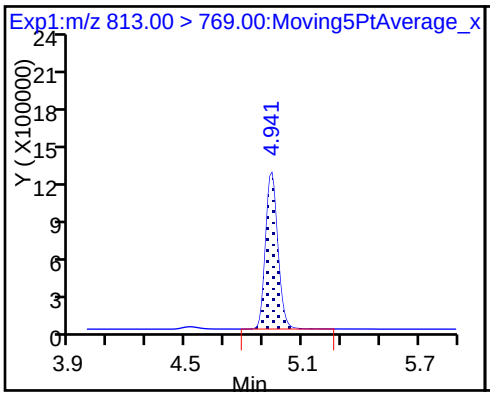
42 Perfluorotetradecanoic acid



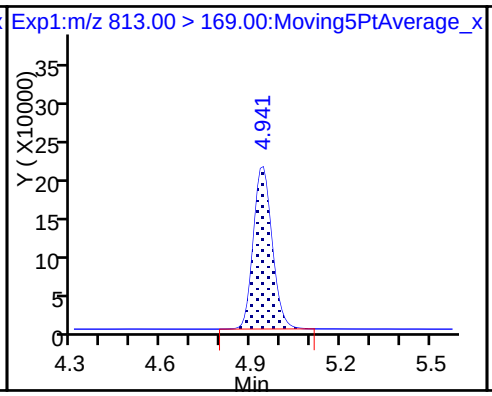
D 44 13C2-PFHxDA



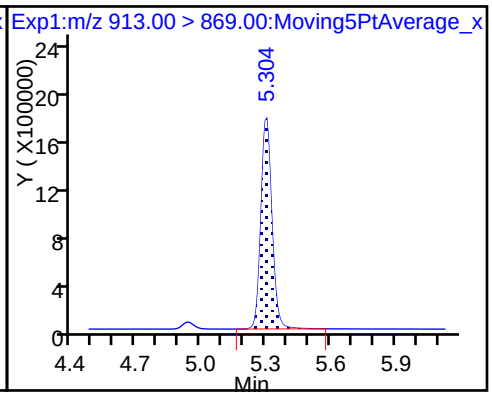
45 Perfluorohexadecanoic acid



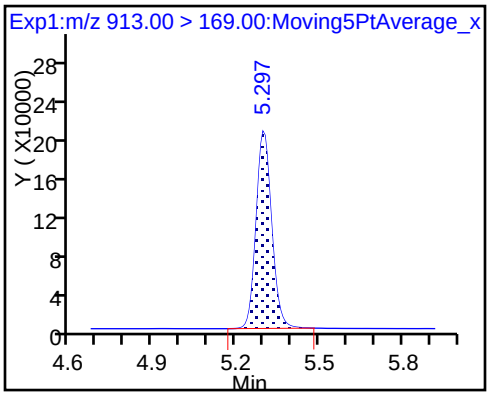
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: ICV 320-201411/18 Calibration Date: 12/27/2017 09:54

Instrument ID: A8_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.27ICALA_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9135	0.8929		2.44	2.50	-2.3	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.122	1.103		2.46	2.50	-1.7	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.84	79.17		2.34	2.21	5.8	50.0
4:2 FTS	AveID	1.724	1.591		2.15	2.34	-7.7	50.0
Perfluorohexanoic acid (PFHxA)	AveID	0.999	1.052		2.63	2.50	5.4	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.074		2.57	2.50	2.7	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.093	1.031		2.23	2.36	-5.7	40.0
6:2FTS	AveID	1.677	1.472		2.08	2.37	-12.2	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.059	1.056		2.49	2.50	-0.3	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.227	1.117		2.17	2.38	-9.0	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.073	1.000		2.23	2.39	-6.8	40.0
Perfluorononanoic acid (PFNA)	AveID	0.9743	1.004		2.58	2.50	3.0	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9492	0.9418		2.48	2.50	-0.8	40.0
8:2FTS	AveID	1.256	1.137		2.17	2.40	-9.5	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9858	1.071		2.72	2.50	8.6	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.059	1.052		2.48	2.50	-0.6	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5921	0.6695		2.73	2.41	13.1	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9653	0.8944		2.32	2.50	-7.3	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9369	0.8884		2.37	2.50	-5.2	40.0
MeFOSA	AveID	0.9651	0.995		2.58	2.50	3.1	50.0
N-EtFOSA-M	AveID	1.084	1.010		2.33	2.50	-6.8	40.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9929	1.081		2.72	2.50	8.9	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.078	1.121		2.60	2.50	4.1	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2545	0.2327		2.29	2.50	-8.6	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9666		2.81	2.50	12.3	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.075	1.205		2.80	2.50	12.1	50.0
13C4 PFBA	Ave	1.731	1.628		2.35	2.50	-5.9	50.0
13C5 PFPeA	Ave	1.009	0.996		2.47	2.50	-1.3	50.0
13C3-PFBS	Ave	0.0219	0.0217		2.30	2.33	-1.0	50.0
13C2 PFHxA	Ave	1.085	0.9939		2.29	2.50	-8.4	50.0
13C4-PFHpA	Ave	1.007	0.9605		2.39	2.50	-4.6	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: ICV 320-201411/18 Calibration Date: 12/27/2017 09:54

Instrument ID: A8_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.27ICALA_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.278	1.221		2.26	2.37	-4.5	50.0
M2-6:2FTS	Ave	0.1910	0.1934		2.41	2.38	1.3	40.0
13C4 PFOA	Ave	1.028	0.9579		2.33	2.50	-6.8	50.0
13C4 PFOS	Ave	0.8476	0.8303		2.34	2.39	-2.0	50.0
13C5 PFNA	Ave	0.8211	0.7756		2.36	2.50	-5.5	50.0
13C8 FOSA	Ave	1.146	1.099		2.40	2.50	-4.1	50.0
M2-8:2FTS	Ave	0.2097	0.1998		2.28	2.40	-4.7	40.0
13C2 PFDA	Ave	0.6674	0.6350		2.38	2.50	-4.8	50.0
d3-NMeFOSAA	Ave	0.3450	0.3282		2.38	2.50	-4.9	50.0
13C2 PFUnA	Ave	0.5052	0.5178		2.56	2.50	2.5	50.0
d5-NEtFOSAA	Ave	0.3516	0.3780		2.69	2.50	7.5	50.0
d-N-MeFOSA-M	Ave	0.3256	0.3205		2.46	2.50	-1.6	50.0
d-N-EtFOSA-M	Ave	0.3100	0.3095		2.50	2.50	-0.2	50.0
13C2 PFDoA	Ave	0.5489	0.5345		2.44	2.50	-2.6	50.0
13C2-PFTeDA	Ave	0.5969	0.6772		2.84	2.50	13.5	50.0
13C2-PFHxDA	Ave	1.094	1.183		2.70	2.50	8.2	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.27ICALA_012.d
Lims ID: ICV Full
Client ID:
Sample Type: ICV
Inject. Date: 27-Dec-2017 09:54:06 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist:

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 11:03:12 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK016

First Level Reviewer: roycea Date: 27-Dec-2017 10:08:13

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.436	1.433	0.003	0.534	7172024	2.35		94.1	21913	
2 Perfluorobutyric acid										
212.90 > 169.00	1.436	1.434	0.002	1.000	6403652	2.44			1641	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.694	1.691	0.003	1.000	4839733	2.46			4735	
D 3 13C5-PFPeA										
267.90 > 223.00	1.694	1.692	0.002	0.630	4388575	2.47		98.7	40300	
D 47 13C3-PFBS										
301.90 > 83.00	1.729	1.725	0.004	0.643	88712	2.30		99.0	4156	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.738	1.730	0.008	1.005	6683784	2.34			28681	
298.90 > 99.00	1.729	1.730	-0.001	1.000	2684489		2.49(1.25-3.74)		18664	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.949	1.941	0.008	1.000	1265559	2.15			46457	
D 7 13C2 PFHxA										
315.00 > 270.00	1.990	1.976	0.014	0.740	4378047	2.29		91.6	47749	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.990	1.979	0.011	1.000	4606807	2.63			10613	
313.00 > 119.00	1.990	1.979	0.011	1.000	418987		11.00(5.03-15.10)		8266	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.325	2.311	0.014	1.000	4545353	2.57			7336	
363.00 > 169.00	2.325	2.311	0.014	1.000	1867538		2.43(1.13-3.40)		15597	
D 9 13C4-PFHpA										
367.00 > 322.00	2.325	2.311	0.014	0.864	4230977	2.38		95.4	29362	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.338	2.324	0.014	1.000	5237404	2.23			20861	
399.00 > 99.00	2.338	2.324	0.014	1.000	1655687		3.16(1.50-4.49)		8969	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.338	2.328	0.010	0.869	5087248	2.26		95.5	26647	
D 12 M2-6:2FTS										
429.00 > 81.00	2.661	2.649	0.012	0.989	809192	2.40		101	14182	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.661	2.651	0.010	1.000	1189000	2.08			24081	
D 14 13C4 PFOA										
417.00 > 372.00	2.690	2.674	0.016	1.000	4219551	2.33		93.2	33286	
* 62 13C2-PFOA										
415.00 > 370.00	2.690	2.676	0.014		4404850	2.50			44851	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.690	2.677	0.013	1.000	4454883	2.49			2948	
413.00 > 169.00	2.690	2.677	0.013	1.000	2469327		1.80(0.84-2.52)		15036	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.697	2.683	0.014	1.000	3889830	2.17			41089	
449.00 > 99.00	2.697	2.683	0.014	1.000	1082373		3.59(1.94-5.82)		16593	
D 18 13C4 PFOS										
503.00 > 80.00	3.067	3.048	0.019	1.140	3496479	2.34		98.0	23455	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.067	3.050	0.017	1.000	3493647	2.23			1674	
499.00 > 99.00	3.067	3.050	0.017	1.000	844754		4.14(2.31-6.93)		2230	
D 19 13C5 PFNA										
468.00 > 423.00	3.067	3.051	0.016	1.140	3416423	2.36		94.5	34059	
20 Perfluorononanoic acid										
463.00 > 419.00	3.075	3.052	0.023	1.003	3429312	2.58			8076	
463.00 > 169.00	3.067	3.052	0.015	1.000	854616		4.01(1.90-5.69)		15671	
D 21 13C8 FOSA										
506.00 > 78.00	3.381	3.377	0.004	1.257	4842360	2.40		95.9	26866	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.381	3.378	0.003	1.000	4560473	2.48			24521	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.426	3.402	0.024	1.000	958085	2.17			29793	
D 26 M2-8:2FTS										
529.00 > 81.00	3.426	3.403	0.023	1.274	842987	2.28		95.3	14978	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.433	3.414	0.019	1.000	2994449	2.71			11801	
513.00 > 169.00	3.433	3.414	0.019	1.000	539524		5.55(2.36-7.09)		2069	
D 23 13C2 PFDA										
515.00 > 470.00	3.433	3.414	0.019	1.276	2797145	2.38		95.2	25833	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.594	3.569	0.025	1.336	1445775	2.38		95.1	18667	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.602	3.574	0.028	1.002	1520870	2.48			9012	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.751	3.730	0.021	1.000	2362956	2.73			39870	
599.00 > 99.00	3.751	3.730	0.021	1.000	722444		3.27(1.39-4.16)		15506	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.768	3.740	0.028	1.401	1664804	2.69		108	9164	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.768	3.746	0.022	1.000	2026267	2.37			10028	
563.00 > 169.00	3.768	3.746	0.022	1.000	472331		4.29(0.00-0.00)		12608	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.768	3.747	0.021	1.000	1489064	2.32			16433	
D 30 13C2 PFUnA										
565.00 > 520.00	3.768	3.747	0.021	1.401	2280818	2.56		102	26895	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.867	0.0	1.437	1411860	2.46		98.4	2802	
35 MeFOSA										
512.00 > 169.00	3.877	3.873	0.004	1.003	1404908	2.58			3222	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.069	4.045	0.024	1.000	2545535	2.72			7557	
613.00 > 169.00	4.069	4.045	0.024	1.000	601043		4.24(2.13-6.40)		35895	
D 36 13C2 PFDoA										
615.00 > 570.00	4.069	4.045	0.024	1.513	2354345	2.43		97.4	35084	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.054	4.058	-0.004	1.507	1363096	2.50		99.8	2720	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.062	4.065	-0.003	1.002	1376826	2.33			2659	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.349	4.312	0.037	1.000	2640376	2.60			8392	
663.00 > 169.00	4.349	4.312	0.037	1.000	781998		3.38(1.25-3.76)		26042	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.595	4.557	0.038	1.000	694050	2.29			15040	
713.00 > 219.00	4.583	4.557	0.026	0.997	495333		1.40(0.71-2.13)		12343	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.595	4.557	0.038	1.708	2983010	2.84		113	17872	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	5.022	4.984	0.038	1.000	5037781	2.81			2448	
813.00 > 169.00	5.022	4.984	0.038	1.000	891131		5.65(2.86-8.58)		10439	
D 44 13C2-PFHxDA										
815.00 > 770.00	5.022	4.984	0.038	1.867	5211692	2.70		108	12168	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.413	5.361	0.052	1.000	6278693	2.80			1294	
913.00 > 169.00	5.413	5.361	0.052	1.000	782394		8.02(0.00-0.00)		2527	

Reagents:

LCPFCIC_FULL_00007 Amount Added: 0.25 Units: mL

Report Date: 27-Dec-2017 11:03:13 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.27ICALA_012.d

Injection Date: 27-Dec-2017 09:54:06 Instrument ID: A8_N

Lims ID: ICV Full

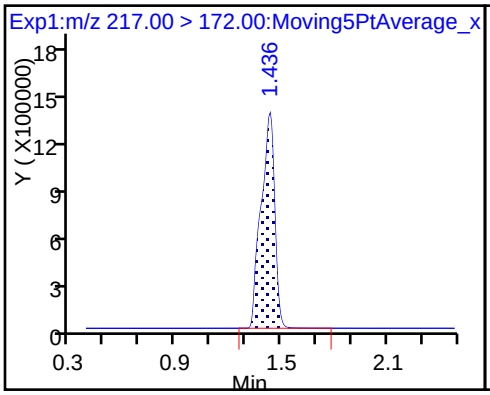
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Operator ID: SACINSTLCMS01 ALS Bottle#: 18 Worklist Smp#: 18

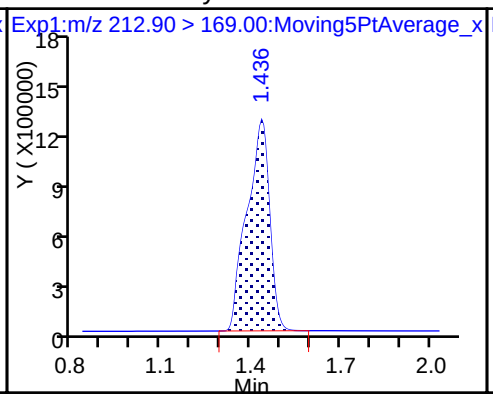
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

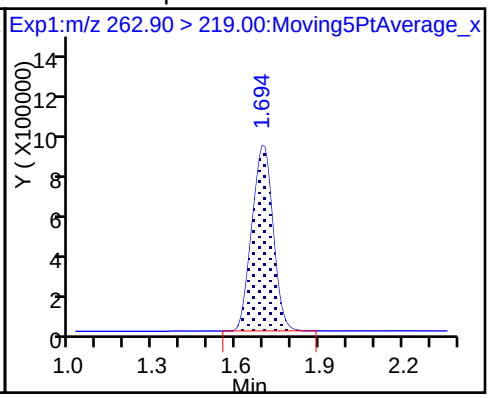
D 1 13C4 PFBA



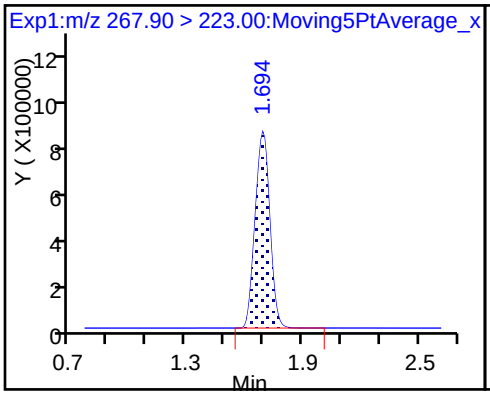
2 Perfluorobutyric acid



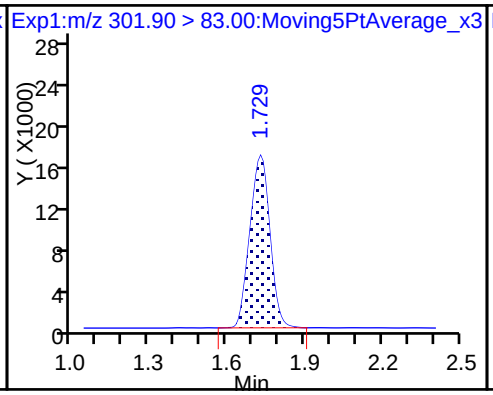
4 Perfluoropentanoic acid



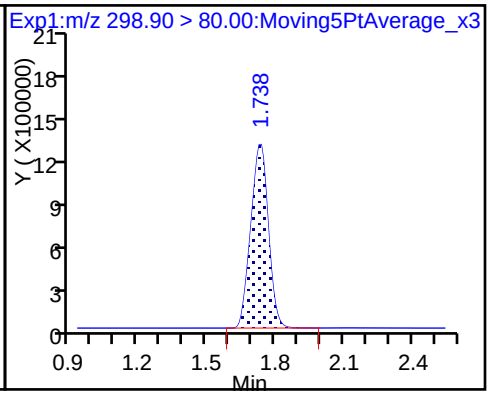
D 3 13C5-PFPeA



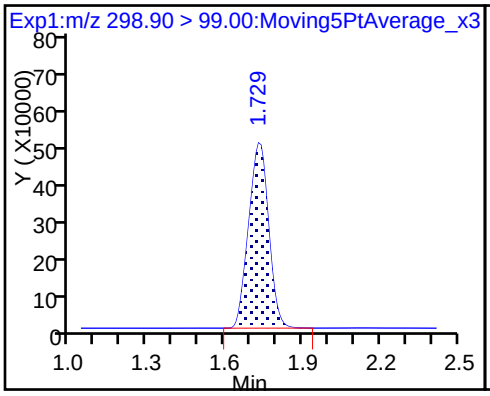
D 47 13C3-PFBS



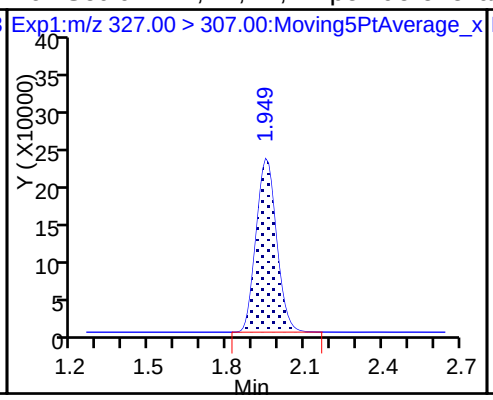
5 Perfluorobutanesulfonic acid



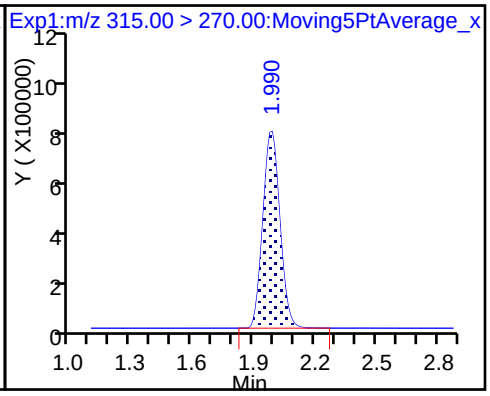
5 Perfluorobutanesulfonic acid



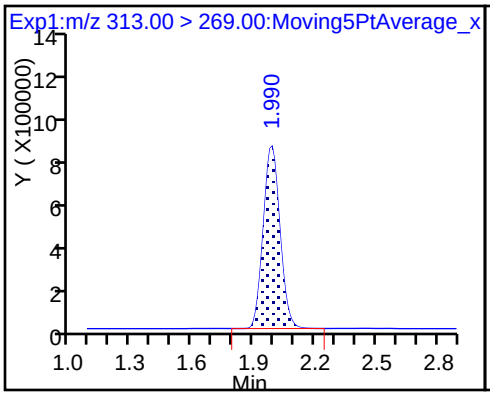
61 Sodium 1H,1H,2H,2H-perfluorohexa



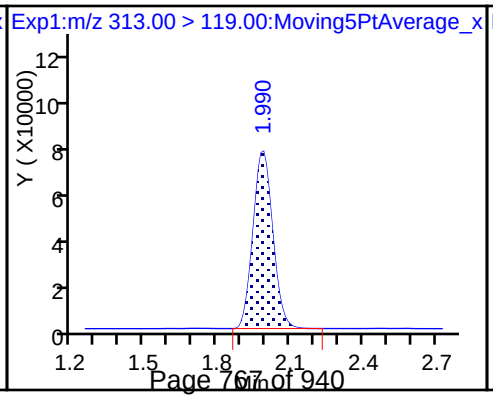
D 7 13C2 PFHxA



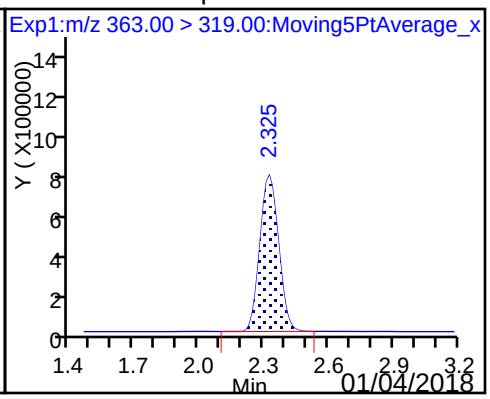
6 Perfluorohexanoic acid



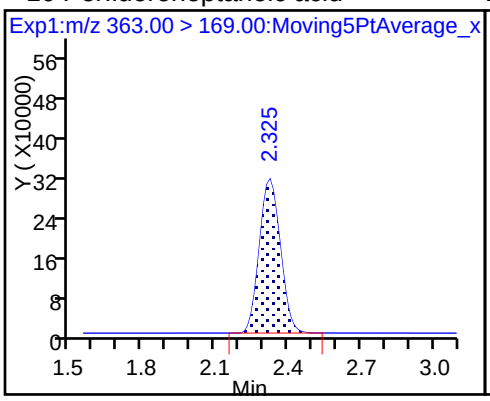
6 Perfluorohexanoic acid



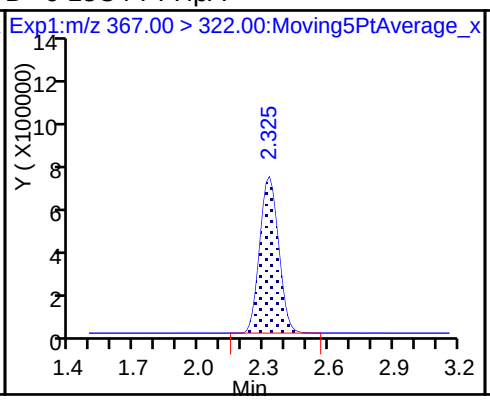
10 Perfluoroheptanoic acid



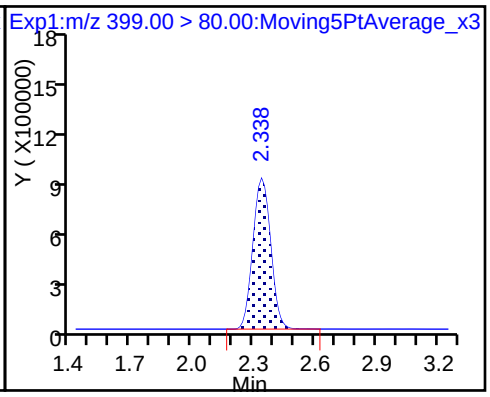
10 Perfluoroheptanoic acid



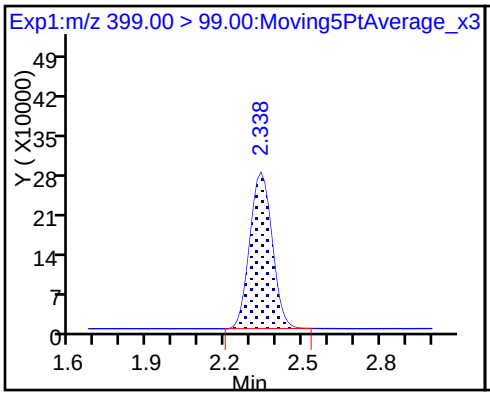
D 9 13C4-PFHpA



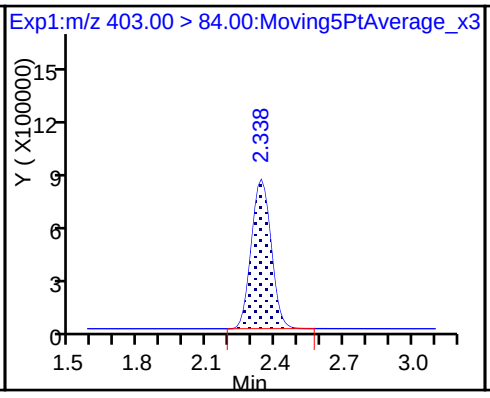
8 Perfluorohexanesulfonic acid



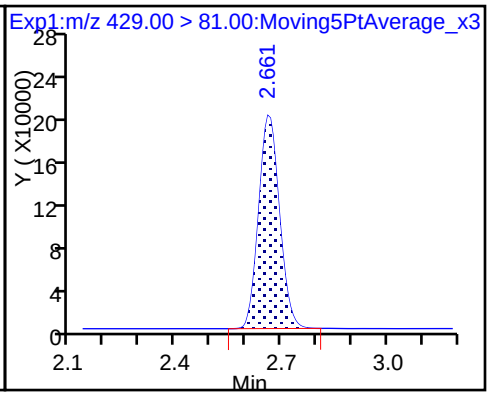
8 Perfluorohexanesulfonic acid



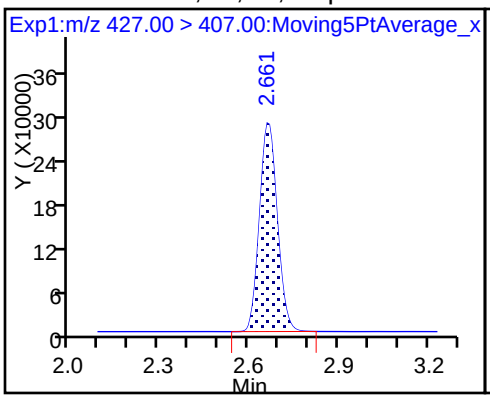
D 11 18O2 PFHxS



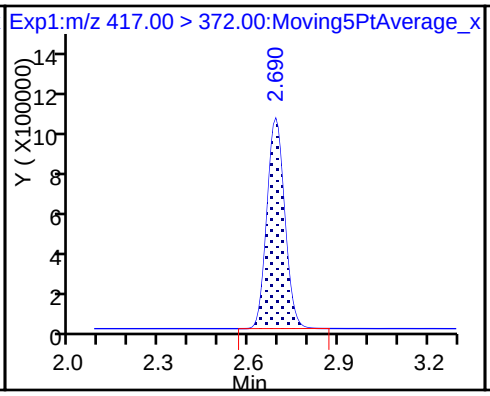
D 12 M2-6:2FTS



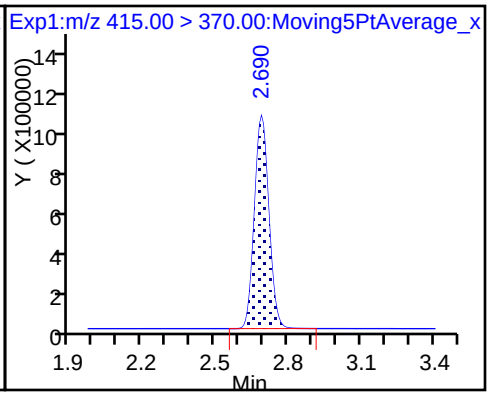
13 Sodium 1H,1H,2H,2H-perfluorooctane



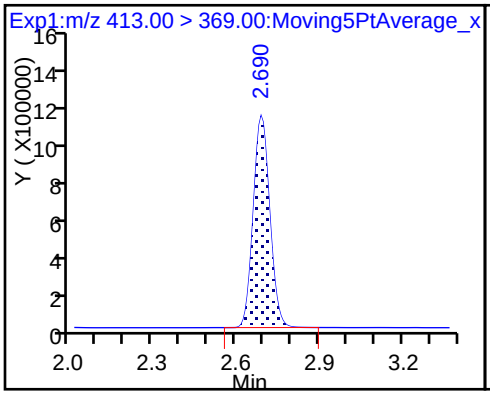
D 14 13C4 PFOA



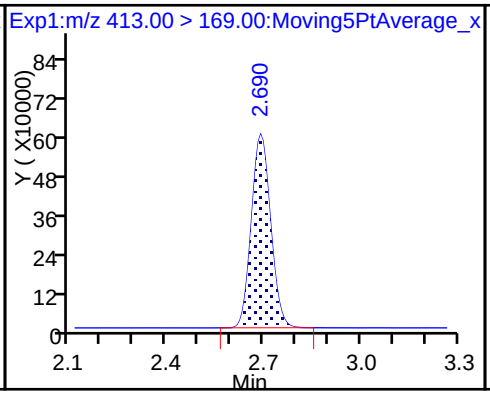
* 62 13C2-PFOA



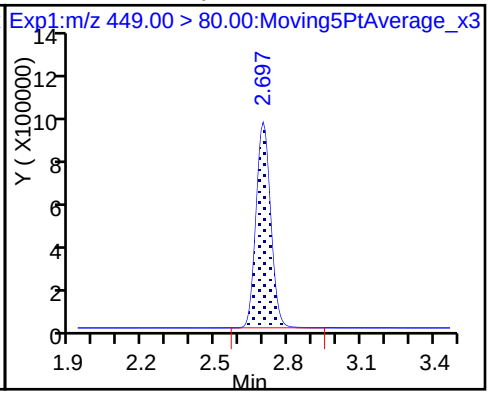
15 Perfluorooctanoic acid



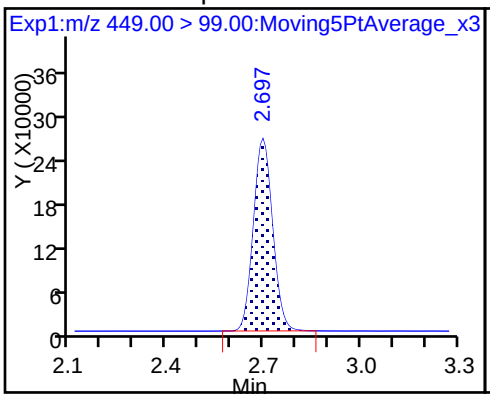
15 Perfluorooctanoic acid



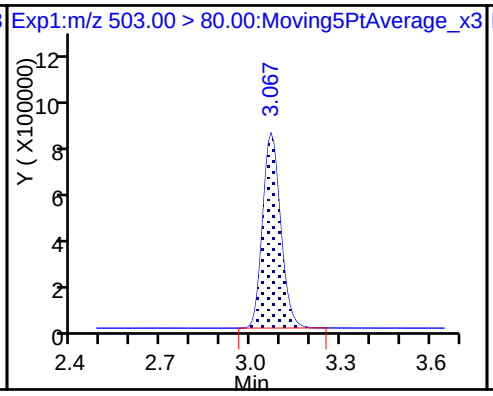
16 Perfluoroheptanesulfonic Acid



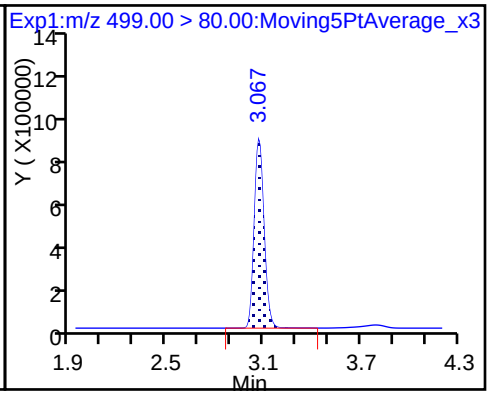
16 Perfluoroheptanesulfonic Acid



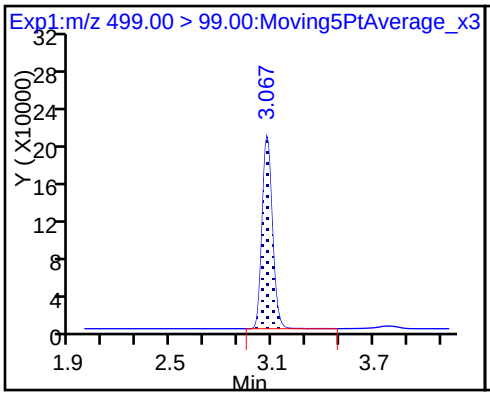
D 18 13C4 PFOS



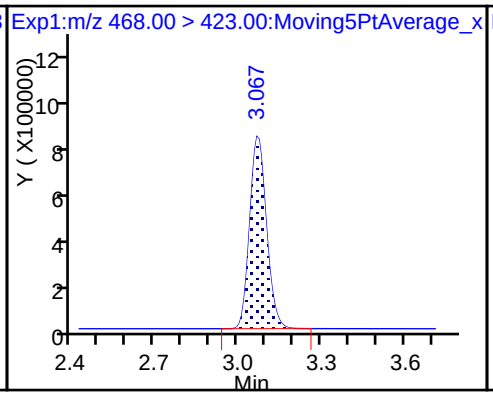
17 Perfluorooctane sulfonic acid



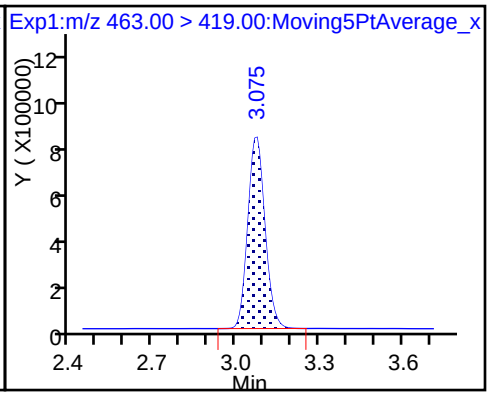
17 Perfluorooctane sulfonic acid



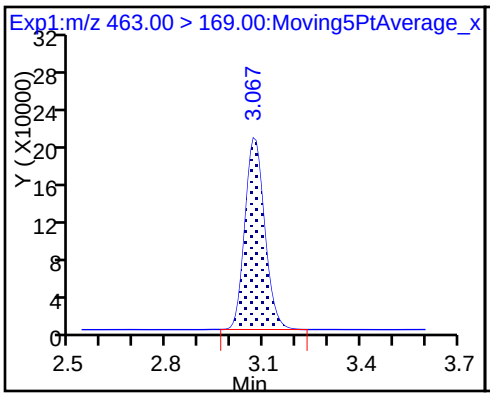
D 19 13C5 PFNA



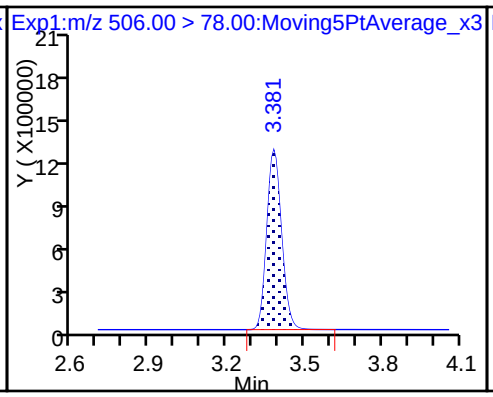
20 Perfluorononanoic acid



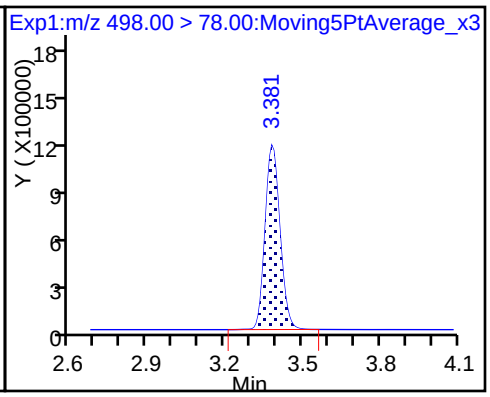
20 Perfluorononanoic acid



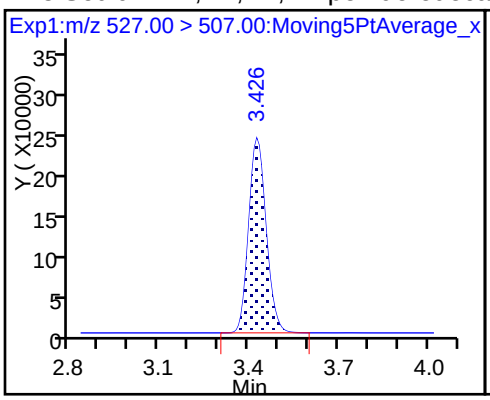
D 21 13C8 FOSA



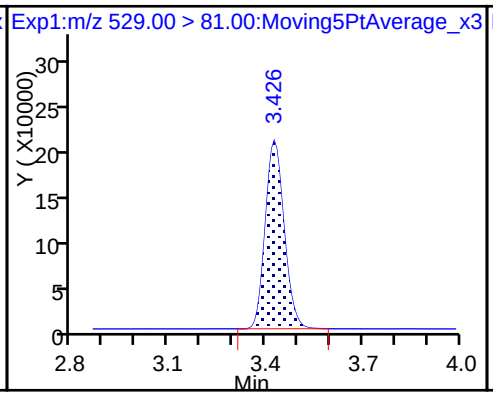
22 Perfluorooctane Sulfonamide



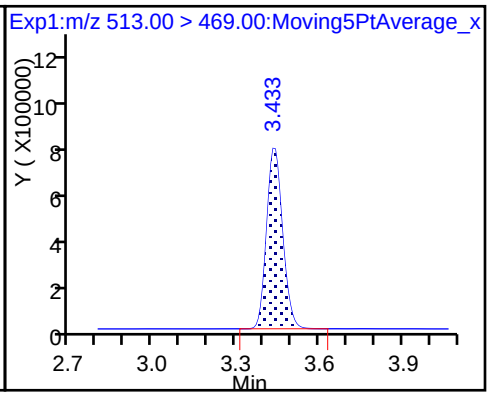
25 Sodium 1H,1H,2H,2H-perfluorodecane



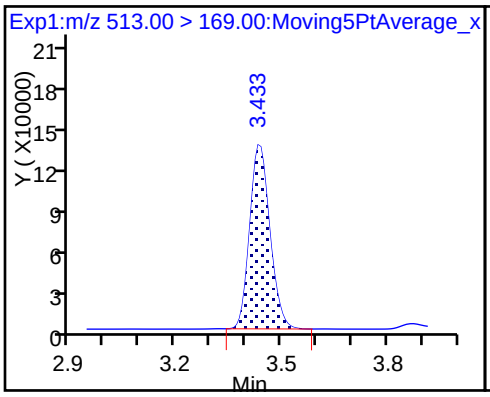
D 26 M2-8:2FTS



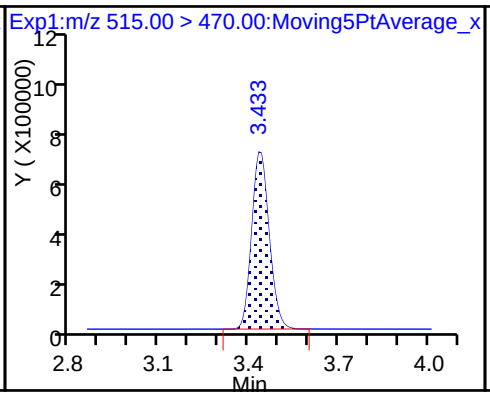
24 Perfluorodecanoic acid



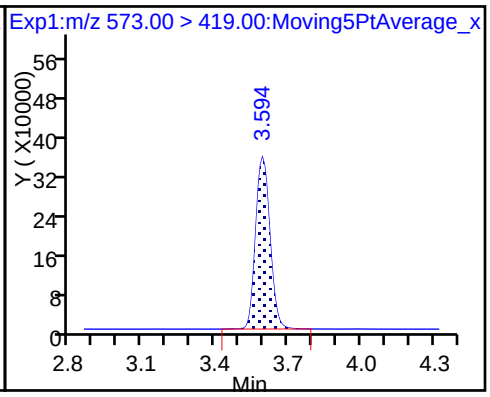
24 Perfluorodecanoic acid



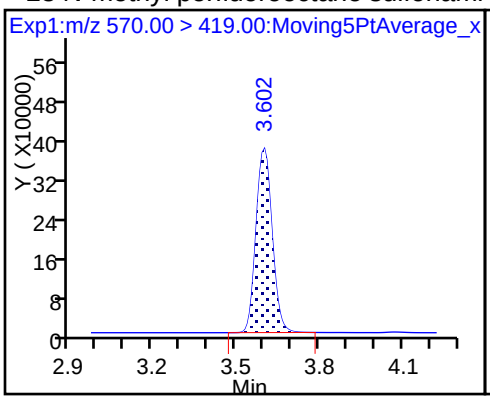
D 23 13C2 PFDA



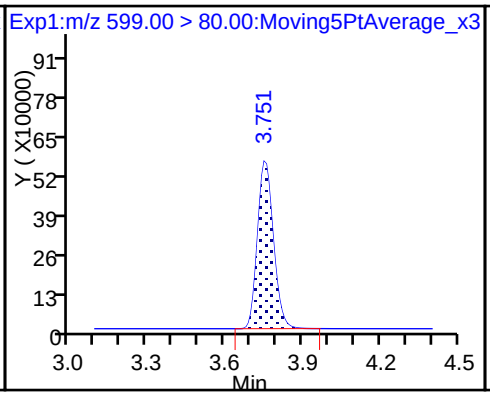
D 27 d3-NMeFOSAA



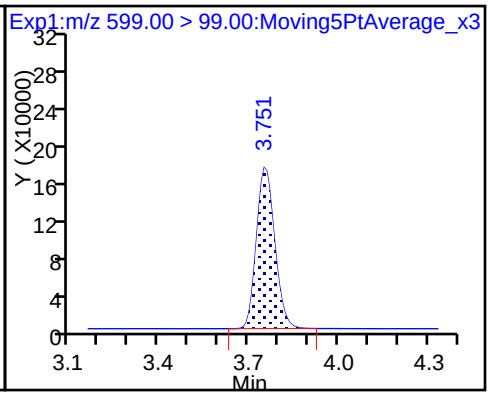
28 N-methyl perfluorooctane sulfonami



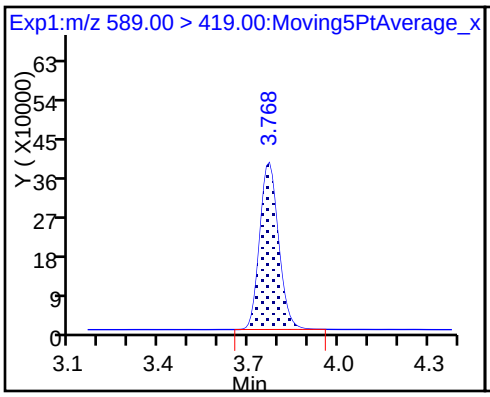
29 Perfluorodecane Sulfonic acid



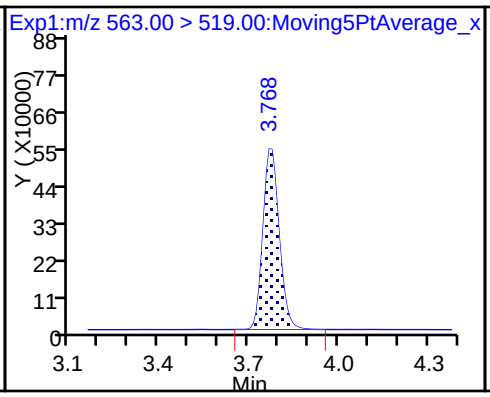
29 Perfluorodecane Sulfonic acid



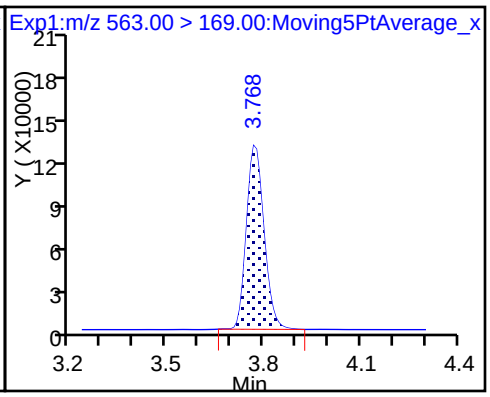
D 32 d5-NEtFOSAA



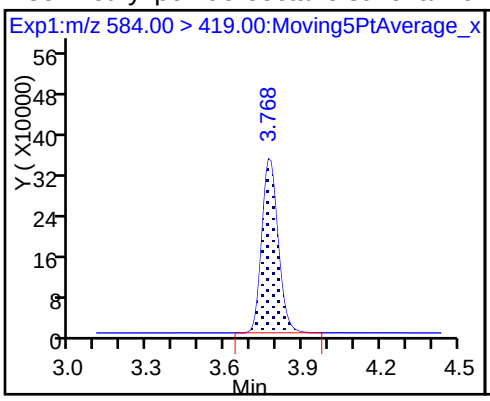
31 Perfluoroundecanoic acid



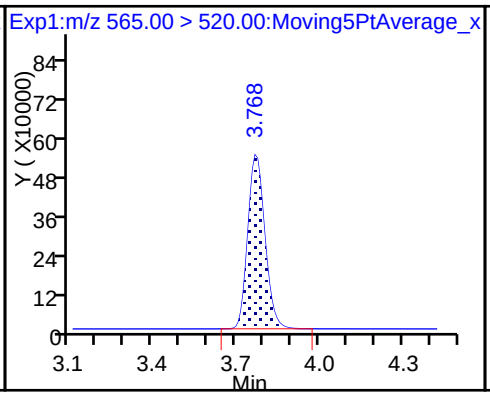
31 Perfluoroundecanoic acid



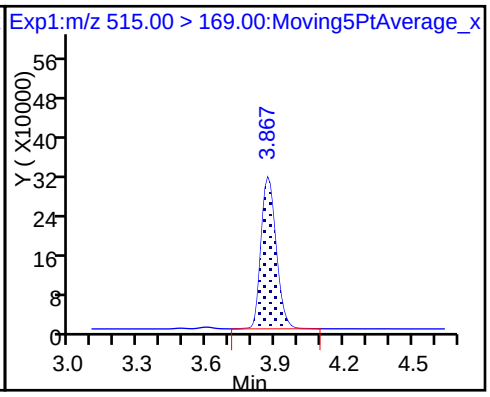
33 N-ethyl perfluorooctane sulfonamid



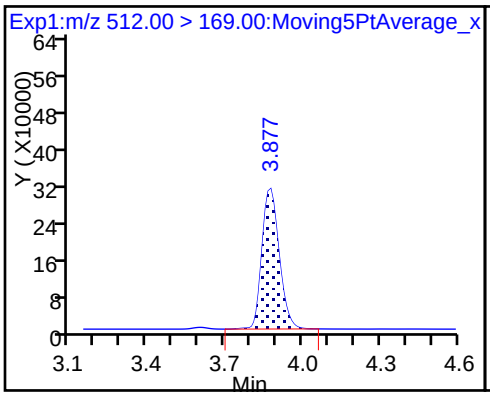
D 30 13C2 PFUnA



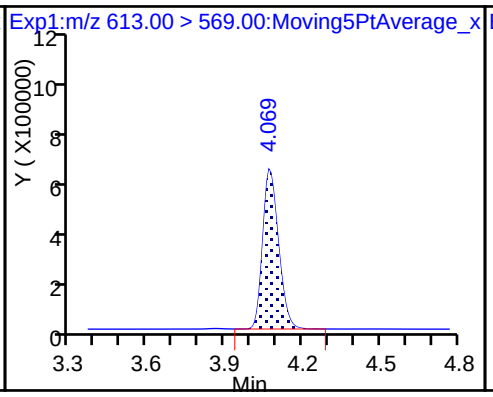
D 34 d-N-MeFOSA-M



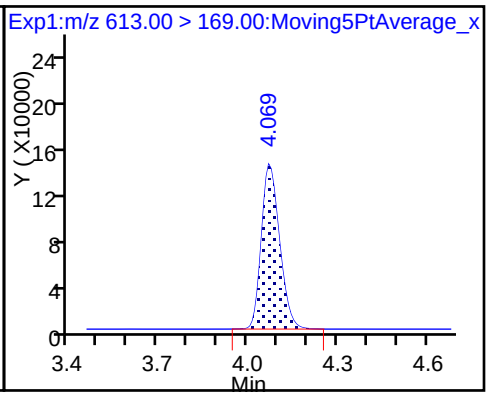
35 MeFOSA



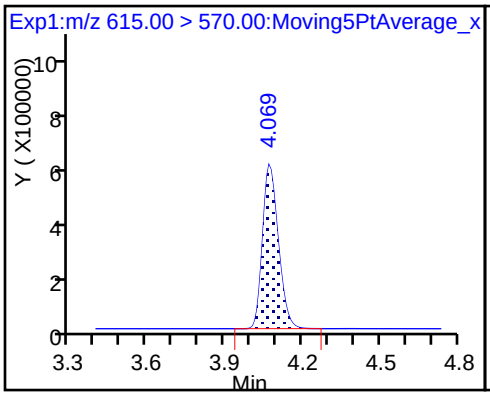
37 Perfluorododecanoic acid



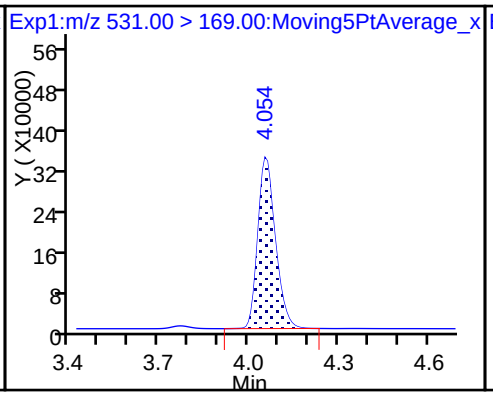
37 Perfluorododecanoic acid



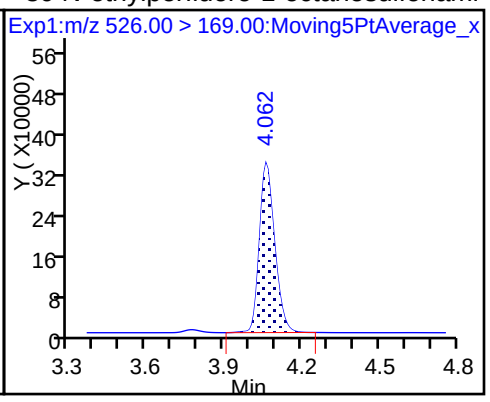
D 36 13C2 PFDoA



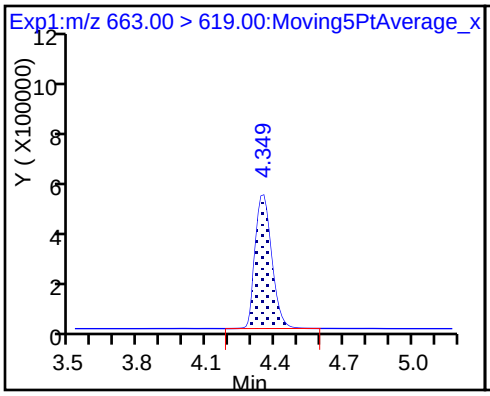
D 38 d-N-EtFOSA-M



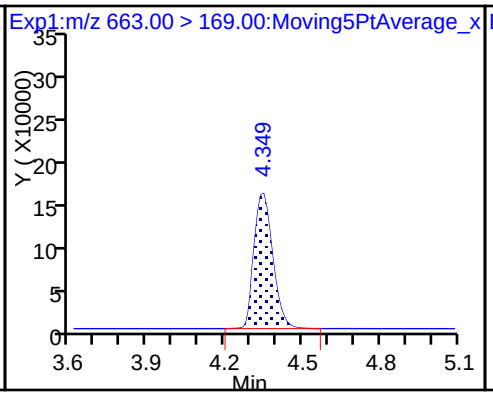
39 N-ethylperfluoro-1-octanesulfonami



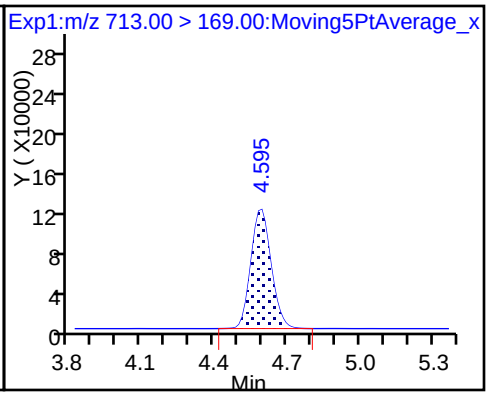
41 Perfluorotridecanoic acid



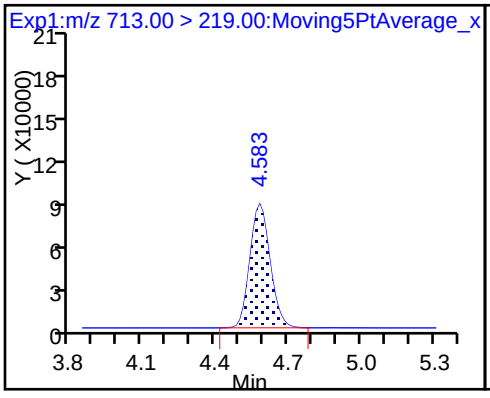
41 Perfluorotridecanoic acid



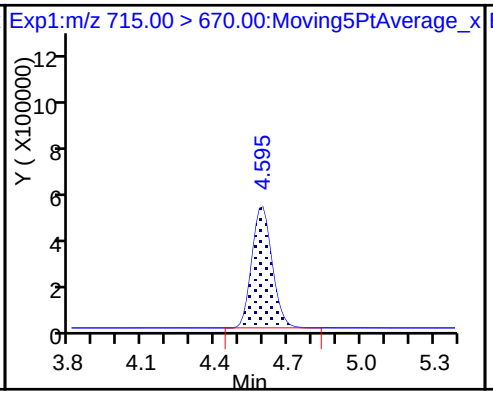
42 Perfluorotetradecanoic acid



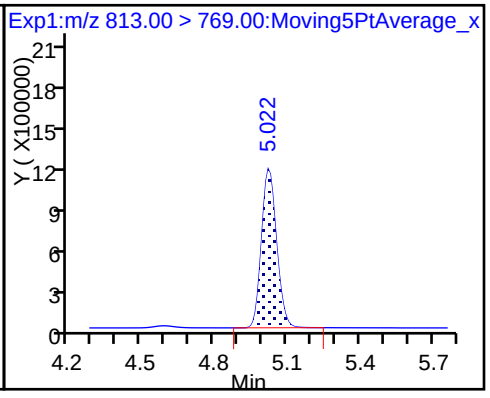
42 Perfluorotetradecanoic acid



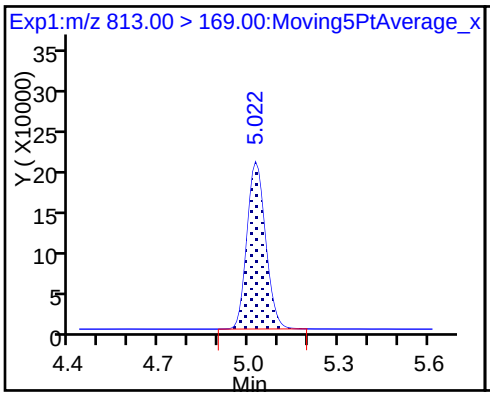
D 43 13C2-PFTeDA



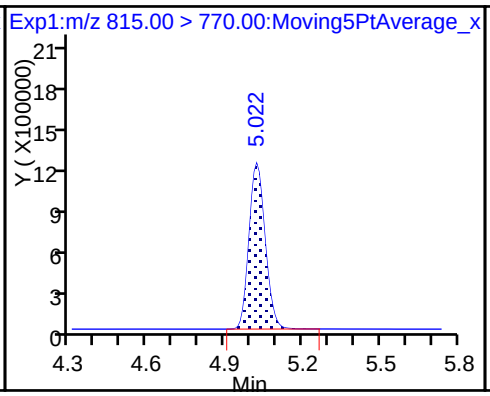
45 Perfluorohexadecanoic acid



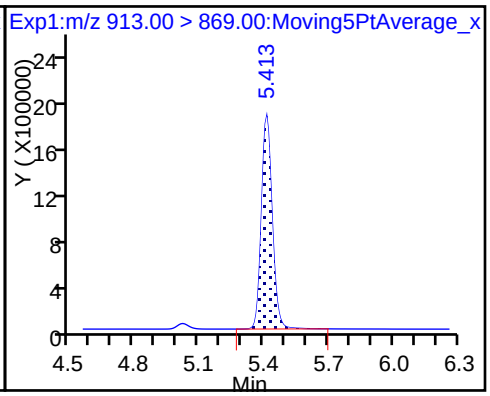
45 Perfluorohexadecanoic acid



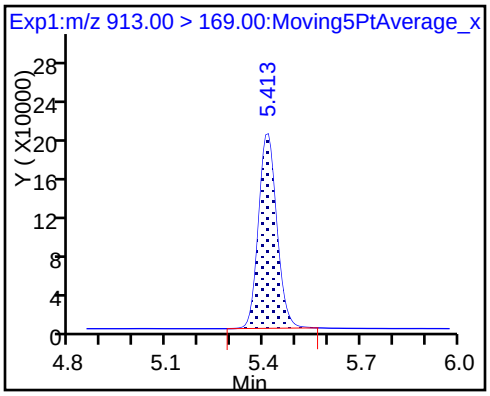
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-201684/1 Calibration Date: 12/28/2017 12:28

Instrument ID: A8_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.28LLB_032.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9135	0.9544		2.61	2.50	4.5	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.122	1.095		2.44	2.50	-2.4	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.84	81.61		2.41	2.21	9.0	50.0
4:2 FTS	AveID	1.724	1.671		2.26	2.34	-3.1	50.0
Perfluorohexanoic acid (PFHxA)	AveID	0.999	0.9789		2.45	2.50	-2.0	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.052		2.52	2.50	0.6	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.093	1.068		2.22	2.28	-2.3	40.0
6:2FTS	AveID	1.677	1.565		2.21	2.37	-6.6	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.059	1.064		2.51	2.50	0.5	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.227	1.340		2.60	2.38	9.2	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9743	0.996		2.56	2.50	2.2	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.073	1.122		2.43	2.32	4.6	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9492	0.9845		2.59	2.50	3.7	40.0
8:2FTS	AveID	1.256	1.270		2.42	2.40	1.2	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9858	0.998		2.53	2.50	1.3	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.059	1.059		2.50	2.50	0.0	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5921	0.6349		2.58	2.41	7.2	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9653	0.9426		2.44	2.50	-2.3	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9369	0.8776		2.34	2.50	-6.3	40.0
MeFOSA	AveID	0.9651	1.000		2.59	2.50	3.6	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9929	0.9647		2.43	2.50	-2.8	40.0
N-EtFOSA-M	AveID	1.084	1.110		2.56	2.50	2.4	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.078	1.170		2.71	2.50	8.5	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2545	0.2482		2.44	2.50	-2.5	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9031		2.62	2.50	4.9	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.075	1.046		2.43	2.50	-2.7	50.0
13C4 PFBA	Ave	1.731	1.737		2.51	2.50	0.3	50.0
13C5 PFPeA	Ave	1.009	1.053		2.61	2.50	4.4	50.0
13C3-PFBS	Ave	0.0219	0.0217		2.30	2.33	-1.0	50.0
13C2 PFHxA	Ave	1.085	1.151		2.65	2.50	6.1	50.0
13C4-PFHpA	Ave	1.007	1.045		2.60	2.50	3.8	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-201684/1 Calibration Date: 12/28/2017 12:28

Instrument ID: A8_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.28LLB_032.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.278	1.285		2.38	2.37	0.5	50.0
M2-6:2FTS	Ave	0.1910	0.1828		2.27	2.38	-4.3	40.0
13C4 PFOA	Ave	1.028	1.059		2.58	2.50	3.1	50.0
13C4 PFOS	Ave	0.8476	0.8237		2.32	2.39	-2.8	50.0
13C5 PFNA	Ave	0.8211	0.8438		2.57	2.50	2.8	50.0
13C8 FOSA	Ave	1.146	1.182		2.58	2.50	3.1	50.0
M2-8:2FTS	Ave	0.2097	0.1886		2.16	2.40	-10.0	40.0
13C2 PFDA	Ave	0.6674	0.6751		2.53	2.50	1.2	50.0
d3-NMeFOSAA	Ave	0.3450	0.3247		2.35	2.50	-5.9	50.0
d5-NEtFOSAA	Ave	0.3516	0.3404		2.42	2.50	-3.2	50.0
13C2 PFUnA	Ave	0.5052	0.5324		2.64	2.50	5.4	50.0
d-N-MeFOSA-M	Ave	0.3256	0.3390		2.60	2.50	4.1	50.0
13C2 PFDoA	Ave	0.5489	0.5867		2.67	2.50	6.9	50.0
d-N-EtFOSA-M	Ave	0.3100	0.3134		2.53	2.50	1.1	50.0
13C2-PFTeDA	Ave	0.5969	0.6352		2.66	2.50	6.4	50.0
13C2-PFHxDA	Ave	1.094	1.198		2.74	2.50	9.5	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\2017.12.28LLB_032.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 28-Dec-2017 12:28:02 ALS Bottle#: 33 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 28-Dec-2017 14:23:32 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK001

First Level Reviewer: barnettj Date: 28-Dec-2017 14:18:12

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.432	1.433	-0.001	0.538	7172575	2.51		100	24477	
2 Perfluorobutyric acid										
212.90 > 169.00	1.438	1.434	0.004	1.004	6845727	2.61		104	1659	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.690	1.691	-0.001	1.000	4762880	2.44		97.6	5724	
D 3 13C5-PFPeA										
267.90 > 223.00	1.690	1.692	-0.002	0.635	4350290	2.61		104	40421	
D 47 13C3-PFBS										
301.90 > 83.00	1.725	1.725	0.0	0.649	83145	2.30		99.0	2491	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.725	1.730	-0.005	1.000	6450174	2.41		109	26754	
298.90 > 99.00	1.725	1.730	-0.005	1.000	2616396		2.47(1.25-3.74)		18383	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.934	1.941	-0.007	1.000	1178067	2.26		96.9	53022	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.976	-0.011	0.739	4753020	2.65		106	34654	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.976	1.979	-0.003	1.005	4652715	2.45		98.0	9685	
313.00 > 119.00	1.965	1.979	-0.014	1.000	411728		11.30(5.03-15.10)		8986	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.311	-0.005	0.867	4316893	2.59		104	33484	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.311	-0.005	1.000	4542330	2.52		101	7769	
363.00 > 169.00	2.306	2.311	-0.005	1.000	1784260		2.55(1.13-3.40)		12116	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.324	-0.018	0.994	5157679	2.22		97.7	14181	
399.00 > 99.00	2.319	2.324	-0.005	1.000	1706059		3.02(1.50-4.49)		10027	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.328	-0.009	0.872	5020995	2.38		101	24667	
D 12 M2-6:2FTS										
429.00 > 81.00	2.638	2.649	-0.011	0.992	717230	2.27		95.7	14407	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.651	-0.013	1.000	1120357	2.21		93.4	29952	
D 14 13C4 PFOA										
417.00 > 372.00	2.660	2.674	-0.014	1.000	4375047	2.58		103	36541	
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.676	-0.016		4130321	2.50			39273	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.660	2.677	-0.017	1.000	4654432	2.51		100	5392	
413.00 > 169.00	2.660	2.677	-0.017	1.000	2462022		1.89(0.84-2.52)		14010	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.667	2.683	-0.016	1.000	4340774	2.60		109	23790	
449.00 > 99.00	2.667	2.683	-0.016	1.000	1104516		3.93(1.94-5.82)		13187	
D 18 13C4 PFOS										
503.00 > 80.00	3.034	3.048	-0.014	1.141	3252465	2.32		97.2	26787	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.034	3.050	-0.016	1.000	3542576	2.43		105	1178	
499.00 > 99.00	3.034	3.050	-0.016	1.000	746362		4.75(2.31-6.93)		1367	
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.051	-0.017	1.141	3485135	2.57		103	44011	
20 Perfluorononanoic acid										
463.00 > 419.00	3.034	3.052	-0.018	1.000	3471013	2.56		102	11341	
463.00 > 169.00	3.034	3.052	-0.018	1.000	843356		4.12(1.90-5.69)		13579	
D 21 13C8 FOSA										
506.00 > 78.00	3.372	3.377	-0.005	1.268	4882766	2.58		103	21297	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.372	3.378	-0.006	1.000	4806880	2.59		104	26287	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.387	3.402	-0.015	1.000	947931	2.42		101	22052	
D 26 M2-8:2FTS										
529.00 > 81.00	3.387	3.403	-0.016	1.274	746399	2.15		90.0	17068	
D 23 13C2 PFDA										
515.00 > 470.00	3.395	3.414	-0.019	1.276	2788561	2.53		101	27332	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.395	3.414	-0.019	1.000	2784147	2.53		101	15101	
513.00 > 169.00	3.395	3.414	-0.019	1.000	485557		5.73(2.36-7.09)		1974	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.554	3.569	-0.015	1.336	1341119	2.35		94.1	15049	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.554	3.574	-0.020	1.000	1420504	2.50		100	9605	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.708	3.730	-0.022	1.000	2082288	2.58		107	23913	
599.00 > 99.00	3.708	3.730	-0.022	1.000	716340		2.91(1.39-4.16)		14334	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.716	3.740	-0.024	1.397	1406119	2.42		96.8	5828	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.725	3.746	-0.021	1.000	1929986	2.34		93.7	12590	
563.00 > 169.00	3.725	3.746	-0.021	1.000	436181		4.42(0.00-0.00)		19952	
D 30 13C2 PFUnA										
565.00 > 520.00	3.725	3.747	-0.022	1.401	2199087	2.63		105	24892	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.725	3.747	-0.022	1.002	1325435	2.44		97.7	14556	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.867	0.0	1.454	1400014	2.60		104	4020	
35 MeFOSA										
512.00 > 169.00	3.877	3.873	0.004	1.003	1400039	2.59		104	3370	
D 36 13C2 PFDoA										
615.00 > 570.00	4.022	4.045	-0.023	1.512	2423340	2.67		107	34187	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.022	4.045	-0.023	1.000	2337866	2.43		97.2	10153	
613.00 > 169.00	4.022	4.045	-0.023	1.000	599905		3.90(2.13-6.40)		19083	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.062	4.058	0.004	1.527	1294499	2.53		101	2824	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.062	4.065	-0.003	1.000	1436440	2.56		102	3509	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.289	4.312	-0.024	1.000	2834249	2.71		109	15445	
663.00 > 169.00	4.289	4.312	-0.024	1.000	913905		3.10(1.25-3.76)		20385	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.528	4.557	-0.029	1.703	2623430	2.66		106	19622	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.528	4.557	-0.029	1.000	651095	2.44		97.5	18516	
713.00 > 219.00	4.528	4.557	-0.029	1.000	446149		1.46(0.71-2.13)		15194	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.950	4.984	-0.034	1.861	4949811	2.74		110	13812	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.959	4.984	-0.025	1.002	4470293	2.62		105	3340	
813.00 > 169.00	4.950	4.984	-0.034	1.000	800206		5.59(2.86-8.58)		8865	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.318	5.361	-0.043	1.000	5177741	2.43		97.3	1407	
913.00 > 169.00	5.318	5.361	-0.043	1.000	660866		7.83(0.00-0.00)		2943	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 28-Dec-2017 14:23:32 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\2017.12.28LLB_032.d

Injection Date: 28-Dec-2017 12:28:02 Instrument ID: A8_N

Lims ID: CCV L5

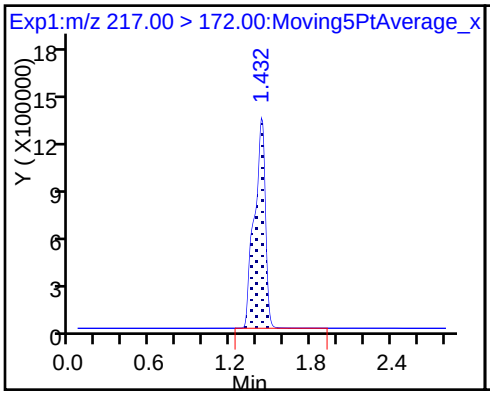
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Operator ID: SACINSTLCMS01 ALS Bottle#: 33 Worklist Smp#: 1

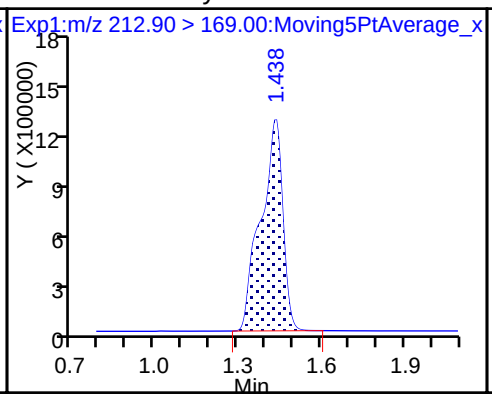
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

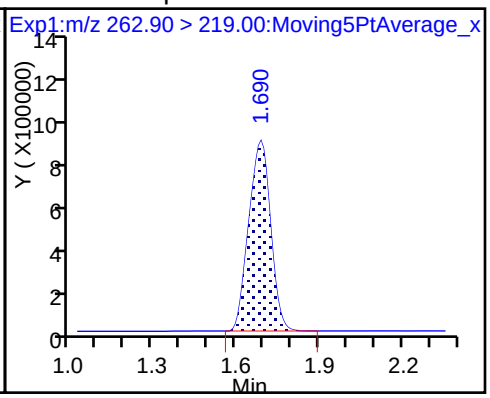
D 1 13C4 PFBA



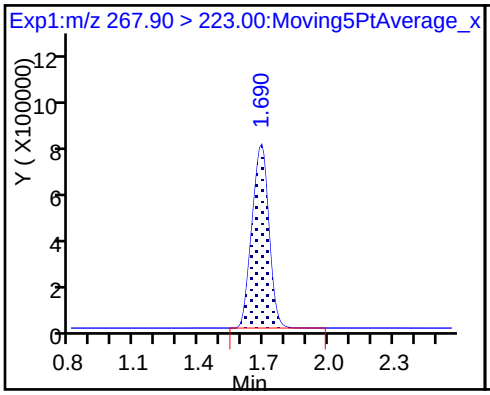
2 Perfluorobutyric acid



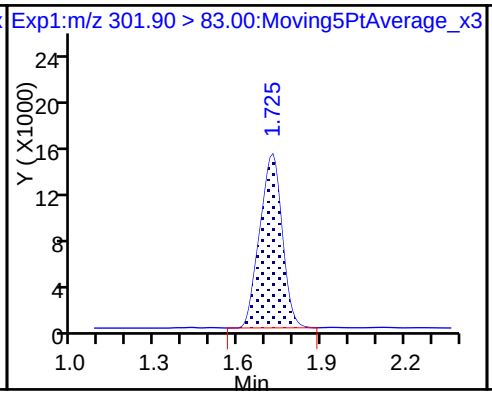
4 Perfluoropentanoic acid



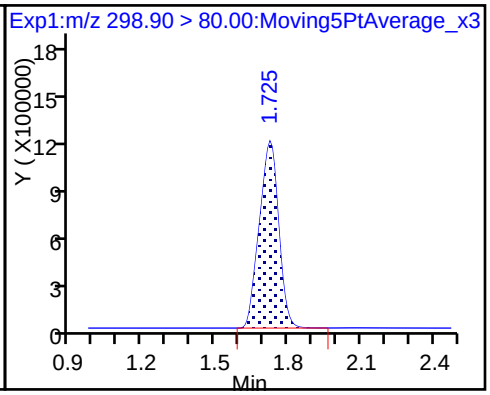
D 3 13C5-PFPeA



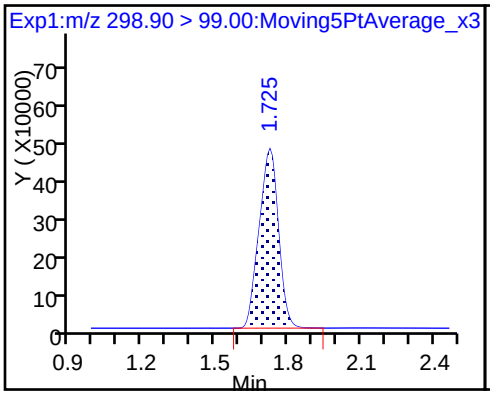
D 47 13C3-PFBS



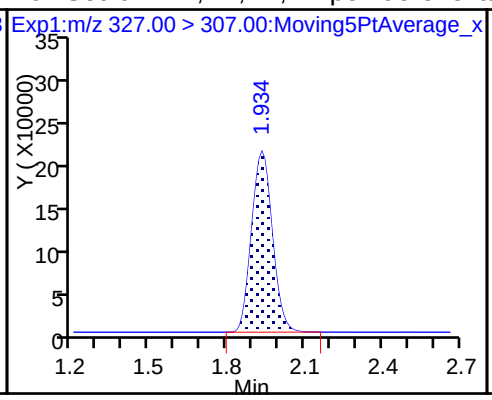
5 Perfluorobutanesulfonic acid



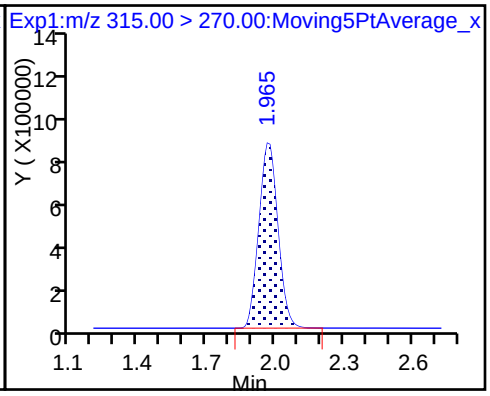
5 Perfluorobutanesulfonic acid



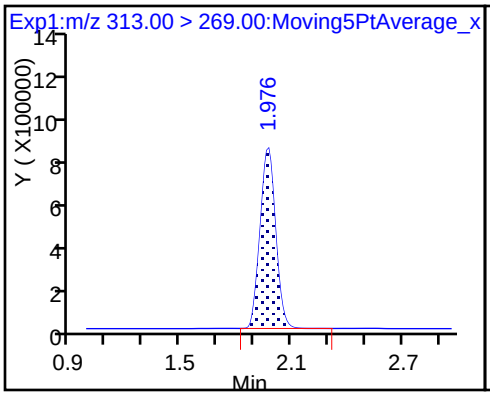
61 Sodium 1H,1H,2H,2H-perfluorohexa



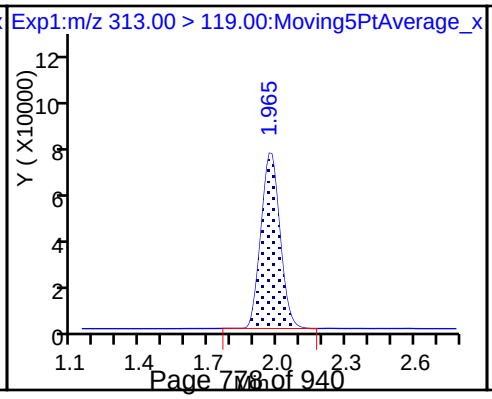
D 7 13C2 PFHxA



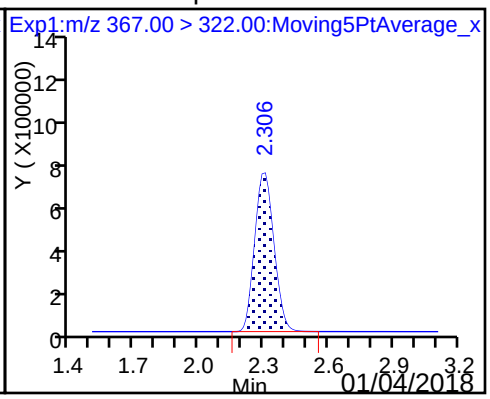
6 Perfluorohexanoic acid



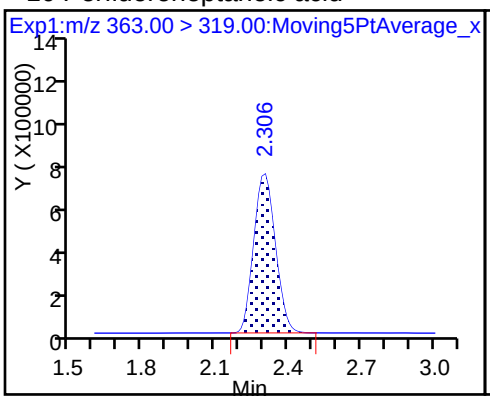
6 Perfluorohexanoic acid



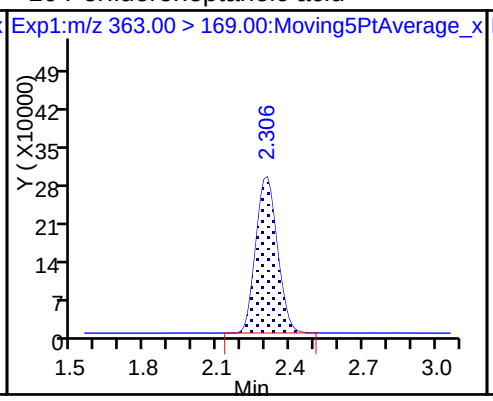
D 9 13C4-PFHpA



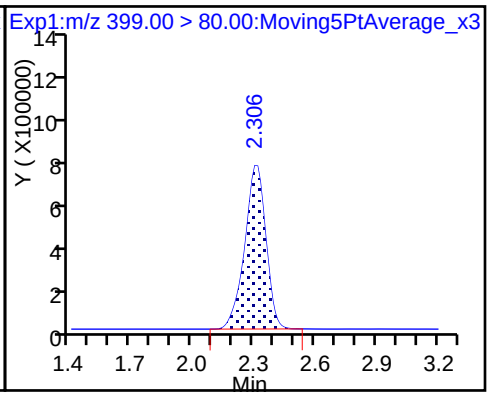
10 Perfluoroheptanoic acid



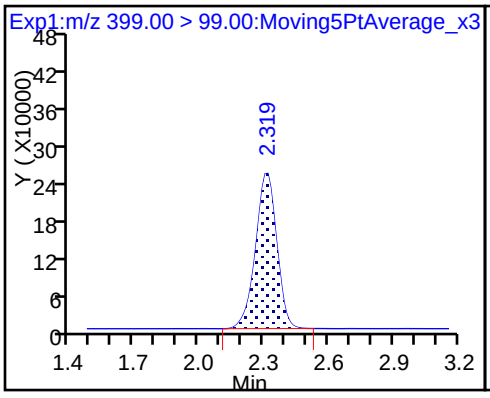
10 Perfluoroheptanoic acid



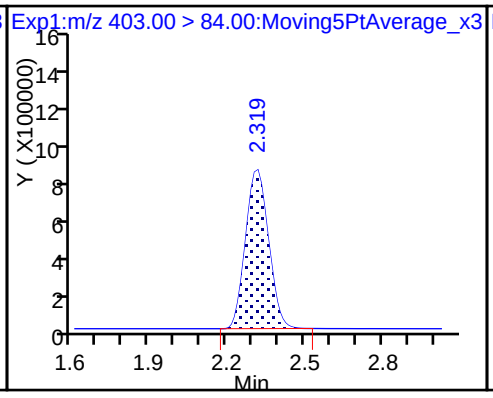
8 Perfluorohexanesulfonic acid



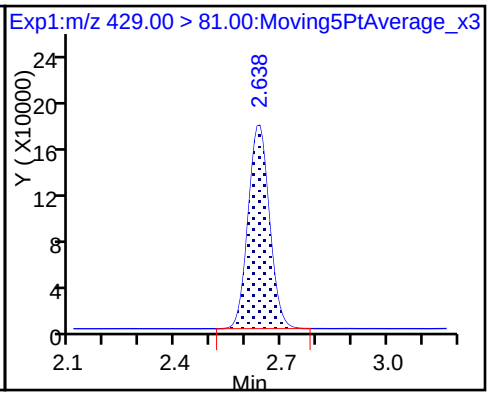
8 Perfluorohexanesulfonic acid



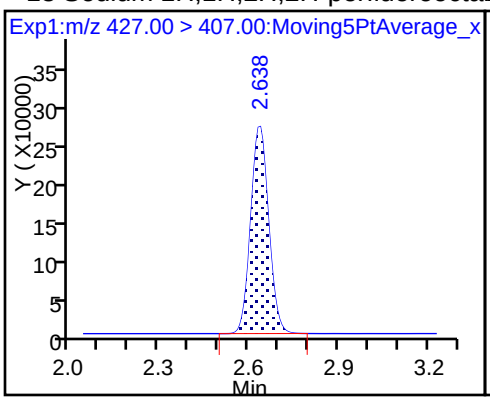
D 11 18O2 PFHxS



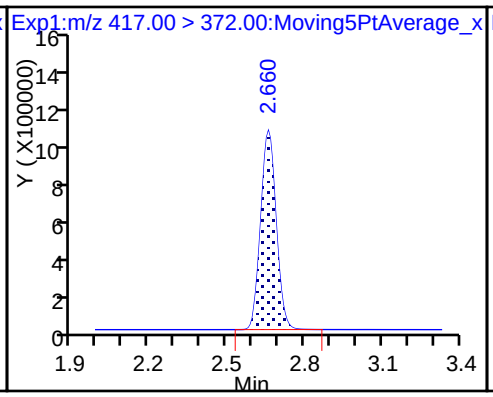
D 12 M2-6:2FTS



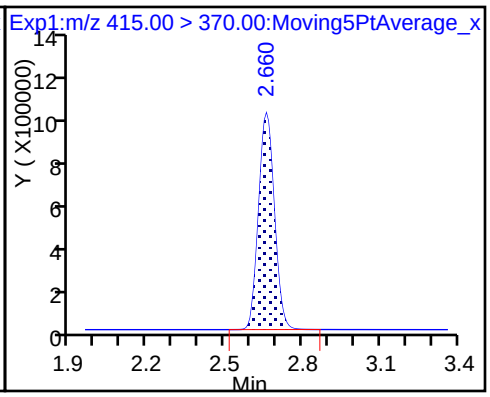
13 Sodium 1H,1H,2H,2H-perfluorooctane



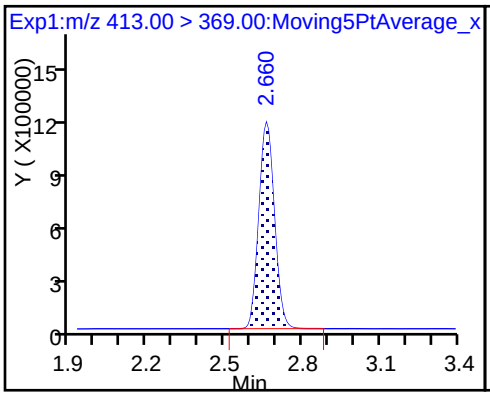
D 14 13C4 PFOA



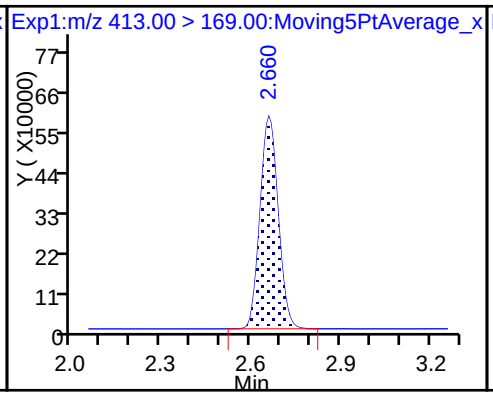
* 62 13C2-PFOA



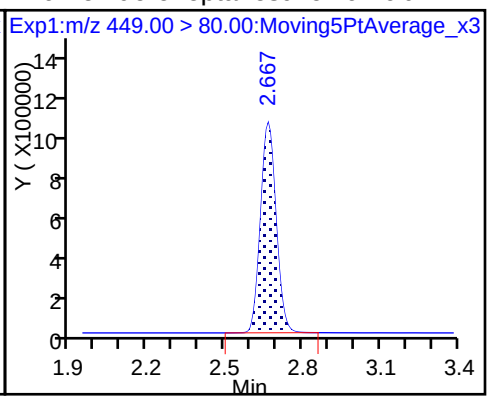
15 Perfluorooctanoic acid



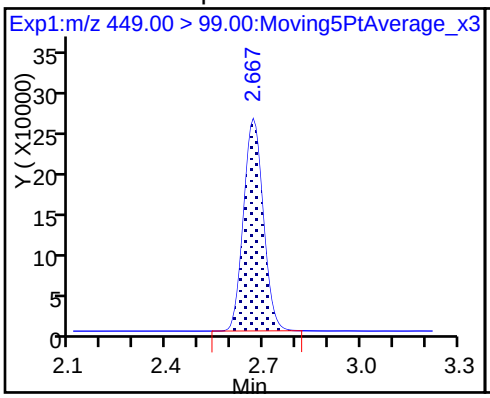
15 Perfluorooctanoic acid



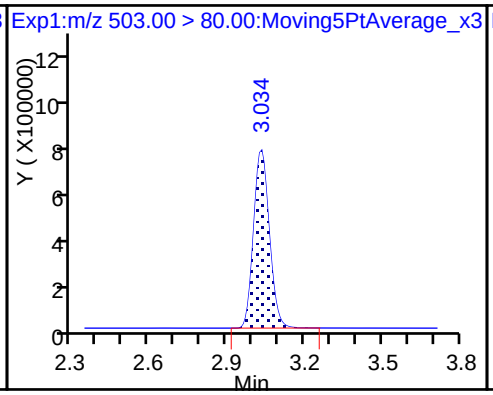
16 Perfluoroheptanesulfonic Acid



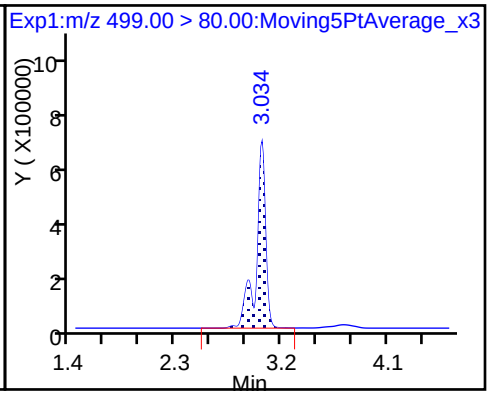
16 Perfluoroheptanesulfonic Acid



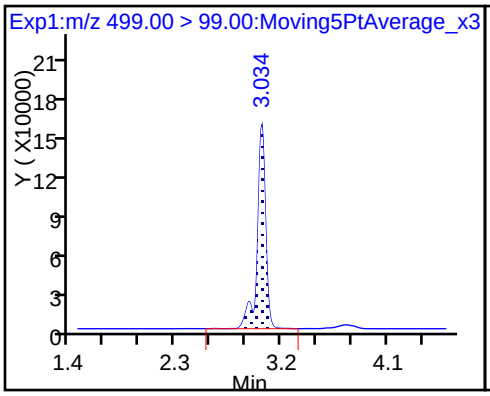
D 18 13C4 PFOS



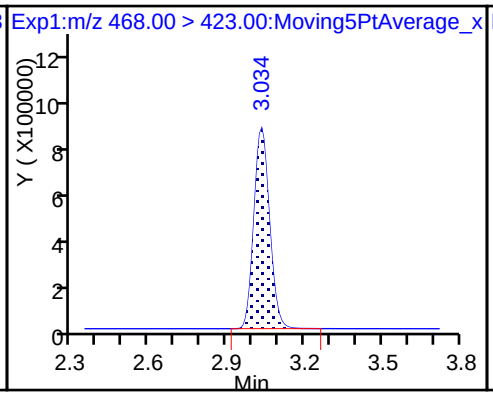
17 Perfluorooctane sulfonic acid



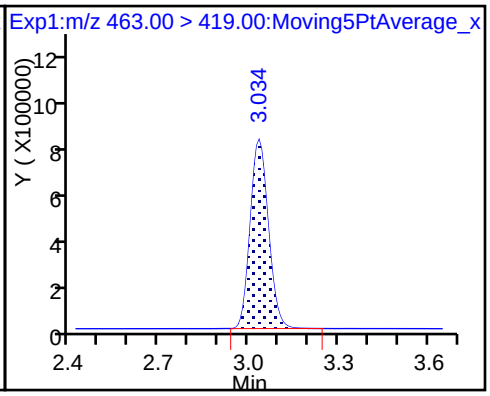
17 Perfluorooctane sulfonic acid



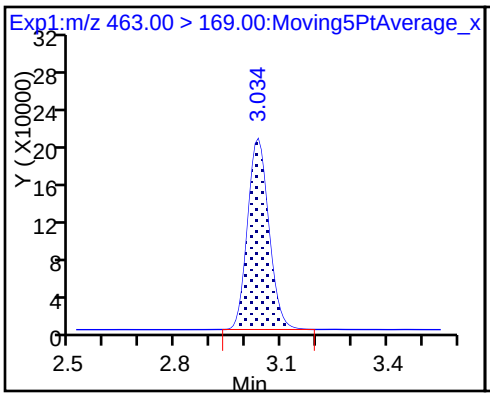
D 19 13C5 PFNA



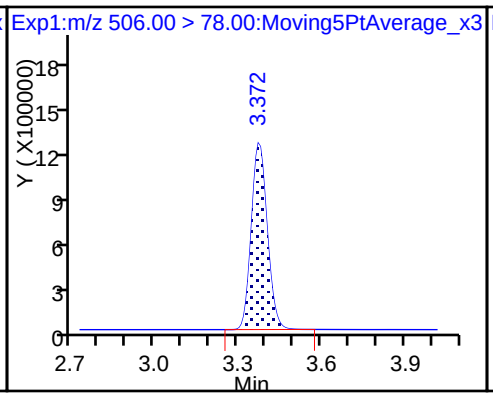
20 Perfluorononanoic acid



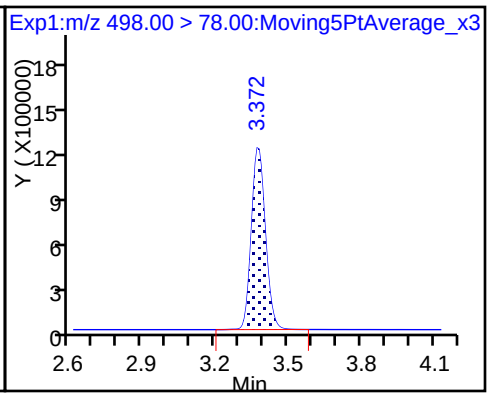
20 Perfluorononanoic acid



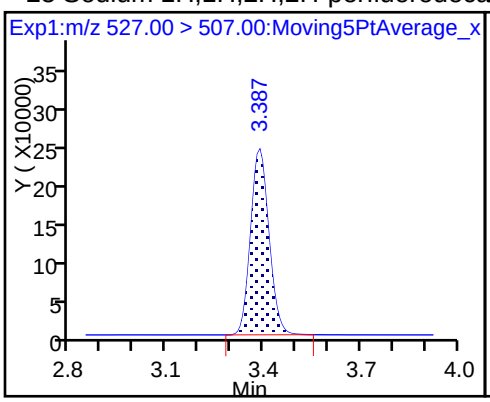
D 21 13C8 FOSA



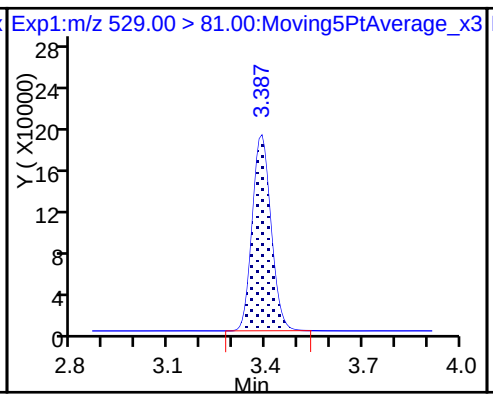
22 Perfluorooctane Sulfonamide



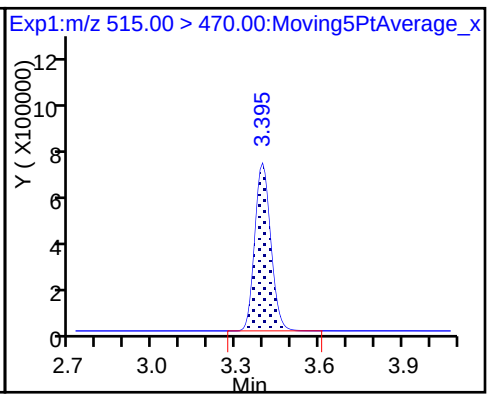
25 Sodium 1H,1H,2H,2H-perfluorodecane



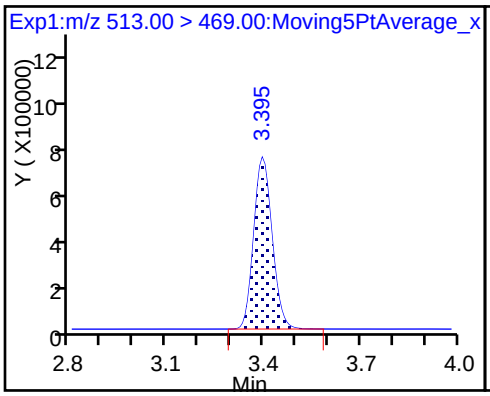
D 26 M2-8:2FTS



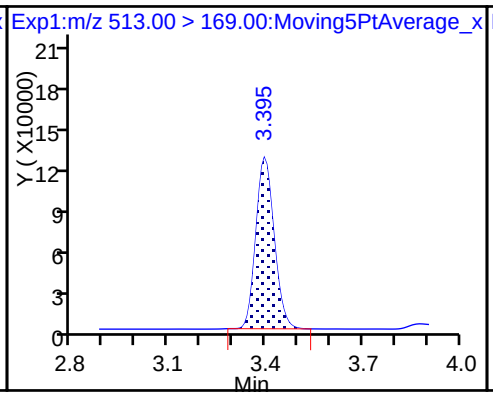
D 23 13C2 PFDA



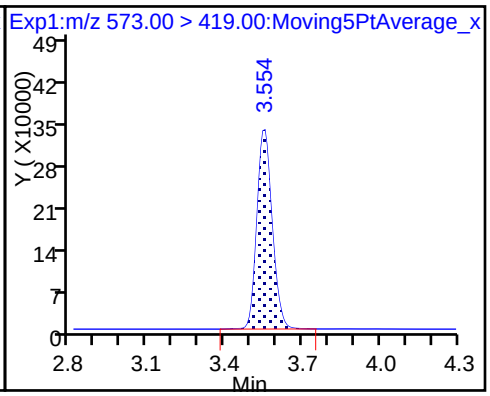
24 Perfluorodecanoic acid



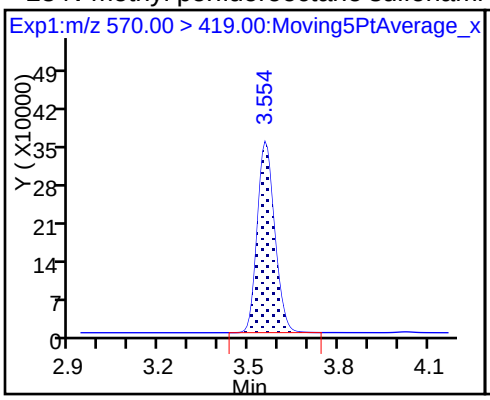
24 Perfluorodecanoic acid



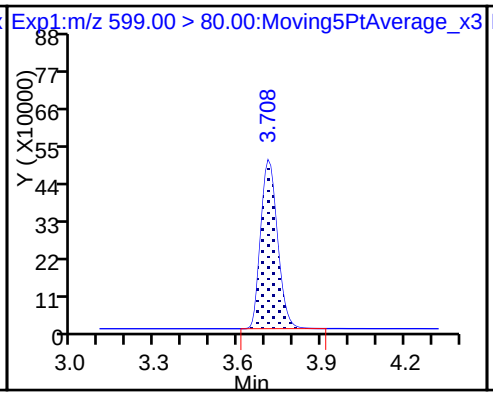
D 27 d3-NMeFOSAA



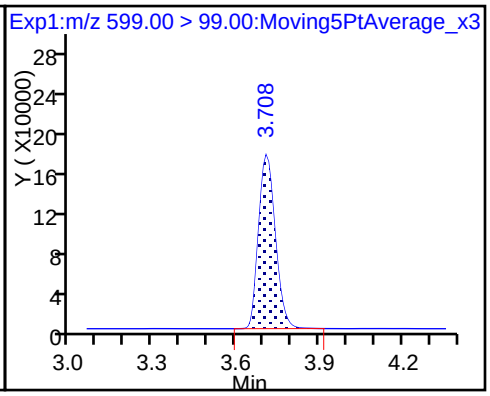
28 N-methyl perfluorooctane sulfonami



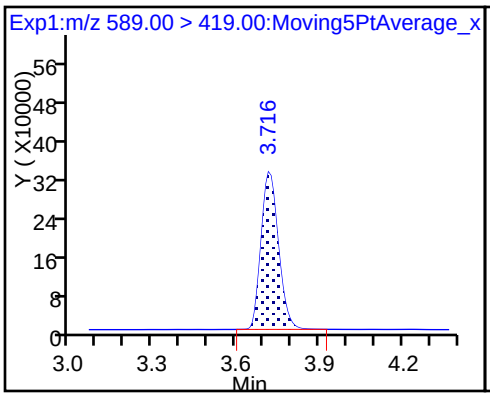
29 Perfluorodecane Sulfonic acid



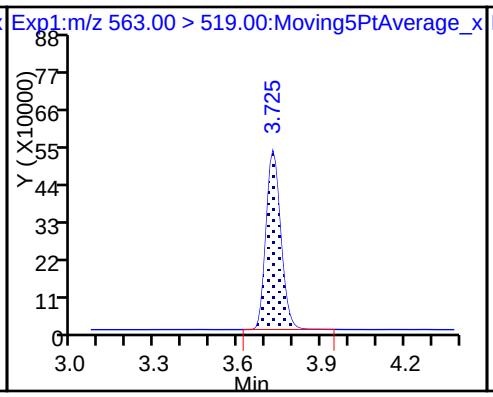
29 Perfluorodecane Sulfonic acid



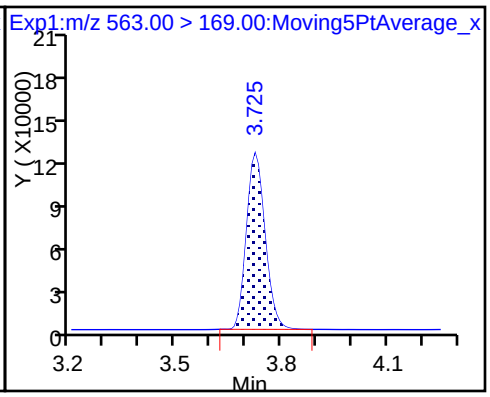
D 32 d5-NEtFOSAA



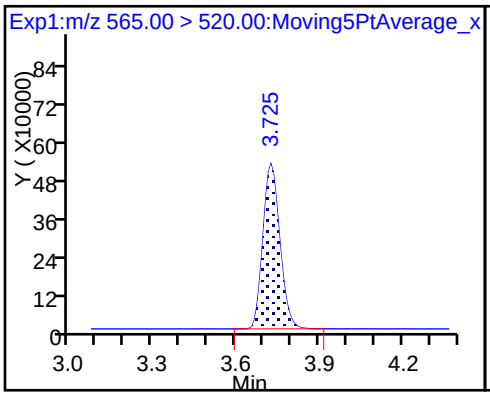
31 Perfluoroundecanoic acid



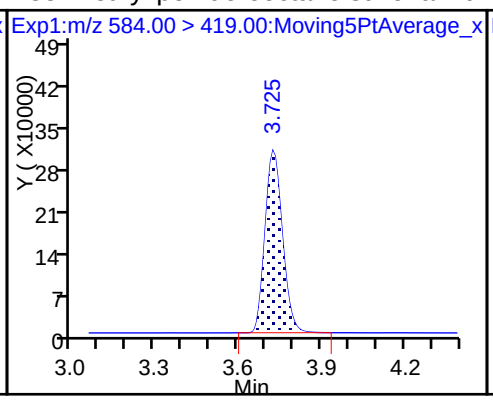
31 Perfluoroundecanoic acid



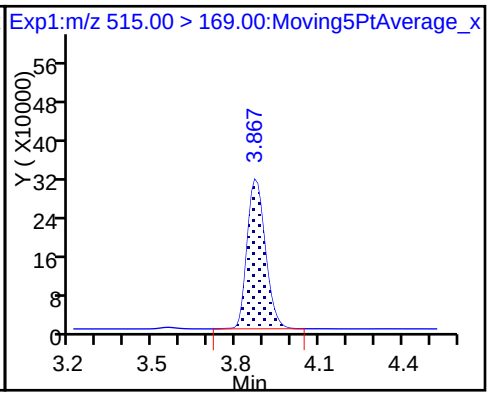
D 30 13C2 PFUnA



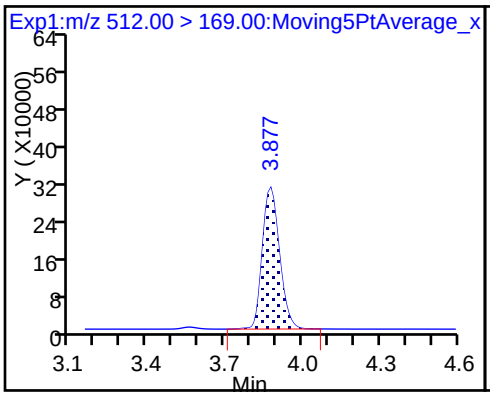
33 N-ethyl perfluorooctane sulfonamid



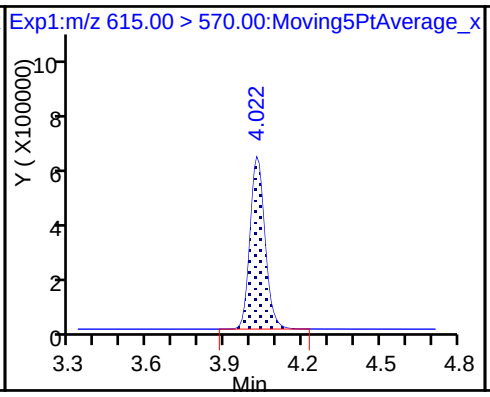
D 34 d-N-MeFOSA-M



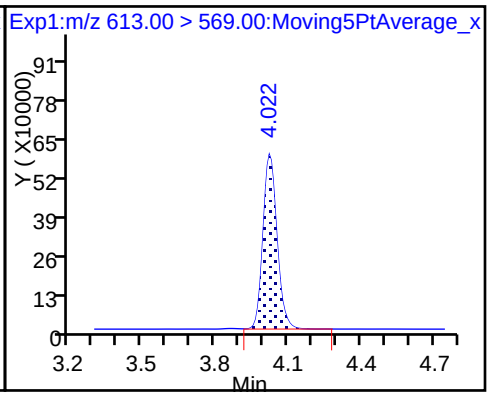
35 MeFOSA



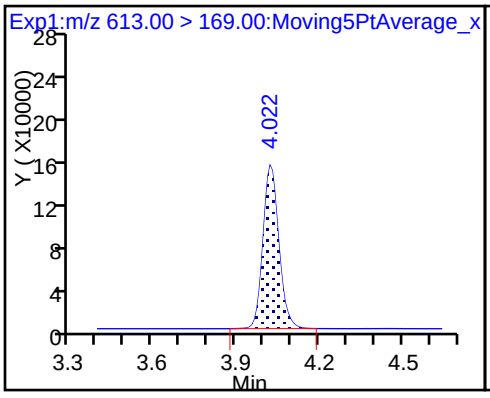
D 36 13C2 PFDoA



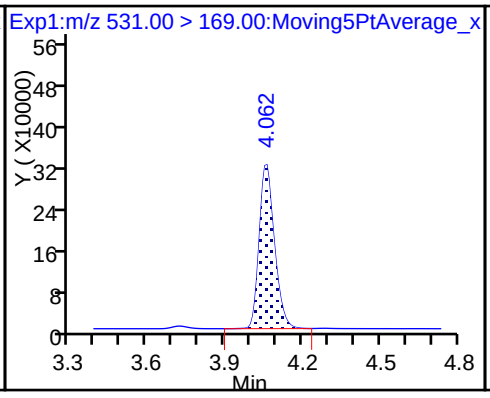
37 Perfluorododecanoic acid



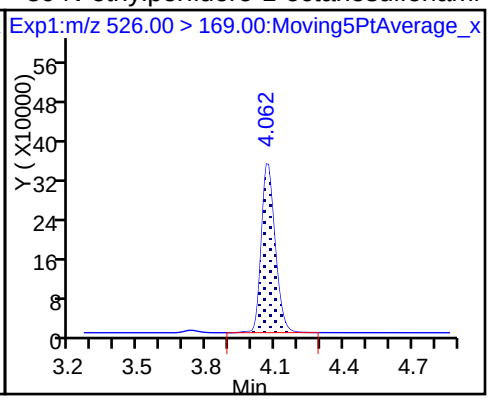
37 Perfluorododecanoic acid



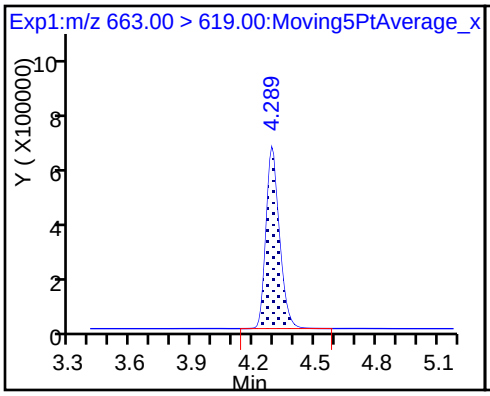
D 38 d-N-EtFOSA-M



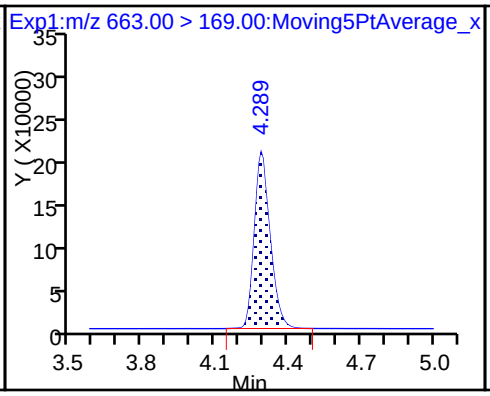
39 N-ethylperfluoro-1-octanesulfonami



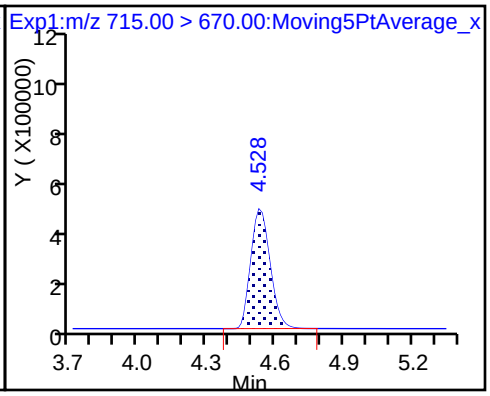
41 Perfluorotridecanoic acid



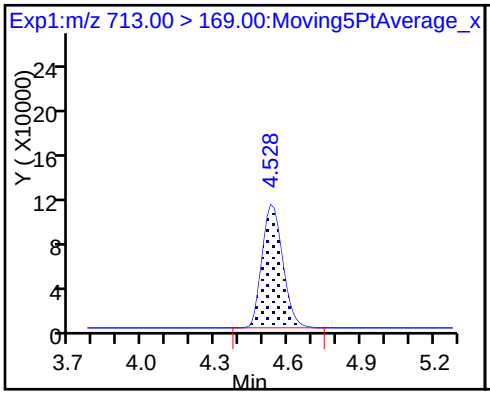
41 Perfluorotridecanoic acid



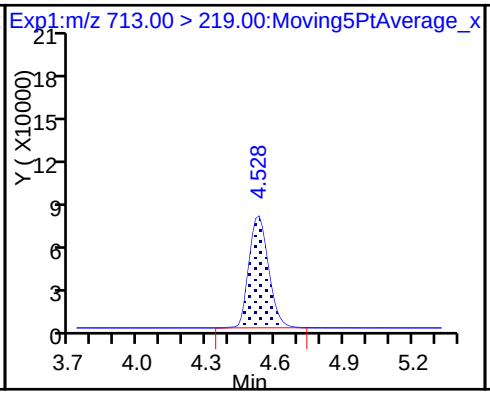
D 43 13C2-PFTeDA



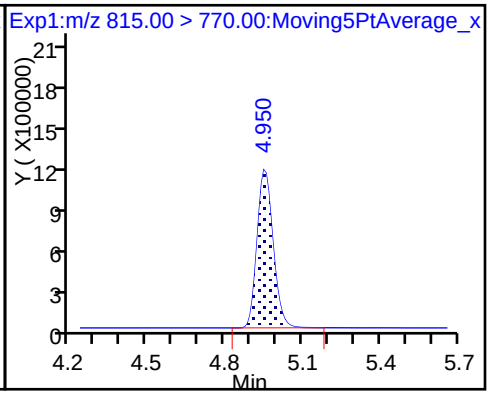
42 Perfluorotetradecanoic acid



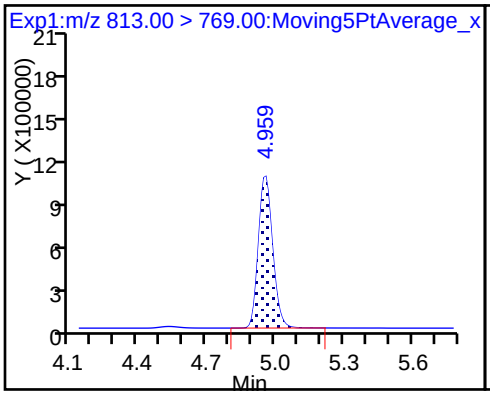
42 Perfluorotetradecanoic acid



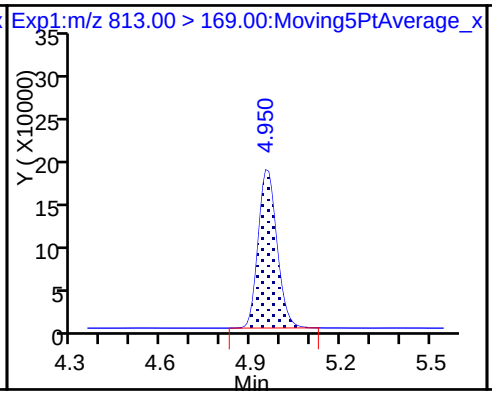
D 44 13C2-PFHxDA



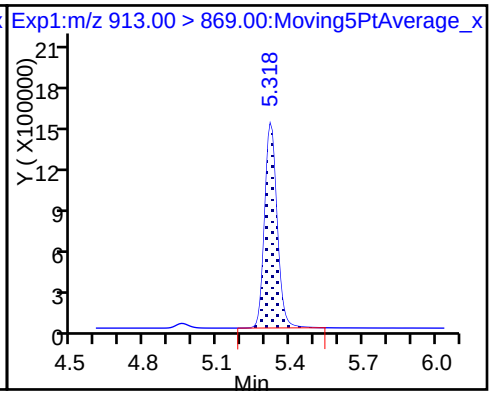
45 Perfluorohexadecanoic acid



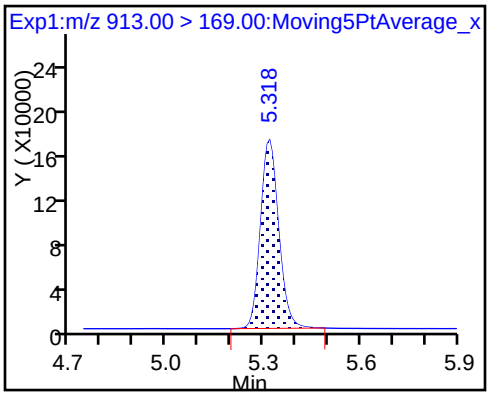
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-201684/4 Calibration Date: 12/28/2017 12:51

Instrument ID: A8_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.28LLB_035.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9135	0.9286		1.02	1.00	1.6	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.122	1.139		1.02	1.00	1.5	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	74.84	75.15		0.888	0.884	0.4	50.0
4:2 FTS	AveID	1.724	1.552		0.841	0.934	-10.0	50.0
Perfluorohexanoic acid (PFHxA)	AveID	0.999	1.000		1.00	1.00	0.2	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.058		1.01	1.00	1.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.093	1.083		0.901	0.910	-0.9	40.0
6:2FTS	AveID	1.677	1.709		0.966	0.948	1.9	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.059	1.086		1.03	1.00	2.6	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.227	1.336		1.04	0.952	8.9	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9743	1.009		1.04	1.00	3.5	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.073	1.114		0.963	0.928	3.8	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9492	0.9633		1.02	1.00	1.5	40.0
8:2FTS	AveID	1.256	1.138		0.868	0.958	-9.4	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9858	0.9795		0.994	1.00	-0.6	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.059	1.121		1.06	1.00	5.9	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5921	0.6075		0.989	0.964	2.6	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9653	0.9821		1.02	1.00	1.7	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9369	0.8341		0.890	1.00	-11.0	40.0
MeFOSA	AveID	0.9651	1.045		1.08	1.00	8.3	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9929	1.013		1.02	1.00	2.0	40.0
N-EtFOSA-M	AveID	1.084	1.109		1.02	1.00	2.3	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.078	1.196		1.11	1.00	11.0	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2545	0.2464		0.968	1.00	-3.2	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9126		1.05	1.00	4.6	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.075	1.023		0.952	1.00	-4.8	50.0
13C4 PFBA	Ave	1.731	1.687		2.44	2.50	-2.6	50.0
13C5 PFPeA	Ave	1.009	0.9762		2.42	2.50	-3.3	50.0
13C3-PFBS	Ave	0.0219	0.0227		2.42	2.33	3.9	50.0
13C2 PFHxA	Ave	1.085	1.086		2.50	2.50	0.1	50.0
13C4-PFHpA	Ave	1.007	1.009		2.51	2.50	0.2	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Lab Sample ID: CCV 320-201684/4 Calibration Date: 12/28/2017 12:51

Instrument ID: A8_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.28LLB_035.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.278	1.243		2.30	2.37	-2.8	50.0
M2-6:2FTS	Ave	0.1910	0.1804		2.24	2.38	-5.5	40.0
13C4 PFOA	Ave	1.028	1.008		2.45	2.50	-1.9	50.0
13C4 PFOS	Ave	0.8476	0.8154		2.30	2.39	-3.8	50.0
13C5 PFNA	Ave	0.8211	0.8164		2.49	2.50	-0.6	50.0
13C8 FOSA	Ave	1.146	1.132		2.47	2.50	-1.3	50.0
M2-8:2FTS	Ave	0.2097	0.1946		2.22	2.40	-7.2	40.0
13C2 PFDA	Ave	0.6674	0.6605		2.47	2.50	-1.0	50.0
d3-NMeFOSAA	Ave	0.3450	0.3181		2.31	2.50	-7.8	50.0
13C2 PFUnA	Ave	0.5052	0.5407		2.68	2.50	7.0	50.0
d5-NEtFOSAA	Ave	0.3516	0.3310		2.35	2.50	-5.8	50.0
d-N-MeFOSA-M	Ave	0.3256	0.3105		2.38	2.50	-4.6	50.0
13C2 PFDoA	Ave	0.5489	0.5504		2.51	2.50	0.3	50.0
d-N-EtFOSA-M	Ave	0.3100	0.3030		2.44	2.50	-2.2	50.0
13C2-PFTeDA	Ave	0.5969	0.6312		2.64	2.50	5.8	50.0
13C2-PFHxDA	Ave	1.094	1.188		2.72	2.50	8.6	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\2017.12.28LLB_035.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 28-Dec-2017 12:51:30 ALS Bottle#: 28 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L4
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 28-Dec-2017 14:23:36 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK001

First Level Reviewer: barnettj Date: 28-Dec-2017 14:18:28

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.432	1.433	-0.001	0.538	7278698	2.44		97.4	20678	
2 Perfluorobutyric acid										
212.90 > 169.00	1.432	1.434	-0.002	1.000	2703575	1.02		102	543	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.689	1.691	-0.002	1.005	1919131	1.02		102	2598	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.692	-0.011	0.632	4212770	2.42		96.7	42964	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.725	-0.009	0.645	91153	2.42		104	3342	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.725	1.730	-0.005	1.005	2604687	0.8877		100	12145	
298.90 > 99.00	1.725	1.730	-0.005	1.005	1060135		2.46(1.25-3.74)		7356	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.934	1.941	-0.007	1.000	451371	0.8407		90.0	26876	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.976	-0.011	0.739	4687980	2.50		100	39140	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.965	1.979	-0.014	1.000	1875659	1.00		100	5422	
313.00 > 119.00	1.965	1.979	-0.014	1.000	171134		10.96(5.03-15.10)		3718	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.311	-0.018	0.862	4355222	2.51		100	25358	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.311	-0.005	1.006	1842602	1.01		101	3712	
363.00 > 169.00	2.306	2.311	-0.005	1.006	703081		2.62(1.13-3.40)		6296	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.324	-0.018	0.994	2113839	0.9014		99.1	9508	
399.00 > 99.00	2.306	2.324	-0.018	0.994	691342		3.06(1.50-4.49)		3895	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.328	-0.009	0.872	5074921	2.30		97.2	34196	
D 12 M2-6:2FTS										
429.00 > 81.00	2.638	2.649	-0.011	0.992	739576	2.24		94.5	19943	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.651	-0.013	1.000	504411	0.9660		102	12105	
D 14 13C4 PFOA										
417.00 > 372.00	2.660	2.674	-0.014	1.000	4349336	2.45		98.1	28248	
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.676	-0.016		4315561	2.50			35967	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.660	2.677	-0.017	1.000	1889248	1.03		103	1817	
413.00 > 169.00	2.660	2.677	-0.017	1.000	1031766		1.83(0.84-2.52)		7082	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.667	2.683	-0.016	1.000	1789819	1.04		109	18912	
449.00 > 99.00	2.667	2.683	-0.016	1.000	479304		3.73(1.94-5.82)		12670	
D 18 13C4 PFOS										
503.00 > 80.00	3.034	3.048	-0.014	1.141	3364179	2.30		96.2	22225	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.034	3.050	-0.016	1.000	1454902	0.9631		104	494	
499.00 > 99.00	3.034	3.050	-0.016	1.000	312673		4.65(2.31-6.93)		550	
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.051	-0.017	1.141	3523114	2.49		99.4	31596	
20 Perfluorononanoic acid										
463.00 > 419.00	3.034	3.052	-0.018	1.000	1421317	1.04		104	5078	
463.00 > 169.00	3.034	3.052	-0.018	1.000	364958		3.89(1.90-5.69)		8064	
D 21 13C8 FOSA										
506.00 > 78.00	3.372	3.377	-0.005	1.268	4884204	2.47		98.7	24800	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.372	3.378	-0.006	1.000	1882025	1.01		101	20502	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.387	3.402	-0.015	1.000	366159	0.8681		90.6	15390	
D 26 M2-8:2FTS										
529.00 > 81.00	3.387	3.403	-0.016	1.274	804625	2.22		92.8	13591	
D 23 13C2 PFDA										
515.00 > 470.00	3.395	3.414	-0.019	1.276	2850416	2.47		99.0	24344	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.395	3.414	-0.019	1.000	1116771	0.99		99.4	6174	
513.00 > 169.00	3.395	3.414	-0.019	1.000	196705		5.68(2.36-7.09)		1783	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.554	3.569	-0.015	1.336	1372858	2.31		92.2	23056	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.554	3.574	-0.020	1.000	615459	1.06		106	4144	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.716	3.730	-0.014	1.000	824281	0.9890		103	14914	
599.00 > 99.00	3.708	3.730	-0.022	0.998	294003		2.80(1.39-4.16)		6994	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.725	3.740	-0.015	1.401	1428474	2.35		94.2	7198	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.725	3.746	-0.021	1.000	778481	0.8903		89.0	4371	
563.00 > 169.00	3.725	3.746	-0.021	1.000	196441		3.96(0.00-0.00)		10511	
D 30 13C2 PFUnA										
565.00 > 520.00	3.725	3.747	-0.022	1.401	2333223	2.68		107	34876	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.725	3.747	-0.022	1.000	561163	1.02		102	10835	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.867	0.0	1.454	1339872	2.38		95.4	4287	
35 MeFOSA										
512.00 > 169.00	3.877	3.873	0.004	1.003	560296	1.08		108	3140	
D 36 13C2 PFDoA										
615.00 > 570.00	4.022	4.045	-0.023	1.512	2375358	2.51		100	28558	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.022	4.045	-0.023	1.000	962398	1.02		102	3689	
613.00 > 169.00	4.022	4.045	-0.023	1.000	240810		4.00(2.13-6.40)		12197	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.054	4.058	-0.004	1.524	1307652	2.44		97.8	3606	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.061	4.065	-0.004	1.002	580076	1.02		102	2837	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.288	4.312	-0.024	1.000	1136043	1.11		111	5930	
663.00 > 169.00	4.288	4.312	-0.024	1.000	365769		3.11(1.25-3.76)		13673	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.528	4.557	-0.029	1.703	2724105	2.64		106	21305	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.528	4.557	-0.029	1.000	268512	0.9684		96.8	7658	
713.00 > 219.00	4.528	4.557	-0.029	1.000	188708		1.42(0.71-2.13)		6474	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.950	4.984	-0.034	1.861	5128488	2.72		109	19303	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.950	4.984	-0.034	1.000	1872013	1.05		105	1377	
813.00 > 169.00	4.950	4.984	-0.034	1.000	329838		5.68(2.86-8.58)		5947	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.325	5.361	-0.036	1.000	2098714	0.9521		95.2	700	
913.00 > 169.00	5.318	5.361	-0.043	0.999	268869		7.81(0.00-0.00)		2137	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 28-Dec-2017 14:23:36 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\2017.12.28LLB_035.d

Injection Date: 28-Dec-2017 12:51:30 Instrument ID: A8_N

Lims ID: CCV L4

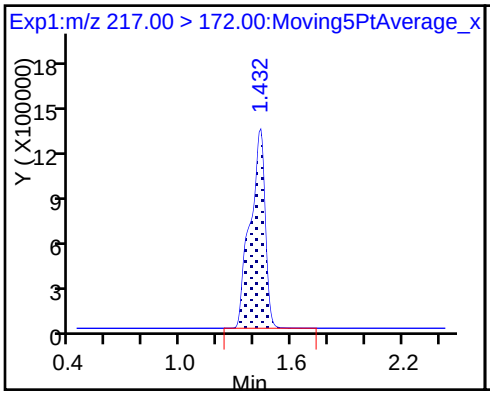
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 28 Worklist Smp#: 4

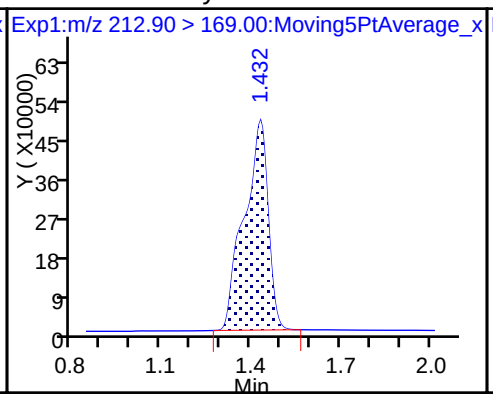
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

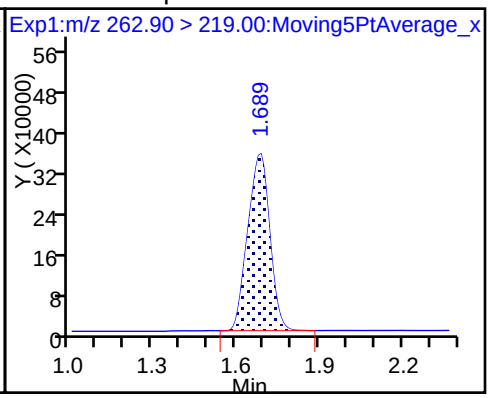
D 1 13C4 PFBA



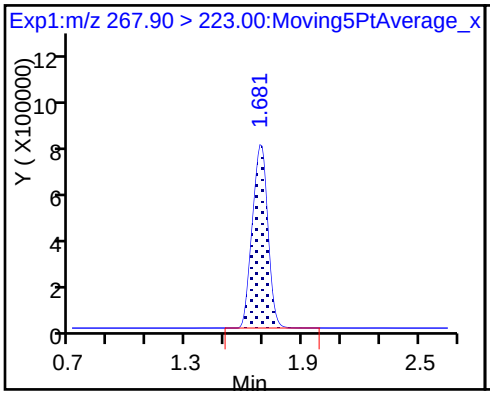
2 Perfluorobutyric acid



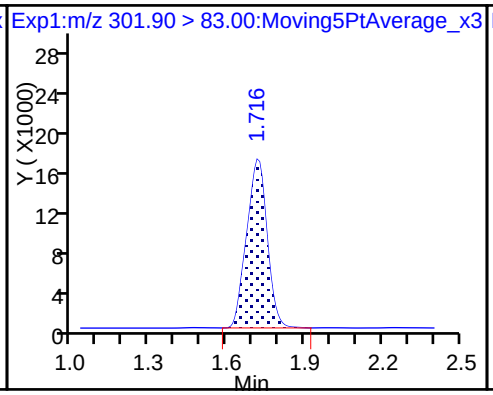
4 Perfluoropentanoic acid



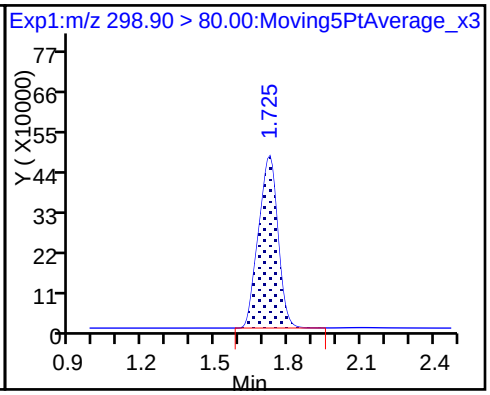
D 3 13C5-PFPeA



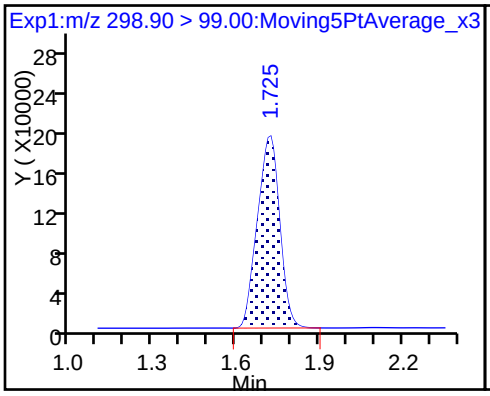
D 47 13C3-PFBS



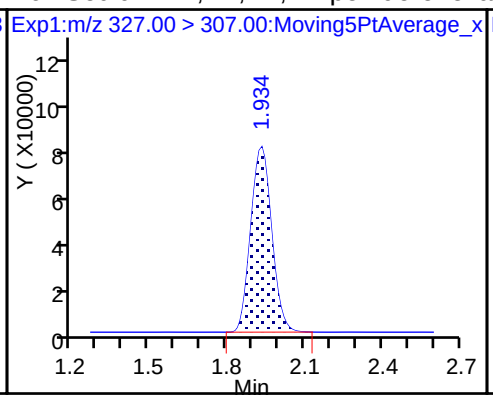
5 Perfluorobutanesulfonic acid



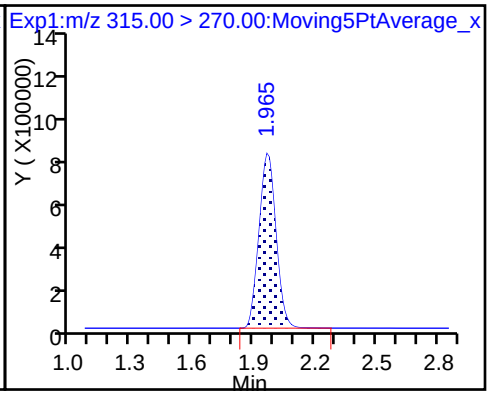
5 Perfluorobutanesulfonic acid



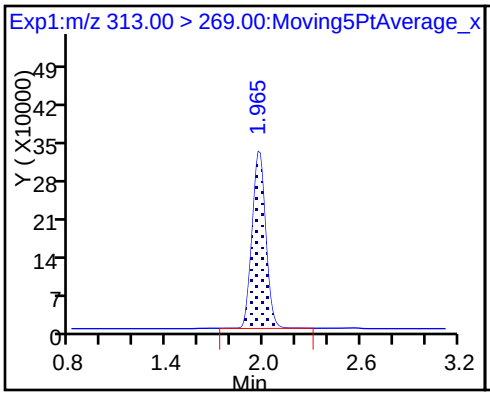
61 Sodium 1H,1H,2H,2H-perfluorohexa



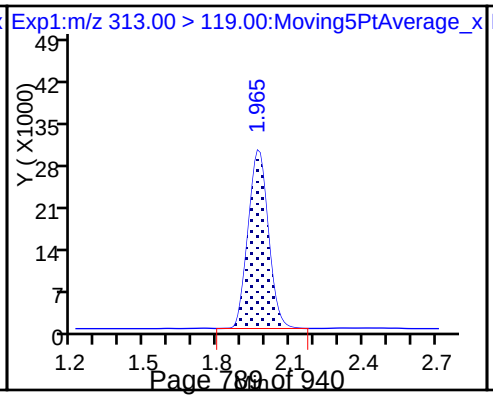
D 7 13C2 PFHxA



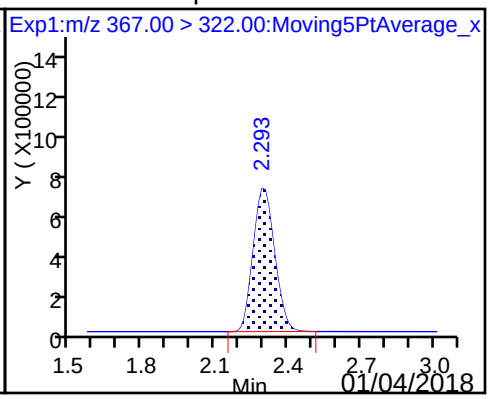
6 Perfluorohexanoic acid



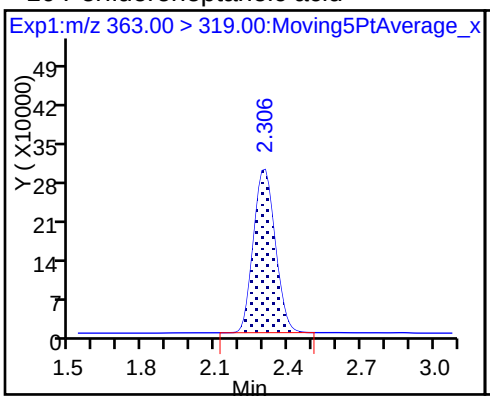
6 Perfluorohexanoic acid



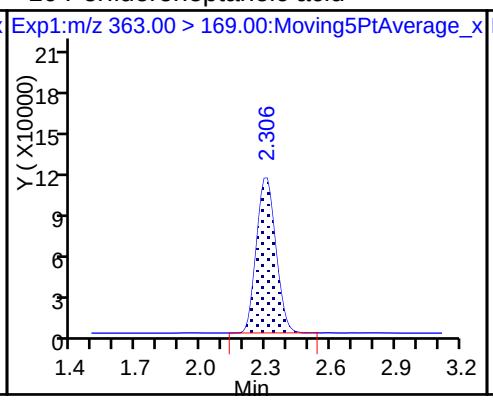
D 9 13C4-PFHpA



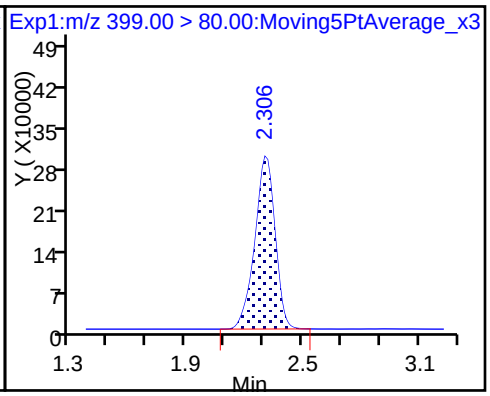
10 Perfluoroheptanoic acid



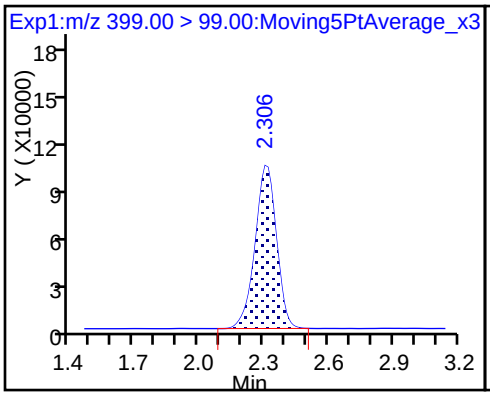
10 Perfluoroheptanoic acid



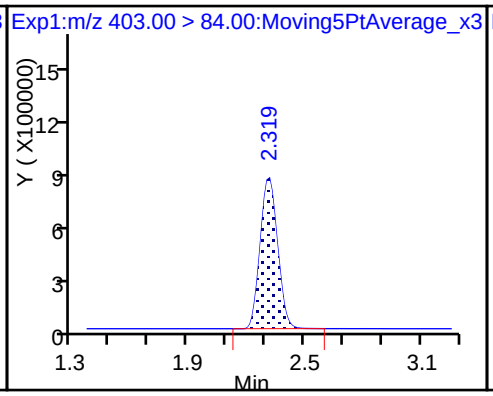
8 Perfluorohexanesulfonic acid



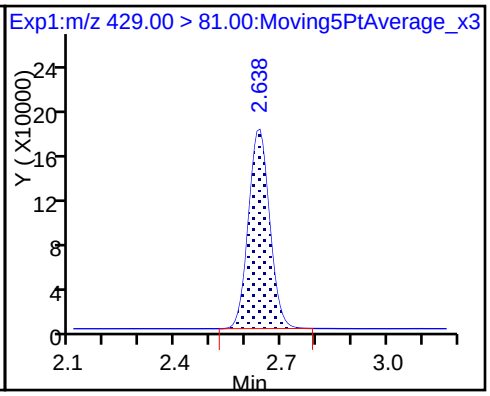
8 Perfluorohexanesulfonic acid



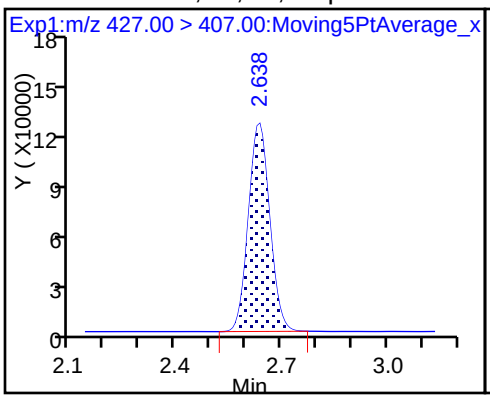
D 11 18O2 PFHxS



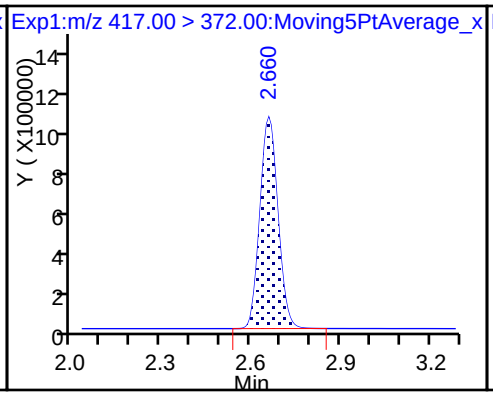
D 12 M2-6:2FTS



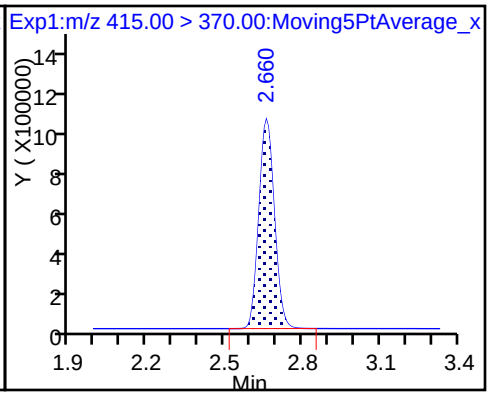
13 Sodium 1H,1H,2H,2H-perfluorooctane



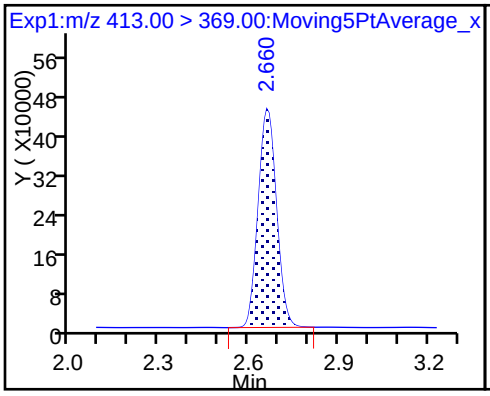
D 14 13C4 PFOA



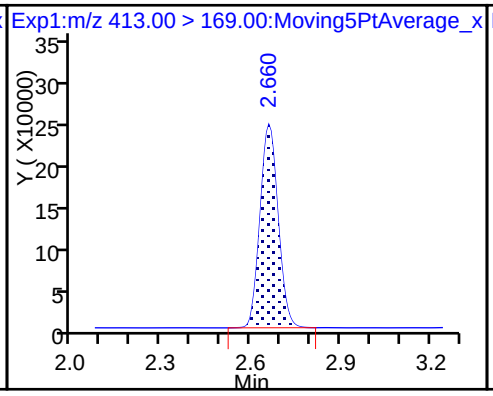
* 62 13C2-PFOA



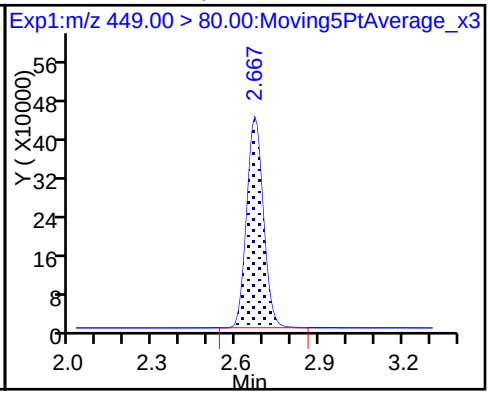
15 Perfluorooctanoic acid



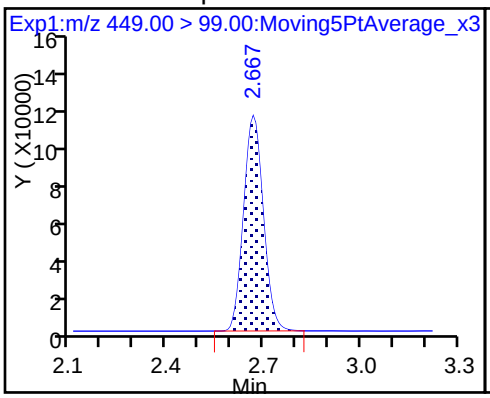
15 Perfluorooctanoic acid



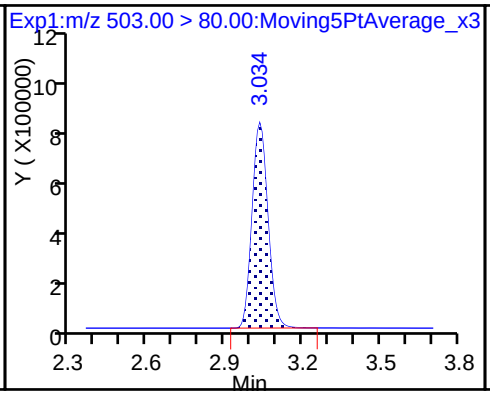
16 Perfluoroheptanesulfonic Acid



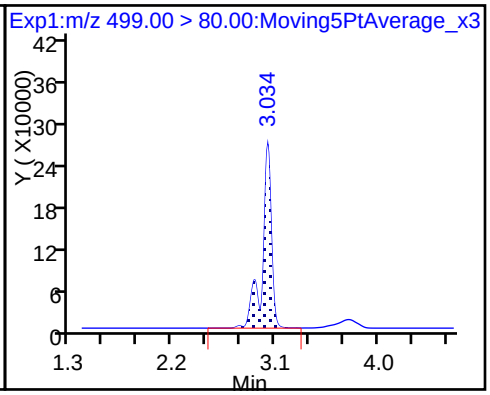
16 Perfluoroheptanesulfonic Acid



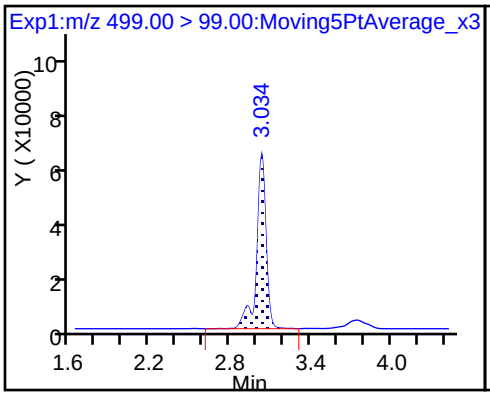
D 18 13C4 PFOS



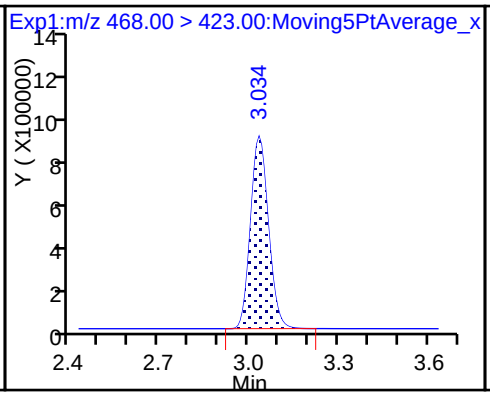
17 Perfluorooctane sulfonic acid



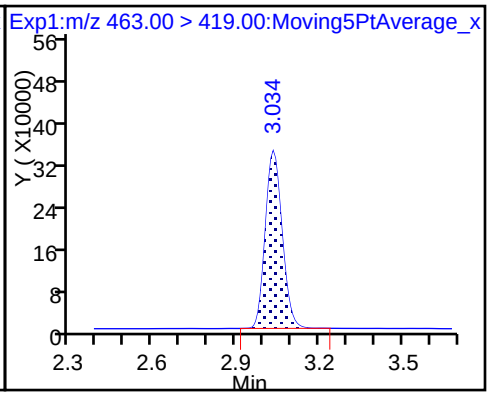
17 Perfluorooctane sulfonic acid



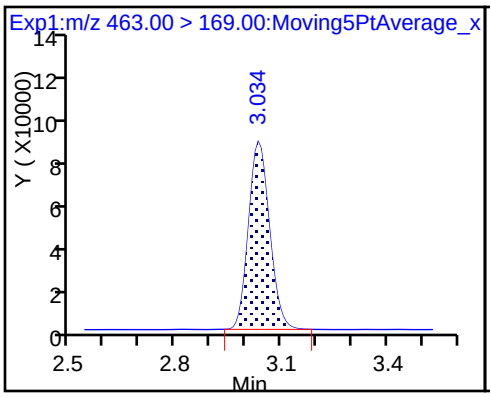
D 19 13C5 PFNA



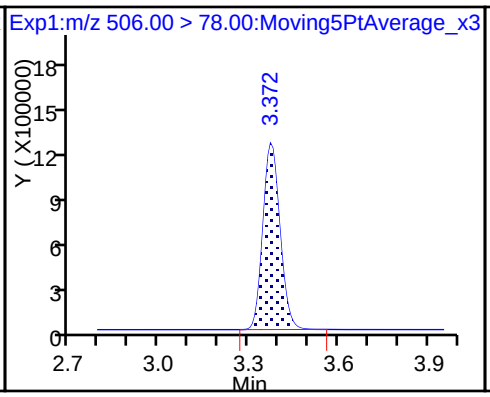
20 Perfluorononanoic acid



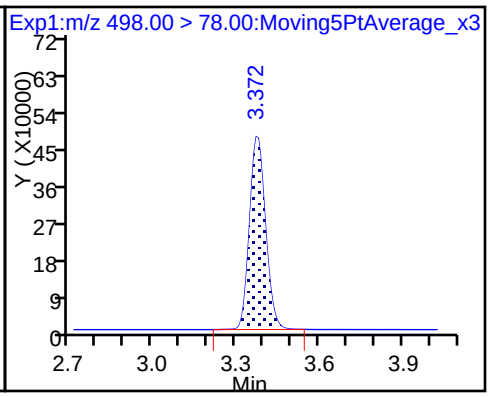
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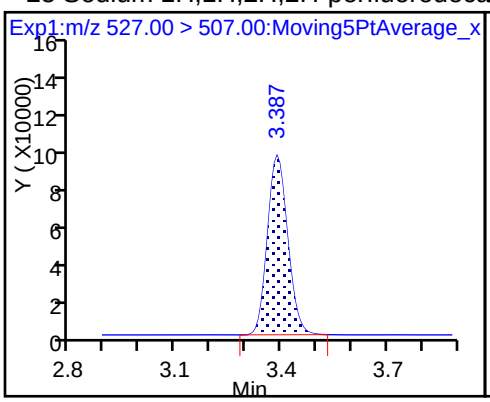
D 21 13C8 FOSA



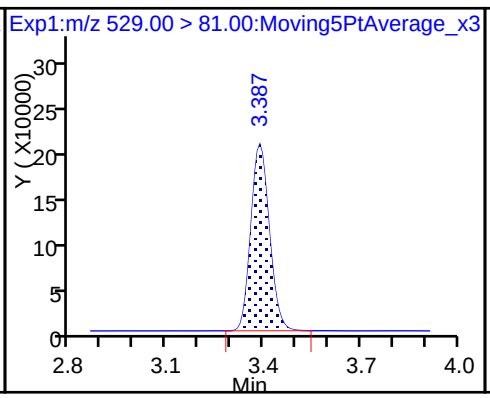
22 Perfluorooctane Sulfonamide



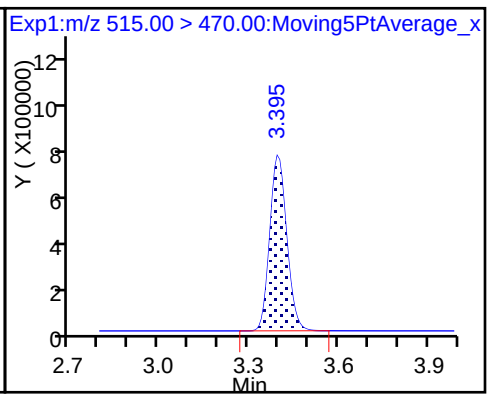
25 Sodium 1H,1H,2H,2H-perfluorodecane



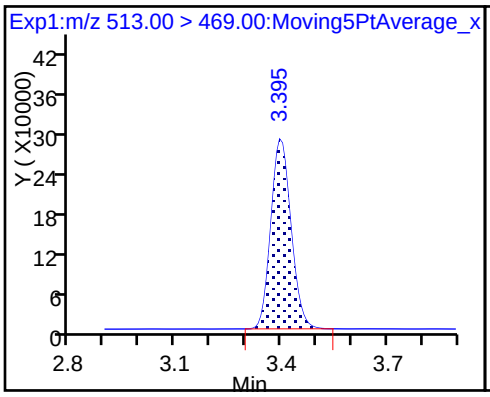
D 26 M2-8:2FTS



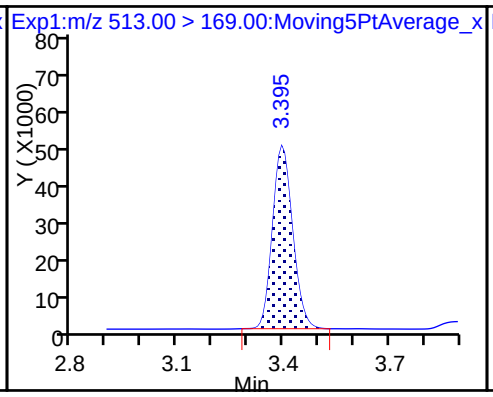
D 23 13C2 PFDA



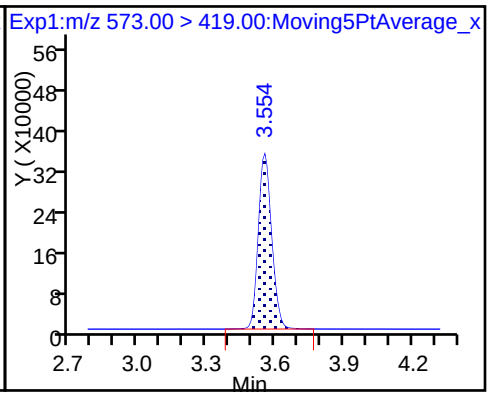
24 Perfluorodecanoic acid



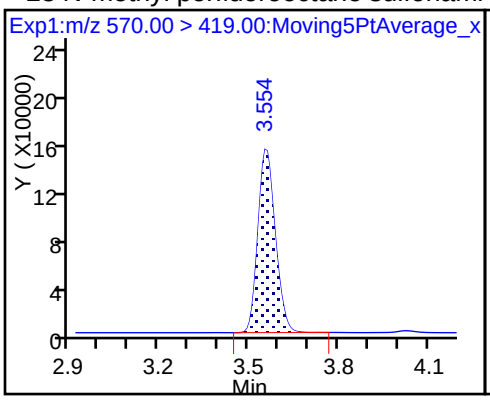
24 Perfluorodecanoic acid



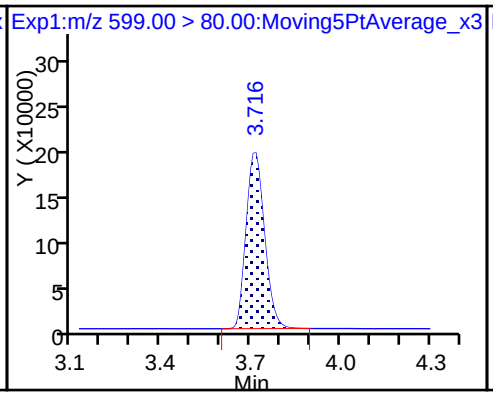
D 27 d3-NMeFOSAA



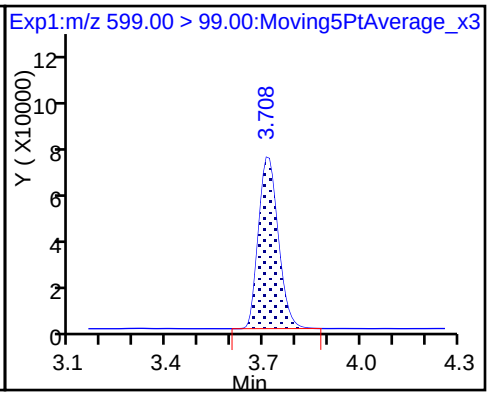
28 N-methyl perfluorooctane sulfonami



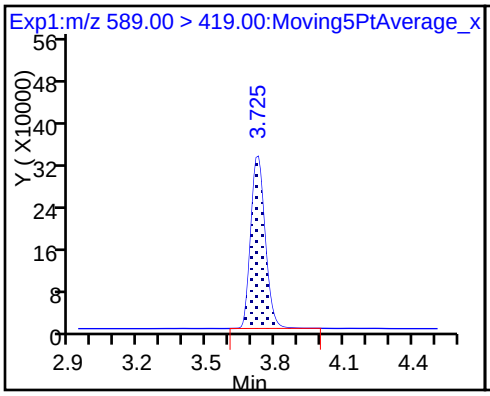
29 Perfluorodecane Sulfonic acid



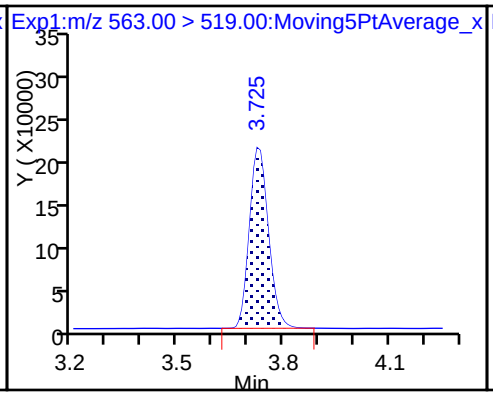
29 Perfluorodecane Sulfonic acid



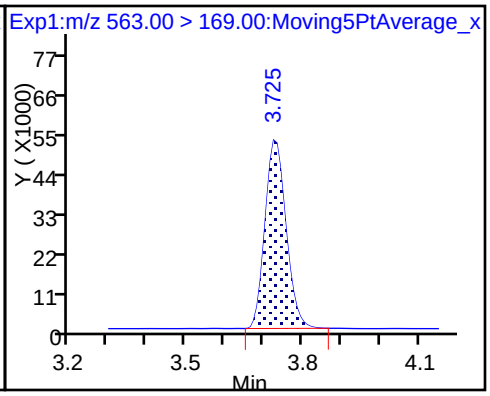
D 32 d5-NEtFOSAA



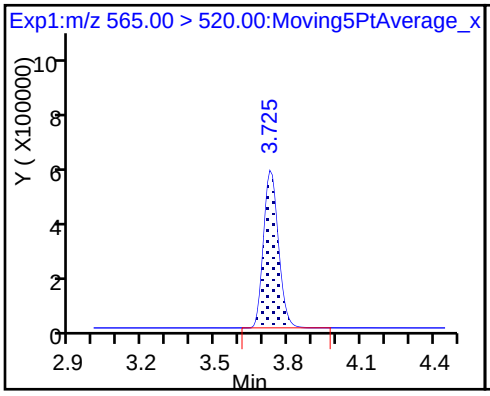
31 Perfluoroundecanoic acid



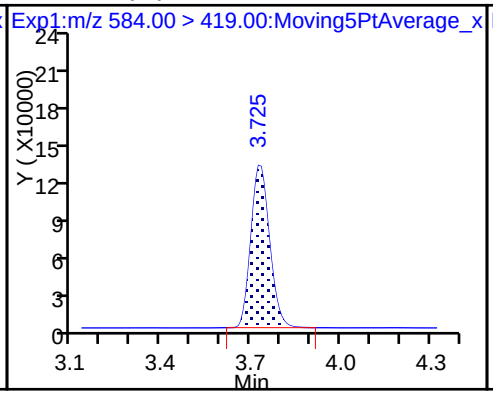
31 Perfluoroundecanoic acid



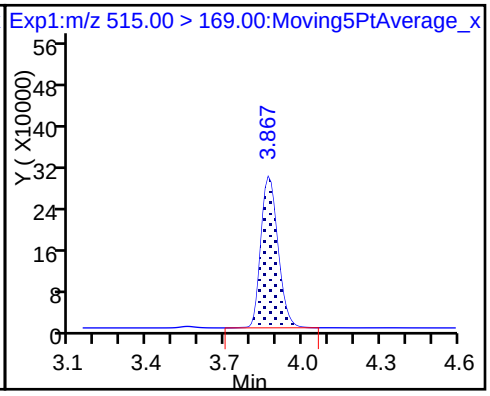
D 30 13C2 PFUnA



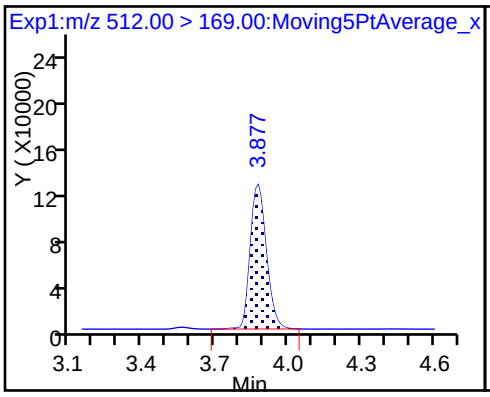
33 N-ethyl perfluorooctane sulfonamid



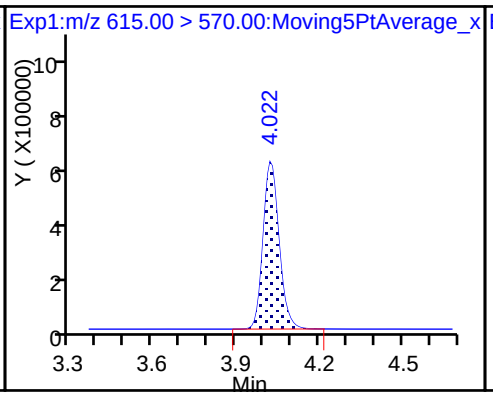
D 34 d-N-MeFOSA-M



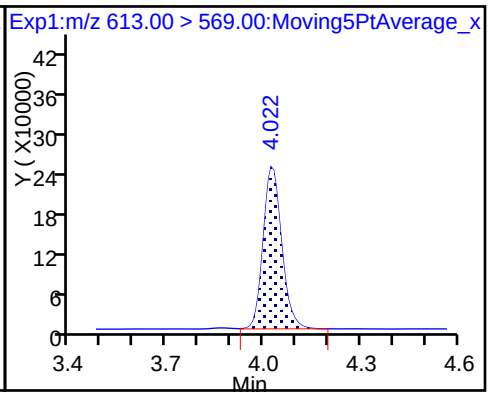
35 MeFOSA



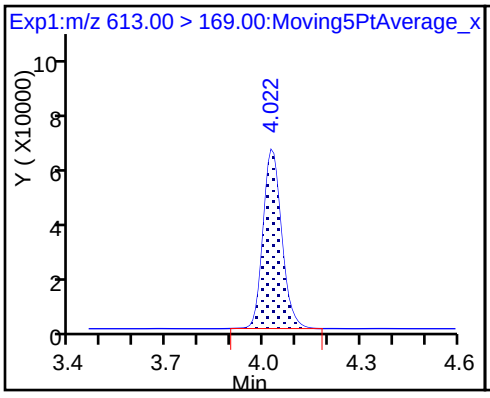
D 36 13C2 PFDoA



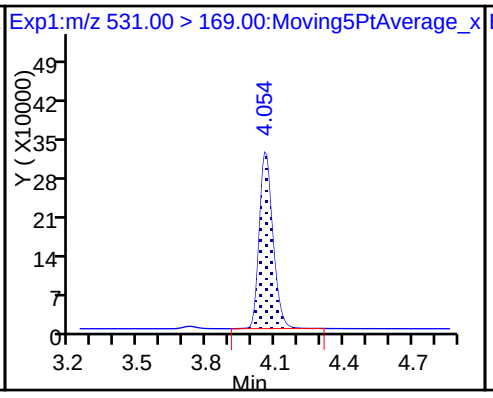
37 Perfluorododecanoic acid



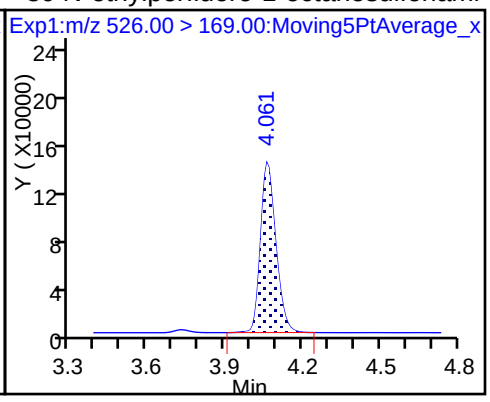
37 Perfluorododecanoic acid



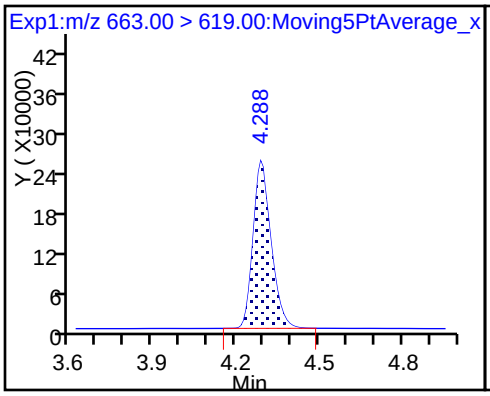
D 38 d-N-EtFOSA-M



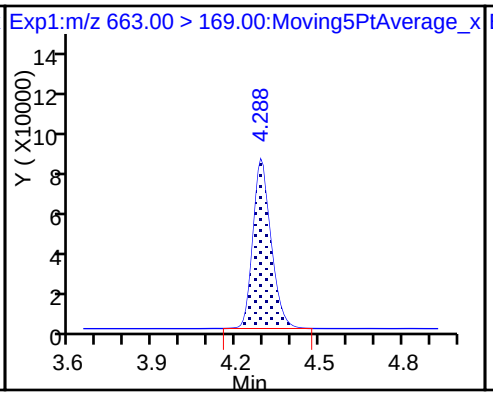
39 N-ethylperfluoro-1-octanesulfonami



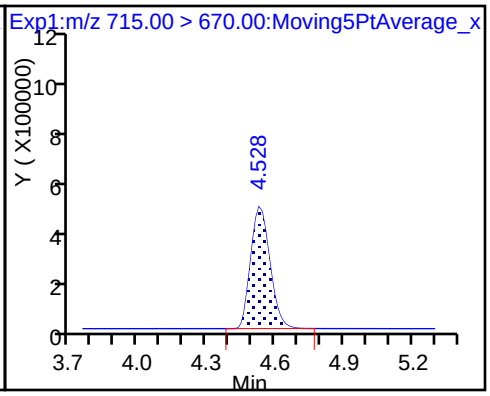
41 Perfluorotridecanoic acid



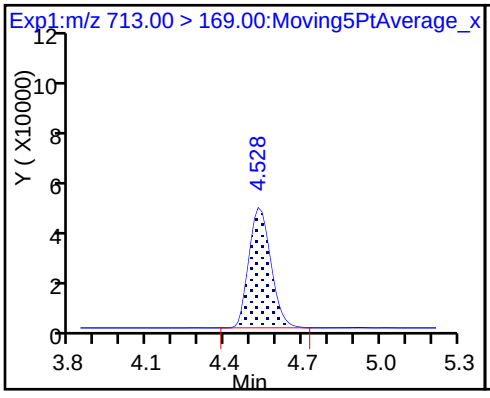
41 Perfluorotridecanoic acid



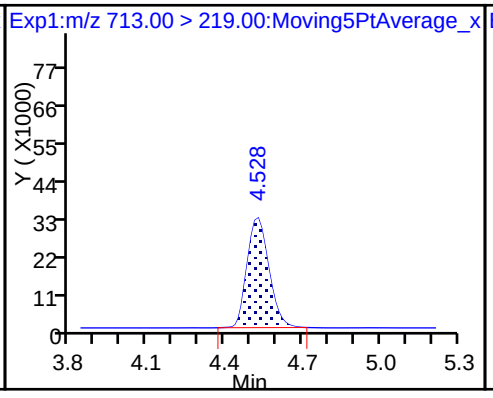
D 43 13C2-PFTeDA



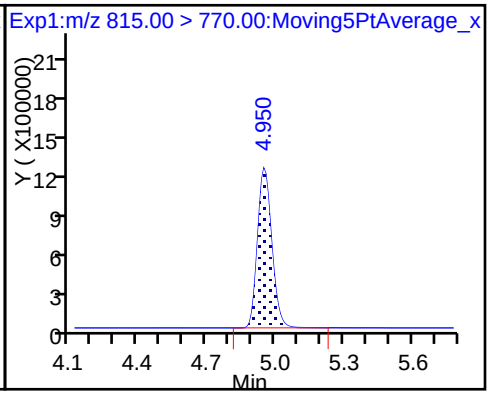
42 Perfluorotetradecanoic acid



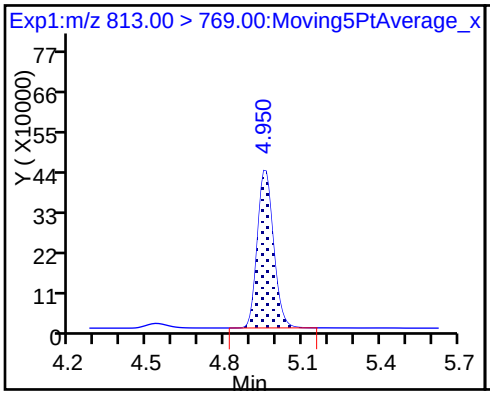
42 Perfluorotetradecanoic acid



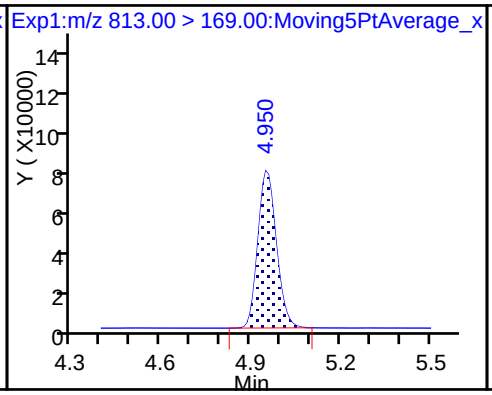
D 44 13C2-PFHxDA



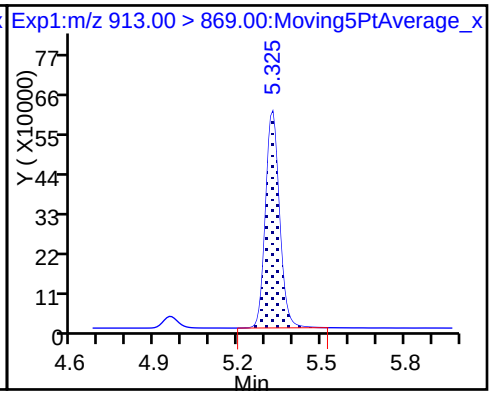
45 Perfluorohexadecanoic acid



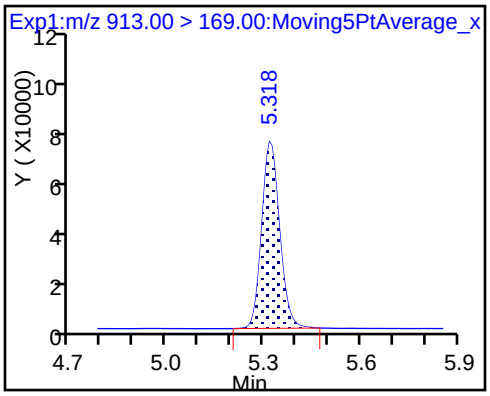
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-200328/1-A

Matrix: Water | Lab File ID: 2017.12.19LLC_024.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 07:33

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.292	J	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.368	J	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-200328/1-A

Matrix: Water | Lab File ID: 2017.12.19LLC_024.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 07:33

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	128		25-150
STL01893	13C5 PFPeA	129		25-150
STL00993	13C2 PFHxA	126		25-150
STL01892	13C4-PFHpA	131		25-150
STL00990	13C4 PFOA	122		25-150
STL00995	13C5 PFNA	137		25-150
STL00996	13C2 PFDA	141		25-150
STL00997	13C2 PFUnA	134		25-150
STL00998	13C2 PFDoA	135		25-150
STL02116	13C2-PFTeDA	151	*	25-150
STL02337	13C3-PFBS	129		25-150
STL00994	18O2 PFHxS	132		25-150
STL00991	13C4 PFOS	135		25-150
STL01056	13C8 FOSA	116		25-150
STL02118	d3-NMeFOSAA	159	*	25-150
STL02117	d5-NEtFOSAA	148		25-150
STL02279	M2-6:2FTS	80		25-150
STL02280	M2-8:2FTS	203	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_024.d
Lims ID: MB 320-200328/1-A
Client ID:
Sample Type: MB
Inject. Date: 20-Dec-2017 07:33:33 ALS Bottle#: 15 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-200328/1-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:19:42

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.408	1.411	-0.003	0.534	9439536	3.20		128	20491	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.414	1.412	0.002	1.004	17749	0.005152			3.2	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.630	5604628	3.23		129	67529	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.654	1.664	-0.010	0.995	12374	0.004993			6.4	
D 47 13C3-PFBS										
301.90 > 83.00	1.689	1.699	-0.010	0.640	110391	3.01		129	3322	
D 60 M2-4:2FTS										
329.00 > 81.00	1.924	1.924	0.0	0.729	1315	0.006847		0.0	63.0	
D 7 13C2 PFHxA										
315.00 > 270.00	1.945	1.949	-0.004	0.737	5812951	3.15		126	54049	
D 9 13C4-PFHpA										
367.00 > 322.00	2.279	2.286	-0.007	0.864	5663810	3.29		131	44711	
D 11 18O2 PFHxS										
403.00 > 84.00	2.292	2.299	-0.007	0.869	6682914	3.13		132	65233	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.292	2.299	-0.007	1.000	22427	0.007302			74.5	
399.00 > 99.00	2.292	2.299	-0.007	1.000	5882		3.81(1.50-4.49)		35.5	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.610	2.640	-0.030	1.000	13114	0.0143			572	
D 12 M2-6:2FTS										
429.00 > 81.00	2.610	2.640	-0.030	0.989	1355451	1.89		79.8	29781	
* 62 13C2-PFOA										
415.00 > 370.00	2.638	2.643	-0.005		5003565	2.50			44101	
D 14 13C4 PFOA										
417.00 > 372.00	2.638	2.647	-0.009	1.000	6334479	3.06		122	56057	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.638	2.649	-0.011	1.000	16061	0.006007			6.6	
413.00 > 169.00	2.638	2.649	-0.011	1.000	8529		1.88(0.84-2.52)		73.1	
D 18 13C4 PFOS										
503.00 > 80.00	3.010	3.025	-0.015	1.141	4426184	3.23		135	41322	
D 19 13C5 PFNA										
468.00 > 423.00	3.010	3.026	-0.016	1.141	4765961	3.43		137	54813	
D 21 13C8 FOSA										
506.00 > 78.00	3.357	3.362	-0.005	1.272	5603958	2.89		116	27631	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.364	3.365	-0.001	1.002	19485	0.009194			537	
D 26 M2-8:2FTS										
529.00 > 81.00	3.364	3.375	-0.011	1.275	1479425	4.85		203	19076	
D 23 13C2 PFDA										
515.00 > 470.00	3.379	3.387	-0.008	1.281	3916121	3.52		141	42134	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.531	3.541	-0.010	1.338	2043902	3.98		159	21916	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.538	3.547	-0.009	1.002	1787	0.002121			18.1	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.402	1957665	3.70		148	10862	
D 30 13C2 PFUnA										
565.00 > 520.00	3.699	3.717	-0.018	1.402	2876227	3.35		134	30050	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.462	828372	1.45		58.0	1848	
D 36 13C2 PFDoA										
615.00 > 570.00	3.998	4.015	-0.017	1.516	3067739	3.37		135	33109	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.533	550066	1.02		40.8	1145	
D 40 d-N-EtFOSE-M										
570.00 > 136.00	4.226	4.240	-0.014	1.602	215	NC		0.0	6.0	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.501	4.522	-0.021	1.706	3772431	3.77		151	24072	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.923	4.944	-0.021	1.866	5681669	3.11		124	20164	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.923	4.945	-0.022	1.000	58337	0.005302			27.7	
813.00 > 169.00	4.932	4.945	-0.013	1.002	10569		5.52(2.86-8.58)		273	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:24:48 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_024.d

Injection Date: 20-Dec-2017 07:33:33 Instrument ID: A8_N

Lims ID: MB 320-200328/1-A

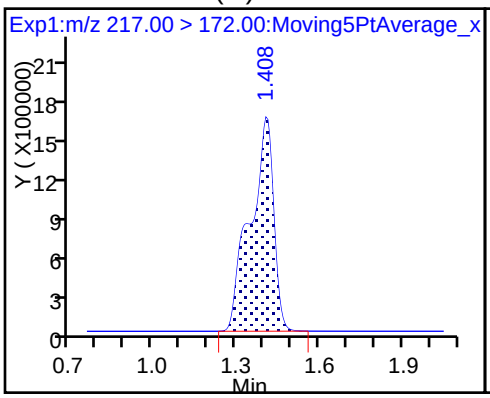
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 15 Worklist Smp#: 2

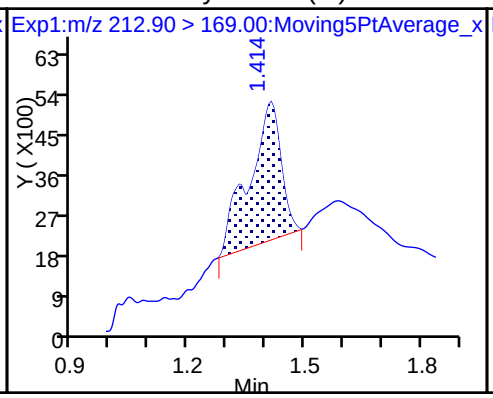
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

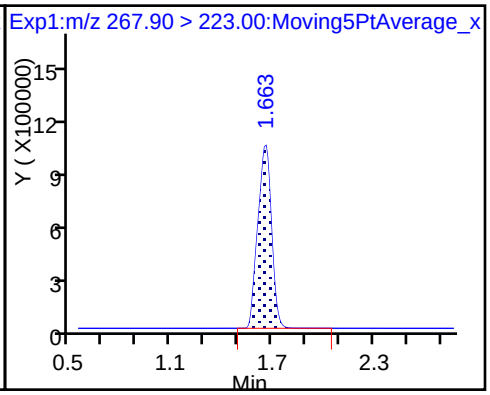
D 1 13C4 PFBA (M)



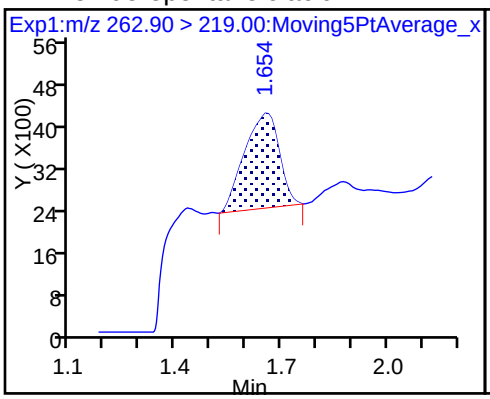
2 Perfluorobutyric acid (M)



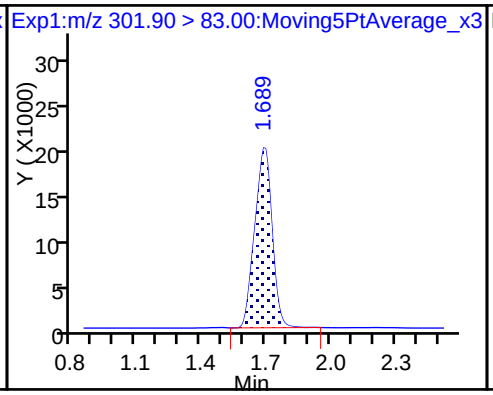
D 3 13C5-PFPeA



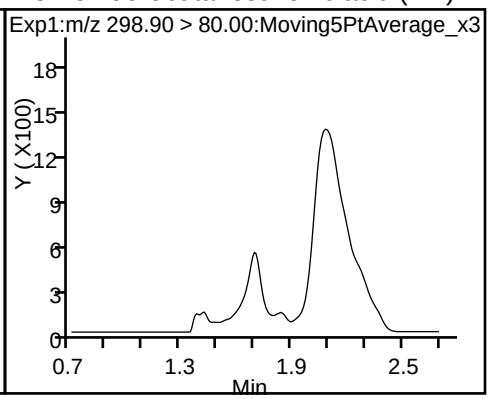
4 Perfluoropentanoic acid



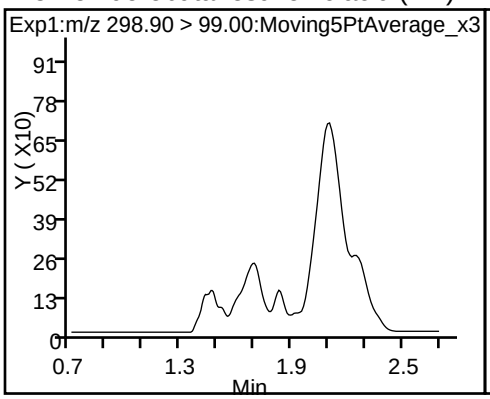
D 47 13C3-PFBS



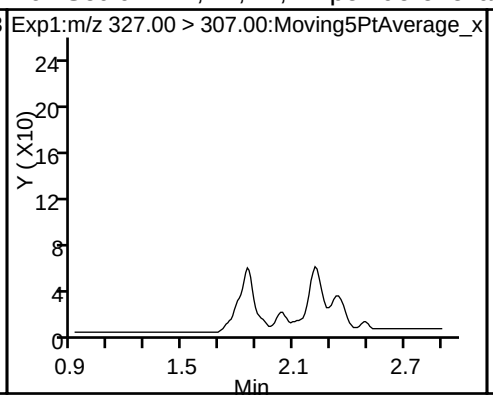
5 Perfluorobutanesulfonic acid (ND)



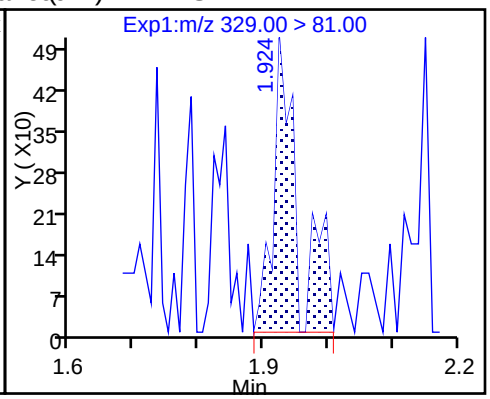
5 Perfluorobutanesulfonic acid (ND)



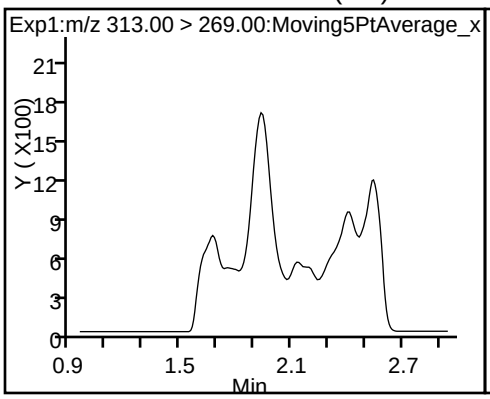
61 Sodium 1H,1H,2H,2H-perfluorohexanesulfonate (NM)



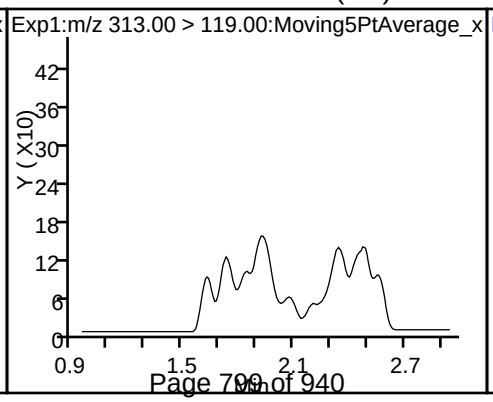
D 60 13C2-4:2FTS



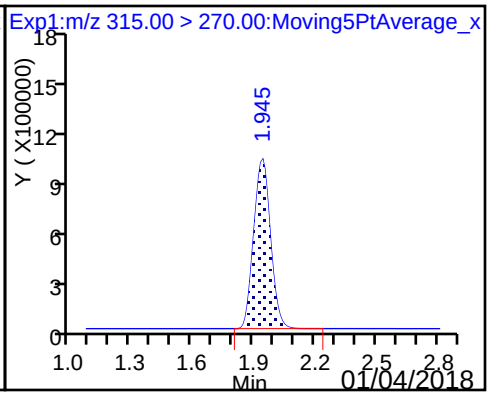
6 Perfluorohexanoic acid (ND)



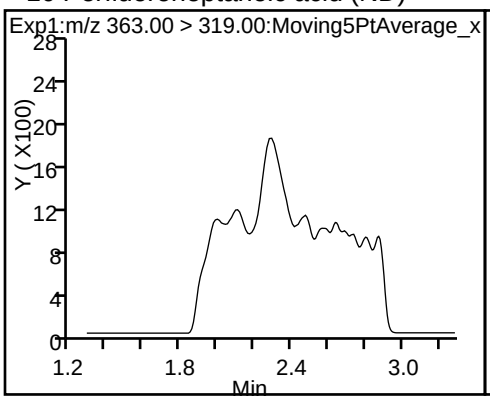
6 Perfluorohexanoic acid (ND)



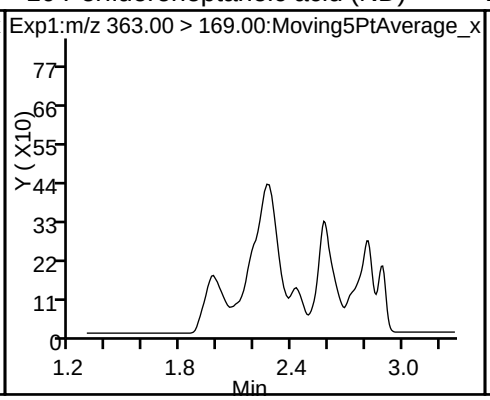
D 7 13C2 PFHxA



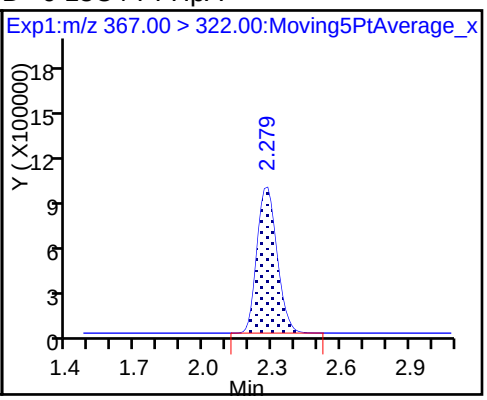
10 Perfluoroheptanoic acid (ND)



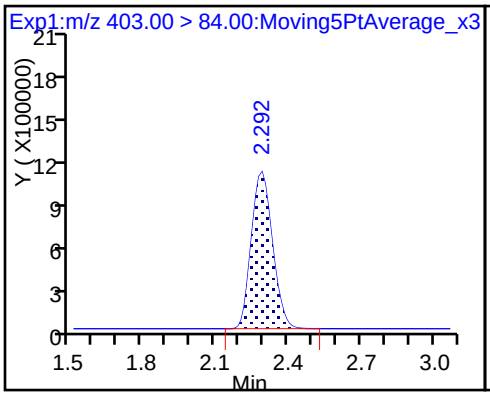
10 Perfluoroheptanoic acid (ND)



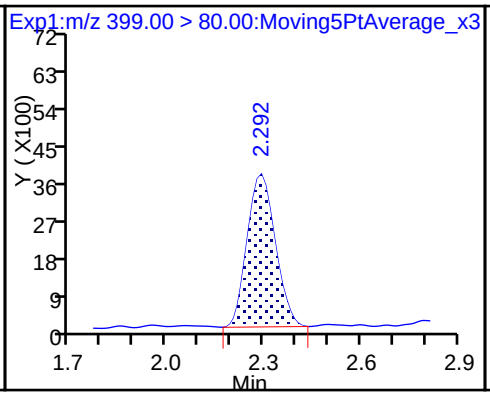
D 9 13C4-PFHpA



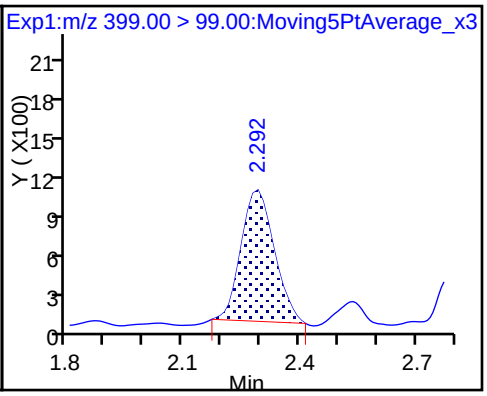
D 11 18O2 PFHxS



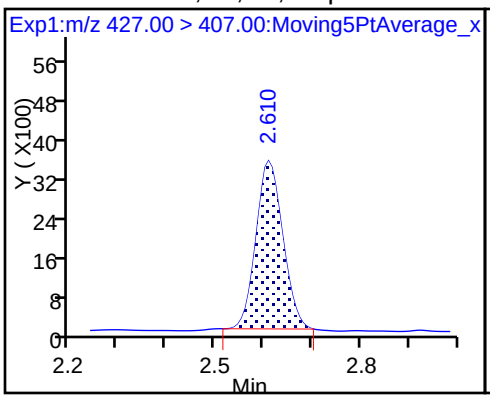
8 Perfluorohexanesulfonic acid



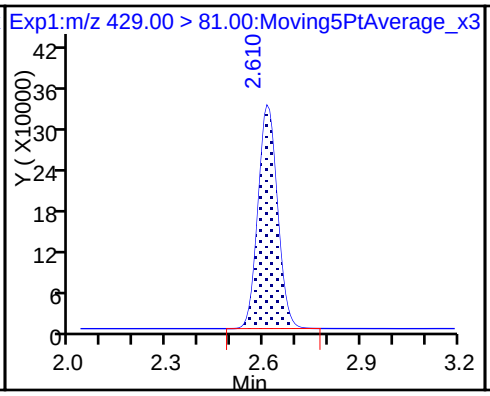
8 Perfluorohexanesulfonic acid



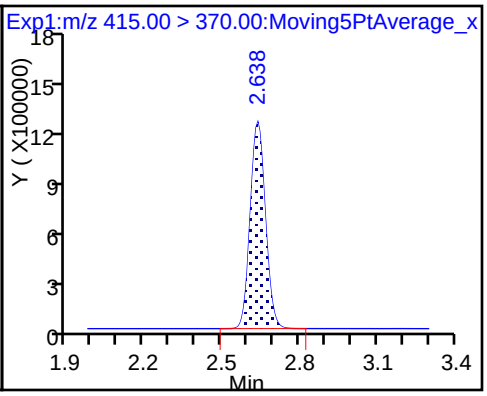
13 Sodium 1H,1H,2H,2H-perfluorooctane



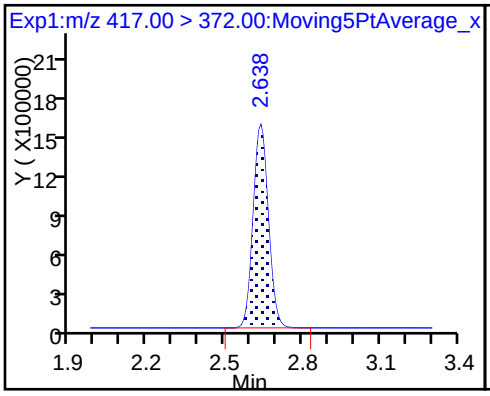
D 12 M2-6:2FTS



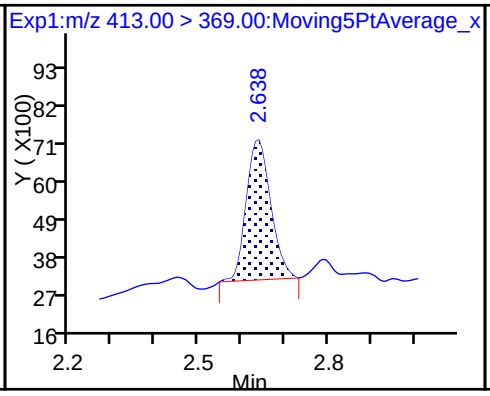
* 62 13C2-PFOA



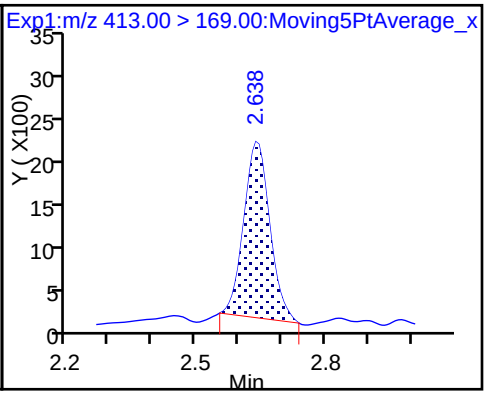
D 14 13C4 PFOA



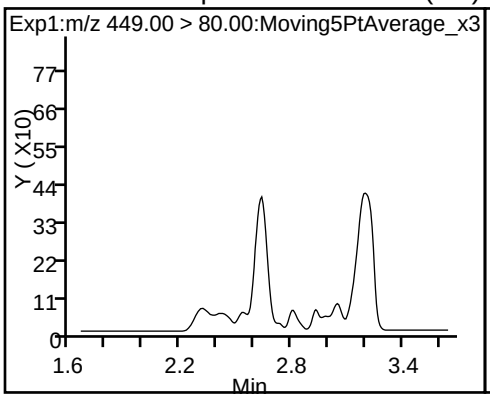
15 Perfluorooctanoic acid



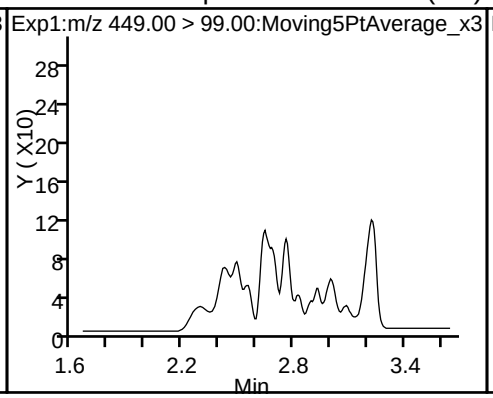
15 Perfluorooctanoic acid



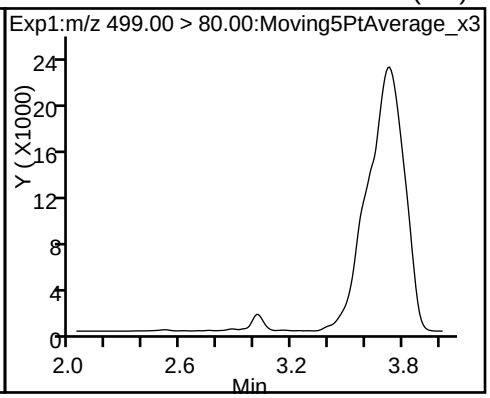
16 Perfluoroheptanesulfonic Acid (ND)



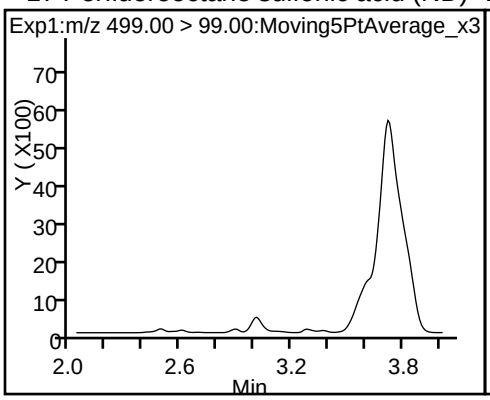
16 Perfluoroheptanesulfonic Acid (ND)



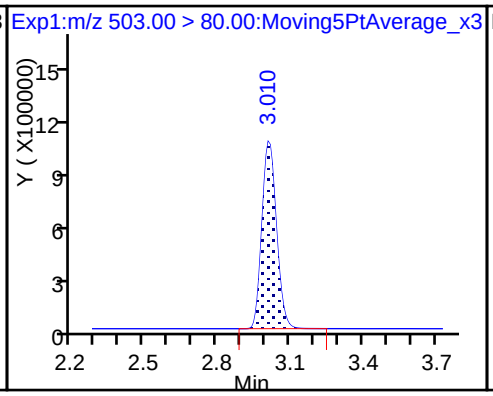
17 Perfluorooctane sulfonic acid (ND)



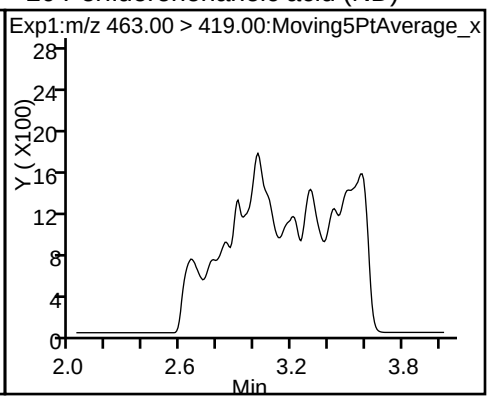
17 Perfluorooctane sulfonic acid (ND)



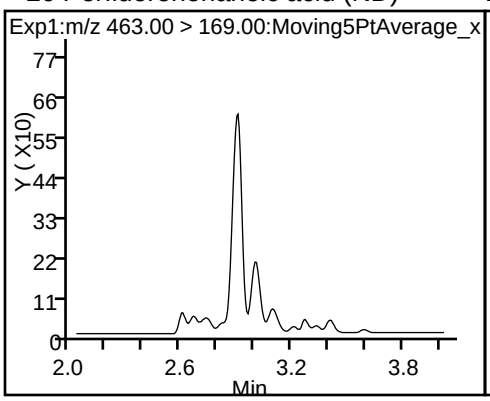
D 18 13C4 PFOS



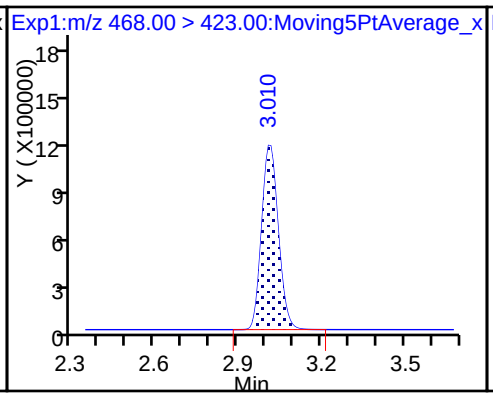
20 Perfluorononanoic acid (ND)



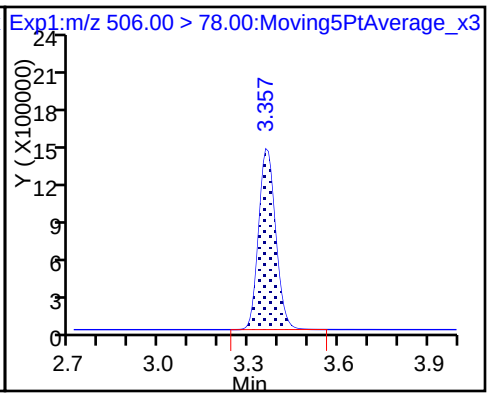
20 Perfluorononanoic acid (ND)



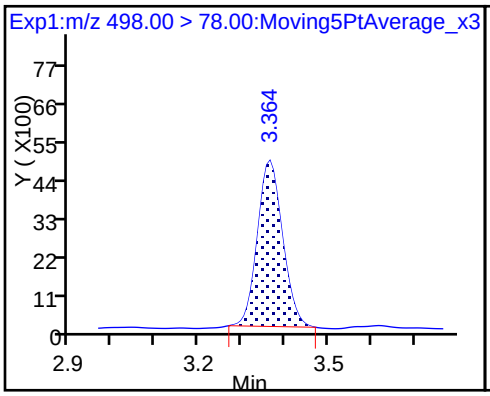
D 19 13C5 PFNA



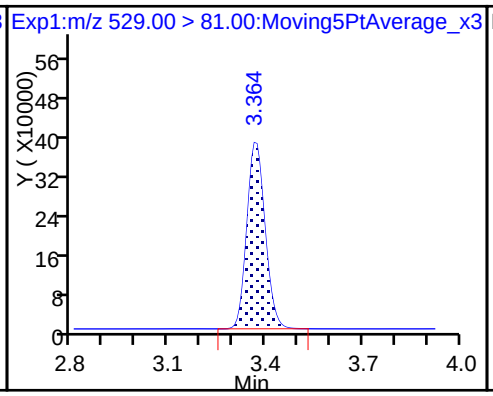
D 21 13C8 FOSA



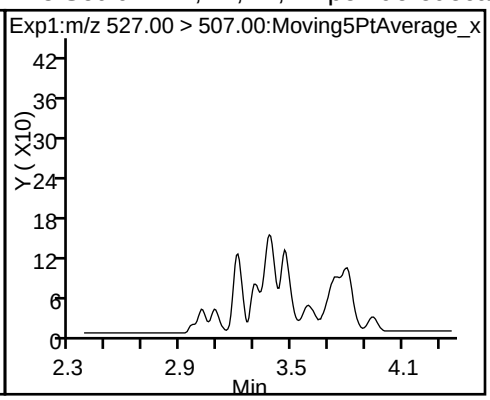
22 Perfluorooctane Sulfonamide



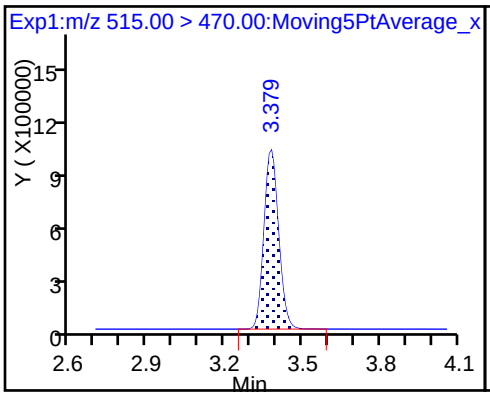
D 26 M2-8:2FTS



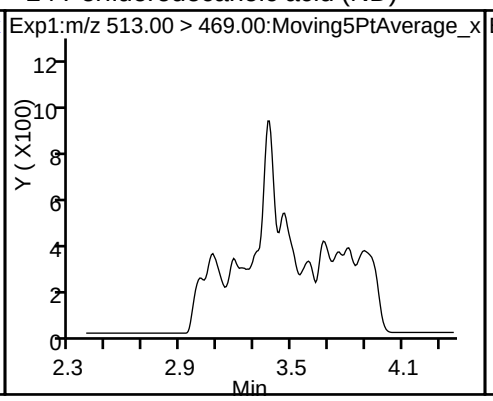
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



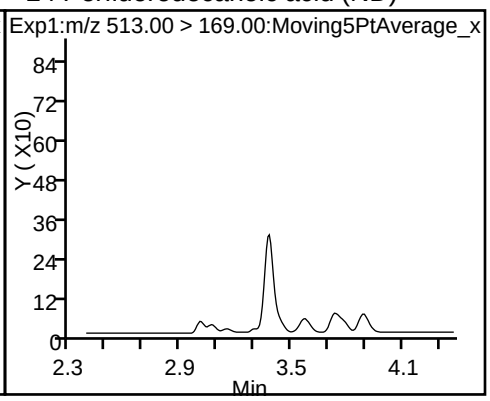
D 23 13C2 PFDA



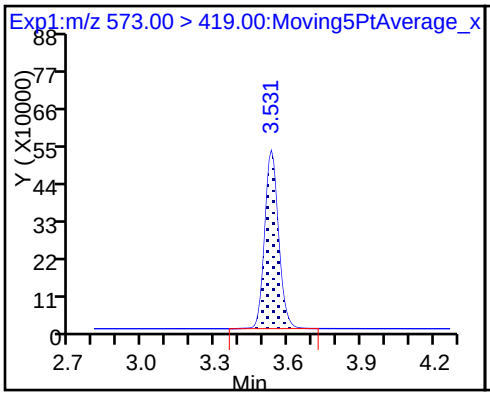
24 Perfluorodecanoic acid (ND)



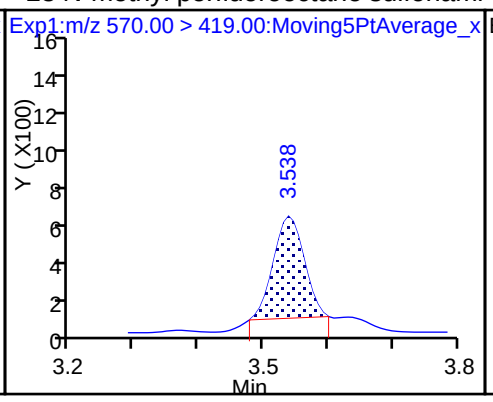
24 Perfluorodecanoic acid (ND)



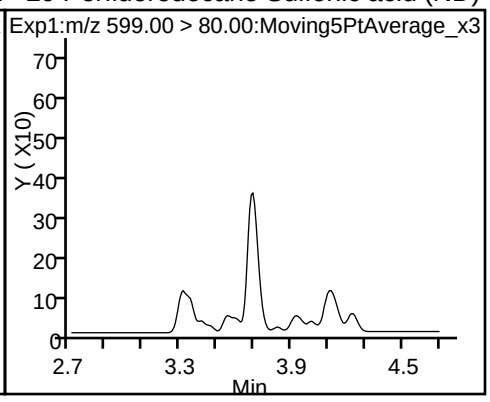
D 27 d3-NMeFOSAA



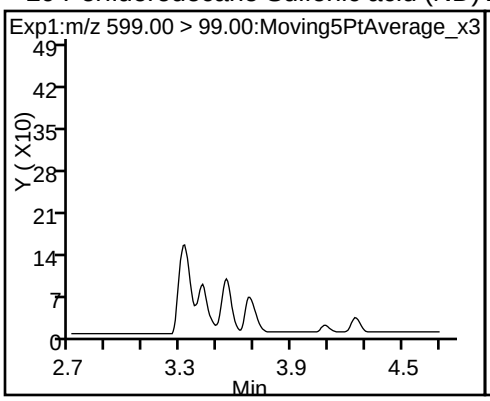
28 N-methyl perfluorooctane sulfonami



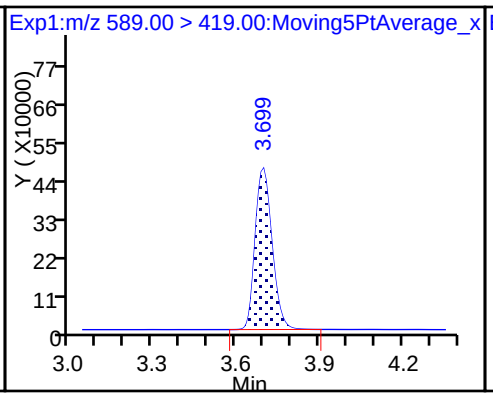
29 Perfluorodecane Sulfonic acid (ND)



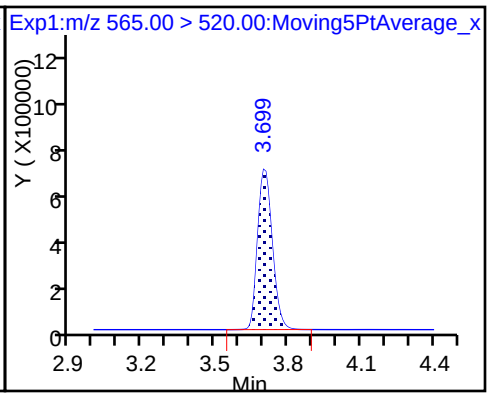
29 Perfluorodecane Sulfonic acid (ND)



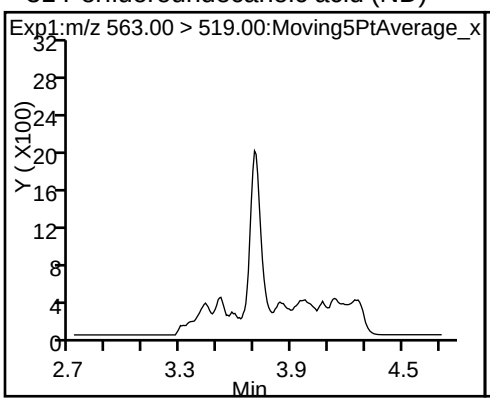
D 32 d5-NEtFOSAA



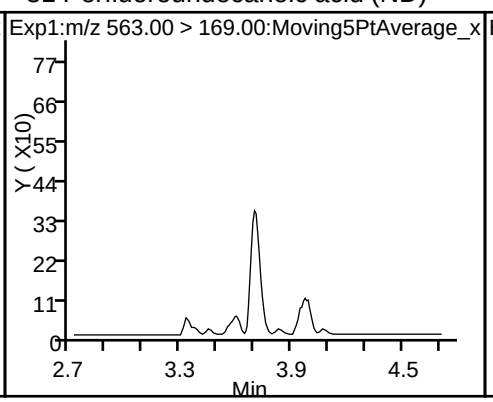
D 30 13C2 PFUnA



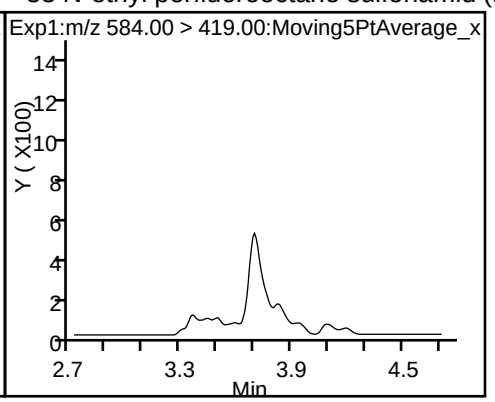
31 Perfluoroundecanoic acid (ND)



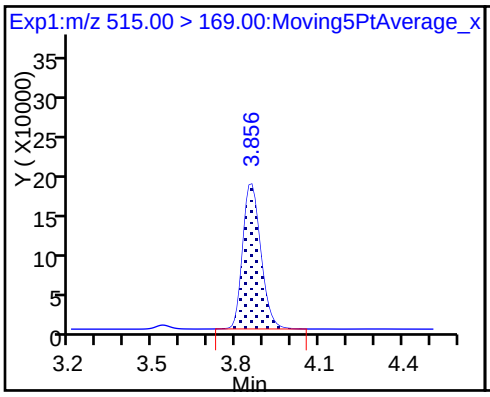
31 Perfluoroundecanoic acid (ND)



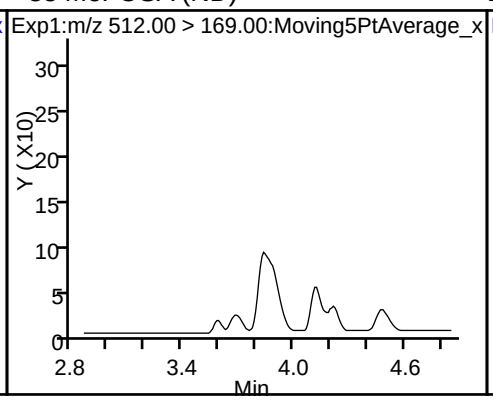
33 N-ethyl perfluorooctane sulfonamid (ND)



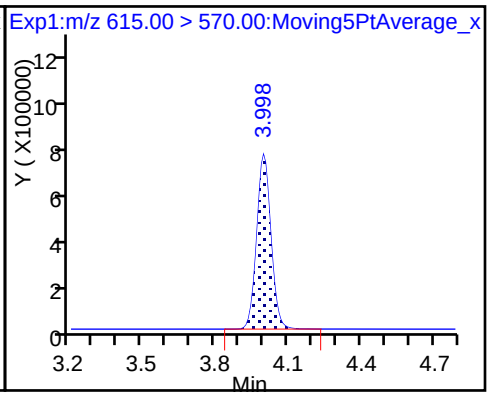
D 34 d-N-MeFOSA-M



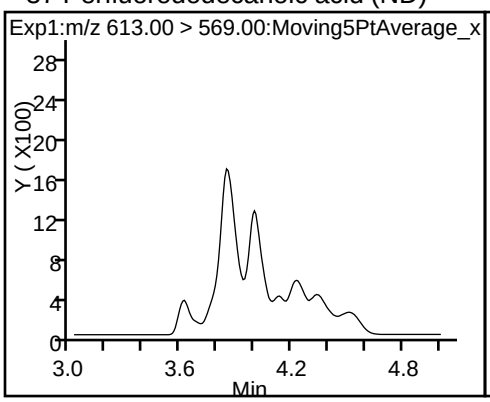
35 MeFOSA (ND)



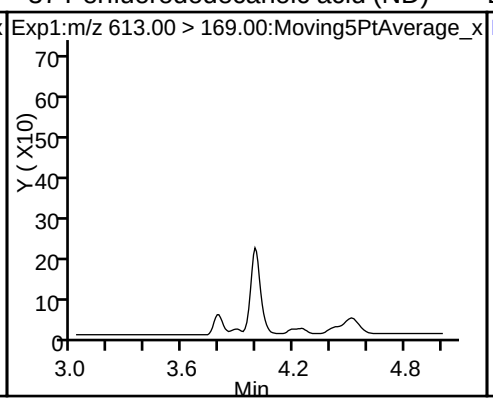
D 36 13C2 PFDoA



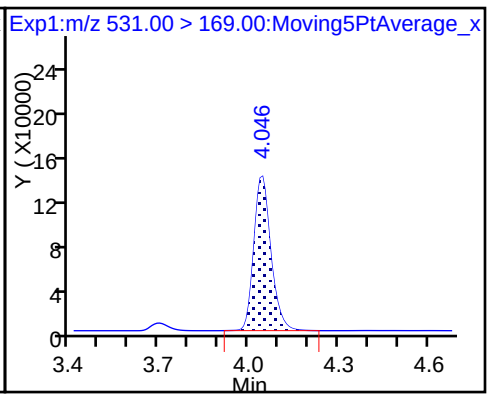
37 Perfluorododecanoic acid (ND)



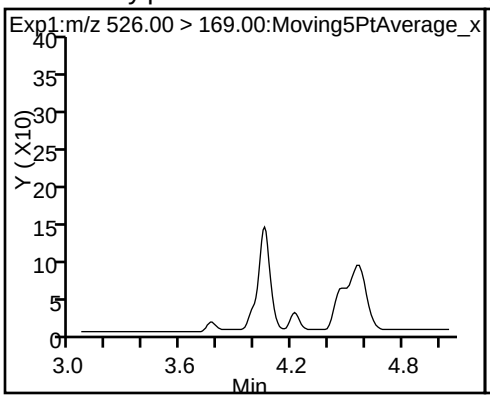
37 Perfluorododecanoic acid (ND)



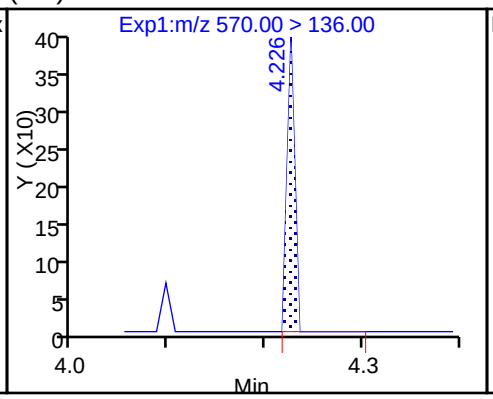
D 38 d-N-EtFOSA-M



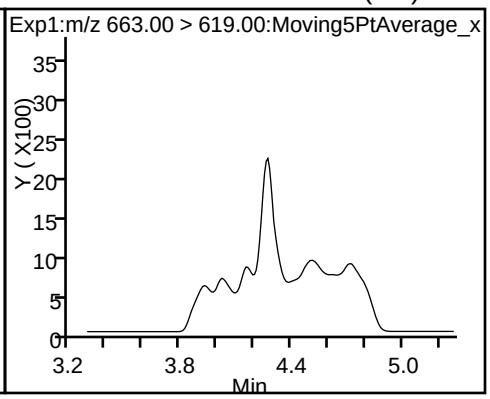
39 N-ethylperfluoro-1-octanesulfonami D (ND)



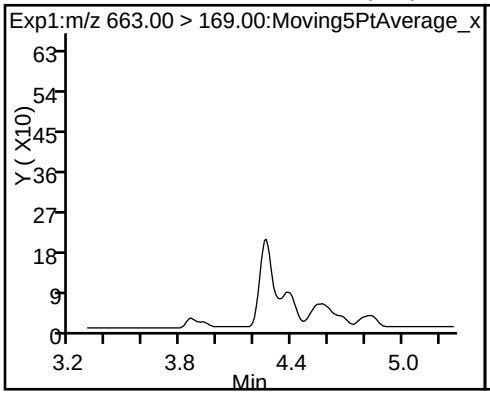
40 d-N-EtFOSE-M



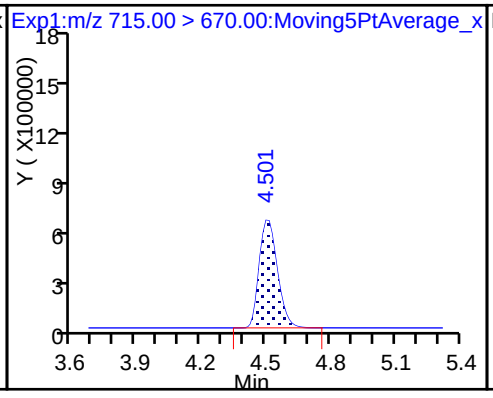
41 Perfluorotridecanoic acid (ND)



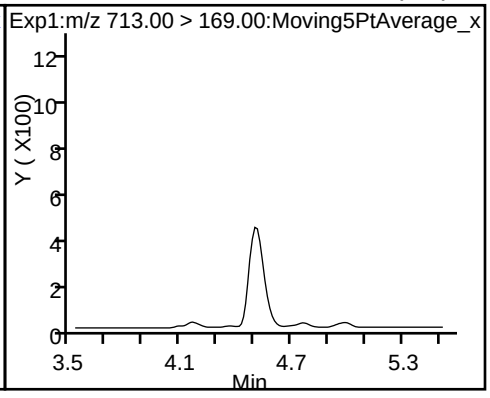
41 Perfluorotridecanoic acid (ND)



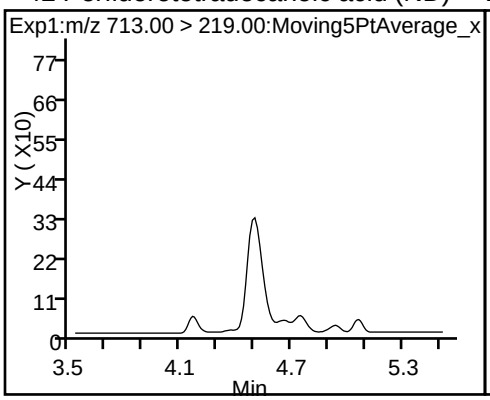
D 43 13C2-PFTeDA



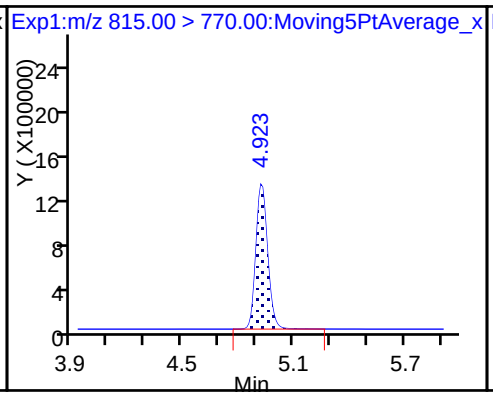
42 Perfluorotetradecanoic acid (ND)



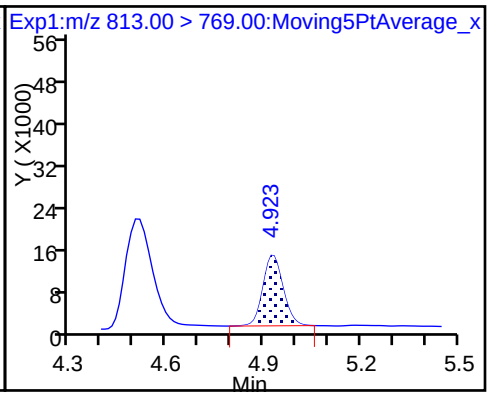
42 Perfluorotetradecanoic acid (ND)



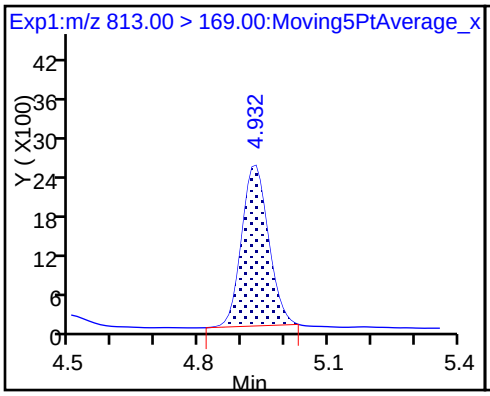
D 44 13C2-PFHxDA



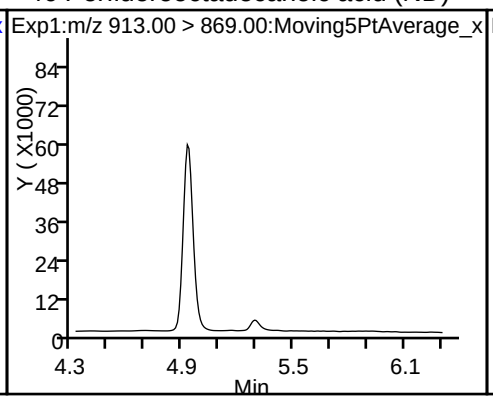
45 Perfluorohexadecanoic acid



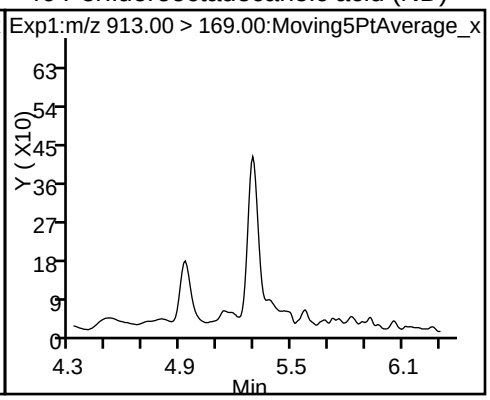
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid (ND)



46 Perfluorooctadecanoic acid (ND)



TestAmerica Sacramento

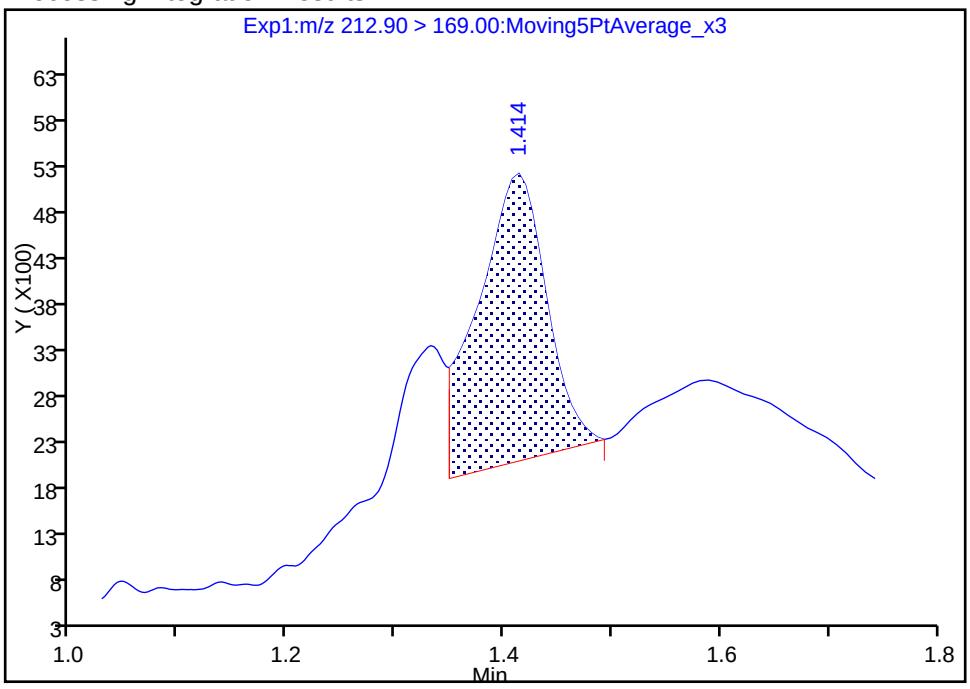
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_024.d
Injection Date: 20-Dec-2017 07:33:33 Instrument ID: A8_N
Lims ID: MB 320-200328/1-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 15 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

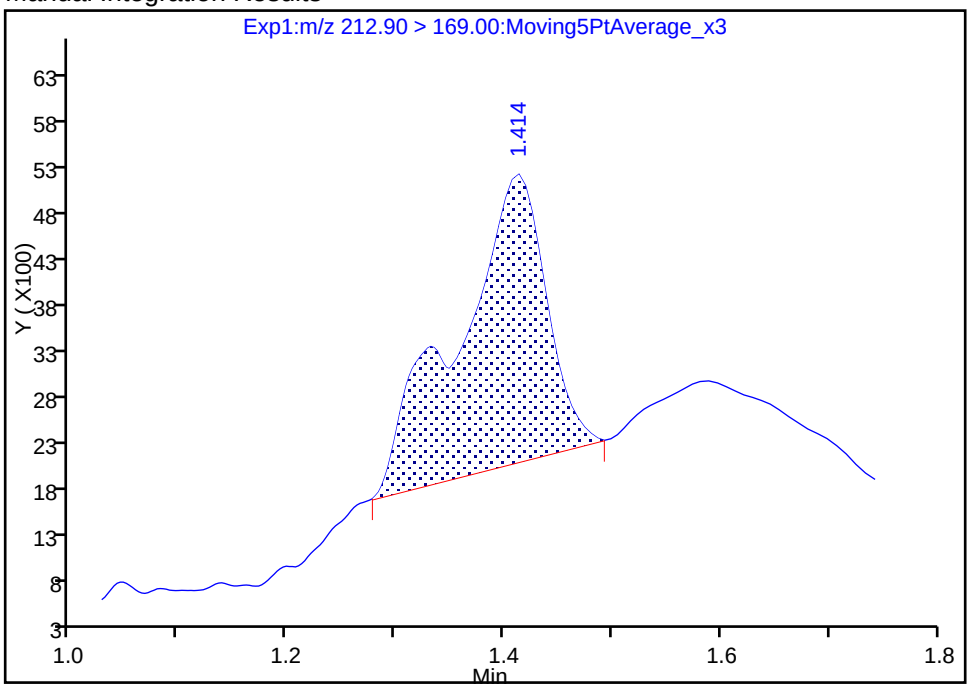
Processing Integration Results

RT: 1.41
Area: 13592
Amount: 0.003946
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 17749
Amount: 0.005152
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:18:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

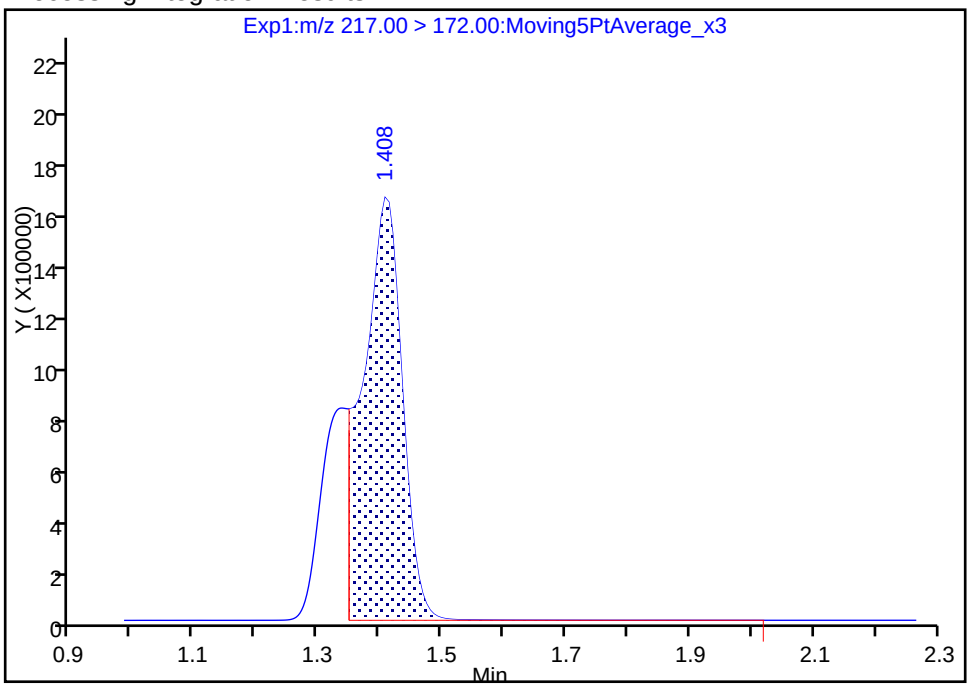
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_024.d				
Injection Date:	20-Dec-2017 07:33:33	Instrument ID:	A8_N		
Lims ID:	MB 320-200328/1-A				
Client ID:					
Operator ID:	SACINSTLCMS01	ALS Bottle#:	15	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

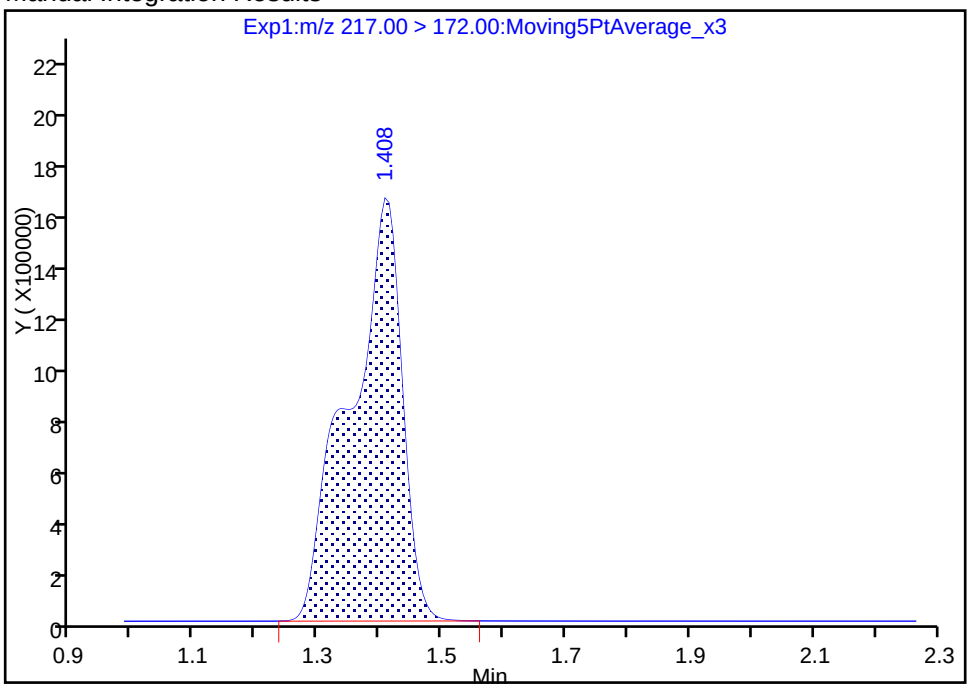
Processing Integration Results

RT: 1.41
Area: 7005935
Amount: 2.374217
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 9439536
Amount: 3.198931
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:18:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-200330/1-A

Matrix: Water | Lab File ID: 2017.12.19LLC_017.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 06:38

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.454	J	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.282	J	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-200330/1-A

Matrix: Water | Lab File ID: 2017.12.19LLC_017.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 06:38

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	111		25-150
STL01893	13C5 PFPeA	112		25-150
STL00993	13C2 PFHxA	111		25-150
STL01892	13C4-PFHpA	114		25-150
STL00990	13C4 PFOA	107		25-150
STL00995	13C5 PFNA	112		25-150
STL00996	13C2 PFDA	128		25-150
STL00997	13C2 PFUnA	118		25-150
STL00998	13C2 PFDoA	119		25-150
STL02116	13C2-PFTeDA	137		25-150
STL02337	13C3-PFBS	113		25-150
STL00994	18O2 PFHxS	115		25-150
STL00991	13C4 PFOS	115		25-150
STL01056	13C8 FOSA	102		25-150
STL02118	d3-NMeFOSAA	139		25-150
STL02117	d5-NEtFOSAA	124		25-150
STL02279	M2-6:2FTS	66		25-150
STL02280	M2-8:2FTS	170	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_017.d
Lims ID: MB 320-200330/1-A
Client ID:
Sample Type: MB
Inject. Date: 20-Dec-2017 06:38:14 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-200330/1-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 14:50:01 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 14:45:36

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.412	1.411	0.001	0.534	8365850	2.77		111	19970	M
2 Perfluorobutyric acid										
212.90 > 169.00	1.412	1.412	0.0	1.000	21942	0.007187			4.2	
D 3 13C5-PFPeA										
267.90 > 223.00	1.660	1.664	-0.004	0.629	4964420	2.79		112	58508	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.660	1.664	-0.004	1.000	8853	0.004033			6.0	
D 47 13C3-PFBS										
301.90 > 83.00	1.696	1.699	-0.003	0.642	98401	2.62		113	3712	
D 60 M2-4:2FTS										
329.00 > 81.00	1.882	1.924	-0.042	0.713	1443	0.007348		0.0	75.5	
D 7 13C2 PFHxA										
315.00 > 270.00	1.941	1.949	-0.008	0.735	5209459	2.76		111	47868	
D 9 13C4-PFHpA										
367.00 > 322.00	2.275	2.286	-0.011	0.861	5016368	2.85		114	40277	
D 11 18O2 PFHxS										
403.00 > 84.00	2.288	2.299	-0.011	0.866	5926002	2.72		115	55145	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.288	2.299	-0.011	1.000	19178	0.007042			66.4	
399.00 > 99.00	2.288	2.299	-0.011	1.000	5471		3.51(1.50-4.49)		28.3	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.613	2.640	-0.027	1.000	10706	0.0138			374	
D 12 M2-6:2FTS										
429.00 > 81.00	2.613	2.640	-0.027	0.989	1149098	1.57		66.1	26312	
* 62 13C2-PFOA										
415.00 > 370.00	2.641	2.643	-0.002		5115990	2.50			43159	
D 14 13C4 PFOA										
417.00 > 372.00	2.641	2.647	-0.006	1.000	5664509	2.68		107	57550	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.641	2.649	-0.008	1.000	13435	0.005619			5.7	
413.00 > 169.00	2.641	2.649	-0.008	1.000	6790		1.98(0.84-2.52)		49.6	
D 18 13C4 PFOS										
503.00 > 80.00	3.014	3.025	-0.011	1.141	3839997	2.74		115	33883	
20 Perfluorononanoic acid										
463.00 > 419.00	3.022	3.026	-0.004	1.003	17458	0.0113			22.2	
463.00 > 169.00	3.014	3.026	-0.012	1.000	4035		4.33(1.90-5.69)		76.1	
D 19 13C5 PFNA										
468.00 > 423.00	3.014	3.026	-0.012	1.141	3971561	2.79		112	44441	
D 21 13C8 FOSA										
506.00 > 78.00	3.360	3.362	-0.002	1.272	5044266	2.54		102	22646	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.360	3.365	-0.005	1.000	13286	0.006965			301	
D 26 M2-8:2FTS										
529.00 > 81.00	3.367	3.375	-0.008	1.275	1272108	4.08		170	13120	
D 23 13C2 PFDA										
515.00 > 470.00	3.375	3.387	-0.012	1.278	3632405	3.19		128	39282	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.535	3.541	-0.006	1.338	1825403	3.48		139	25744	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.535	3.547	-0.012	1.000	4688	0.006229			40.9	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.702	3.711	-0.009	1.402	1674852	3.10		124	8780	
D 30 13C2 PFUnA										
565.00 > 520.00	3.702	3.717	-0.015	1.402	2596061	2.96		118	33244	
31 Perfluoroundecanoic acid										M
563.00 > 519.00	3.613	3.718	-0.105	0.976	14410	0.0153			43.2	
563.00 > 169.00	3.613	3.718	-0.105	0.976	18345		0.79(0.00-0.00)		348	M
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.711	3.718	-0.007	1.002	5384	0.008247			114	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.851	3.856	-0.005	1.458	878513	1.50		60.1	2038	
D 36 13C2 PFDoA										
615.00 > 570.00	4.001	4.015	-0.014	1.515	2783256	2.99		119	27848	
37 Perfluorododecanoic acid										RM
613.00 > 569.00	4.001	4.016	-0.015	1.000	4243	0.003969			11.1	R
613.00 > 169.00	4.009	4.016	-0.007	1.002	2176		1.95(2.13-6.40)		121	M
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.040	4.048	-0.008	1.530	581881	1.06		42.2	1153	
41 Perfluorotridecanoic acid										R
663.00 > 619.00	4.266	4.285	-0.019	1.000	10400	0.008150			25.1	R
663.00 > 169.00	4.266	4.285	-0.019	1.000	2753		3.78(1.25-3.76)		136	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.504	4.522	-0.018	1.705	3514078	3.43		137	26529	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.924	4.944	-0.020	1.864	5101272	2.73		109	13470	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.933	4.945	-0.012	1.002	54822	0.006678			27.7	
813.00 > 169.00	4.924	4.945	-0.021	1.000	9292		5.90(2.86-8.58)		185	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.290	5.309	-0.019	1.000	20334	0.008964			4.8	
913.00 > 169.00	5.290	5.309	-0.019	1.000	2276		8.93(0.00-0.00)		26.6	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 14:50:05 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_017.d

Injection Date: 20-Dec-2017 06:38:14 Instrument ID: A8_N

Lims ID: MB 320-200330/1-A

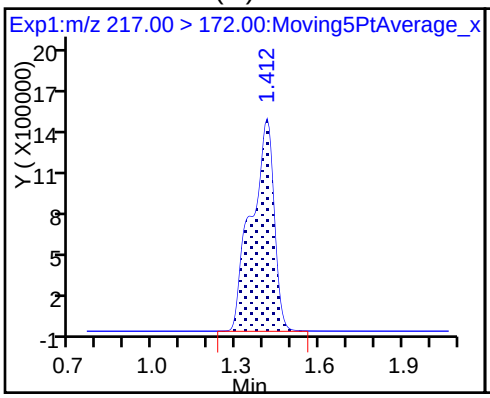
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2

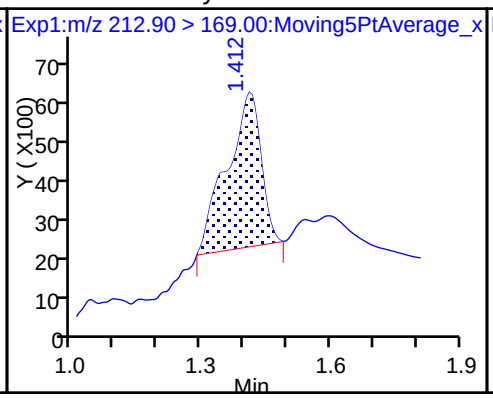
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

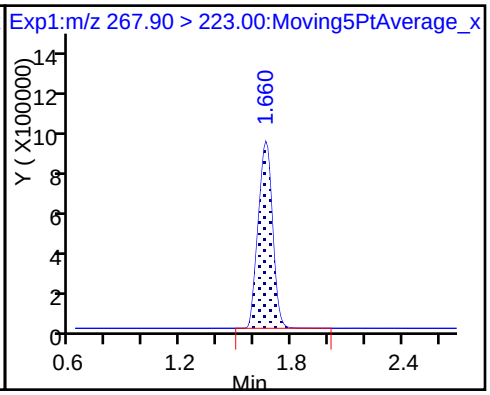
D 1 13C4 PFBA (M)



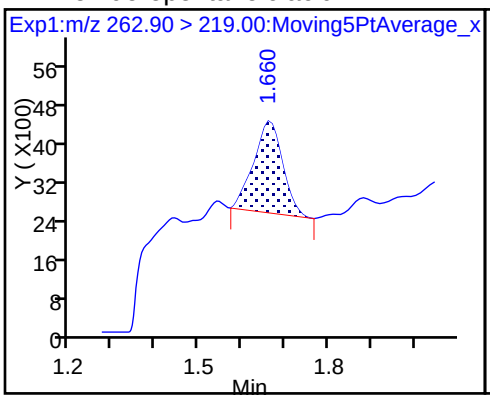
2 Perfluorobutyric acid



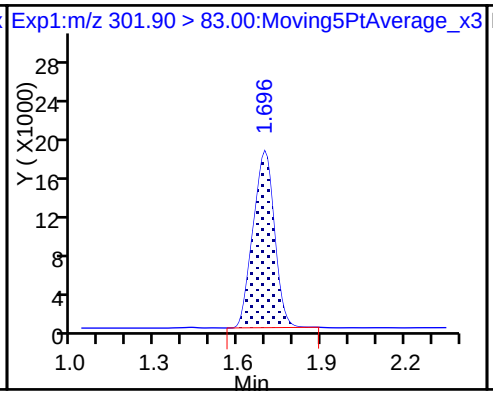
D 3 13C5-PFPeA



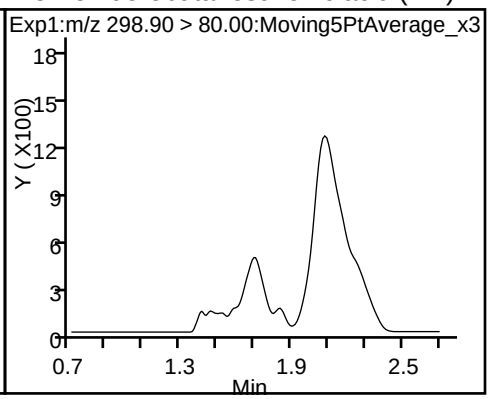
4 Perfluoropentanoic acid



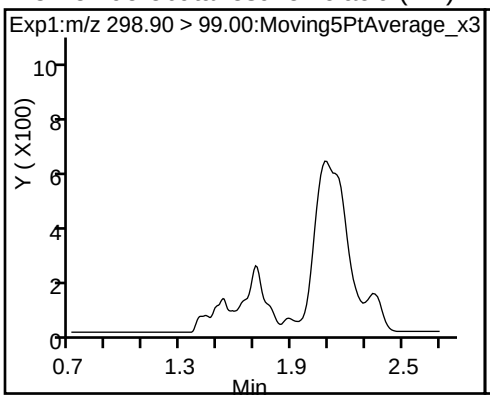
D 47 13C3-PFBS



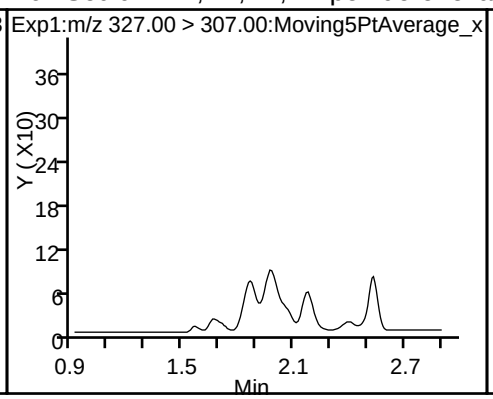
5 Perfluorobutanesulfonic acid (ND)



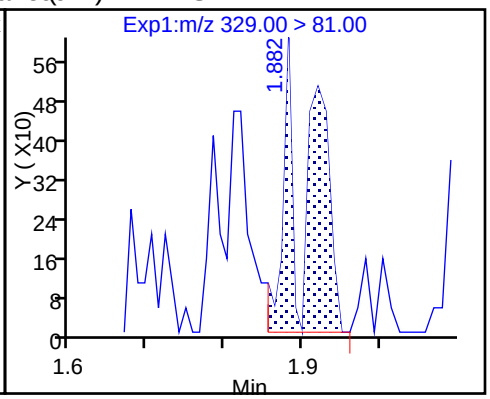
5 Perfluorobutanesulfonic acid (ND)



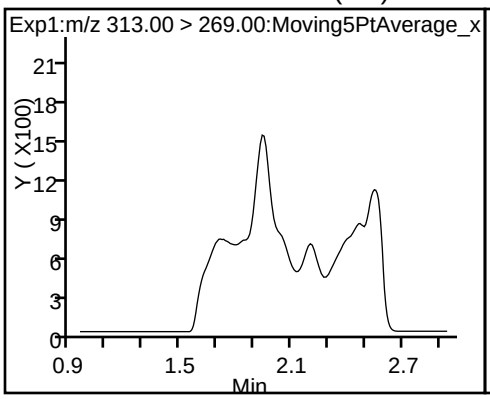
61 Sodium 1H,1H,2H,2H-perfluorohexane (ND)



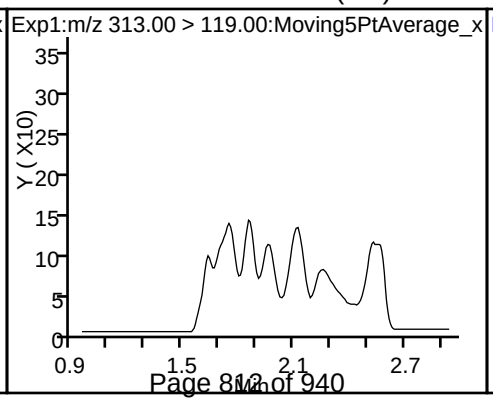
D 60 M2-4:2FTS



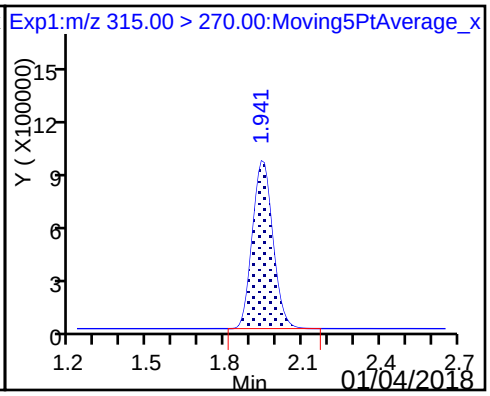
6 Perfluorohexanoic acid (ND)



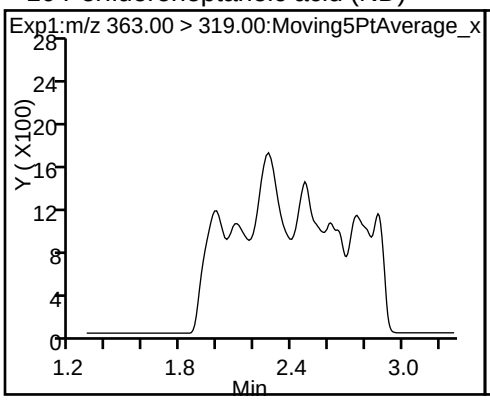
6 Perfluorohexanoic acid (ND)



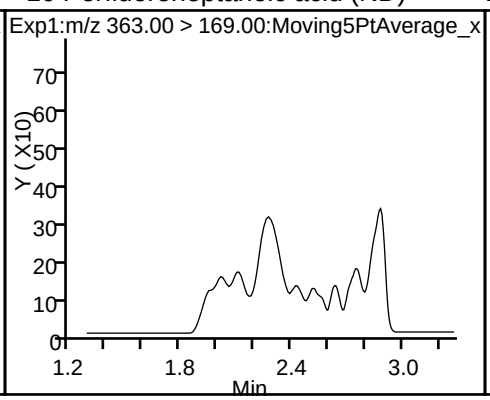
D 7 13C2 PFHxA



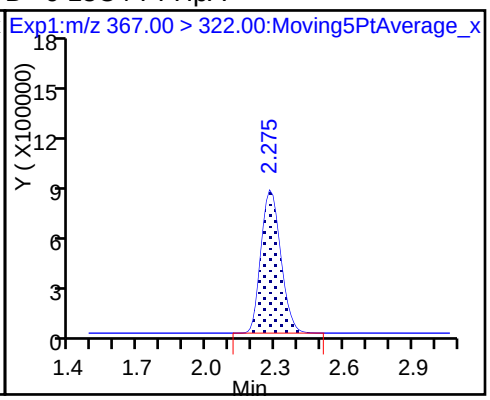
10 Perfluoroheptanoic acid (ND)



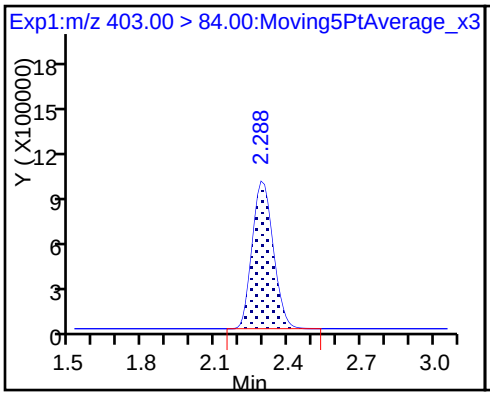
10 Perfluoroheptanoic acid (ND)



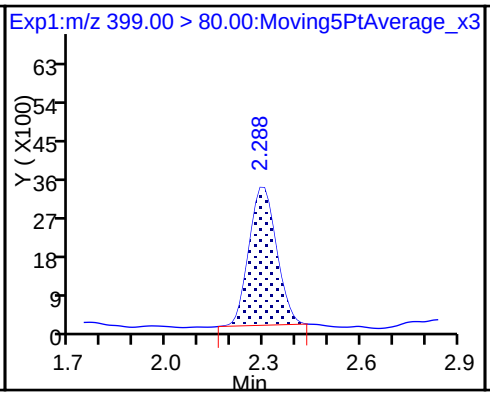
D 9 13C4-PFHpA



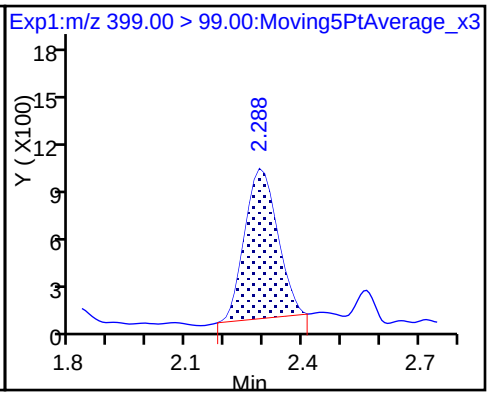
D 11 18O2 PFHxS



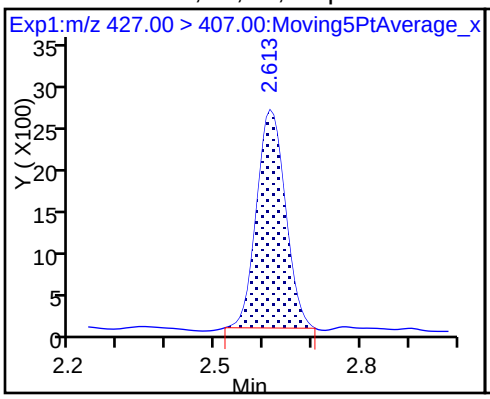
8 Perfluorohexanesulfonic acid



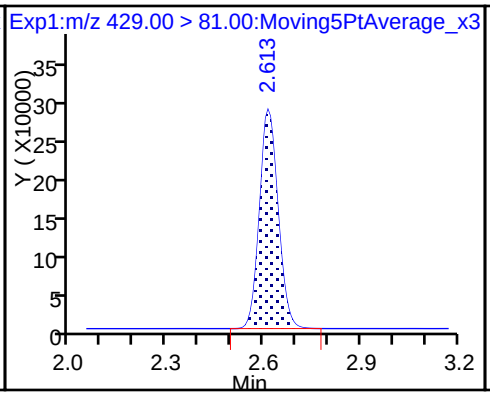
8 Perfluorohexanesulfonic acid



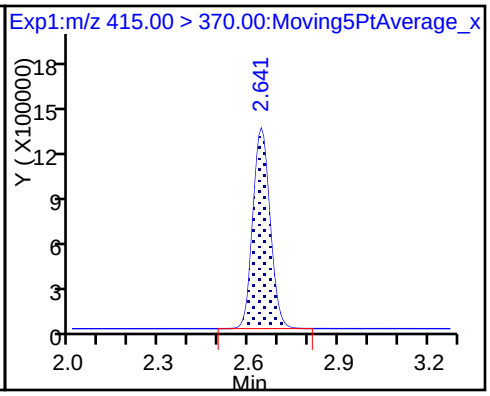
13 Sodium 1H,1H,2H,2H-perfluorooctane



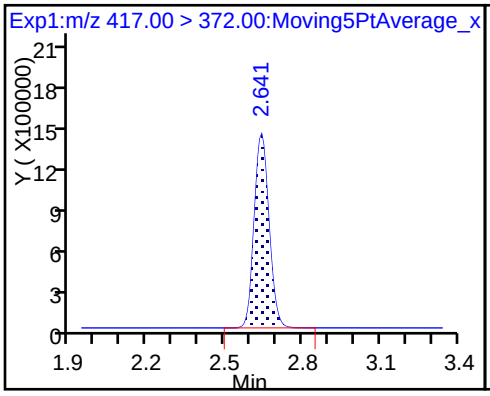
D 12 M2-6:2FTS



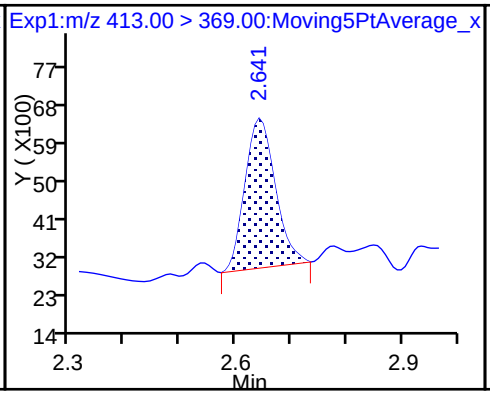
* 62 13C2-PFOA



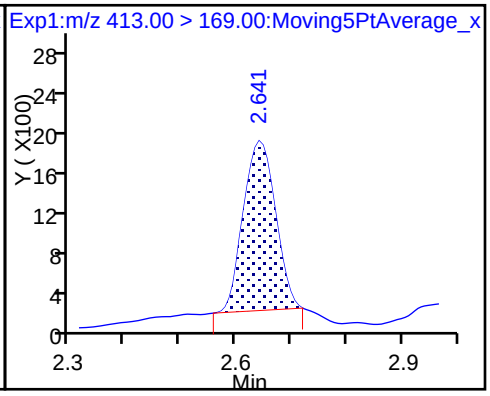
D 14 13C4 PFOA



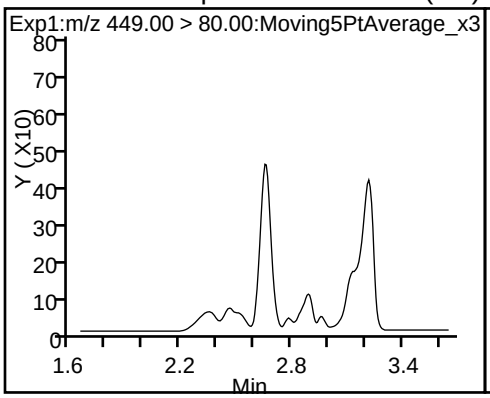
15 Perfluorooctanoic acid



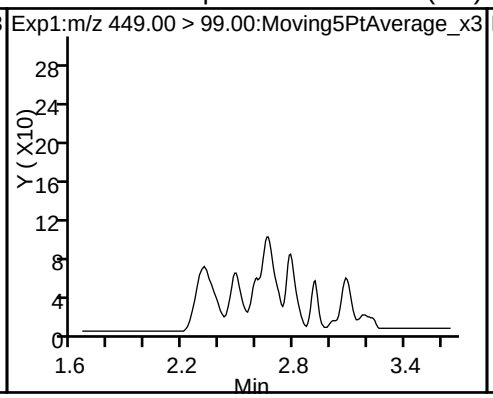
15 Perfluorooctanoic acid



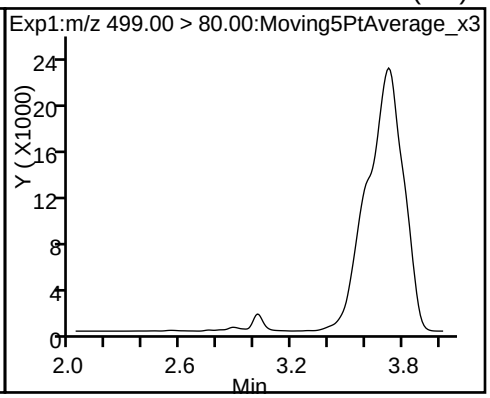
16 Perfluoroheptanesulfonic Acid (ND)



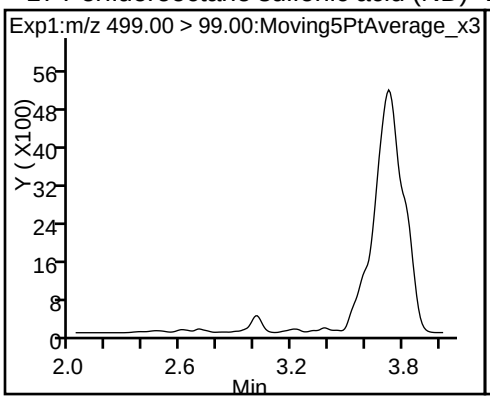
16 Perfluoroheptanesulfonic Acid (ND)



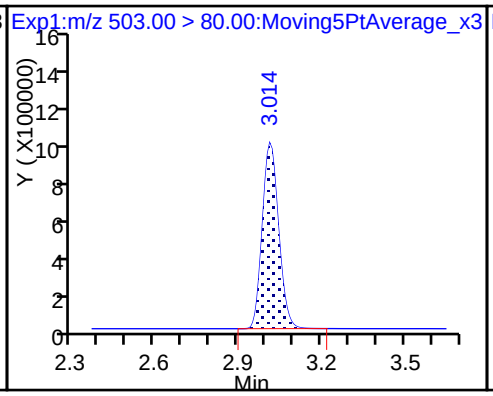
17 Perfluorooctane sulfonic acid (ND)



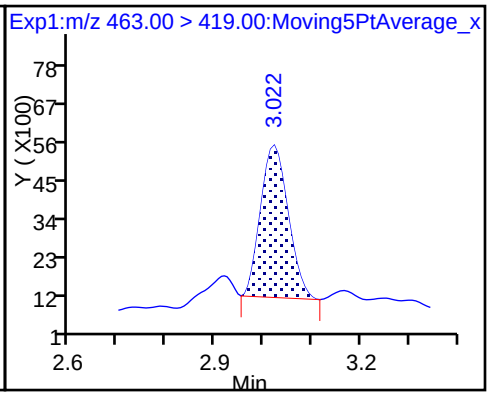
17 Perfluorooctane sulfonic acid (ND)



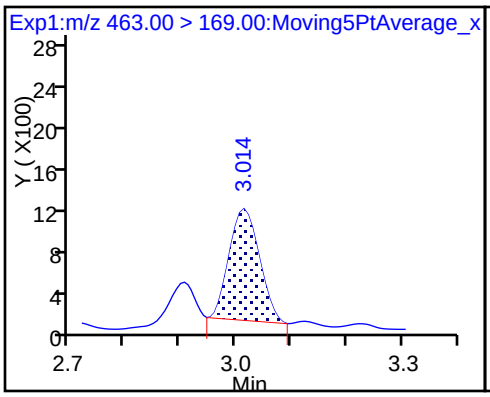
D 18 13C4 PFOS



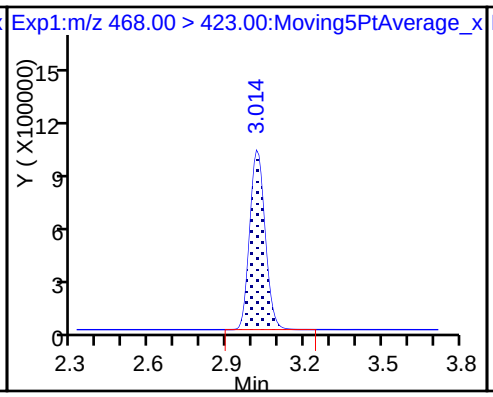
20 Perfluorononanoic acid



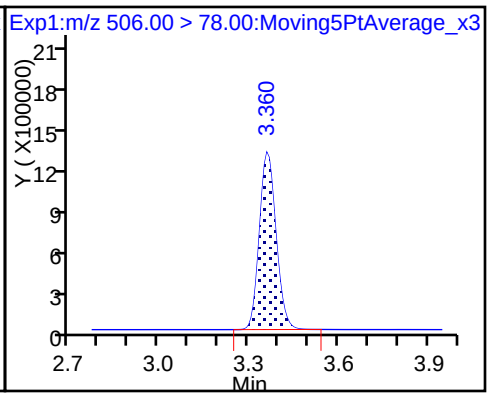
20 Perfluorononanoic acid



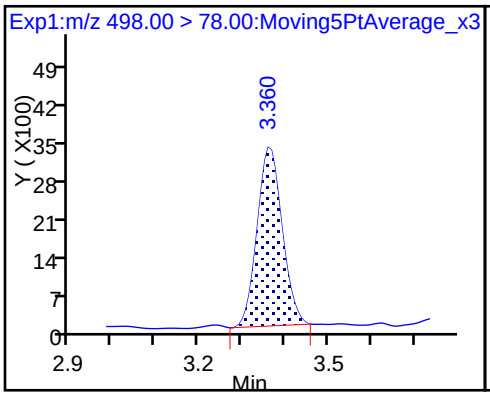
D 19 13C5 PFNA



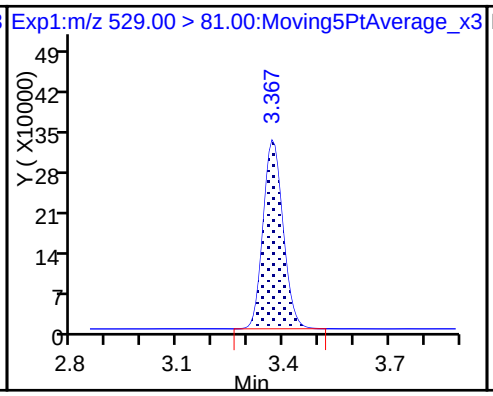
D 21 13C8 FOSA



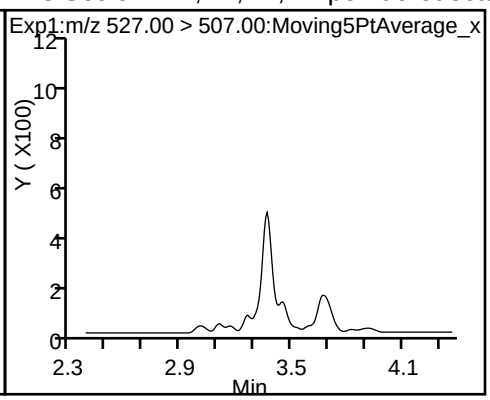
22 Perfluorooctane Sulfonamide



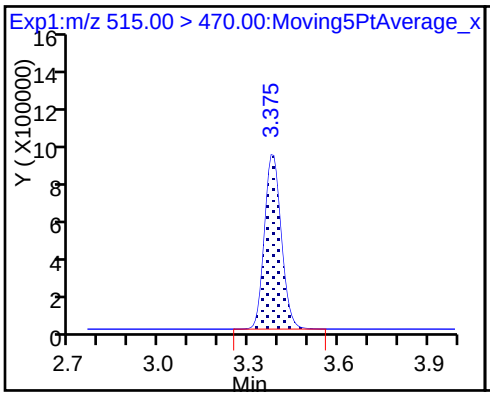
D 26 M2-8:2FTS



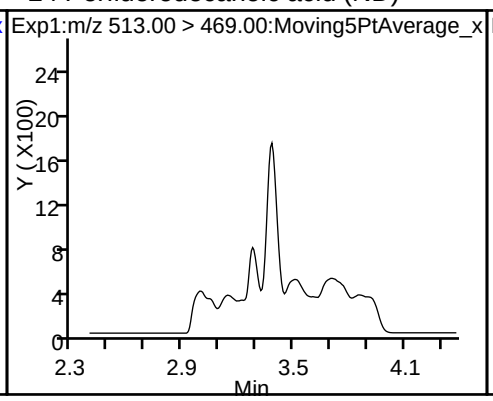
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



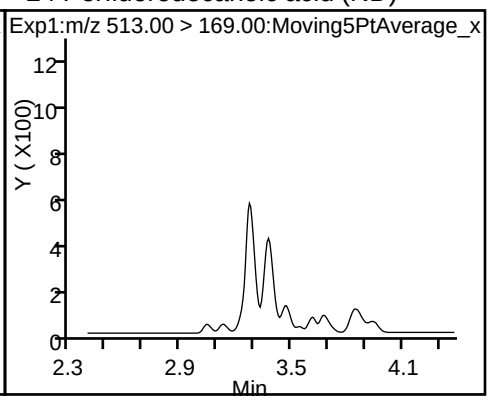
D 23 13C2 PFDA



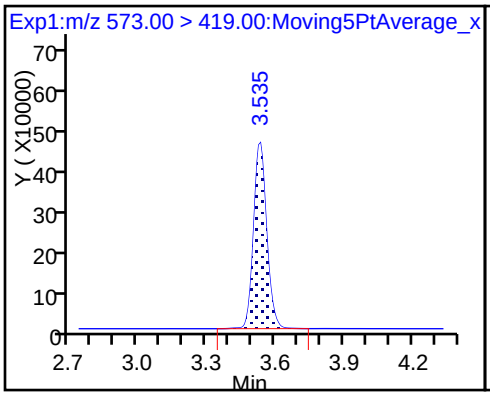
24 Perfluorodecanoic acid (ND)



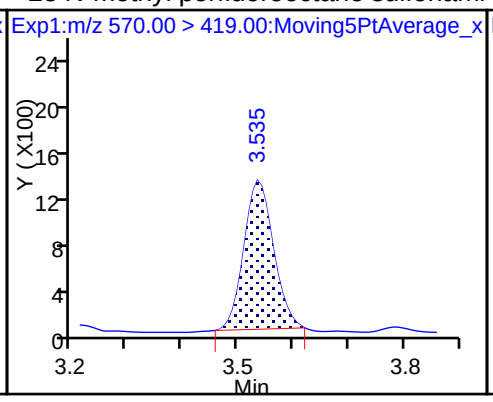
24 Perfluorodecanoic acid (ND)



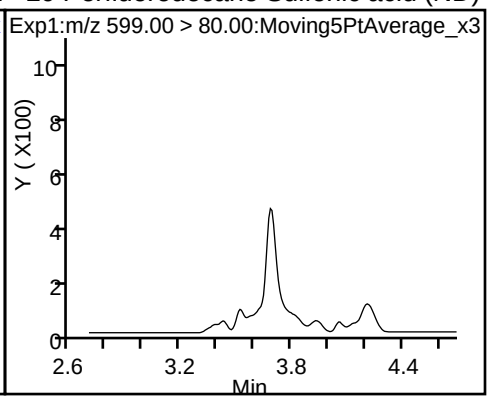
D 27 d3-NMeFOSAA



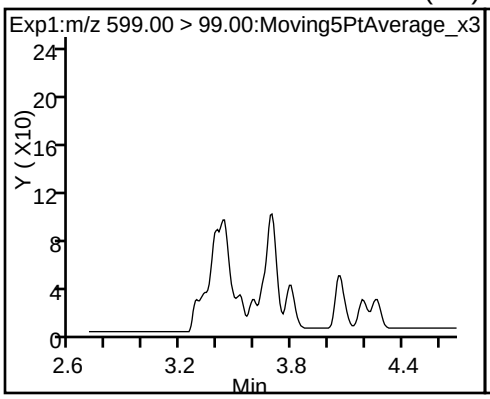
28 N-methyl perfluorooctane sulfonami



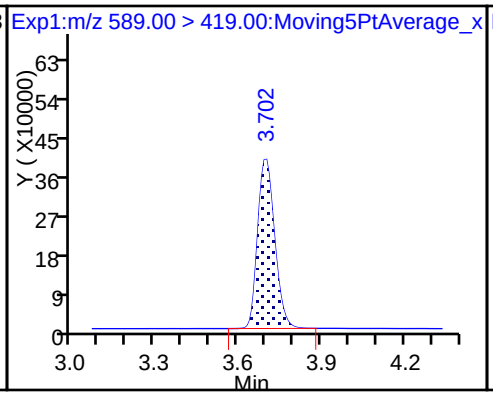
29 Perfluorodecane Sulfonic acid (ND)



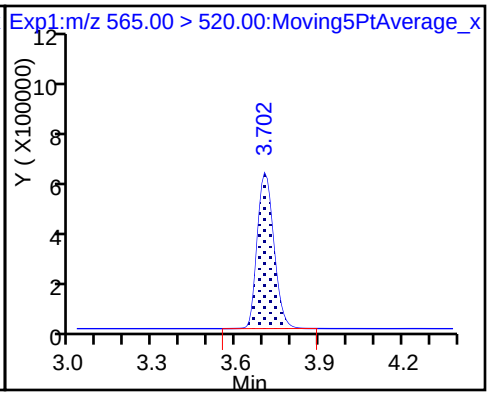
29 Perfluorodecane Sulfonic acid (ND)



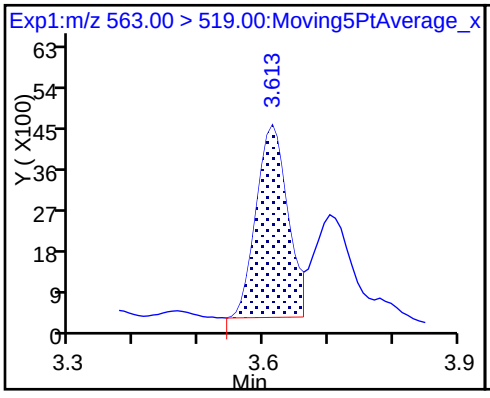
D 32 d5-NEtFOSAA



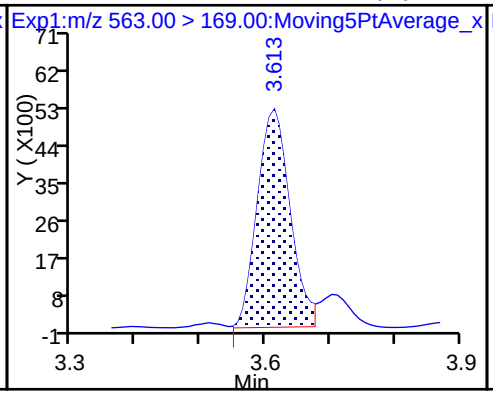
D 30 13C2 PFUnA



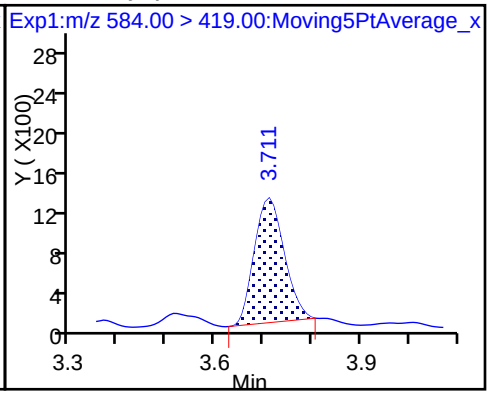
31 Perfluoroundecanoic acid



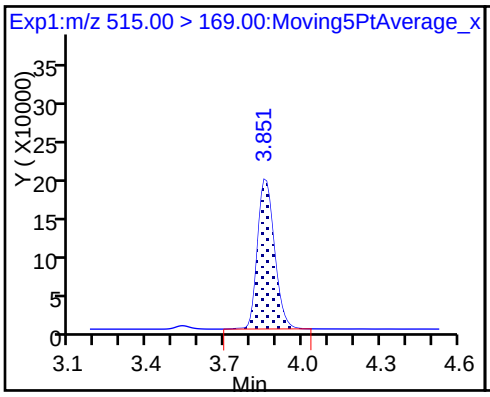
31 Perfluoroundecanoic acid (M)



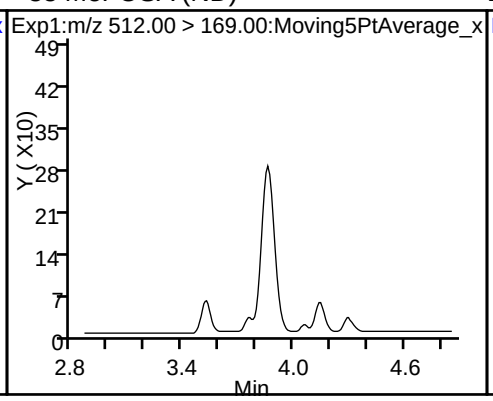
33 N-ethyl perfluorooctane sulfonamid



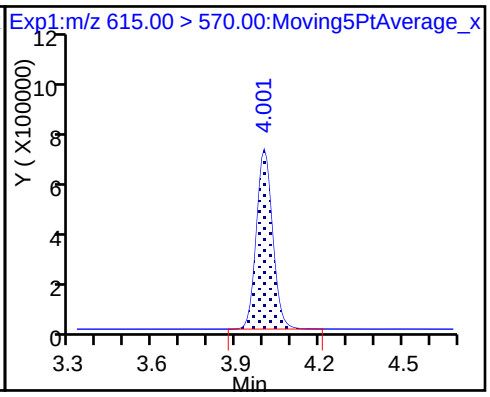
D 34 d-N-MeFOSA-M



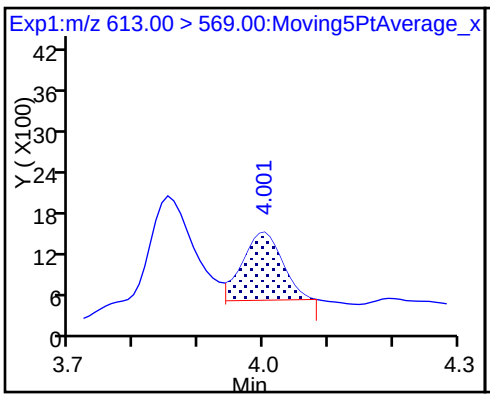
35 MeFOSA (ND)



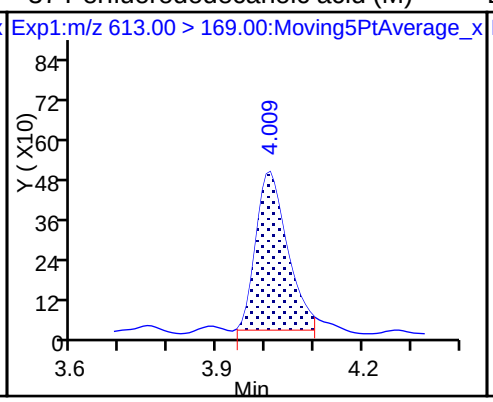
D 36 13C2 PFDoA



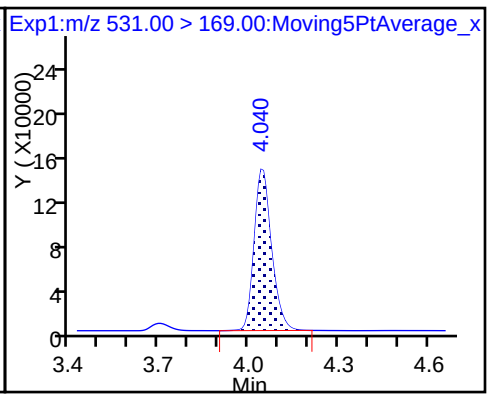
37 Perfluorododecanoic acid



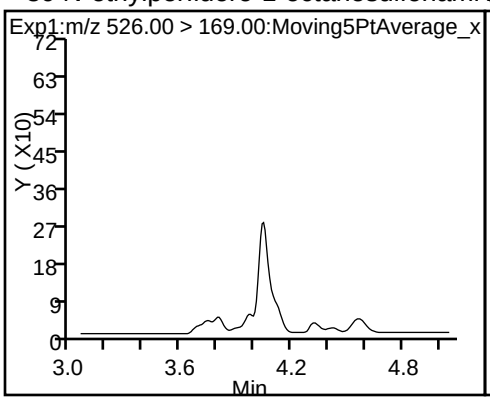
37 Perfluorododecanoic acid (M)



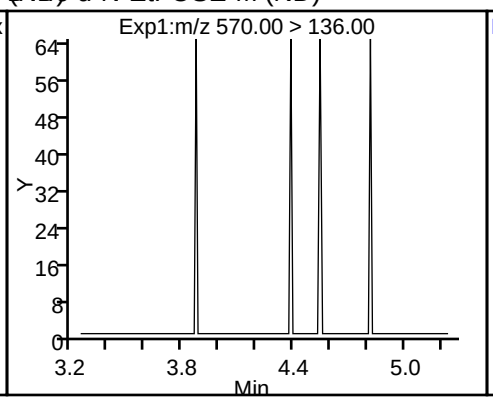
D 38 d-N-EtFOSA-M



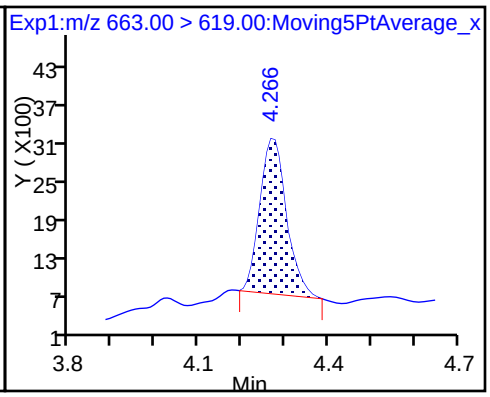
39 N-ethylperfluoro-1-octanesulfonami D (ND)



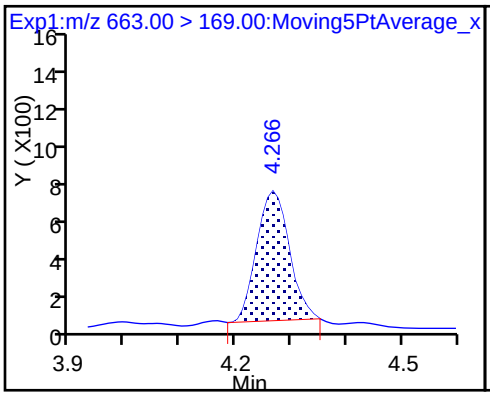
40 d-N-EtFOSE-M (ND)



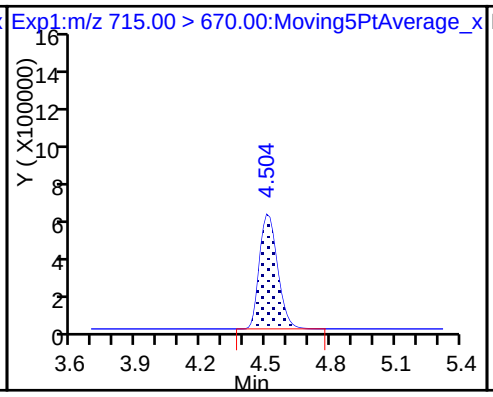
41 Perfluorotridecanoic acid



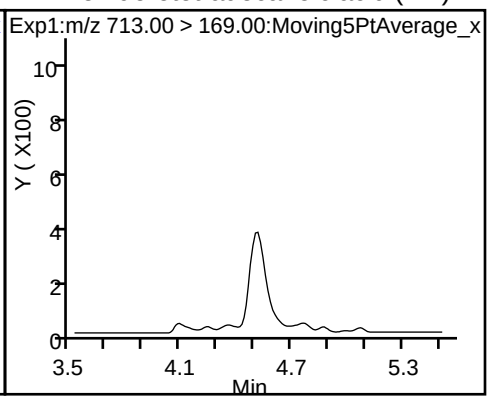
41 Perfluorotridecanoic acid



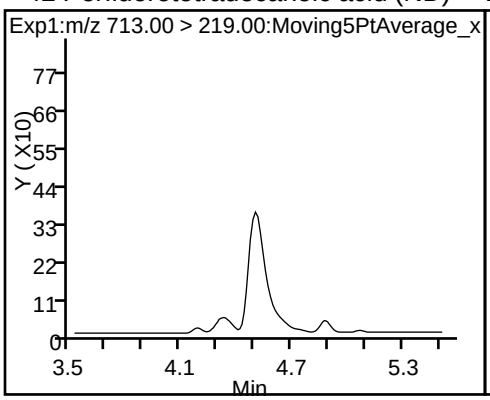
D 43 13C2-PFTeDA



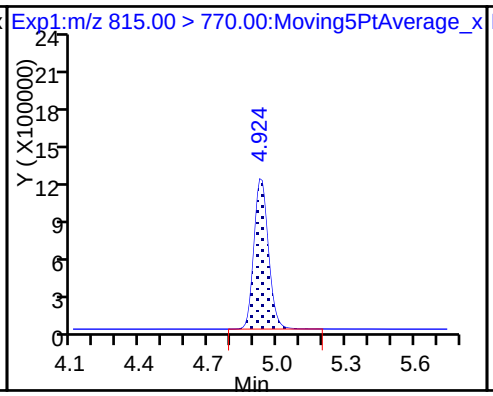
42 Perfluorotetradecanoic acid (ND)



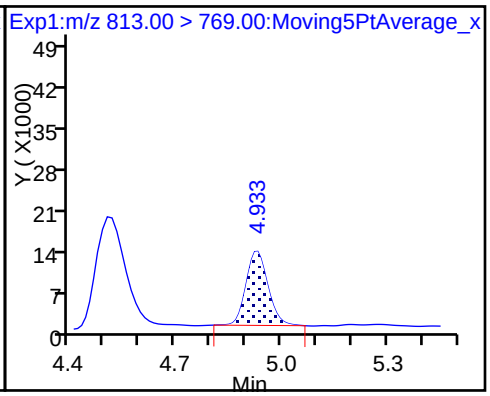
42 Perfluorotetradecanoic acid (ND)



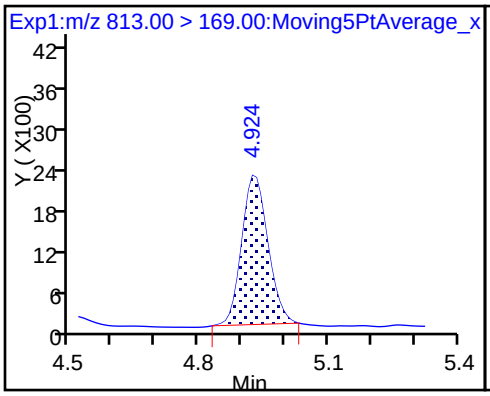
D 44 13C2-PFHxDA



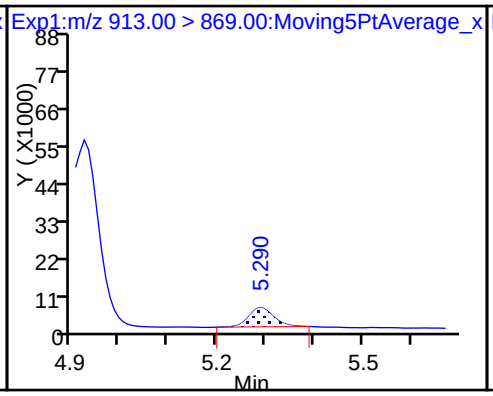
45 Perfluorohexadecanoic acid



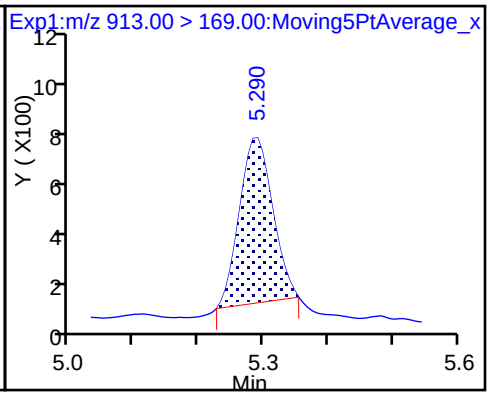
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento

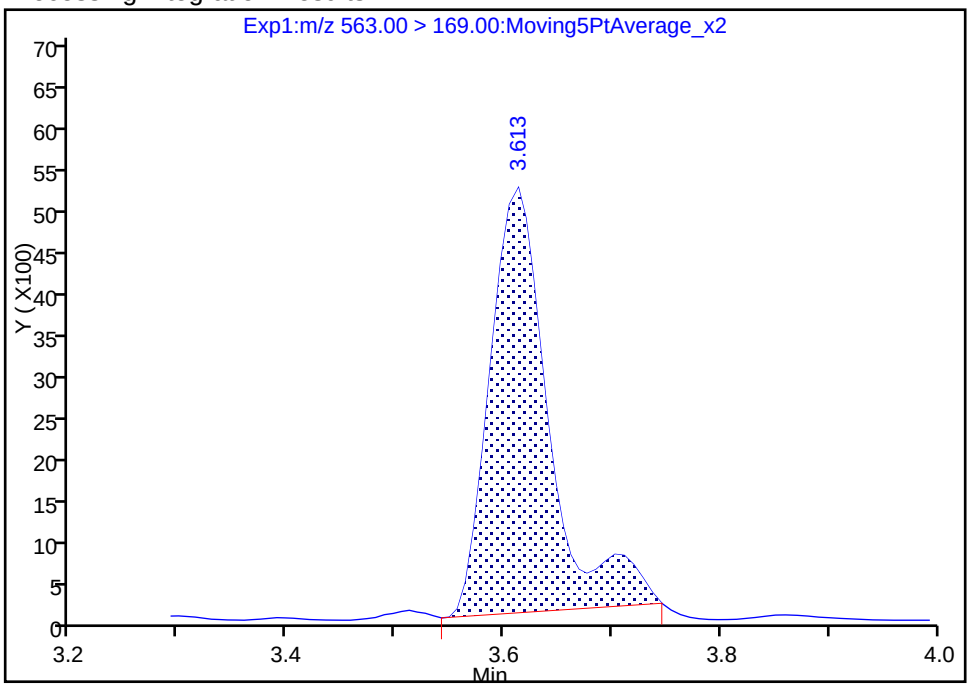
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_017.d
Injection Date: 20-Dec-2017 06:38:14 Instrument ID: A8_N
Lims ID: MB 320-200330/1-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

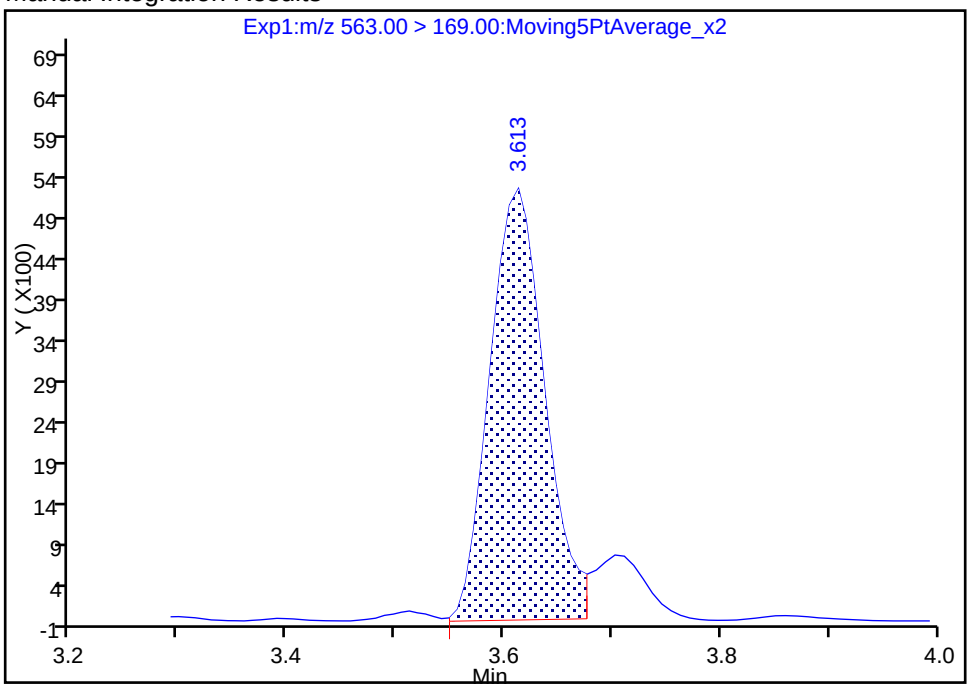
Processing Integration Results

RT: 3.61
Area: 19507
Amount: 0.015338
Amount Units: ng/ml



Manual Integration Results

RT: 3.61
Area: 18345
Amount: 0.015338
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:44:57
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

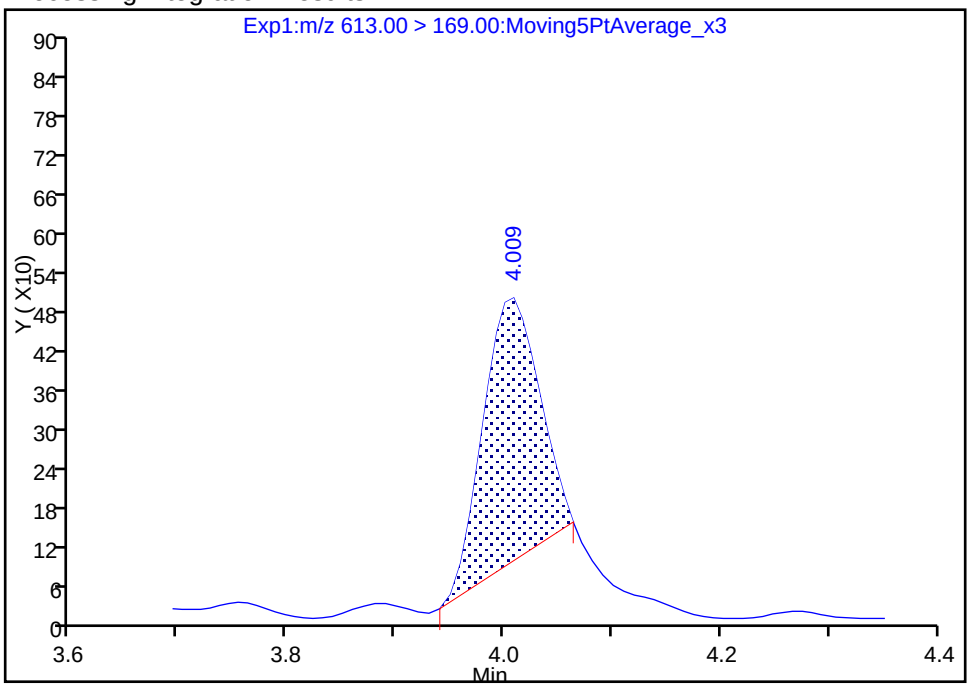
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_017.d
Injection Date: 20-Dec-2017 06:38:14 Instrument ID: A8_N
Lims ID: MB 320-200330/1-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

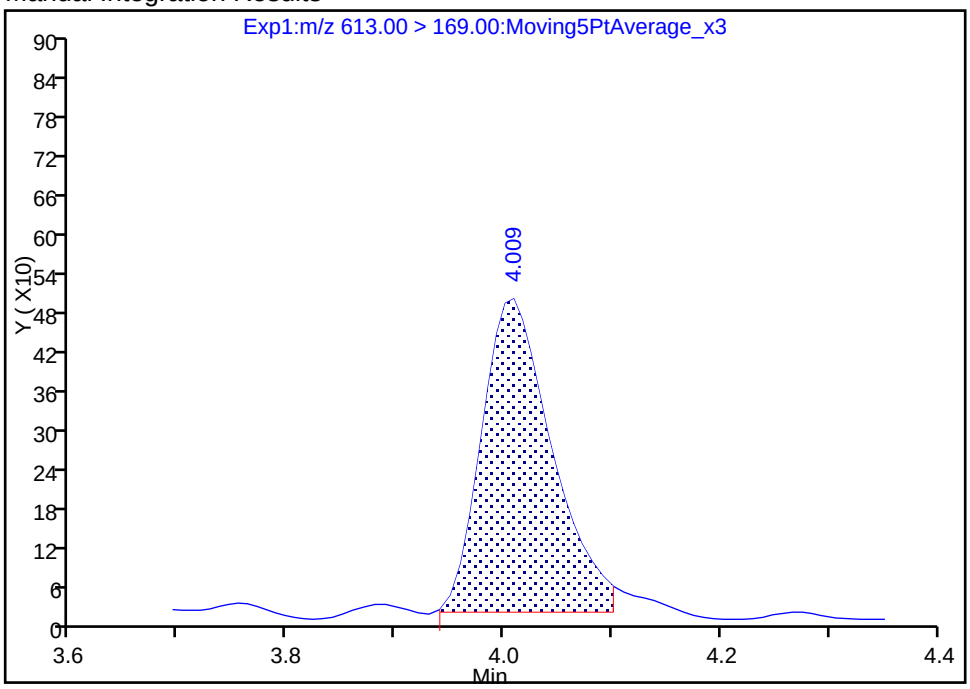
Processing Integration Results

RT: 4.01
Area: 1472
Amount: 0.003969
Amount Units: ng/ml



Manual Integration Results

RT: 4.01
Area: 2176
Amount: 0.003969
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:45:19
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

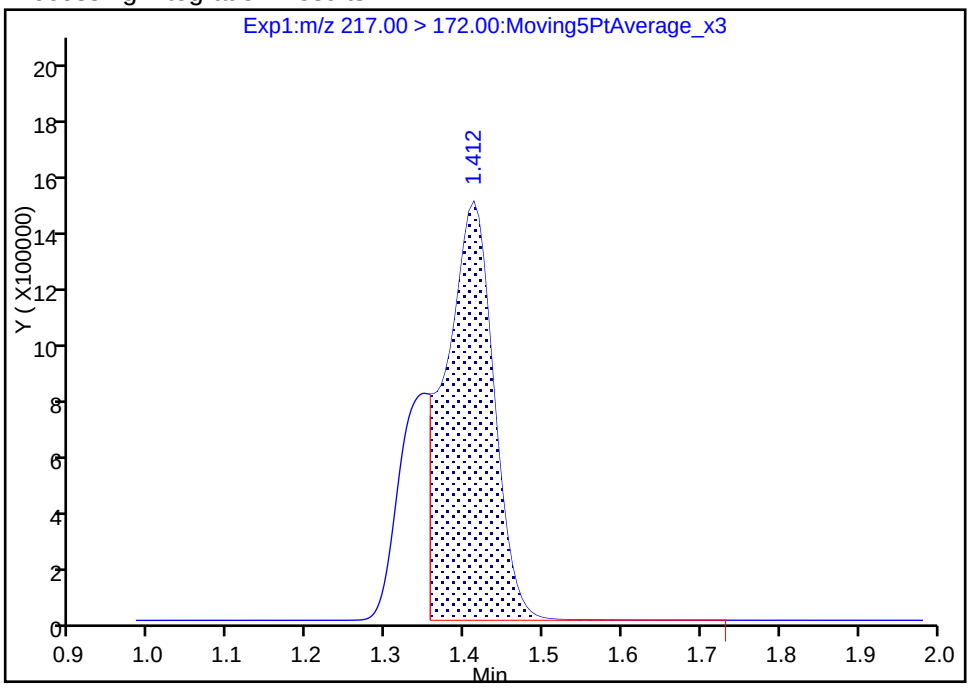
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_017.d
Injection Date: 20-Dec-2017 06:38:14 Instrument ID: A8_N
Lims ID: MB 320-200330/1-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

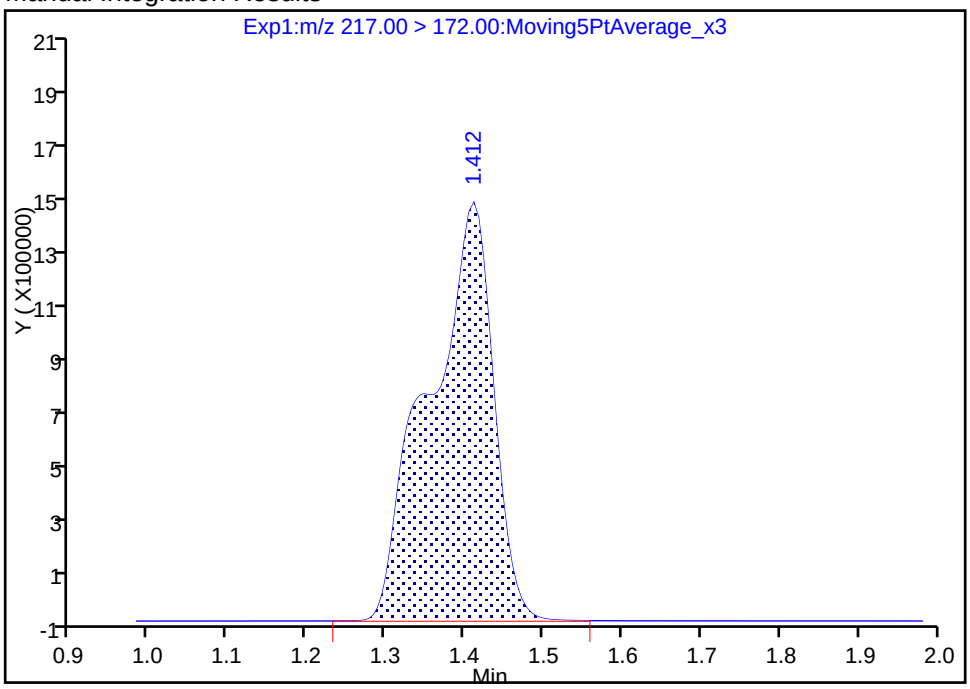
Processing Integration Results

RT: 1.41
Area: 6207049
Amount: 2.057260
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 8365850
Amount: 2.772772
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:44:11
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-200328/2-A

Matrix: Water | Lab File ID: 2017.12.19LLC_025.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 07:41

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	34.36		2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	32.66		2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	31.82		2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	31.72		2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	30.93		2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	34.93		2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	35.72		2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	31.57		2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	32.87		2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	31.48		2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	32.50		2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	31.82		2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	29.18		2.00	0.17
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	31.08		2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	34.48		2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	33.18		2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	31.27		20.0	3.10
27619-97-2	6:2FTS	33.66		20.0	2.00
39108-34-4	8:2FTS	32.72		20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-200328/2-A

Matrix: Water | Lab File ID: 2017.12.19LLC_025.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 07:41

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	114		25-150
STL01893	13C5 PFPeA	119		25-150
STL00993	13C2 PFHxA	116		25-150
STL01892	13C4-PFHpA	120		25-150
STL00990	13C4 PFOA	107		25-150
STL00995	13C5 PFNA	115		25-150
STL00996	13C2 PFDA	123		25-150
STL00997	13C2 PFUnA	118		25-150
STL00998	13C2 PFDoA	126		25-150
STL02116	13C2-PFTeDA	134		25-150
STL02337	13C3-PFBS	113		25-150
STL00994	18O2 PFHxS	116		25-150
STL00991	13C4 PFOS	117		25-150
STL01056	13C8 FOSA	106		25-150
STL02118	d3-NMeFOSAA	145		25-150
STL02279	M2-6:2FTS	68		25-150
STL02280	M2-8:2FTS	179	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_025.d
Lims ID: LCS 320-200328/2-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Dec-2017 07:41:25 ALS Bottle#: 16 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-200328/2-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:21:13

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.412	1.411	0.001	0.535	8357617	2.84		114	18143	M
2 Perfluorobutyric acid										
212.90 > 169.00	1.412	1.412	0.0	1.000	2619904	0.8590		85.9	624	
D 3 13C5-PFPeA										
267.90 > 223.00	1.658	1.664	-0.006	0.628	5160291	2.98		119	52793	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.658	1.664	-0.006	1.000	1862934	0.8165		81.6	1447	
D 47 13C3-PFBS										
301.90 > 83.00	1.694	1.699	-0.005	0.642	95943	2.62		113	2517	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.694	1.703	-0.009	1.000	2454137	0.7956		90.0	9168	
298.90 > 99.00	1.694	1.703	-0.009	1.000	994078		2.47(1.25-3.74)		7517	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.908	1.909	-0.001	1.000	584503	1.92		205	26352	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.939	1.949	-0.010	1.000	1688898	0.7955		79.5	5081	
313.00 > 119.00	1.939	1.949	-0.010	1.000	161566		10.45(5.03-15.10)		4045	
D 7 13C2 PFHxA										
315.00 > 270.00	1.939	1.949	-0.010	0.734	5308592	2.89		116	52117	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.273	2.286	-0.013	1.000	1686915	0.7930		79.3	2637	
363.00 > 169.00	2.273	2.286	-0.013	1.000	673446		2.50(1.13-3.40)		6177	
D 9 13C4-PFHpA										
367.00 > 322.00	2.273	2.286	-0.013	0.861	5164934	3.01		120	34334	
D 11 18O2 PFHxS										
403.00 > 84.00	2.286	2.299	-0.013	0.866	5858974	2.75		116	48276	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.286	2.299	-0.013	1.000	1964429	0.7295		80.2	5171	
399.00 > 99.00	2.286	2.299	-0.013	1.000	673122		2.92(1.50-4.49)		3372	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.611	2.640	-0.029	1.000	653358	0.8415		88.8	26996	
D 12 M2-6:2FTS										
429.00 > 81.00	2.611	2.640	-0.029	0.989	1150704	1.61		67.9	25905	
* 62 13C2-PFOA										
415.00 > 370.00	2.640	2.643	-0.003		4988564	2.50			47906	
D 14 13C4 PFOA										
417.00 > 372.00	2.640	2.647	-0.007	1.000	5507277	2.67		107	42293	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.640	2.649	-0.009	1.000	1797309	0.7732		77.3	798	
413.00 > 169.00	2.640	2.649	-0.009	1.000	965546		1.86(0.84-2.52)		7259	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.647	2.654	-0.007	1.000	1726865	0.7515		78.9	16467	
449.00 > 99.00	2.647	2.654	-0.007	1.000	472838		3.65(1.94-5.82)		13154	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.012	3.025	-0.013	1.000	1319468	0.7769		83.7	220	
499.00 > 99.00	3.012	3.025	-0.013	1.000	293873		4.49(2.31-6.93)		326	
D 18 13C4 PFOS										
503.00 > 80.00	3.012	3.025	-0.013	1.141	3817334	2.79		117	29169	
20 Perfluorononanoic acid										
463.00 > 419.00	3.012	3.026	-0.014	1.000	1354631	0.8731		87.3	1984	
463.00 > 169.00	3.012	3.026	-0.014	1.000	326453		4.15(1.90-5.69)		7253	
D 19 13C5 PFNA										
468.00 > 423.00	3.012	3.026	-0.014	1.141	4002383	2.89		115	42199	
D 21 13C8 FOSA										
506.00 > 78.00	3.358	3.362	-0.004	1.272	5110960	2.64		106	33731	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.358	3.365	-0.007	1.000	1603135	0.8294		82.9	17058	
D 26 M2-8:2FTS										
529.00 > 81.00	3.366	3.375	-0.009	1.275	1302177	4.28		179	12987	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.366	3.376	-0.010	1.000	540844	0.8181		85.4	14053	
D 23 13C2 PFDA										
515.00 > 470.00	3.381	3.387	-0.006	1.281	3400133	3.06		123	41479	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.381	3.388	-0.007	1.000	1202462	0.8931		89.3	5999	
513.00 > 169.00	3.381	3.388	-0.007	1.000	205186		5.86(2.36-7.09)		3068	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.541	-0.008	1.338	1859885	3.64		145	21450	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.533	3.547	-0.014	1.000	599417	0.7817		78.2	4504	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.682	3.701	-0.019	1.000	806697	0.8619		89.4	16605	
599.00 > 99.00	3.682	3.701	-0.019	1.000	270274		2.98(1.39-4.16)		5579	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.401	1776914	3.37		135	14472	
D 30 13C2 PFUnA										
565.00 > 520.00	3.699	3.717	-0.018	1.401	2513213	2.94		118	35771	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.699	3.718	-0.019	1.000	717844	0.7893		78.9	3266	
563.00 > 169.00	3.699	3.718	-0.019	1.000	171309		4.19(0.00-0.00)		9446	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.699	3.718	-0.019	1.000	519062	0.7494		74.9	8111	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.847	3.856	-0.009	1.457	735692	1.29		51.6	1761	
35 MeFOSA										
512.00 > 169.00	3.856	3.863	-0.007	1.002	248205	0.8589		85.9	1732	
D 36 13C2 PFDoA										
615.00 > 570.00	3.999	4.015	-0.016	1.515	2858272	3.15		126	35618	
37 Perfluorododecanoic acid										
613.00 > 569.00	3.999	4.016	-0.017	1.000	902206	0.8219		82.2	3458	
613.00 > 169.00	3.999	4.016	-0.017	1.000	231031		3.91(2.13-6.40)		11507	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.038	4.048	-0.010	1.530	511815	0.9525		38.1	1070	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.046	4.054	-0.008	1.002	189451	0.8782		87.8	1104	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.263	4.285	-0.022	1.000	1031240	0.7870		78.7	2835	
663.00 > 169.00	4.263	4.285	-0.022	1.000	330158		3.12(1.25-3.76)		10895	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.501	4.522	-0.021	1.705	3340740	3.35		134	26314	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.501	4.522	-0.021	1.000	274626	0.8124		81.2	6799	
713.00 > 219.00	4.501	4.522	-0.021	1.000	197998		1.39(0.71-2.13)		5819	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.923	4.944	-0.021	1.865	5280131	2.90		116	15729	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.923	4.945	-0.022	1.000	1611983	0.8527		85.3	847	
813.00 > 169.00	4.923	4.945	-0.022	1.000	282031		5.72(2.86-8.58)		4102	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.289	5.309	-0.020	1.000	2013552	0.8575		85.8	448	
913.00 > 169.00	5.282	5.309	-0.027	0.999	252106		7.99(0.00-0.00)		1731	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:24:52 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_025.d

Injection Date: 20-Dec-2017 07:41:25 Instrument ID: A8_N

Lims ID: LCS 320-200328/2-A

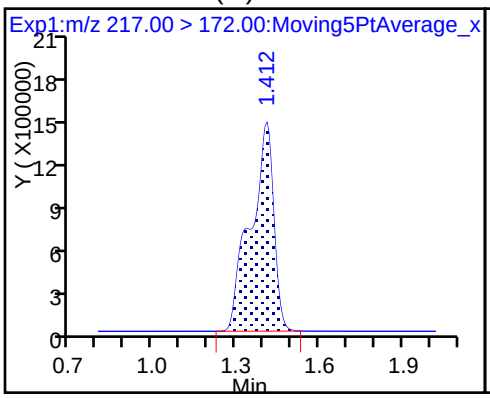
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Operator ID: SACINSTLCMS01 ALS Bottle#: 16 Worklist Smp#: 3

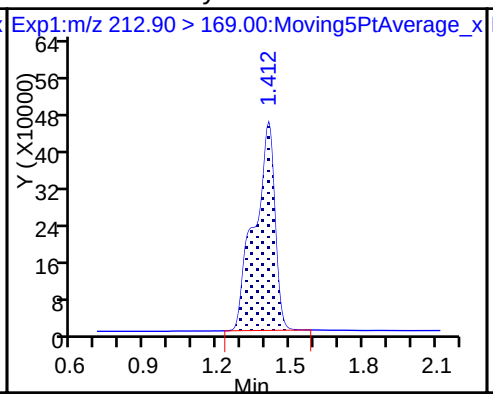
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

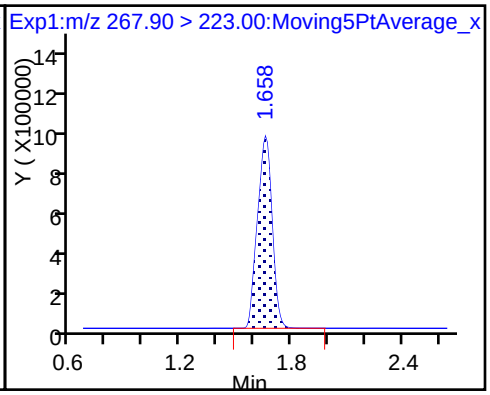
D 1 13C4 PFBA (M)



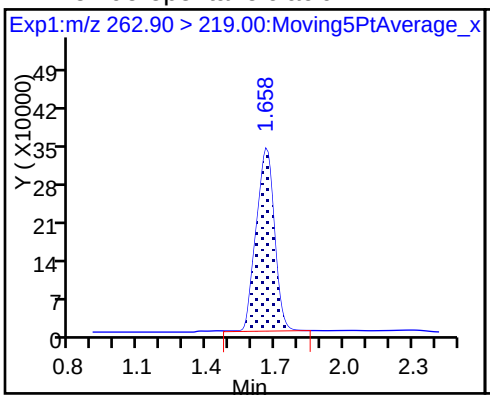
2 Perfluorobutyric acid



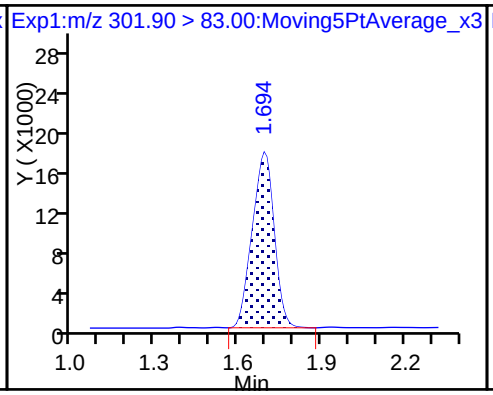
D 3 13C5-PFPeA



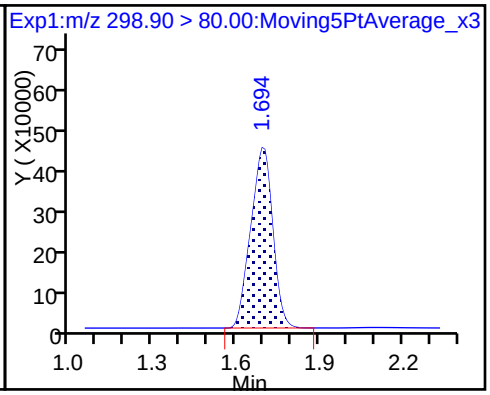
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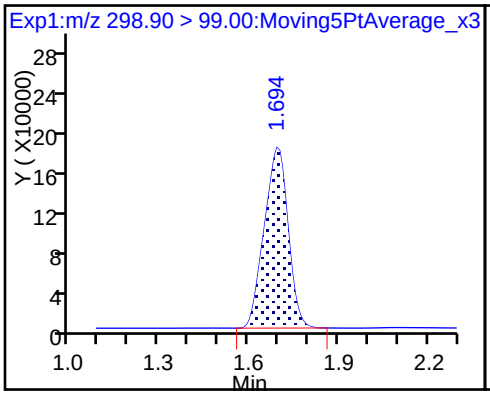
D 47 13C3-PFBS



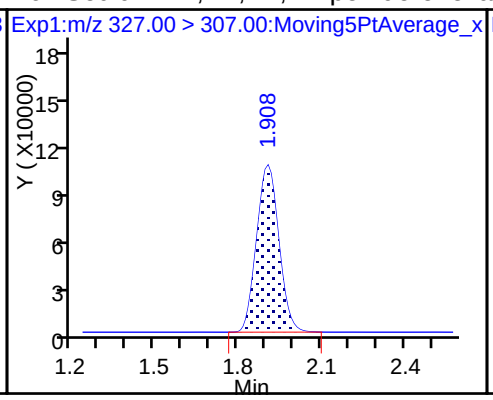
5 Perfluorobutanesulfonic acid



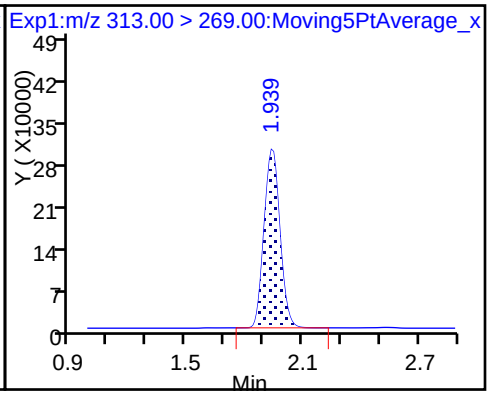
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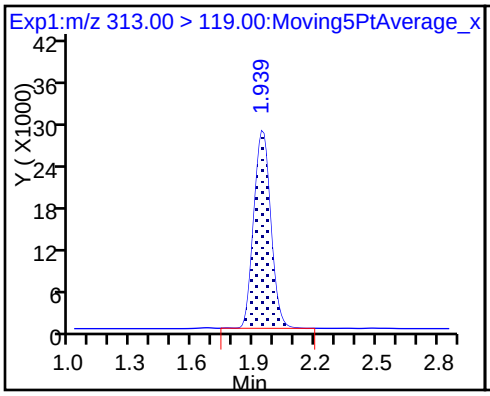
61 Sodium 1H,1H,2H,2H-perfluorohexane



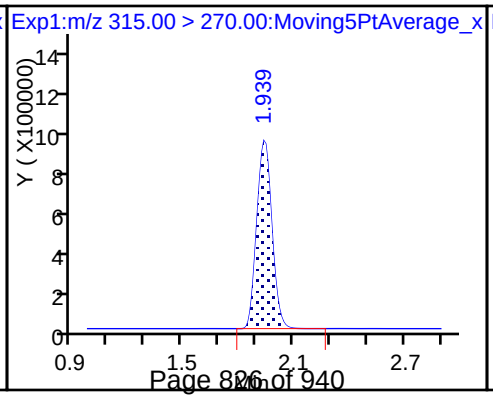
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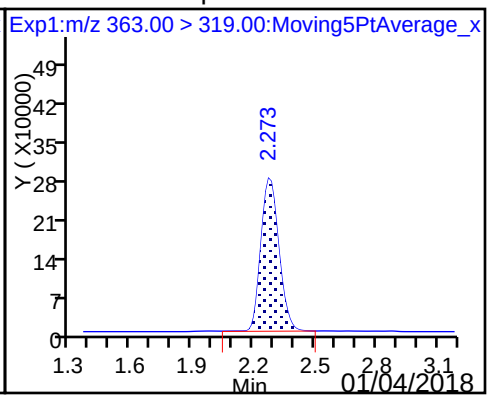
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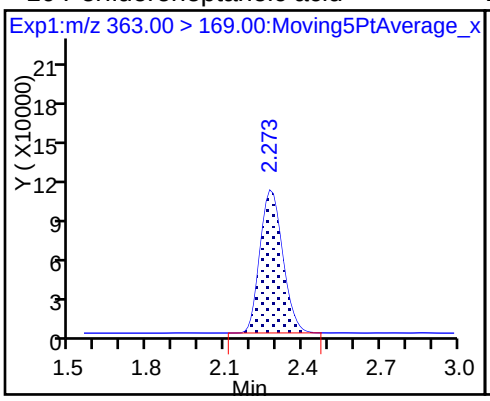
D 7 13C2 PFHxA



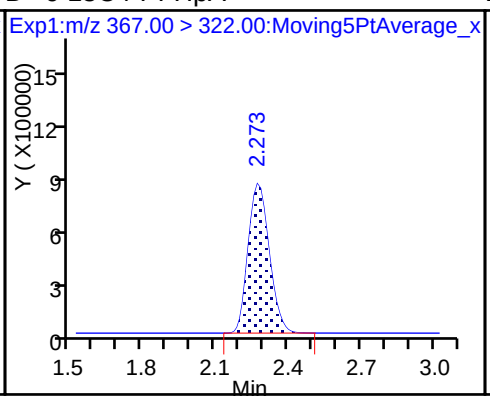
10 Perfluoroheptanoic acid



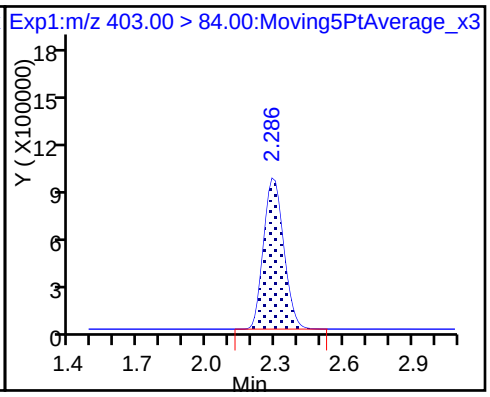
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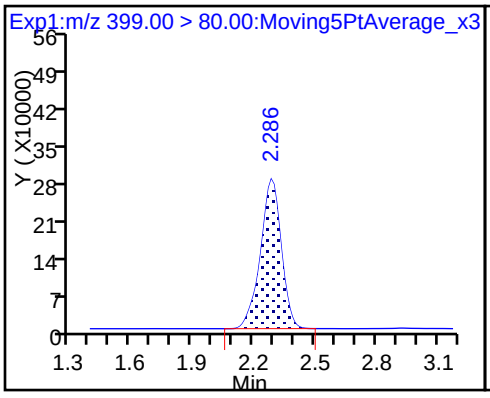
D 9 13C4-PFHpA



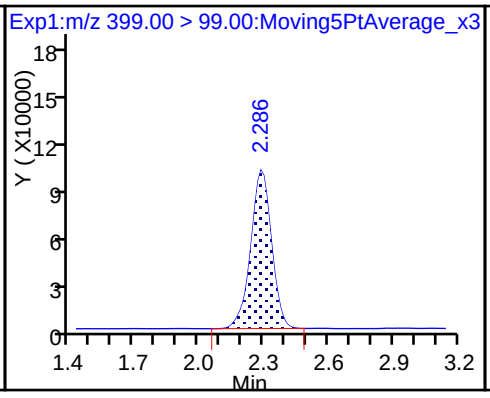
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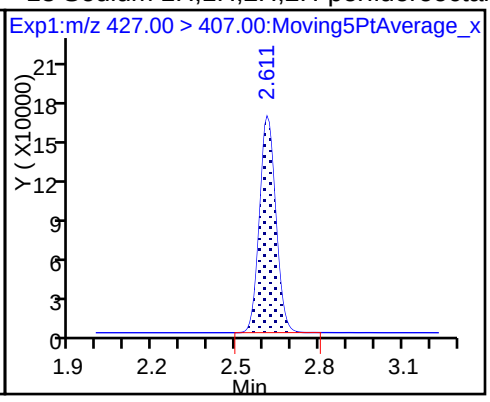
8 Perfluorohexanesulfonic acid



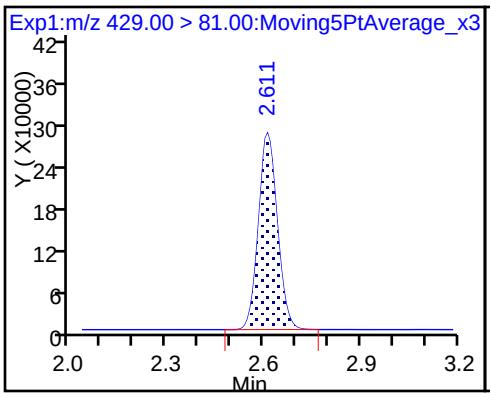
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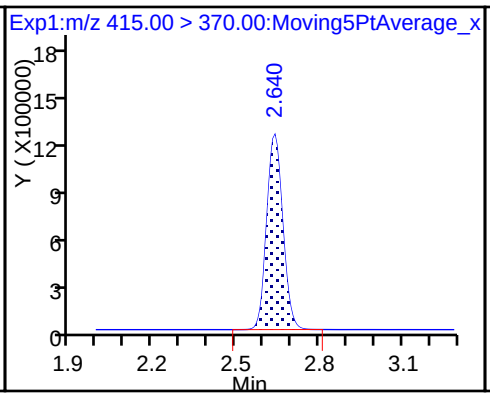
13 Sodium 1H,1H,2H,2H-perfluorooctane



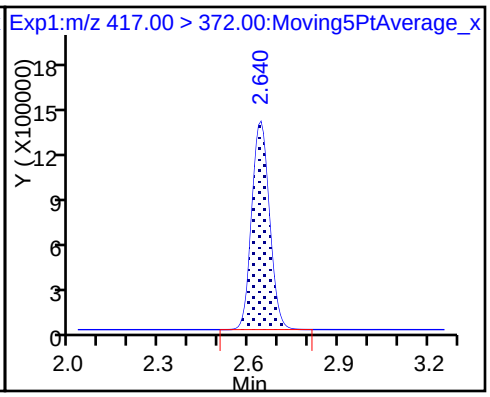
D 12 M2-6:2FTS



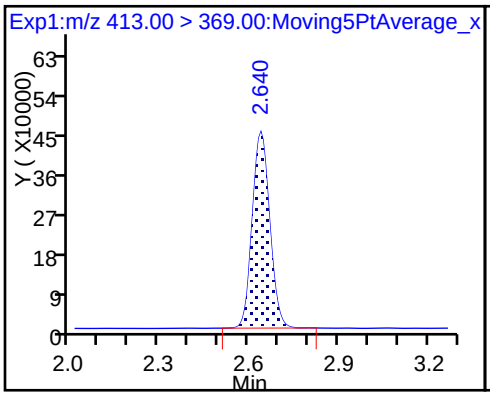
* 62 13C2-PFOA



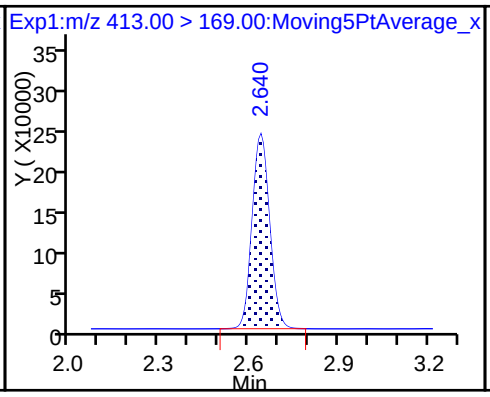
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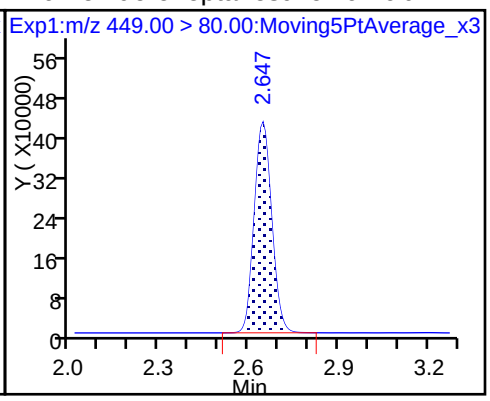
15 Perfluorooctanoic acid



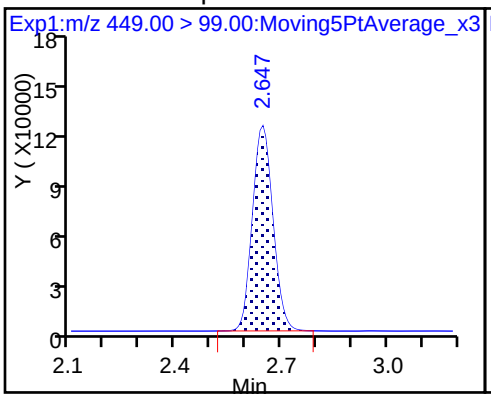
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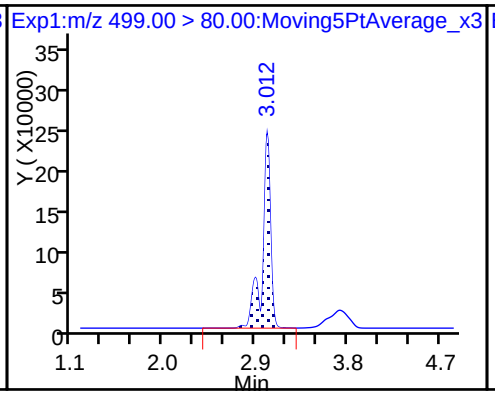
16 Perfluoroheptanesulfonic Acid



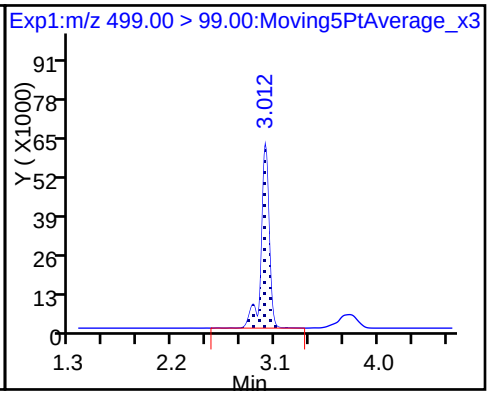
16 Perfluoroheptanesulfonic Acid



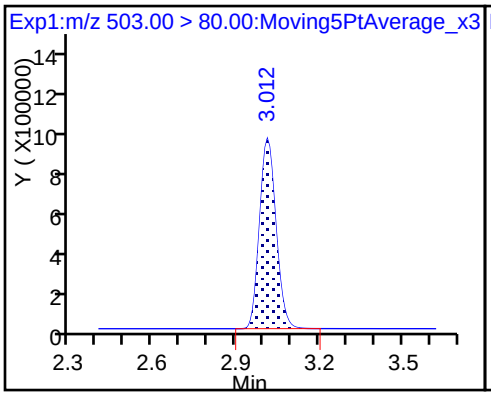
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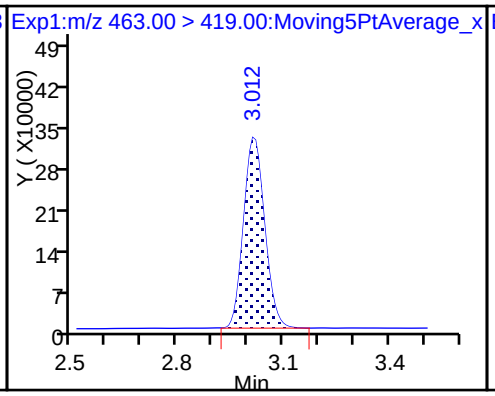
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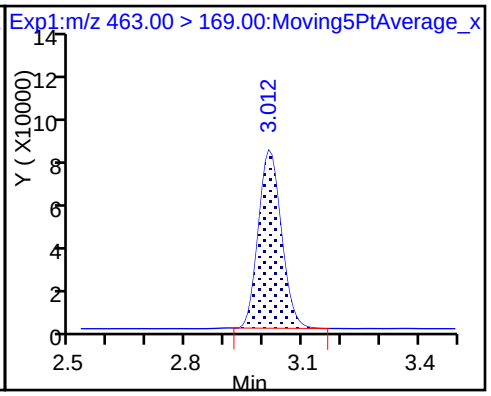
D 18 13C4 PFOS



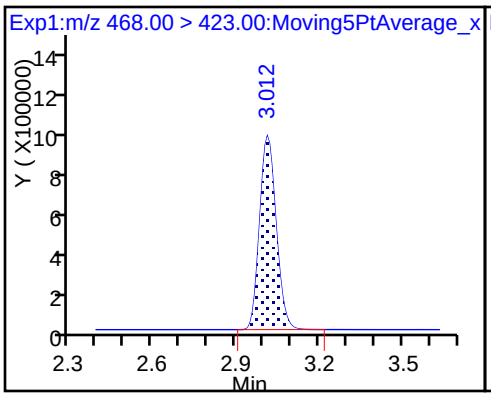
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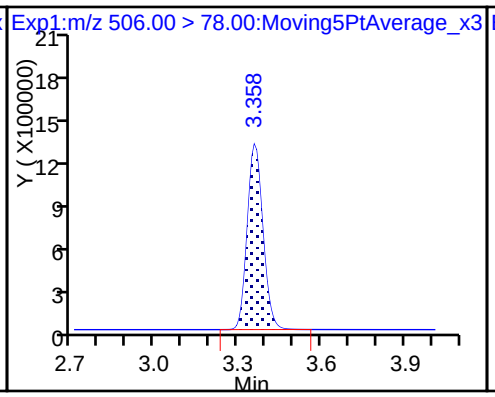
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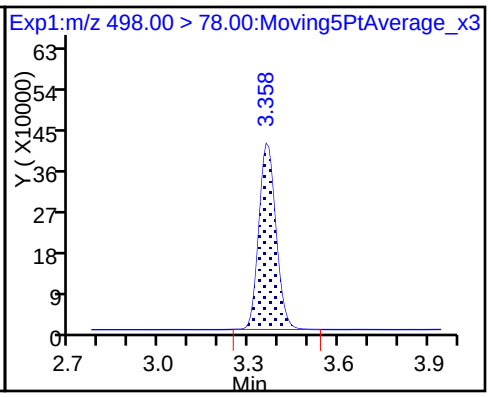
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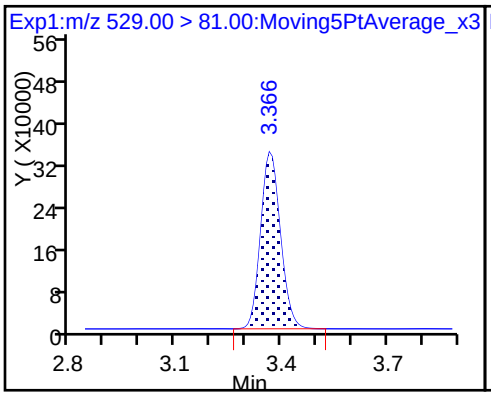
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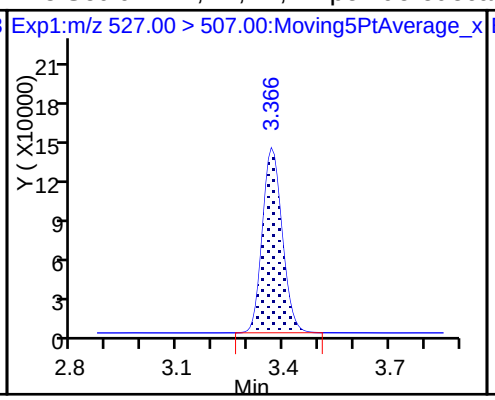
22 Perfluorooctane Sulfonamide



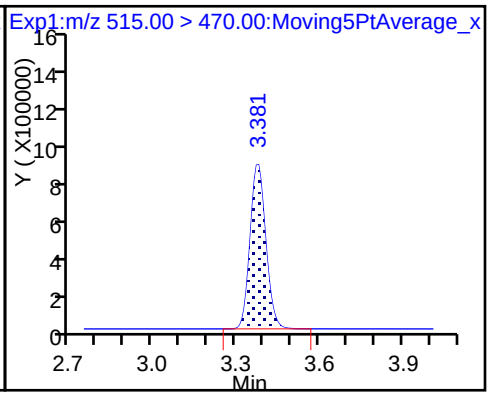
D 26 M2-8:2FTS



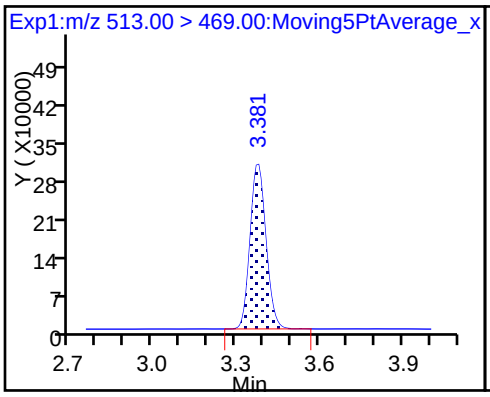
25 Sodium 1H,1H,2H,2H-perfluorodecane



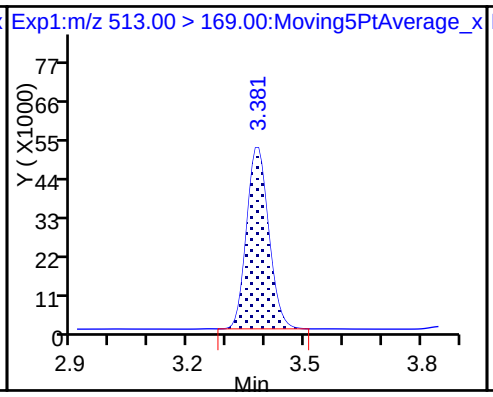
D 23 13C2 PFDA



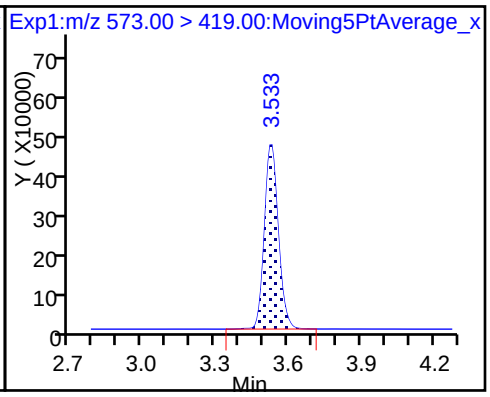
24 Perfluorodecanoic acid



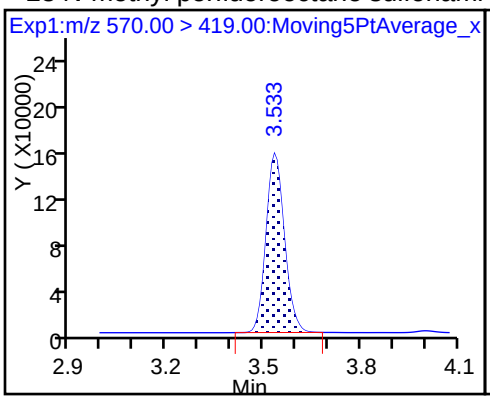
24 Perfluorodecanoic acid



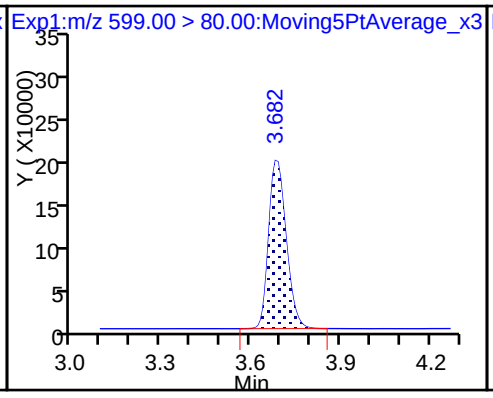
D 27 d3-NMeFOSAA



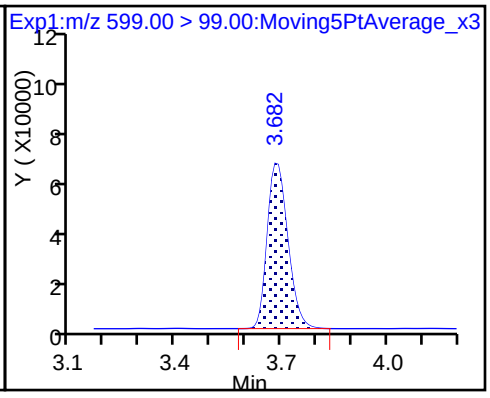
28 N-methyl perfluorooctane sulfonami



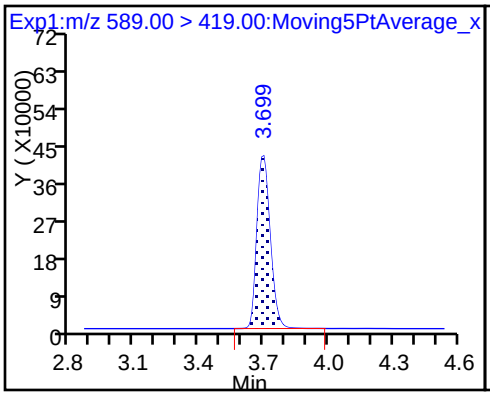
29 Perfluorodecane Sulfonic acid



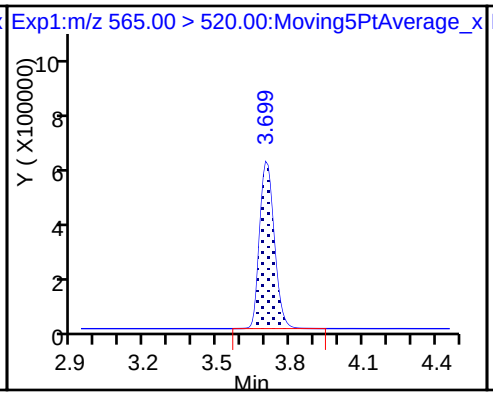
29 Perfluorodecane Sulfonic acid



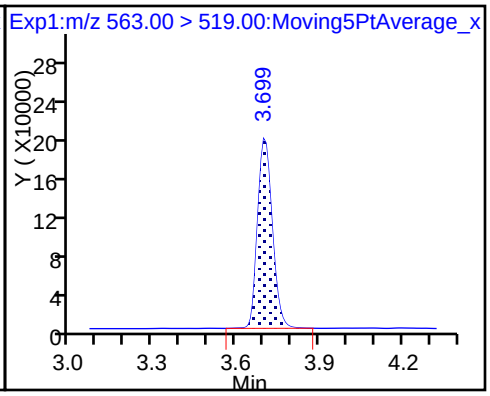
D 32 d5-NEtFOSAA



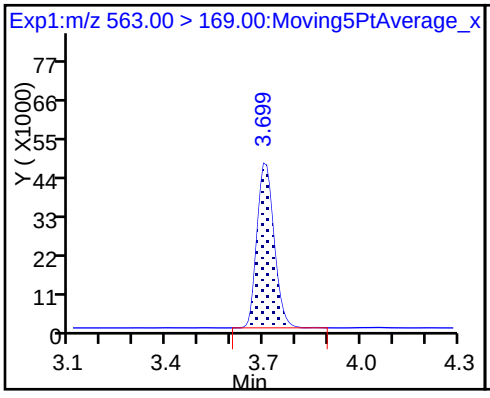
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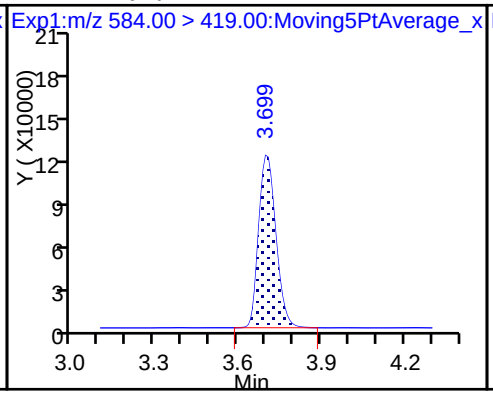
31 Perfluoroundecanoic acid



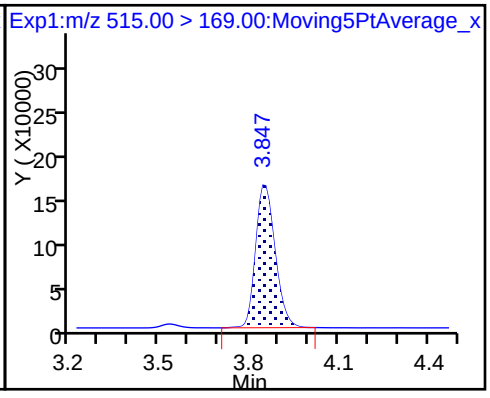
31 Perfluoroundecanoic acid



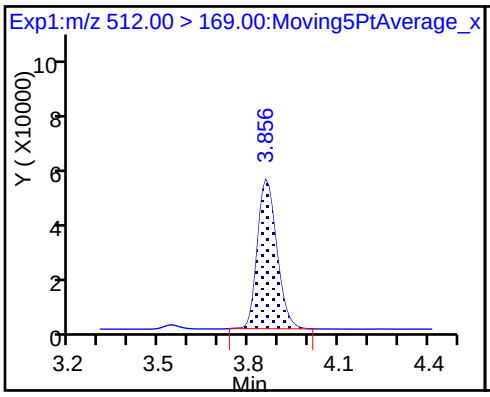
33 N-ethyl perfluorooctane sulfonamid



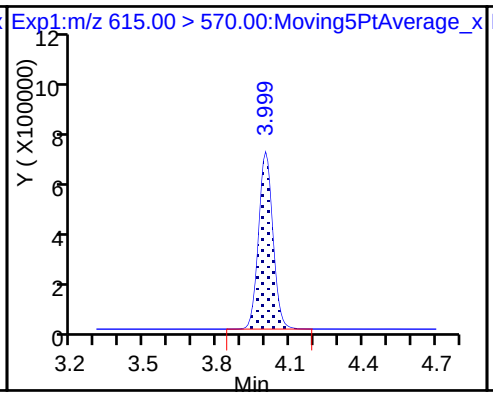
D 34 d-N-MeFOSA-M



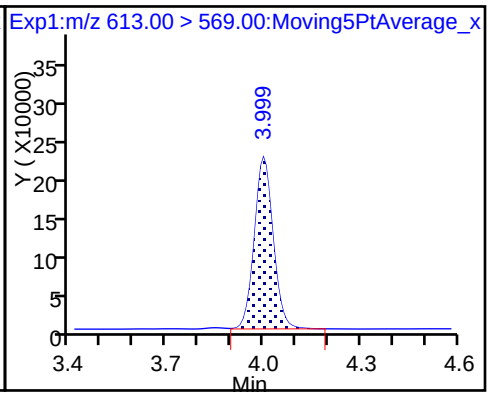
35 MeFOSA



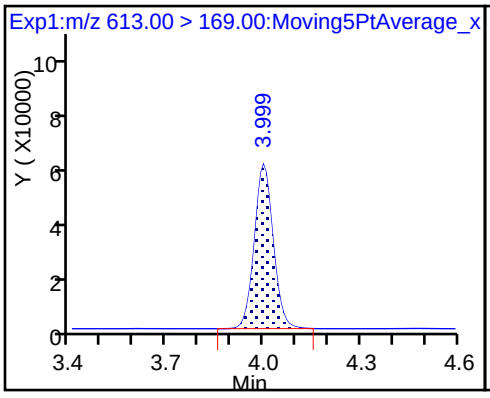
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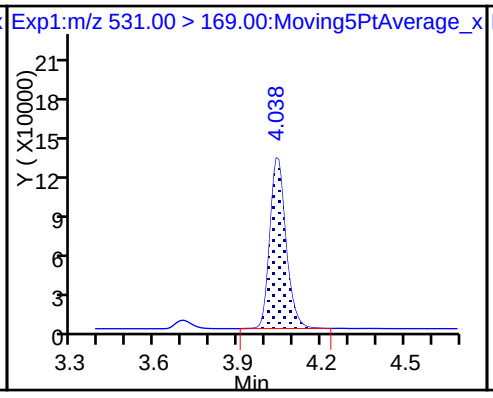
37 Perfluorododecanoic acid



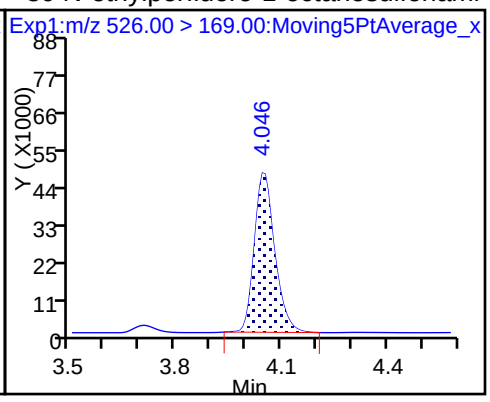
37 Perfluorododecanoic acid



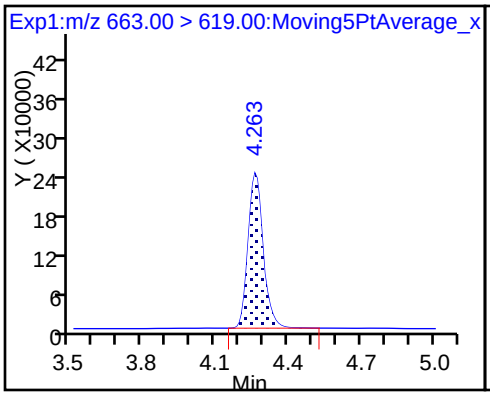
D 38 d-N-EtFOSA-M



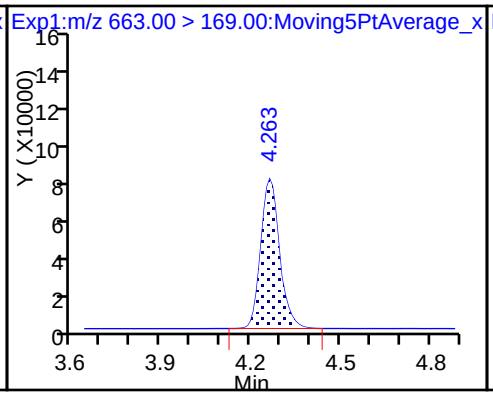
39 N-ethylperfluoro-1-octanesulfonami



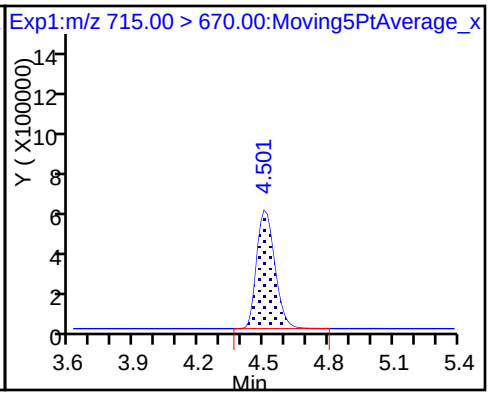
41 Perfluorotridecanoic acid



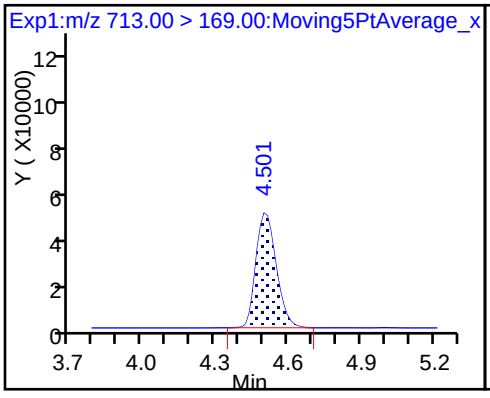
41 Perfluorotridecanoic acid



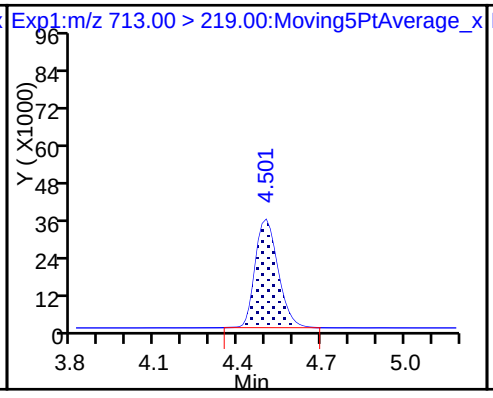
D 43 13C2-PFTeDA



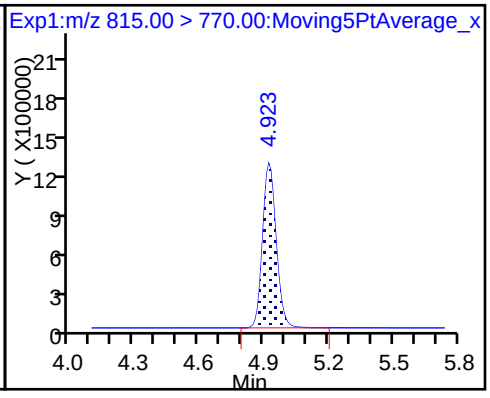
42 Perfluorotetradecanoic acid



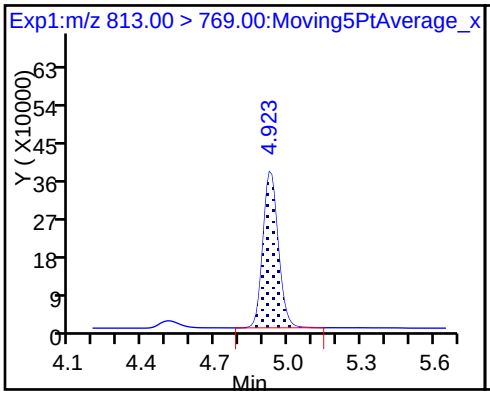
42 Perfluorotetradecanoic acid



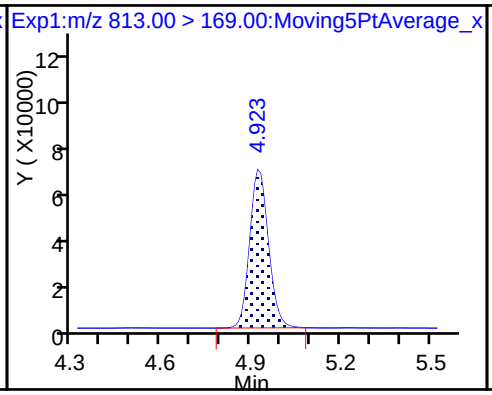
D 44 13C2-PFHxDA



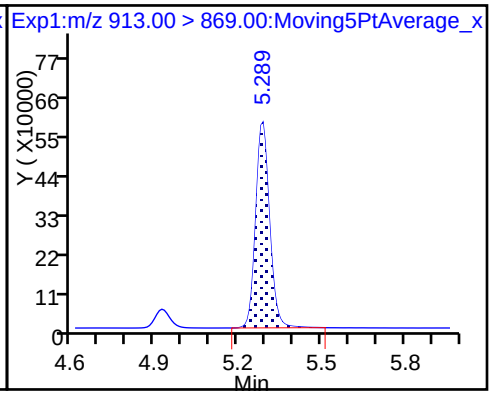
45 Perfluorohexadecanoic acid



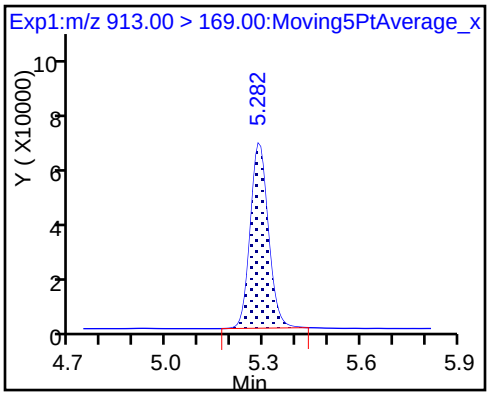
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento

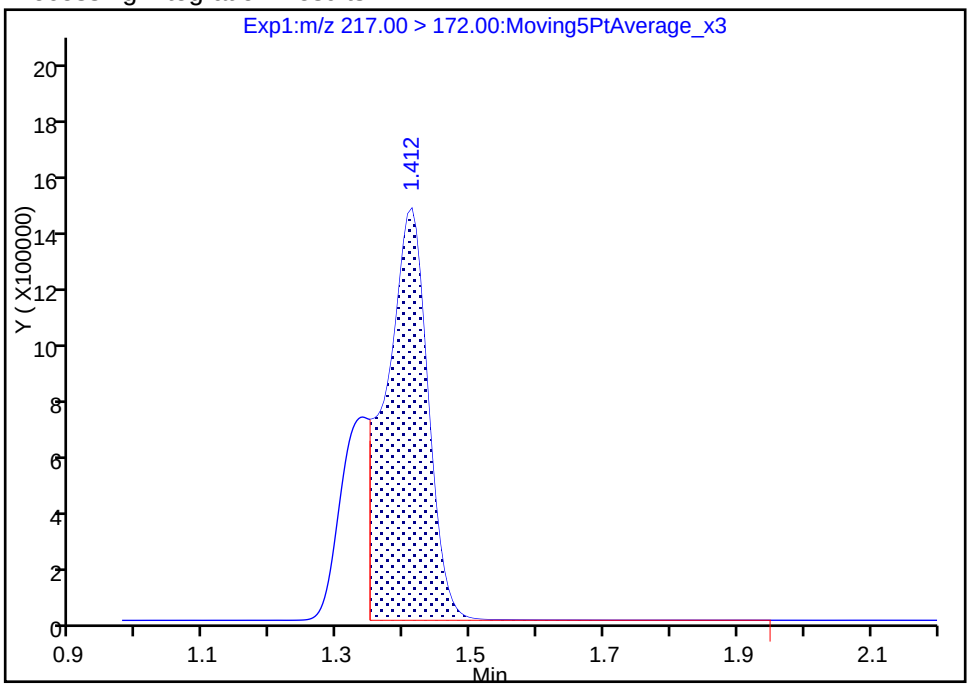
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_025.d
Injection Date: 20-Dec-2017 07:41:25 Instrument ID: A8_N
Lims ID: LCS 320-200328/2-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 16 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

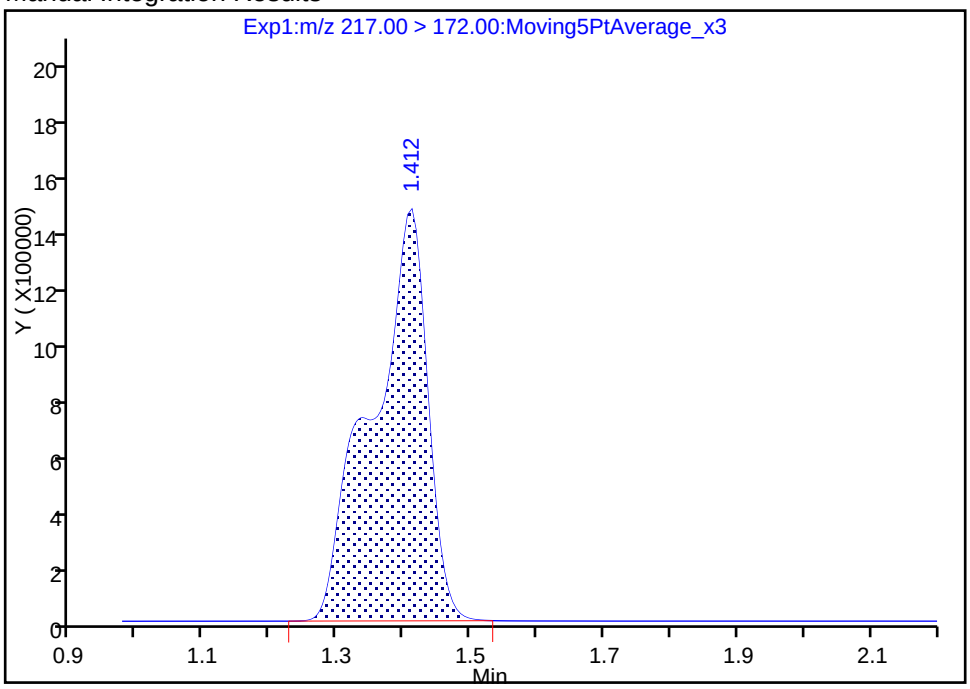
Processing Integration Results

RT: 1.41
Area: 6264227
Amount: 2.129245
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 8357617
Amount: 2.840800
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:19:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-200328/2-A RA

Matrix: Water | Lab File ID: 2017.12.28LLB_033.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/28/2017 12:35

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201684 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	34.34		2.00	0.19
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	32.19		20.0	1.90

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	98		25-150
STL02117	d5-NEtFOSAA	93		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\2017.12.28LLB_033.d
Lims ID: LCS 320-200328/2-A
Client ID:
Sample Type: LCS
Inject. Date: 28-Dec-2017 12:35:51 ALS Bottle#: 24 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-200328/2-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 28-Dec-2017 14:23:32 Calib Date: 26-Dec-2017 17:58:18
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171227-52152.b\2017.12.26ICALA_010.d

Column 1 : Det: EXP1
Process Host: XAWRK001

First Level Reviewer: barnettj Date: 28-Dec-2017 14:21:15

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.430	1.433	-0.003	0.536	7199134	2.54		102	21627	
2 Perfluorobutyric acid										
212.90 > 169.00	1.430	1.434	-0.004	1.000	2253035	0.8565		85.6	436	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.685	1.691	-0.006	1.000	1481323	0.7858		78.6	1894	
D 3 13C5-PFPeA										
267.90 > 223.00	1.685	1.692	-0.007	0.631	4201238	2.54		102	45870	
D 47 13C3-PFBS										
301.90 > 83.00	1.720	1.725	-0.005	0.645	82691	2.31		99.4	3198	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.720	1.730	-0.010	1.000	1996178	0.7499		84.8	10309	
298.90 > 99.00	1.720	1.730	-0.010	1.000	863856		2.31(1.25-3.74)		6665	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.939	1.941	-0.002	1.000	396780	0.7220		77.3	25329	
D 7 13C2 PFHxA										
315.00 > 270.00	1.970	1.976	-0.006	0.738	4393845	2.47		99.0	39425	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.970	1.979	-0.009	1.000	1470156	0.8376		83.8	3766	
313.00 > 119.00	1.970	1.979	-0.009	1.000	139917		10.51(5.03-15.10)		2913	
D 9 13C4-PFHpA										
367.00 > 322.00	2.299	2.311	-0.012	0.862	4242770	2.57		103	34288	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.299	2.311	-0.012	1.000	1392260	0.7845		78.4	2750	
363.00 > 169.00	2.299	2.311	-0.012	1.000	585925		2.38(1.13-3.40)		4543	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.312	2.324	-0.012	1.000	1600710	0.6965		76.5	8091	
399.00 > 99.00	2.312	2.324	-0.012	1.000	529606		3.02(1.50-4.49)		4056	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.312	2.328	-0.016	0.867	4974068	2.38		101	42340	
D 12 M2-6:2FTS										
429.00 > 81.00	2.640	2.649	-0.009	0.989	756971	2.42		102	17851	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.640	2.651	-0.011	1.000	439319	0.8220		86.7	14309	
D 14 13C4 PFOA										
417.00 > 372.00	2.661	2.674	-0.013	0.997	4568168	2.72		109	41585	
* 62 13C2-PFOA										
415.00 > 370.00	2.668	2.676	-0.008		4092672	2.50			42359	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.668	2.677	-0.009	1.003	1513015	0.7822		78.2	1798	
413.00 > 169.00	2.668	2.677	-0.009	1.003	775168		1.95(0.84-2.52)		6184	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.675	2.683	-0.008	1.000	1430203	0.8584		90.2	23197	
449.00 > 99.00	2.675	2.683	-0.008	1.000	394973		3.62(1.94-5.82)		10154	
D 18 13C4 PFOS										
503.00 > 80.00	3.036	3.048	-0.012	1.138	3245349	2.34		97.9	28826	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.044	3.050	-0.006	1.003	1096246	0.7523		81.1	370	
499.00 > 99.00	3.044	3.050	-0.006	1.003	244169		4.49(2.31-6.93)		443	
D 19 13C5 PFNA										
468.00 > 423.00	3.044	3.051	-0.007	1.141	3485252	2.59		104	33303	
20 Perfluorononanoic acid										
463.00 > 419.00	3.044	3.052	-0.008	1.000	1126583	0.8294		82.9	3768	
463.00 > 169.00	3.044	3.052	-0.008	1.000	273773		4.12(1.90-5.69)		8543	
D 21 13C8 FOSA										
506.00 > 78.00	3.380	3.377	0.003	1.267	4135485	2.20		88.2	24984	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.378	0.002	1.000	1350375	0.8600		86.0	17337	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.396	3.402	-0.006	1.002	333148	0.7192		75.1	14153	
D 26 M2-8:2FTS										
529.00 > 81.00	3.388	3.403	-0.015	1.270	883562	2.57		107	15175	
D 23 13C2 PFDA										
515.00 > 470.00	3.403	3.414	-0.011	1.275	2885105	2.64		106	35615	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.403	3.414	-0.011	1.000	992632	0.8725		87.3	5746	
513.00 > 169.00	3.403	3.414	-0.011	1.000	171714		5.78(2.36-7.09)		3398	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.555	3.569	-0.014	1.332	1342134	2.38		95.1	19059	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.562	3.574	-0.012	1.002	431872	0.7599		76.0	3878	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.716	3.730	-0.014	1.000	657904	0.8183		84.9	19664	
599.00 > 99.00	3.708	3.730	-0.022	0.998	219351		3.00(1.39-4.16)		7534	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.725	3.740	-0.015	1.396	1342257	2.33		93.3	6821	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.725	3.746	-0.021	1.000	610057	0.7632		76.3	4212	
563.00 > 169.00	3.725	3.746	-0.021	1.000	134723		4.53(0.00-0.00)		5980	
D 30 13C2 PFUnA										
565.00 > 520.00	3.725	3.747	-0.022	1.396	2133147	2.58		103	26579	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.725	3.747	-0.022	1.000	417006	0.8046		80.5	6997	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.867	0.0	1.449	608446	1.14		45.7	1894	
35 MeFOSA										
512.00 > 169.00	3.877	3.873	0.004	1.003	211442	0.9002		90.0	1563	
D 36 13C2 PFDoA										
615.00 > 570.00	4.022	4.045	-0.023	1.507	2168644	2.41		96.5	36509	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.022	4.045	-0.023	1.000	756667	0.8785		87.9	3682	
613.00 > 169.00	4.022	4.045	-0.023	1.000	189025		4.00(2.13-6.40)		9451	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.061	4.058	0.003	1.522	445304	0.8776		35.1	1102	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.069	4.065	0.004	1.002	159530	0.8264		82.6	1130	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.288	4.312	-0.024	1.000	921743	0.9861		98.6	5635	
663.00 > 169.00	4.288	4.312	-0.024	1.000	292681		3.15(1.25-3.76)		16614	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.528	4.557	-0.029	1.697	2804400	2.87		115	22066	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.528	4.557	-0.029	1.000	236377	0.8281		82.8	8161	
713.00 > 219.00	4.528	4.557	-0.029	1.000	158130		1.49(0.71-2.13)		5396	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.950	4.984	-0.034	1.855	4451675	2.49		99.4	14373	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.950	4.984	-0.034	1.000	1403409	0.9001		90.0	1084	
813.00 > 169.00	4.950	4.984	-0.034	1.000	246543		5.69(2.86-8.58)		4449	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.318	5.361	-0.043	1.000	1663011	0.8691		86.9	600	
913.00 > 169.00	5.318	5.361	-0.043	1.000	209890		7.92(0.00-0.00)		1784	

Report Date: 28-Dec-2017 14:23:34 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b\2017.12.28LLB_033.d

Injection Date: 28-Dec-2017 12:35:51 Instrument ID: A8_N

Lims ID: LCS 320-200328/2-A

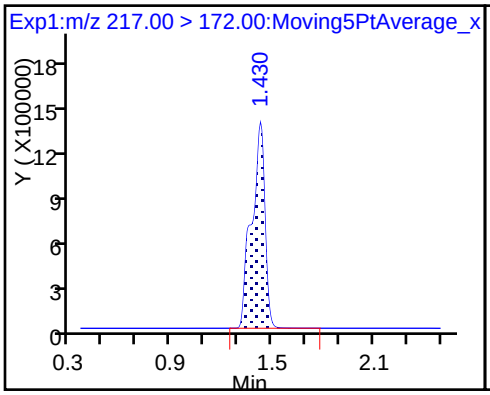
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 24 Worklist Smp#: 2

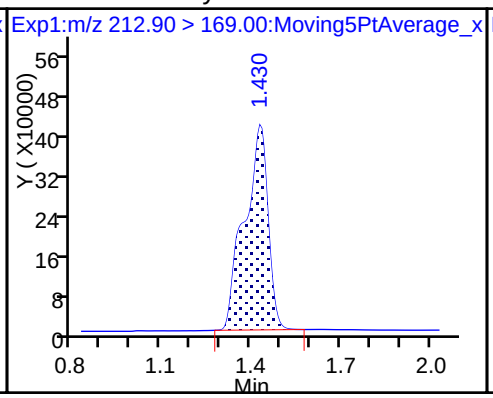
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

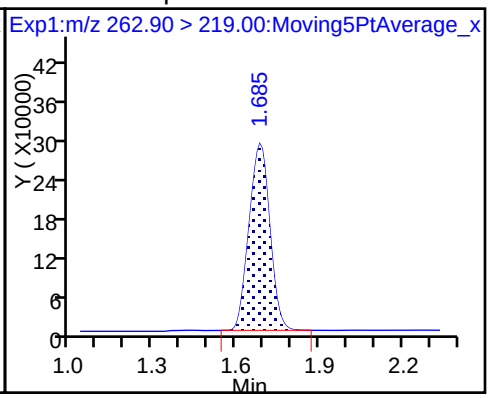
D 1 13C4 PFBA



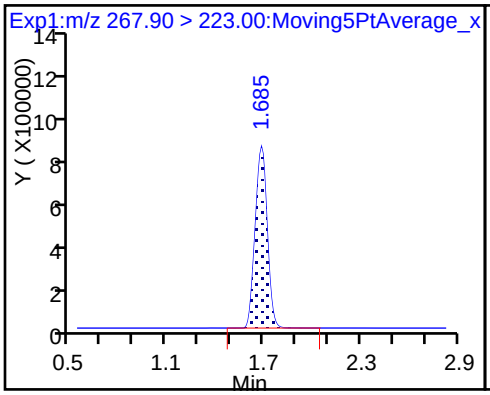
2 Perfluorobutyric acid



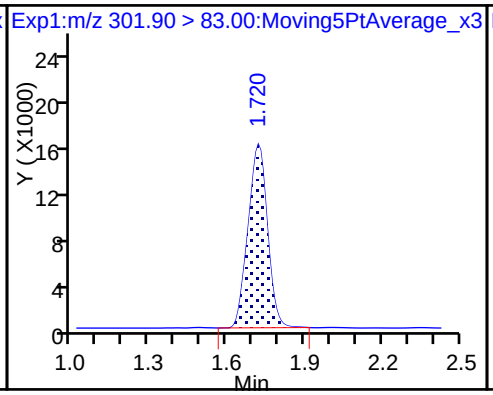
4 Perfluoropentanoic acid



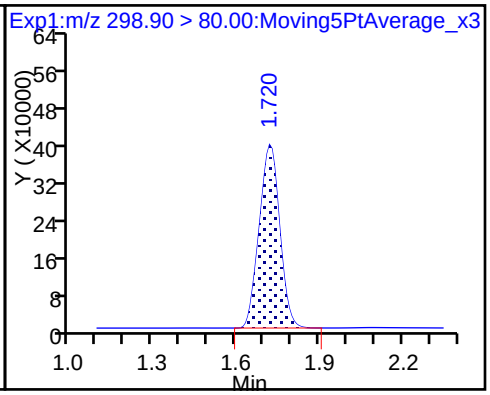
D 3 13C5-PFPeA



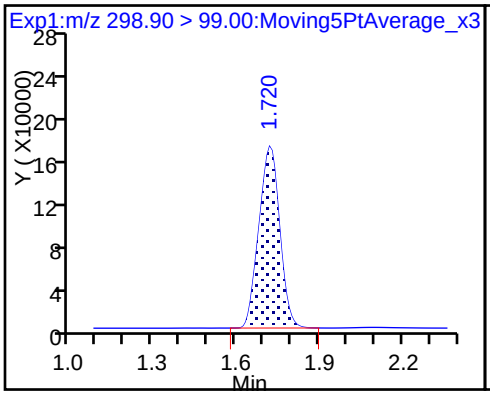
D 47 13C3-PFBS



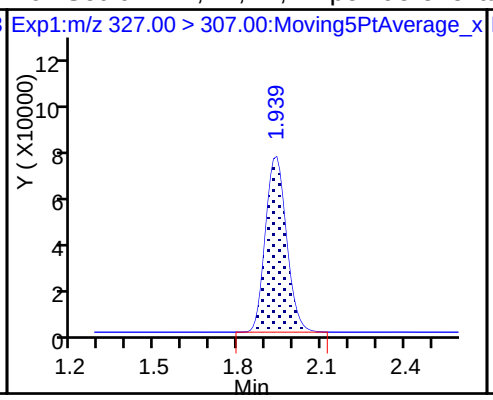
5 Perfluorobutanesulfonic acid



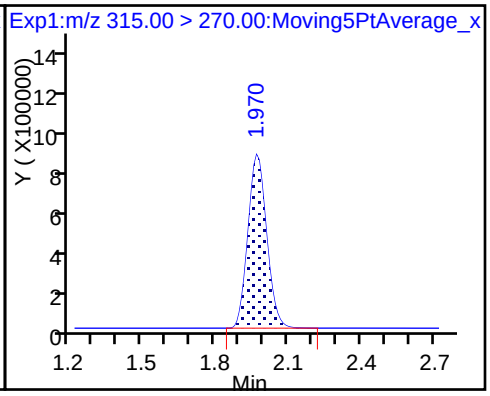
5 Perfluorobutanesulfonic acid



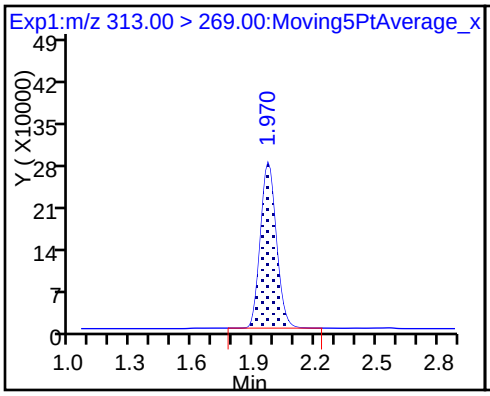
61 Sodium 1H,1H,2H,2H-perfluorohexa



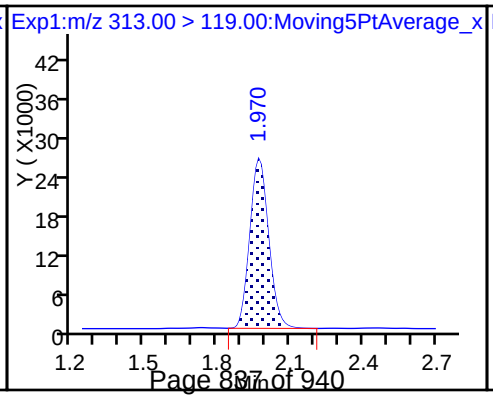
D 7 13C2 PFHxA



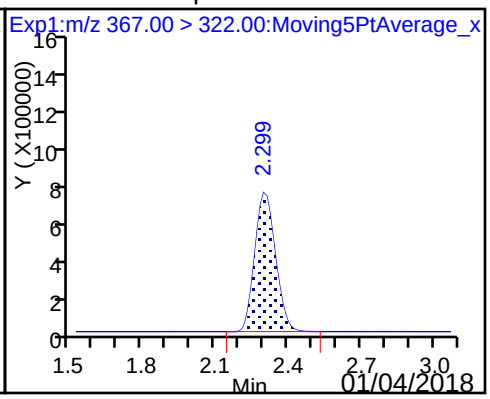
6 Perfluorohexanoic acid



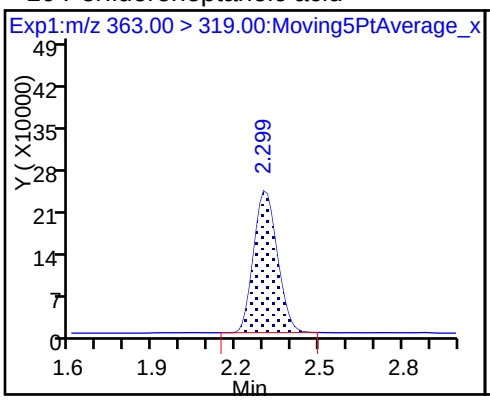
6 Perfluorohexanoic acid



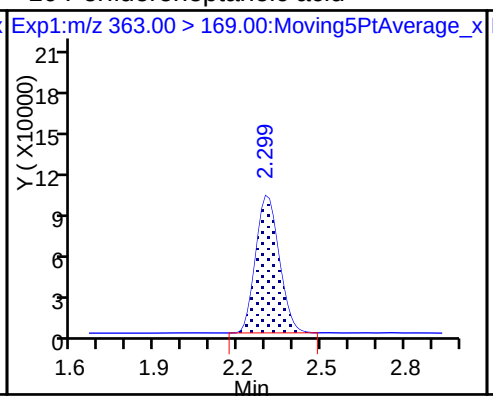
D 9 13C4-PFHpA



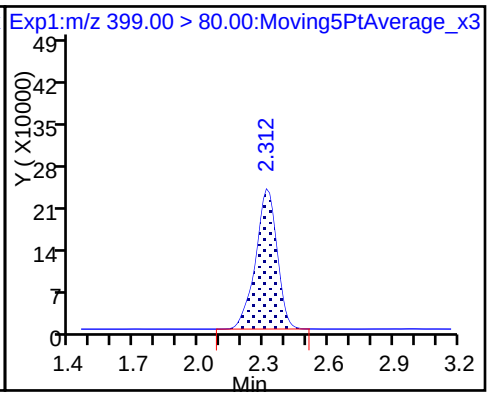
10 Perfluoroheptanoic acid



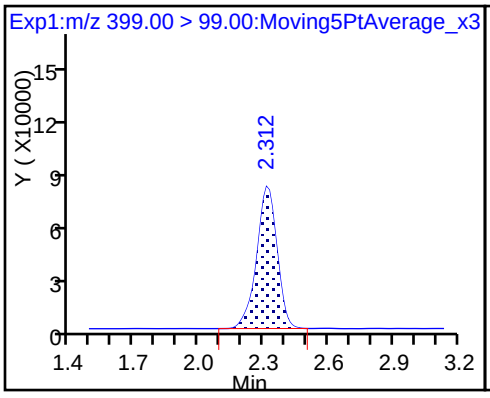
10 Perfluoroheptanoic acid



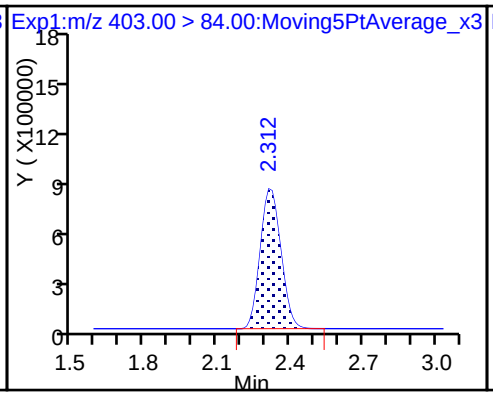
8 Perfluorohexanesulfonic acid



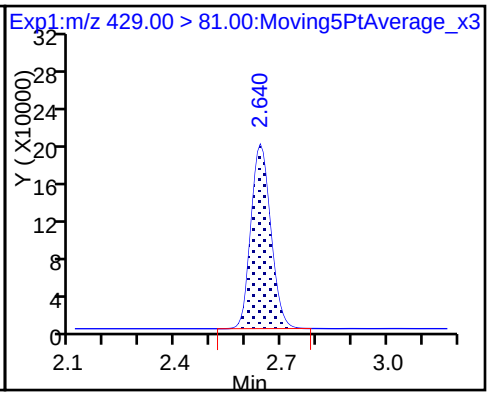
8 Perfluorohexanesulfonic acid



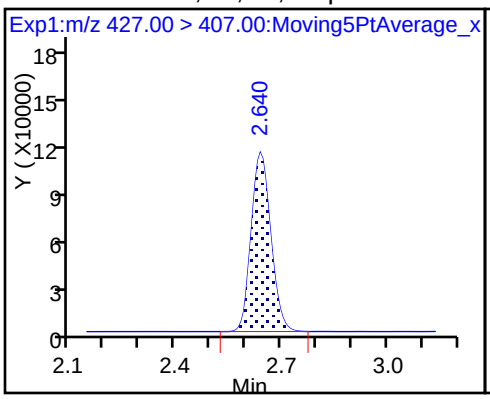
D 11 18O2 PFHxS



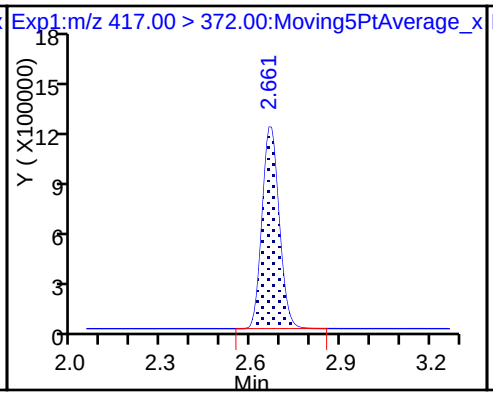
D 12 M2-6:2FTS



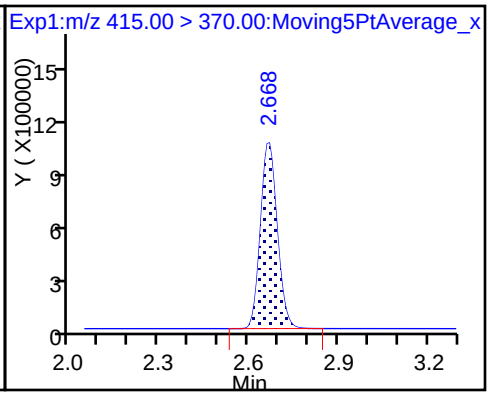
13 Sodium 1H,1H,2H,2H-perfluorooctane



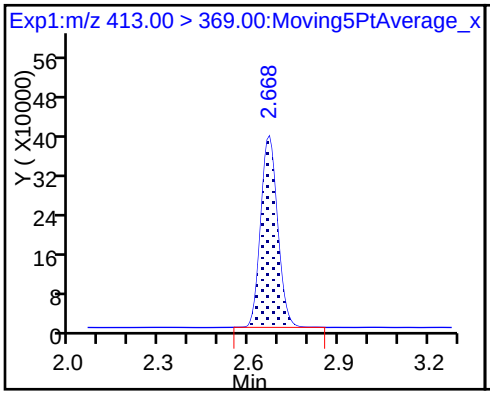
D 14 13C4 PFOA



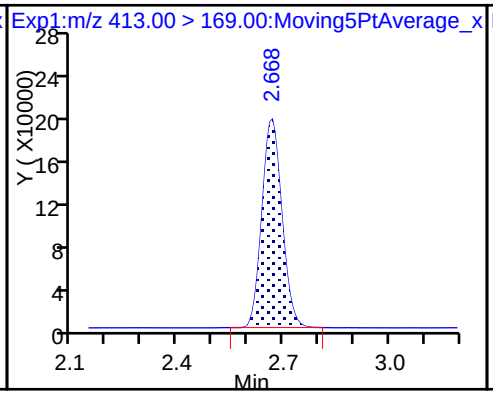
* 62 13C2-PFOA



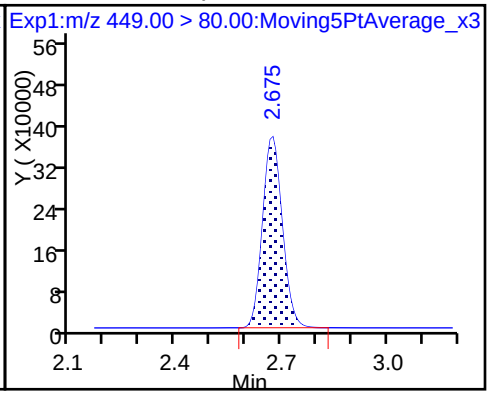
15 Perfluorooctanoic acid



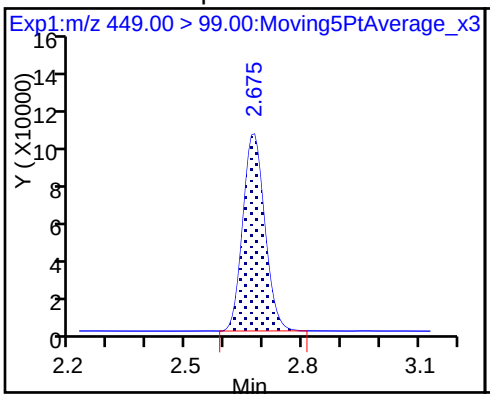
15 Perfluorooctanoic acid



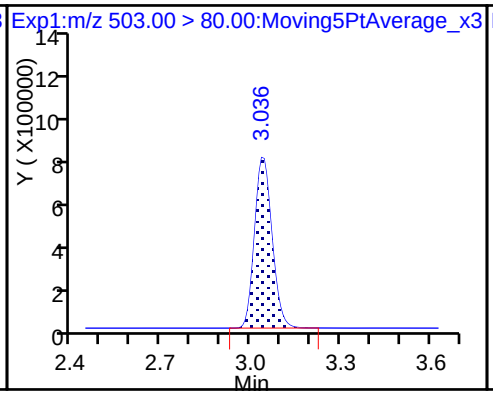
16 Perfluoroheptanesulfonic Acid



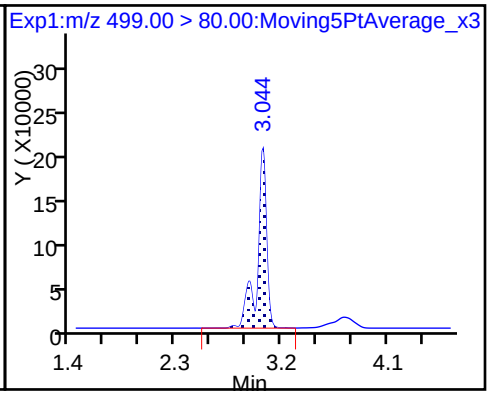
16 Perfluoroheptanesulfonic Acid



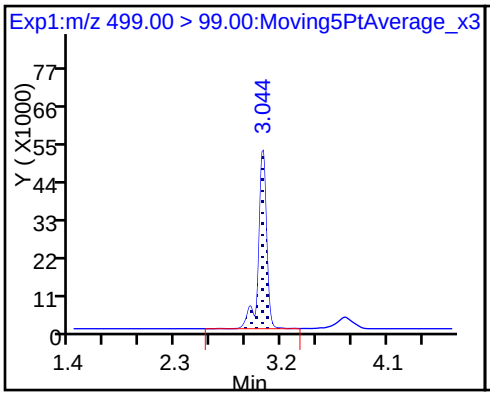
D 18 13C4 PFOS



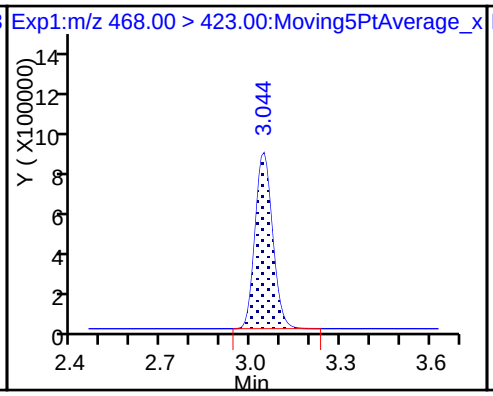
17 Perfluorooctane sulfonic acid



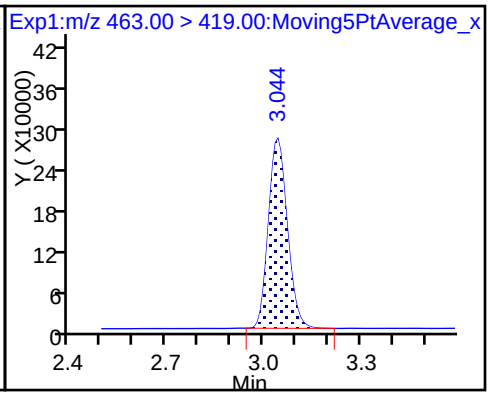
17 Perfluorooctane sulfonic acid



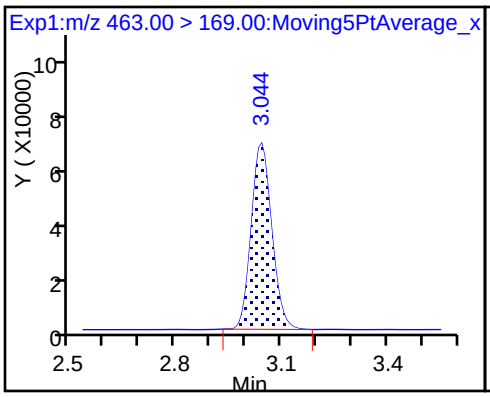
D 19 13C5 PFNA



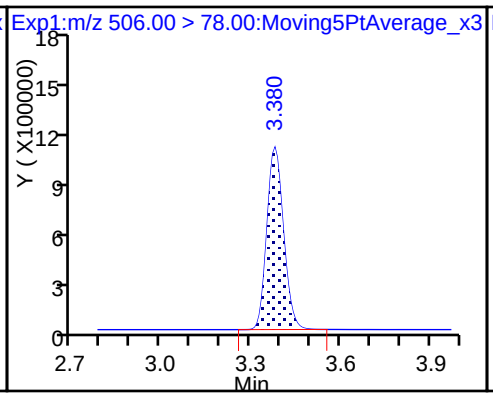
20 Perfluorononanoic acid



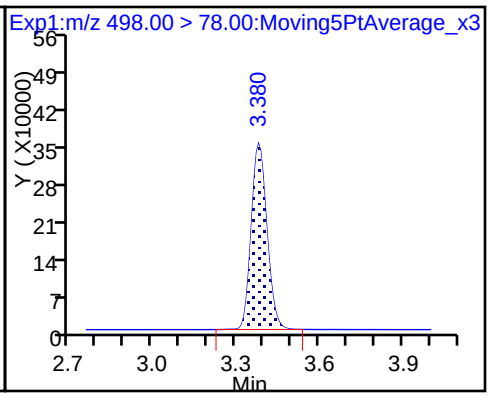
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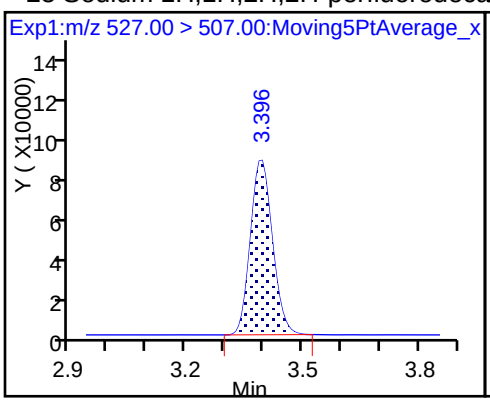
D 21 13C8 FOSA



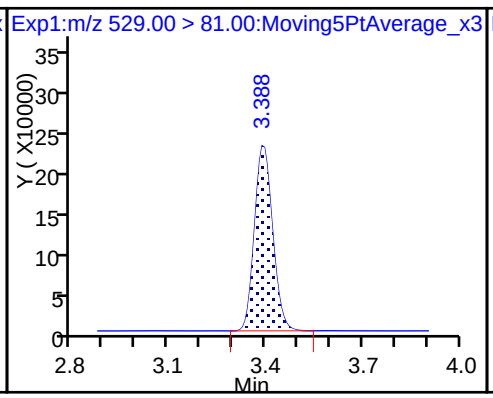
22 Perfluorooctane Sulfonamide



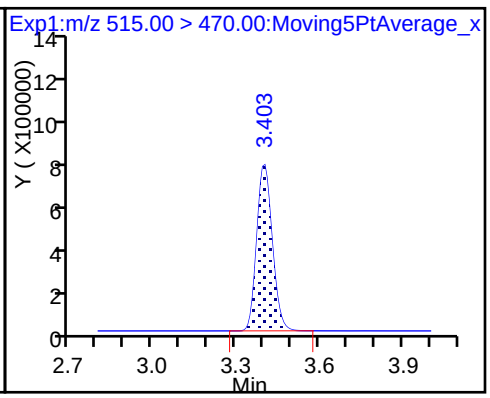
25 Sodium 1H,1H,2H,2H-perfluorodecane



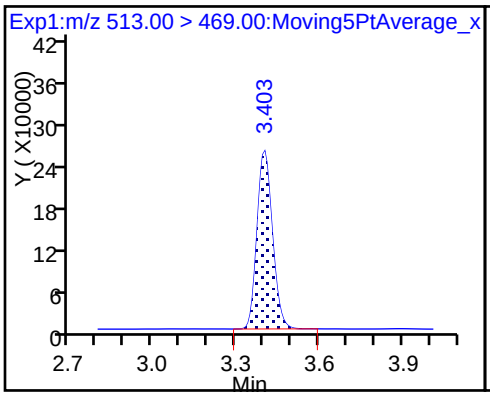
D 26 M2-8:2FTS



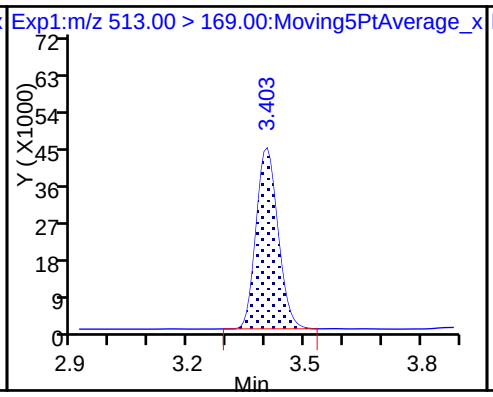
D 23 13C2 PFDA



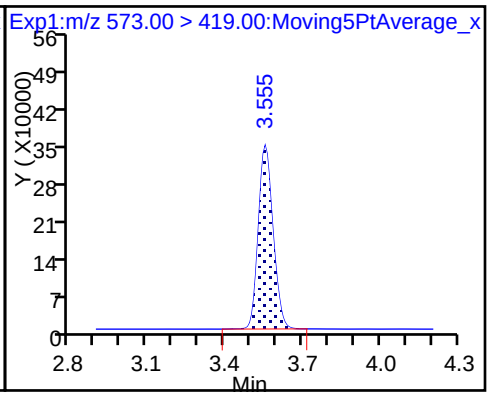
24 Perfluorodecanoic acid



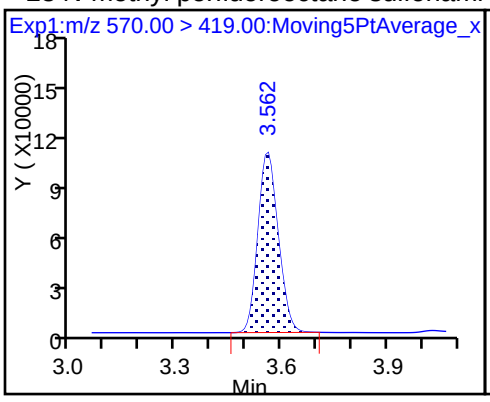
24 Perfluorodecanoic acid



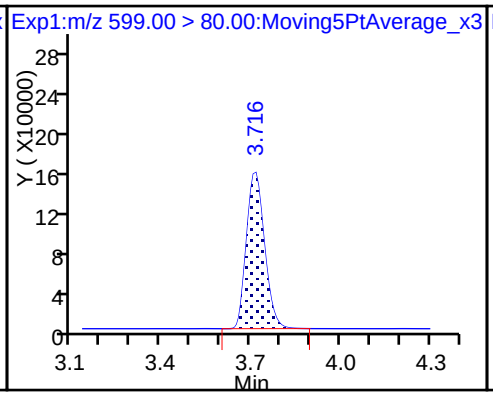
D 27 d3-NMeFOSAA



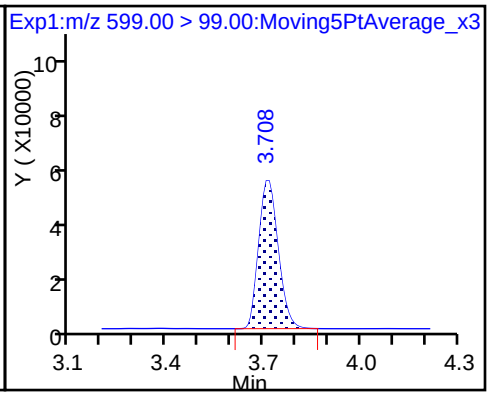
28 N-methyl perfluorooctane sulfonami



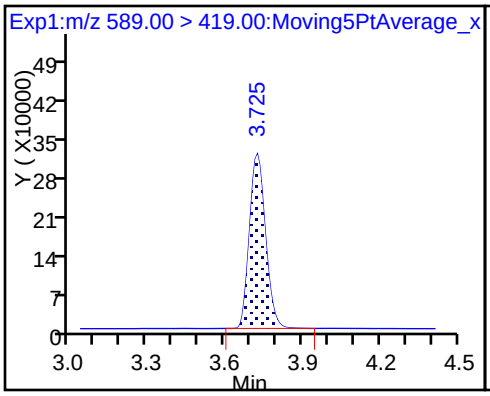
29 Perfluorodecane Sulfonic acid



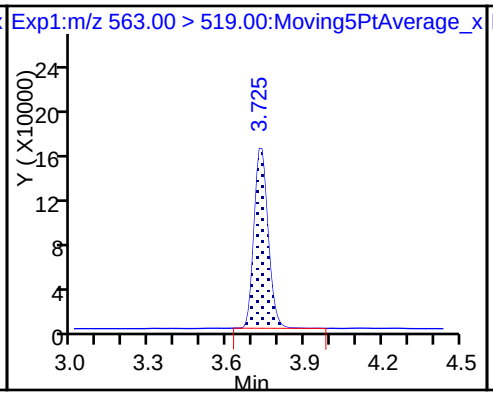
29 Perfluorodecane Sulfonic acid



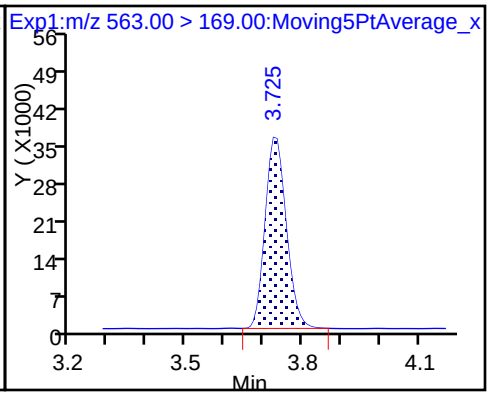
D 32 d5-NEtFOSAA



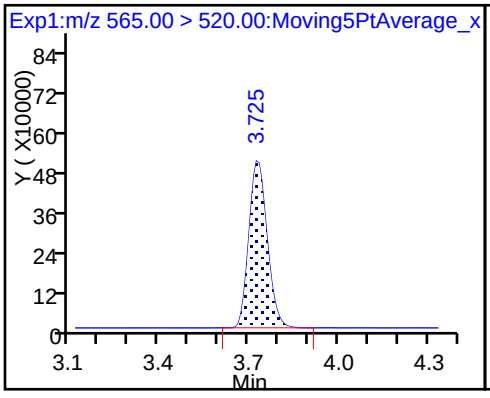
31 Perfluoroundecanoic acid



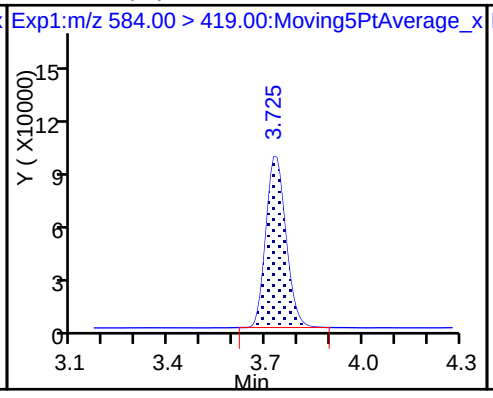
31 Perfluoroundecanoic acid



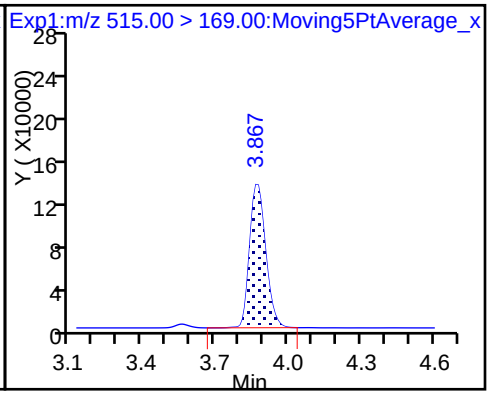
D 30 13C2 PFUnA



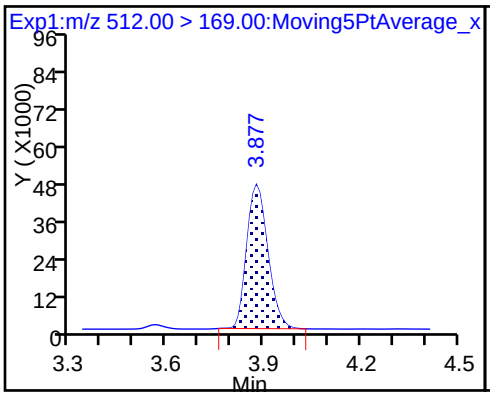
33 N-ethyl perfluorooctane sulfonamid



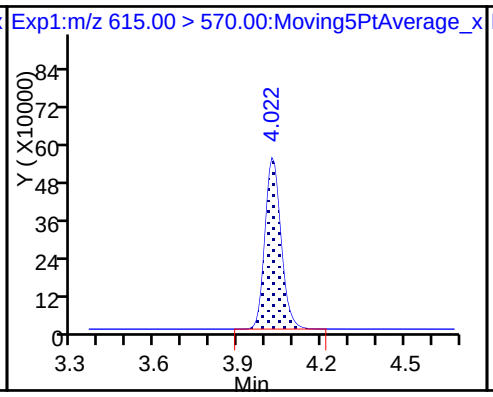
D 34 d-N-MeFOSA-M



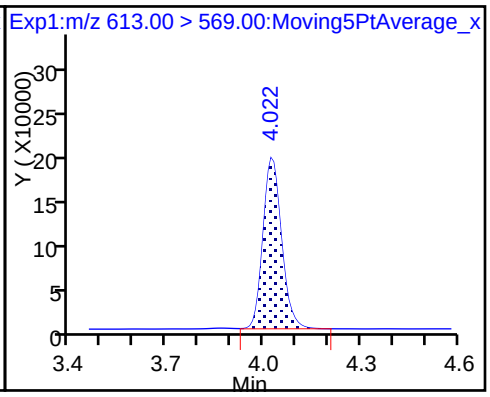
35 MeFOSA



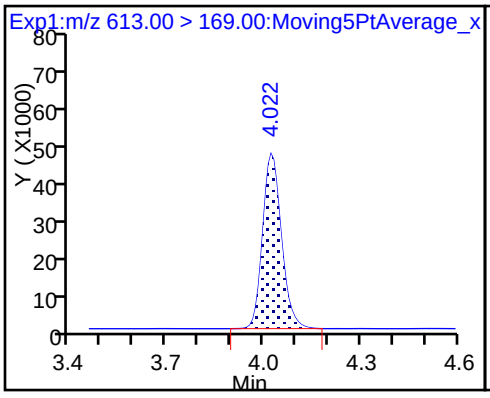
D 36 13C2 PFDoA



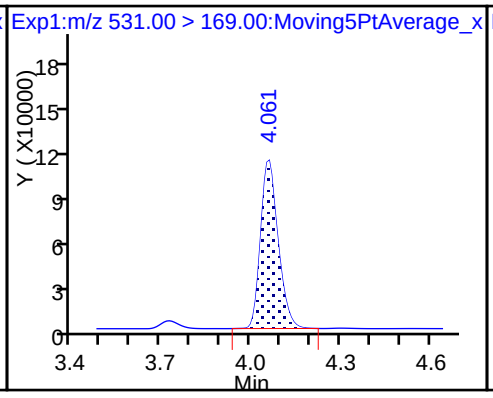
37 Perfluorododecanoic acid



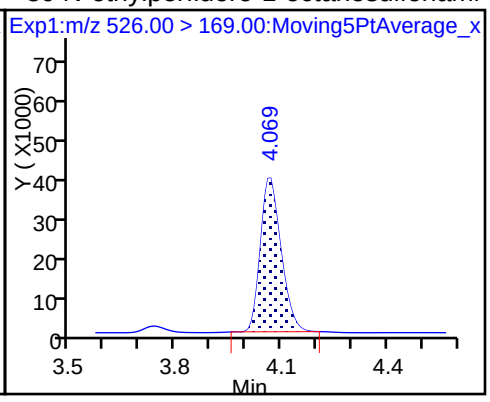
37 Perfluorododecanoic acid



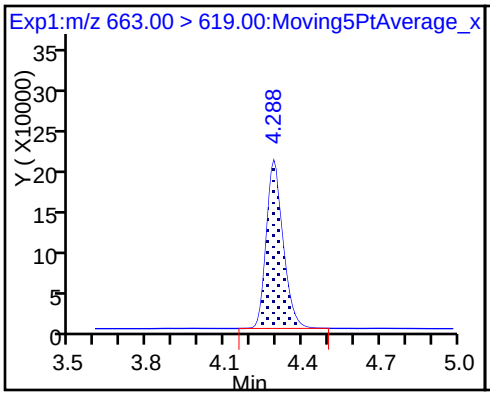
D 38 d-N-EtFOSA-M



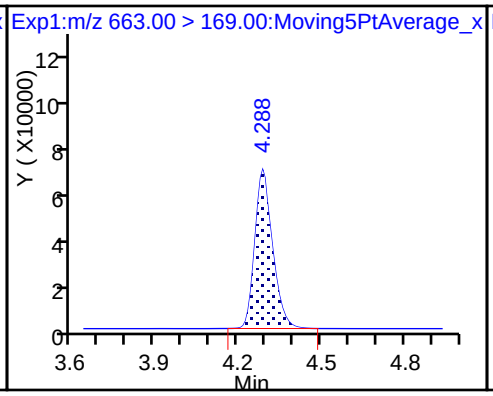
39 N-ethylperfluoro-1-octanesulfonami



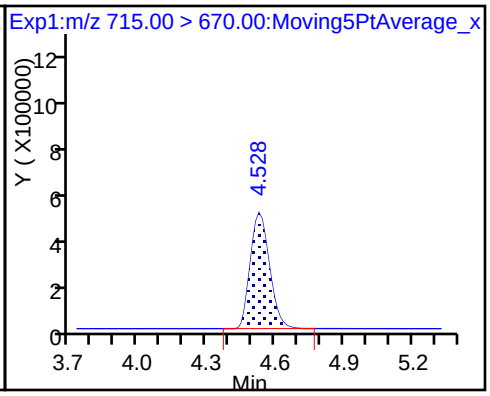
41 Perfluorotridecanoic acid



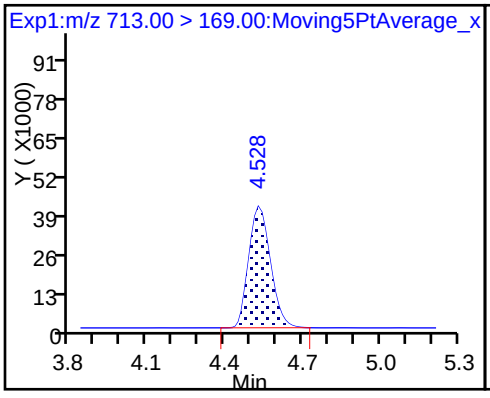
41 Perfluorotridecanoic acid



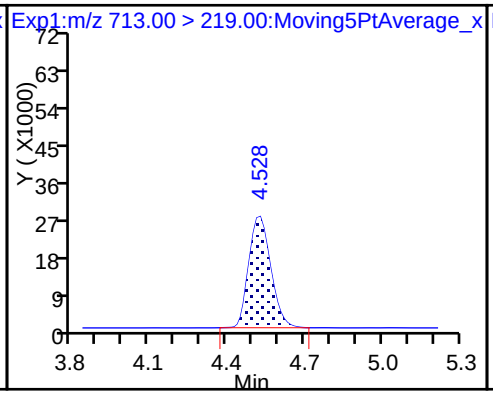
D 43 13C2-PFTeDA



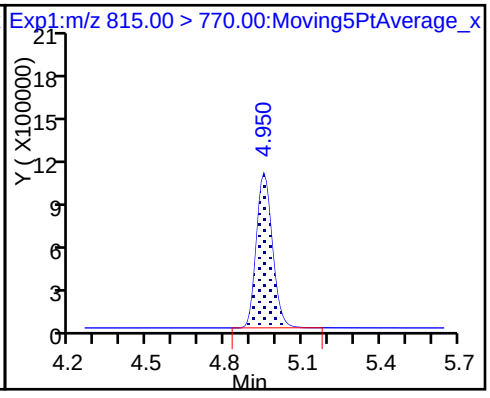
42 Perfluorotetradecanoic acid



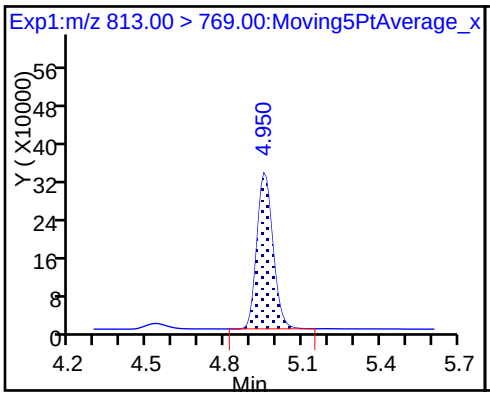
42 Perfluorotetradecanoic acid



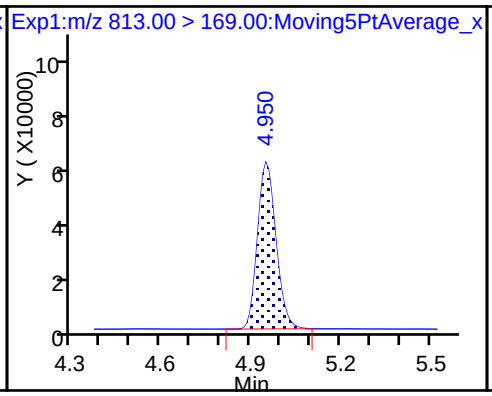
D 44 13C2-PFHxDA



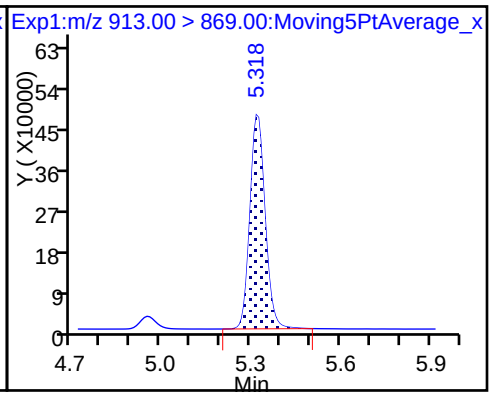
45 Perfluorohexadecanoic acid



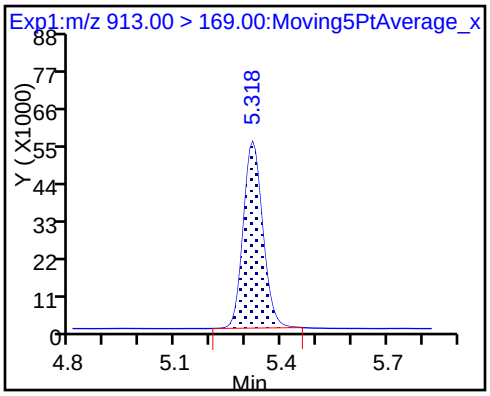
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-200330/2-A

Matrix: Water | Lab File ID: 2017.12.19LLC_018.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 06:46

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	41.78		2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	40.65		2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	41.85		2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	40.69		2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	37.38		2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	43.10		2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	40.82		2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	40.82		2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	45.34		2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	45.37		2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	37.80		2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	40.53		2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	35.97		2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	35.79		2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	36.65		2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	38.77		2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	43.70		2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	38.68		20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	37.49		20.0	1.90
27619-97-2	6:2FTS	39.64		20.0	2.00
39108-34-4	8:2FTS	36.58		20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-200330/2-A

Matrix: Water | Lab File ID: 2017.12.19LLC_018.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 06:46

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	116		25-150
STL01893	13C5 PFPeA	116		25-150
STL00993	13C2 PFHxA	114		25-150
STL01892	13C4-PFHpA	121		25-150
STL00990	13C4 PFOA	109		25-150
STL00995	13C5 PFNA	123		25-150
STL00996	13C2 PFDA	132		25-150
STL00997	13C2 PFUnA	120		25-150
STL00998	13C2 PFDoA	116		25-150
STL02116	13C2-PFTeDA	140		25-150
STL02337	13C3-PFBS	111		25-150
STL00994	18O2 PFHxS	118		25-150
STL00991	13C4 PFOS	123		25-150
STL01056	13C8 FOSA	107		25-150
STL02118	d3-NMeFOSAA	147		25-150
STL02117	d5-NEtFOSAA	136		25-150
STL02279	M2-6:2FTS	69		25-150
STL02280	M2-8:2FTS	180	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_018.d
Lims ID: LCS 320-200330/2-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Dec-2017 06:46:09 ALS Bottle#: 11 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-200330/2-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 14:50:01 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 14:47:18

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.413	1.411	0.002	0.534	8397520	2.89		116	19594	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.413	1.412	0.001	1.000	3200894	1.04		104	696	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.661	1.664	-0.003	0.628	4946539	2.89		116	54071	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.661	1.664	-0.003	1.000	2222717	1.02		102	1561	
D 47 13C3-PFBS										
301.90 > 83.00	1.697	1.699	-0.002	0.642	93195	2.58		111	2524	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.706	1.703	0.003	1.005	3035852	1.01		115	12204	
298.90 > 99.00	1.706	1.703	0.003	1.005	1287545		2.36(1.25-3.74)		9056	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.912	1.909	0.003	1.000	686658	2.27		243	32170	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.953	1.949	0.004	1.000	2155888	1.05		105	7218	
313.00 > 119.00	1.953	1.949	0.004	1.000	193930		11.12(5.03-15.10)		5007	
D 7 13C2 PFHxA										
315.00 > 270.00	1.953	1.949	0.004	0.739	5151777	2.84		114	49587	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.278	2.286	-0.008	1.000	2155079	1.02		102	3269	
363.00 > 169.00	2.278	2.286	-0.008	1.000	870360		2.48(1.13-3.40)		9143	
D 9 13C4-PFHpA										
367.00 > 322.00	2.278	2.286	-0.008	0.861	5143865	3.03		121	41571	
D 11 18O2 PFHxS										
403.00 > 84.00	2.291	2.299	-0.008	0.866	5852258	2.79		118	57320	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.291	2.299	-0.008	1.000	2418793	0.8993		98.8	6355	
399.00 > 99.00	2.291	2.299	-0.008	1.000	811011		2.98(1.50-4.49)		3844	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.616	2.640	-0.024	1.000	765874	0.99		105	31879	
D 12 M2-6:2FTS										
429.00 > 81.00	2.616	2.640	-0.024	0.989	1145338	1.63		68.5	23621	
* 62 13C2-PFOA										
415.00 > 370.00	2.645	2.643	0.002		4921371	2.50			55730	
D 14 13C4 PFOA										
417.00 > 372.00	2.645	2.647	-0.002	1.000	5568907	2.74		109	48226	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.645	2.649	-0.004	1.000	2196682	0.9345		93.4	969	
413.00 > 169.00	2.645	2.649	-0.004	1.000	1180096		1.86(0.84-2.52)		9844	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.652	2.654	-0.002	1.000	2135864	0.8947		94.0	19397	
449.00 > 99.00	2.652	2.654	-0.002	1.000	571437		3.74(1.94-5.82)		14463	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.025	0.0	1.000	1616571	0.9163		98.7	296	
499.00 > 99.00	3.025	3.025	0.0	1.000	356464		4.54(2.31-6.93)		381	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.144	3965495	2.94		123	32085	
20 Perfluorononanoic acid										
463.00 > 419.00	3.025	3.026	-0.001	1.000	1750791	1.08		108	2422	
463.00 > 169.00	3.025	3.026	-0.001	1.000	419061		4.18(1.90-5.69)		8621	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.026	-0.001	1.144	4191401	3.06		123	53697	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.362	0.008	1.274	5092024	2.67		107	35514	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.365	0.005	1.000	2103626	1.09		109	21892	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.375	0.003	1.277	1295253	4.32		180	16552	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.378	3.376	0.002	1.000	601390	0.9146		95.5	15345	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.387	-0.002	1.280	3624334	3.31		132	47151	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.385	3.388	-0.003	1.000	1464480	1.02		102	6084	
513.00 > 169.00	3.385	3.388	-0.003	1.000	269497		5.43(2.36-7.09)		4136	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.537	3.541	-0.004	1.337	1860208	3.69		147	28120	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.544	3.547	-0.003	1.002	741578	0.9669		96.7	5252	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.688	3.701	-0.013	1.000	942483	0.9694		101	17686	
599.00 > 99.00	3.697	3.701	-0.004	1.002	331858		2.84(1.39-4.16)		9034	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.711	-0.005	1.401	1767918	3.40		136	11083	
D 30 13C2 PFUnA										
565.00 > 520.00	3.706	3.717	-0.011	1.401	2536027	3.01		120	29059	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.706	3.718	-0.012	1.000	936585	1.02		102	5422	
563.00 > 169.00	3.714	3.718	-0.004	1.002	205181		4.56(0.00-0.00)		7954	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.706	3.718	-0.012	1.000	645897	0.9373		93.7	9417	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.865	3.856	0.009	1.461	826569	1.47		58.8	2097	
35 MeFOSA										
512.00 > 169.00	3.865	3.863	0.002	1.000	342262	1.05		105	1812	
D 36 13C2 PFDoA										
615.00 > 570.00	4.004	4.015	-0.011	1.514	2606666	2.91		116	25018	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.004	4.016	-0.012	1.000	1134767	1.13		113	4359	
613.00 > 169.00	4.004	4.016	-0.012	1.000	277137		4.09(2.13-6.40)		13879	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.051	4.048	0.003	1.532	578852	1.09		43.7	1267	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.059	4.054	0.005	1.002	253920	1.04		104	1228	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.270	4.285	-0.015	1.000	1355377	1.13		113	3458	
663.00 > 169.00	4.270	4.285	-0.015	1.000	422828		3.21(1.25-3.76)		19390	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.707	3447678	3.50		140	18776	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.522	-0.008	1.000	329704	0.9451		94.5	8148	
713.00 > 219.00	4.500	4.522	-0.022	0.997	262626		1.26(0.71-2.13)		7580	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.931	4.944	-0.013	1.865	5718056	3.18		127	16849	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.931	4.945	-0.014	1.000	2155852	1.06		106	1013	
813.00 > 169.00	4.931	4.945	-0.014	1.000	370245		5.82(2.86-8.58)		5071	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.296	5.309	-0.013	1.000	2476866	0.9741		97.4	502	
913.00 > 169.00	5.289	5.309	-0.020	0.999	312828		7.92(0.00-0.00)		1821	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 14:50:08 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_018.d

Injection Date: 20-Dec-2017 06:46:09 Instrument ID: A8_N

Lims ID: LCS 320-200330/2-A

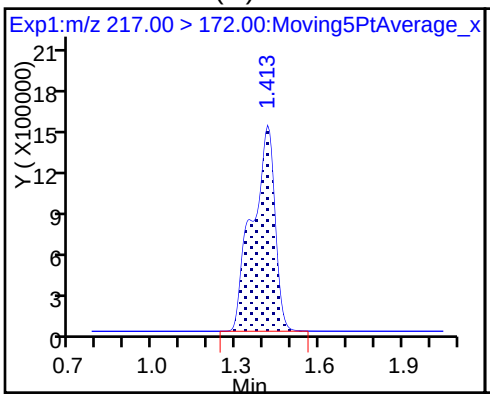
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 3

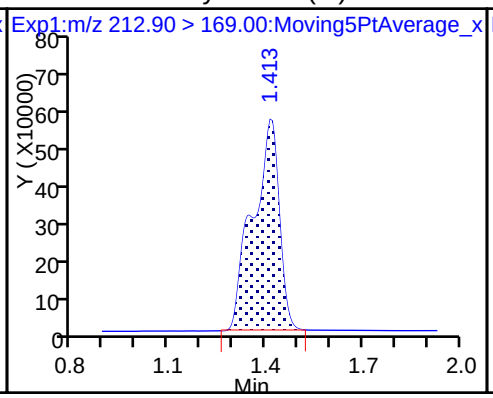
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

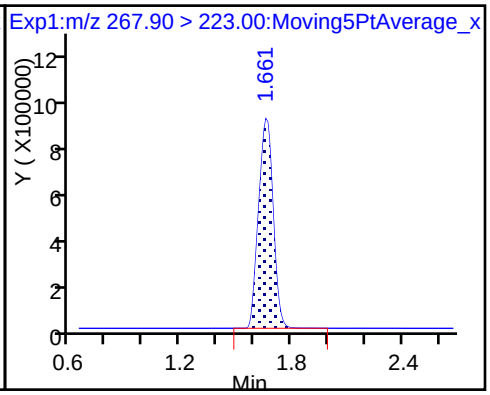
D 1 13C4 PFBA (M)



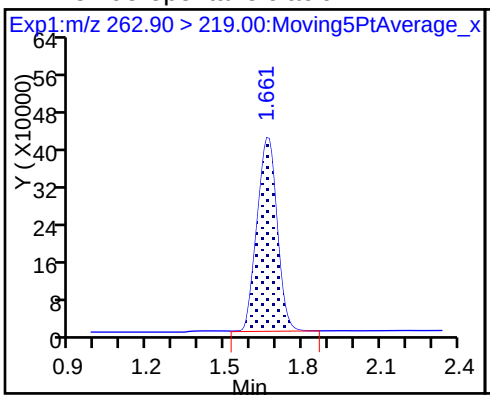
2 Perfluorobutyric acid (M)



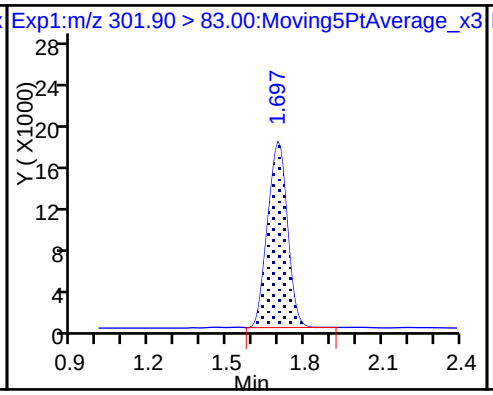
D 3 13C5-PFPeA



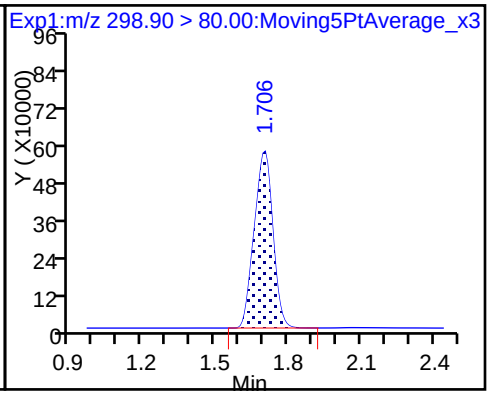
4 Perfluoropentanoic acid



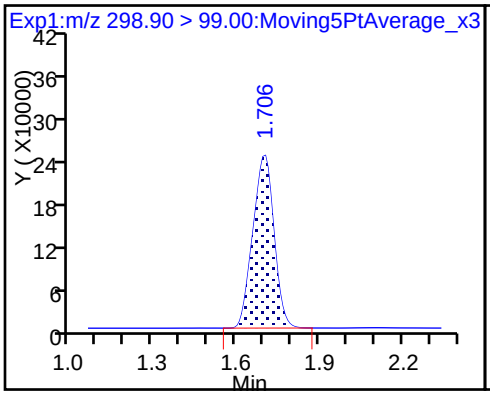
D 47 13C3-PFBS



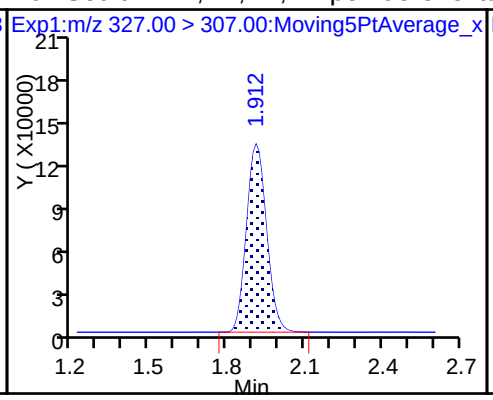
5 Perfluorobutanesulfonic acid



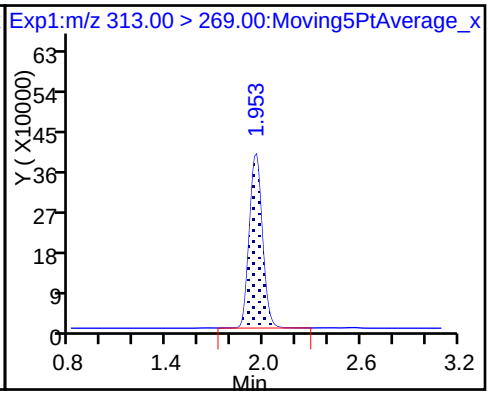
5 Perfluorobutanesulfonic acid



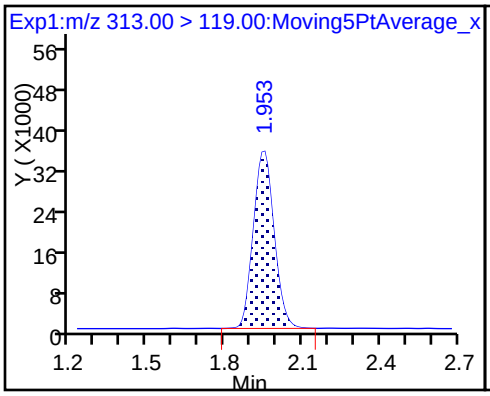
61 Sodium 1H,1H,2H,2H-perfluorohexane



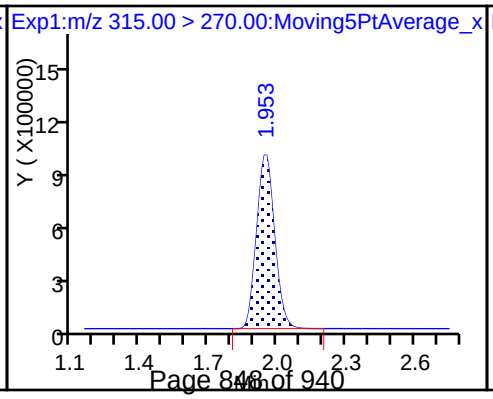
6 Perfluorohexanoic acid



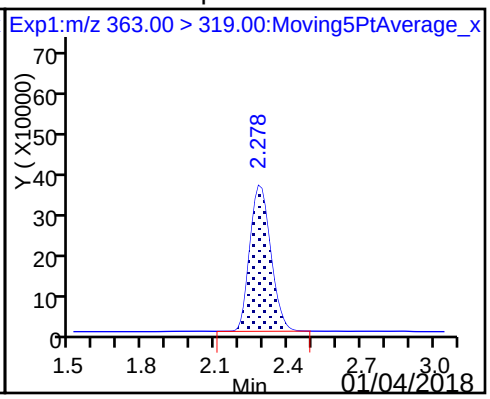
6 Perfluorohexanoic acid



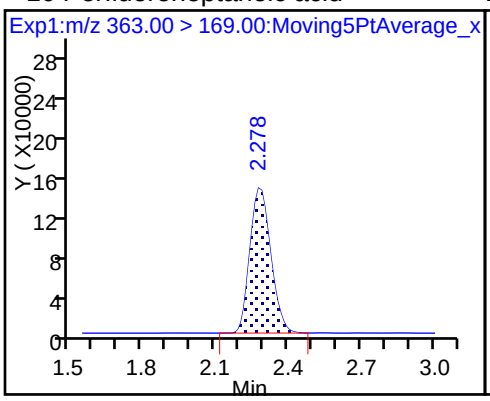
D 7 13C2 PFHxA



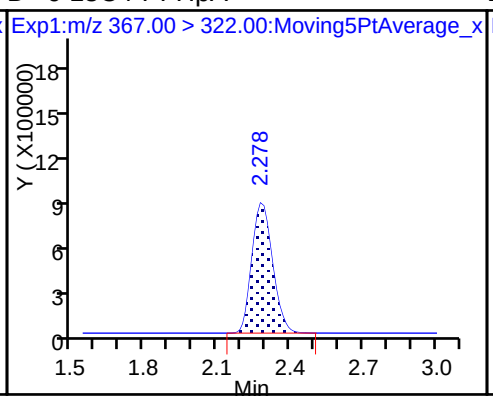
10 Perfluoroheptanoic acid



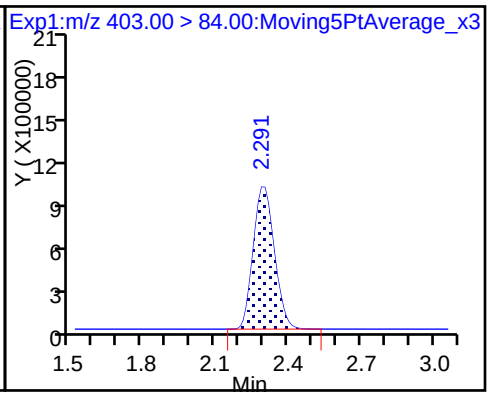
10 Perfluoroheptanoic acid



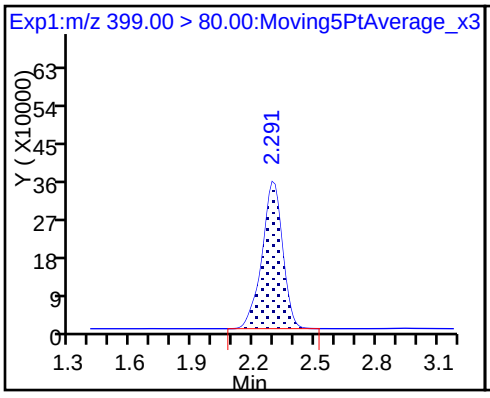
D 9 13C4-PFHpA



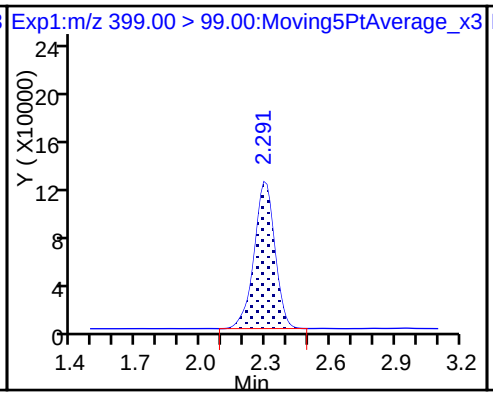
D 11 18O2 PFHxS



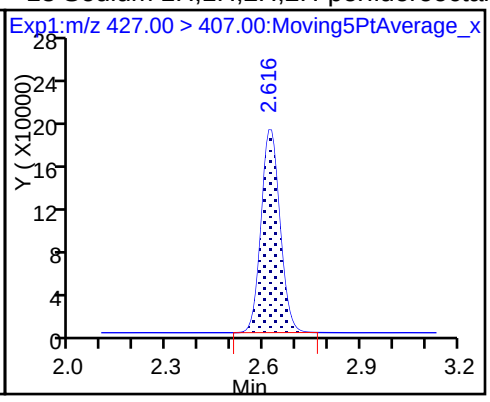
8 Perfluorohexanesulfonic acid



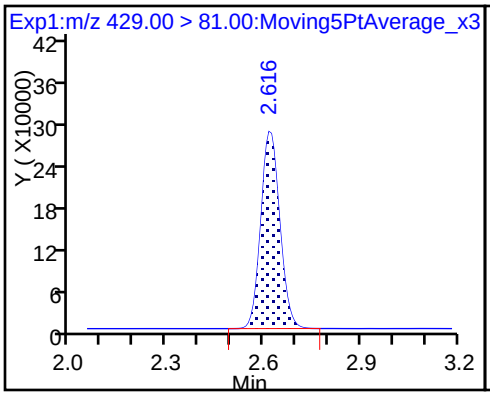
8 Perfluorohexanesulfonic acid



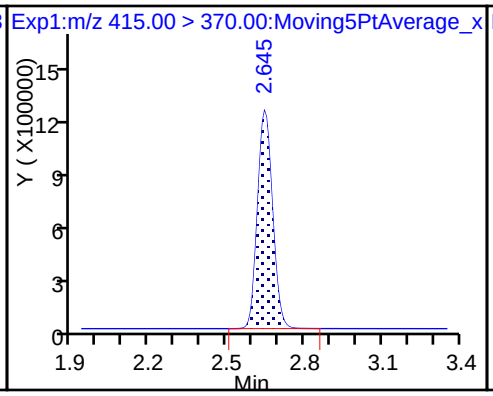
13 Sodium 1H,1H,2H,2H-perfluorooctane



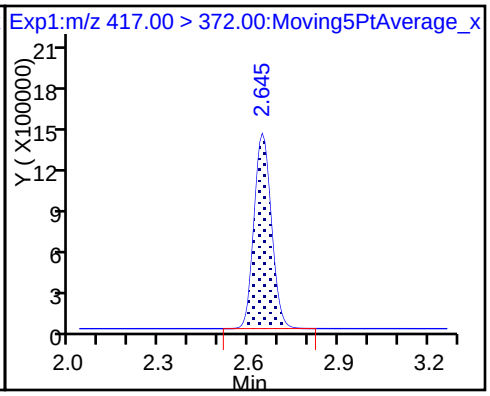
D 12 M2-6:2FTS



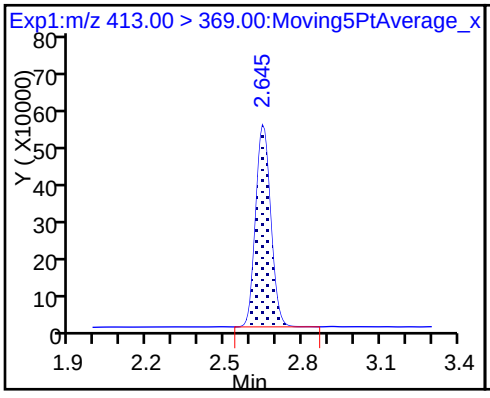
* 62 13C2-PFOA



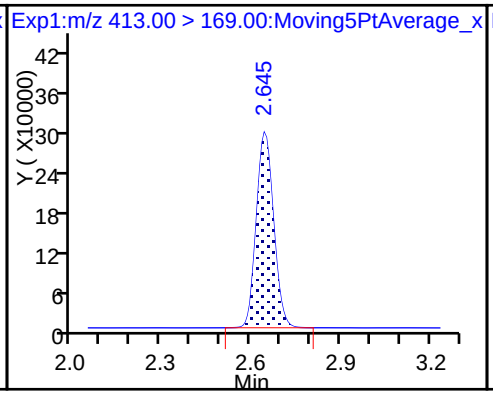
D 14 13C4 PFOA



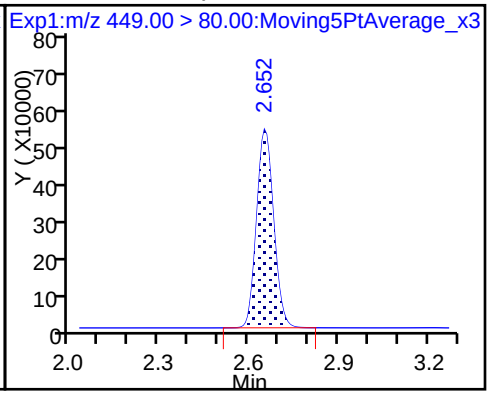
15 Perfluorooctanoic acid



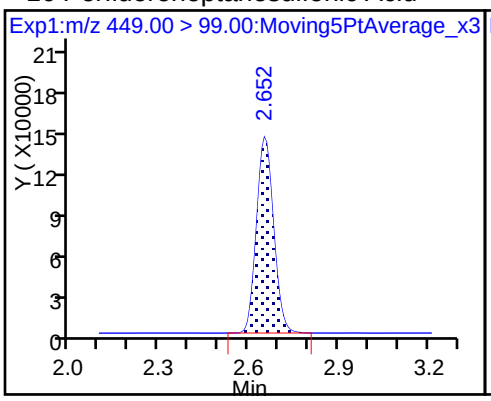
15 Perfluorooctanoic acid



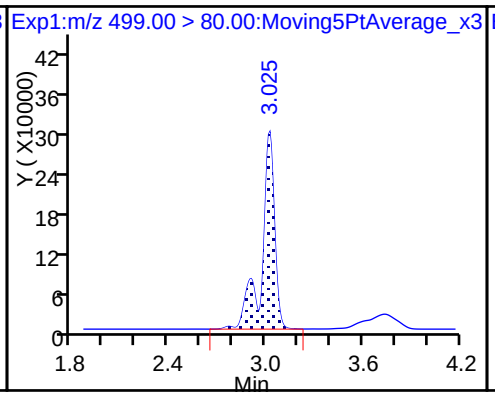
16 Perfluoroheptanesulfonic Acid



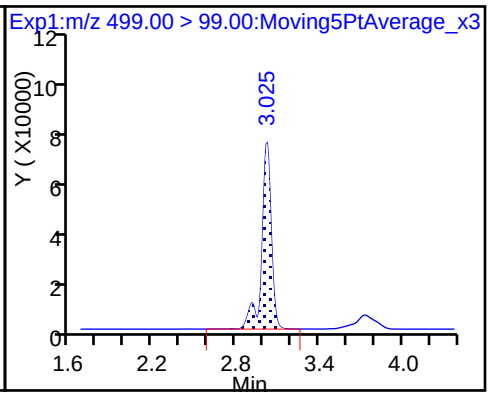
16 Perfluoroheptanesulfonic Acid



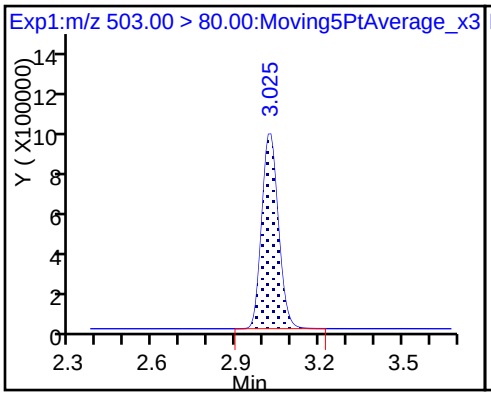
17 Perfluorooctane sulfonic acid



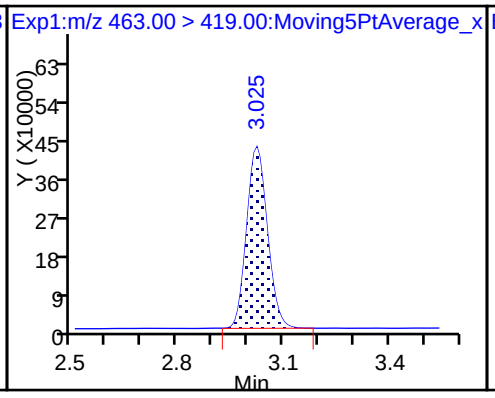
17 Perfluorooctane sulfonic acid



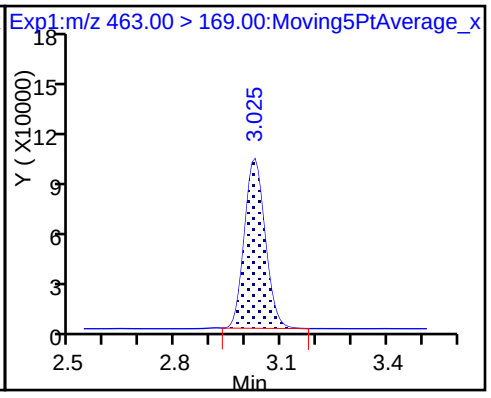
D 18 13C4 PFOS



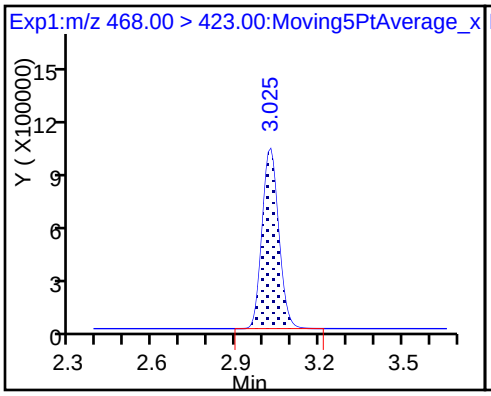
20 Perfluorononanoic acid



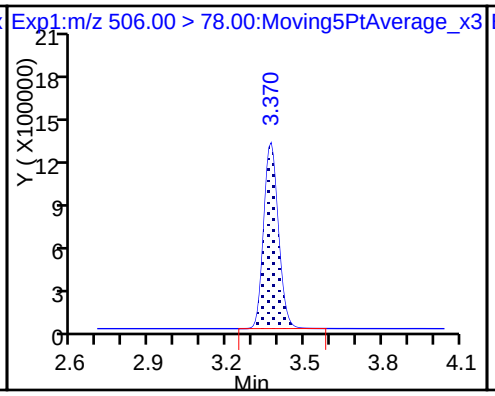
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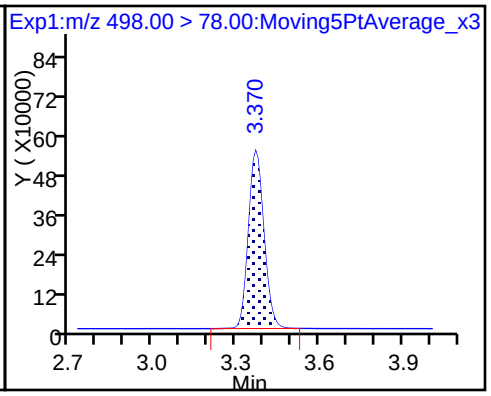
D 19 13C5 PFNA



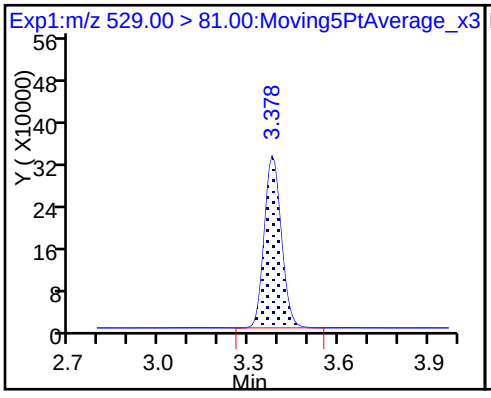
D 21 13C8 FOSA



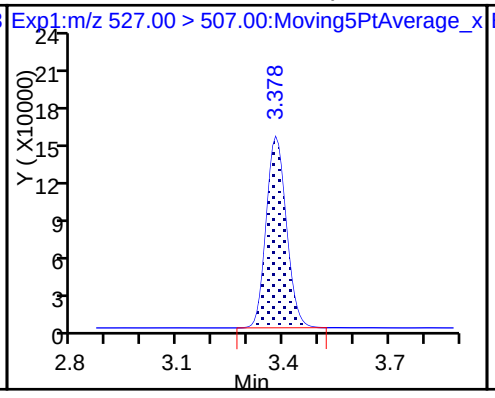
22 Perfluorooctane Sulfonamide



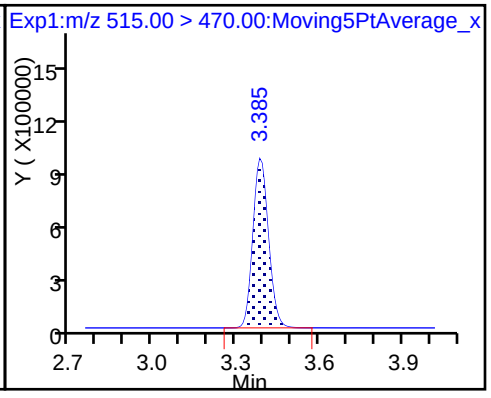
D 26 M2-8:2FTS



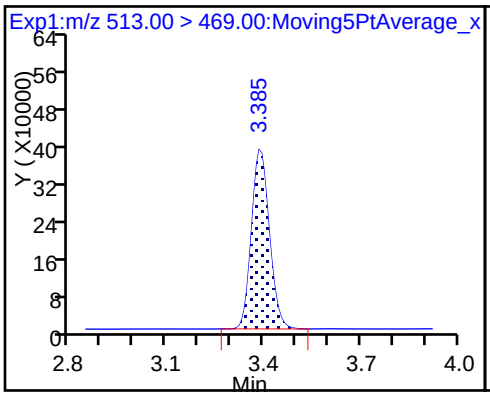
25 Sodium 1H,1H,2H,2H-perfluorodecane



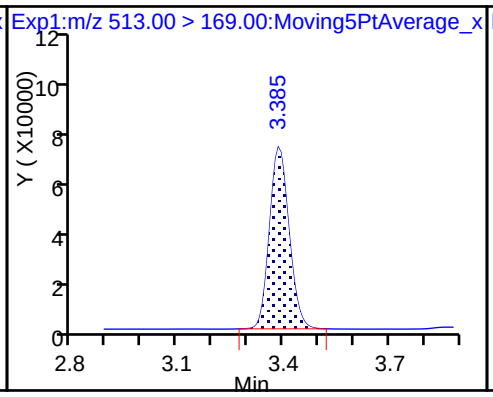
D 23 13C2 PFDA



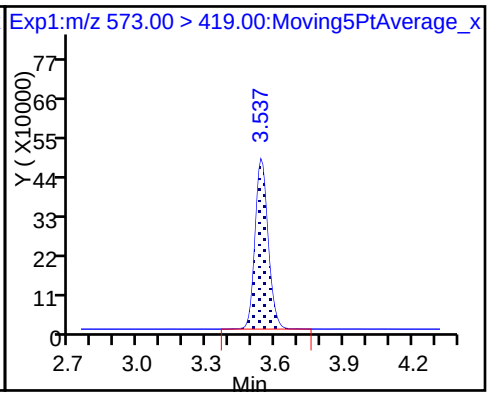
24 Perfluorodecanoic acid



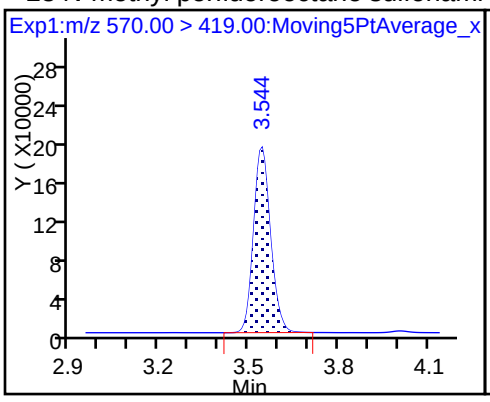
24 Perfluorodecanoic acid



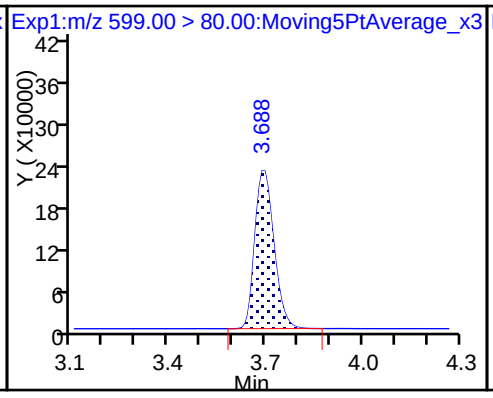
D 27 d3-NMeFOSAA



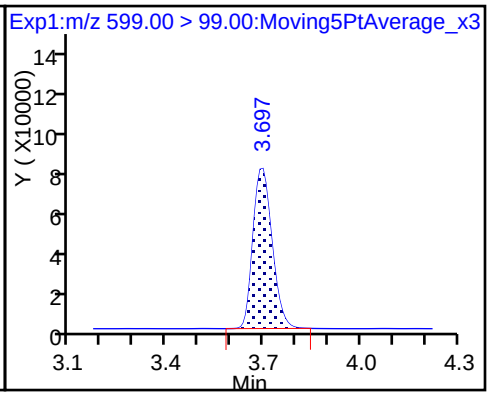
28 N-methyl perfluorooctane sulfonami



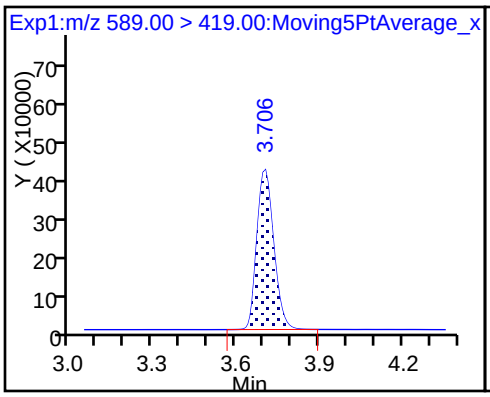
29 Perfluorodecane Sulfonic acid



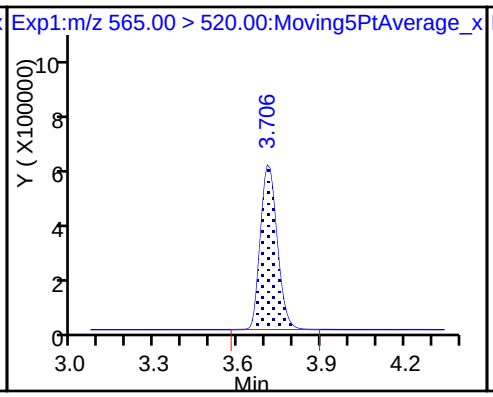
29 Perfluorodecane Sulfonic acid



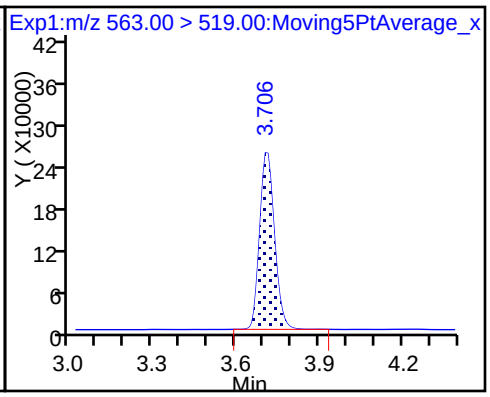
D 32 d5-NEtFOSAA



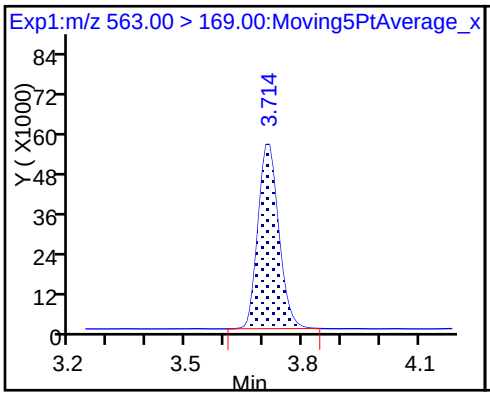
D 30 13C2 PFUnA



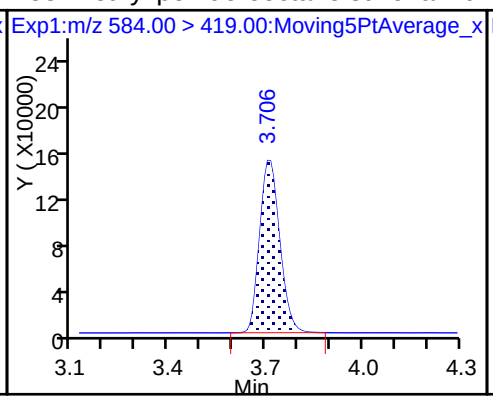
31 Perfluoroundecanoic acid



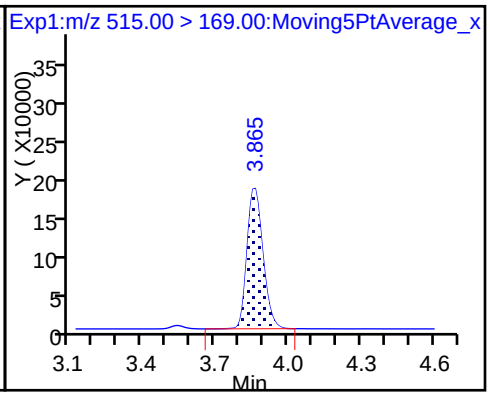
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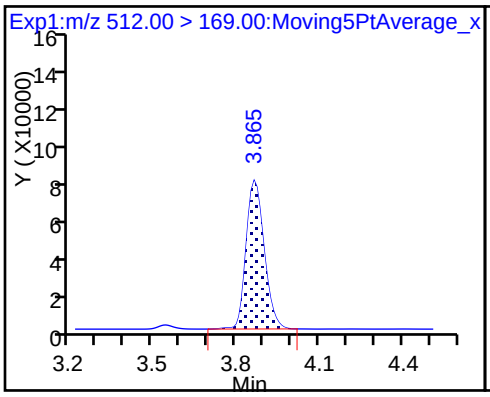
33 N-ethyl perfluorooctane sulfonamid



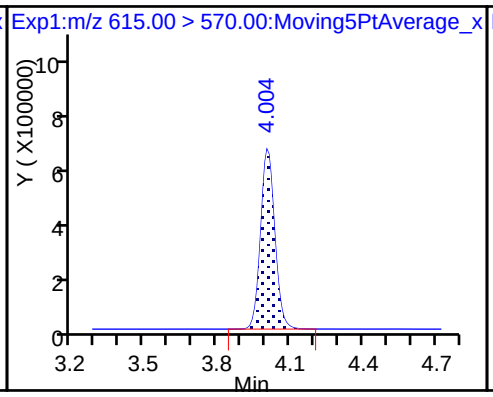
D 34 d-N-MeFOSA-M



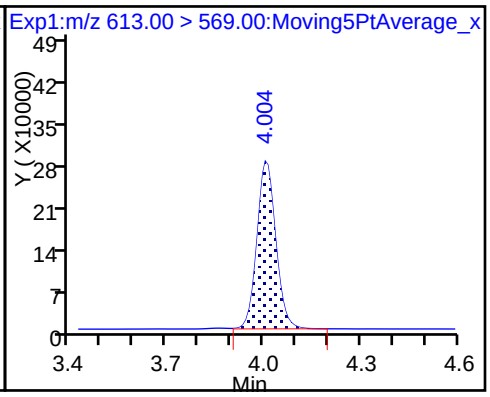
35 MeFOSA



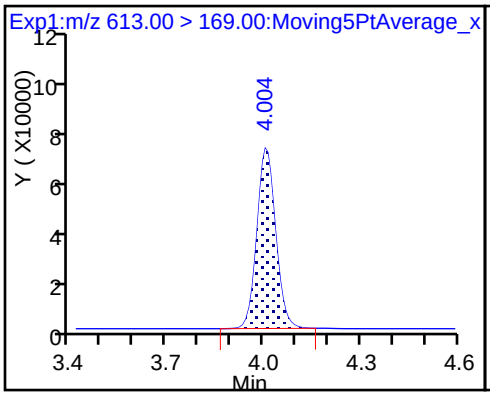
D 36 13C2 PFDoA



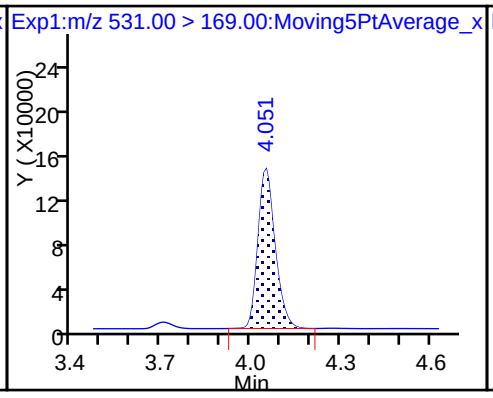
37 Perfluorododecanoic acid



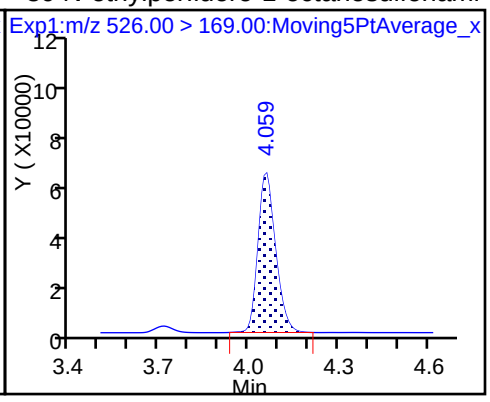
37 Perfluorododecanoic acid



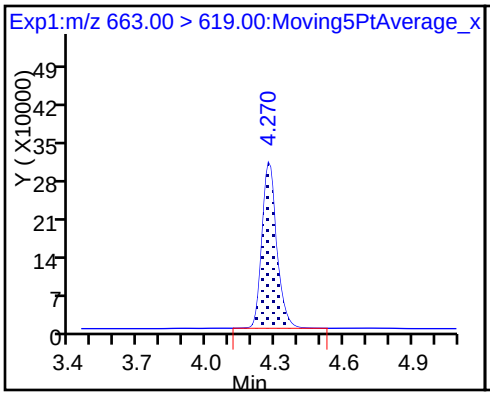
D 38 d-N-EtFOSA-M



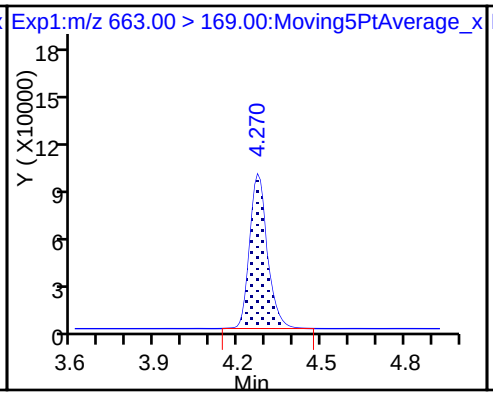
39 N-ethylperfluoro-1-octanesulfonami



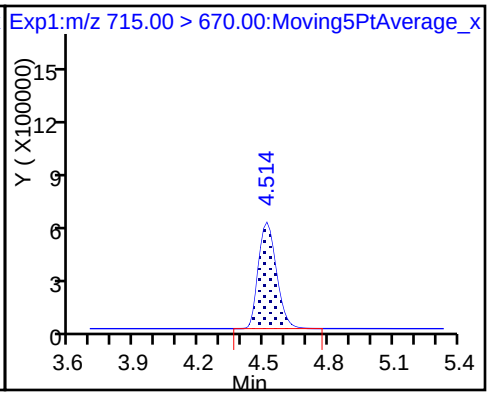
41 Perfluorotridecanoic acid



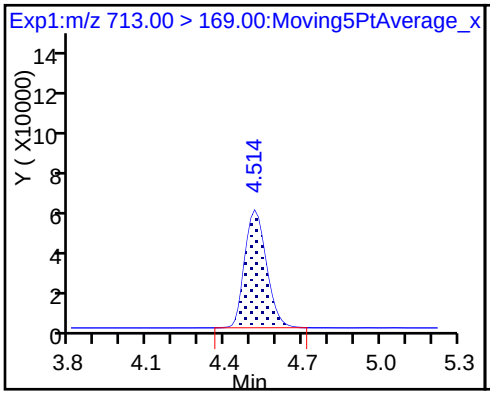
41 Perfluorotridecanoic acid



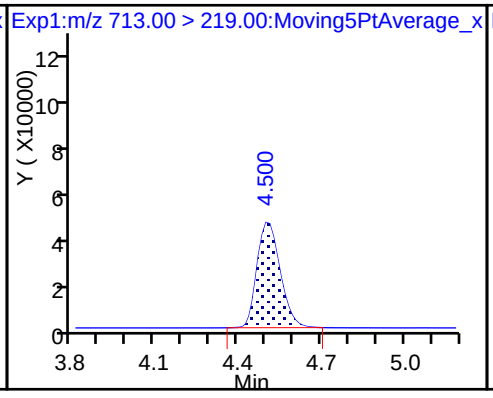
D 43 13C2-PFTeDA



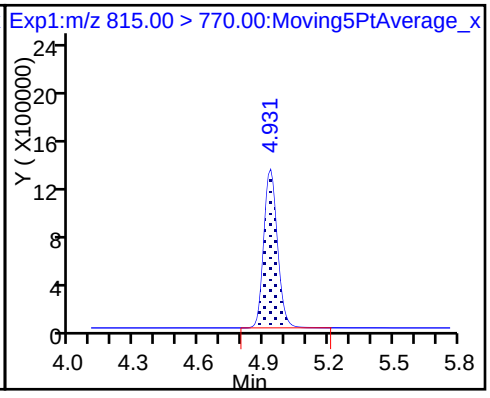
42 Perfluorotetradecanoic acid



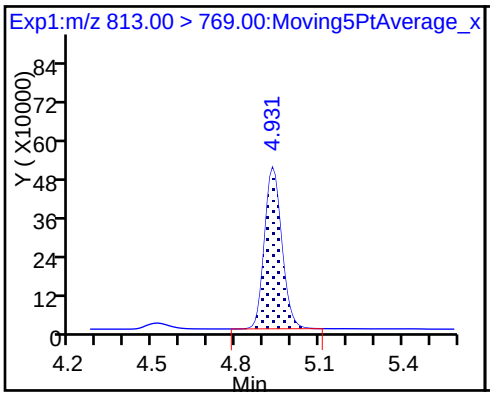
42 Perfluorotetradecanoic acid



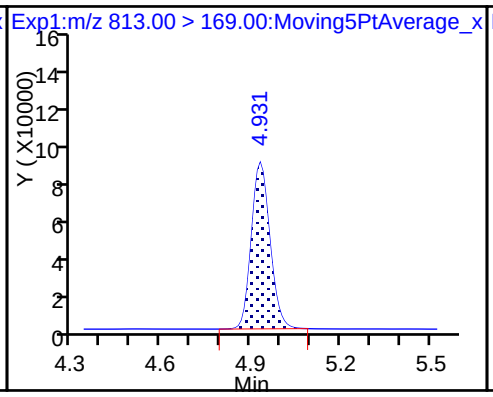
D 44 13C2-PFHxDA



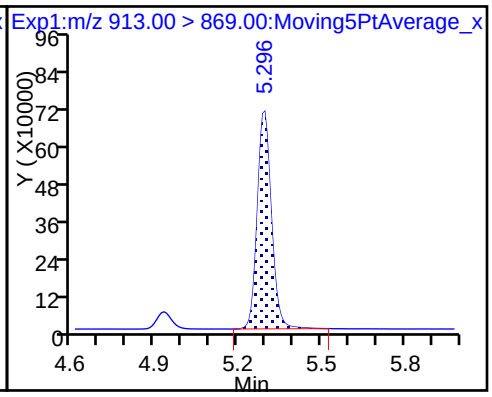
45 Perfluorohexadecanoic acid



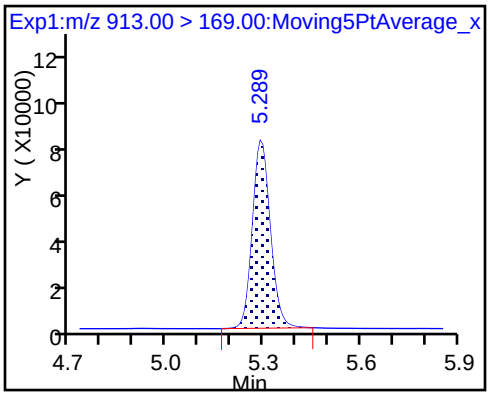
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

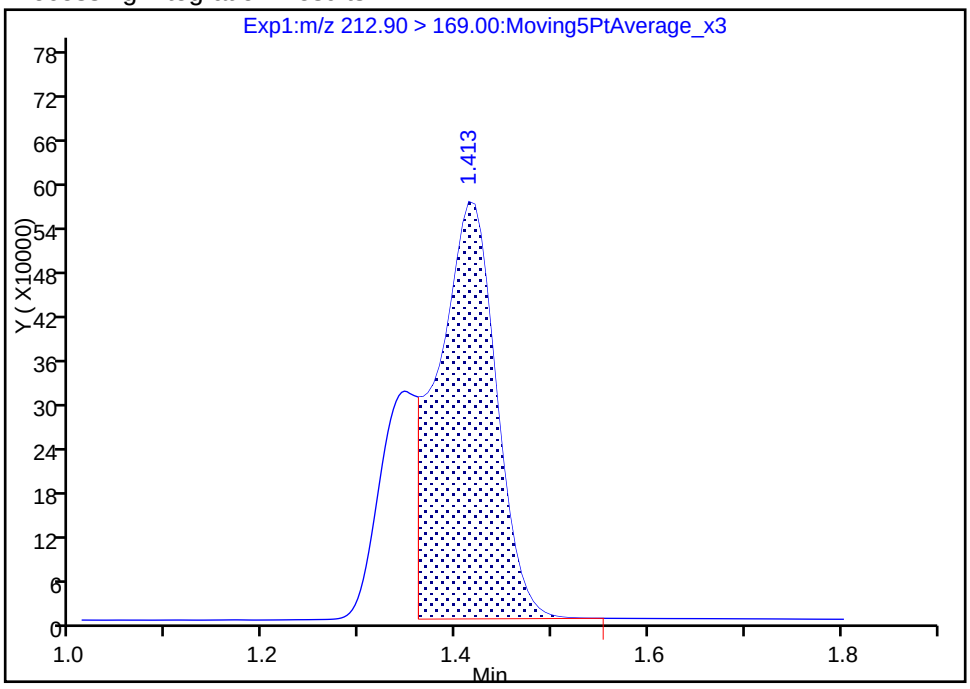
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_018.d				
Injection Date:	20-Dec-2017 06:46:09	Instrument ID:	A8_N		
Lims ID:	LCS 320-200330/2-A				
Client ID:					
Operator ID:	SACINSTLCMS01	ALS Bottle#:	11	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

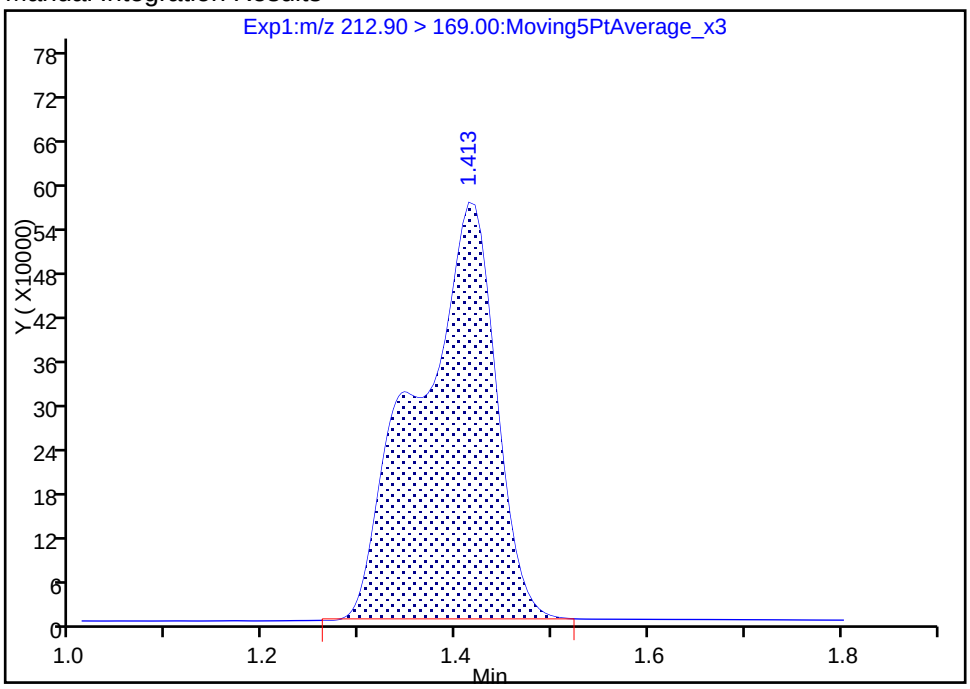
Processing Integration Results

RT: 1.41
Area: 2390502
Amount: 0.780055
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 3200894
Amount: 1.044498
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:46:23

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

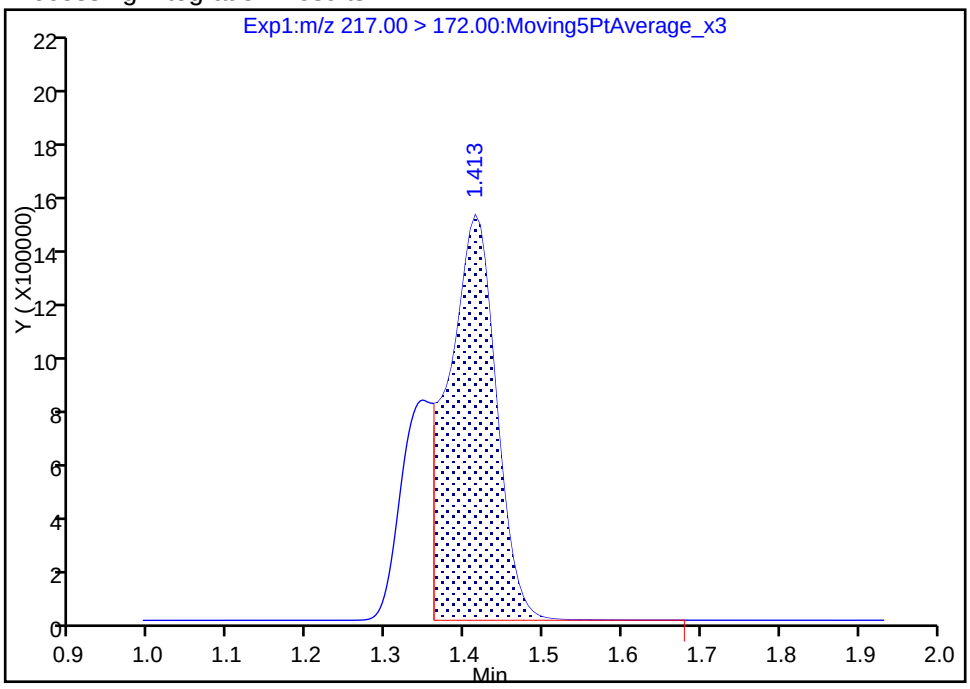
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_018.d
Injection Date: 20-Dec-2017 06:46:09 Instrument ID: A8_N
Lims ID: LCS 320-200330/2-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

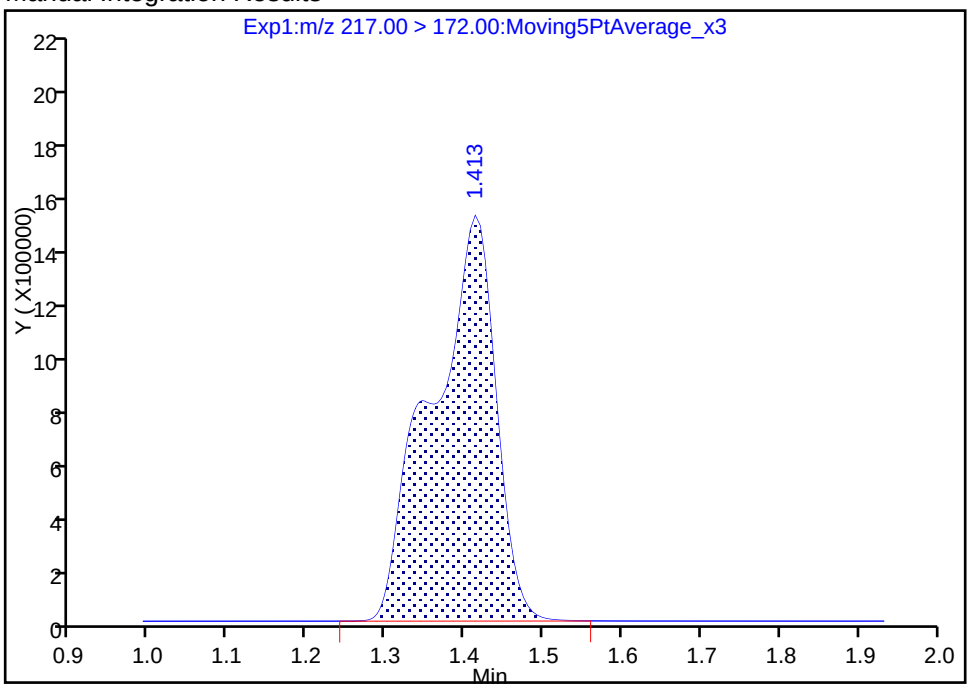
Processing Integration Results

RT: 1.41
Area: 6156738
Amount: 2.121282
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 8397520
Amount: 2.893335
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:46:04
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 320-200330/3-A

Matrix: Water | Lab File ID: 2017.12.19LLC_019.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 06:54

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	41.94		2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	38.06		2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	39.38		2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	38.47		2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	37.69		2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	40.28		2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	40.56		2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	36.76		2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	42.01		2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	40.47		2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	41.01		2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	38.22		2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	35.20		2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	36.41		2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	38.44		2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	39.93		2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	38.14		2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	38.62		20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	35.91		20.0	1.90
27619-97-2	6:2FTS	37.36		20.0	2.00
39108-34-4	8:2FTS	36.63		20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 320-200330/3-A

Matrix: Water | Lab File ID: 2017.12.19LLC_019.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:33

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/20/2017 06:54

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200662 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	115		25-150
STL01893	13C5 PFPeA	118		25-150
STL00993	13C2 PFHxA	115		25-150
STL01892	13C4-PFHpA	119		25-150
STL00990	13C4 PFOA	105		25-150
STL00995	13C5 PFNA	117		25-150
STL00996	13C2 PFDA	126		25-150
STL00997	13C2 PFUnA	118		25-150
STL00998	13C2 PFDoA	118		25-150
STL02116	13C2-PFTeDA	140		25-150
STL02337	13C3-PFBS	112		25-150
STL00994	18O2 PFHxS	113		25-150
STL00991	13C4 PFOS	114		25-150
STL01056	13C8 FOSA	109		25-150
STL02118	d3-NMeFOSAA	145		25-150
STL02117	d5-NEtFOSAA	135		25-150
STL02279	M2-6:2FTS	71		25-150
STL02280	M2-8:2FTS	175	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_019.d
Lims ID: LCSD 320-200330/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 20-Dec-2017 06:54:04 ALS Bottle#: 12 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-200330/3-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 14:50:01 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 14:48:30

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.535	8474027	2.88		115	30038	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.414	1.412	0.002	1.000	3242209	1.05		105	2892	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.661	1.664	-0.003	0.629	5123903	2.96		118	65167	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.661	1.664	-0.003	1.000	2155908	0.9516		95.2	1503	
D 47 13C3-PFBS										
301.90 > 83.00	1.697	1.699	-0.002	0.642	95155	2.60		112	3065	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.697	1.703	-0.006	1.000	2923543	0.9556		108	13149	
298.90 > 99.00	1.697	1.703	-0.006	1.000	1207697		2.42(1.25-3.74)		9945	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.912	1.909	0.003	1.000	679093	2.14		229	32060	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.943	1.949	-0.006	1.000	2079793	0.9846		98.5	6368	
313.00 > 119.00	1.943	1.949	-0.006	1.000	190773		10.90(5.03-15.10)		3456	
D 7 13C2 PFHxA										
315.00 > 270.00	1.943	1.949	-0.006	0.735	5281701	2.87		115	51131	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.278	2.286	-0.008	1.000	2026684	0.9616		96.2	3576	
363.00 > 169.00	2.278	2.286	-0.008	1.000	833783		2.43(1.13-3.40)		8833	
D 9 13C4-PFHpA										
367.00 > 322.00	2.278	2.286	-0.008	0.862	5117348	2.98		119	36183	
D 11 18O2 PFHxS										
403.00 > 84.00	2.291	2.299	-0.008	0.867	5707229	2.68		113	50674	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.291	2.299	-0.008	1.000	2308184	0.8800		96.7	5816	
399.00 > 99.00	2.291	2.299	-0.008	1.000	777780		2.97(1.50-4.49)		3843	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.614	2.640	-0.026	1.000	755523	0.9340		98.5	24421	
D 12 M2-6:2FTS										
429.00 > 81.00	2.614	2.640	-0.026	0.989	1198877	1.68		70.7	23746	
* 62 13C2-PFOA										
415.00 > 370.00	2.643	2.643	0.0		4990603	2.50			57547	
D 14 13C4 PFOA										
417.00 > 372.00	2.643	2.647	-0.004	1.000	5426453	2.63		105	49434	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.643	2.649	-0.006	1.000	2158473	0.9423		94.2	953	
413.00 > 169.00	2.643	2.649	-0.006	1.000	1114787		1.94(0.84-2.52)		8521	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.650	2.654	-0.004	1.000	2047711	0.9103		95.6	18811	
449.00 > 99.00	2.650	2.654	-0.004	1.000	559980		3.66(1.94-5.82)		14317	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.015	3.025	-0.010	1.000	1597869	0.9611		104	287	
499.00 > 99.00	3.015	3.025	-0.010	1.000	345649		4.62(2.31-6.93)		417	
D 18 13C4 PFOS										
503.00 > 80.00	3.015	3.025	-0.010	1.141	3736909	2.73		114	28836	
20 Perfluorononanoic acid										
463.00 > 419.00	3.015	3.026	-0.011	1.000	1589698	1.01		101	2373	
463.00 > 169.00	3.015	3.026	-0.011	1.000	395775		4.02(1.90-5.69)		9699	
D 19 13C5 PFNA										
468.00 > 423.00	3.015	3.026	-0.011	1.141	4072819	2.94		117	47548	
D 21 13C8 FOSA										
506.00 > 78.00	3.361	3.362	-0.001	1.272	5251476	2.71		109	25362	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.361	3.365	-0.004	1.000	1893494	0.9534		95.3	18769	
D 26 M2-8:2FTS										
529.00 > 81.00	3.368	3.375	-0.007	1.275	1273185	4.18		175	18243	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.368	3.376	-0.008	1.000	591891	0.9157		95.6	15221	
D 23 13C2 PFDA										
515.00 > 470.00	3.376	3.387	-0.011	1.278	3500973	3.15		126	45145	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.384	3.388	-0.004	1.002	1405698	1.01		101	6883	
513.00 > 169.00	3.384	3.388	-0.004	1.002	243492		5.77(2.36-7.09)		2504	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.535	3.541	-0.006	1.338	1854210	3.62		145	21554	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.535	3.547	-0.012	1.000	738022	0.9654		96.5	5678	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.686	3.701	-0.015	1.000	914587	1.00		104	15172	
599.00 > 99.00	3.686	3.701	-0.015	1.000	319482		2.86(1.39-4.16)		6012	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.703	3.711	-0.008	1.401	1781145	3.38		135	9624	
D 30 13C2 PFUnA										
565.00 > 520.00	3.703	3.717	-0.014	1.401	2514332	2.94		118	46793	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.703	3.718	-0.015	1.000	836170	0.9190		91.9	4272	
563.00 > 169.00	3.711	3.718	-0.007	1.002	184365		4.54(0.00-0.00)		8302	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.703	3.718	-0.015	1.000	623194	0.8976		89.8	8155	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.851	3.856	-0.005	1.457	958433	1.68		67.2	1981	
35 MeFOSA										
512.00 > 169.00	3.862	3.863	-0.001	1.003	374194	0.99		99.4	1763	
D 36 13C2 PFDoA										
615.00 > 570.00	4.002	4.015	-0.013	1.514	2676878	2.94		118	26750	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.002	4.016	-0.014	1.000	1079883	1.05		105	3508	
613.00 > 169.00	4.002	4.016	-0.014	1.000	270921		3.99(2.13-6.40)		9600	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.041	4.048	-0.007	1.529	650104	1.21		48.4	1364	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.049	4.054	-0.005	1.002	266663	0.9731		97.3	1236	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.268	4.285	-0.017	1.000	1241539	1.01		101	3931	
663.00 > 169.00	4.268	4.285	-0.017	1.000	367824		3.38(1.25-3.76)		9495	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.505	4.522	-0.017	1.705	3502160	3.51		140	27793	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.505	4.522	-0.017	1.000	363293	1.03		103	10536	
713.00 > 219.00	4.505	4.522	-0.017	1.000	240395		1.51(0.71-2.13)		7019	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.925	4.944	-0.019	1.864	5118489	2.81		112	14675	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.934	4.945	-0.011	1.002	2013014	1.11		111	972	
813.00 > 169.00	4.925	4.945	-0.020	1.000	347069		5.80(2.86-8.58)		5062	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.291	5.309	-0.018	1.000	2362038	1.04		104	509	
913.00 > 169.00	5.291	5.309	-0.018	1.000	291205		8.11(0.00-0.00)		1561	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 14:50:09 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_019.d

Injection Date: 20-Dec-2017 06:54:04 Instrument ID: A8_N

Lims ID: LCSD 320-200330/3-A

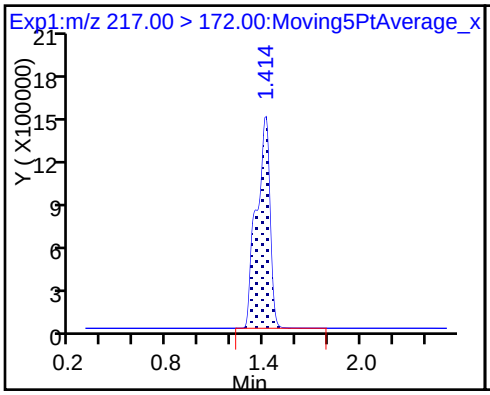
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 12 Worklist Smp#: 4

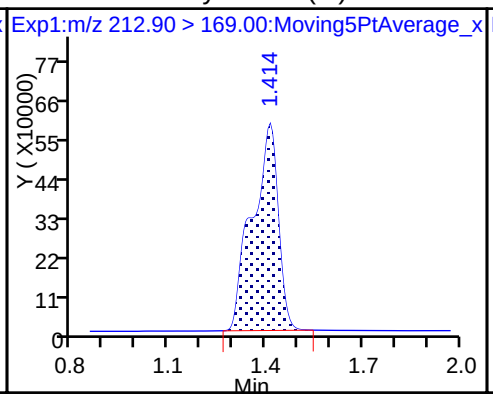
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

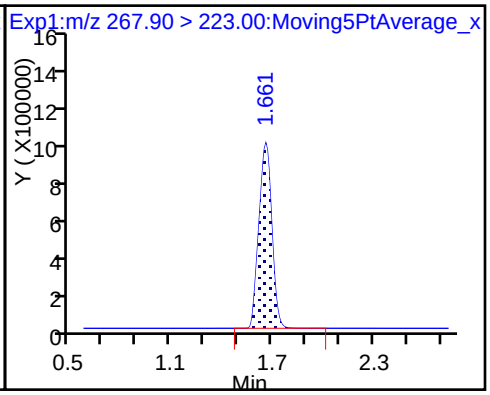
D 1 13C4 PFBA



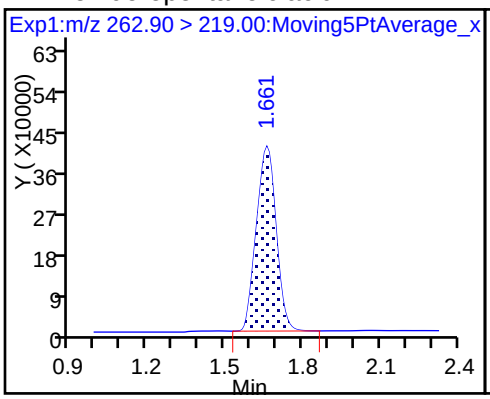
2 Perfluorobutyric acid (M)



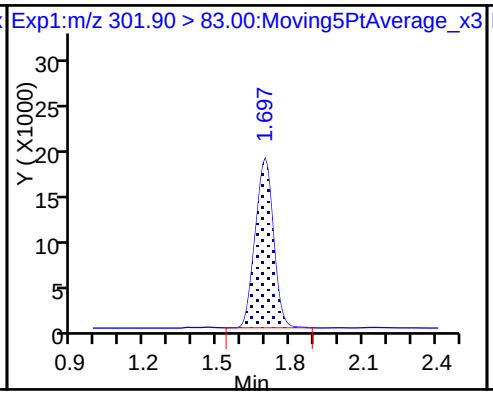
D 3 13C5-PFPeA



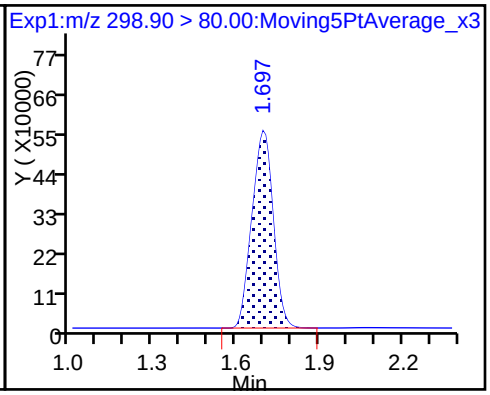
4 Perfluoropentanoic acid



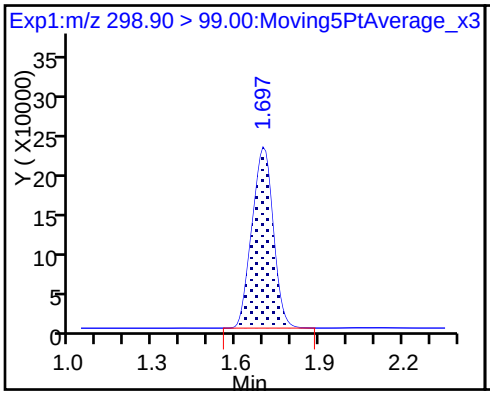
D 47 13C3-PFBS



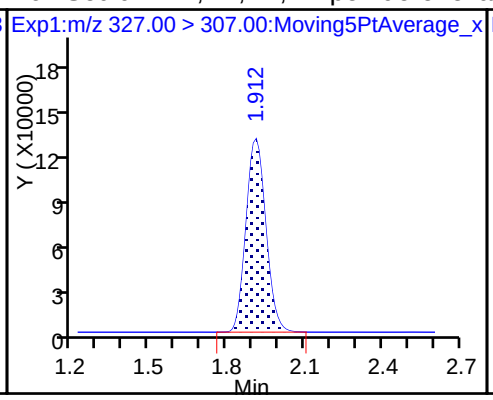
5 Perfluorobutanesulfonic acid



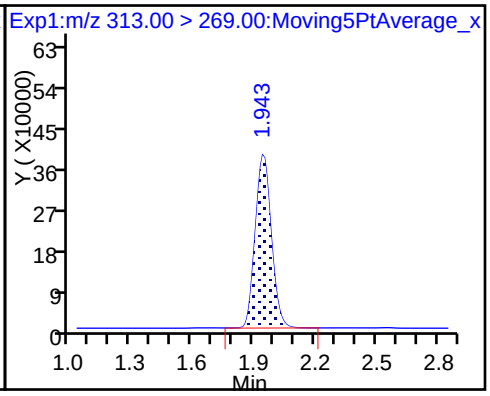
5 Perfluorobutanesulfonic acid



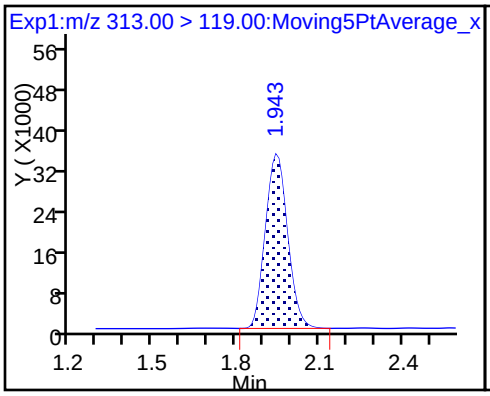
61 Sodium 1H,1H,2H,2H-perfluorohexane



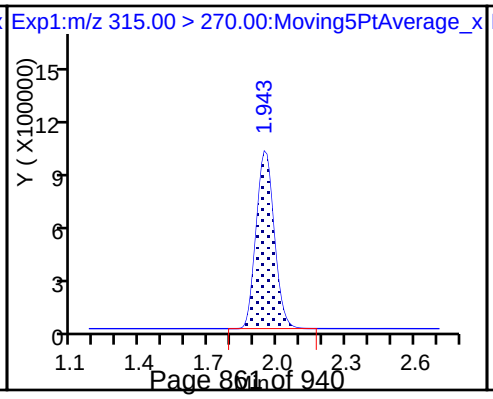
6 Perfluorohexanoic acid



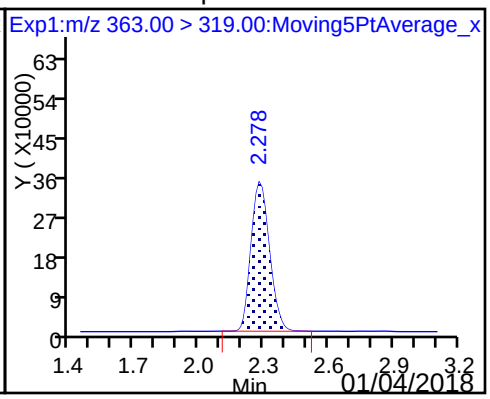
6 Perfluorohexanoic acid



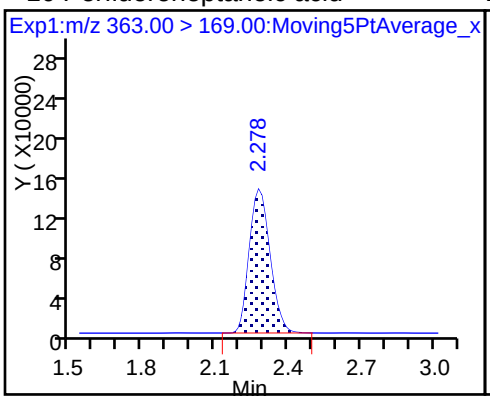
D 7 13C2 PFHxA



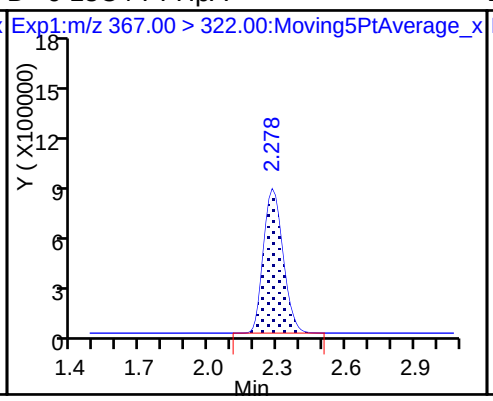
10 Perfluoroheptanoic acid



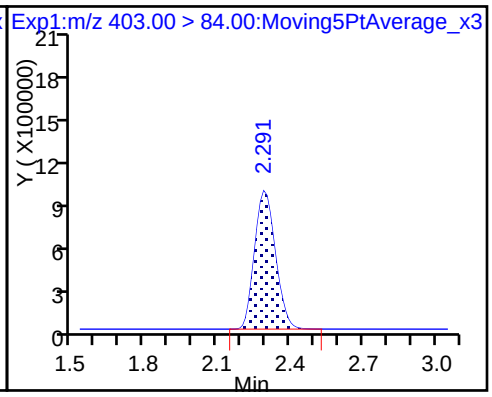
10 Perfluoroheptanoic acid



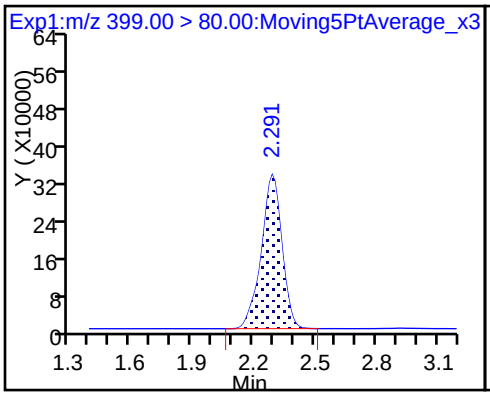
D 9 13C4-PFHpA



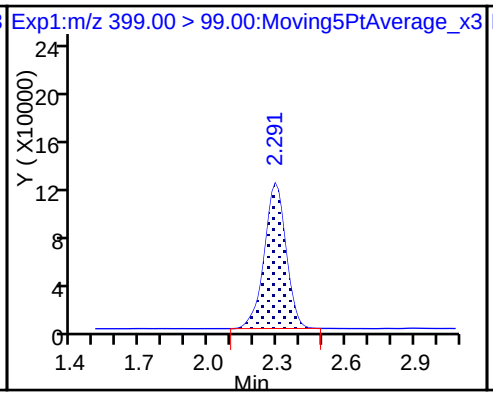
D 11 18O2 PFHxS



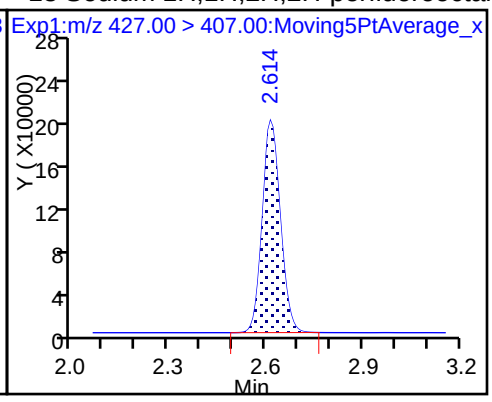
8 Perfluorohexanesulfonic acid



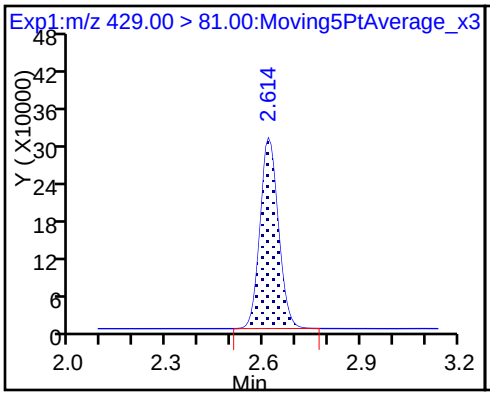
8 Perfluorohexanesulfonic acid



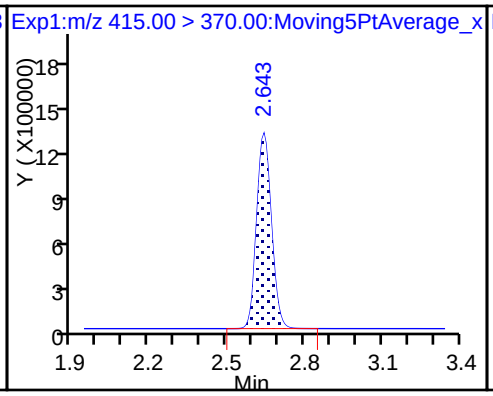
13 Sodium 1H,1H,2H,2H-perfluorooctane



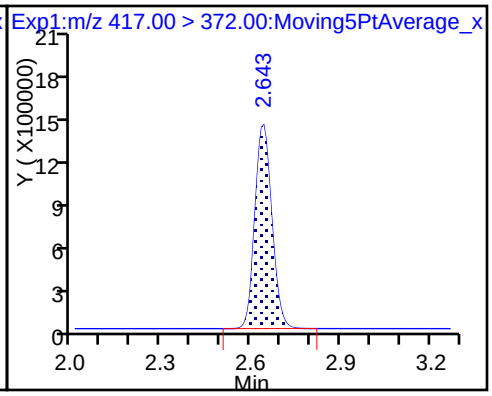
D 12 M2-6:2FTS



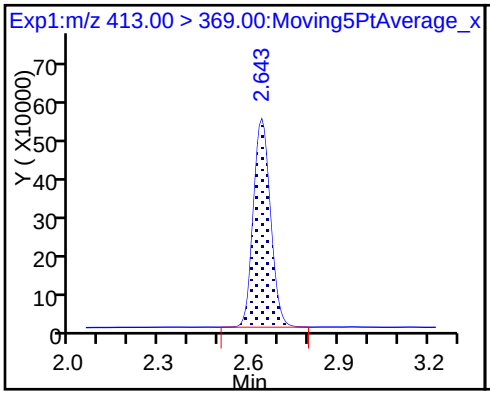
* 62 13C2-PFOA



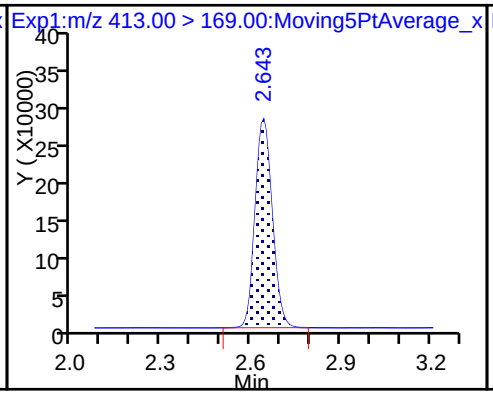
D 14 13C4 PFOA



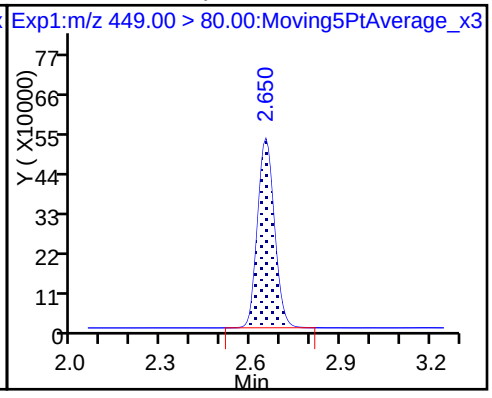
15 Perfluorooctanoic acid



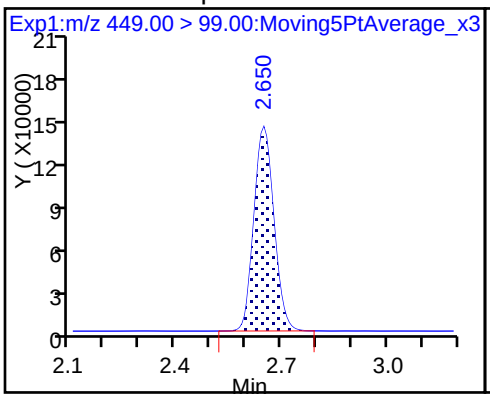
15 Perfluorooctanoic acid



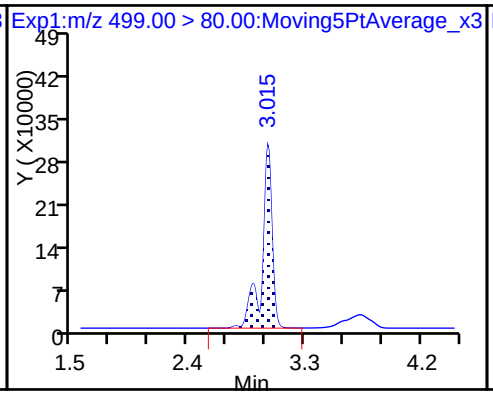
16 Perfluoroheptanesulfonic Acid



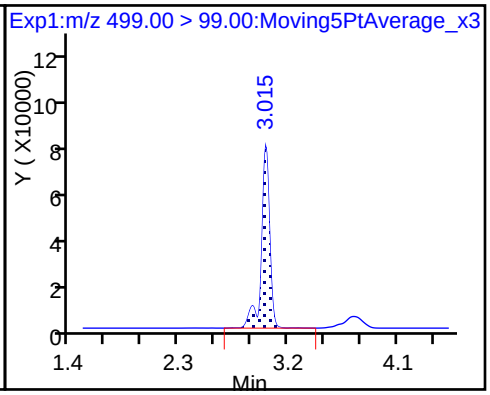
16 Perfluoroheptanesulfonic Acid



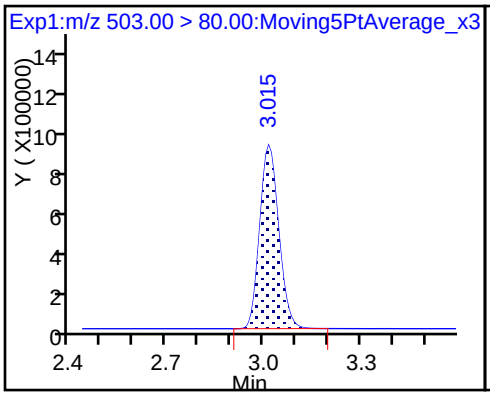
17 Perfluorooctane sulfonic acid



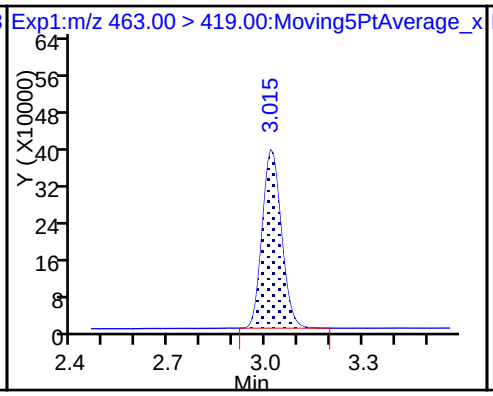
17 Perfluorooctane sulfonic acid



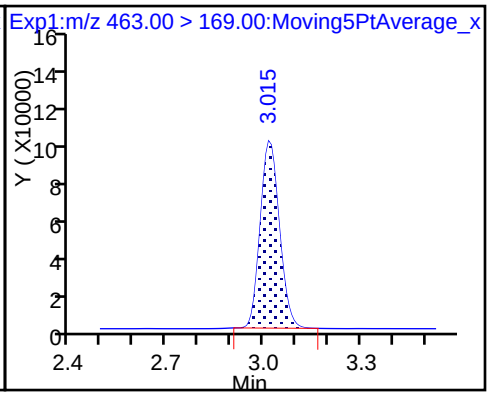
D 18 13C4 PFOS



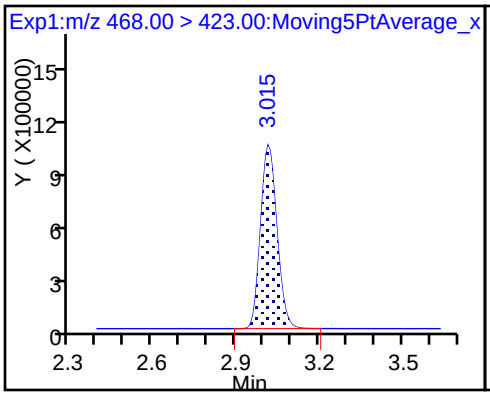
20 Perfluorononanoic acid



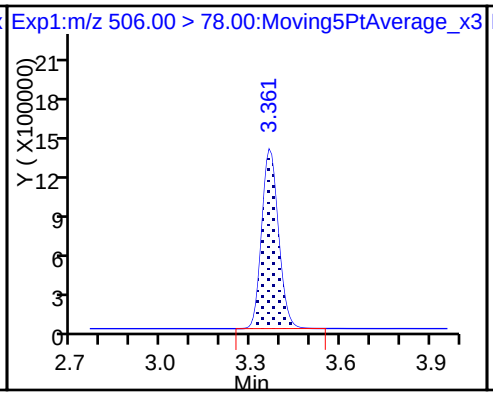
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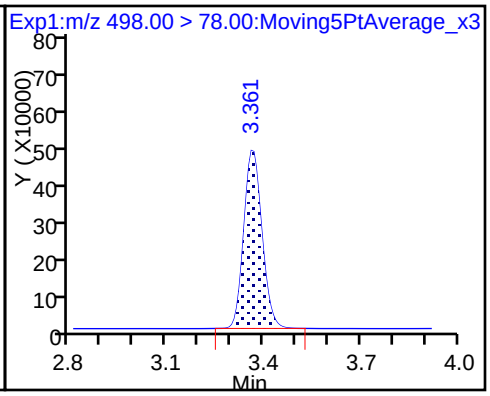
D 19 13C5 PFNA



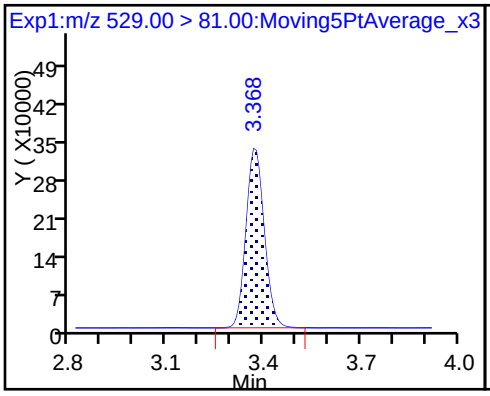
D 21 13C8 FOSA



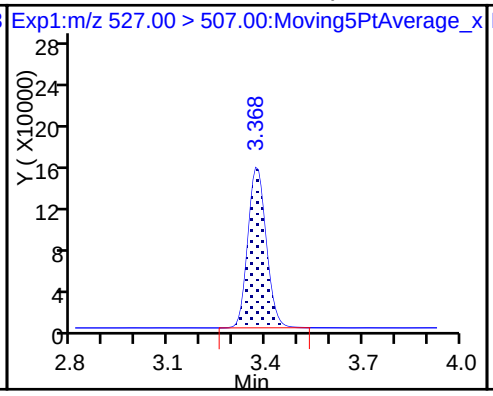
22 Perfluorooctane Sulfonamide



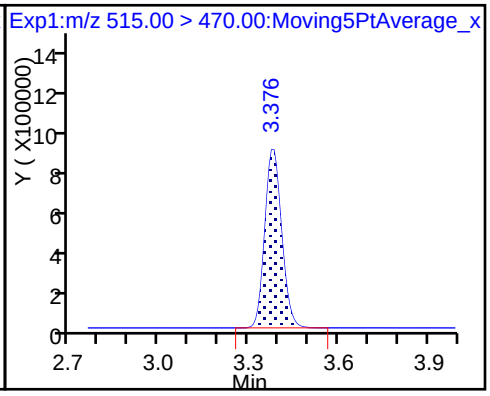
D 26 M2-8:2FTS



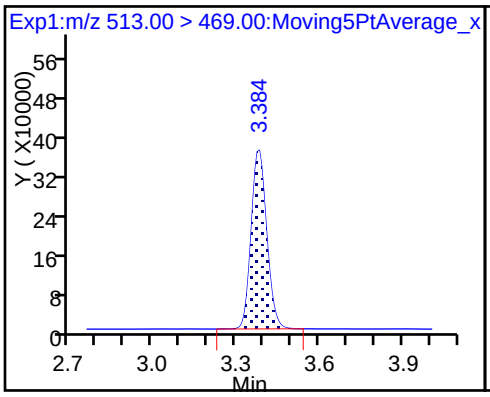
25 Sodium 1H,1H,2H,2H-perfluorodecane



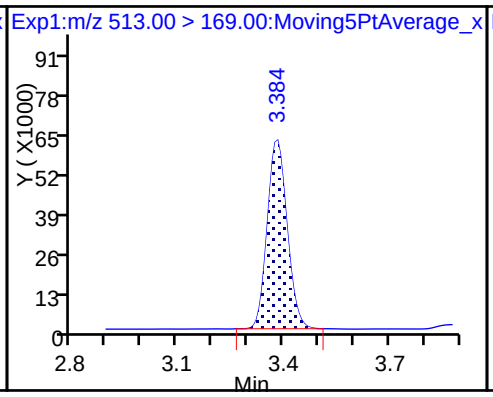
D 23 13C2 PFDA



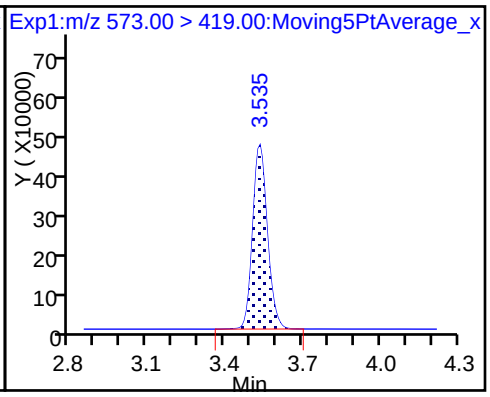
24 Perfluorodecanoic acid



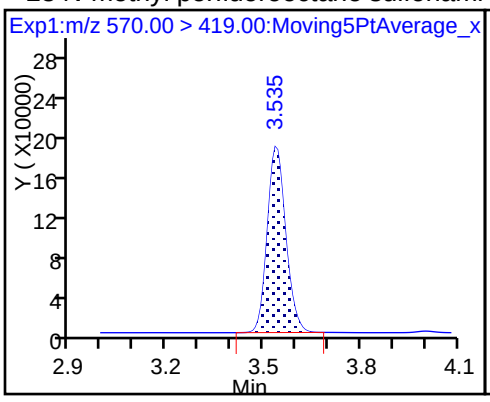
24 Perfluorodecanoic acid



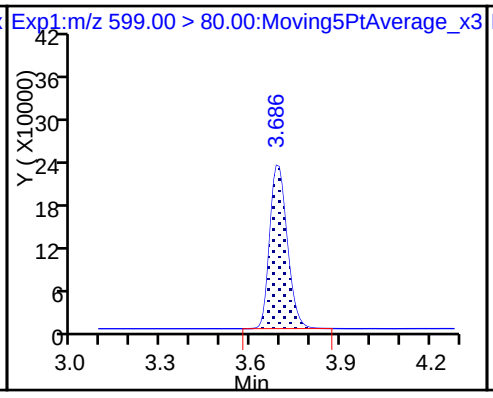
D 27 d3-NMeFOSAA



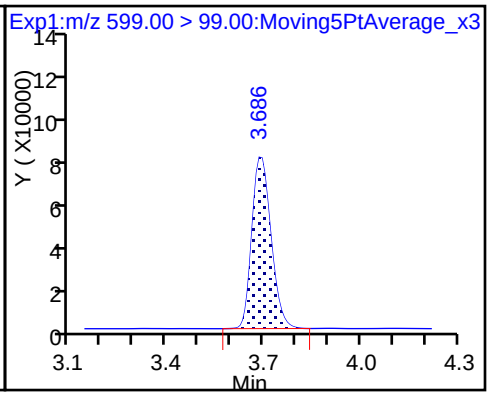
28 N-methyl perfluorooctane sulfonami



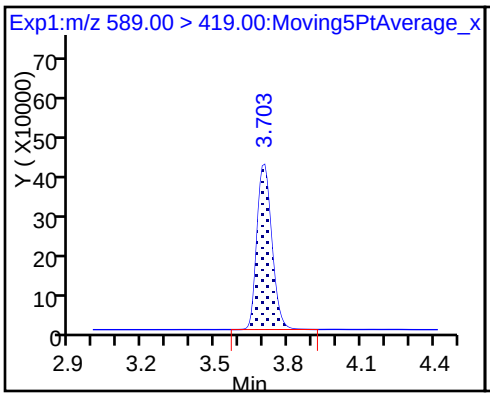
29 Perfluorodecane Sulfonic acid



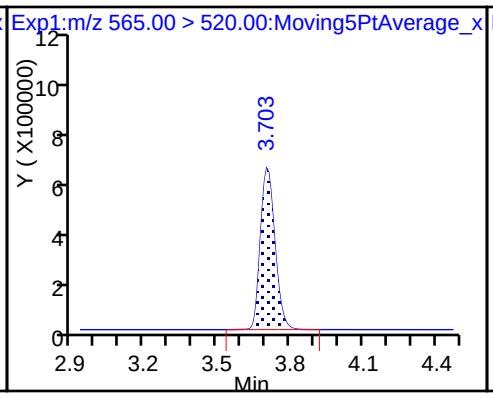
29 Perfluorodecane Sulfonic acid



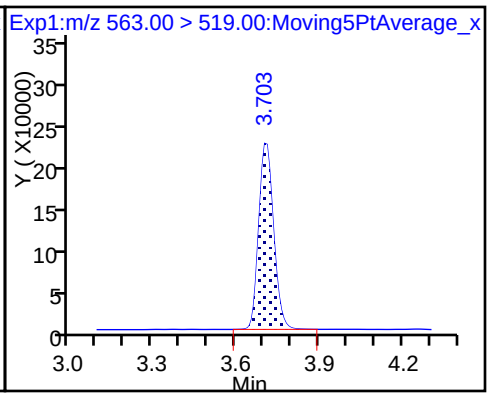
D 32 d5-NEtFOSAA



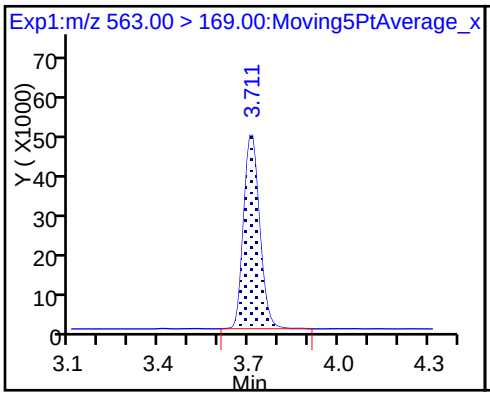
D 30 13C2 PFUnA



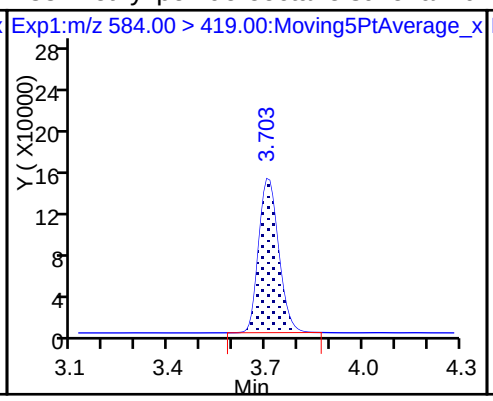
31 Perfluoroundecanoic acid



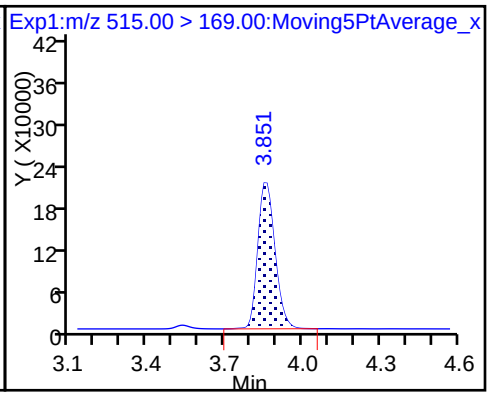
31 Perfluoroundecanoic acid



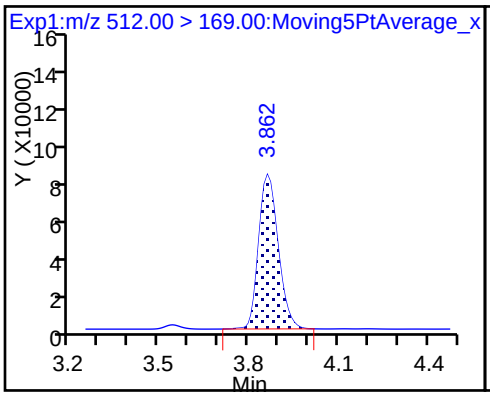
33 N-ethyl perfluorooctane sulfonamid



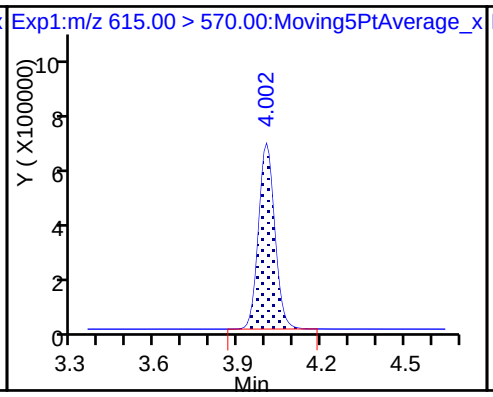
D 34 d-N-MeFOSA-M



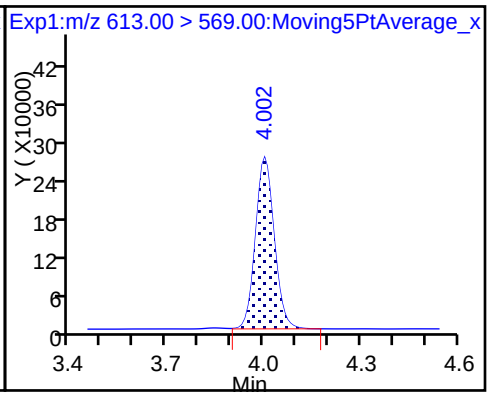
35 MeFOSA



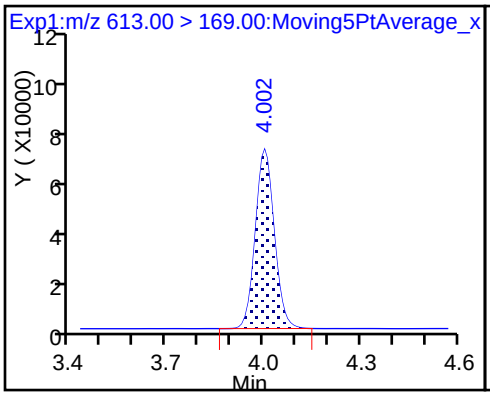
D 36 13C2 PFDoA



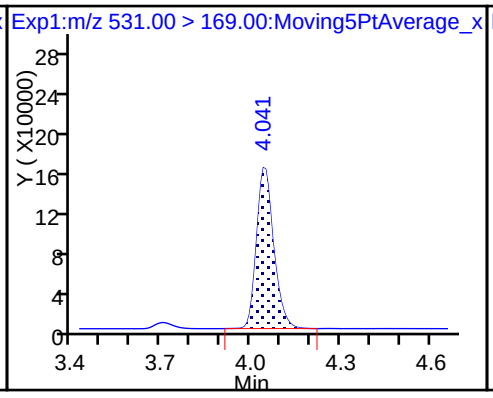
37 Perfluorododecanoic acid



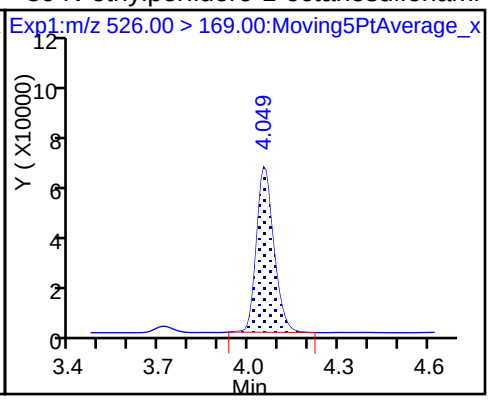
37 Perfluorododecanoic acid



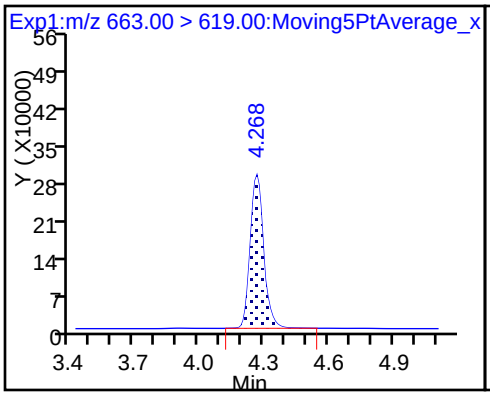
D 38 d-N-EtFOSA-M



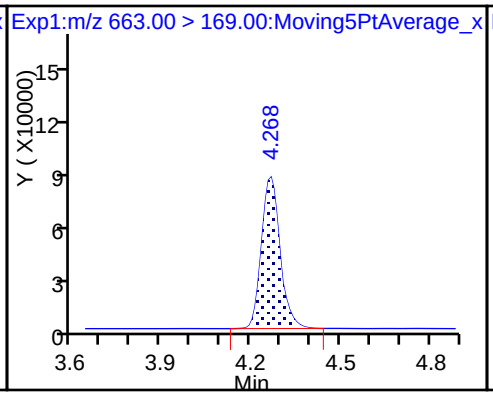
39 N-ethylperfluoro-1-octanesulfonami



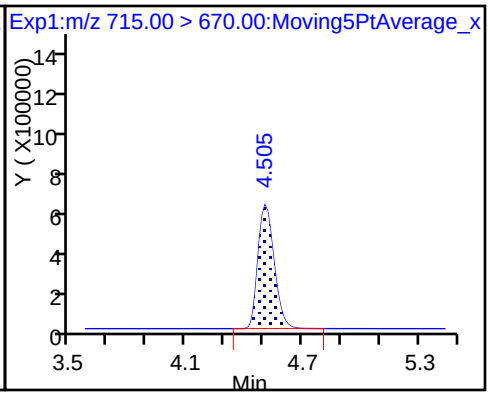
41 Perfluorotridecanoic acid



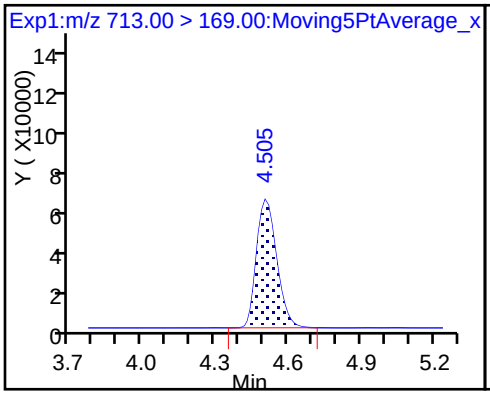
41 Perfluorotridecanoic acid



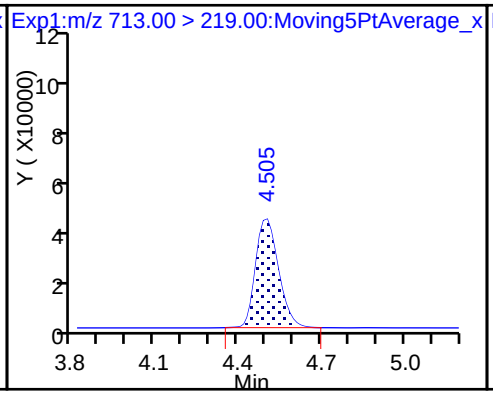
D 43 13C2-PFTeDA



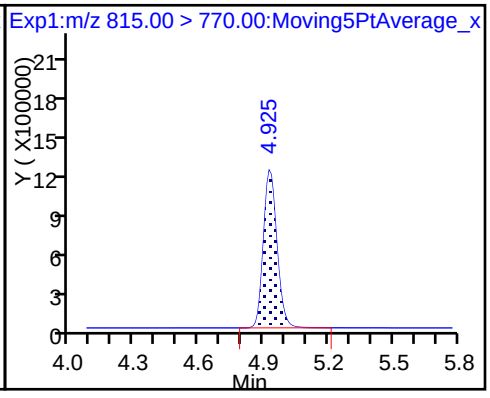
42 Perfluorotetradecanoic acid



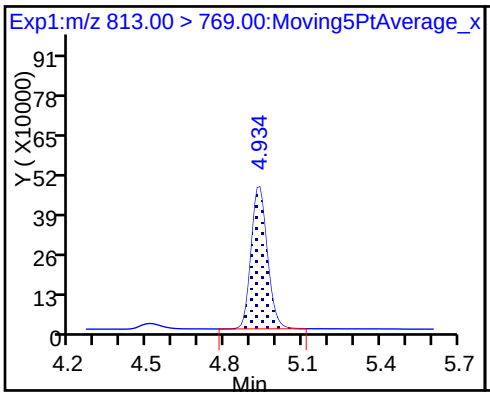
42 Perfluorotetradecanoic acid



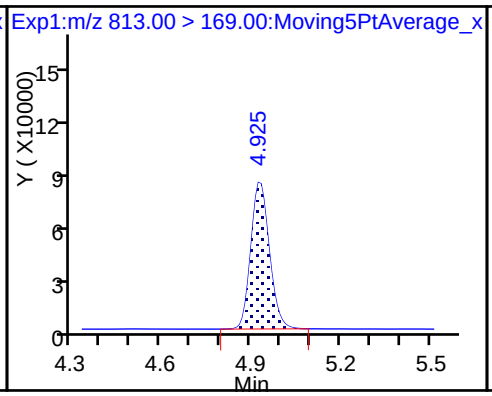
D 44 13C2-PFHxDA



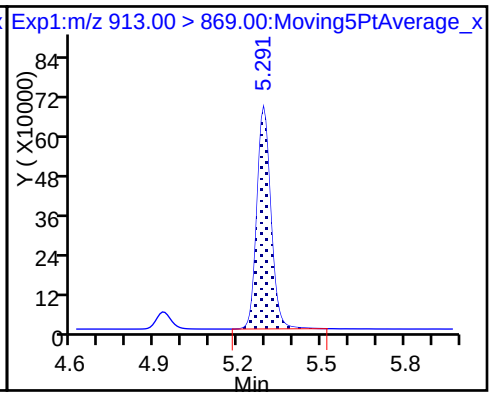
45 Perfluorohexadecanoic acid



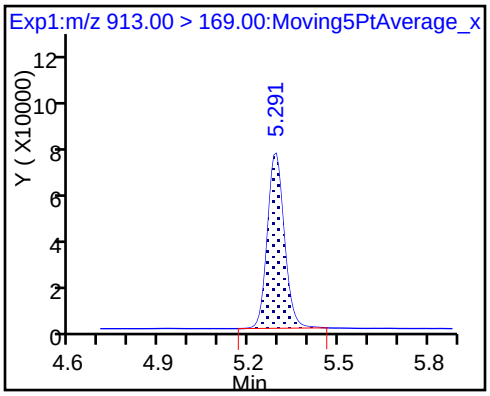
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

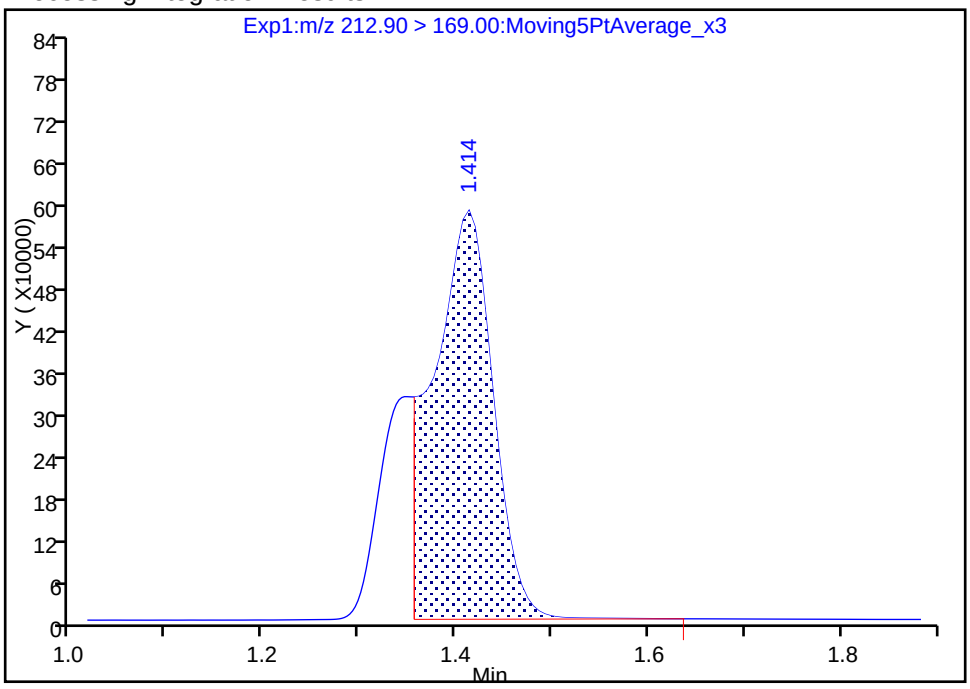
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b\2017.12.19LLC_019.d
Injection Date: 20-Dec-2017 06:54:04 Instrument ID: A8_N
Lims ID: LCSD 320-200330/3-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 12 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

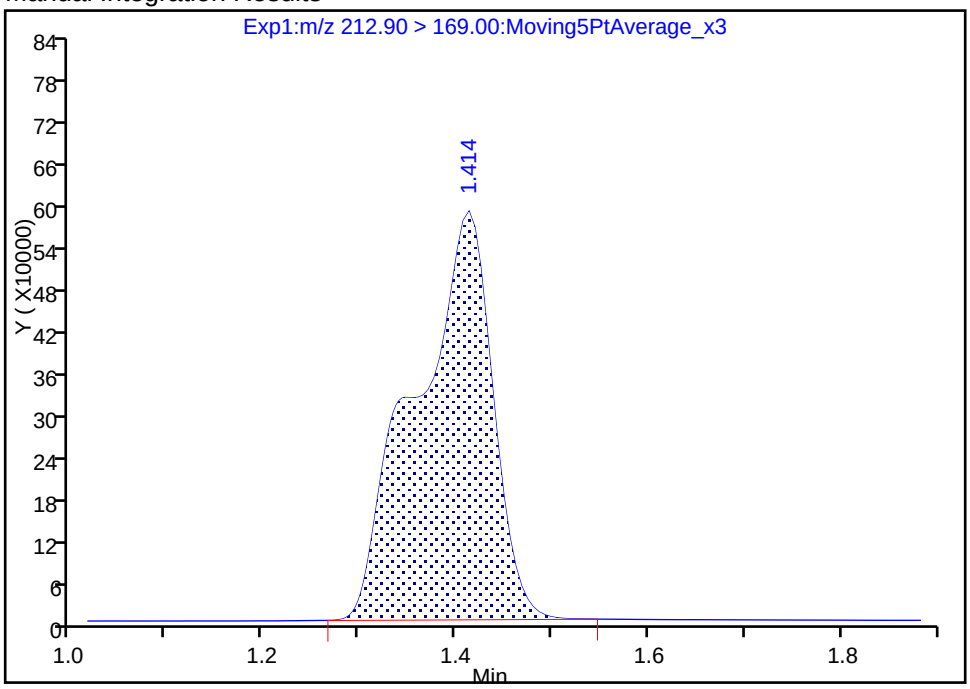
Processing Integration Results

RT: 1.41
Area: 2481728
Amount: 0.802512
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 3242209
Amount: 1.048428
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 14:47:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-LN001-A MS | Lab Sample ID: 320-34182-3 MS

Matrix: Water | Lab File ID: 2017.12.19LLC_029.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 09:45

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 249.8(mL) | Date Analyzed: 12/20/2017 08:12

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	53.02		2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	45.09		2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	55.30		2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	48.61		2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	52.35		2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	43.26		2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	41.73		2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	37.22		2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	43.27		2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	42.99		2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	39.12		2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	39.25		2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	40.96		2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	36.58		2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	48.57		2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	38.30		2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	42.44		2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	39.63		20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	38.91		20.0	1.90
27619-97-2	6:2FTS	39.53		20.0	2.00
39108-34-4	8:2FTS	39.30		20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-LN001-A MS | Lab Sample ID: 320-34182-3 MS

Matrix: Water | Lab File ID: 2017.12.19LLC_029.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 09:45

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 249.8(mL) | Date Analyzed: 12/20/2017 08:12

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	62		25-150
STL01893	13C5 PFPeA	102		25-150
STL00993	13C2 PFHxA	97		25-150
STL01892	13C4-PFHpA	110		25-150
STL00990	13C4 PFOA	107		25-150
STL00995	13C5 PFNA	114		25-150
STL00996	13C2 PFDA	121		25-150
STL00997	13C2 PFUnA	112		25-150
STL00998	13C2 PFDoA	108		25-150
STL02116	13C2-PFTeDA	117		25-150
STL02337	13C3-PFBS	109		25-150
STL00994	18O2 PFHxS	114		25-150
STL00991	13C4 PFOS	116		25-150
STL01056	13C8 FOSA	104		25-150
STL02118	d3-NMeFOSAA	136		25-150
STL02117	d5-NEtFOSAA	127		25-150
STL02279	M2-6:2FTS	85		25-150
STL02280	M2-8:2FTS	185	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_029.d
Lims ID: 320-34182-A-3-B MS
Client ID: FW-LN001-A
Sample Type: MS
Inject. Date: 20-Dec-2017 08:12:54 ALS Bottle#: 20 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-3-b ms
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:29:55

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.408	1.411	-0.003	0.534	4838852	1.54		61.7	19423	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.414	1.412	0.002	1.004	2338880	1.32		132	103	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.664	1.664	0.0	0.631	4724462	2.56		102	34301	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.664	1.664	0.0	1.000	2353043	1.13		113	127	M
D 47 13C3-PFBS										M
301.90 > 83.00	1.690	1.699	-0.009	0.641	98558	2.52		109	566	M
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.699	1.703	-0.004	1.005	3106661	0.9804		111	319	M
298.90 > 99.00	1.699	1.703	-0.004	1.005	1299695		2.39(1.25-3.74)		769	M
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.904	1.909	-0.005	1.000	1392378	3.41		365	28838	
D 60 M2-4:2FTS										
329.00 > 81.00	1.914	1.924	-0.010	0.726	14247	0.0698		0.0	66.8	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.945	1.949	-0.004	1.000	2626203	1.38		138	535	M
313.00 > 119.00	1.945	1.949	-0.004	1.000	253459		10.36(5.03-15.10)		1556	
D 7 13C2 PFHxA										
315.00 > 270.00	1.945	1.949	-0.004	0.738	4753734	2.43		97.0	40101	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.280	2.286	-0.006	1.000	2515498	1.21		121	1281	
363.00 > 169.00	2.280	2.286	-0.006	1.000	944498		2.66(1.13-3.40)		5822	
D 9 13C4-PFHpA										
367.00 > 322.00	2.280	2.286	-0.006	0.864	5029774	2.75		110	47496	
D 11 18O2 PFHxS										
403.00 > 84.00	2.293	2.299	-0.006	0.869	6102770	2.69		114	45164	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.293	2.299	-0.006	1.000	2869454	1.02		112	1015	
399.00 > 99.00	2.293	2.299	-0.006	1.000	971148		2.95(1.50-4.49)		936	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.616	2.640	-0.024	1.000	1028324	0.9874		104	33196	
D 12 M2-6:2FTS										
429.00 > 81.00	2.616	2.640	-0.024	0.992	1543502	2.03		85.4	7465	
* 62 13C2-PFOA										
415.00 > 370.00	2.638	2.643	-0.005		5319800	2.50			46359	
D 14 13C4 PFOA										
417.00 > 372.00	2.638	2.647	-0.009	1.000	5882268	2.67		107	62340	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.645	2.649	-0.004	1.003	3247162	1.31		131	1557	
413.00 > 169.00	2.645	2.649	-0.004	1.003	1755662		1.85(0.84-2.52)		9187	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.652	2.654	-0.002	1.000	2215517	0.9137		96.0	6267	
449.00 > 99.00	2.652	2.654	-0.002	1.000	592197		3.74(1.94-5.82)		3204	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.017	3.025	-0.008	1.000	2174455	1.21		131	356	
499.00 > 99.00	3.017	3.025	-0.008	1.000	457577		4.75(2.31-6.93)		461	
D 18 13C4 PFOS										
503.00 > 80.00	3.017	3.025	-0.008	1.144	4028164	2.76		116	16994	
20 Perfluorononanoic acid										
463.00 > 419.00	3.017	3.026	-0.009	1.000	1768672	1.08		108	1920	
463.00 > 169.00	3.017	3.026	-0.009	1.000	423874		4.17(1.90-5.69)		3593	
D 19 13C5 PFNA										
468.00 > 423.00	3.017	3.026	-0.009	1.144	4222520	2.86		114	45742	
D 21 13C8 FOSA										
506.00 > 78.00	3.364	3.362	0.002	1.275	5363890	2.60		104	35028	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.364	3.365	-0.001	1.000	2150710	1.06		106	11630	
D 26 M2-8:2FTS										
529.00 > 81.00	3.371	3.375	-0.004	1.278	1437438	4.43		185	12464	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.371	3.376	-0.005	1.000	716465	0.9818		102	20624	
D 23 13C2 PFDA										
515.00 > 470.00	3.379	3.387	-0.008	1.281	3578792	3.02		121	44263	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.379	3.388	-0.009	1.000	1477092	1.04		104	5305	
513.00 > 169.00	3.379	3.388	-0.009	1.000	257854		5.73(2.36-7.09)		2653	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.531	3.541	-0.010	1.338	1858745	3.41		136	19020	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.538	3.547	-0.009	1.002	758719	0.99		99.0	4633	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.701	-0.011	1.000	944921	0.9568		99.2	14728	
599.00 > 99.00	3.690	3.701	-0.011	1.000	324197		2.91(1.39-4.16)		6734	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.698	3.711	-0.013	1.402	1791376	3.19		127	11037	
D 30 13C2 PFUnA										
565.00 > 520.00	3.707	3.717	-0.010	1.405	2559608	2.81		112	32475	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.707	3.718	-0.011	1.000	861291	0.9298		93.0	3835	
563.00 > 169.00	3.707	3.718	-0.011	1.000	212270		4.06(0.00-0.00)		6546	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.707	3.718	-0.011	1.002	678604	0.9719		97.2	3108	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.855	3.856	-0.001	1.462	715826	1.18		47.1	1711	
35 MeFOSA										
512.00 > 169.00	3.855	3.863	-0.008	1.000	291998	1.04		104	1417	
D 36 13C2 PFDoA										
615.00 > 570.00	3.998	4.015	-0.017	1.516	2608502	2.69		108	30641	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.006	4.016	-0.010	1.002	1082961	1.08		108	3820	
613.00 > 169.00	3.998	4.016	-0.018	1.000	280794		3.86(2.13-6.40)		9935	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.045	4.048	-0.003	1.533	566800	0.9892		39.6	1195	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.053	4.054	-0.001	1.002	250215	1.05		105	1234	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.262	4.285	-0.023	1.000	1284280	1.07		107	3558	
663.00 > 169.00	4.262	4.285	-0.023	1.000	402220		3.19(1.25-3.76)		13141	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.522	-0.008	1.711	3109452	2.92		117	26649	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.522	-0.008	1.000	307457	0.9772		97.7	13222	
713.00 > 219.00	4.501	4.522	-0.021	0.997	225645		1.36(0.71-2.13)		7916	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.931	4.944	-0.013	1.870	5257516	2.70		108	15596	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.931	4.945	-0.014	1.000	1972356	1.05		105	1033	
813.00 > 169.00	4.931	4.945	-0.014	1.000	357057		5.52(2.86-8.58)		5933	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.289	5.309	-0.020	1.000	2466203	1.05		105	559	
913.00 > 169.00	5.289	5.309	-0.020	1.000	305030		8.09(0.00-0.00)		1830	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:13 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_029.d

Injection Date: 20-Dec-2017 08:12:54 Instrument ID: A8_N

Lims ID: 320-34182-A-3-B MS

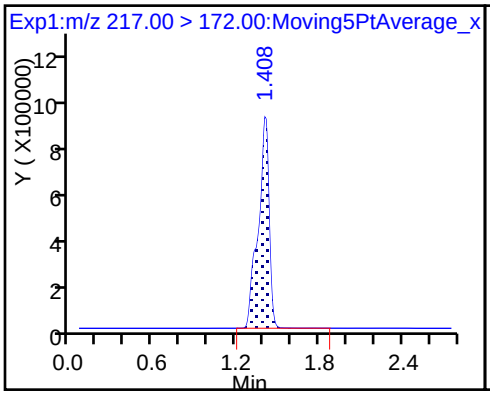
Client ID: FW-LN001-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 20 Worklist Smp#: 7

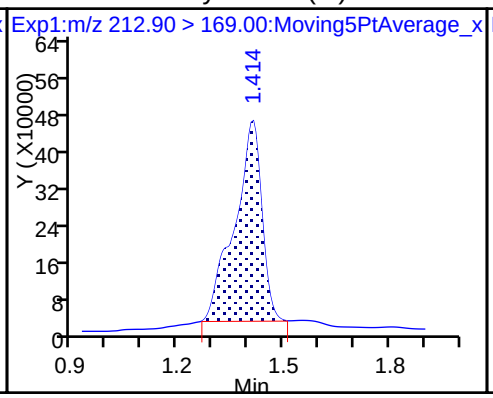
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

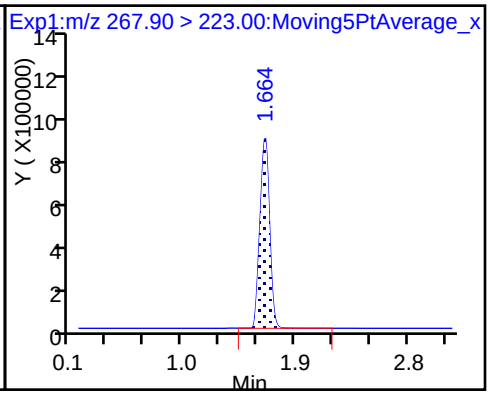
D 1 13C4 PFBA



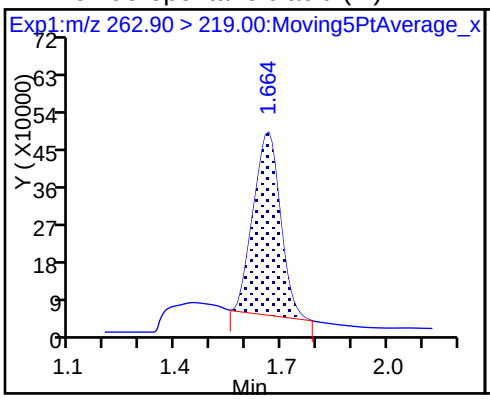
2 Perfluorobutyric acid (M)



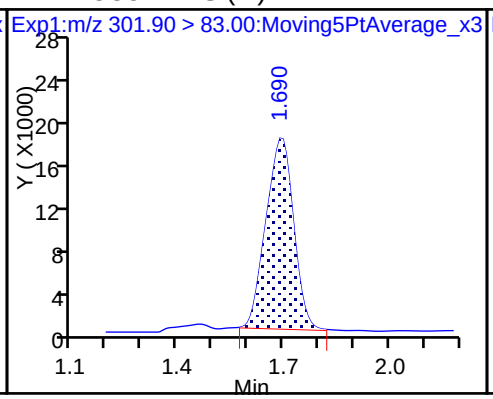
D 3 13C5-PFPeA



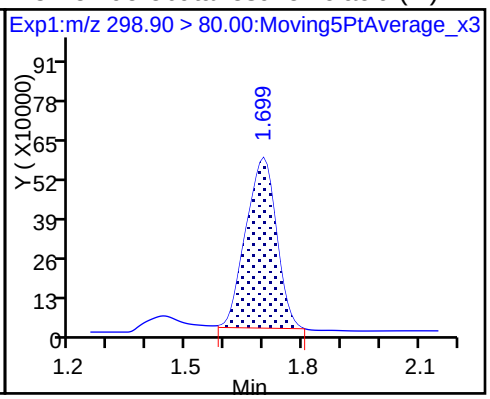
4 Perfluoropentanoic acid (M)



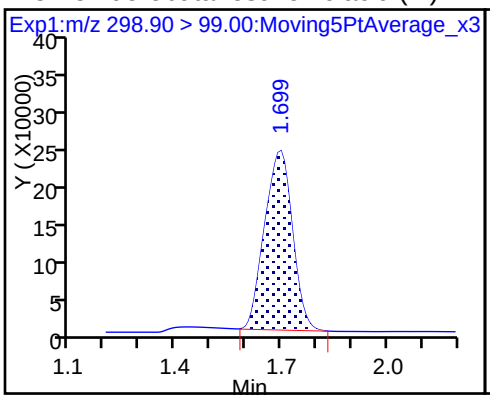
D 47 13C3-PFBS (M)



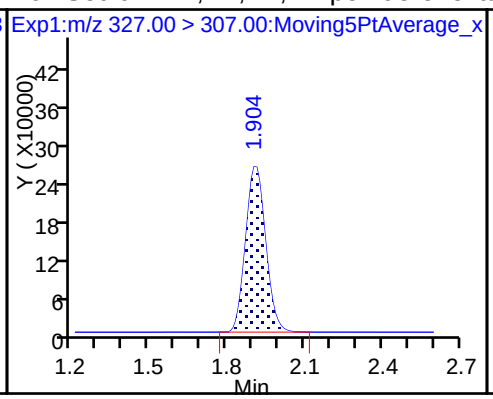
5 Perfluorobutanesulfonic acid (M)



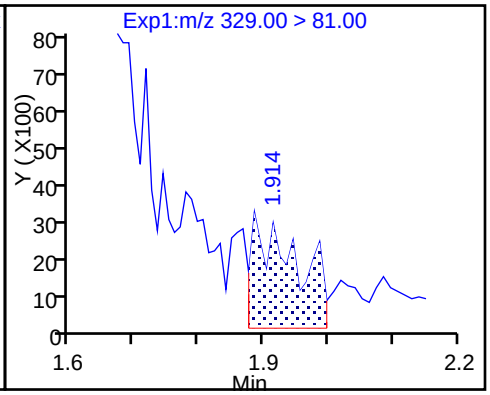
5 Perfluorobutanesulfonic acid (M)



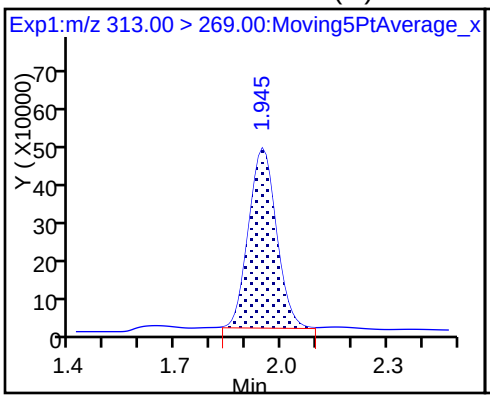
61 Sodium 1H,1H,2H,2H-perfluorohexane



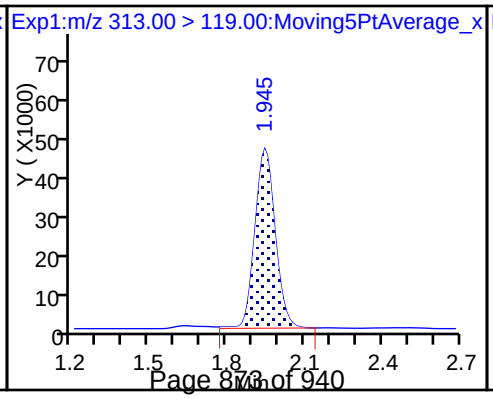
D 60 M2-4:2FTS



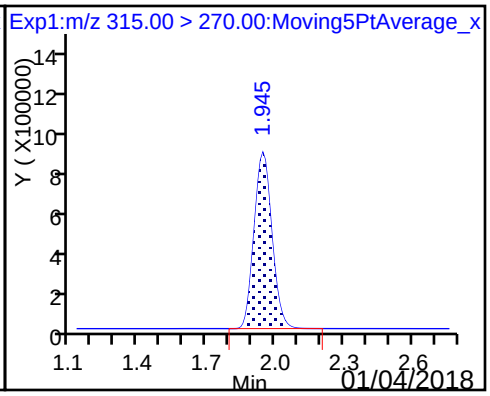
6 Perfluorohexanoic acid (M)



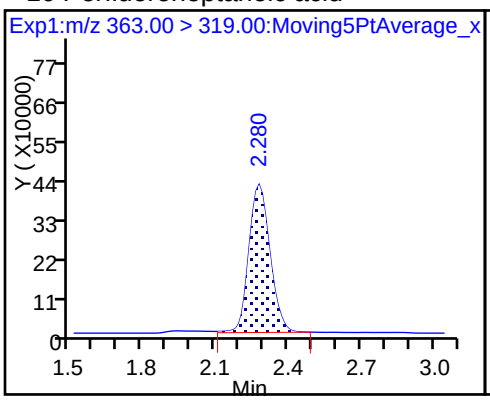
6 Perfluorohexanoic acid



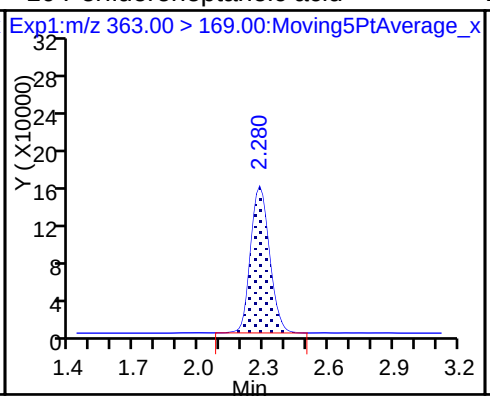
D 7 13C2 PFHxA



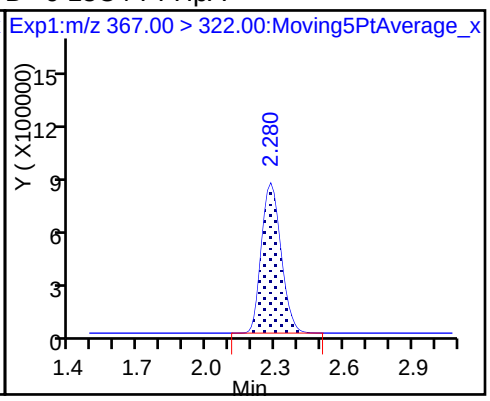
10 Perfluoroheptanoic acid



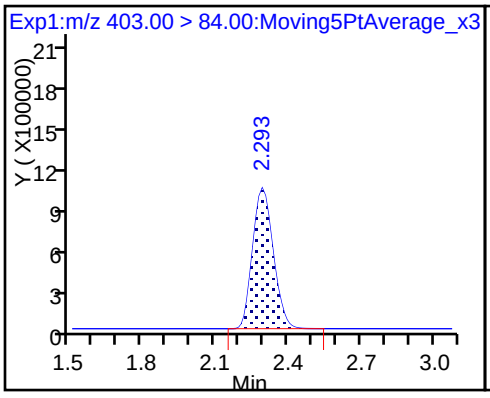
10 Perfluoroheptanoic acid



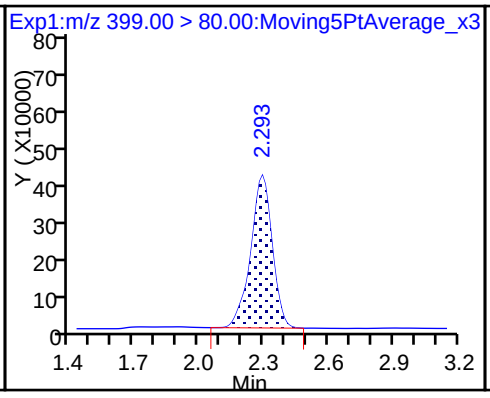
D 9 13C4-PFHpA



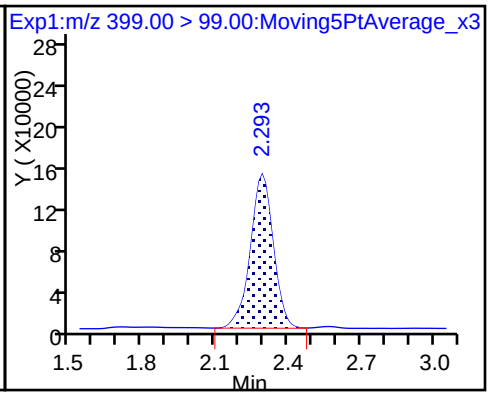
D 11 18O2 PFHxS



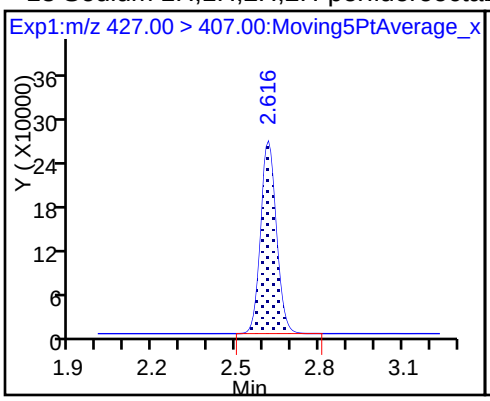
8 Perfluorohexanesulfonic acid



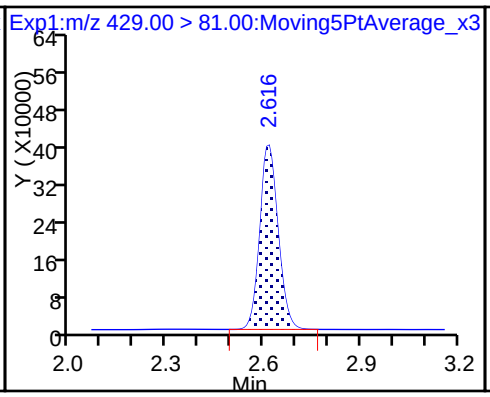
8 Perfluorohexanesulfonic acid



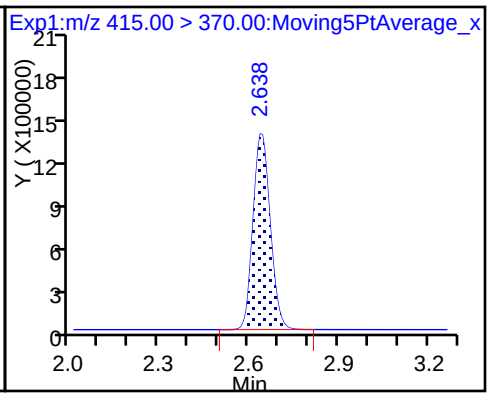
13 Sodium 1H,1H,2H,2H-perfluorooctane



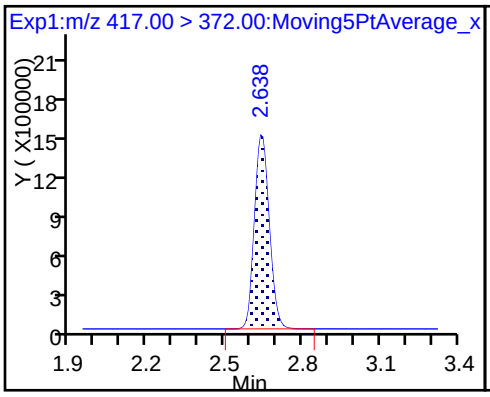
D 12 M2-6:2FTS



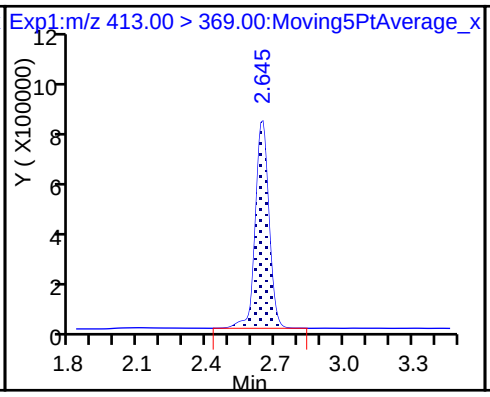
* 62 13C2-PFOA



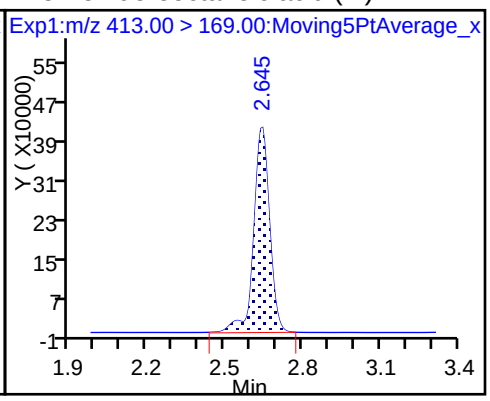
D 14 13C4 PFOA



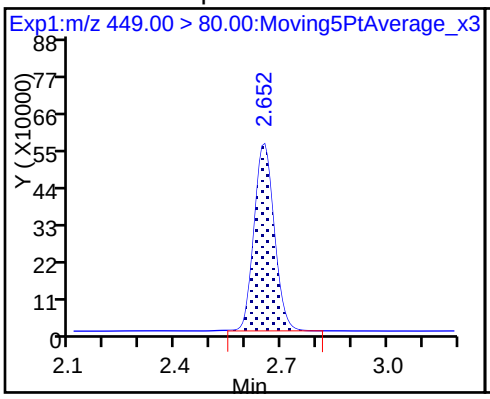
15 Perfluorooctanoic acid



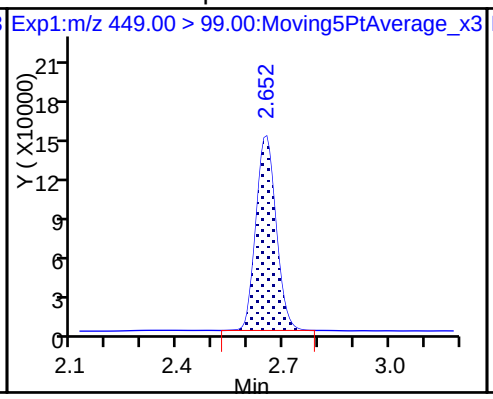
15 Perfluorooctanoic acid (M)



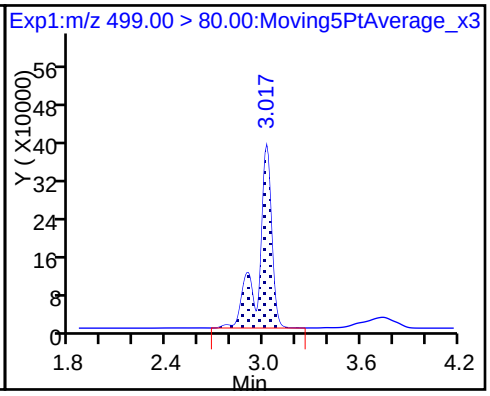
16 Perfluoroheptanesulfonic Acid



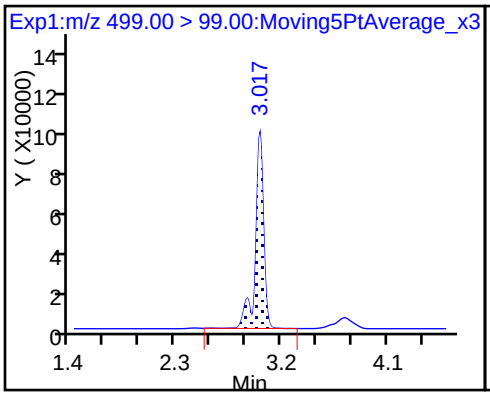
16 Perfluoroheptanesulfonic Acid



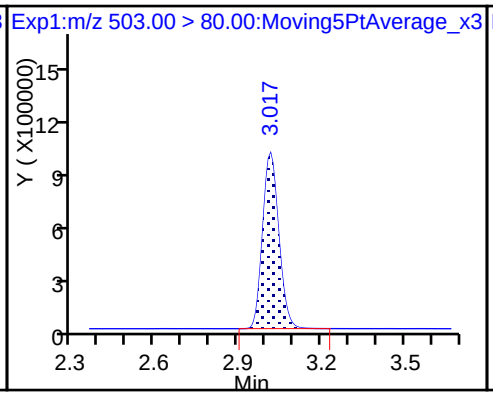
17 Perfluorooctane sulfonic acid



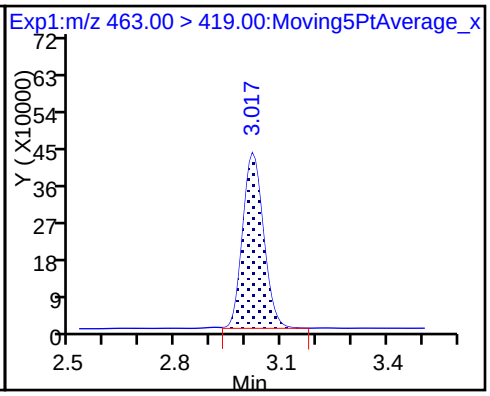
17 Perfluorooctane sulfonic acid



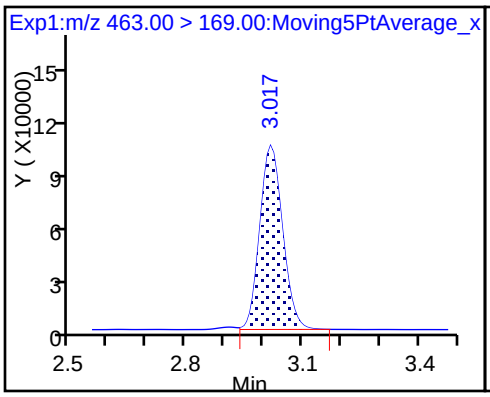
D 18 13C4 PFOS



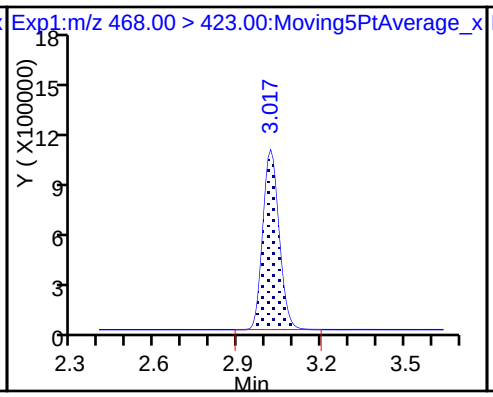
20 Perfluorononanoic acid



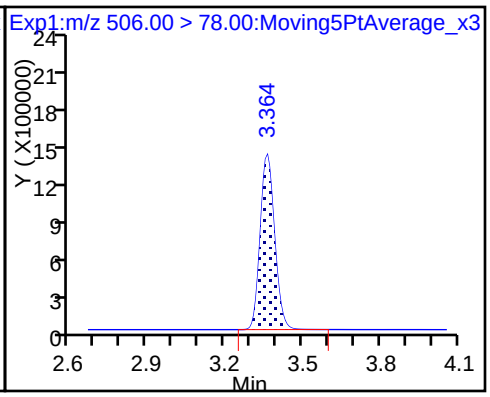
20 Perfluorononanoic acid



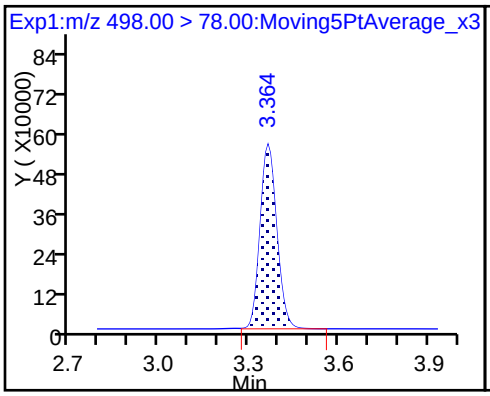
D 19 13C5 PFNA



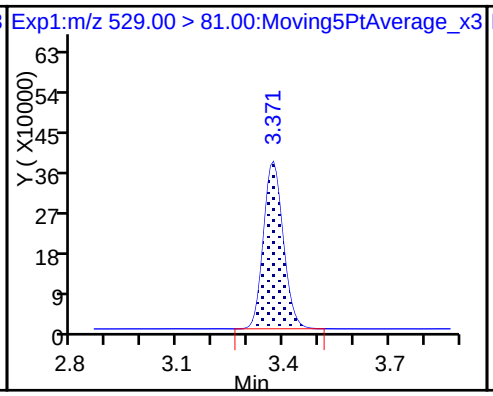
D 21 13C8 FOSA



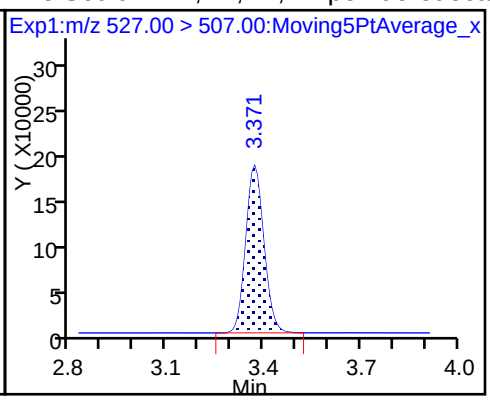
22 Perfluorooctane Sulfonamide



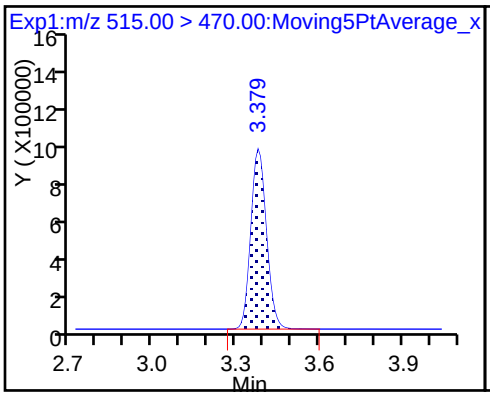
D 26 M2-8:2FTS



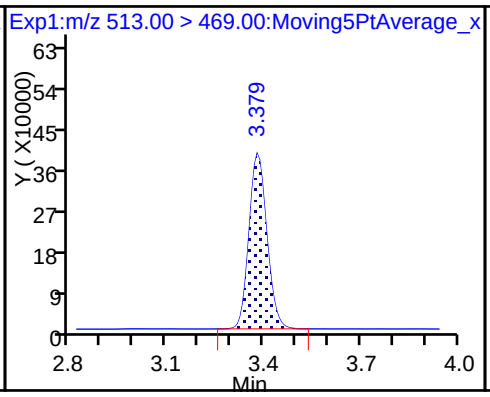
25 Sodium 1H,1H,2H,2H-perfluorodecane



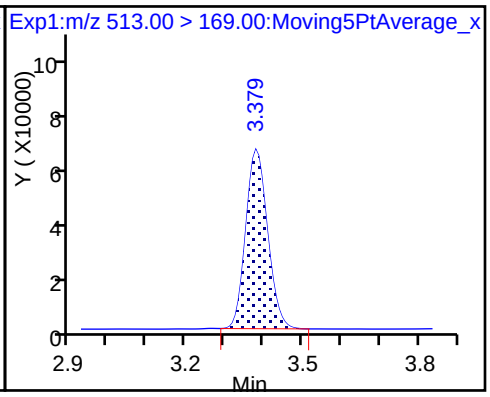
D 23 13C2 PFDA



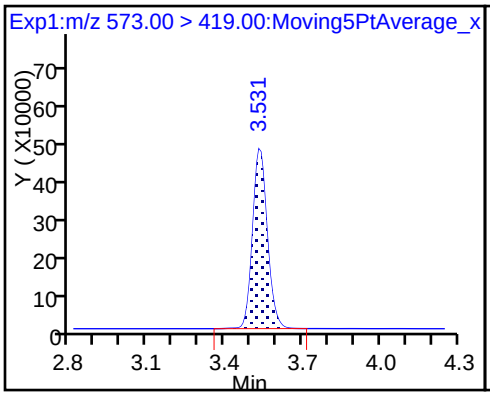
24 Perfluorodecanoic acid



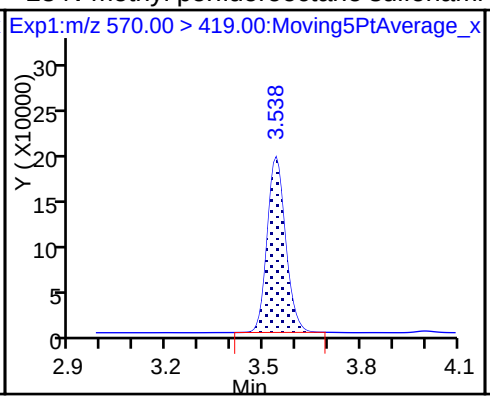
24 Perfluorodecanoic acid



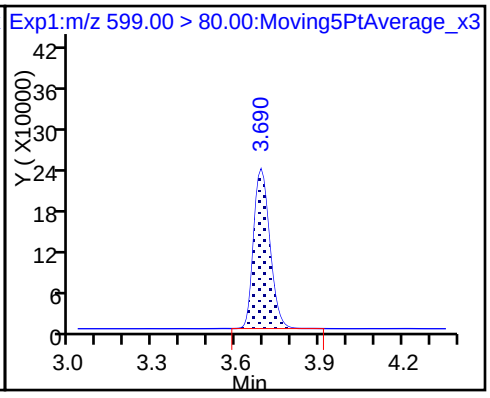
D 27 d3-NMeFOSAA



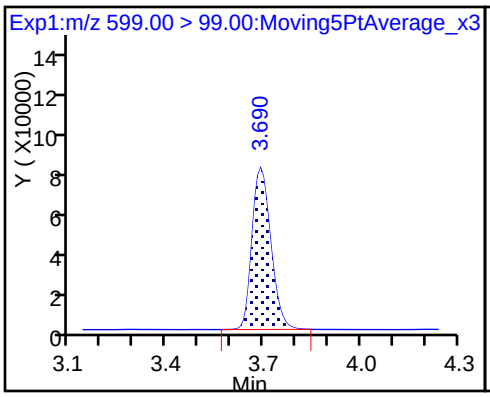
28 N-methyl perfluorooctane sulfonami



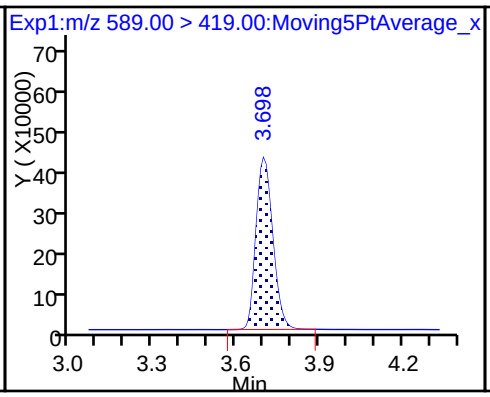
29 Perfluorodecane Sulfonic acid



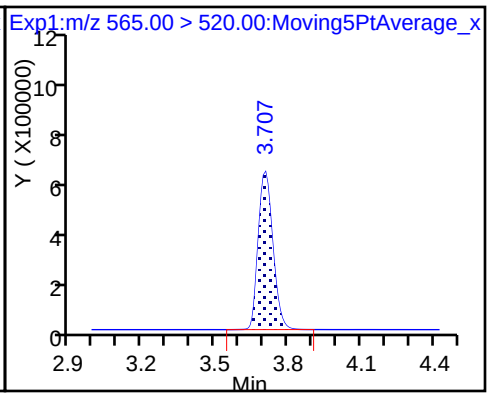
29 Perfluorodecane Sulfonic acid



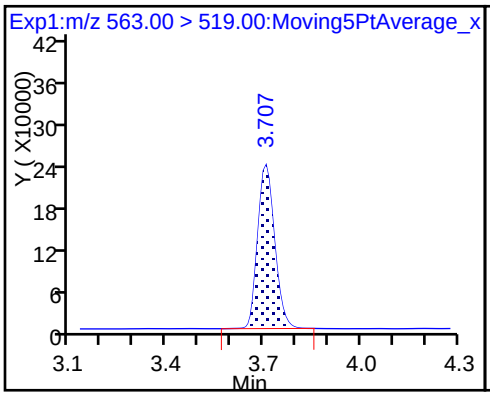
D 32 d5-NEtFOSAA



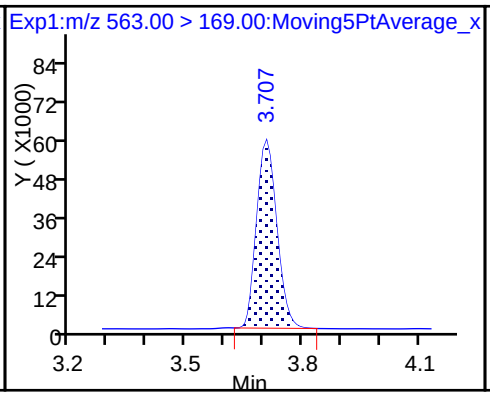
D 30 13C2 PFUnA



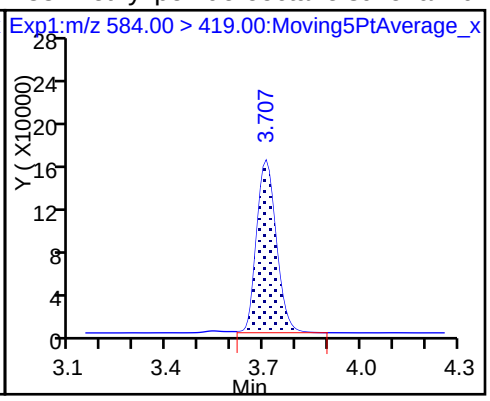
31 Perfluoroundecanoic acid



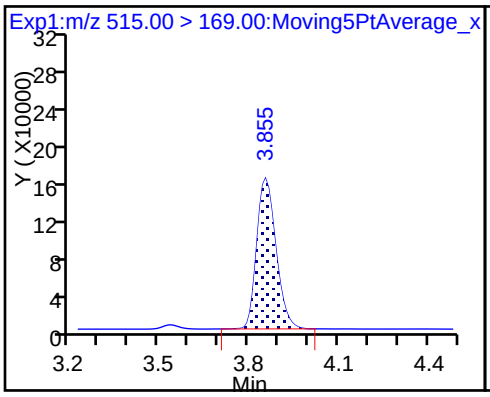
31 Perfluoroundecanoic acid



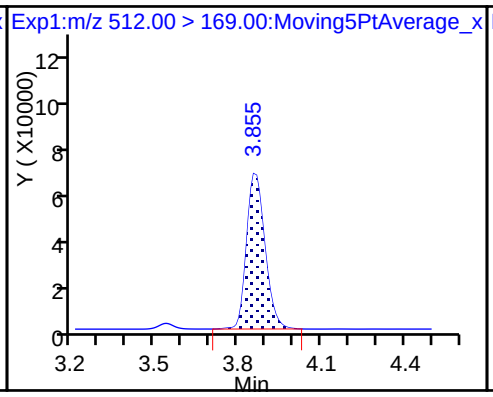
33 N-ethyl perfluorooctane sulfonamid



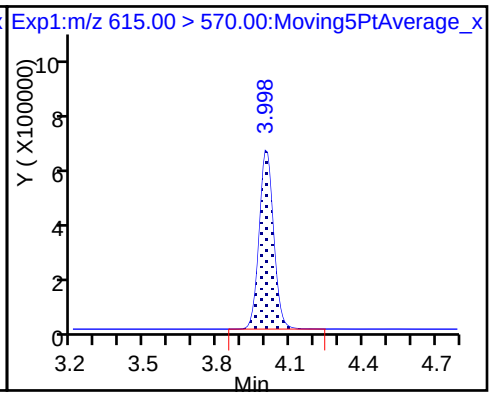
D 34 d-N-MeFOSA-M



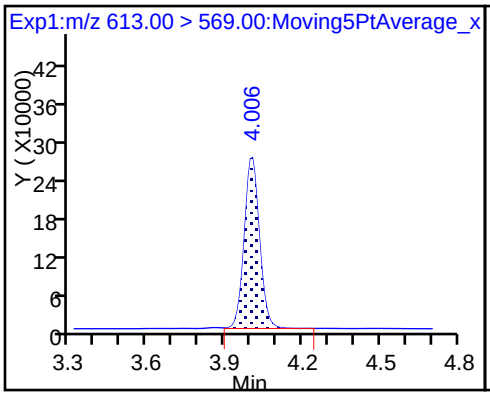
35 MeFOSA



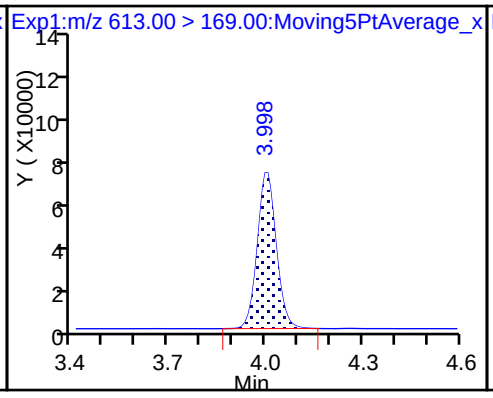
D 36 13C2 PFDoA



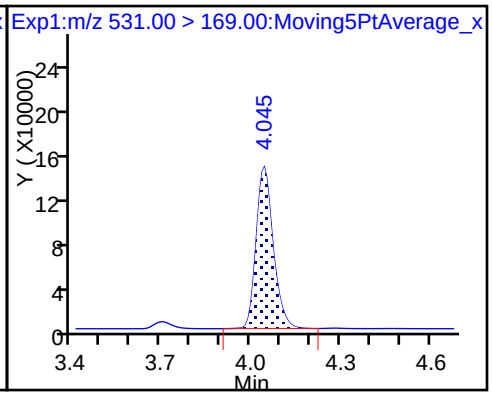
37 Perfluorododecanoic acid



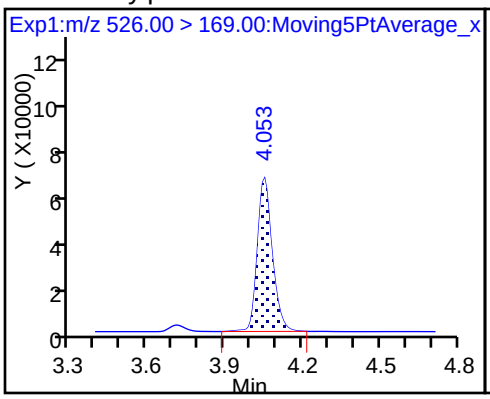
37 Perfluorododecanoic acid



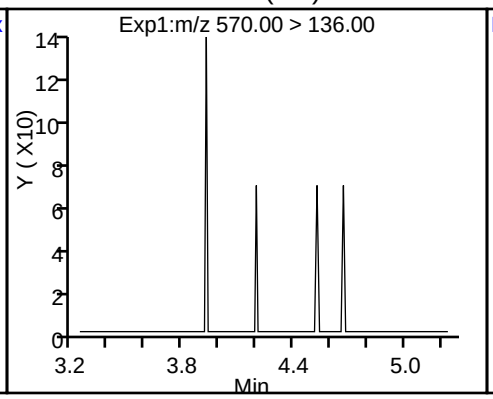
D 38 d-N-EtFOSA-M



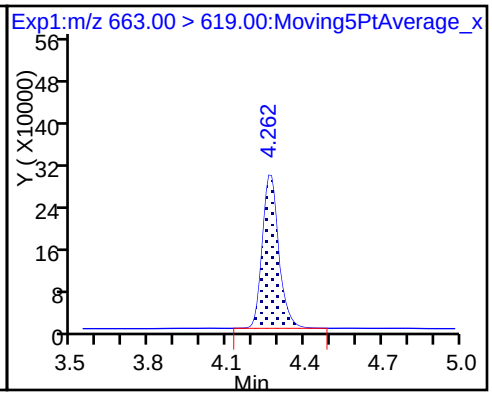
39 N-ethylperfluoro-1-octanesulfonami



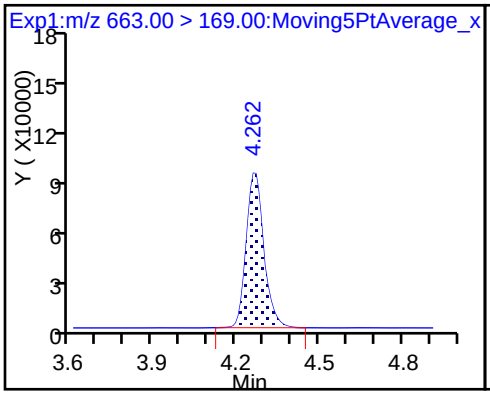
D 40 d-N-EtFOSE-M (ND)



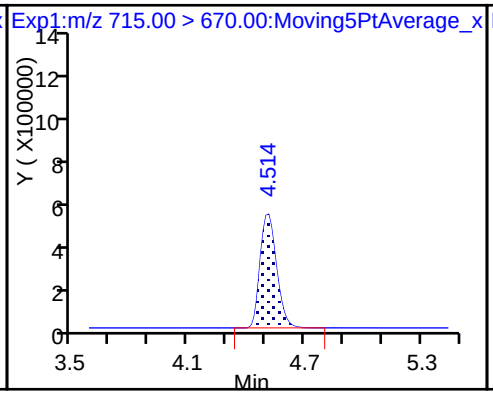
41 Perfluorotridecanoic acid



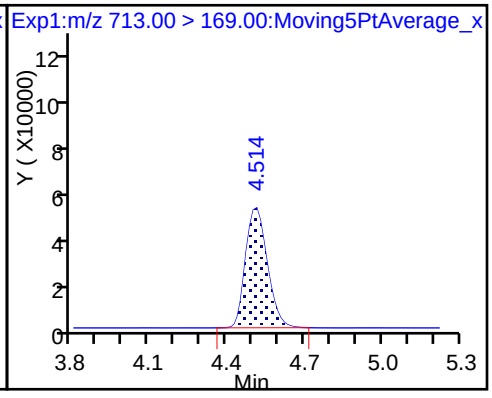
41 Perfluorotridecanoic acid



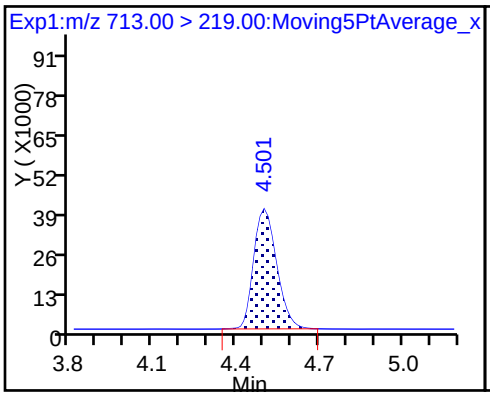
D 43 13C2-PFTeDA



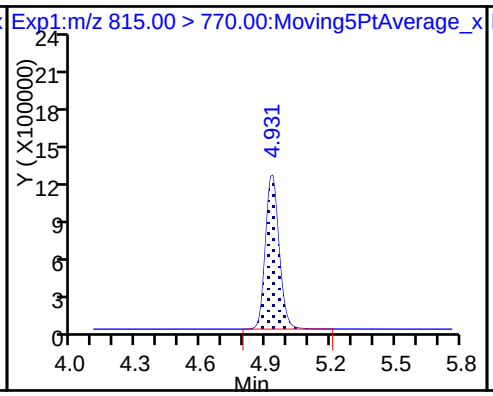
42 Perfluorotetradecanoic acid



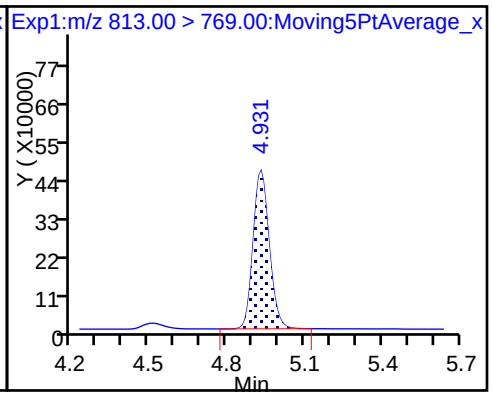
42 Perfluorotetradecanoic acid



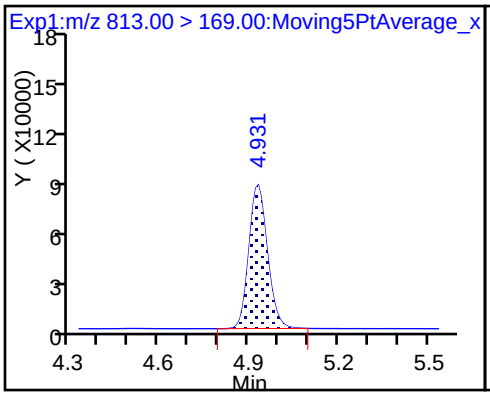
D 44 13C2-PFHxDA



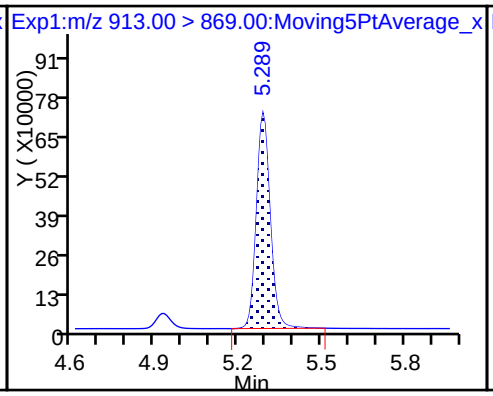
45 Perfluorohexadecanoic acid



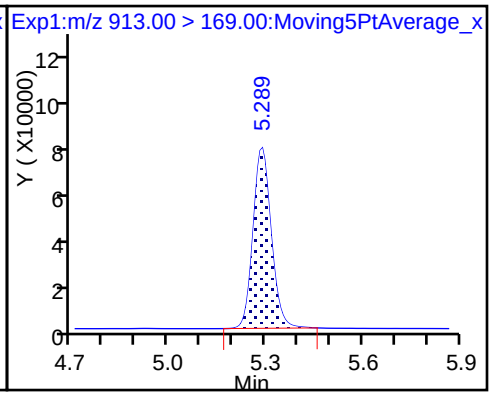
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

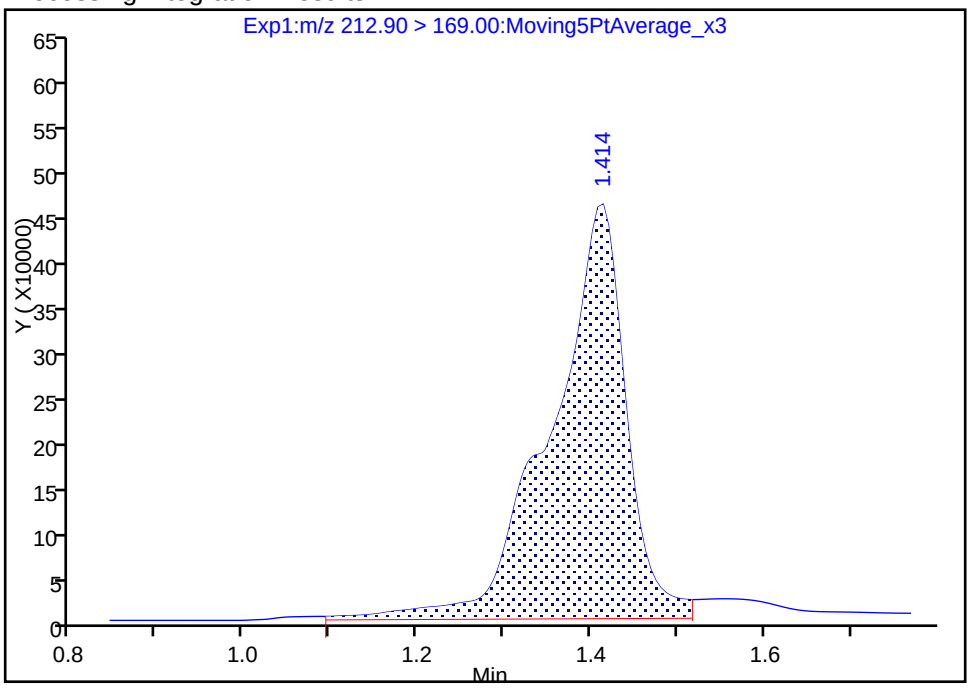
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Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	20	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

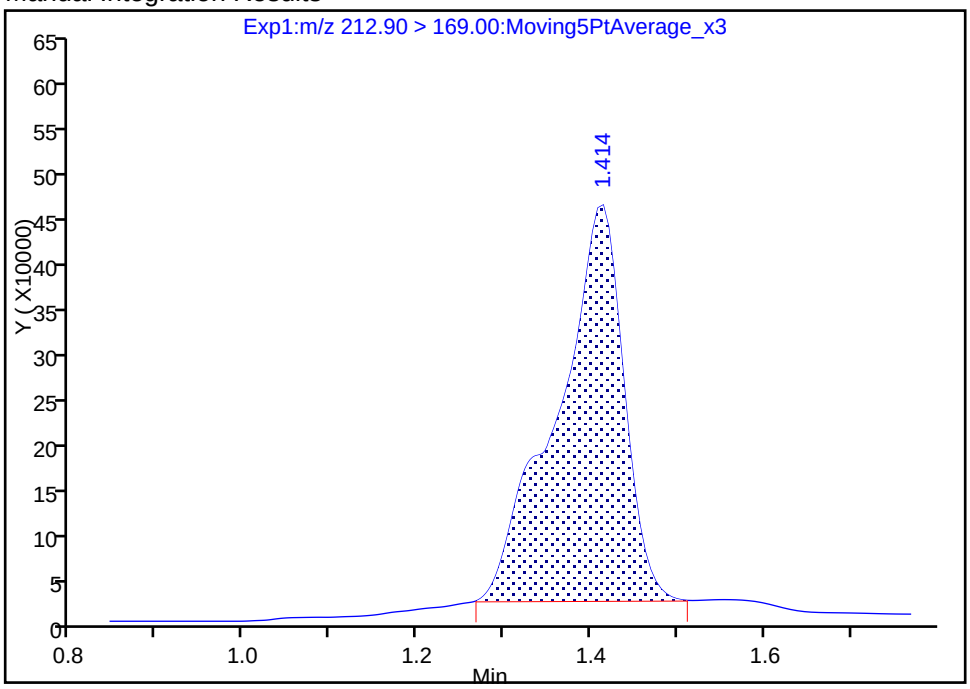
Processing Integration Results

RT: 1.41
Area: 2748283
Amount: 1.556347
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 2338880
Amount: 1.324503
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:27:51
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

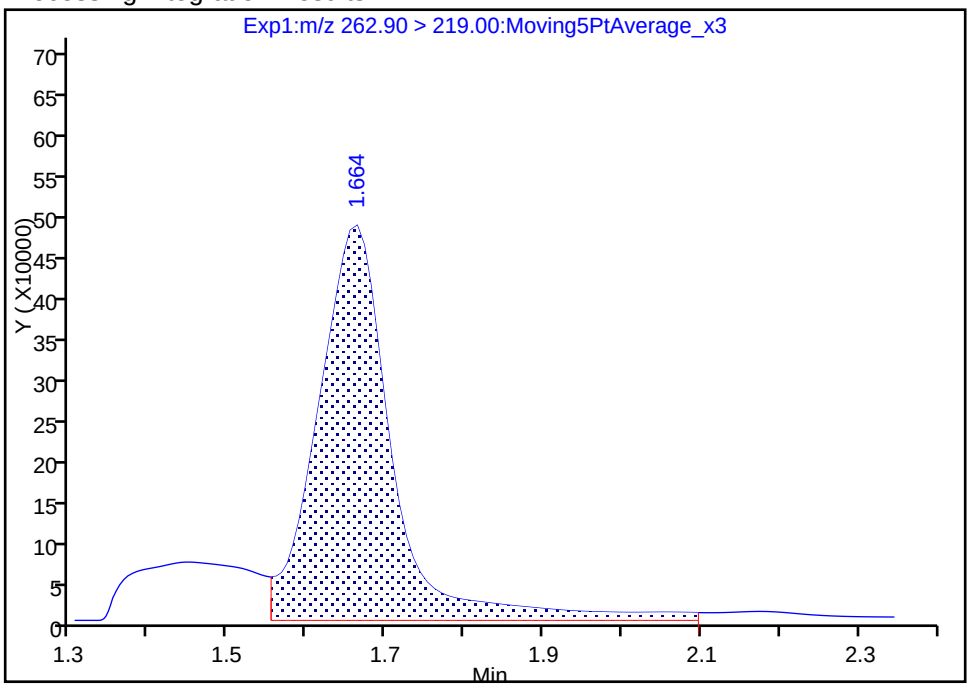
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_029.d				
Injection Date:	20-Dec-2017 08:12:54	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-B MS				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	20	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

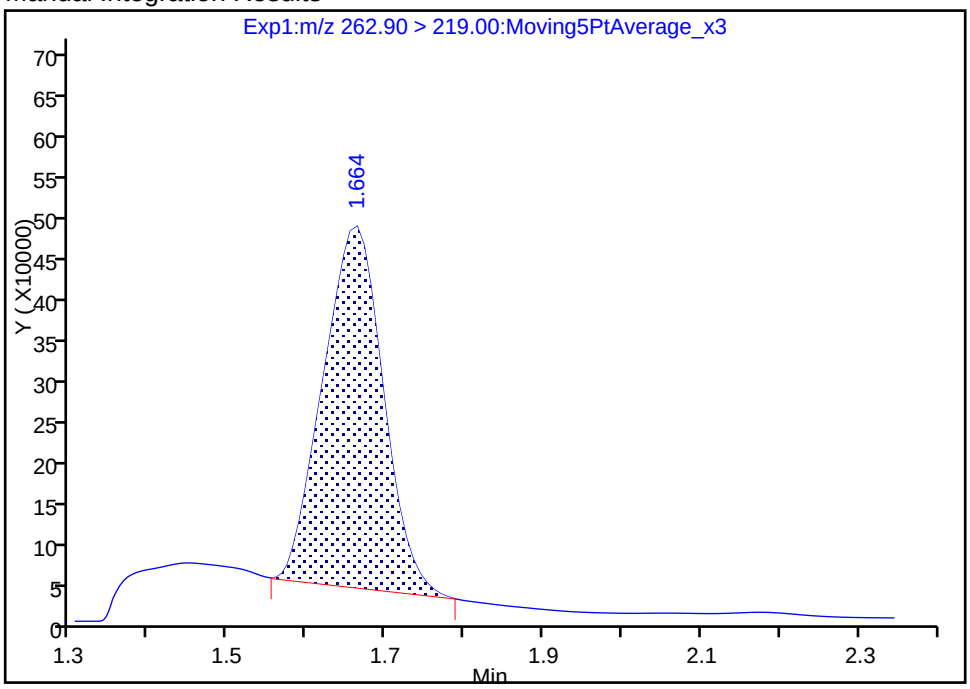
Processing Integration Results

RT: 1.66
Area: 3168968
Amount: 1.516964
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 2353043
Amount: 1.126386
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:28:05

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

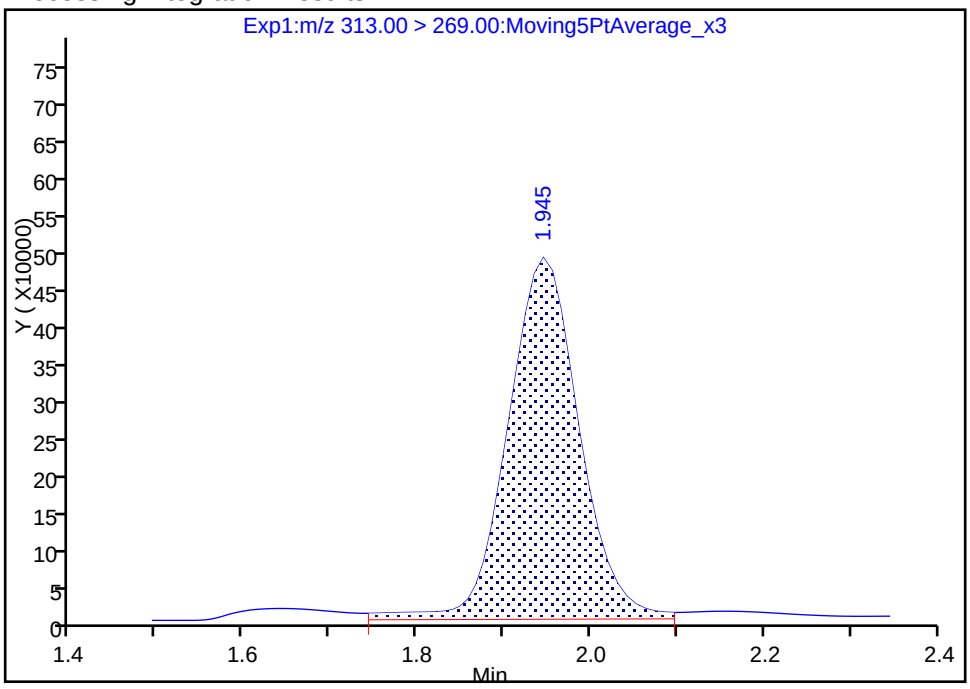
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_029.d				
Injection Date:	20-Dec-2017 08:12:54	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-B MS				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	20	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

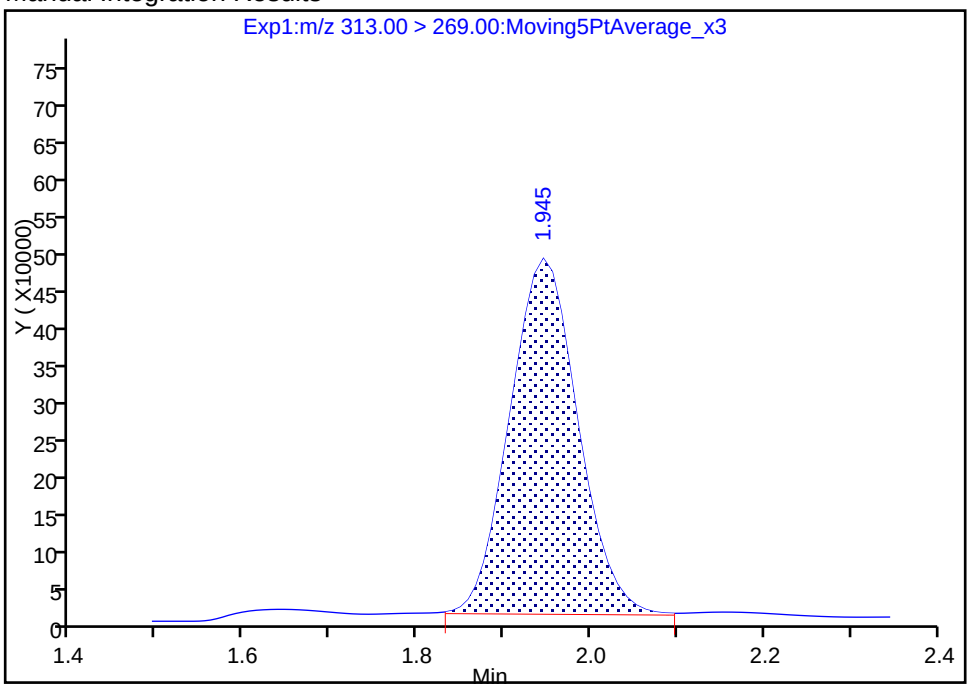
Processing Integration Results

RT: 1.95
Area: 2800513
Amount: 1.473016
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 2626203
Amount: 1.381332
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:28:39

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

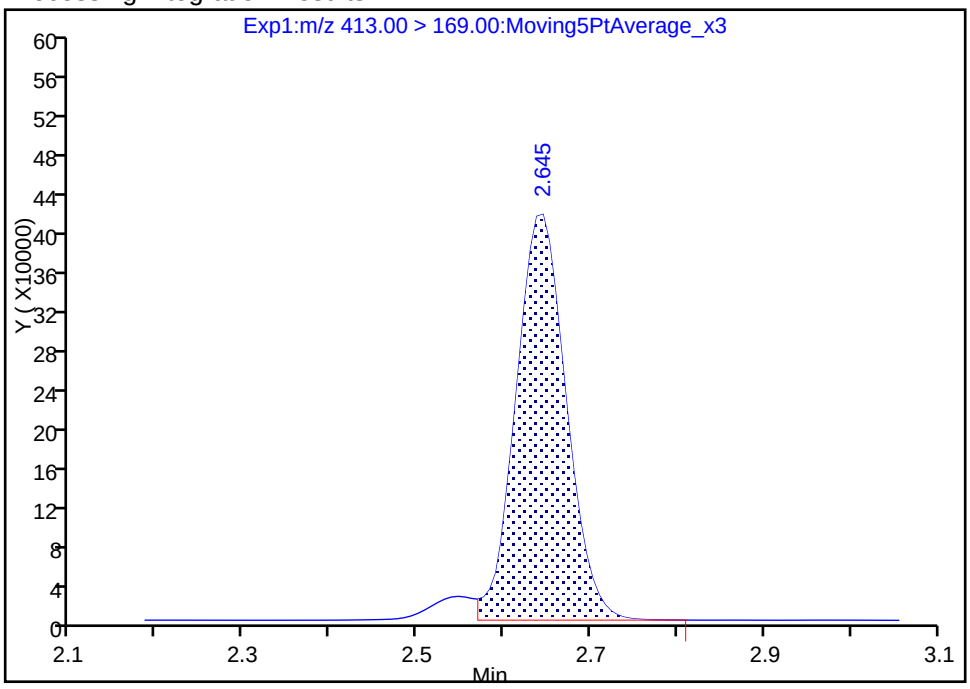
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_029.d				
Injection Date:	20-Dec-2017 08:12:54	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-B MS				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	20	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

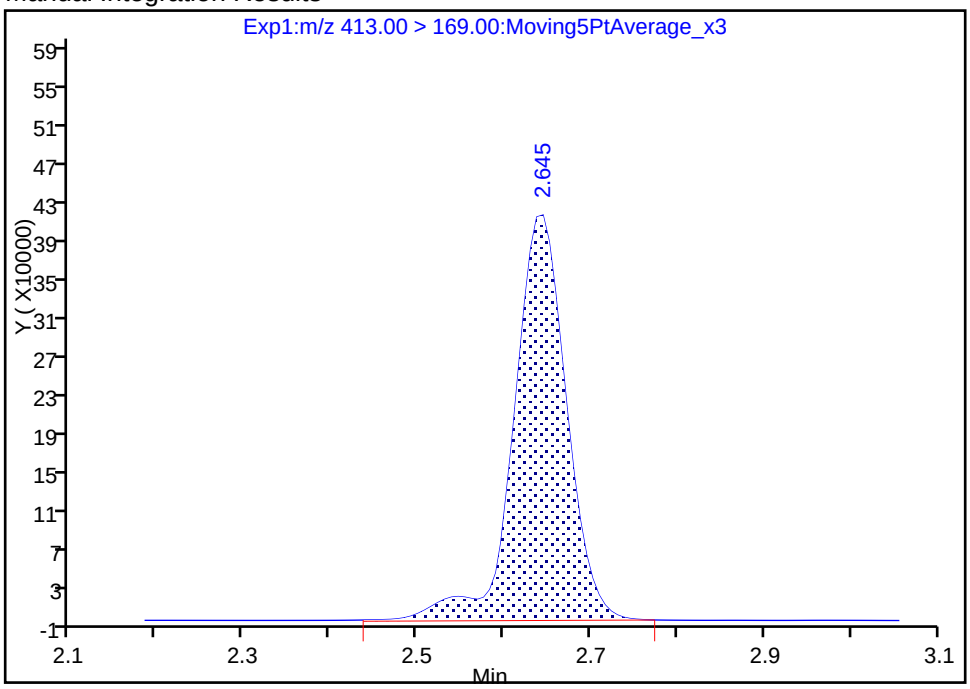
Processing Integration Results

RT: 2.64
Area: 1663752
Amount: 1.307792
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 1755662
Amount: 1.307792
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:29:08

Audit Action: Manually Integrated Audit Reason: Isomers

TestAmerica Sacramento

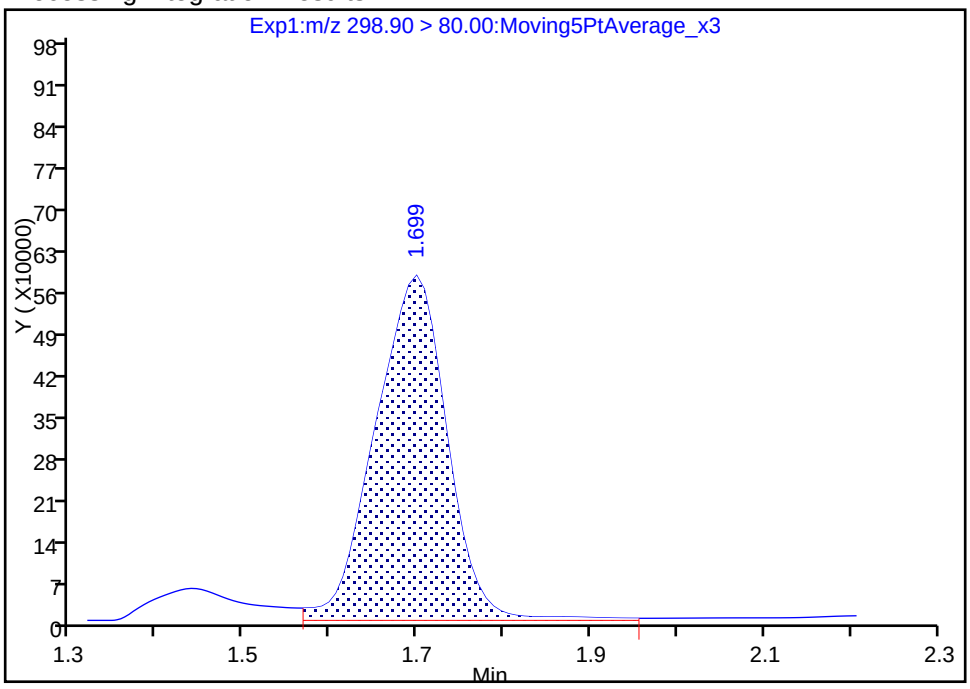
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_029.d				
Injection Date:	20-Dec-2017 08:12:54	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-B MS				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	20	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

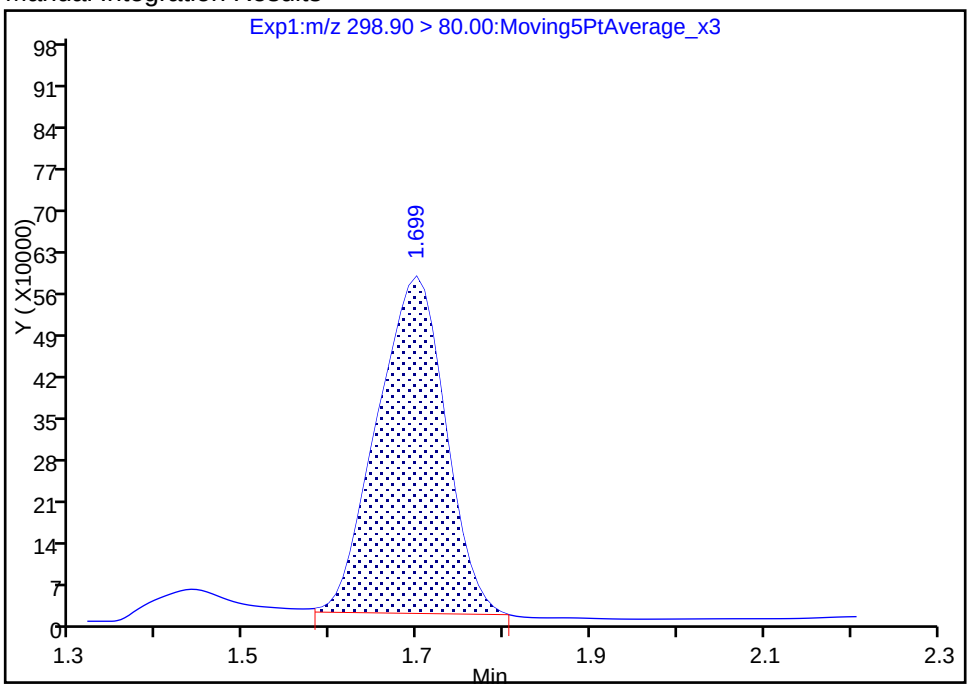
Processing Integration Results

RT: 1.70
Area: 3350909
Amount: 1.011587
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 3106661
Amount: 0.980359
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:28:14
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_029.d

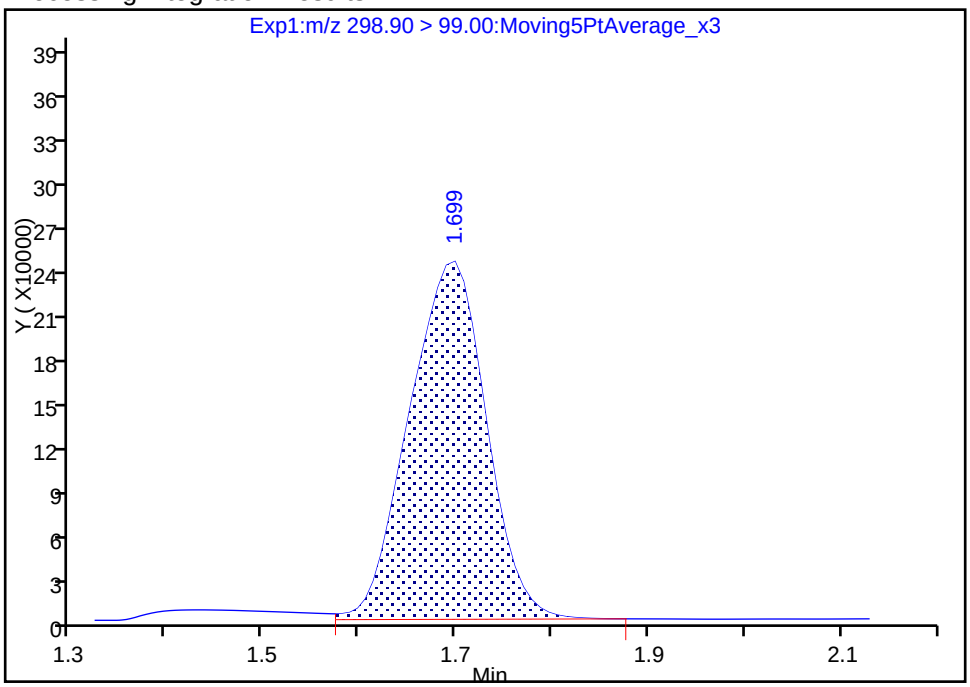
Injection Date:	20-Dec-2017 08:12:54	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-B MS				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	20	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

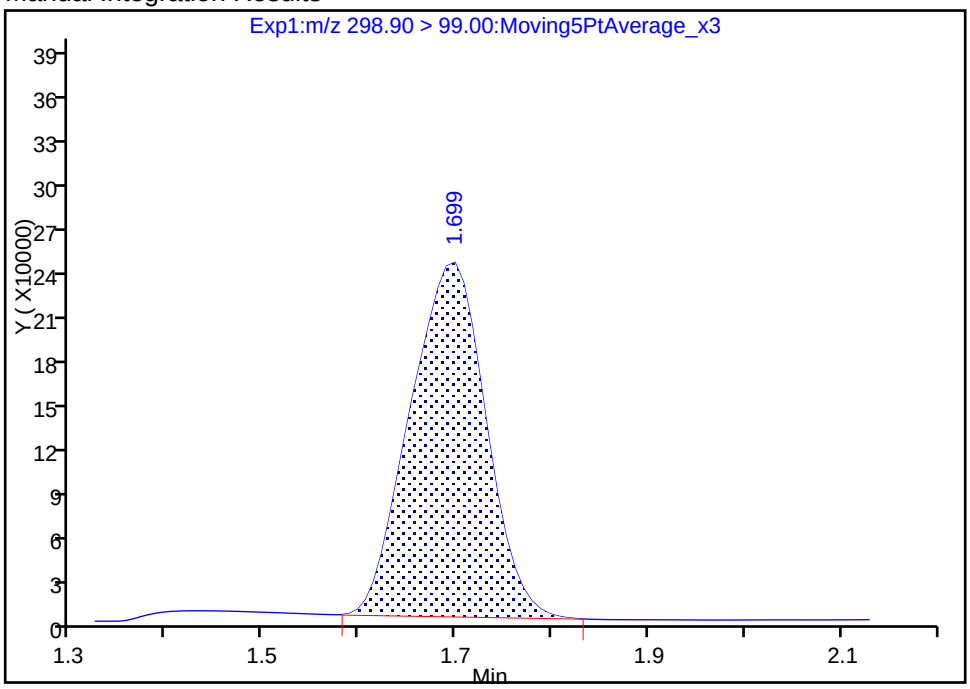
Processing Integration Results

RT: 1.70
Area: 1332813
Amount: 1.011587
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 1299695
Amount: 0.980359
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:28:27

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

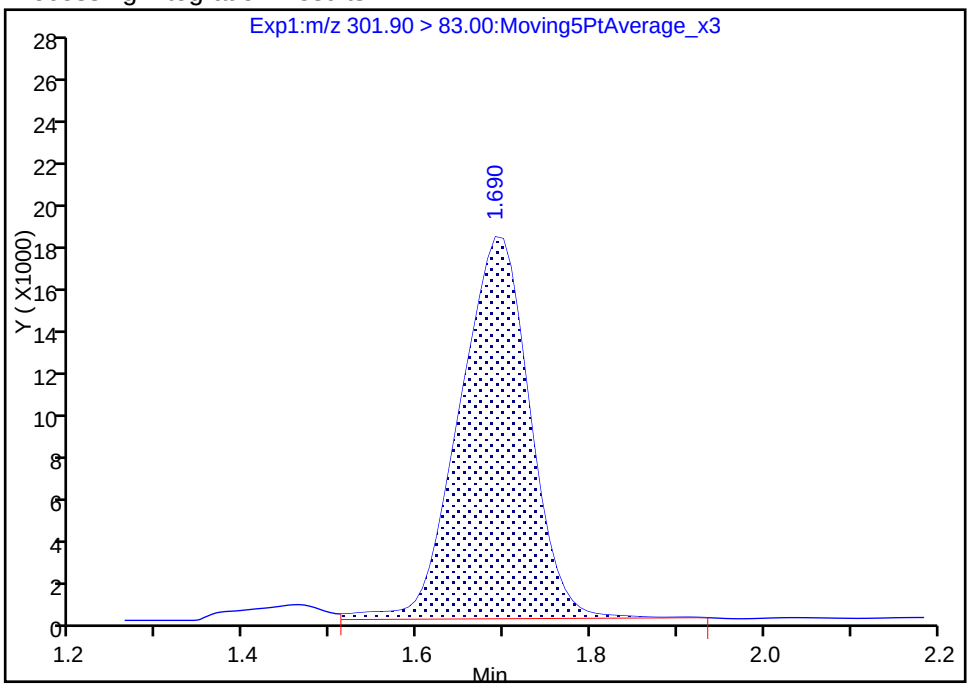
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_029.d				
Injection Date:	20-Dec-2017 08:12:54	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-B MS				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	20	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

D 47 13C3-PFBS, CAS: STL02337

Signal: 1

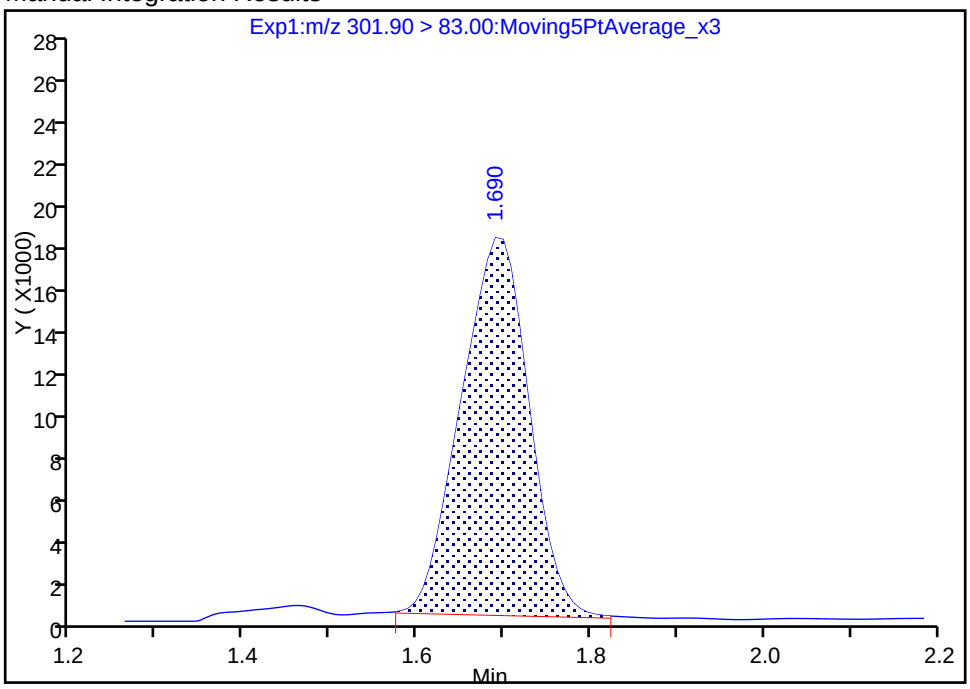
Processing Integration Results

RT: 1.69
Area: 103025
Amount: 2.638313
Amount Units: ng/ml



Manual Integration Results

RT: 1.69
Area: 98558
Amount: 2.523920
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:29:48
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-LN001-A MSD | Lab Sample ID: 320-34182-3 MSD

Matrix: Water | Lab File ID: 2017.12.19LLC_030.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 09:45

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 238.1(mL) | Date Analyzed: 12/20/2017 08:20

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	53.83		2.10	0.37
2706-90-3	Perfluoropentanoic acid (PFPeA)	48.25		2.10	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	55.66		2.10	0.61
375-85-9	Perfluoroheptanoic acid (PFHpA)	47.13		2.10	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	51.41		2.10	0.89
375-95-1	Perfluorononanoic acid (PFNA)	43.64		2.10	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	44.29		2.10	0.33
2058-94-8	Perfluoroundecanoic acid (PFUnA)	41.67		2.10	1.15
307-55-1	Perfluorododecanoic acid (PFDoA)	44.45		2.10	0.58
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	43.25		2.10	1.36
376-06-7	Perfluorotetradecanoic acid (PFTeA)	41.07		2.10	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	42.95		2.10	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	42.12		2.10	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	41.01		2.10	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	48.39		2.10	0.57
335-77-3	Perfluorodecanesulfonic acid (PFDS)	41.55		2.10	0.34
754-91-6	Perfluorooctane Sulfonamide (FOSA)	46.32		2.10	0.37
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	43.72		21.0	3.25
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	41.07		21.0	1.99
27619-97-2	6:2FTS	43.24		21.0	2.10
39108-34-4	8:2FTS	42.84		21.0	2.10

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34182-1

SDG No.:

Client Sample ID: FW-LN001-A MSD | Lab Sample ID: 320-34182-3 MSD

Matrix: Water | Lab File ID: 2017.12.19LLC_030.d

Analysis Method: 537 (modified) | Date Collected: 12/05/2017 09:45

Extraction Method: 3535 | Date Extracted: 12/18/2017 13:25

Sample wt/vol: 238.1(mL) | Date Analyzed: 12/20/2017 08:20

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 200666 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	63		25-150
STL01893	13C5 PFPeA	97		25-150
STL00993	13C2 PFHxA	96		25-150
STL01892	13C4-PFHpA	112		25-150
STL00990	13C4 PFOA	105		25-150
STL00995	13C5 PFNA	116		25-150
STL00996	13C2 PFDA	118		25-150
STL00997	13C2 PFUnA	106		25-150
STL00998	13C2 PFDoA	102		25-150
STL02116	13C2-PFTeDA	117		25-150
STL02337	13C3-PFBS	102		25-150
STL00994	18O2 PFHxS	113		25-150
STL00991	13C4 PFOS	111		25-150
STL01056	13C8 FOSA	99		25-150
STL02118	d3-NMeFOSAA	126		25-150
STL02117	d5-NEtFOSAA	116		25-150
STL02279	M2-6:2FTS	87		25-150
STL02280	M2-8:2FTS	165	*	25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_030.d
Lims ID: 320-34182-A-3-C MSD
Client ID: FW-LN001-A
Sample Type: MSD
Inject. Date: 20-Dec-2017 08:20:46 ALS Bottle#: 21 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34182-a-3-c msd
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 17:24:38 Calib Date: 19-Dec-2017 14:52:22
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171219-51943.b\2017.12.19ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 16:32:14

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.411	0.003	0.534	4920922	1.57		62.7	16768	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.414	1.412	0.002	1.000	2301833	1.28		128	115	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.663	1.664	-0.001	0.629	4468444	2.42		96.6	18039	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.663	1.664	-0.001	1.000	2269799	1.15		115	139	M
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.699	-0.001	0.642	92350	2.36		102	554	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.698	1.703	-0.005	1.000	3036426	1.02		116	488	M
298.90 > 99.00	1.698	1.703	-0.005	1.000	1280300		2.37(1.25-3.74)		838	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.914	1.909	0.005	1.000	1250077	2.99		320	26295	
D 60 M2-4:2FTS										
329.00 > 81.00	1.924	1.924	0.0	0.727	1433	0.007009		0.0	22.4	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.945	1.949	-0.004	1.000	2490116	1.33		133	569	M
313.00 > 119.00	1.955	1.949	0.006	1.005	230609		10.80(5.03-15.10)		1410	
D 7 13C2 PFHxA										
315.00 > 270.00	1.945	1.949	-0.004	0.735	4697826	2.39		95.8	35035	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.279	2.286	-0.007	1.000	2370557	1.12		112	1220	
363.00 > 169.00	2.279	2.286	-0.007	1.000	962972		2.46(1.13-3.40)		7010	
D 9 13C4-PFHpA										
367.00 > 322.00	2.279	2.286	-0.007	0.862	5129200	2.80		112	45797	
D 11 18O2 PFHxS										
403.00 > 84.00	2.293	2.299	-0.006	0.867	6065903	2.67		113	51378	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.293	2.299	-0.006	1.000	2795790	1.00		110	1147	
399.00 > 99.00	2.293	2.299	-0.006	1.000	910935		3.07(1.50-4.49)		902	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.617	2.640	-0.023	1.000	1098441	1.03		109	31281	
D 12 M2-6:2FTS										
429.00 > 81.00	2.617	2.640	-0.023	0.989	1581133	2.08		87.4	10580	
* 62 13C2-PFOA										
415.00 > 370.00	2.645	2.643	0.002		5326502	2.50			56652	
D 14 13C4 PFOA										
417.00 > 372.00	2.645	2.647	-0.002	1.000	5806526	2.63		105	59750	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.645	2.649	-0.004	1.000	3000205	1.22		122	1416	
413.00 > 169.00	2.645	2.649	-0.004	1.000	1607147		1.87(0.84-2.52)		7928	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.653	2.654	-0.001	1.000	2279487	0.9763		103	8734	
449.00 > 99.00	2.653	2.654	-0.001	1.000	612705		3.72(1.94-5.82)		3877	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.018	3.025	-0.007	1.000	1987930	1.15		124	331	
499.00 > 99.00	3.018	3.025	-0.007	1.000	429383		4.63(2.31-6.93)		413	
D 18 13C4 PFOS										
503.00 > 80.00	3.018	3.025	-0.007	1.141	3878383	2.65		111	18130	
20 Perfluorononanoic acid										
463.00 > 419.00	3.018	3.026	-0.008	1.000	1728885	1.04		104	2259	
463.00 > 169.00	3.018	3.026	-0.008	1.000	425925		4.06(1.90-5.69)		4205	
D 19 13C5 PFNA										
468.00 > 423.00	3.018	3.026	-0.008	1.141	4292131	2.90		116	44379	
D 21 13C8 FOSA										
506.00 > 78.00	3.365	3.362	0.003	1.272	5132666	2.49		99.4	26031	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.365	0.0	1.000	2140540	1.10		110	10713	
D 26 M2-8:2FTS										
529.00 > 81.00	3.372	3.375	-0.003	1.275	1282071	3.95		165	10982	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.372	3.376	-0.004	1.000	663972	1.02		106	15629	
D 23 13C2 PFDA										
515.00 > 470.00	3.380	3.387	-0.007	1.278	3496765	2.95		118	36438	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.380	3.388	-0.008	1.000	1460205	1.05		105	5700	
513.00 > 169.00	3.380	3.388	-0.008	1.000	262589		5.56(2.36-7.09)		2635	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.532	3.541	-0.009	1.335	1717636	3.14		126	19042	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.539	3.547	-0.008	1.002	737252	1.04		104	4773	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.691	3.701	-0.010	1.000	940844	0.9894		103	12992	
599.00 > 99.00	3.691	3.701	-0.010	1.000	313530		3.00(1.39-4.16)		7798	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.711	-0.012	1.398	1636052	2.91		116	10527	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.402	2407782	2.64		106	29057	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.708	3.718	-0.010	1.000	864419	0.99		99.2	4120	
563.00 > 169.00	3.708	3.718	-0.010	1.000	200438		4.31(0.00-0.00)		4197	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.718	-0.010	1.002	623546	0.9778		97.8	3541	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.856	0.0	1.458	774863	1.27		50.9	1921	
35 MeFOSA										
512.00 > 169.00	3.867	3.863	0.004	1.003	327754	1.08		108	1869	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.015	-0.008	1.515	2473443	2.55		102	21271	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.007	4.016	-0.009	1.000	1005446	1.06		106	3325	
613.00 > 169.00	4.007	4.016	-0.009	1.000	258991		3.88(2.13-6.40)		13089	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.048	-0.002	1.530	603602	1.05		42.1	1374	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.054	0.0	1.002	264483	1.04		104	1199	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.272	4.285	-0.013	1.000	1167847	1.03		103	3317	
663.00 > 169.00	4.272	4.285	-0.013	1.000	362664		3.22(1.25-3.76)		13774	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.522	-0.007	1.707	3106853	2.92		117	21499	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.515	4.522	-0.007	1.000	307435	0.9779		97.8	7525	
713.00 > 219.00	4.501	4.522	-0.021	0.997	223963		1.37(0.71-2.13)		7784	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.944	-0.012	1.864	4968117	2.55		102	15875	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.945	-0.013	1.000	1999925	1.13		113	1038	
813.00 > 169.00	4.932	4.945	-0.013	1.000	343440		5.82(2.86-8.58)		5008	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.290	5.309	-0.019	1.000	2337469	1.06		106	512	
913.00 > 169.00	5.290	5.309	-0.019	1.000	300271		7.78(0.00-0.00)		1696	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 17:25:19 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_030.d

Injection Date: 20-Dec-2017 08:20:46 Instrument ID: A8_N

Lims ID: 320-34182-A-3-C MSD

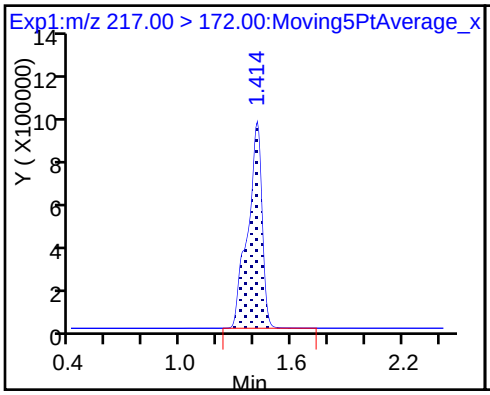
Client ID: FW-LN001-A

Operator ID: SACINSTLCMS01 ALS Bottle#: 21 Worklist Smp#: 8

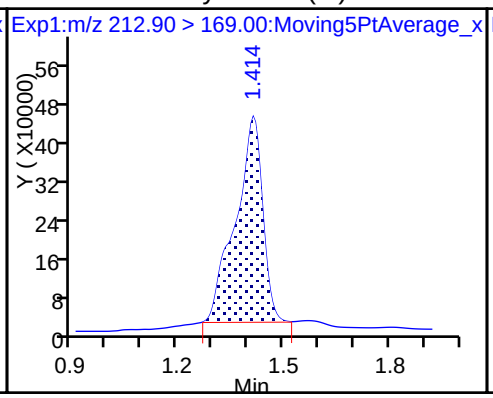
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

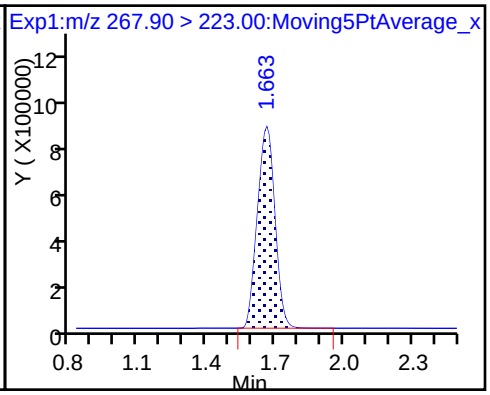
D 1 13C4 PFBA



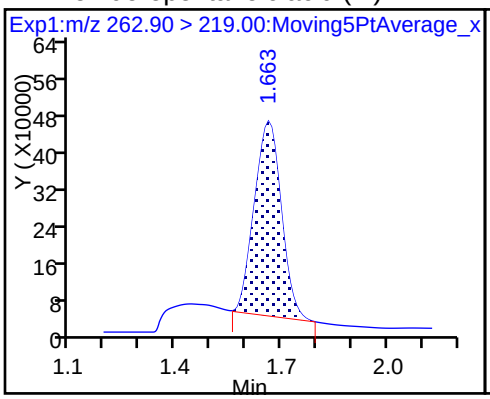
2 Perfluorobutyric acid (M)



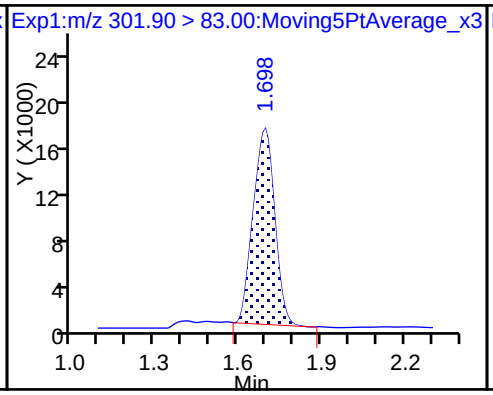
D 3 13C5-PFPeA



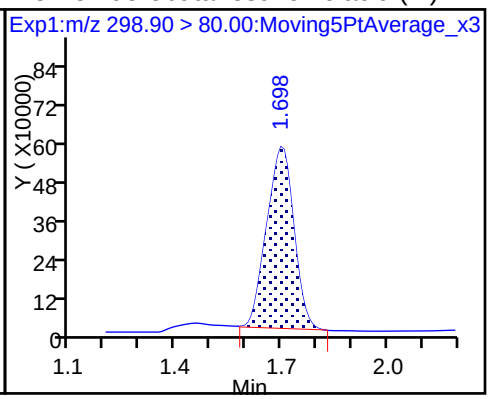
4 Perfluoropentanoic acid (M)



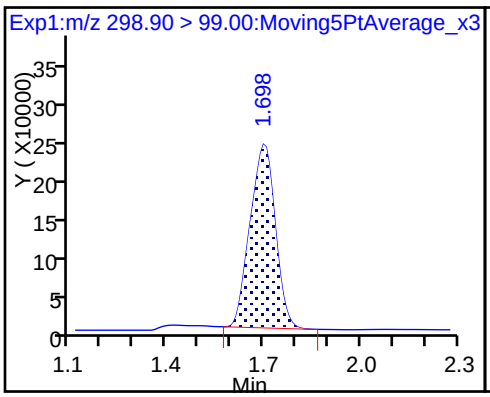
D 47 13C3-PFBS



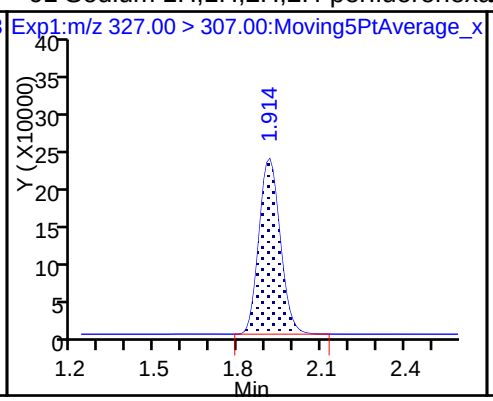
5 Perfluorobutanesulfonic acid (M)



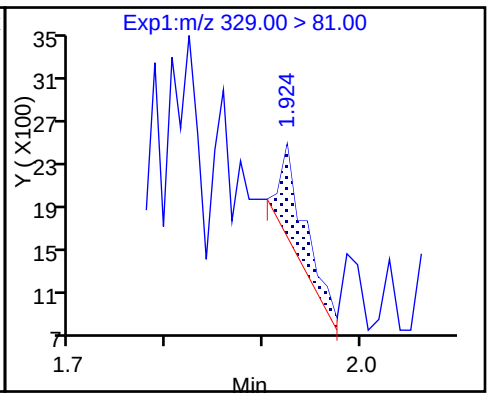
5 Perfluorobutanesulfonic acid



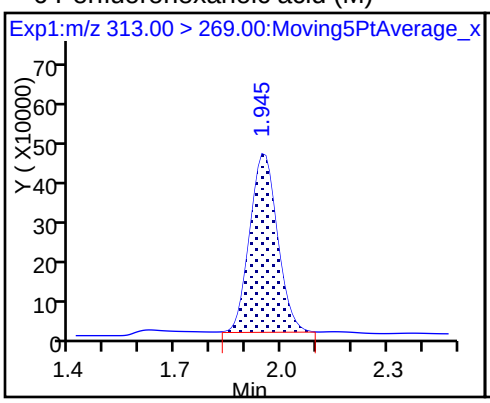
61 Sodium 1H,1H,2H,2H-perfluorohexane



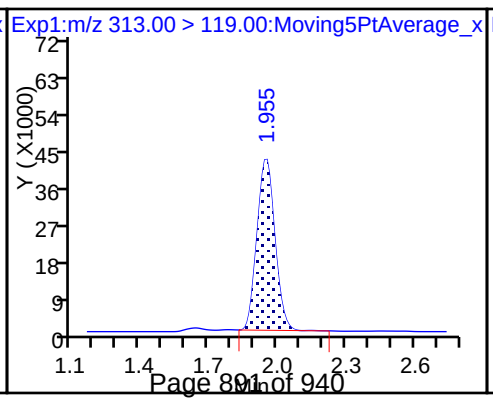
D 60 M2-4:2FTS



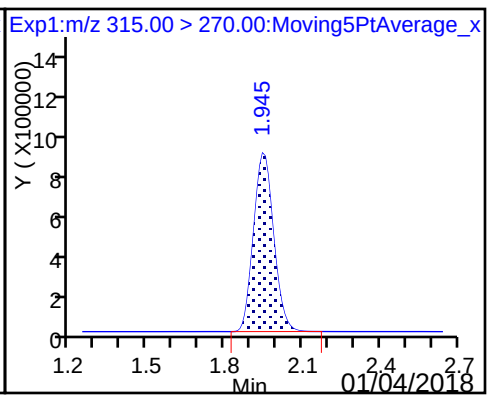
6 Perfluorohexanoic acid (M)



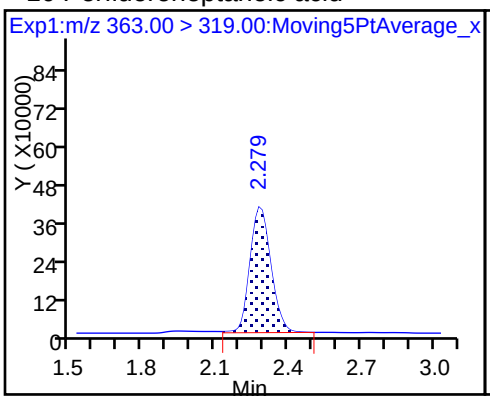
6 Perfluorohexanoic acid



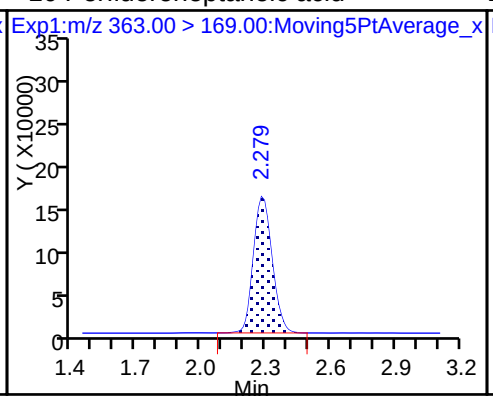
D 7 13C2 PFHxA



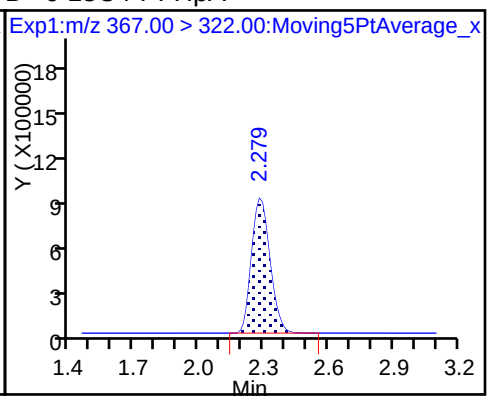
10 Perfluoroheptanoic acid



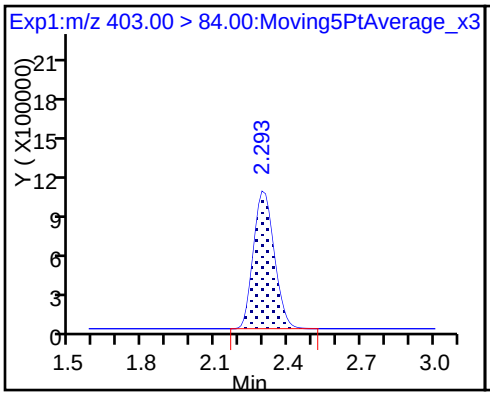
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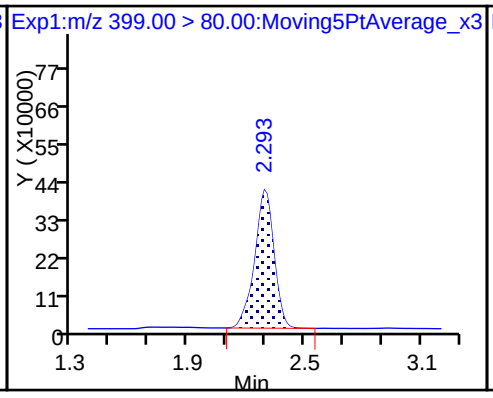
D 9 13C4-PFHpA



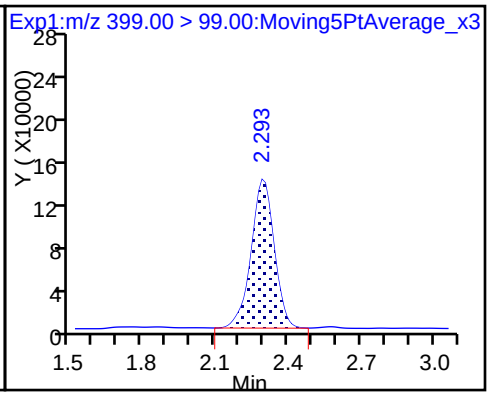
D 11 18O2 PFHxS



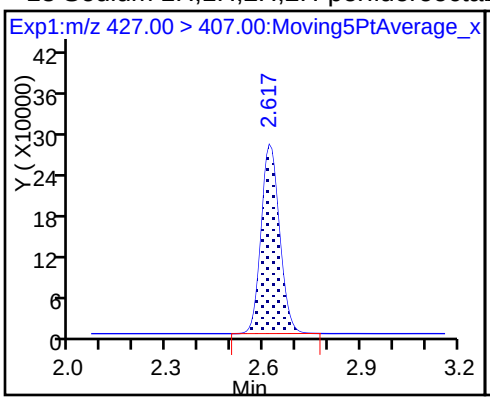
8 Perfluorohexanesulfonic acid



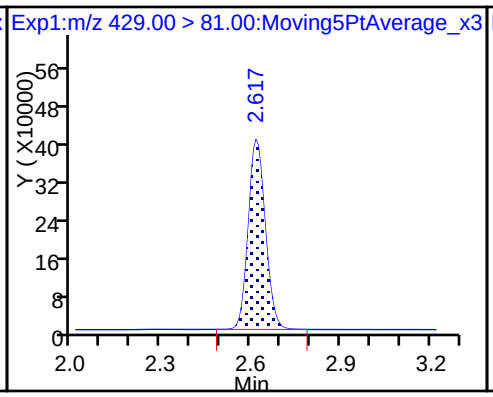
8 Perfluorohexanesulfonic acid



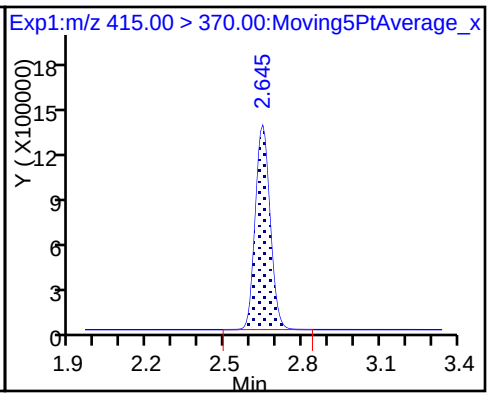
13 Sodium 1H,1H,2H,2H-perfluorooctane



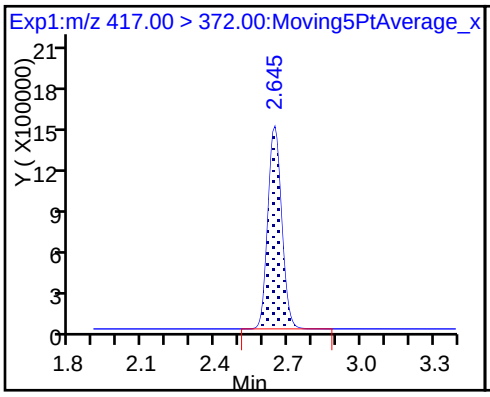
D 12 M2-6:2FTS



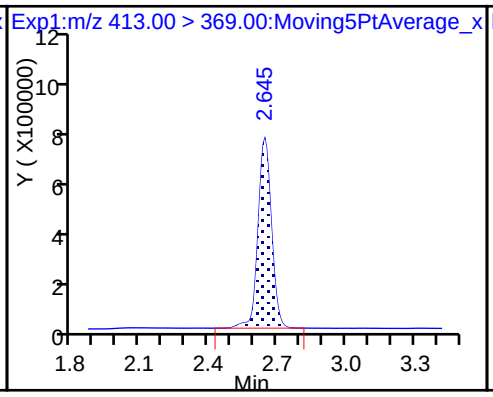
* 62 13C2-PFOA



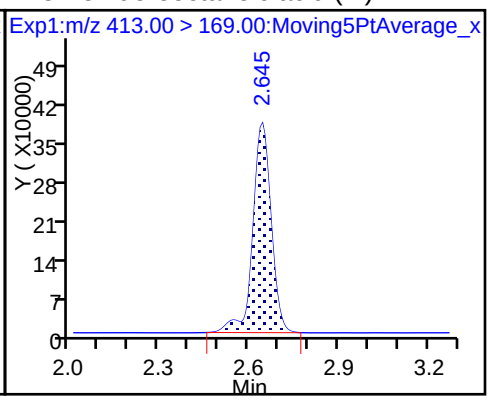
D 14 13C4 PFOA



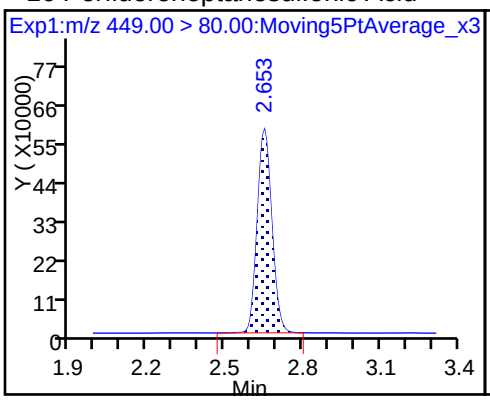
15 Perfluorooctanoic acid



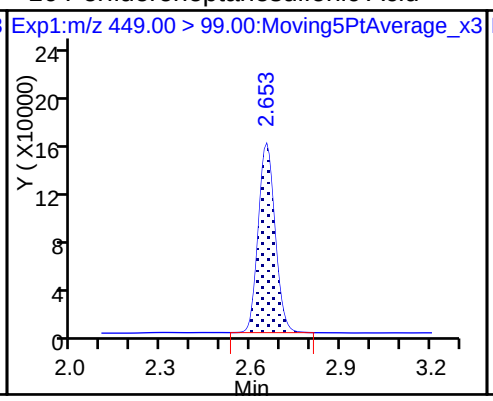
15 Perfluorooctanoic acid (M)



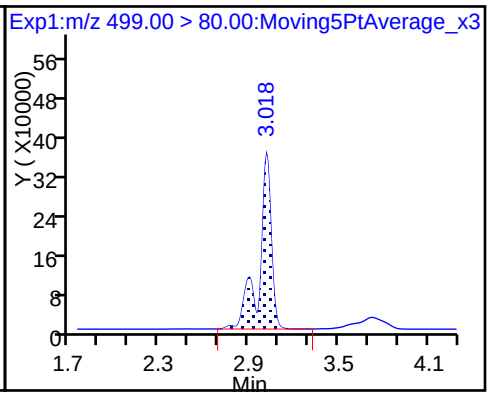
16 Perfluoroheptanesulfonic Acid



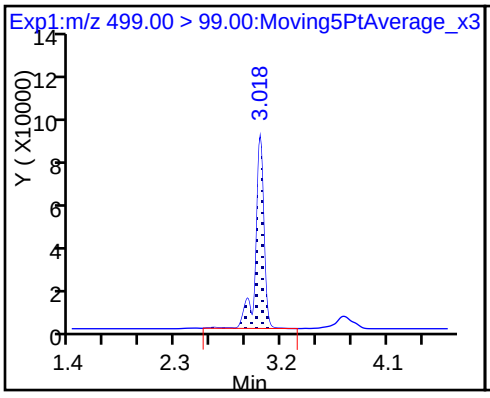
16 Perfluoroheptanesulfonic Acid



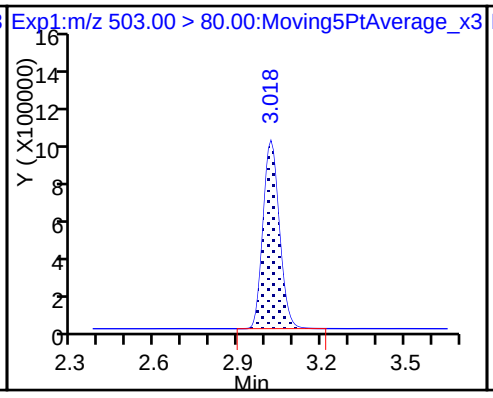
17 Perfluorooctane sulfonic acid



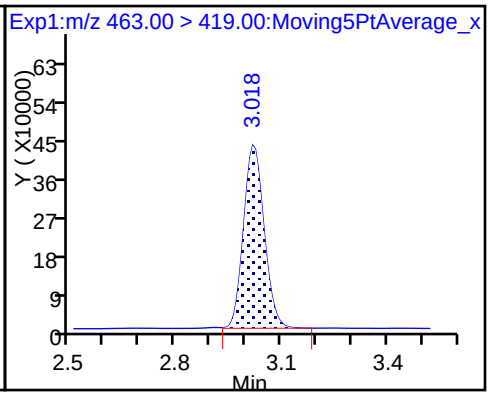
17 Perfluorooctane sulfonic acid



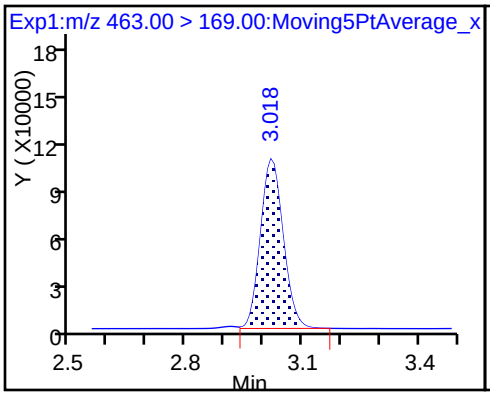
D 18 13C4 PFOS



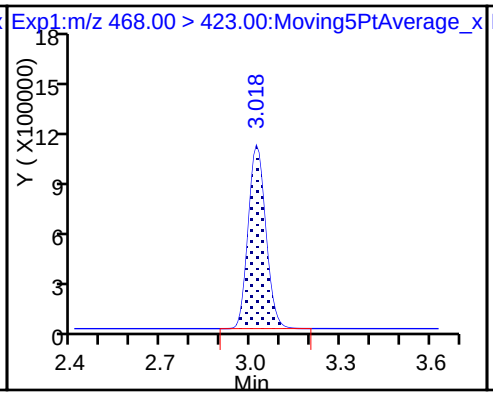
20 Perfluorononanoic acid



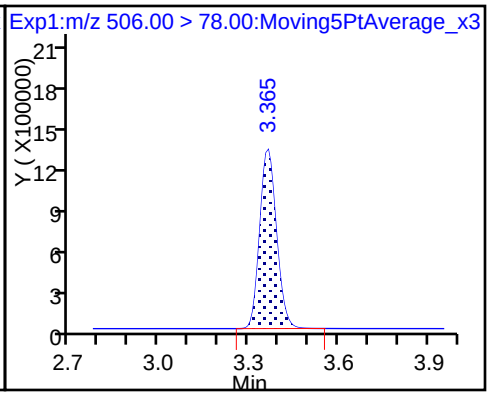
20 Perfluorononanoic acid



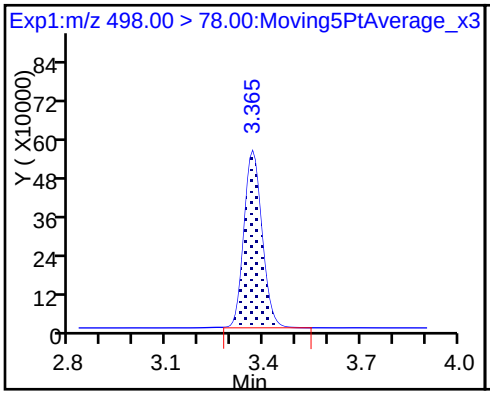
D 19 13C5 PFNA



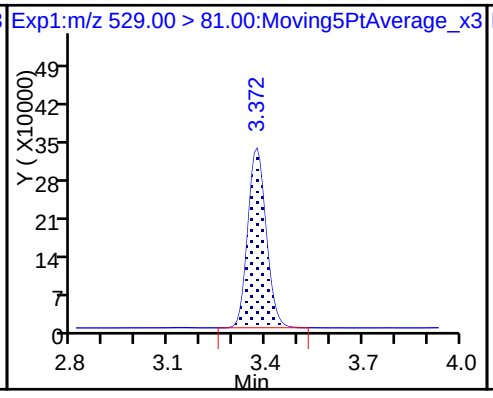
D 21 13C8 FOSA



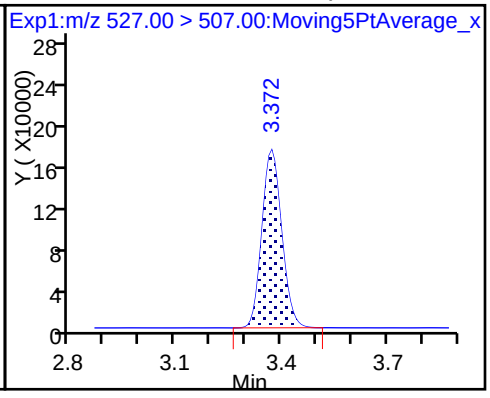
22 Perfluorooctane Sulfonamide



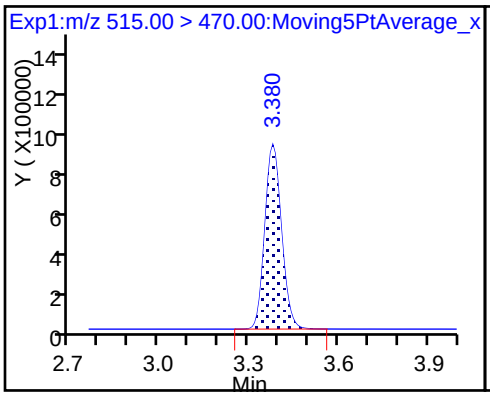
D 26 M2-8:2FTS



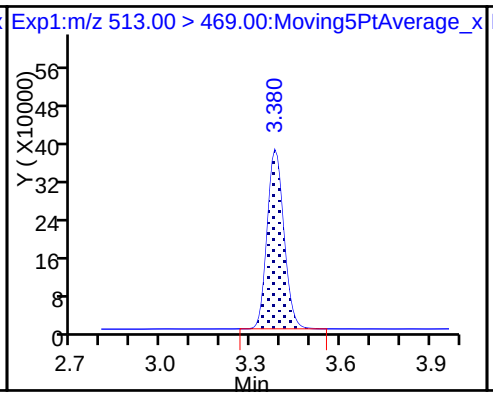
25 Sodium 1H,1H,2H,2H-perfluorodecane



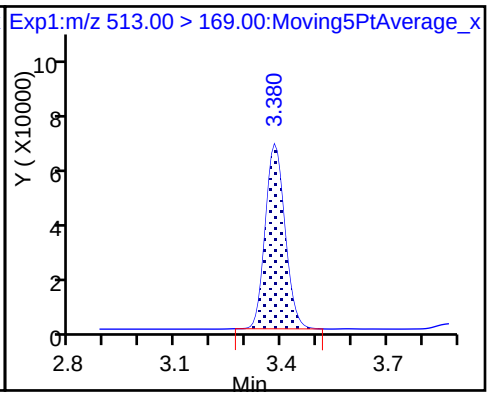
D 23 13C2 PFDA



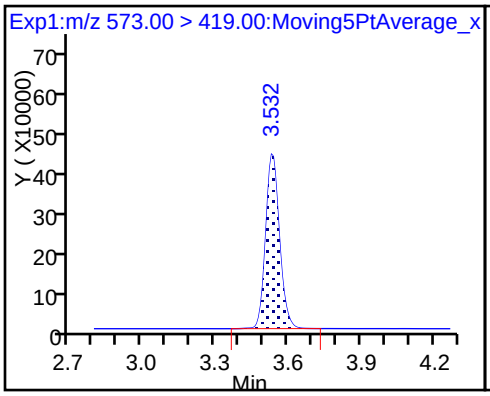
24 Perfluorodecanoic acid



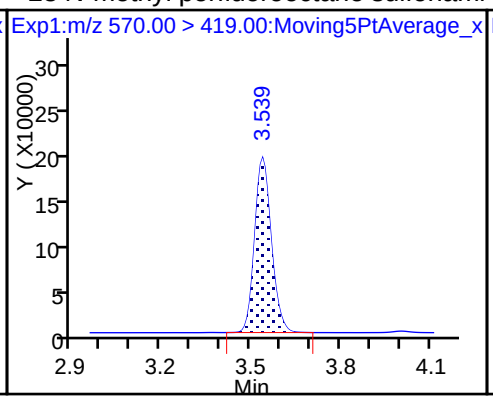
24 Perfluorodecanoic acid



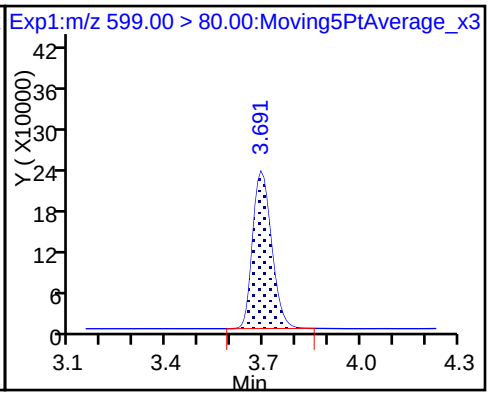
D 27 d3-NMeFOSAA



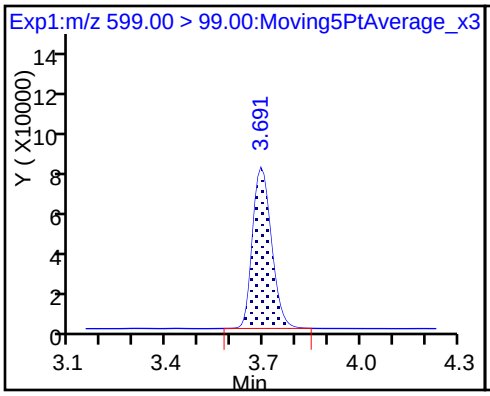
28 N-methyl perfluorooctane sulfonami



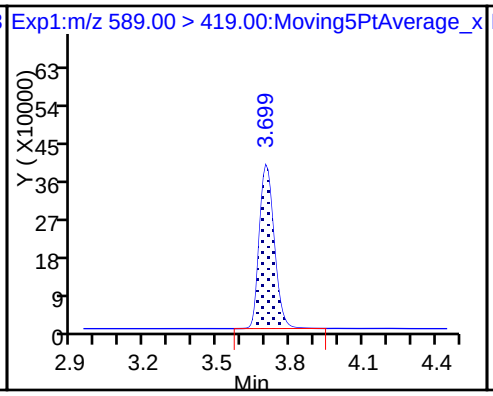
29 Perfluorodecane Sulfonic acid



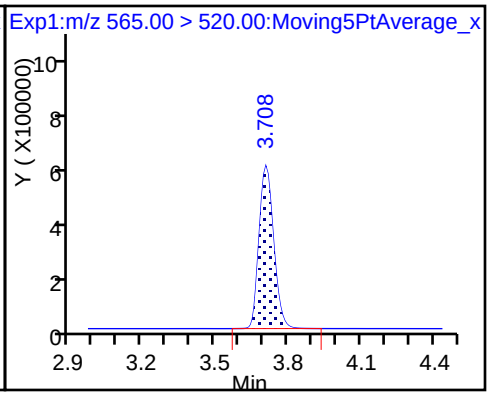
29 Perfluorodecane Sulfonic acid



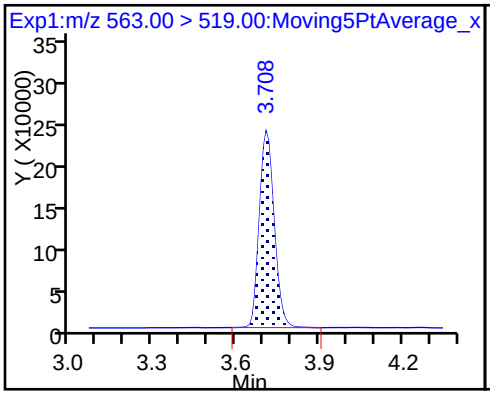
D 32 d5-NEtFOSAA



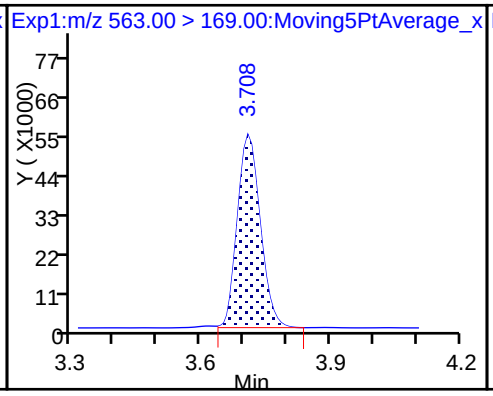
D 30 13C2 PFUnA



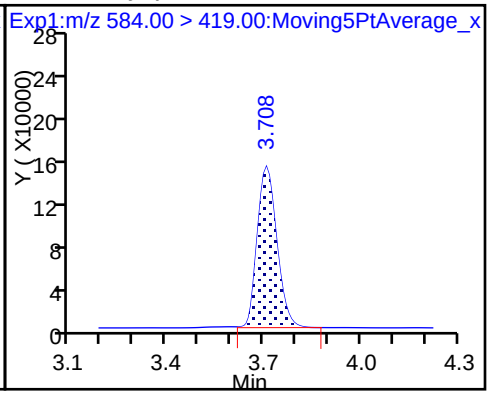
31 Perfluoroundecanoic acid



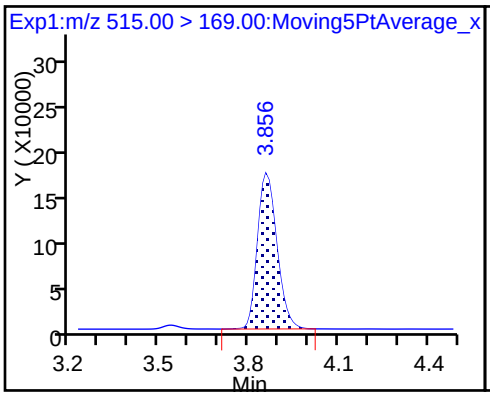
31 Perfluoroundecanoic acid



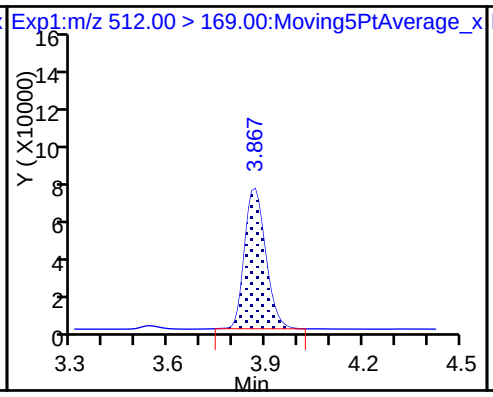
33 N-ethyl perfluorooctane sulfonamid



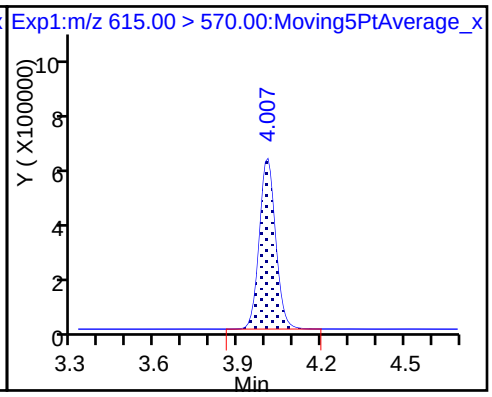
D 34 d-N-MeFOSA-M



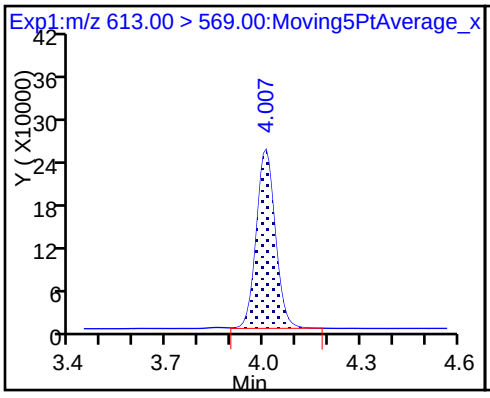
35 MeFOSA



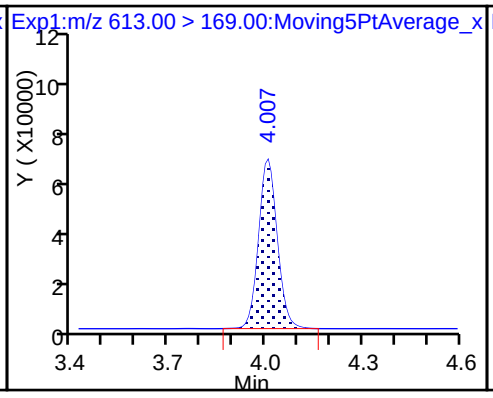
D 36 13C2 PFDoA



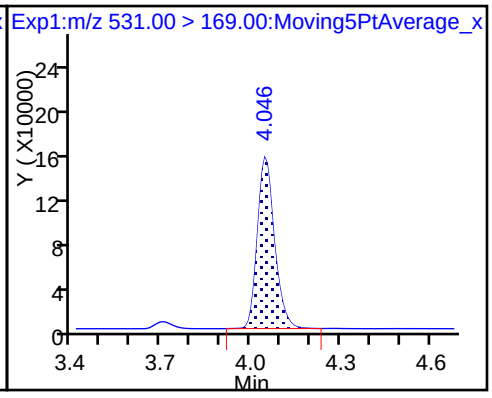
37 Perfluorododecanoic acid



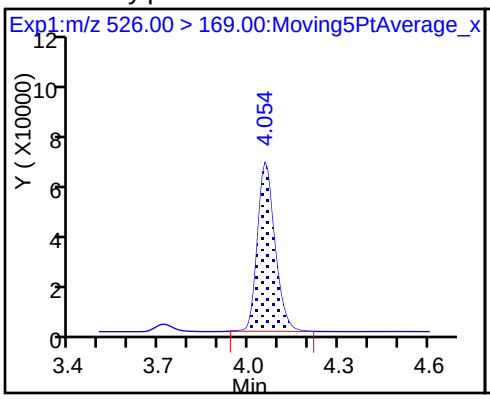
37 Perfluorododecanoic acid



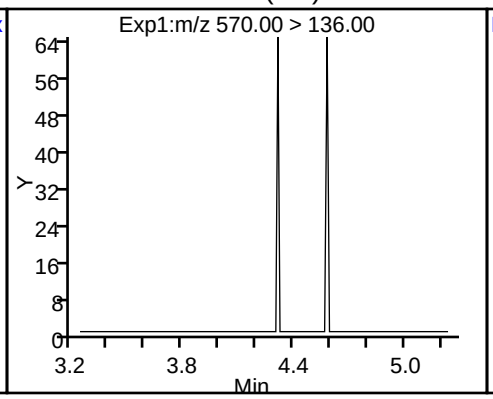
D 38 d-N-EtFOSA-M



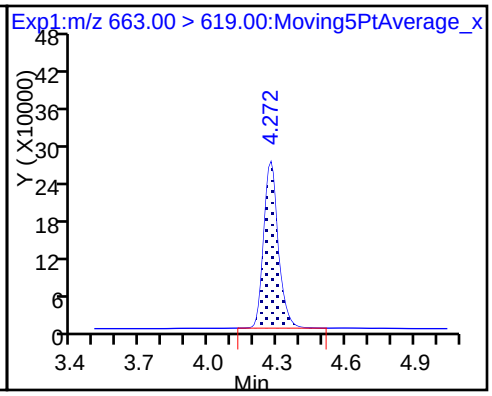
39 N-ethylperfluoro-1-octanesulfonami



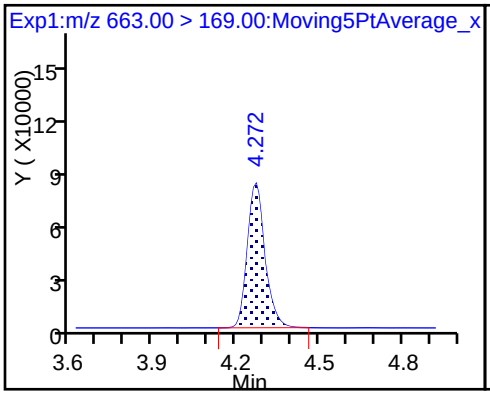
D 40 d-N-EtFOSE-M (ND)



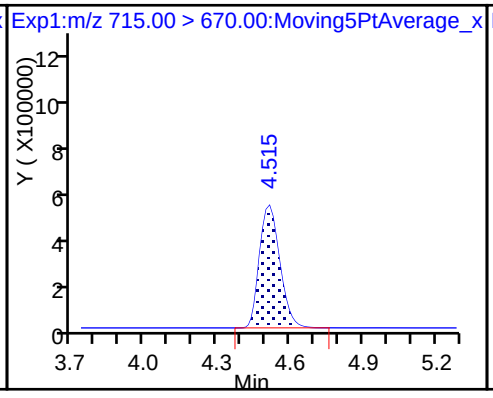
41 Perfluorotridecanoic acid



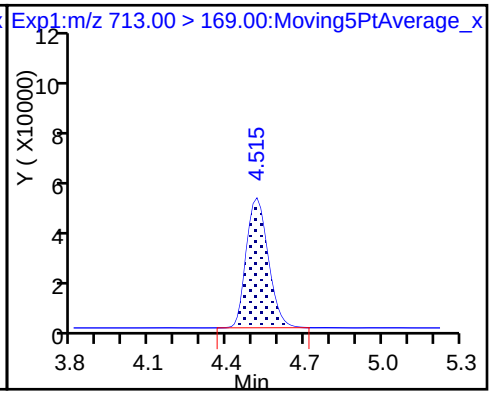
41 Perfluorotridecanoic acid



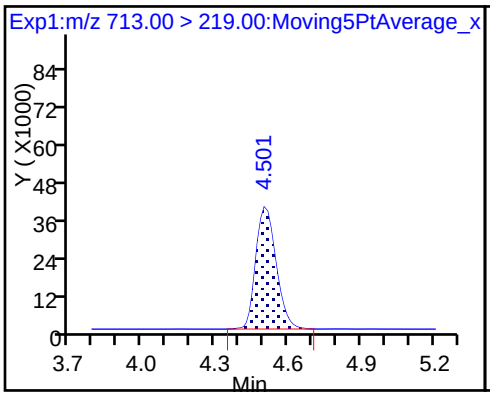
D 43 13C2-PFTeDA



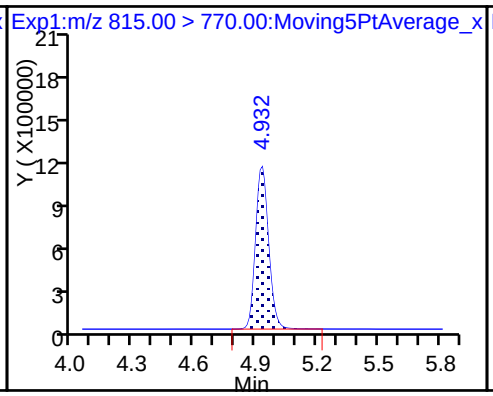
42 Perfluorotetradecanoic acid



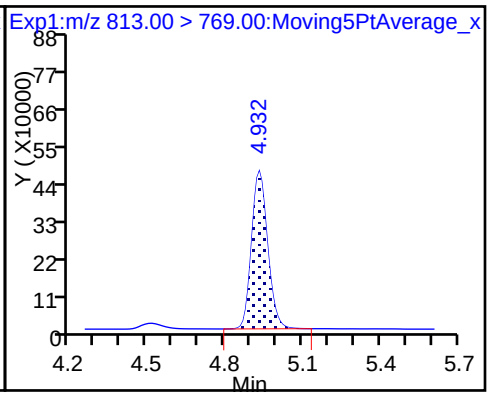
42 Perfluorotetradecanoic acid



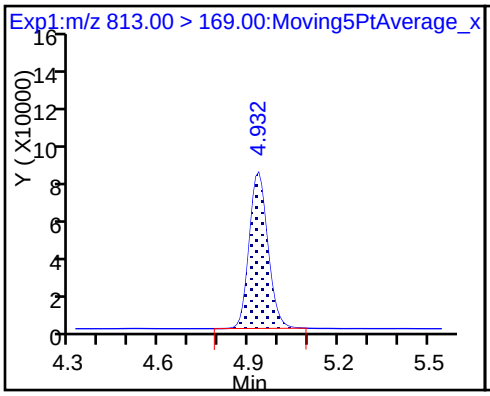
D 44 13C2-PFHxDA



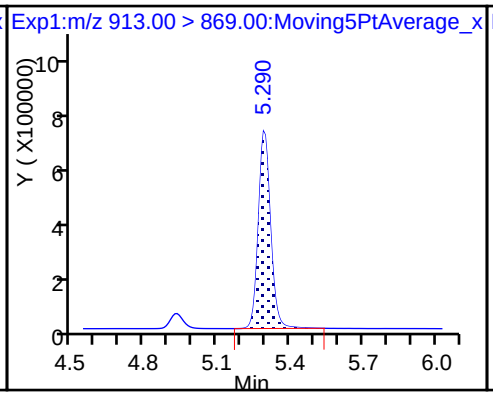
45 Perfluorohexadecanoic acid



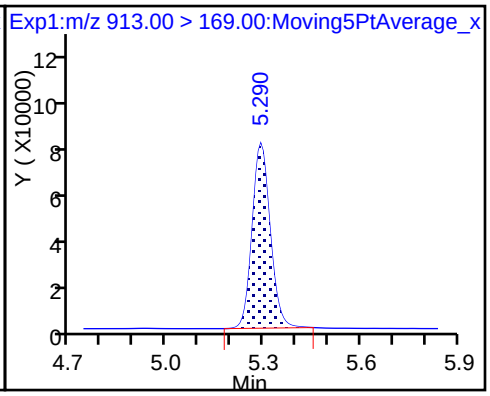
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

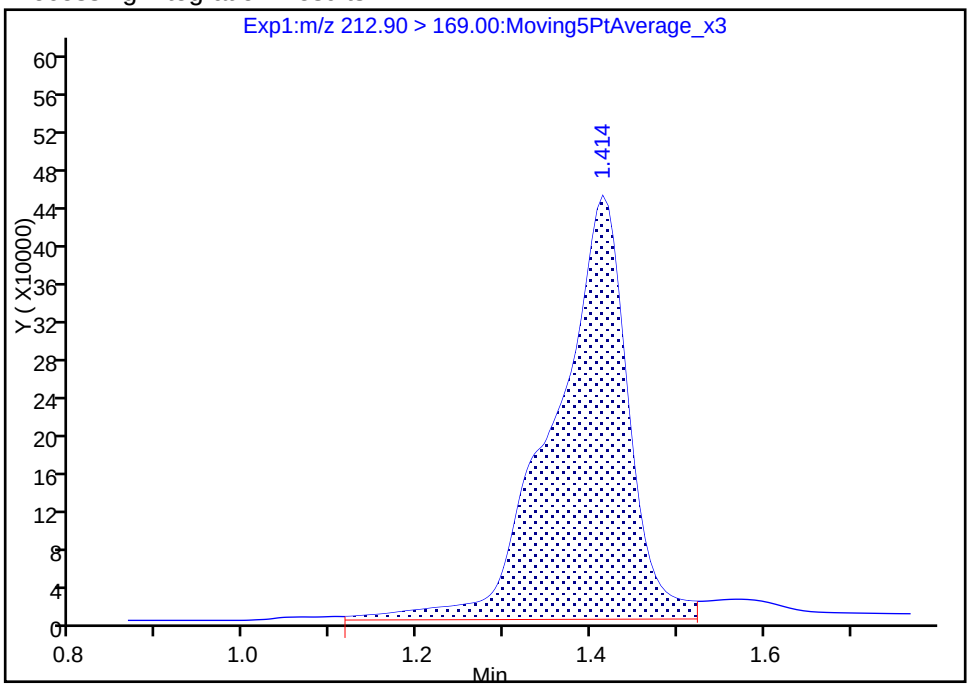
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_030.d				
Injection Date:	20-Dec-2017 08:20:46	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-C MSD				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	21	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

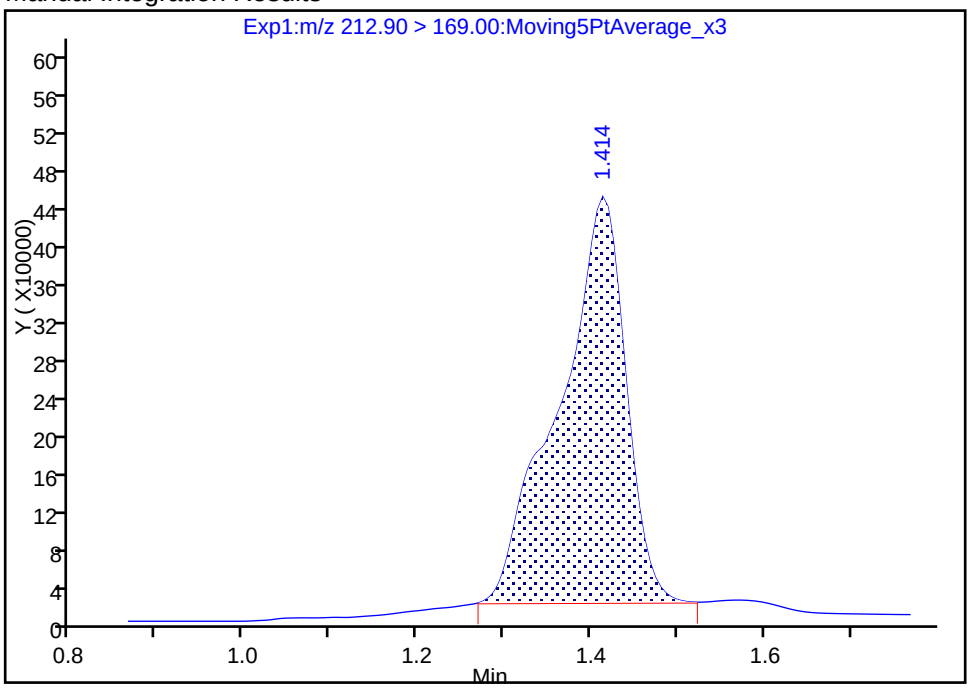
Processing Integration Results

RT: 1.41
Area: 2663765
Amount: 1.483326
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 2301833
Amount: 1.281783
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:30:16

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

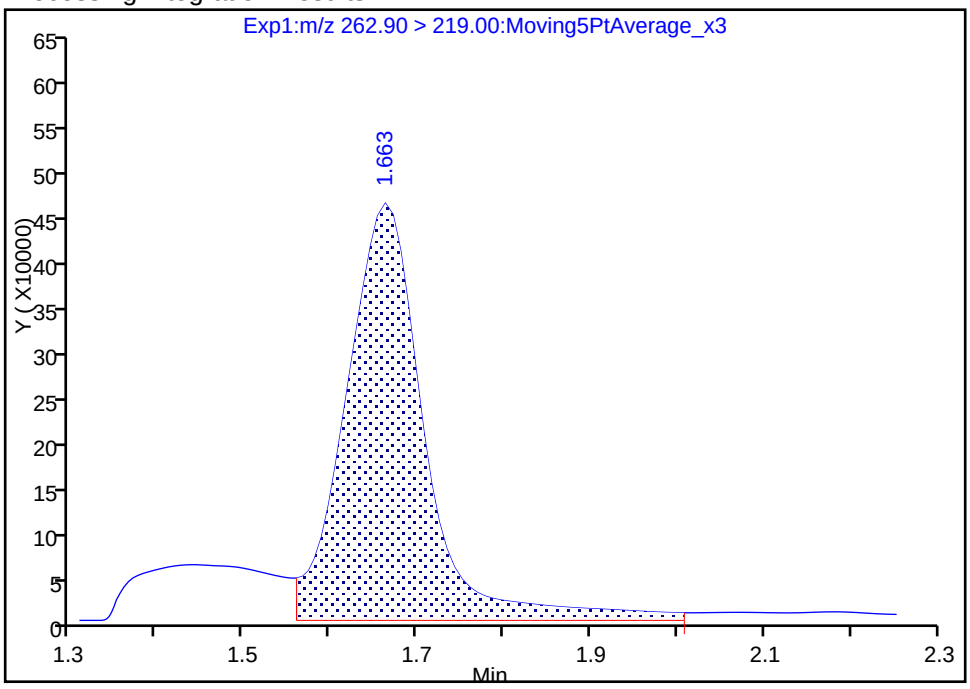
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_030.d				
Injection Date:	20-Dec-2017 08:20:46	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-C MSD				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	21	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

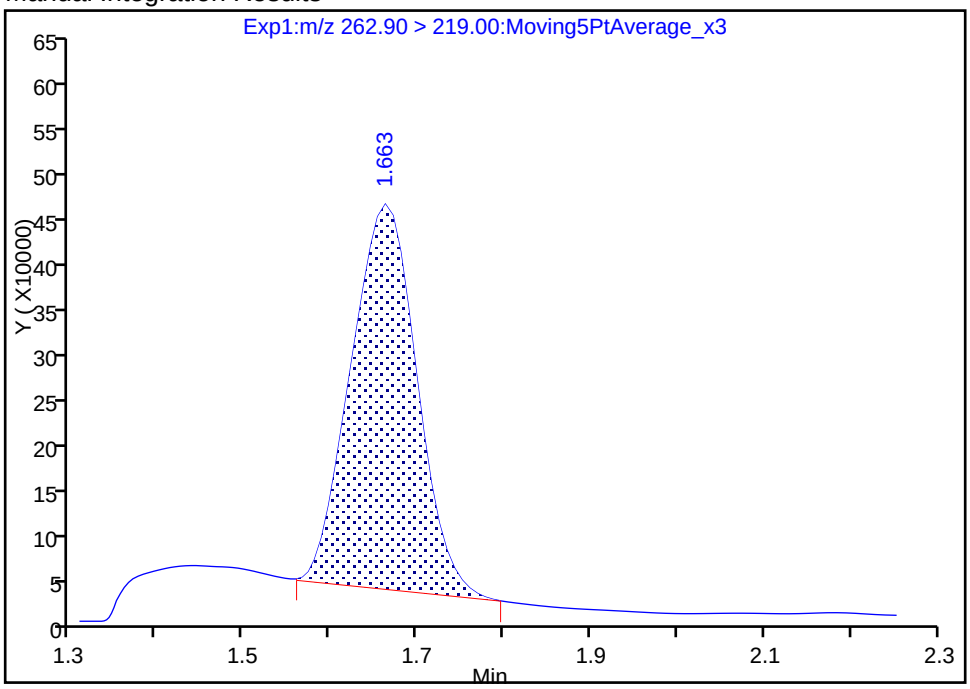
Processing Integration Results

RT: 1.66
Area: 2922772
Amount: 1.479273
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 2269799
Amount: 1.148790
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:30:31

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

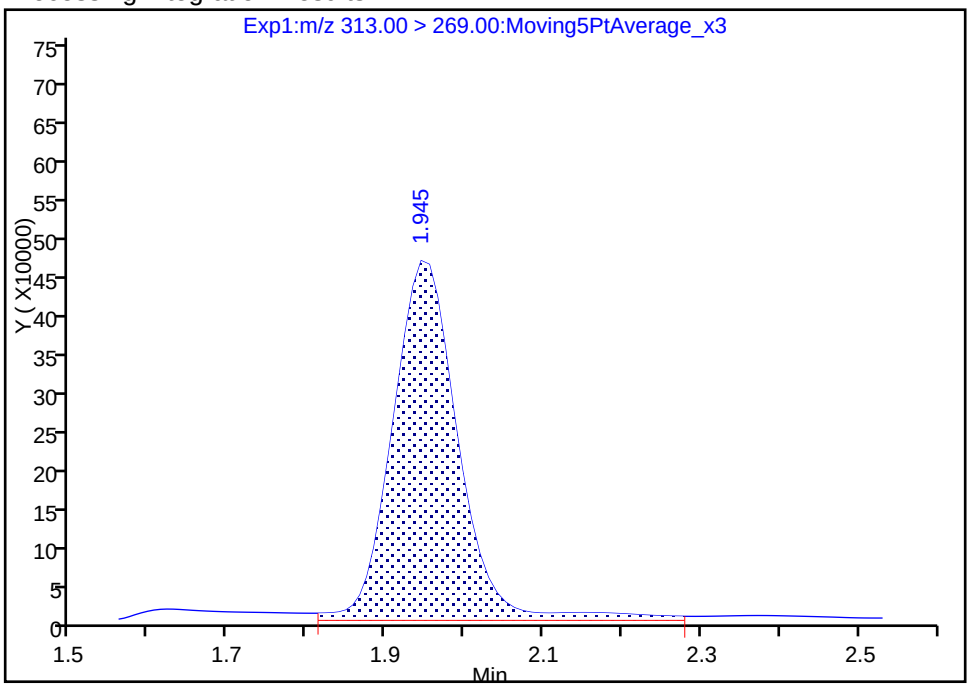
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Injection Date:	20-Dec-2017 08:20:46	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-C MSD				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	21	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

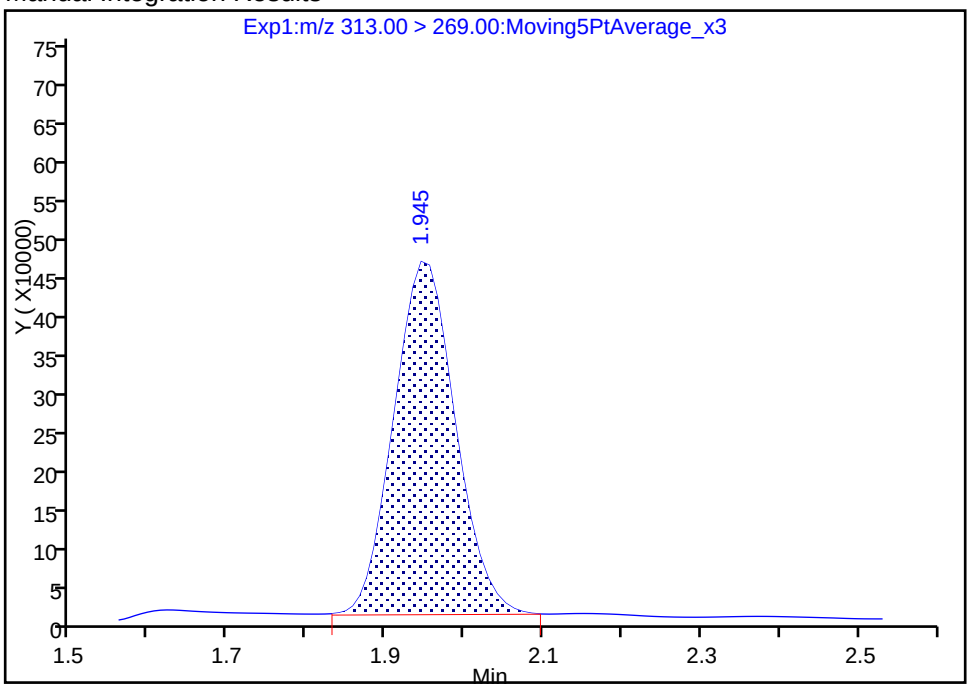
Processing Integration Results

RT: 1.94
Area: 2727086
Amount: 1.451465
Amount Units: ng/ml



Manual Integration Results

RT: 1.94
Area: 2490116
Amount: 1.325340
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:30:58

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

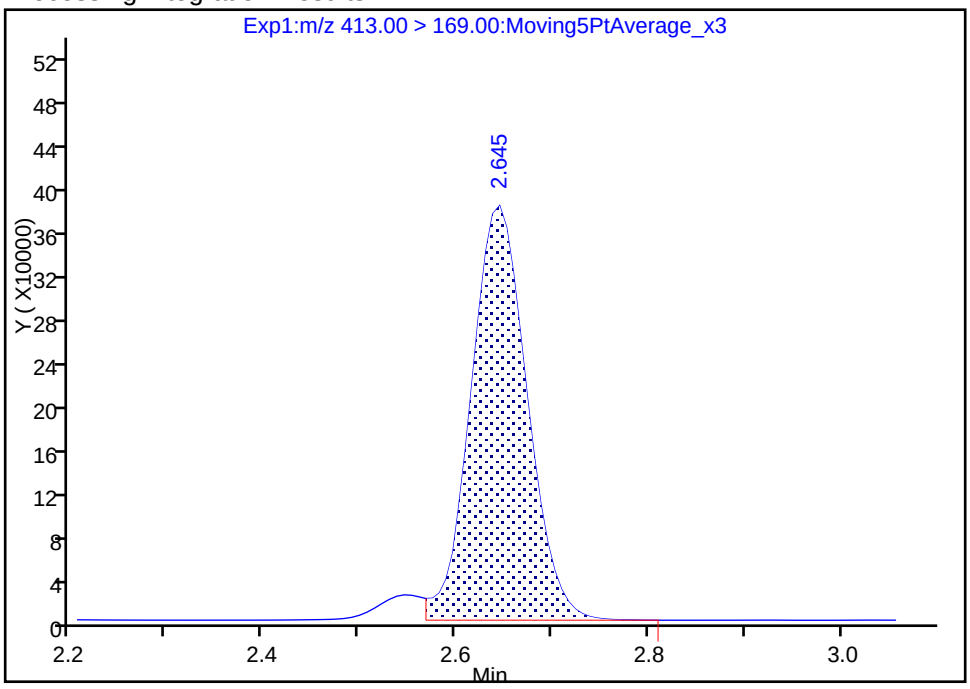
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b\2017.12.19LLC_030.d				
Injection Date:	20-Dec-2017 08:20:46	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-C MSD				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	21	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

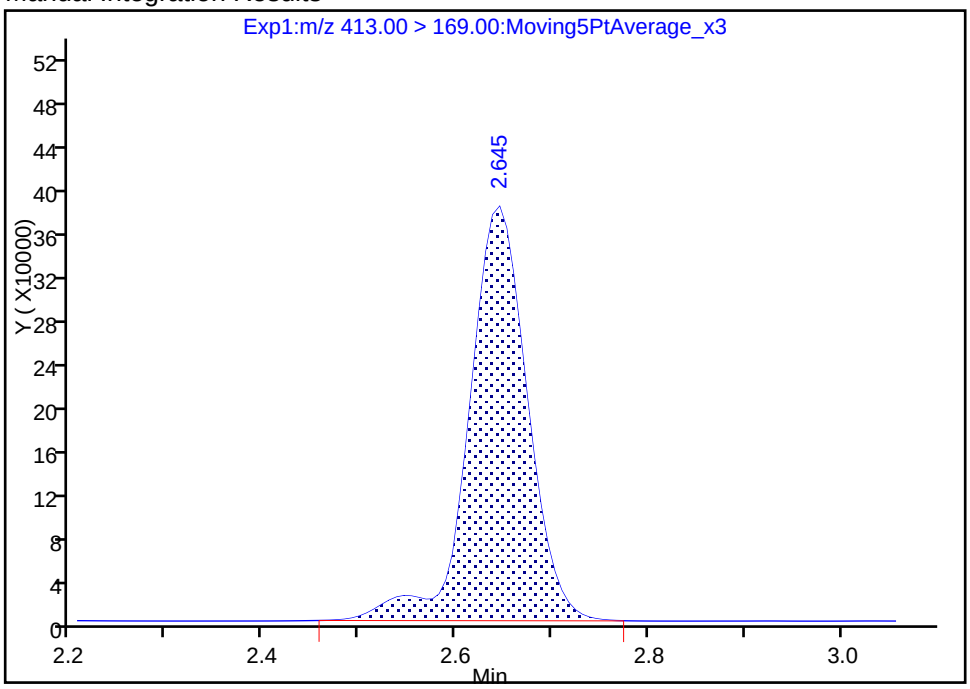
Processing Integration Results

RT: 2.65
Area: 1538843
Amount: 1.224092
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 1607147
Amount: 1.224092
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:31:20

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

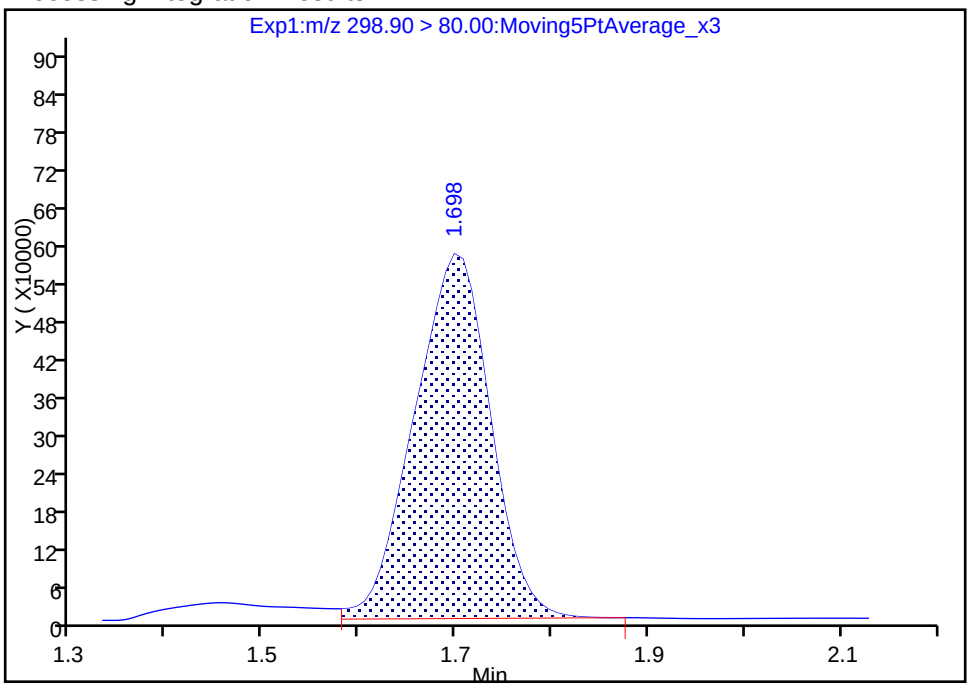
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Injection Date:	20-Dec-2017 08:20:46	Instrument ID:	A8_N		
Lims ID:	320-34182-A-3-C MSD				
Client ID:	FW-LN001-A				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	21	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

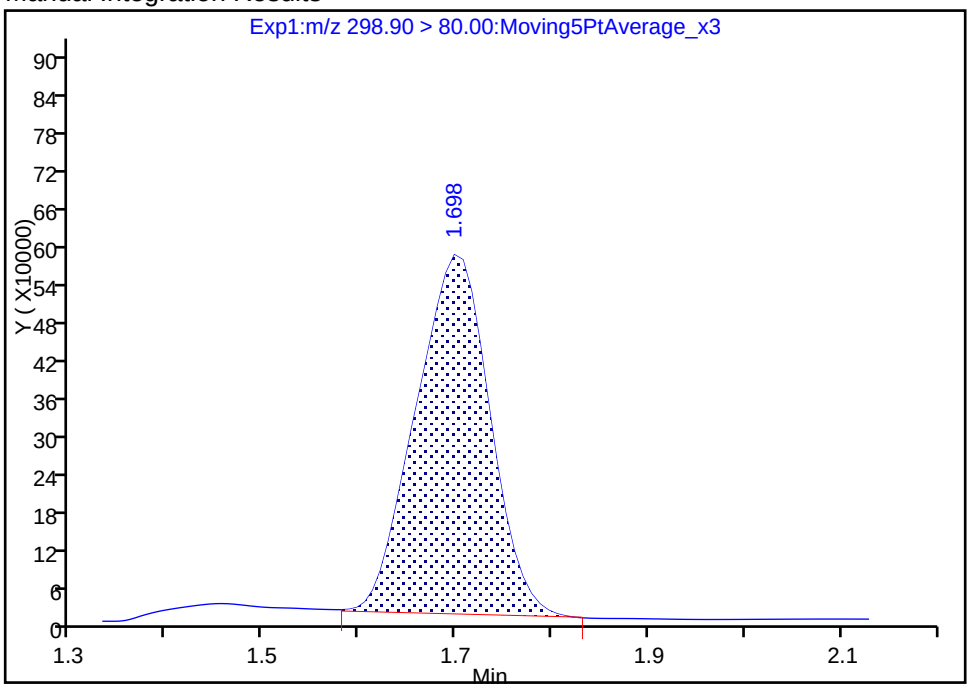
Processing Integration Results

RT: 1.70
Area: 3163271
Amount: 1.065327
Amount Units: ng/ml



Manual Integration Results

RT: 1.70
Area: 3036426
Amount: 1.022608
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 16:30:44

Audit Action: Manually Integrated Audit Reason: Baseline

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Instrument ID: A8_N Start Date: 12/14/2017 15:52

Analysis Batch Number: 199988 End Date: 12/14/2017 17:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 320-199988/2		12/14/2017 15:52	1	2017.12.14ICAL_002.d	GeminiC18 3x100 3(mm)
IC 320-199988/3		12/14/2017 16:00	1	2017.12.14ICAL_003.d	GeminiC18 3x100 3(mm)
IC 320-199988/4		12/14/2017 16:08	1	2017.12.14ICAL_004.d	GeminiC18 3x100 3(mm)
IC 320-199988/5		12/14/2017 16:16	1	2017.12.14ICAL_005.d	GeminiC18 3x100 3(mm)
IC 320-199988/6		12/14/2017 16:24	1	2017.12.14ICAL_006.d	GeminiC18 3x100 3(mm)
IC 320-199988/7		12/14/2017 16:32	1	2017.12.14ICAL_007.d	GeminiC18 3x100 3(mm)
IC 320-199988/8		12/14/2017 16:39	1	2017.12.14ICAL_008.d	GeminiC18 3x100 3(mm)
IC 320-199988/9		12/14/2017 16:47	1	2017.12.14ICAL_009.d	GeminiC18 3x100 3(mm)
IC 320-199988/10		12/14/2017 16:55	1	2017.12.14ICAL_010.d	GeminiC18 3x100 3(mm)
ICB 320-199988/11		12/14/2017 17:03	1	2017.12.14ICAL_011.d	GeminiC18 3x100 3(mm)
ICV 320-199988/12		12/14/2017 17:11	1	2017.12.14ICAL_012.d	GeminiC18 3x100 3(mm)
ZZZZZ		12/14/2017 17:19	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/14/2017 17:27	1		GeminiC18 3x100 3(mm)
CCVL 320-199988/15		12/14/2017 17:34	1		GeminiC18 3x100 3(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Instrument ID: A8_N Start Date: 12/19/2017 11:52

Analysis Batch Number: 200485 End Date: 12/19/2017 12:23

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVL 320-200485/1		12/19/2017 11:52	1	2017.12.19LLAX_003.d	GeminiC18 3x100 3(mm)
CCV 320-200485/2		12/19/2017 11:59	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/19/2017 12:07	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/19/2017 12:15	1		GeminiC18 3x100 3(mm)
CCV 320-200485/5		12/19/2017 12:23	1		GeminiC18 3x100 3(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Instrument ID: A8_N Start Date: 12/19/2017 13:49

Analysis Batch Number: 200596 End Date: 12/19/2017 15:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 320-200596/2		12/19/2017 13:49	1	2017.12.19ICALX 002.d	GeminiC18 3x100 3(mm)
IC 320-200596/3		12/19/2017 13:57	1	2017.12.19ICALX 003.d	GeminiC18 3x100 3(mm)
IC 320-200596/4		12/19/2017 14:05	1	2017.12.19ICALX 004.d	GeminiC18 3x100 3(mm)
IC 320-200596/5		12/19/2017 14:13	1	2017.12.19ICALX 005.d	GeminiC18 3x100 3(mm)
IC 320-200596/6		12/19/2017 14:21	1	2017.12.19ICALX 006.d	GeminiC18 3x100 3(mm)
IC 320-200596/7		12/19/2017 14:28	1	2017.12.19ICALX 007.d	GeminiC18 3x100 3(mm)
IC 320-200596/8		12/19/2017 14:36	1	2017.12.19ICALX 008.d	GeminiC18 3x100 3(mm)
IC 320-200596/9		12/19/2017 14:44	1	2017.12.19ICALX 009.d	GeminiC18 3x100 3(mm)
IC 320-200596/10		12/19/2017 14:52	1	2017.12.19ICALX 010.d	GeminiC18 3x100 3(mm)
ICB 320-200596/11		12/19/2017 15:00	1	2017.12.19ICALX 011.d	GeminiC18 3x100 3(mm)
ICV 320-200596/12		12/19/2017 15:08	1	2017.12.19ICALX 012.d	GeminiC18 3x100 3(mm)
ZZZZZ		12/19/2017 15:15	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/19/2017 15:23	1		GeminiC18 3x100 3(mm)
CCVL 320-200596/15		12/19/2017 15:31	1		GeminiC18 3x100 3(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Instrument ID: A8_N Start Date: 12/20/2017 06:30

Analysis Batch Number: 200662 End Date: 12/20/2017 07:17

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-200662/1		12/20/2017 06:30	1	2017.12.19LLC_016.d	GeminiC18 3x100 3(mm)
MB 320-200330/1-A		12/20/2017 06:38	1	2017.12.19LLC_017.d	GeminiC18 3x100 3(mm)
LCS 320-200330/2-A		12/20/2017 06:46	1	2017.12.19LLC_018.d	GeminiC18 3x100 3(mm)
LCSD 320-200330/3-A		12/20/2017 06:54	1	2017.12.19LLC_019.d	GeminiC18 3x100 3(mm)
320-34182-21		12/20/2017 07:01	1	2017.12.19LLC_020.d	GeminiC18 3x100 3(mm)
320-34182-22		12/20/2017 07:09	1	2017.12.19LLC_021.d	GeminiC18 3x100 3(mm)
CCV 320-200662/7		12/20/2017 07:17	1	2017.12.19LLC_022.d	GeminiC18 3x100 3(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Instrument ID: A8_N Start Date: 12/20/2017 07:25

Analysis Batch Number: 200666 End Date: 12/20/2017 10:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-200666/1		12/20/2017 07:25	1	2017.12.19LLC_023.d	GeminiC18 3x100 3(mm)
MB 320-200328/1-A		12/20/2017 07:33	1	2017.12.19LLC_024.d	GeminiC18 3x100 3(mm)
LCS 320-200328/2-A		12/20/2017 07:41	1	2017.12.19LLC_025.d	GeminiC18 3x100 3(mm)
320-34182-1		12/20/2017 07:49	1	2017.12.19LLC_026.d	GeminiC18 3x100 3(mm)
320-34182-2		12/20/2017 07:57	1	2017.12.19LLC_027.d	GeminiC18 3x100 3(mm)
320-34182-3		12/20/2017 08:05	1	2017.12.19LLC_028.d	GeminiC18 3x100 3(mm)
320-34182-3 MS		12/20/2017 08:12	1	2017.12.19LLC_029.d	GeminiC18 3x100 3(mm)
320-34182-3 MSD		12/20/2017 08:20	1	2017.12.19LLC_030.d	GeminiC18 3x100 3(mm)
320-34182-4		12/20/2017 08:28	1	2017.12.19LLC_031.d	GeminiC18 3x100 3(mm)
320-34182-5		12/20/2017 08:36	1	2017.12.19LLC_032.d	GeminiC18 3x100 3(mm)
320-34182-6		12/20/2017 08:44	1	2017.12.19LLC_033.d	GeminiC18 3x100 3(mm)
CCV 320-200666/12		12/20/2017 08:52	1	2017.12.19LLC_034.d	GeminiC18 3x100 3(mm)
320-34182-7		12/20/2017 09:00	1	2017.12.19LLC_035.d	GeminiC18 3x100 3(mm)
320-34182-8		12/20/2017 09:08	1	2017.12.19LLC_036.d	GeminiC18 3x100 3(mm)
320-34182-9		12/20/2017 09:16	1	2017.12.19LLC_037.d	GeminiC18 3x100 3(mm)
320-34182-10		12/20/2017 09:23	1	2017.12.19LLC_038.d	GeminiC18 3x100 3(mm)
320-34182-11		12/20/2017 09:31	1	2017.12.19LLC_039.d	GeminiC18 3x100 3(mm)
320-34182-12		12/20/2017 09:39	1	2017.12.19LLC_040.d	GeminiC18 3x100 3(mm)
320-34182-13		12/20/2017 09:47	1	2017.12.19LLC_041.d	GeminiC18 3x100 3(mm)
320-34182-14		12/20/2017 09:55	1	2017.12.19LLC_042.d	GeminiC18 3x100 3(mm)
320-34182-15		12/20/2017 10:03	1	2017.12.19LLC_043.d	GeminiC18 3x100 3(mm)
320-34182-16		12/20/2017 10:11	1	2017.12.19LLC_044.d	GeminiC18 3x100 3(mm)
CCV 320-200666/23		12/20/2017 10:18	1	2017.12.19LLC_045.d	GeminiC18 3x100 3(mm)
320-34182-17		12/20/2017 10:26	1	2017.12.19LLC_046.d	GeminiC18 3x100 3(mm)
320-34182-18		12/20/2017 10:34	1	2017.12.19LLC_047.d	GeminiC18 3x100 3(mm)
320-34182-19		12/20/2017 10:42	1	2017.12.19LLC_048.d	GeminiC18 3x100 3(mm)
320-34182-20		12/20/2017 10:50	1	2017.12.19LLC_049.d	GeminiC18 3x100 3(mm)
CCV 320-200666/28		12/20/2017 10:58	1	2017.12.19LLC_050.d	GeminiC18 3x100 3(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Instrument ID: A8_N Start Date: 12/26/2017 16:55

Analysis Batch Number: 201411 End Date: 12/27/2017 09:54

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 320-201411/2		12/26/2017 16:55	1	2017.12.26ICALA 002.d	GeminiC18 3x100 3(mm)
IC 320-201411/3		12/26/2017 17:03	1	2017.12.26ICALA 003.d	GeminiC18 3x100 3(mm)
IC 320-201411/4		12/26/2017 17:11	1	2017.12.26ICALA 004.d	GeminiC18 3x100 3(mm)
IC 320-201411/5		12/26/2017 17:19	1	2017.12.26ICALA 005.d	GeminiC18 3x100 3(mm)
IC 320-201411/6		12/26/2017 17:27	1	2017.12.26ICALA 006.d	GeminiC18 3x100 3(mm)
IC 320-201411/7		12/26/2017 17:34	1	2017.12.26ICALA 007.d	GeminiC18 3x100 3(mm)
IC 320-201411/8		12/26/2017 17:42	1	2017.12.26ICALA 008.d	GeminiC18 3x100 3(mm)
IC 320-201411/9		12/26/2017 17:50	1	2017.12.26ICALA 009.d	GeminiC18 3x100 3(mm)
IC 320-201411/10		12/26/2017 17:58	1	2017.12.26ICALA 010.d	GeminiC18 3x100 3(mm)
ICB 320-201411/17		12/27/2017 09:46	1		GeminiC18 3x100 3(mm)
ICV 320-201411/18		12/27/2017 09:54	1	2017.12.27ICALA 012.d	GeminiC18 3x100 3(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Instrument ID: A8_N Start Date: 12/28/2017 12:28

Analysis Batch Number: 201684 End Date: 12/28/2017 12:51

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-201684/1		12/28/2017 12:28	1	2017.12.28LLB_032.d	GeminiC18 3x100 3(mm)
LCS 320-200328/2-ARA		12/28/2017 12:35	1	2017.12.28LLB_033.d	GeminiC18 3x100 3(mm)
ZZZZZ		12/28/2017 12:43	1		GeminiC18 3x100 3(mm)
CCV 320-201684/4		12/28/2017 12:51	1	2017.12.28LLB_035.d	GeminiC18 3x100 3(mm)

537 (modified)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Batch Number: 200328 Batch Start Date: 12/18/17 13:25 Batch Analyst: Kolstad, Kate M

Batch Method: 3535 Batch End Date: 12/18/17 22:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFC_ALL_SU 00028	LCPFC-IS 00018
MB 320-200328/1		3535, 537 (modified)				250.00 mL	10.00 mL	500 uL	500 uL
LCS 320-200328/2		3535, 537 (modified)				250.00 mL	10.00 mL	500 uL	500 uL
320-34182-A-1	MW-CR001-A	3535, 537 (modified)	T	273.23 g	26.53 g	246.7 mL	10.00 mL	500 uL	500 uL
320-34182-A-2	MW-CR002-A	3535, 537 (modified)	T	269.19 g	26.81 g	242.4 mL	10.00 mL	500 uL	500 uL
320-34182-A-3	FW-LN001-A	3535, 537 (modified)	T	282.02 g	26.47 g	255.6 mL	10.00 mL	500 uL	500 uL
320-34182-A-3 MS	FW-LN001-A	3535, 537 (modified)	T	276.34 g	26.58 g	249.8 mL	10.00 mL	500 uL	500 uL
320-34182-A-3 MSD	FW-LN001-A	3535, 537 (modified)	T	265.10 g	27.05 g	238.1 mL	10.00 mL	500 uL	500 uL
320-34182-A-4	FW-YC001-A	3535, 537 (modified)	T	269.88 g	26.29 g	243.6 mL	10.00 mL	500 uL	500 uL
320-34182-A-5	FW-CR008-A	3535, 537 (modified)	T	274.23 g	26.36 g	247.9 mL	10.00 mL	500 uL	500 uL
320-34182-A-6	FW-CR007-A	3535, 537 (modified)	T	270.75 g	26.60 g	244.2 mL	10.00 mL	500 uL	500 uL
320-34182-A-7	FW-CR006-A	3535, 537 (modified)	T	269.41 g	26.80 g	242.6 mL	10.00 mL	500 uL	500 uL
320-34182-A-8	FW-FR004-A	3535, 537 (modified)	T	280.30 g	27.65 g	252.7 mL	10.00 mL	500 uL	500 uL
320-34182-A-9	MW-FR003-A	3535, 537 (modified)	T	275.65 g	29.21 g	246.4 mL	10.00 mL	500 uL	500 uL
320-34182-A-10	FW-GA003-A	3535, 537 (modified)	T	268.59 g	28.68 g	239.9 mL	10.00 mL	500 uL	500 uL
320-34182-A-11	MW-GA001-A	3535, 537 (modified)	T	284.56 g	27.75 g	256.8 mL	10.00 mL	500 uL	500 uL
320-34182-A-12	Dupe	3535, 537 (modified)	T	283.66 g	27.09 g	256.6 mL	10.00 mL	500 uL	500 uL
320-34182-A-13	MW-SP002-A	3535, 537 (modified)	T	286.55 g	26.61 g	259.9 mL	10.00 mL	500 uL	500 uL
320-34182-A-14	FW-SP003-A	3535, 537 (modified)	T	282.19 g	26.45 g	255.7 mL	10.00 mL	500 uL	500 uL
320-34182-A-15	MW-GA002-A	3535, 537 (modified)	T	269.92 g	29.08 g	240.8 mL	10.00 mL	500 uL	500 uL
320-34182-A-16	FW-GA004-A	3535, 537 (modified)	T	278.54 g	27.70 g	250.8 mL	10.00 mL	500 uL	500 uL
320-34182-A-17	FB001	3535, 537 (modified)	T	277.12 g	28.06 g	249.1 mL	10.00 mL	500 uL	500 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Batch Number: 200328 Batch Start Date: 12/18/17 13:25 Batch Analyst: Kolstad, Kate M

Batch Method: 3535 Batch End Date: 12/18/17 22:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFC_ALL_SU 00028	LCPFC-IS 00018
320-34182-A-18	EB001	3535, 537 (modified)	T	278.19 g	28.06 g	250.1 mL	10.00 mL	500 uL	500 uL
320-34182-A-19	FB002	3535, 537 (modified)	T	278.18 g	28.00 g	250.2 mL	10.00 mL	500 uL	500 uL
320-34182-A-20	EB002	3535, 537 (modified)	T	276.54 g	27.21 g	249.3 mL	10.00 mL	500 uL	500 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LCPFCSP 00117					
MB 320-200328/1		3535, 537 (modified)							
LCS 320-200328/2		3535, 537 (modified)		500 uL					
320-34182-A-1	MW-CR001-A	3535, 537 (modified)	T						
320-34182-A-2	MW-CR002-A	3535, 537 (modified)	T						
320-34182-A-3	FW-LN001-A	3535, 537 (modified)	T						
320-34182-A-3 MS	FW-LN001-A	3535, 537 (modified)	T	500 uL					
320-34182-A-3 MSD	FW-LN001-A	3535, 537 (modified)	T	500 uL					
320-34182-A-4	FW-YC001-A	3535, 537 (modified)	T						
320-34182-A-5	FW-CR008-A	3535, 537 (modified)	T						
320-34182-A-6	FW-CR007-A	3535, 537 (modified)	T						
320-34182-A-7	FW-CR006-A	3535, 537 (modified)	T						
320-34182-A-8	FW-FR004-A	3535, 537 (modified)	T						
320-34182-A-9	MW-FR003-A	3535, 537 (modified)	T						
320-34182-A-10	FW-GA003-A	3535, 537 (modified)	T						
320-34182-A-11	MW-GA001-A	3535, 537 (modified)	T						
320-34182-A-12	Dupe	3535, 537 (modified)	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Batch Number: 200328 Batch Start Date: 12/18/17 13:25 Batch Analyst: Kolstad, Kate M

Batch Method: 3535 Batch End Date: 12/18/17 22:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	LCPFCSP 00117					
320-34182-A-13	MW-SP002-A	3535, 537 (modified)	T						
320-34182-A-14	FW-SP003-A	3535, 537 (modified)	T						
320-34182-A-15	MW-GA002-A	3535, 537 (modified)	T						
320-34182-A-16	FW-GA004-A	3535, 537 (modified)	T						
320-34182-A-17	FB001	3535, 537 (modified)	T						
320-34182-A-18	EB001	3535, 537 (modified)	T						
320-34182-A-19	FB002	3535, 537 (modified)	T						
320-34182-A-20	EB002	3535, 537 (modified)	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Batch Number: 200328 Batch Start Date: 12/18/17 13:25 Batch Analyst: Kolstad, Kate M

Batch Method: 3535 Batch End Date: 12/18/17 22:40

Batch Notes	
Analyst ID - Aliquot Step	KMK
Balance ID	QA-070
Analyst ID - Final Volume Step	KMK
H2O ID	12/12/17
Hexane ID	1095479
Internal Standard ID#	1106115
Manifold ID	2, 11
Methanol ID	1105466
Sodium Hydroxide ID	1088697
Pipette ID	I46370G
Analyst ID - Reagent Drop	HJA
Analyst ID - IS Reagent Drop	TWL
Analyst ID - IS Reagent Drop Witness	KMK
Analyst ID - SU Reagent Drop	HJA
Analyst ID - SU Reagent Drop Witness	KMK
Solvent Lot #	1115883
Solvent Name	0.3% NH4OH/MeOH
SOP Number	WS-LC-0025
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003137011A

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Batch Number: 200330 Batch Start Date: 12/18/17 13:33 Batch Analyst: Kolstad, Kate M

Batch Method: 3535 Batch End Date: 12/18/17 22:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFC_ALL_SU 00028	LCPFC-IS 00018
MB 320-200330/1		3535, 537 (modified)				250.00 mL	10.00 mL	500 uL	500 uL
LCS 320-200330/2		3535, 537 (modified)				250.00 mL	10.00 mL	500 uL	500 uL
LCSD 320-200330/3		3535, 537 (modified)				250.00 mL	10.00 mL	500 uL	500 uL
320-34182-A-21	FB003	3535, 537 (modified)	T	275.11 g	27.86 g	247.3 mL	10.00 mL	500 uL	500 uL
320-34182-A-22	EB003	3535, 537 (modified)	T	278.33 g	28.10 g	250.2 mL	10.00 mL	500 uL	500 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LCPFCSP 00117					
MB 320-200330/1		3535, 537 (modified)							
LCS 320-200330/2		3535, 537 (modified)		500 uL					
LCSD 320-200330/3		3535, 537 (modified)		500 uL					
320-34182-A-21	FB003	3535, 537 (modified)	T						
320-34182-A-22	EB003	3535, 537 (modified)	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34182-1

SDG No.:

Batch Number: 200330 Batch Start Date: 12/18/17 13:33 Batch Analyst: Kolstad, Kate M

Batch Method: 3535 Batch End Date: 12/18/17 22:40

Batch Notes	
Analyst ID - Aliquot Step	KMK
Balance ID	QA-070
Analyst ID - Final Volume Step	KMK
H2O ID	12/12/17
Hexane ID	1095479
Internal Standard ID#	1106115
Manifold ID	"Nikita"
Methanol ID	1105466
Sodium Hydroxide ID	1088697
Pipette ID	I46370G
Analyst ID - Reagent Drop	HJA
Analyst ID - IS Reagent Drop	TWL
Analyst ID - IS Reagent Drop Witness	KMK
Analyst ID - SU Reagent Drop	HJA
Analyst ID - SU Reagent Drop Witness	KMK
Solvent Lot #	1115883
Solvent Name	0.3% NH4OH/MeOH
SOP Number	WS-LC-0025
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003137011A

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

West Sacramento

HPLC/LCMS Data Review Checklist

Job Number(s): 34182 Work List ID(s): 51959

Extraction Batch: 200330 Analysis Batch(es): 200662

Delivery Rank 4 Due Date: 12-29-17

A. Calibration/Instrument Run QC	1st Level	2nd Level	N/A
1. ICAL locked in Chrom and TALS? ICAL Batch# 200596	✓	✓	
2. ICAL, CCV Frequency & Criteria met.	✓	✓	
• $RF_{average}$ criteria appropriate for the method.	✓	✓	
• Linear Regression criteria appropriate if required ($r \geq 0.995$).			✓
• Quadratic fit criteria appropriate if required ($r^2 \geq 0.990$).			✓
• For Linear Regression and Quadratic fit – Does the y-intercept support ½ the reporting limit as described in CA-Q-S-005?			✓
• All curve points show calculated concentrations.	✓	✓	
3. Peaks correctly ID'd by data system.	✓	✓	
5. Tune check frequency & criteria met and Tune check report attached.			✓
B. QA/QC			
1. Are all QC samples properly linked in TALS?	✓	✓	
2. Method blank, LCS/LCSD and MS/SD frequencies met.	✓	✓	
3. LCS/LCSD and MB data are within control limits. If not, NCM is present.	✓	✓	
4. Are MS/MSD recoveries and RPD within control limits?			✓
5. Holding Times were met for prep and analytical.	✓	✓	
6. IS/Surrogate recoveries meet criteria or properly noted. NCMs	✓	✓	
C. Sample Analysis			
1. Was correct analysis performed and were project instructions followed?	✓	✓	
2. If required, are compounds within RT windows?			✓
3. If required, are positive hits confirmed and >40% RPD flagged?			✓
4. Manual Integrations reviewed and appropriate.	✓	✓	
5. All analytes correctly reported. (Primary, secondary, acceptable status)	✓	✓	
6. Correct reporting limits used. (based on client request, prep factors, and dilutions)	✓	✓	
D. Documentation			
1. Are all non-conformances documented/attached? NCM# 112103, 112105	✓	✓	
2. Do results make sense (e.g. dilutions, etc.)?	✓	✓	
3. Have all flags been reviewed for appropriateness?	✓	✓	
4. For level 3 and 4 reports, have forms and raw data been reviewed?		✓	
5. Was QC Checker run for this job?	✓	✓	

**Upon completion of this checklist, the reviewer must scan and attach the checklist to the TALS job.*

1st Level (Analyst): JRB Date: 12-27-17

2nd Level Reviewer: [signature] Date: 12/28/17

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 19DEC2017NCFF_PFC Worklist Number: 51959
Instrument Name: A8_N Chrom Method: A8_N
Data Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b
QC Batching: Disabled Limit Group Batching: Enabled

QC Batch: 1	LC PFC_DOD ICAL Raw Batch: 200661	LC PFC ICAL Raw Batch: 200662	LC PFC_QSM5-1 ICAL Raw Batch: 200663
# 1 CCV L5	# 1 CCV L5	# 1 CCV L5	# 1 CCV L5
# 2 MB 320-200330/1-A		# 2 MB 320-200330/1-A	
# 3 LCS 320-200330/2-A		# 3 LCS 320-200330/2-A	
# 4 LCSD 320-200330/3-A		# 4 LCSD 320-200330/3-A	
# 5 320-34182-A-21-A		# 5 320-34182-A-21-A	
# 6 320-34182-A-22-A		# 6 320-34182-A-22-A	
# 7 CCV L4	# 7 CCV L4	# 7 CCV L4	# 7 CCV L4

TestAmerica Laboratories
Worklist Run Log Report

Worklist Name: 19DEC2017NCFF_PFC Worklist Num: 51959
Instrument: A8_N Method: A8_N
Batch Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51959.b
Anaylysis Type: SemiVOA Creator: Royce, Amani A
Inj Volume: 2.00 Inj Vol Units: ul

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Client ID	Fract
CCV L5	320-0051959-001	CCV	20-Dec-2017 06:30:18	2017.12.19LLC_016.d	14	1.0		sv
MB 320-200330/1-A	320-0051959-002	MB	20-Dec-2017 06:38:14	2017.12.19LLC_017.d	10	1.0		sv
LCS 320-200330/2-A	320-0051959-003	LCS	20-Dec-2017 06:46:09	2017.12.19LLC_018.d	11	1.0		sv
LCSD 320-200330/3-A	320-0051959-004	LCSD	20-Dec-2017 06:54:04	2017.12.19LLC_019.d	12	1.0		sv
320-34182-A-21-A	320-0051959-005	Client	20-Dec-2017 07:01:59	2017.12.19LLC_020.d	13	1.0	FB003	sv
320-34182-A-22-A	320-0051959-006	Client	20-Dec-2017 07:09:56	2017.12.19LLC_021.d	14	1.0	EB003	sv
CCV L4	320-0051959-007	CCV	20-Dec-2017 07:17:50	2017.12.19LLC_022.d	13	1.0		sv

TestAmerica Laboratories
Worklist Run Log Report

Worklist Name: 19DEC2017NCA_PFC Worklist Num: 51917
Instrument: A8_N Method: A8_N
Batch Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171219-51917.b
Anaylysis Type: SemiVOA Creator: Royce, Amani A
Inj Volume: 2.00 Inj Vol Units: ul

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Client ID	Fract
CCVL	320-0051917-001	CCVL	19-Dec-2017 11:52:04	2017.12.19LLAX_003.d	21	1.0		sv
CCV L4	320-0051917-002	CCV	19-Dec-2017 11:59:58	2017.12.19LLAX_004.d	13	1.0		sv
RB	320-0051917-003	RB	19-Dec-2017 12:07:52	2017.12.19LLAX_005.d	19	1.0		sv
320-33526-A-2-A	320-0051917-004	Client	19-Dec-2017 12:15:47	2017.12.19LLAX_006.d	6	1.0	C84Q17-59NGOLFWOODA	sv
CCV L5	320-0051917-005	CCV	19-Dec-2017 12:23:38	2017.12.19LLAX_007.d	14	1.0		sv

NC Method

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

20 AS 12/19/17 AS 12/20/17

Batch Number: 320-200330

Method Code: 320-3535_PFC-320

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:33:00PM

Batch End: 12/18/2017 10:40:00PM

Solid-Phase Extraction (SPE)

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	GrossWt TareWt	InitAmnt FinAmnt	PHs Rcvd	PHs Adj1	PHs Adj2	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB-320-200330/1 N/A	N/A		250.00 mL	NA			N/A	N/A	N/A	R1	MB 320-200330/1-A
				10.00 mL								
2	LCS-320-200330/2 N/A	N/A		250.00 mL	NA			N/A	N/A	N/A	R1	LCS 320-200330/2-A
				10.00 mL								
3	LCSD-320-200330/3 N/A	N/A		250.00 mL	NA			N/A	N/A	N/A	R1	LCSD 320-200330/3-A
				10.00 mL								
4	320-34182-A-21 (PFC_IDA)	N/A (320-34182-1)	275.11 g	247.3 mL	NA			12/29/17	12_Days	4	R1	320-34182-A-21-A
			27.86 g	10.00 mL								
5	320-34182-A-22 (PFC_IDA)	N/A (320-34182-1)	278.33 g	250.2 mL	NA			12/29/17	12_Days	4	R1	320-34182-A-22-A
			28.10 g	10.00 mL								

6.2 COC

01/04/2018

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200330

Method Code: 320-3535_PFC-320

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:33:00PM

Batch End: 12/18/2017 10:40:00PM

Batch Notes

Manifold ID	"Nikita"
Methanol ID	1105466
Hexane ID	1095479
Sodium Hydroxide ID	1088697
First Start time	NA
First End time	NA
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003137011A
Balance ID	QA-070
H2O ID	12/12/17
Pipette ID	I46370G
Solvent Name	0.3% NH4OH/MeOH
Solvent Lot #	1115883
Analyst ID - Reagent Drop	HJA
Analyst ID - SU Reagent Drop	HJA
Analyst ID - SU Reagent Drop Witness	KMK
Acid Name	NA
Acid ID	NA
Reagent ID	NA
Reagent Lot Number	NA
Analyst ID - IS Reagent Drop	TWL

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200330

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:33:00PM

Method Code: 320-3535_PFC-320

Batch End: 12/18/2017 10:40:00PM

Analyst ID - IS Reagent Drop	KMK
Witness	
Internal Standard ID#	1106115
Analyst ID - Concentration	NA
Analyst ID - Aliquot Step	KMK
Analyst ID - Final Volume Step	KMK
SOP Number	WS-LC-0025
Batch Comment	NA

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200330

Method Code: 320-3535_PFC-320

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:33:00PM

Batch End:

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-200330/1	LCMPFC_ALL_SU_00028	500 uL	10.00 mL	H3A 12-18-17	KMK 12-18-17
LCS 320-200330/2	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
LCS 320-200330/2	LCPFCSP_00117	500 uL	10.00 mL		
LCSD 320-200330/3	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
LCSD 320-200330/3	LCPFCSP_00117	500 uL	10.00 mL		
320-34182-A-21	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-22	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		

Other Reagents:

Reagent	Amount/Units	Lot#:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s) 320-200330 Test 3535_PFC

Earliest Holding Time 12-22-17

Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary batch information complete and entered into TALS correctly	✓	✓
BD, FV, and AL initials are transcribed into the batch comment	✓	✓
Sample List Tab	**1st Level Reviewer**	**2nd Level Reviewer**
Samples identified to the correct method	✓	✓
Holding time violation NCM filed	NA	NA
MS/MSD or MS/DU NCM filed	NA ✓	✓
NCM for any anomalies filed	NA	NA
All NCMs include method code, matrix, and prep batch	NA ✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Batch contains no more than 20 live samples	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	✓
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and CI Check)	✓	✓
The pH is transcribed properly in TALS	NA	NA
All additional information is transcribed into TALS and is correct and raw data is attached	✓	✓
Comments/Observations are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and checked into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Internal Standard is added to the reagents	✓	✓
All units are correctly transcribed into TALS	✓	✓

1st Level Reviewer: JWN Date: 12/18/17

2nd Level Reviewer: VPM Date: 12/19/17

Comments: _____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

West Sacramento

HPLC/LCMS Data Review Checklist

Job Number(s): 34182 Work List ID(s): 51961, 52234

Extraction Batch: 200328 Analysis Batch(es): 200666, 201684

Delivery Rank 4 Due Date: 12-29-17

A. Calibration/Instrument Run QC	1st Level	2nd Level	N/A
1. ICAL locked in Chrom and TALS? ICAL Batch#	✓	✓	
2. ICAL, CCV Frequency & Criteria met.	✓	✓	
• $RF_{average}$ criteria appropriate for the method.	✓	✓	
• Linear Regression criteria appropriate if required ($r \geq 0.995$).			✓
• Quadratic fit criteria appropriate if required ($r^2 \geq 0.990$).			✓
• For Linear Regression and Quadratic fit – Does the y-intercept support ½ the reporting limit as described in CA-Q-S-005?			✓
• All curve points show calculated concentrations.	✓	✓	
3. Peaks correctly ID'd by data system.	✓	✓	
5. Tune check frequency & criteria met and Tune check report attached.			✓
B. QA/QC			
1. Are all QC samples properly linked in TALS?	✓	✓	
2. Method blank, LCS/LCSD and MS/SD frequencies met.	✓	✓	
3. LCS/LCSD and MB data are within control limits. If not, NCM is present.	✓	✓	
4. Are MS/MSD recoveries and RPD within control limits?	✓	✓	
5. Holding Times were met for prep and analytical.	✓	✓	
6. IS/Surrogate recoveries meet criteria or properly noted.	✓	✓	
C. Sample Analysis			
1. Was correct analysis performed and were project instructions followed?	✓	✓	
2. If required, are compounds within RT windows?			✓
3. If required, are positive hits confirmed and >40% RPD flagged?			✓
4. Manual Integrations reviewed and appropriate.	✓	✓	
5. All analytes correctly reported. (Primary, secondary, acceptable status)	✓	✓	
6. Correct reporting limits used. (based on client request, prep factors, and dilutions)	✓	✓	
D. Documentation			
1. Are all non-conformances documented/attached? NCM# 112232	✓	✓	
2. Do results make sense (e.g. dilutions, etc.)?	✓	✓	
3. Have all flags been reviewed for appropriateness?	✓	✓	
4. For level 3 and 4 reports, have forms and raw data been reviewed?		✓	
5. Was QC Checker run for this job?	✓	✓	

**Upon completion of this checklist, the reviewer must scan and attach the checklist to the TALS job.*

1st Level (Analyst): JRB Date: 12-28-17

2nd Level Reviewer: MWay Date: 12/29/2017

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 19DEC2017NCGG_PFC Worklist Number: 51961
Instrument Name: A8_N Chrom Method: A8_N
Data Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b
QC Batching: Disabled Limit Group Batching: Enabled

QC Batch: 1	LC PFC_DOD ICAL Raw Batch: 200665	LC PFC ICAL Raw Batch: 200666	LC PFC_QSM5-1 ICAL Raw Batch: 200667
# 1 CCV L4	# 1 CCV L4	# 1 CCV L4	# 1 CCV L4
# 2 MB 320-200328/1-A		# 2 MB 320-200328/1-A	
# 3 LCS 320-200328/2-A		# 3 LCS 320-200328/2-A	
# 4 320-34182-A-1-A		# 4 320-34182-A-1-A	
# 5 320-34182-A-2-A		# 5 320-34182-A-2-A	
# 6 320-34182-A-3-A		# 6 320-34182-A-3-A	
# 7 320-34182-A-3-B MS		# 7 320-34182-A-3-B MS	
# 8 320-34182-A-3-C MSD		# 8 320-34182-A-3-C MSD	
# 9 320-34182-A-4-A		# 9 320-34182-A-4-A	
#10 320-34182-A-5-A		#10 320-34182-A-5-A	
#11 320-34182-A-6-A		#11 320-34182-A-6-A	
#12 CCV L5	#12 CCV L5	#12 CCV L5	#12 CCV L5
#13 320-34182-A-7-A		#13 320-34182-A-7-A	
#14 320-34182-A-8-A		#14 320-34182-A-8-A	
#15 320-34182-A-9-A		#15 320-34182-A-9-A	
#16 320-34182-A-10-A		#16 320-34182-A-10-A	
#17 320-34182-A-11-A		#17 320-34182-A-11-A	
#18 320-34182-A-12-A		#18 320-34182-A-12-A	
#19 320-34182-A-13-A		#19 320-34182-A-13-A	
#20 320-34182-A-14-A		#20 320-34182-A-14-A	
#21 320-34182-A-15-A		#21 320-34182-A-15-A	
#22 320-34182-A-16-A		#22 320-34182-A-16-A	
#23 CCV L4	#23 CCV L4	#23 CCV L4	#23 CCV L4
#24 320-34182-A-17-A		#24 320-34182-A-17-A	
#25 320-34182-A-18-A		#25 320-34182-A-18-A	
#26 320-34182-A-19-A		#26 320-34182-A-19-A	
#27 320-34182-A-20-A		#27 320-34182-A-20-A	
#28 CCV L5	#28 CCV L5	#28 CCV L5	#28 CCV L5

No CCVL. Run after an ICAL.

TestAmerica Laboratories
Worklist Run Log Report

Worklist Name: 19DEC2017NCGG_PFC Worklist Num: 51961
Instrument: A8_N Method: A8_N
Batch Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171220-51961.b
Anaylysis Type: SemiVOA Creator: Royce, Amani A
Inj Volume: 2.00 Inj Vol Units: ul

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Client ID	Fract
CCV L4	320-0051961-001	CCV	20-Dec-2017 07:25:41	2017.12.19LLC_023.d	13	1.0		sv
MB 320-200328/1-A	320-0051961-002	MB	20-Dec-2017 07:33:33	2017.12.19LLC_024.d	15	1.0		sv
LCS 320-200328/2-A	320-0051961-003	LCS	20-Dec-2017 07:41:25	2017.12.19LLC_025.d	16	1.0		sv
320-34182-A-1-A	320-0051961-004	Client	20-Dec-2017 07:49:18	2017.12.19LLC_026.d	17	1.0	MW-CR001-A	sv
320-34182-A-2-A	320-0051961-005	Client	20-Dec-2017 07:57:09	2017.12.19LLC_027.d	18	1.0	MW-CR002-A	sv
320-34182-A-3-A	320-0051961-006	Client	20-Dec-2017 08:05:00	2017.12.19LLC_028.d	19	1.0	FW-LN001-A	sv
320-34182-A-3-B MS	320-0051961-007	MS	20-Dec-2017 08:12:54	2017.12.19LLC_029.d	20	1.0	FW-LN001-A	sv
320-34182-A-3-C MSD	320-0051961-008	MSD	20-Dec-2017 08:20:46	2017.12.19LLC_030.d	21	1.0	FW-LN001-A	sv
320-34182-A-4-A	320-0051961-009	Client	20-Dec-2017 08:28:39	2017.12.19LLC_031.d	22	1.0	FW-YC001-A	sv
320-34182-A-5-A	320-0051961-010	Client	20-Dec-2017 08:36:31	2017.12.19LLC_032.d	23	1.0	FW-CR008-A	sv
320-34182-A-6-A	320-0051961-011	Client	20-Dec-2017 08:44:26	2017.12.19LLC_033.d	24	1.0	FW-CR007-A	sv
CCV L5	320-0051961-012	CCV	20-Dec-2017 08:52:20	2017.12.19LLC_034.d	14	1.0		sv
320-34182-A-7-A	320-0051961-013	Client	20-Dec-2017 09:00:13	2017.12.19LLC_035.d	25	1.0	FW-CR006-A	sv
320-34182-A-8-A	320-0051961-014	Client	20-Dec-2017 09:08:06	2017.12.19LLC_036.d	26	1.0	FW-FR004-A	sv
320-34182-A-9-A	320-0051961-015	Client	20-Dec-2017 09:16:00	2017.12.19LLC_037.d	27	1.0	MW-FR003-A	sv
320-34182-A-10-A	320-0051961-016	Client	20-Dec-2017 09:23:52	2017.12.19LLC_038.d	28	1.0	FW-GA003-A	sv
320-34182-A-11-A	320-0051961-017	Client	20-Dec-2017 09:31:43	2017.12.19LLC_039.d	29	1.0	MW-GA001-A	sv
320-34182-A-12-A	320-0051961-018	Client	20-Dec-2017 09:39:35	2017.12.19LLC_040.d	30	1.0	Dupe	sv
320-34182-A-13-A	320-0051961-019	Client	20-Dec-2017 09:47:26	2017.12.19LLC_041.d	31	1.0	MW-SP002-A	sv
320-34182-A-14-A	320-0051961-020	Client	20-Dec-2017 09:55:18	2017.12.19LLC_042.d	32	1.0	FW-SP003-A	sv
320-34182-A-15-A	320-0051961-021	Client	20-Dec-2017 10:03:11	2017.12.19LLC_043.d	33	1.0	MW-GA002-A	sv
320-34182-A-16-A	320-0051961-022	Client	20-Dec-2017 10:11:03	2017.12.19LLC_044.d	34	1.0	FW-GA004-A	sv
CCV L4	320-0051961-023	CCV	20-Dec-2017 10:18:56	2017.12.19LLC_045.d	13	1.0		sv
320-34182-A-17-A	320-0051961-024	Client	20-Dec-2017 10:26:47	2017.12.19LLC_046.d	35	1.0	FB001	sv
320-34182-A-18-A	320-0051961-025	Client	20-Dec-2017 10:34:39	2017.12.19LLC_047.d	36	1.0	EB001	sv
320-34182-A-19-A	320-0051961-026	Client	20-Dec-2017 10:42:31	2017.12.19LLC_048.d	37	1.0	FB002	sv
320-34182-A-20-A	320-0051961-027	Client	20-Dec-2017 10:50:30	2017.12.19LLC_049.d	38	1.0	EB002	sv
CCV L5	320-0051961-028	CCV	20-Dec-2017 10:58:24	2017.12.19LLC_050.d	14	1.0		sv

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 28DEC2017NCB_PFC Worklist Number: 52234
Instrument Name: A8_N Chrom Method: A8_N
Data Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b
QC Batching: Disabled Limit Group Batching: Enabled

QC Batch: 1	LC PFC ICAL Raw Batch: 201684
# 1 CCV L5	# 1 CCV L5
# 2 LCS 320-200328/2-A	# 2 LCS 320-200328/2-A
# 3 LCS 320-200328/2-A	# 3 LCS 320-200328/2-A
# 4 CCV L4	# 4 CCV L4

TestAmerica Laboratories
Worklist Run Log Report

Worklist Name: 28DEC2017NCB_PFC Worklist Num: 52234
Instrument: A8_N Method: A8_N
Batch Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171228-52234.b
Anaylysis Type: SemiVOA Creator: Royce, Amani A
Inj Volume: 2.00 Inj Vol Units: ul

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Fract
CCV L5	320-0052234-001	CCV	28-Dec-2017 12:28:02	2017.12.28LLB_032.d	33	1.0	sv
LCS 320-200328/2-A	320-0052234-002	LCS	28-Dec-2017 12:35:51	2017.12.28LLB_033.d	24	1.0	sv
LCS 320-200328/2-A	320-0052234-003	LCS	28-Dec-2017 12:43:40	2017.12.28LLB_034.d	25	1.0	sv
CCV L4	320-0052234-004	CCV	28-Dec-2017 12:51:30	2017.12.28LLB_035.d	28	1.0	sv

NC Method

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

AB 12/19/17
20 AB 12/27/17

Batch Number: 320-200328

Method Code: 320-3535_PFC-320

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:25:00PM

Batch End: 12/18/2017 10:40:00PM

Solid-Phase Extraction (SPE)

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	GrossWt TareWt	InitAmnt FinAmnt	PHs Rcvd	PHs Adj1	PHs Adj2	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-200328/1 N/A	N/A		250.00 mL	NA			N/A	N/A	N/A		MB 320-200328/1-A
				10.00 mL								
2	LCS~320-200328/2 N/A	N/A		250.00 mL	NA			N/A	N/A	N/A	RI	LCS 320-200328/2-A
				10.00 mL								
3	320-34182-A-1 (PFC_IDA)	N/A (320-34182-1)	273.23 g	246.7 mL	NA			12/29/17	12_Days	4		320-34182-A-1-A
			26.53 g	10.00 mL								
4	320-34182-A-2 (PFC_IDA)	N/A (320-34182-1)	269.19 g	242.4 mL	NA			12/29/17	12_Days	4		320-34182-A-2-A
			26.81 g	10.00 mL								
5	320-34182-A-3 (PFC_IDA)	N/A (320-34182-1)	282.02 g	255.6 mL	NA			12/29/17	12_Days	4		320-34182-A-3-A
			26.47 g	10.00 mL								
6	320-34182-A-3~MS (PFC_IDA)	N/A (320-34182-1)	276.34 g	249.8 mL	NA			12/29/17	12_Days	4		320-34182-A-3-B MS
			26.58 g	10.00 mL								
7	320-34182-A-3~MSD (PFC_IDA)	N/A (320-34182-1)	265.10 g	238.1 mL	NA			12/29/17	12_Days	4		320-34182-A-3-C MSD
			27.05 g	10.00 mL								
8	320-34182-A-4 (PFC_IDA)	N/A (320-34182-1)	269.88 g	243.6 mL	NA			12/29/17	12_Days	4		320-34182-A-4-A
			26.29 g	10.00 mL								
9	320-34182-A-5 (PFC_IDA)	N/A (320-34182-1)	274.23 g	247.9 mL	NA			12/29/17	12_Days	4		320-34182-A-5-A
			26.36 g	10.00 mL								
10	320-34182-A-6 (PFC_IDA)	N/A (320-34182-1)	270.75 g	244.2 mL	NA			12/29/17	12_Days	4		320-34182-A-6-A
			26.60 g	10.00 mL								

01/04/2018

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200328

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:25:00PM

Method Code: 320-3535_PFC-320

Batch End: 12/18/2017 10:40:00PM

11	320-34182-A-7 (PFC_IDA)	N/A (320-34182-1)	269.41 g 26.80 g	242.6 mL 10.00 mL	NA			12/29/17	12_Days	4	
12	320-34182-A-8 (PFC_IDA)	N/A (320-34182-1)	280.30 g 27.65 g	252.7 mL 10.00 mL	NA			12/29/17	12_Days	4	
13	320-34182-A-9 (PFC_IDA)	N/A (320-34182-1)	275.65 g 29.21 g	246.4 mL 10.00 mL	NA			12/29/17	12_Days	4	
14	320-34182-A-10 (PFC_IDA)	N/A (320-34182-1)	268.59 g 28.68 g	239.9 mL 10.00 mL	NA			12/29/17	12_Days	4	
15	320-34182-A-11 (PFC_IDA)	N/A (320-34182-1)	284.56 g 27.75 g	256.8 mL 10.00 mL	NA			12/29/17	12_Days	4	
16	320-34182-A-12 (PFC_IDA)	N/A (320-34182-1)	283.66 g 27.09 g	256.6 mL 10.00 mL	NA			12/29/17	12_Days	4	
17	320-34182-A-13 (PFC_IDA)	N/A (320-34182-1)	286.55 g 26.61 g	259.9 mL 10.00 mL	NA			12/29/17	12_Days	4	
18	320-34182-A-14 (PFC_IDA)	N/A (320-34182-1)	282.19 g 26.45 g	255.7 mL 10.00 mL	NA			12/29/17	12_Days	4	
19	320-34182-A-15 (PFC_IDA)	N/A (320-34182-1)	269.92 g 29.08 g	240.8 mL 10.00 mL	NA			12/29/17	12_Days	4	
20	320-34182-A-16 (PFC_IDA)	N/A (320-34182-1)	278.54 g 27.70 g	250.8 mL 10.00 mL	NA			12/29/17	12_Days	4	
21	320-34182-A-17 (PFC_IDA)	N/A (320-34182-1)	277.12 g 28.06 g	249.1 mL 10.00 mL	NA			12/29/17	12_Days	4	
22	320-34182-A-18 (PFC_IDA)	N/A (320-34182-1)	278.19 g 28.06 g	250.1 mL 10.00 mL	NA			12/29/17	12_Days	4	

01/04/2018

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200328

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:25:00PM

Method Code: 320-3535_PFC-320

Batch End: 12/18/2017 10:40:00PM

23	320-34182-A-19 (PFC_IDA)	N/A (320-34182-1)	278.18 g 28.00 g	250.2 mL 10.00 mL	NA			12/29/17	12_Days	4	
24	320-34182-A-20 (PFC_IDA)	N/A (320-34182-1)	276.54 g 27.21 g	249.3 mL 10.00 mL	NA			12/29/17	12_Days	4	

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200328

Method Code: 320-3535_PFC-320

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:25:00PM

Batch End: 12/18/2017 10:40:00PM

Batch Notes

Manifold ID	2, 11
Methanol ID	1105466
Hexane ID	1095479
Sodium Hydroxide ID	1088697
First Start time	NA
First End time	NA
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003137011A
Balance ID	QA-070
H2O ID	12/12/17
Pipette ID	I46370G
Solvent Name	0.3% NH4OH/MeOH
Solvent Lot #	1115883
Analyst ID - Reagent Drop	HJA
Analyst ID - SU Reagent Drop	HJA
Analyst ID - SU Reagent Drop Witness	KMK
Acid Name	NA
Acid ID	NA
Reagent ID	NA
Reagent Lot Number	NA
Analyst ID - IS Reagent Drop	TWL

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200328

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:25:00PM

Method Code: 320-3535_PFC-320

Batch End: 12/18/2017 10:40:00PM

Analyst ID - IS Reagent Drop Witness	KMK
Internal Standard ID#	1106115
Analyst ID - Concentration	NA
Analyst ID - Aliquot Step	KMK
Analyst ID - Final Volume Step	KMK
SOP Number	WS-LC-0025
Batch Comment	NA

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200328

Method Code: 320-3535_PFC-320

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:25:00PM

Batch End:

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-200328/1	LCMPFC_ALL_SU_00028	500 uL	10.00 mL	HSA 12-18-17	KMK 12-18-17
LCS 320-200328/2	LCMPFC_ALL_SU_00028	500 uL	10.00 mL	↓	↓
LCS 320-200328/2	LCPFCSP_00117	500 uL	10.00 mL		
320-34182-A-1	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-2	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-3	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-3 MS	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-3 MS	LCPFCSP_00117	500 uL	10.00 mL		
320-34182-A-3 MSD	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-3 MSD	LCPFCSP_00117	500 uL	10.00 mL		
320-34182-A-4	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-5	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-6	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-7	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-8	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-9	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-10	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-11	LCMPFC_ALL_SU_00028	500 uL	10.00 mL	↓	↓

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200328

Analyst: Kolstad, Kate M

Batch Open: 12/18/2017 1:25:00PM

Method Code: 320-3535_PFC-320

Batch End:

320-34182-A-12	LCMPFC_ALL_SU_00028	500 uL	10.00 mL	HSA 12-18-17	KMK 12-18-17
320-34182-A-13	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-14	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-15	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-16	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-17	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-18	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-19	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		
320-34182-A-20	LCMPFC_ALL_SU_00028	500 uL	10.00 mL		

Other Reagents:

Reagent	Amount/Units	Lot#:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s) 320-200328 Test 3535_PFC

Earliest Holding Time 12-19-17

Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary batch information complete and entered into TALS correctly	✓	✓
BD, FV, and AL initials are transcribed into the batch comment	✓	✓
Sample List Tab	**1st Level Reviewer**	**2nd Level Reviewer**
Samples identified to the correct method	✓	✓
Holding time violation NCM filed	NA	NA
MS/MSD or MS/DU NCM filed	NA	NA
NCM for any anomalies filed	✓	✓
All NCMs include method code, matrix, and prep batch	✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Batch contains no more than 20 live samples	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and CI Check)	✓	✓
The pH is transcribed properly in TALS	NA	NA
All additional information is transcribed into TALS and is correct and raw data is attached	✓	✓
Comments/Observations are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and checked into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Internal Standard is added to the reagents	✓	✓
All units are correctly transcribed into TALS	✓	✓

1st Level Reviewer: JW2 Date: 12/18/17

2nd Level Reviewer: VPM Date: 12/19/17

Comments:

Shipping and Receiving Documents

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916.373.5600

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Nick Russell	Lab PM: Haas, Melissa	Carrier Tracking No(s):	COC No: 460-88468-55550.1
Client Contact: Mr. Andrew Lockwood	Phone: 631-589-6353	E-Mail: melissa.haas@testamericainc.com		Page: Page of
Company: PW Grosser Consulting				Job #:
Address: 630 Johnson Ave Suite 7	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Bohemia	TAT Requested (days): 15 days			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: NY, 11716				
Phone: 631-589-6353(Tel)	PO #: SHD1705			
Email: andyl@pwgrosser.com	WO #:			Other:
Project Name: Suffolk County Firematics Site	Project #: 46024260			
Site:	SSOW#:			

320-34182 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Method 537 List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
Dupe	XX	XX	G	W			X		
MW-SP002-A	12-6	1300	G	W			X		
FW-SP003-A	12-8	1330	G	W			X		
MW-GA002-A	12-8	1215	G	W			X		
FW-GA004-A	12-5	1400	G	W			X		
FB001	12-5	1300	G	W			X		
EB001	12-5	1305	G	W			X		
FB002	12-6	1300	G	W			X		
EB002	12-6	1305	G	W			X		
FB003	12-8	1300	G	W			X		
EB003	12-8	1305	G	W			X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company		Date/Time:	Company
Relinquished by:	12/11 11:41	PWG	Received by:	12/11/17 11:41	TA
Relinquished by:	12/11/17 1725		Received by:	12/12/17 955	TALS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 3.2

No Date or time. ice 12/8/17. DH 12/12/17

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916.373.5600

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Nick Russell	Lab PM: Haas, Melissa	Carrier Tracking No(s):	COC No: 460-88468-55550.1
Client Contact: Mr. Andrew Lockwood	Phone: 631-589-6353	E-Mail: melissa.haas@testamericainc.com		Page: Page of
Company: PW Grosser Consulting				Job #:
Address: 630 Johnson Ave Suite 7	Due Date Requested:			
City: Bohemia	TAT Requested (days): 15 days			
State, Zip: NY, 11716				
Phone: 631-589-6353(Tel)	PO #: SHD1705			
Email: andyl@pwgrosser.com	WO #:			
Project Name: Suffolk County Firematics Site	Project #: 46024260			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Method 537 List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
MW-CR001-A	12-8	10:40	G	W			X		
MW-CR002-A	12-8	10:50	G	W			X		
FW-LN001-A /MS/MSD	12-5	9:45	G	W		X	X		
FW-YC001-A	12-5	10:30	G	W			X		
FW-CR008-A	12-5	12:55	G	W			X		
FW-CR007-A	12-5	11:50	G	W			X		
FW-CR006-A	12-5	12:00	G	W			X		
FW-FR004-A	12-5	12:35	G	W			X		
MW-FR003-A	12-6	10:15	G	W			X		
FW-GA003-A	12-5	13:50	G	W			X		
MW-GA001-A	12-6	11:00	G	W			X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/11 11:41	PWGC		12/11 11:41	
2		12/12/17 1230			12/12/17 955	
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 5.2

* sample labe time @ 1055

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01/04/2018

Login Sample Receipt Checklist

Client: PW Grosser Consulting

Job Number: 320-34182-1

Login Number: 34182
List Number: 1
Creator: Her, David A

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	No date or time on COC or sample containers
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 320-34425-1

Job Description: Suffolk County Firematics Site

For:
PW Grosser Consulting
630 Johnson Ave
Suite 7
Bohemia, NY 11716

Attention: Mr. Andrew C Lockwood



Approved for release.
Thomas A Chupela
Project Management Assistant I
12/27/2017 2:56 PM

Designee for
Melissa Haas, Project Manager I
777 New Durham Road, Edison, NJ, 08817
(203)944-1310
melissa.haas@testamericainc.com
12/27/2017

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Edison Project Manager.

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LAO00132

Job Number: 320-34425-1

Job Description: Suffolk County Firematics Site

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Approved for release.
Thomas A Chupela
Project Management Assistant I
12/27/2017 2:56 PM

Designee for
Melissa Haas

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CASE NARRATIVE

Client: PW Grosser Consulting

Project: Suffolk County Firematics Site

Report Number: 320-34425-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 12/18/2017 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 8.2º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed.

*The COC was not relinquished by the TestAmerica shipper.
*The COC did not have the site/project information or turnaround time listed.
*Page 4 of the COC did not have the test marked off for any samples.

The following samples were received at the laboratory outside the recommended temperature criteria: FB-816-171212 Field Blank (320-34425-1), PB-816-171212 Pump Blank (320-34425-2), FM-26-100-816-171211 (320-34425-3), FM-26-090-816-171211 (320-34425-4), FM-26-080-816-171211 (320-34425-5), FM-26-070-816-171211 (320-34425-6), FM-26-060-816-171211 (320-34425-7), FM-26-050-816-171211 (320-34425-8), FM-26-040-816-171211 (320-34425-9), FM-32-100-944-171211 (320-34425-10), DUP-1-944-171211 (320-34425-11), DUP-2-944-171211 (320-34425-12), FM-32-90-944-171212 (320-34425-13), FM-32-80-944-171212 (320-34425-14), FM-32-070-944-171213 (320-34425-15), FM-32-060-944-171213 (320-34425-16), FM-32-050-944-171213 (320-34425-17), Pump Blank PB-816-171211 (320-34425-18), Field Blank FB-816-171211 (320-34425-19), FM-30-(95-100) -100-816-171213 (320-34425-20), FM-30-(85-90)-090-816-171213 (320-34425-21), FM-30-(75-80)-080-816-171213 (320-34425-22), FM-30-(65-70)-070-816-171213 (320-34425-23), Field Blank FB-816-171213 (320-34425-24), Pump Blank PB-816-171213 (320-34425-25), FM-26-030-816-171212 (320-34425-26), FM-26-020-816-171212 (320-34425-27), FM-34-090-886-171211 (320-34425-28), FM-34-090-886-171211 (320-34425-28[MS]), FM-34-090-886-171211 (320-34425-28[MSD]), FM-34-080-886-171212 (320-34425-29), FM-34-070-886-171213 (320-34425-30), FM-34-060-886-171213 (320-34425-31) and FM-34-050-886-171213 (320-34425-32).

Samples were received at the laboratory with melted ice at 8.2 degrees Celsius. Method 537 states that "samples must be chilled during shipment and must not exceed 10C during the first 48 hours after collection. Samples temperatures must be confirmed to be at or below 10C when the samples are received at the laboratory."
As the samples did not exceed 10 degrees Celsius there is no adverse impact due to samples being recieved at 8.2 degrees Celsius. The client was notified on 12/20/17.

Insufficient sample volume was provided for the following samples. Received 2 empty poly bottles for sample #20. FM-30-(95-100) -100-816-171213 (320-34425-20). The client was notified on 12/20/17.

The sample IDs on the COC were not consistent in the naming convention used. Dashes were added to IDs for consistency. The client was notified of the change in sample IDs.
Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

PERFLUORINATED HYDROCARBONS (PFC)
Samples FB-816-171212 Field Blank (320-34425-1), PB-816-171212 Pump Blank (320-34425-2), FM-26-100-816-171211 (320-34425-3),

FM-26-090-816-171211 (320-34425-4), FM-26-080-816-171211 (320-34425-5), FM-26-070-816-171211 (320-34425-6), FM-26-060-816-171211 (320-34425-7), FM-26-050-816-171211 (320-34425-8), FM-26-040-816-171211 (320-34425-9), FM-32-100-944-171211 (320-34425-10), DUP-1-944-171211 (320-34425-11), DUP-2-944-171211 (320-34425-12), FM-32-90-944-171212 (320-34425-13), FM-32-80-944-171212 (320-34425-14), FM-32-070-944-171213 (320-34425-15), FM-32-060-944-171213 (320-34425-16), FM-32-050-944-171213 (320-34425-17), Pump Blank PB-816-171211 (320-34425-18), Field Blank FB-816-171211 (320-34425-19), FM-30-(85-90)-090-816-171213 (320-34425-21), FM-30-(75-80)-080-816-171213 (320-34425-22), FM-30-(65-70)-070-816-171213 (320-34425-23), Field Blank FB-816-171213 (320-34425-24), Pump Blank PB-816-171213 (320-34425-25), FM-26-030-816-171212 (320-34425-26), FM-26-020-816-171212 (320-34425-27), FM-34-090-886-171211 (320-34425-28), FM-34-080-886-171212 (320-34425-29), FM-34-070-886-171213 (320-34425-30), FM-34-060-886-171213 (320-34425-31) and FM-34-050-886-171213 (320-34425-32) were analyzed for Perfluorinated Hydrocarbons (PFC) in accordance with PFC. The samples were prepared on 12/22/2017 and analyzed on 12/22/2017 and 12/23/2017.

Perfluorohexanesulfonic acid (PFHxS) was detected in method blank MB 320-201036/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Perfluorohexanesulfonic acid (PFHxS) and Perfluorotetradecanoic acid (PFTeA) were detected in method blank MB 320-201042/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The Isotope Dilution Analyte (IDA) recovery for M2-6:2FTS associated with the following continuing calibration verification (CCV) is below the method recommended limit: (CCV 320-201221/1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-201036.

The following samples: FM-26-020-816-171212 (320-34425-27), FM-34-090-886-171211 (320-34425-28), FM-34-090-886-171211 (320-34425-28[MS]), FM-34-090-886-171211 (320-34425-28[MSD]) and FM-34-080-886-171212 (320-34425-29) were decanted prior to preparation due to sediment being present.

Refer to the QC report for details.

No other difficulties were encountered during the Perfluorinated Hydrocarbons (PFC) analysis.

All other quality control parameters were within the acceptance limits.

Sample Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34425-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-34425-1	FB-816-171212 Field Blank	Water	12/12/17 07:45	12/18/17 09:40
320-34425-2	PB-816-171212 Pump Blank	Water	12/12/17 07:50	12/18/17 09:40
320-34425-3	FM-26-100-816-171211	Water	12/11/17 11:00	12/18/17 09:40
320-34425-4	FM-26-090-816-171211	Water	12/11/17 11:50	12/18/17 09:40
320-34425-5	FM-26-080-816-171211	Water	12/11/17 12:42	12/18/17 09:40
320-34425-6	FM-26-070-816-171211	Water	12/11/17 13:28	12/18/17 09:40
320-34425-7	FM-26-060-816-171211	Water	12/11/17 14:10	12/18/17 09:40
320-34425-8	FM-26-050-816-171211	Water	12/12/17 08:39	12/18/17 09:40
320-34425-9	FM-26-040-816-171211	Water	12/12/17 09:27	12/18/17 09:40
320-34425-10	FM-32-100-944-171211	Water	12/11/17 14:00	12/18/17 09:40
320-34425-11	DUP-1-944-171211	Water	12/11/17 14:00	12/18/17 09:40
320-34425-12	DUP-2-944-171211	Water	12/11/17 14:00	12/18/17 09:40
320-34425-13	FM-32-90-944-171212	Water	12/12/17 08:30	12/18/17 09:40
320-34425-14	FM-32-80-944-171212	Water	12/12/17 09:30	12/18/17 09:40
320-34425-15	FM-32-070-944-171213	Water	12/13/17 07:40	12/18/17 09:40
320-34425-16	FM-32-060-944-171213	Water	12/13/17 08:30	12/18/17 09:40
320-34425-17	FM-32-050-944-171213	Water	12/13/17 07:40	12/18/17 09:40
320-34425-18	Pump Blank PB-816-171211	Water	12/11/17 09:50	12/18/17 09:40
320-34425-19	Field Blank FB-816-171211	Water	12/11/17 09:50	12/18/17 09:40
320-34425-21	FM-30-(85-90)-090-816-171213	Water	12/13/17 11:32	12/18/17 09:40
320-34425-22	FM-30-(75-80)-080-816-171213	Water	12/13/17 12:25	12/18/17 09:40
320-34425-23	FM-30-(65-70)-070-816-171213	Water	12/13/17 13:08	12/18/17 09:40
320-34425-24	Field Blank FB-816-171213	Water	12/13/17 09:00	12/18/17 09:40
320-34425-25	Pump Blank PB-816-171213	Water	12/13/17 09:03	12/18/17 09:40
320-34425-26	FM-26-030-816-171212	Water	12/12/17 10:35	12/18/17 09:40
320-34425-27	FM-26-020-816-171212	Water	12/12/17 11:40	12/18/17 09:40
320-34425-28	FM-34-090-886-171211	Water	12/11/17 13:05	12/18/17 09:40
320-34425-29	FM-34-080-886-171212	Water	12/12/17 09:42	12/18/17 09:40
320-34425-30	FM-34-070-886-171213	Water	12/13/17 09:53	12/18/17 09:40
320-34425-31	FM-34-060-886-171213	Water	12/13/17 11:00	12/18/17 09:40
320-34425-32	FM-34-050-886-171213	Water	12/13/17 12:39	12/18/17 09:40

Detection Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34425-1

Client Sample ID: FB-816-171212 Field Blank — Lab Sample ID: 320-34425-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.28	J B	1.90	0.16	ng/L	1		537 (modified)	Total/NA

Client Sample ID: PB-816-171212 Pump Blank — Lab Sample ID: 320-34425-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.31	J B	2.00	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-100-816-171211 — Lab Sample ID: 320-34425-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.0	J	2.14	0.37	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.98	J	2.14	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.89		2.14	0.62	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.03	J	2.14	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.85	J	2.14	0.91	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.92	J	2.14	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.59		2.14	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	29.1	B	2.14	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.95	J	2.14	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	20.0		2.14	0.58	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.37	J	2.14	0.37	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-090-816-171211 — Lab Sample ID: 320-34425-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.67	J	2.16	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.88		2.16	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.93		2.16	0.63	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.98	J	2.16	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.44		2.16	0.92	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	4.92		2.16	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.96		2.16	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	29.2	B	2.16	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	1.61	J	2.16	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	46.1		2.16	0.58	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-080-816-171211 — Lab Sample ID: 320-34425-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.46	J B	1.90	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.93	J	1.90	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-070-816-171211 — Lab Sample ID: 320-34425-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.55	J	2.00	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.99	J	2.00	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.20	J	2.00	0.58	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.39	J	2.00	0.25	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FM-26-070-816-171211 (Continued) — Lab Sample ID: 320-34425-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.36	J	2.00	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.29	J	2.00	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.96	B	2.00	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.41		2.00	0.54	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-060-816-171211 — Lab Sample ID: 320-34425-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	1.99	J B	2.12	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.24	J	2.12	0.57	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-050-816-171211 — Lab Sample ID: 320-34425-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.47		2.07	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	7.58		2.07	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.13		2.07	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.48	J	2.07	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.62	J	2.07	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.89	J	2.07	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.48	J	2.07	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.25	B	2.07	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.35		2.07	0.56	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.42	J	2.07	0.36	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-040-816-171211 — Lab Sample ID: 320-34425-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.34		1.98	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	16.6		1.98	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14.2		1.98	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.90		1.98	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.61		1.98	0.84	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	2.77		1.98	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.47	J	1.98	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15.0	B	1.98	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.41	J	1.98	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	32.8		1.98	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.50	J	1.98	0.35	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-32-100-944-171211 — Lab Sample ID: 320-34425-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.23	J	2.07	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.98	B	2.07	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.76	J	2.07	0.56	ng/L	1		537 (modified)	Total/NA

Client Sample ID: DUP-1-944-171211 — Lab Sample ID: 320-34425-11

This Detection Summary does not include radiochemical test results.

Client Sample ID: DUP-1-944-171211 (Continued) — Lab Sample ID: 320-34425-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.25	J	2.03	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.75	B	2.03	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.59	J	2.03	0.55	ng/L	1		537 (modified)	Total/NA

Client Sample ID: DUP-2-944-171211 — Lab Sample ID: 320-34425-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.26	J	2.02	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.97	B	2.02	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.62	J	2.02	0.55	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-32-90-944-171212 — Lab Sample ID: 320-34425-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.41	J	1.96	0.34	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.28	J	1.96	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.39	B	1.96	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.94		1.96	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-32-80-944-171212 — Lab Sample ID: 320-34425-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.73	J	2.19	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.58	J	2.19	0.93	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.39	J	2.19	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.42	J	2.19	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.08	B	2.19	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.79		2.19	0.59	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-32-070-944-171213 — Lab Sample ID: 320-34425-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.40	J	2.06	0.36	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.11		2.06	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.74	J	2.06	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.40	J	2.06	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.41	B	2.06	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.31		2.06	0.56	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-32-060-944-171213 — Lab Sample ID: 320-34425-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.07	J	1.95	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.55	J	1.95	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.03	J	1.95	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.92	J	1.95	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.72	J	1.95	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.86	J	1.95	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.41	J	1.95	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.23	B	1.95	0.17	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FM-32-060-944-171213 (Continued) — Lab Sample ID: 320-34425-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	4.64		1.95	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-32-050-944-171213 — Lab Sample ID: 320-34425-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.14	J	1.96	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.06	J	1.96	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.10	J	1.96	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.57	J	1.96	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.57	J	1.96	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.62	J	1.96	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.32	J	1.96	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.82	B	1.96	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.87		1.96	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: Pump Blank PB-816-171211 — Lab Sample ID: 320-34425-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	1.0	J	2.01	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.32	J B	2.01	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: Field Blank FB-816-171211 — Lab Sample ID: 320-34425-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.05	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-30-(85-90)-090-816-171213 — Lab Sample ID: 320-34425-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.85	J	2.07	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.07		2.07	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.20		2.07	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.77	J	2.07	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.85	J	2.07	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	2.50		2.07	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.60	J	2.07	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11.7	B	2.07	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.47	J	2.07	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	57.5		2.07	0.56	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-30-(75-80)-080-816-171213 — Lab Sample ID: 320-34425-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.36	J	2.04	0.36	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.60	J B	2.04	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.97		2.04	0.55	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-30-(65-70)-070-816-171213 — Lab Sample ID: 320-34425-23

This Detection Summary does not include radiochemical test results.

Client Sample ID: FM-30-(65-70)-070-816-171213 (Continued) — Lab Sample ID: 320-34425-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	14.9		2.09	0.37	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	57.0		2.09	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	64.4		2.09	0.61	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	27.8		2.09	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	55.9		2.09	0.89	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	51.7		2.09	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.96	J	2.09	0.32	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	10.6		2.09	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	261	B	2.09	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	12.8		2.09	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	755		2.09	0.57	ng/L	1		537 (modified)	Total/NA
6:2FTS	67.3		20.9	2.09	ng/L	1		537 (modified)	Total/NA
8:2FTS	5.07	J	20.9	2.09	ng/L	1		537 (modified)	Total/NA

Client Sample ID: Field Blank FB-816-171213 — Lab Sample ID: 320-34425-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.39	J B	2.01	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: Pump Blank PB-816-171213 — Lab Sample ID: 320-34425-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.10	0.18	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-030-816-171212 — Lab Sample ID: 320-34425-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.33		2.10	0.37	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	13.8		2.10	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	10.8		2.10	0.61	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	5.43		2.10	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	10.0		2.10	0.89	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	2.93		2.10	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.25		2.10	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.52	B	2.10	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.23	J	2.10	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	18.4		2.10	0.57	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-26-020-816-171212 — Lab Sample ID: 320-34425-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.08	J	1.99	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.10	J	1.99	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.44	J	1.99	0.58	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.93	J	1.99	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.24	J	1.99	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	4.74		1.99	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.45	J	1.99	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.93	B	1.99	0.17	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FM-26-020-816-171212 (Continued) — Lab Sample ID: 320-34425-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanesulfonic Acid (PFHpS)	0.45	J	1.99	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	16.9		1.99	0.54	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-34-090-886-171211 — Lab Sample ID: 320-34425-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	1.98	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-34-080-886-171212 — Lab Sample ID: 320-34425-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.35	J B	2.21	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.89	J	2.21	0.39	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-34-070-886-171213 — Lab Sample ID: 320-34425-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	2.19	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.59	J	2.19	0.38	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-34-060-886-171213 — Lab Sample ID: 320-34425-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.28	J B	2.11	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.60	J	2.11	0.37	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FM-34-050-886-171213 — Lab Sample ID: 320-34425-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.75		2.06	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	5.49		2.06	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.91		2.06	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.43		2.06	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.63		2.06	0.87	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.62	J	2.06	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11.3	B	2.06	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.46	J	2.06	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	39.2		2.06	0.56	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.43	J	2.06	0.36	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34425-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client Sample ID: FB-816-171212 Field Blank

Lab Sample ID: 320-34425-1

Date Collected: 12/12/17 07:45

Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.33	U	1.90	0.33	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluoropentanoic acid (PFPeA)	0.46	U	1.90	0.46	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorohexanoic acid (PFHxA)	0.55	U	1.90	0.55	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluoroheptanoic acid (PFHpA)	0.24	U	1.90	0.24	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorooctanoic acid (PFOA)	0.81	U	1.90	0.81	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorononanoic acid (PFNA)	0.26	U	1.90	0.26	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorodecanoic acid (PFDA)	0.29	U	1.90	0.29	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluoroundecanoic acid (PFUnA)	1.04	U	1.90	1.04	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorododecanoic acid (PFDoA)	0.52	U	1.90	0.52	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorotridecanoic Acid (PFTriA)	1.23	U	1.90	1.23	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.90	0.28	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorobutanesulfonic acid (PFBS)	0.19	U	1.90	0.19	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorohexanesulfonic acid (PFHxS)	**0.28**	**J B**	1.90	0.16	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	1.90	0.18	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorooctanesulfonic acid (PFOS)	0.51	U	1.90	0.51	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorodecanesulfonic acid (PFDS)	0.30	U	1.90	0.30	ng/L		12/22/17 07:51	12/22/17 23:10	1
Perfluorooctane Sulfonamide (FOSA)	0.33	U	1.90	0.33	ng/L		12/22/17 07:51	12/22/17 23:10	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	2.94	U	19.0	2.94	ng/L		12/22/17 07:51	12/22/17 23:10	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.80	U	19.0	1.80	ng/L		12/22/17 07:51	12/22/17 23:10	1
6:2FTS	1.90	U	19.0	1.90	ng/L		12/22/17 07:51	12/22/17 23:10	1
8:2FTS	1.90	U	19.0	1.90	ng/L		12/22/17 07:51	12/22/17 23:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C5 PFPeA	*99*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C2 PFHxA	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C4-PFHpA	*106*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C4 PFOA	*96*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C5 PFNA	*111*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C2 PFDA	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C2 PFUnA	*92*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C2 PFDoA	*98*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C2-PFTeDA	*135*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C3-PFBS	*103*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
18O2 PFHxS	*103*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C4 PFOS	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
13C8 FOSA	*93*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
d3-NMeFOSAA	*84*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
d5-NEtFOSAA	*90*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
M2-6:2FTS	*43*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*
M2-8:2FTS	*79*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:10*	*1*

Client Sample ID: PB-816-171212 Pump Blank

Date Collected: 12/12/17 07:50
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorohexanesulfonic acid (PFHxS)	**0.31**	**J B**	2.00	0.17	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/22/17 07:51	12/22/17 23:18	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35	ng/L		12/22/17 07:51	12/22/17 23:18	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10	ng/L		12/22/17 07:51	12/22/17 23:18	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/22/17 07:51	12/22/17 23:18	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/22/17 07:51	12/22/17 23:18	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/22/17 07:51	12/22/17 23:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C5 PFPeA	*103*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C2 PFHxA	*97*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C4-PFHpA	*104*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C4 PFOA	*98*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C5 PFNA	*107*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C2 PFDA	*103*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C2 PFUnA	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C2 PFDoA	*98*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C2-PFTeDA	*136*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C3-PFBS	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
18O2 PFHxS	*96*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C4 PFOS	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
13C8 FOSA	*93*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
d5-NEtFOSAA	*87*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
M2-6:2FTS	*44*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*
M2-8:2FTS	*80*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:18*	*1*

Client Sample ID: FM-26-100-816-171211

Date Collected: 12/11/17 11:00
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.0**	**J**	2.14	0.37	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluoropentanoic acid (PFPeA)	**1.98**	**J**	2.14	0.52	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorohexanoic acid (PFHxA)	**2.89**		2.14	0.62	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluoroheptanoic acid (PFHpA)	**1.03**	**J**	2.14	0.27	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorooctanoic acid (PFOA)	**1.85**	**J**	2.14	0.91	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorononanoic acid (PFNA)	**1.92**	**J**	2.14	0.29	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorodecanoic acid (PFDA)	0.33	U	2.14	0.33	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluoroundecanoic acid (PFUnA)	1.18	U	2.14	1.18	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorododecanoic acid (PFDoA)	0.59	U	2.14	0.59	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorotridecanoic Acid (PFTriA)	1.39	U	2.14	1.39	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.14	0.31	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorobutanesulfonic acid (PFBS)	**3.59**		2.14	0.21	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorohexanesulfonic acid (PFHxS)	**29.1**	**B**	2.14	0.18	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.95**	**J**	2.14	0.20	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorooctanesulfonic acid (PFOS)	**20.0**		2.14	0.58	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.14	0.34	ng/L		12/22/17 07:51	12/22/17 23:26	1
Perfluorooctane Sulfonamide (FOSA)	**0.37**	**J**	2.14	0.37	ng/L		12/22/17 07:51	12/22/17 23:26	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.31	U	21.4	3.31	ng/L		12/22/17 07:51	12/22/17 23:26	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.03	U	21.4	2.03	ng/L		12/22/17 07:51	12/22/17 23:26	1
6:2FTS	2.14	U	21.4	2.14	ng/L		12/22/17 07:51	12/22/17 23:26	1
8:2FTS	2.14	U	21.4	2.14	ng/L		12/22/17 07:51	12/22/17 23:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C5 PFPeA	*107*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C2 PFHxA	*105*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C4-PFHpA	*109*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C4 PFOA	*98*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C5 PFNA	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C2 PFDA	*108*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C2 PFUnA	*95*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C2 PFDoA	*98*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C2-PFTeDA	*121*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C3-PFBS	*108*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
18O2 PFHxS	*106*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C4 PFOS	*103*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
13C8 FOSA	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
d5-NEtFOSAA	*90*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*
M2-8:2FTS	*80*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:26*	*1*

Client Sample ID: FM-26-090-816-171211
Lab Sample ID: 320-34425-4

Date Collected: 12/11/17 11:50
Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.67**	**J**	2.16	0.38	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluoropentanoic acid (PFPeA)	**3.88**		2.16	0.53	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorohexanoic acid (PFHxA)	**5.93**		2.16	0.63	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluoroheptanoic acid (PFHpA)	**1.98**	**J**	2.16	0.27	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorooctanoic acid (PFOA)	**3.44**		2.16	0.92	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorononanoic acid (PFNA)	**4.92**		2.16	0.29	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorodecanoic acid (PFDA)	0.34	U	2.16	0.34	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluoroundecanoic acid (PFUnA)	1.19	U	2.16	1.19	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorododecanoic acid (PFDoA)	0.59	U	2.16	0.59	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorotridecanoic Acid (PFTriA)	1.41	U	2.16	1.41	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.16	0.31	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorobutanesulfonic acid (PFBS)	**2.96**		2.16	0.22	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorohexanesulfonic acid (PFHxS)	**29.2**	**B**	2.16	0.18	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	**1.61**	**J**	2.16	0.21	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorooctanesulfonic acid (PFOS)	**46.1**		2.16	0.58	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorodecanesulfonic acid (PFDS)	0.35	U	2.16	0.35	ng/L		12/22/17 07:51	12/22/17 23:34	1
Perfluorooctane Sulfonamide (FOSA)	0.38	U	2.16	0.38	ng/L		12/22/17 07:51	12/22/17 23:34	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.35	U	21.6	3.35	ng/L		12/22/17 07:51	12/22/17 23:34	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.05	U	21.6	2.05	ng/L		12/22/17 07:51	12/22/17 23:34	1
6:2FTS	2.16	U	21.6	2.16	ng/L		12/22/17 07:51	12/22/17 23:34	1
8:2FTS	2.16	U	21.6	2.16	ng/L		12/22/17 07:51	12/22/17 23:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C5 PFPeA	*104*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C2 PFHxA	*103*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C4-PFHpA	*112*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C5 PFNA	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C2 PFDA	*104*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C2 PFUnA	*99*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C2 PFDoA	*96*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C2-PFTeDA	*119*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C3-PFBS	*106*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
18O2 PFHxS	*104*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C4 PFOS	*99*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
13C8 FOSA	*98*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
d3-NMeFOSAA	*85*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
d5-NEtFOSAA	*90*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
M2-6:2FTS	*43*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*
M2-8:2FTS	*77*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:34*	*1*

Client Sample ID: FM-26-080-816-171211
Lab Sample ID: 320-34425-5

Date Collected: 12/11/17 12:42
Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.33	U	1.90	0.33	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluoropentanoic acid (PFPeA)	0.47	U	1.90	0.47	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorohexanoic acid (PFHxA)	0.55	U	1.90	0.55	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluoroheptanoic acid (PFHpA)	0.24	U	1.90	0.24	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorooctanoic acid (PFOA)	0.81	U	1.90	0.81	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorononanoic acid (PFNA)	0.26	U	1.90	0.26	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorodecanoic acid (PFDA)	0.29	U	1.90	0.29	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluoroundecanoic acid (PFUnA)	1.04	U	1.90	1.04	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorododecanoic acid (PFDoA)	0.52	U	1.90	0.52	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorotridecanoic Acid (PFTriA)	1.23	U	1.90	1.23	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.90	0.28	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorobutanesulfonic acid (PFBS)	0.19	U	1.90	0.19	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorohexanesulfonic acid (PFHxS)	**0.46**	**J B**	1.90	0.16	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	1.90	0.18	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorooctanesulfonic acid (PFOS)	**0.93**	**J**	1.90	0.51	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorodecanesulfonic acid (PFDS)	0.30	U	1.90	0.30	ng/L		12/22/17 07:51	12/22/17 23:41	1
Perfluorooctane Sulfonamide (FOSA)	0.33	U	1.90	0.33	ng/L		12/22/17 07:51	12/22/17 23:41	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	2.94	U	19.0	2.94	ng/L		12/22/17 07:51	12/22/17 23:41	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.80	U	19.0	1.80	ng/L		12/22/17 07:51	12/22/17 23:41	1
6:2FTS	1.90	U	19.0	1.90	ng/L		12/22/17 07:51	12/22/17 23:41	1
8:2FTS	1.90	U	19.0	1.90	ng/L		12/22/17 07:51	12/22/17 23:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C5 PFPeA	*105*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C2 PFHxA	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C4-PFHpA	*105*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C4 PFOA	*100*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C5 PFNA	*105*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C2 PFDA	*104*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C2 PFUnA	*96*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C2 PFDoA	*96*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C2-PFTeDA	*114*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C3-PFBS	*108*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
18O2 PFHxS	*108*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C4 PFOS	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
13C8 FOSA	*100*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
d5-NEtFOSAA	*86*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*
M2-8:2FTS	*79*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:41*	*1*

Client Sample ID: FM-26-070-816-171211

Date Collected: 12/11/17 13:28
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.55**	**J**	2.00	0.35	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluoropentanoic acid (PFPeA)	**0.99**	**J**	2.00	0.49	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorohexanoic acid (PFHxA)	**1.20**	**J**	2.00	0.58	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluoroheptanoic acid (PFHpA)	**0.39**	**J**	2.00	0.25	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorononanoic acid (PFNA)	**0.36**	**J**	2.00	0.27	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorobutanesulfonic acid (PFBS)	**0.29**	**J**	2.00	0.20	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorohexanesulfonic acid (PFHxS)	**4.96**	**B**	2.00	0.17	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorooctanesulfonic acid (PFOS)	**3.41**		2.00	0.54	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/22/17 07:51	12/22/17 23:49	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35	ng/L		12/22/17 07:51	12/22/17 23:49	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.11	U	20.0	3.11	ng/L		12/22/17 07:51	12/22/17 23:49	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/22/17 07:51	12/22/17 23:49	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/22/17 07:51	12/22/17 23:49	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/22/17 07:51	12/22/17 23:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C5 PFPeA	*106*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C2 PFHxA	*107*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C4-PFHpA	*108*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C4 PFOA	*95*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C5 PFNA	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C2 PFDA	*103*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C2 PFUnA	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C2 PFDoA	*96*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C2-PFTeDA	*121*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C3-PFBS	*110*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
18O2 PFHxS	*108*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C4 PFOS	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
13C8 FOSA	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
d3-NMeFOSAA	*84*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
d5-NEtFOSAA	*90*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
M2-6:2FTS	*43*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*
M2-8:2FTS	*83*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:49*	*1*

Client Sample ID: FM-26-060-816-171211
Lab Sample ID: 320-34425-7

Date Collected: 12/11/17 14:10
Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.37	U	2.12	0.37	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluoropentanoic acid (PFPeA)	0.52	U	2.12	0.52	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorohexanoic acid (PFHxA)	0.61	U	2.12	0.61	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluoroheptanoic acid (PFHpA)	0.27	U	2.12	0.27	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorooctanoic acid (PFOA)	0.90	U	2.12	0.90	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorononanoic acid (PFNA)	0.29	U	2.12	0.29	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorodecanoic acid (PFDA)	0.33	U	2.12	0.33	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluoroundecanoic acid (PFUnA)	1.17	U	2.12	1.17	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorododecanoic acid (PFDoA)	0.58	U	2.12	0.58	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorotridecanoic Acid (PFTriA)	1.38	U	2.12	1.38	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.12	0.31	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorobutanesulfonic acid (PFBS)	0.21	U	2.12	0.21	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorohexanesulfonic acid (PFHxS)	**1.99**	**J B**	2.12	0.18	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.12	0.20	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorooctanesulfonic acid (PFOS)	**1.24**	**J**	2.12	0.57	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.12	0.34	ng/L		12/22/17 07:51	12/22/17 23:57	1
Perfluorooctane Sulfonamide (FOSA)	0.37	U	2.12	0.37	ng/L		12/22/17 07:51	12/22/17 23:57	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.29	U	21.2	3.29	ng/L		12/22/17 07:51	12/22/17 23:57	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.01	U	21.2	2.01	ng/L		12/22/17 07:51	12/22/17 23:57	1
6:2FTS	2.12	U	21.2	2.12	ng/L		12/22/17 07:51	12/22/17 23:57	1
8:2FTS	2.12	U	21.2	2.12	ng/L		12/22/17 07:51	12/22/17 23:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C5 PFPeA	*106*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C2 PFHxA	*99*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C4-PFHpA	*104*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C5 PFNA	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C2 PFDA	*103*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C2 PFUnA	*97*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C2 PFDoA	*95*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C2-PFTeDA	*116*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C3-PFBS	*109*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
18O2 PFHxS	*102*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C4 PFOS	*99*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
13C8 FOSA	*95*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
d3-NMeFOSAA	*81*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
d5-NEtFOSAA	*87*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
M2-6:2FTS	*40*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*
M2-8:2FTS	*79*		*25 - 150*	*12/22/17 07:51*	*12/22/17 23:57*	*1*

Client Sample ID: FM-26-050-816-171211

Date Collected: 12/12/17 08:39
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.47**		2.07	0.36	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluoropentanoic acid (PFPeA)	**7.58**		2.07	0.51	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorohexanoic acid (PFHxA)	**4.13**		2.07	0.60	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluoroheptanoic acid (PFHpA)	**1.48**	**J**	2.07	0.26	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorooctanoic acid (PFOA)	**1.62**	**J**	2.07	0.88	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorononanoic acid (PFNA)	**0.89**	**J**	2.07	0.28	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.07	0.32	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluoroundecanoic acid (PFUnA)	1.14	U	2.07	1.14	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorododecanoic acid (PFDoA)	0.57	U	2.07	0.57	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.07	1.34	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.07	0.30	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorobutanesulfonic acid (PFBS)	**0.48**	**J**	2.07	0.21	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorohexanesulfonic acid (PFHxS)	**6.25**	**B**	2.07	0.18	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.07	0.20	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorooctanesulfonic acid (PFOS)	**6.35**		2.07	0.56	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.07	0.33	ng/L		12/22/17 07:51	12/23/17 00:13	1
Perfluorooctane Sulfonamide (FOSA)	**0.42**	**J**	2.07	0.36	ng/L		12/22/17 07:51	12/23/17 00:13	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.21	U	20.7	3.21	ng/L		12/22/17 07:51	12/23/17 00:13	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.97	U	20.7	1.97	ng/L		12/22/17 07:51	12/23/17 00:13	1
6:2FTS	2.07	U	20.7	2.07	ng/L		12/22/17 07:51	12/23/17 00:13	1
8:2FTS	2.07	U	20.7	2.07	ng/L		12/22/17 07:51	12/23/17 00:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C5 PFPeA	*110*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C2 PFHxA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C4-PFHpA	*114*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C4 PFOA	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C5 PFNA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C2 PFDA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C2 PFUnA	*98*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C2 PFDoA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C2-PFTeDA	*130*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C3-PFBS	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
18O2 PFHxS	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C4 PFOS	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
13C8 FOSA	*98*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
M2-6:2FTS	*44*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*
M2-8:2FTS	*78*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:13*	*1*

Client Sample ID: FM-26-040-816-171211

Date Collected: 12/12/17 09:27
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.34**		1.98	0.35	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluoropentanoic acid (PFPeA)	**16.6**		1.98	0.48	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorohexanoic acid (PFHxA)	**14.2**		1.98	0.57	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluoroheptanoic acid (PFHpA)	**6.90**		1.98	0.25	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorooctanoic acid (PFOA)	**8.61**		1.98	0.84	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorononanoic acid (PFNA)	**2.77**		1.98	0.27	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorodecanoic acid (PFDA)	0.31	U	1.98	0.31	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluoroundecanoic acid (PFUnA)	1.09	U	1.98	1.09	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.98	0.54	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorotridecanoic Acid (PFTriA)	1.29	U	1.98	1.29	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.98	0.29	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorobutanesulfonic acid (PFBS)	**1.47**	**J**	1.98	0.20	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorohexanesulfonic acid (PFHxS)	**15.0**	**B**	1.98	0.17	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.41**	**J**	1.98	0.19	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorooctanesulfonic acid (PFOS)	**32.8**		1.98	0.53	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.98	0.32	ng/L		12/22/17 07:51	12/23/17 00:21	1
Perfluorooctane Sulfonamide (FOSA)	**0.50**	**J**	1.98	0.35	ng/L		12/22/17 07:51	12/23/17 00:21	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.07	U	19.8	3.07	ng/L		12/22/17 07:51	12/23/17 00:21	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.88	U	19.8	1.88	ng/L		12/22/17 07:51	12/23/17 00:21	1
6:2FTS	1.98	U	19.8	1.98	ng/L		12/22/17 07:51	12/23/17 00:21	1
8:2FTS	1.98	U	19.8	1.98	ng/L		12/22/17 07:51	12/23/17 00:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C5 PFPeA	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C2 PFHxA	*98*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C4-PFHpA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C4 PFOA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C5 PFNA	*95*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C2 PFDA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C2 PFUnA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C2 PFDoA	*90*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C2-PFTeDA	*122*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C3-PFBS	*103*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
18O2 PFHxS	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C4 PFOS	*95*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
13C8 FOSA	*90*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
d5-NEtFOSAA	*85*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*
M2-8:2FTS	*76*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:21*	*1*

Client Sample ID: FM-32-100-944-171211

Date Collected: 12/11/17 14:00
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-10

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.36	U	2.07	0.36	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluoropentanoic acid (PFPeA)	0.51	U	2.07	0.51	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorohexanoic acid (PFHxA)	0.60	U	2.07	0.60	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluoroheptanoic acid (PFHpA)	0.26	U	2.07	0.26	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorooctanoic acid (PFOA)	0.88	U	2.07	0.88	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorononanoic acid (PFNA)	0.28	U	2.07	0.28	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.07	0.32	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluoroundecanoic acid (PFUnA)	1.14	U	2.07	1.14	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorododecanoic acid (PFDoA)	0.57	U	2.07	0.57	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.07	1.34	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.07	0.30	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorobutanesulfonic acid (PFBS)	**0.23**	**J**	2.07	0.21	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorohexanesulfonic acid (PFHxS)	**2.98**	**B**	2.07	0.18	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.07	0.20	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorooctanesulfonic acid (PFOS)	**0.76**	**J**	2.07	0.56	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.07	0.33	ng/L		12/22/17 07:51	12/23/17 00:28	1
Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.07	0.36	ng/L		12/22/17 07:51	12/23/17 00:28	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.20	U	20.7	3.20	ng/L		12/22/17 07:51	12/23/17 00:28	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.7	1.96	ng/L		12/22/17 07:51	12/23/17 00:28	1
6:2FTS	2.07	U	20.7	2.07	ng/L		12/22/17 07:51	12/23/17 00:28	1
8:2FTS	2.07	U	20.7	2.07	ng/L		12/22/17 07:51	12/23/17 00:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C5 PFPeA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C2 PFHxA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C4-PFHpA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C5 PFNA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C2 PFDA	*98*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C2 PFUnA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C2 PFDoA	*98*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C2-PFTeDA	*120*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C3-PFBS	*108*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
18O2 PFHxS	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C4 PFOS	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
13C8 FOSA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
d3-NMeFOSAA	*84*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
d5-NEtFOSAA	*90*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
M2-6:2FTS	*43*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*
M2-8:2FTS	*76*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:28*	*1*

Client Sample ID: DUP-1-944-171211

Date Collected: 12/11/17 14:00
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.36	U	2.03	0.36	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluoropentanoic acid (PFPeA)	0.50	U	2.03	0.50	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorohexanoic acid (PFHxA)	0.59	U	2.03	0.59	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.03	0.25	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorooctanoic acid (PFOA)	0.86	U	2.03	0.86	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorononanoic acid (PFNA)	0.27	U	2.03	0.27	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.03	0.32	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluoroundecanoic acid (PFUnA)	1.12	U	2.03	1.12	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.03	0.56	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorotridecanoic Acid (PFTriA)	1.32	U	2.03	1.32	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.03	0.29	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorobutanesulfonic acid (PFBS)	**0.25**	**J**	2.03	0.20	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorohexanesulfonic acid (PFHxS)	**2.75**	**B**	2.03	0.17	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.03	0.19	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorooctanesulfonic acid (PFOS)	**0.59**	**J**	2.03	0.55	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.03	0.33	ng/L		12/22/17 07:51	12/23/17 00:36	1
Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.03	0.36	ng/L		12/22/17 07:51	12/23/17 00:36	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.15	U	20.3	3.15	ng/L		12/22/17 07:51	12/23/17 00:36	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.93	U	20.3	1.93	ng/L		12/22/17 07:51	12/23/17 00:36	1
6:2FTS	2.03	U	20.3	2.03	ng/L		12/22/17 07:51	12/23/17 00:36	1
8:2FTS	2.03	U	20.3	2.03	ng/L		12/22/17 07:51	12/23/17 00:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C5 PFPeA	*103*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C2 PFHxA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C4-PFHpA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C4 PFOA	*98*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C5 PFNA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C2 PFDA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C2 PFUnA	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C2 PFDoA	*92*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C2-PFTeDA	*123*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C3-PFBS	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
18O2 PFHxS	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C4 PFOS	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
13C8 FOSA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
d3-NMeFOSAA	*84*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
d5-NEtFOSAA	*86*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
M2-6:2FTS	*41*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*
M2-8:2FTS	*75*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:36*	*1*

Client Sample ID: DUP-2-944-171211

Date Collected: 12/11/17 14:00
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-12

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.02	0.35	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluoropentanoic acid (PFPeA)	0.50	U	2.02	0.50	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorohexanoic acid (PFHxA)	0.59	U	2.02	0.59	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.02	0.25	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorooctanoic acid (PFOA)	0.86	U	2.02	0.86	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorononanoic acid (PFNA)	0.27	U	2.02	0.27	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.02	0.31	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluoroundecanoic acid (PFUnA)	1.11	U	2.02	1.11	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.02	0.56	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorotridecanoic Acid (PFTriA)	1.32	U	2.02	1.32	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.02	0.29	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorobutanesulfonic acid (PFBS)	**0.26**	**J**	2.02	0.20	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorohexanesulfonic acid (PFHxS)	**2.97**	**B**	2.02	0.17	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.02	0.19	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorooctanesulfonic acid (PFOS)	**0.62**	**J**	2.02	0.55	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.02	0.32	ng/L		12/22/17 07:51	12/23/17 00:44	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.02	0.35	ng/L		12/22/17 07:51	12/23/17 00:44	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.14	U	20.2	3.14	ng/L		12/22/17 07:51	12/23/17 00:44	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.92	U	20.2	1.92	ng/L		12/22/17 07:51	12/23/17 00:44	1
6:2FTS	2.02	U	20.2	2.02	ng/L		12/22/17 07:51	12/23/17 00:44	1
8:2FTS	2.02	U	20.2	2.02	ng/L		12/22/17 07:51	12/23/17 00:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C5 PFPeA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C2 PFHxA	*98*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C4-PFHpA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C5 PFNA	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C2 PFDA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C2 PFUnA	*94*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C2 PFDoA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C2-PFTeDA	*123*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C3-PFBS	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
18O2 PFHxS	*108*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C4 PFOS	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
13C8 FOSA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
d5-NEtFOSAA	*88*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
M2-6:2FTS	*41*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*
M2-8:2FTS	*75*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:44*	*1*

Client Sample ID: FM-32-90-944-171212

Date Collected: 12/12/17 08:30
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-13

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.41**	**J**	1.96	0.34	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluoropentanoic acid (PFPeA)	0.48	U	1.96	0.48	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorohexanoic acid (PFHxA)	0.57	U	1.96	0.57	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluoroheptanoic acid (PFHpA)	0.24	U	1.96	0.24	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorooctanoic acid (PFOA)	0.83	U	1.96	0.83	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorononanoic acid (PFNA)	0.26	U	1.96	0.26	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorodecanoic acid (PFDA)	0.30	U	1.96	0.30	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluoroundecanoic acid (PFUnA)	1.08	U	1.96	1.08	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.96	0.54	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.96	1.27	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorobutanesulfonic acid (PFBS)	**0.28**	**J**	1.96	0.20	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorohexanesulfonic acid (PFHxS)	**3.39**	**B**	1.96	0.17	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.96	0.19	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorooctanesulfonic acid (PFOS)	**2.94**		1.96	0.53	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31	ng/L		12/22/17 07:51	12/23/17 00:52	1
Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.96	0.34	ng/L		12/22/17 07:51	12/23/17 00:52	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.03	U	19.6	3.03	ng/L		12/22/17 07:51	12/23/17 00:52	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	19.6	1.86	ng/L		12/22/17 07:51	12/23/17 00:52	1
6:2FTS	1.96	U	19.6	1.96	ng/L		12/22/17 07:51	12/23/17 00:52	1
8:2FTS	1.96	U	19.6	1.96	ng/L		12/22/17 07:51	12/23/17 00:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C5 PFPeA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C2 PFHxA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C4-PFHpA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C4 PFOA	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C5 PFNA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C2 PFDA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C2 PFUnA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C2 PFDoA	*95*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C2-PFTeDA	*116*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C3-PFBS	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
18O2 PFHxS	*103*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C4 PFOS	*95*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
13C8 FOSA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
d5-NEtFOSAA	*88*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*
M2-8:2FTS	*74*		*25 - 150*	*12/22/17 07:51*	*12/23/17 00:52*	*1*

Client Sample ID: FM-32-80-944-171212
Lab Sample ID: 320-34425-14

Date Collected: 12/12/17 09:30
Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.73**	**J**	2.19	0.38	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluoropentanoic acid (PFPeA)	0.54	U	2.19	0.54	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorohexanoic acid (PFHxA)	0.64	U	2.19	0.64	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluoroheptanoic acid (PFHpA)	0.27	U	2.19	0.27	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorooctanoic acid (PFOA)	**1.58**	**J**	2.19	0.93	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorononanoic acid (PFNA)	**0.39**	**J**	2.19	0.30	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorodecanoic acid (PFDA)	0.34	U	2.19	0.34	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluoroundecanoic acid (PFUnA)	1.21	U	2.19	1.21	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorododecanoic acid (PFDoA)	0.60	U	2.19	0.60	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorotridecanoic Acid (PFTriA)	1.43	U	2.19	1.43	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorotetradecanoic acid (PFTeA)	0.32	U	2.19	0.32	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorobutanesulfonic acid (PFBS)	**0.42**	**J**	2.19	0.22	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorohexanesulfonic acid (PFHxS)	**5.08**	**B**	2.19	0.19	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.21	U	2.19	0.21	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorooctanesulfonic acid (PFOS)	**3.79**		2.19	0.59	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorodecanesulfonic acid (PFDS)	0.35	U	2.19	0.35	ng/L		12/22/17 07:51	12/23/17 01:00	1
Perfluorooctane Sulfonamide (FOSA)	0.38	U	2.19	0.38	ng/L		12/22/17 07:51	12/23/17 01:00	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.40	U	21.9	3.40	ng/L		12/22/17 07:51	12/23/17 01:00	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.08	U	21.9	2.08	ng/L		12/22/17 07:51	12/23/17 01:00	1
6:2FTS	2.19	U	21.9	2.19	ng/L		12/22/17 07:51	12/23/17 01:00	1
8:2FTS	2.19	U	21.9	2.19	ng/L		12/22/17 07:51	12/23/17 01:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C5 PFPeA	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C2 PFHxA	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C4-PFHpA	*110*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C5 PFNA	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C2 PFDA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C2 PFUnA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C2 PFDoA	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C2-PFTeDA	*119*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C3-PFBS	*110*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
18O2 PFHxS	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C4 PFOS	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
13C8 FOSA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
d3-NMeFOSAA	*89*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
d5-NEtFOSAA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
M2-6:2FTS	*43*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*
M2-8:2FTS	*83*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:00*	*1*

Client Sample ID: FM-32-070-944-171213

Date Collected: 12/13/17 07:40
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-15

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.40**	**J**	2.06	0.36	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluoropentanoic acid (PFPeA)	0.50	U	2.06	0.50	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorohexanoic acid (PFHxA)	0.60	U	2.06	0.60	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluoroheptanoic acid (PFHpA)	0.26	U	2.06	0.26	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorooctanoic acid (PFOA)	**2.11**		2.06	0.88	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorononanoic acid (PFNA)	**0.74**	**J**	2.06	0.28	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.06	0.32	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluoroundecanoic acid (PFUnA)	1.13	U	2.06	1.13	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorododecanoic acid (PFDoA)	0.57	U	2.06	0.57	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.06	1.34	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.06	0.30	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorobutanesulfonic acid (PFBS)	**0.40**	**J**	2.06	0.21	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorohexanesulfonic acid (PFHxS)	**4.41**	**B**	2.06	0.18	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.06	0.20	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorooctanesulfonic acid (PFOS)	**5.31**		2.06	0.56	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.06	0.33	ng/L		12/22/17 07:51	12/23/17 01:08	1
Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.06	0.36	ng/L		12/22/17 07:51	12/23/17 01:08	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.19	U	20.6	3.19	ng/L		12/22/17 07:51	12/23/17 01:08	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.6	1.96	ng/L		12/22/17 07:51	12/23/17 01:08	1
6:2FTS	2.06	U	20.6	2.06	ng/L		12/22/17 07:51	12/23/17 01:08	1
8:2FTS	2.06	U	20.6	2.06	ng/L		12/22/17 07:51	12/23/17 01:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C5 PFPeA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C2 PFHxA	*103*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C4-PFHpA	*106*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C4 PFOA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C5 PFNA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C2 PFDA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C2 PFUnA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C2 PFDoA	*92*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C2-PFTeDA	*116*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C3-PFBS	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
18O2 PFHxS	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C4 PFOS	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
13C8 FOSA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
d3-NMeFOSAA	*81*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
d5-NEtFOSAA	*83*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
M2-6:2FTS	*41*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*
M2-8:2FTS	*77*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:08*	*1*

Client Sample ID: FM-32-060-944-171213

Date Collected: 12/13/17 08:30
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-16

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.07**	**J**	1.95	0.34	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluoropentanoic acid (PFPeA)	**0.55**	**J**	1.95	0.48	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorohexanoic acid (PFHxA)	**1.03**	**J**	1.95	0.57	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluoroheptanoic acid (PFHpA)	**0.92**	**J**	1.95	0.24	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorooctanoic acid (PFOA)	**1.72**	**J**	1.95	0.83	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorononanoic acid (PFNA)	**0.86**	**J**	1.95	0.26	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorodecanoic acid (PFDA)	0.30	U	1.95	0.30	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluoroundecanoic acid (PFUnA)	1.07	U	1.95	1.07	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.95	0.54	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.95	1.27	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.95	0.28	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorobutanesulfonic acid (PFBS)	**0.41**	**J**	1.95	0.19	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorohexanesulfonic acid (PFHxS)	**4.23**	**B**	1.95	0.17	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.95	0.19	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorooctanesulfonic acid (PFOS)	**4.64**		1.95	0.53	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.95	0.31	ng/L		12/22/17 07:51	12/23/17 01:16	1
Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.95	0.34	ng/L		12/22/17 07:51	12/23/17 01:16	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.02	U	19.5	3.02	ng/L		12/22/17 07:51	12/23/17 01:16	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.85	U	19.5	1.85	ng/L		12/22/17 07:51	12/23/17 01:16	1
6:2FTS	1.95	U	19.5	1.95	ng/L		12/22/17 07:51	12/23/17 01:16	1
8:2FTS	1.95	U	19.5	1.95	ng/L		12/22/17 07:51	12/23/17 01:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C5 PFPeA	*110*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C2 PFHxA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C4-PFHpA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C5 PFNA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C2 PFDA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C2 PFUnA	*95*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C2 PFDoA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C2-PFTeDA	*117*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C3-PFBS	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
18O2 PFHxS	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C4 PFOS	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
13C8 FOSA	*94*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
d5-NEtFOSAA	*87*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
M2-6:2FTS	*41*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*
M2-8:2FTS	*77*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:16*	*1*

Client Sample ID: FM-32-050-944-171213

Date Collected: 12/13/17 07:40
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-17

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.14**	**J**	1.96	0.34	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluoropentanoic acid (PFPeA)	**1.06**	**J**	1.96	0.48	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorohexanoic acid (PFHxA)	**1.10**	**J**	1.96	0.57	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluoroheptanoic acid (PFHpA)	**0.57**	**J**	1.96	0.25	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorooctanoic acid (PFOA)	**1.57**	**J**	1.96	0.83	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorononanoic acid (PFNA)	**0.62**	**J**	1.96	0.27	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorodecanoic acid (PFDA)	0.30	U	1.96	0.30	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluoroundecanoic acid (PFUnA)	1.08	U	1.96	1.08	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.96	0.54	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorotridecanoic Acid (PFTriA)	1.28	U	1.96	1.28	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorobutanesulfonic acid (PFBS)	**0.32**	**J**	1.96	0.20	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorohexanesulfonic acid (PFHxS)	**2.82**	**B**	1.96	0.17	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.96	0.19	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorooctanesulfonic acid (PFOS)	**2.87**		1.96	0.53	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31	ng/L		12/22/17 07:51	12/23/17 01:23	1
Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.96	0.34	ng/L		12/22/17 07:51	12/23/17 01:23	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.04	U	19.6	3.04	ng/L		12/22/17 07:51	12/23/17 01:23	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	19.6	1.86	ng/L		12/22/17 07:51	12/23/17 01:23	1
6:2FTS	1.96	U	19.6	1.96	ng/L		12/22/17 07:51	12/23/17 01:23	1
8:2FTS	1.96	U	19.6	1.96	ng/L		12/22/17 07:51	12/23/17 01:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C5 PFPeA	*110*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C2 PFHxA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C4-PFHpA	*107*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C5 PFNA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C2 PFDA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C2 PFUnA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C2 PFDoA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C2-PFTeDA	*113*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C3-PFBS	*106*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
18O2 PFHxS	*106*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C4 PFOS	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
13C8 FOSA	*95*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
d3-NMeFOSAA	*83*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
d5-NEtFOSAA	*90*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
M2-6:2FTS	*43*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*
M2-8:2FTS	*78*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:23*	*1*

Client Sample ID: Pump Blank PB-816-171211

Date Collected: 12/11/17 09:50
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-18

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.01	0.35	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.01	0.49	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.01	0.58	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.01	0.25	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.01	0.85	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorononanoic acid (PFNA)	**1.0**	**J**	2.01	0.27	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.01	0.31	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.01	1.10	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.01	0.55	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorotridecanoic Acid (PFTriA)	1.31	U	2.01	1.31	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.01	0.29	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.01	0.20	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorohexanesulfonic acid (PFHxS)	**0.32**	**J B**	2.01	0.17	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.01	0.19	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.01	0.54	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.01	0.32	ng/L		12/22/17 07:51	12/23/17 01:39	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.01	0.35	ng/L		12/22/17 07:51	12/23/17 01:39	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.11	U	20.1	3.11	ng/L		12/22/17 07:51	12/23/17 01:39	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.91	U	20.1	1.91	ng/L		12/22/17 07:51	12/23/17 01:39	1
6:2FTS	2.01	U	20.1	2.01	ng/L		12/22/17 07:51	12/23/17 01:39	1
8:2FTS	2.01	U	20.1	2.01	ng/L		12/22/17 07:51	12/23/17 01:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C5 PFPeA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C2 PFHxA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C4-PFHpA	*105*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C5 PFNA	*106*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C2 PFDA	*98*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C2 PFUnA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C2 PFDoA	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C2-PFTeDA	*145*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C3-PFBS	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
18O2 PFHxS	*100*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C4 PFOS	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
13C8 FOSA	*95*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
d3-NMeFOSAA	*88*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
d5-NEtFOSAA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
M2-6:2FTS	*40*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*
M2-8:2FTS	*82*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:39*	*1*

Client Sample ID: Field Blank FB-816-171211

Lab Sample ID: 320-34425-19

Date Collected: 12/11/17 09:50

Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.36	U	2.05	0.36	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluoropentanoic acid (PFPeA)	0.50	U	2.05	0.50	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorohexanoic acid (PFHxA)	0.59	U	2.05	0.59	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluoroheptanoic acid (PFHpA)	0.26	U	2.05	0.26	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorooctanoic acid (PFOA)	0.87	U	2.05	0.87	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorononanoic acid (PFNA)	0.28	U	2.05	0.28	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.05	0.32	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluoroundecanoic acid (PFUnA)	1.13	U	2.05	1.13	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.05	0.56	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.05	1.33	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.05	0.30	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.05	0.20	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorohexanesulfonic acid (PFHxS)	**0.29**	**J B**	2.05	0.17	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.05	0.19	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorooctanesulfonic acid (PFOS)	0.55	U	2.05	0.55	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.05	0.33	ng/L		12/22/17 07:51	12/23/17 01:47	1
Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.05	0.36	ng/L		12/22/17 07:51	12/23/17 01:47	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.17	U	20.5	3.17	ng/L		12/22/17 07:51	12/23/17 01:47	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.95	U	20.5	1.95	ng/L		12/22/17 07:51	12/23/17 01:47	1
6:2FTS	2.05	U	20.5	2.05	ng/L		12/22/17 07:51	12/23/17 01:47	1
8:2FTS	2.05	U	20.5	2.05	ng/L		12/22/17 07:51	12/23/17 01:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C5 PFPeA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C2 PFHxA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C4-PFHpA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C4 PFOA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C5 PFNA	*110*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C2 PFDA	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C2 PFUnA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C2 PFDoA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C2-PFTeDA	*147*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C3-PFBS	*96*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
18O2 PFHxS	*101*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C4 PFOS	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
13C8 FOSA	*93*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
d5-NEtFOSAA	*88*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*
M2-8:2FTS	*76*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:47*	*1*

Client Sample ID: FM-30-(85-90)-090-816-171213

Lab Sample ID: 320-34425-21

Date Collected: 12/13/17 11:32

Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.85**	**J**	2.07	0.36	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluoropentanoic acid (PFPeA)	**2.07**		2.07	0.51	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorohexanoic acid (PFHxA)	**2.20**		2.07	0.60	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluoroheptanoic acid (PFHpA)	**0.77**	**J**	2.07	0.26	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorooctanoic acid (PFOA)	**1.85**	**J**	2.07	0.88	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorononanoic acid (PFNA)	**2.50**		2.07	0.28	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.07	0.32	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluoroundecanoic acid (PFUnA)	1.14	U	2.07	1.14	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorododecanoic acid (PFDoA)	0.57	U	2.07	0.57	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorotridecanoic Acid (PFTriA)	1.35	U	2.07	1.35	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.07	0.30	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorobutanesulfonic acid (PFBS)	**0.60**	**J**	2.07	0.21	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorohexanesulfonic acid (PFHxS)	**11.7**	**B**	2.07	0.18	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.47**	**J**	2.07	0.20	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorooctanesulfonic acid (PFOS)	**57.5**		2.07	0.56	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.07	0.33	ng/L		12/22/17 07:51	12/23/17 01:55	1
Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.07	0.36	ng/L		12/22/17 07:51	12/23/17 01:55	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.21	U	20.7	3.21	ng/L		12/22/17 07:51	12/23/17 01:55	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.97	U	20.7	1.97	ng/L		12/22/17 07:51	12/23/17 01:55	1
6:2FTS	2.07	U	20.7	2.07	ng/L		12/22/17 07:51	12/23/17 01:55	1
8:2FTS	2.07	U	20.7	2.07	ng/L		12/22/17 07:51	12/23/17 01:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*110*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C5 PFPeA	*108*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C4-PFHpA	*112*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C4 PFOA	*99*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C5 PFNA	*108*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C2 PFDA	*103*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C2 PFUnA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C2 PFDoA	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C2-PFTeDA	*123*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C3-PFBS	*112*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
18O2 PFHxS	*110*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C4 PFOS	*104*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
13C8 FOSA	*102*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
d3-NMeFOSAA	*88*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
d5-NEtFOSAA	*97*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
M2-6:2FTS	*43*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*
M2-8:2FTS	*83*		*25 - 150*	*12/22/17 07:51*	*12/23/17 01:55*	*1*

Client Sample ID: FM-30-(75-80)-080-816-171213
Lab Sample ID: 320-34425-22

Date Collected: 12/13/17 12:25
Matrix: Water
Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.36**	**J**	2.04	0.36	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluoropentanoic acid (PFPeA)	0.50	U	2.04	0.50	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorohexanoic acid (PFHxA)	0.59	U	2.04	0.59	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluoroheptanoic acid (PFHpA)	0.26	U	2.04	0.26	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorooctanoic acid (PFOA)	0.87	U	2.04	0.87	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorononanoic acid (PFNA)	0.28	U	2.04	0.28	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.04	0.32	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluoroundecanoic acid (PFUnA)	1.12	U	2.04	1.12	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorododecanoic acid (PFDoA)	0.56	U	2.04	0.56	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.04	1.33	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.04	0.30	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.04	0.20	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorohexanesulfonic acid (PFHxS)	**1.60**	**J B**	2.04	0.17	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.04	0.19	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorooctanesulfonic acid (PFOS)	**4.97**		2.04	0.55	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.04	0.33	ng/L		12/22/17 07:57	12/23/17 02:34	1
Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.04	0.36	ng/L		12/22/17 07:57	12/23/17 02:34	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.17	U	20.4	3.17	ng/L		12/22/17 07:57	12/23/17 02:34	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.94	U	20.4	1.94	ng/L		12/22/17 07:57	12/23/17 02:34	1
6:2FTS	2.04	U	20.4	2.04	ng/L		12/22/17 07:57	12/23/17 02:34	1
8:2FTS	2.04	U	20.4	2.04	ng/L		12/22/17 07:57	12/23/17 02:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C5 PFPeA	*100*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C2 PFHxA	*98*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C4-PFHpA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C5 PFNA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C2 PFDA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C2 PFUnA	*93*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C2 PFDoA	*92*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C2-PFTeDA	*112*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C3-PFBS	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
18O2 PFHxS	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C4 PFOS	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
13C8 FOSA	*95*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
d5-NEtFOSAA	*85*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
M2-6:2FTS	*40*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*
M2-8:2FTS	*73*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:34*	*1*

Client Sample ID: FM-30-(65-70)-070-816-171213

Date Collected: 12/13/17 13:08
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-23

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14.9**		2.09	0.37	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluoropentanoic acid (PFPeA)	**57.0**		2.09	0.51	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorohexanoic acid (PFHxA)	**64.4**		2.09	0.61	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluoroheptanoic acid (PFHpA)	**27.8**		2.09	0.26	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorooctanoic acid (PFOA)	**55.9**		2.09	0.89	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorononanoic acid (PFNA)	**51.7**		2.09	0.28	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorodecanoic acid (PFDA)	**0.96**	**J**	2.09	0.32	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluoroundecanoic acid (PFUnA)	1.15	U	2.09	1.15	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorododecanoic acid (PFDoA)	0.58	U	2.09	0.58	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorotridecanoic Acid (PFTriA)	1.36	U	2.09	1.36	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.09	0.30	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorobutanesulfonic acid (PFBS)	**10.6**		2.09	0.21	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorohexanesulfonic acid (PFHxS)	**261**	**B**	2.09	0.18	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluoroheptanesulfonic Acid (PFHpS)	**12.8**		2.09	0.20	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorooctanesulfonic acid (PFOS)	**755**		2.09	0.57	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.09	0.34	ng/L		12/22/17 07:57	12/23/17 02:42	1
Perfluorooctane Sulfonamide (FOSA)	0.37	U	2.09	0.37	ng/L		12/22/17 07:57	12/23/17 02:42	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.25	U	20.9	3.25	ng/L		12/22/17 07:57	12/23/17 02:42	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.99	U	20.9	1.99	ng/L		12/22/17 07:57	12/23/17 02:42	1
6:2FTS	**67.3**		20.9	2.09	ng/L		12/22/17 07:57	12/23/17 02:42	1
8:2FTS	**5.07**	**J**	20.9	2.09	ng/L		12/22/17 07:57	12/23/17 02:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*110*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C5 PFPeA	*112*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C4-PFHpA	*107*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C4 PFOA	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C5 PFNA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C2 PFDA	*107*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C2 PFUnA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C2 PFDoA	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C2-PFTeDA	*124*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C3-PFBS	*111*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
18O2 PFHxS	*106*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C4 PFOS	*100*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
13C8 FOSA	*96*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
d3-NMeFOSAA	*88*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
d5-NEtFOSAA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*
M2-8:2FTS	*82*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:42*	*1*

Client Sample ID: Field Blank FB-816-171213

Lab Sample ID: 320-34425-24

Date Collected: 12/13/17 09:00

Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.01	0.35	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.01	0.49	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.01	0.58	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.01	0.25	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorooctanoic acid (PFOA)	0.86	U	2.01	0.86	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorononanoic acid (PFNA)	0.27	U	2.01	0.27	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.01	0.31	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluoroundecanoic acid (PFUnA)	1.11	U	2.01	1.11	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.01	0.55	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorotridecanoic Acid (PFTriA)	1.31	U	2.01	1.31	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.01	0.29	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.01	0.20	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorohexanesulfonic acid (PFHxS)	**0.39**	**J B**	2.01	0.17	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.01	0.19	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.01	0.54	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.01	0.32	ng/L		12/22/17 07:57	12/23/17 02:50	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.01	0.35	ng/L		12/22/17 07:57	12/23/17 02:50	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.12	U	20.1	3.12	ng/L		12/22/17 07:57	12/23/17 02:50	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.91	U	20.1	1.91	ng/L		12/22/17 07:57	12/23/17 02:50	1
6:2FTS	2.01	U	20.1	2.01	ng/L		12/22/17 07:57	12/23/17 02:50	1
8:2FTS	2.01	U	20.1	2.01	ng/L		12/22/17 07:57	12/23/17 02:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C5 PFPeA	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C2 PFHxA	*98*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C4-PFHpA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C4 PFOA	*93*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C5 PFNA	*110*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C2 PFDA	*100*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C2 PFUnA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C2 PFDoA	*94*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C2-PFTeDA	*134*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C3-PFBS	*100*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
18O2 PFHxS	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C4 PFOS	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
13C8 FOSA	*94*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
d3-NMeFOSAA	*85*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
d5-NEtFOSAA	*93*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*
M2-8:2FTS	*78*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:50*	*1*

Client Sample ID: Pump Blank PB-816-171213

Lab Sample ID: 320-34425-25

Date Collected: 12/13/17 09:03

Matrix: Water

Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.37	U	2.10	0.37	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluoropentanoic acid (PFPeA)	0.52	U	2.10	0.52	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorohexanoic acid (PFHxA)	0.61	U	2.10	0.61	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluoroheptanoic acid (PFHpA)	0.26	U	2.10	0.26	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorooctanoic acid (PFOA)	0.89	U	2.10	0.89	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorononanoic acid (PFNA)	0.28	U	2.10	0.28	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorodecanoic acid (PFDA)	0.33	U	2.10	0.33	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluoroundecanoic acid (PFUnA)	1.16	U	2.10	1.16	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorododecanoic acid (PFDoA)	0.58	U	2.10	0.58	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorotridecanoic Acid (PFTriA)	1.37	U	2.10	1.37	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.10	0.31	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorobutanesulfonic acid (PFBS)	0.21	U	2.10	0.21	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorohexanesulfonic acid (PFHxS)	**0.29**	**J B**	2.10	0.18	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.10	0.20	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorooctanesulfonic acid (PFOS)	0.57	U	2.10	0.57	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.10	0.34	ng/L		12/22/17 07:57	12/23/17 02:58	1
Perfluorooctane Sulfonamide (FOSA)	0.37	U	2.10	0.37	ng/L		12/22/17 07:57	12/23/17 02:58	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.26	U	21.0	3.26	ng/L		12/22/17 07:57	12/23/17 02:58	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.00	U	21.0	2.00	ng/L		12/22/17 07:57	12/23/17 02:58	1
6:2FTS	2.10	U	21.0	2.10	ng/L		12/22/17 07:57	12/23/17 02:58	1
8:2FTS	2.10	U	21.0	2.10	ng/L		12/22/17 07:57	12/23/17 02:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C5 PFPeA	*106*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C2 PFHxA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C4-PFHpA	*106*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C4 PFOA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C5 PFNA	*116*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C2 PFDA	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C2 PFUnA	*106*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C2 PFDoA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C2-PFTeDA	*138*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C3-PFBS	*112*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
18O2 PFHxS	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C4 PFOS	*109*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
13C8 FOSA	*99*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
d3-NMeFOSAA	*84*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
d5-NEtFOSAA	*93*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
M2-6:2FTS	*44*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*
M2-8:2FTS	*82*		*25 - 150*	*12/22/17 07:57*	*12/23/17 02:58*	*1*

Client Sample ID: FM-26-030-816-171212

Date Collected: 12/12/17 10:35
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-26

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.33**		2.10	0.37	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluoropentanoic acid (PFPeA)	**13.8**		2.10	0.52	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorohexanoic acid (PFHxA)	**10.8**		2.10	0.61	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluoroheptanoic acid (PFHpA)	**5.43**		2.10	0.26	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorooctanoic acid (PFOA)	**10.0**		2.10	0.89	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorononanoic acid (PFNA)	**2.93**		2.10	0.28	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorodecanoic acid (PFDA)	0.33	U	2.10	0.33	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluoroundecanoic acid (PFUnA)	1.16	U	2.10	1.16	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorododecanoic acid (PFDoA)	0.58	U	2.10	0.58	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorotridecanoic Acid (PFTriA)	1.37	U	2.10	1.37	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.10	0.31	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorobutanesulfonic acid (PFBS)	**2.25**		2.10	0.21	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorohexanesulfonic acid (PFHxS)	**6.52**	**B**	2.10	0.18	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.23**	**J**	2.10	0.20	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorooctanesulfonic acid (PFOS)	**18.4**		2.10	0.57	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.10	0.34	ng/L		12/22/17 07:57	12/23/17 03:05	1
Perfluorooctane Sulfonamide (FOSA)	0.37	U	2.10	0.37	ng/L		12/22/17 07:57	12/23/17 03:05	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.26	U	21.0	3.26	ng/L		12/22/17 07:57	12/23/17 03:05	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.00	U	21.0	2.00	ng/L		12/22/17 07:57	12/23/17 03:05	1
6:2FTS	2.10	U	21.0	2.10	ng/L		12/22/17 07:57	12/23/17 03:05	1
8:2FTS	2.10	U	21.0	2.10	ng/L		12/22/17 07:57	12/23/17 03:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C5 PFPeA	*109*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C2 PFHxA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C4-PFHpA	*108*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C4 PFOA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C5 PFNA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C2 PFDA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C2 PFUnA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C2 PFDoA	*95*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C2-PFTeDA	*114*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C3-PFBS	*98*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
18O2 PFHxS	*109*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C4 PFOS	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
13C8 FOSA	*94*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
d5-NEtFOSAA	*83*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
M2-6:2FTS	*44*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*
M2-8:2FTS	*81*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:05*	*1*

Client Sample ID: FM-26-020-816-171212

Date Collected: 12/12/17 11:40
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-27

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.08**	**J**	1.99	0.35	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluoropentanoic acid (PFPeA)	**1.10**	**J**	1.99	0.49	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorohexanoic acid (PFHxA)	**1.44**	**J**	1.99	0.58	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluoroheptanoic acid (PFHpA)	**0.93**	**J**	1.99	0.25	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorooctanoic acid (PFOA)	**1.24**	**J**	1.99	0.85	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorononanoic acid (PFNA)	**4.74**		1.99	0.27	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorodecanoic acid (PFDA)	0.31	U	1.99	0.31	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	1.99	1.10	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorododecanoic acid (PFDoA)	0.55	U	1.99	0.55	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	1.99	1.30	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.99	0.29	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorobutanesulfonic acid (PFBS)	**1.45**	**J**	1.99	0.20	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorohexanesulfonic acid (PFHxS)	**3.93**	**B**	1.99	0.17	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.45**	**J**	1.99	0.19	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorooctanesulfonic acid (PFOS)	**16.9**		1.99	0.54	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.99	0.32	ng/L		12/22/17 07:57	12/23/17 03:13	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	1.99	0.35	ng/L		12/22/17 07:57	12/23/17 03:13	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.09	U	19.9	3.09	ng/L		12/22/17 07:57	12/23/17 03:13	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.89	U	19.9	1.89	ng/L		12/22/17 07:57	12/23/17 03:13	1
6:2FTS	1.99	U	19.9	1.99	ng/L		12/22/17 07:57	12/23/17 03:13	1
8:2FTS	1.99	U	19.9	1.99	ng/L		12/22/17 07:57	12/23/17 03:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C5 PFPeA	*106*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C2 PFHxA	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C4-PFHpA	*110*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C4 PFOA	*99*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C5 PFNA	*99*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C2 PFDA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C2 PFUnA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C2 PFDoA	*96*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C2-PFTeDA	*121*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C3-PFBS	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
18O2 PFHxS	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C4 PFOS	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
13C8 FOSA	*95*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*
M2-8:2FTS	*77*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:13*	*1*

Client Sample ID: FM-34-090-886-171211

Date Collected: 12/11/17 13:05
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-28

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	1.98	0.35	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluoropentanoic acid (PFPeA)	0.49	U	1.98	0.49	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorohexanoic acid (PFHxA)	0.57	U	1.98	0.57	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	1.98	0.25	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorooctanoic acid (PFOA)	0.84	U	1.98	0.84	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorononanoic acid (PFNA)	0.27	U	1.98	0.27	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorodecanoic acid (PFDA)	0.31	U	1.98	0.31	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluoroundecanoic acid (PFUnA)	1.09	U	1.98	1.09	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorododecanoic acid (PFDoA)	0.54	U	1.98	0.54	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorotridecanoic Acid (PFTriA)	1.29	U	1.98	1.29	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.98	0.29	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	1.98	0.20	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorohexanesulfonic acid (PFHxS)	**0.27**	**J B**	1.98	0.17	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.98	0.19	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorooctanesulfonic acid (PFOS)	0.53	U	1.98	0.53	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.98	0.32	ng/L		12/22/17 07:57	12/23/17 03:21	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	1.98	0.35	ng/L		12/22/17 07:57	12/23/17 03:21	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.07	U	19.8	3.07	ng/L		12/22/17 07:57	12/23/17 03:21	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.88	U	19.8	1.88	ng/L		12/22/17 07:57	12/23/17 03:21	1
6:2FTS	1.98	U	19.8	1.98	ng/L		12/22/17 07:57	12/23/17 03:21	1
8:2FTS	1.98	U	19.8	1.98	ng/L		12/22/17 07:57	12/23/17 03:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C5 PFPeA	*109*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C2 PFHxA	*106*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C4-PFHpA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C4 PFOA	*99*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C5 PFNA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C2 PFDA	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C2 PFUnA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C2 PFDoA	*100*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C2-PFTeDA	*130*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C3-PFBS	*107*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
18O2 PFHxS	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C4 PFOS	*100*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
13C8 FOSA	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
d3-NMeFOSAA	*87*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
d5-NEtFOSAA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
M2-6:2FTS	*40*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*
M2-8:2FTS	*79*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:21*	*1*

Client Sample ID: FM-34-080-886-171212

Date Collected: 12/12/17 09:42
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-29

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.39	U	2.21	0.39	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluoropentanoic acid (PFPeA)	0.54	U	2.21	0.54	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorohexanoic acid (PFHxA)	0.64	U	2.21	0.64	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluoroheptanoic acid (PFHpA)	0.28	U	2.21	0.28	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorooctanoic acid (PFOA)	0.94	U	2.21	0.94	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorononanoic acid (PFNA)	0.30	U	2.21	0.30	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorodecanoic acid (PFDA)	0.34	U	2.21	0.34	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluoroundecanoic acid (PFUnA)	1.21	U	2.21	1.21	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorododecanoic acid (PFDoA)	0.61	U	2.21	0.61	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorotridecanoic Acid (PFTriA)	1.43	U	2.21	1.43	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorotetradecanoic acid (PFTeA)	0.32	U	2.21	0.32	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorobutanesulfonic acid (PFBS)	0.22	U	2.21	0.22	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorohexanesulfonic acid (PFHxS)	**0.35**	**J B**	2.21	0.19	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.21	U	2.21	0.21	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorooctanesulfonic acid (PFOS)	0.60	U	2.21	0.60	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorodecanesulfonic acid (PFDS)	0.35	U	2.21	0.35	ng/L		12/22/17 07:57	12/23/17 03:52	1
Perfluorooctane Sulfonamide (FOSA)	**0.89**	**J**	2.21	0.39	ng/L		12/22/17 07:57	12/23/17 03:52	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.42	U	22.1	3.42	ng/L		12/22/17 07:57	12/23/17 03:52	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.10	U	22.1	2.10	ng/L		12/22/17 07:57	12/23/17 03:52	1
6:2FTS	2.21	U	22.1	2.21	ng/L		12/22/17 07:57	12/23/17 03:52	1
8:2FTS	2.21	U	22.1	2.21	ng/L		12/22/17 07:57	12/23/17 03:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C5 PFPeA	*111*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C2 PFHxA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C4-PFHpA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C5 PFNA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C2 PFDA	*101*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C2 PFUnA	*93*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C2 PFDoA	*96*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C2-PFTeDA	*108*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C3-PFBS	*108*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
18O2 PFHxS	*107*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C4 PFOS	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
13C8 FOSA	*96*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
d3-NMeFOSAA	*81*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
d5-NEtFOSAA	*85*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
M2-6:2FTS	*40*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*
M2-8:2FTS	*79*		*25 - 150*	*12/22/17 07:57*	*12/23/17 03:52*	*1*

Client Sample ID: FM-34-070-886-171213
Lab Sample ID: 320-34425-30

Date Collected: 12/13/17 09:53
Matrix: Water
Date Received: 12/18/17 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.38	U	2.19	0.38	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluoropentanoic acid (PFPeA)	0.54	U	2.19	0.54	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorohexanoic acid (PFHxA)	0.63	U	2.19	0.63	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluoroheptanoic acid (PFHpA)	0.27	U	2.19	0.27	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorooctanoic acid (PFOA)	0.93	U	2.19	0.93	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorononanoic acid (PFNA)	0.30	U	2.19	0.30	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorodecanoic acid (PFDA)	0.34	U	2.19	0.34	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluoroundecanoic acid (PFUnA)	1.20	U	2.19	1.20	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorododecanoic acid (PFDoA)	0.60	U	2.19	0.60	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorotridecanoic Acid (PFTriA)	1.42	U	2.19	1.42	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorotetradecanoic acid (PFTeA)	0.32	U	2.19	0.32	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorobutanesulfonic acid (PFBS)	0.22	U	2.19	0.22	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorohexanesulfonic acid (PFHxS)	**0.30**	**J B**	2.19	0.19	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.21	U	2.19	0.21	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorooctanesulfonic acid (PFOS)	0.59	U	2.19	0.59	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorodecanesulfonic acid (PFDS)	0.35	U	2.19	0.35	ng/L		12/22/17 07:57	12/23/17 04:00	1
Perfluorooctane Sulfonamide (FOSA)	**0.59**	**J**	2.19	0.38	ng/L		12/22/17 07:57	12/23/17 04:00	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.39	U	21.9	3.39	ng/L		12/22/17 07:57	12/23/17 04:00	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.08	U	21.9	2.08	ng/L		12/22/17 07:57	12/23/17 04:00	1
6:2FTS	2.19	U	21.9	2.19	ng/L		12/22/17 07:57	12/23/17 04:00	1
8:2FTS	2.19	U	21.9	2.19	ng/L		12/22/17 07:57	12/23/17 04:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C5 PFPeA	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C2 PFHxA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C4-PFHpA	*100*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C5 PFNA	*99*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C2 PFDA	*98*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C2 PFUnA	*95*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C2 PFDoA	*93*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C2-PFTeDA	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C3-PFBS	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
18O2 PFHxS	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C4 PFOS	*96*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
13C8 FOSA	*94*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
d3-NMeFOSAA	*81*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
M2-6:2FTS	*42*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*
M2-8:2FTS	*75*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:00*	*1*

Client Sample ID: FM-34-060-886-171213

Date Collected: 12/13/17 11:00
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-31

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.37	U	2.11	0.37	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluoropentanoic acid (PFPeA)	0.52	U	2.11	0.52	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorohexanoic acid (PFHxA)	0.61	U	2.11	0.61	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluoroheptanoic acid (PFHpA)	0.26	U	2.11	0.26	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorooctanoic acid (PFOA)	0.90	U	2.11	0.90	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorononanoic acid (PFNA)	0.28	U	2.11	0.28	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorodecanoic acid (PFDA)	0.33	U	2.11	0.33	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluoroundecanoic acid (PFUnA)	1.16	U	2.11	1.16	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorododecanoic acid (PFDoA)	0.58	U	2.11	0.58	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorotridecanoic Acid (PFTriA)	1.37	U	2.11	1.37	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.11	0.31	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorobutanesulfonic acid (PFBS)	0.21	U	2.11	0.21	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorohexanesulfonic acid (PFHxS)	**0.28**	**J B**	2.11	0.18	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.11	0.20	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorooctanesulfonic acid (PFOS)	0.57	U	2.11	0.57	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.11	0.34	ng/L		12/22/17 07:57	12/23/17 04:08	1
Perfluorooctane Sulfonamide (FOSA)	**0.60**	**J**	2.11	0.37	ng/L		12/22/17 07:57	12/23/17 04:08	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.27	U	21.1	3.27	ng/L		12/22/17 07:57	12/23/17 04:08	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.00	U	21.1	2.00	ng/L		12/22/17 07:57	12/23/17 04:08	1
6:2FTS	2.11	U	21.1	2.11	ng/L		12/22/17 07:57	12/23/17 04:08	1
8:2FTS	2.11	U	21.1	2.11	ng/L		12/22/17 07:57	12/23/17 04:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C5 PFPeA	*105*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C2 PFHxA	*99*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C4-PFHpA	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C5 PFNA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C2 PFDA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C2 PFUnA	*94*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C2 PFDoA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C2-PFTeDA	*111*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C3-PFBS	*99*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
18O2 PFHxS	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C4 PFOS	*98*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
13C8 FOSA	*91*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
d3-NMeFOSAA	*84*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
d5-NEtFOSAA	*87*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
M2-6:2FTS	*39*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*
M2-8:2FTS	*77*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:08*	*1*

Client Sample ID: FM-34-050-886-171213

Date Collected: 12/13/17 12:39
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-32

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.75**		2.06	0.36	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluoropentanoic acid (PFPeA)	**5.49**		2.06	0.50	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorohexanoic acid (PFHxA)	**4.91**		2.06	0.60	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluoroheptanoic acid (PFHpA)	**3.43**		2.06	0.26	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorooctanoic acid (PFOA)	**5.63**		2.06	0.87	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorononanoic acid (PFNA)	0.28	U	2.06	0.28	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorodecanoic acid (PFDA)	0.32	U	2.06	0.32	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluoroundecanoic acid (PFUnA)	1.13	U	2.06	1.13	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorododecanoic acid (PFDoA)	0.57	U	2.06	0.57	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.06	1.34	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.06	0.30	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorobutanesulfonic acid (PFBS)	**1.62**	**J**	2.06	0.21	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorohexanesulfonic acid (PFHxS)	**11.3**	**B**	2.06	0.17	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.46**	**J**	2.06	0.20	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorooctanesulfonic acid (PFOS)	**39.2**		2.06	0.56	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.06	0.33	ng/L		12/22/17 07:57	12/23/17 04:16	1
Perfluorooctane Sulfonamide (FOSA)	**0.43**	**J**	2.06	0.36	ng/L		12/22/17 07:57	12/23/17 04:16	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.19	U	20.6	3.19	ng/L		12/22/17 07:57	12/23/17 04:16	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.6	1.96	ng/L		12/22/17 07:57	12/23/17 04:16	1
6:2FTS	2.06	U	20.6	2.06	ng/L		12/22/17 07:57	12/23/17 04:16	1
8:2FTS	2.06	U	20.6	2.06	ng/L		12/22/17 07:57	12/23/17 04:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C5 PFPeA	*112*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C2 PFHxA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C4-PFHpA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C4 PFOA	*99*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C5 PFNA	*100*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C2 PFDA	*104*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C2 PFUnA	*96*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C2 PFDoA	*97*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C2-PFTeDA	*113*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C3-PFBS	*103*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
18O2 PFHxS	*106*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C4 PFOS	*102*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
13C8 FOSA	*96*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
d5-NEtFOSAA	*88*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
M2-6:2FTS	*44*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*
M2-8:2FTS	*76*		*25 - 150*	*12/22/17 07:57*	*12/23/17 04:16*	*1*

Isotope Dilution Summary

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34425-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-34425-1	FB-816-171212 Field Blank	104	99	102	106	96	111	102	92
320-34425-2	PB-816-171212 Pump Blank	105	103	97	104	98	107	103	101
320-34425-3	FM-26-100-816-171211	108	107	105	109	98	102	108	95
320-34425-4	FM-26-090-816-171211	109	104	103	112	97	101	104	99
320-34425-5	FM-26-080-816-171211	107	105	102	105	100	105	104	96
320-34425-6	FM-26-070-816-171211	107	106	107	108	95	102	103	101
320-34425-7	FM-26-060-816-171211	105	106	99	104	97	101	103	97
320-34425-8	FM-26-050-816-171211	107	110	105	114	100	104	104	98
320-34425-9	FM-26-040-816-171211	91	100	98	104	93	95	97	93
320-34425-10	FM-32-100-944-171211	105	102	102	105	101	96	98	102
320-34425-11	DUP-1-944-171211	105	103	99	102	98	99	96	100
320-34425-12	DUP-2-944-171211	105	104	98	104	97	107	97	94
320-34425-13	FM-32-90-944-171212	103	105	99	102	100	97	96	96
320-34425-14	FM-32-80-944-171212	109	107	107	110	101	107	104	105
320-34425-15	FM-32-070-944-171213	102	105	103	106	96	101	101	97
320-34425-16	FM-32-060-944-171213	99	110	102	105	97	102	101	95
320-34425-17	FM-32-050-944-171213	97	110	96	107	101	99	97	97
320-34425-18	Pump Blank PB-816-171211	103	101	101	105	97	106	98	101
320-34425-19	Field Blank FB-816-171211	104	102	97	99	99	110	101	99
320-34425-21	FM-30-(85-90)-090-816-171213	110	108	108	112	99	108	103	104
320-34425-22	FM-30-(75-80)-080-816-171213	104	100	98	103	97	102	97	93
320-34425-23	FM-30-(65-70)-070-816-171213	110	112	108	107	105	103	107	103
320-34425-24	Field Blank FB-816-171213	103	101	98	104	93	110	100	102
320-34425-25	Pump Blank PB-816-171213	108	106	102	106	104	116	105	106
320-34425-26	FM-26-030-816-171212	91	109	103	108	102	102	103	97
320-34425-27	FM-26-020-816-171212	86	106	105	110	99	99	104	103
320-34425-28	FM-34-090-886-171211	109	109	106	104	99	104	105	102
320-34425-28 MS	FM-34-090-886-171211	109	112	106	107	103	110	97	98
320-34425-28 MSD	FM-34-090-886-171211	112	115	106	105	104	105	109	107
320-34425-29	FM-34-080-886-171212	107	111	103	104	97	102	101	93
320-34425-30	FM-34-070-886-171213	105	105	97	100	97	99	98	95
320-34425-31	FM-34-060-886-171213	105	105	99	102	97	97	97	94
320-34425-32	FM-34-050-886-171213	109	112	104	104	99	100	104	96
LCS 320-201036/2-A	Lab Control Sample	107	102	102	104	97	98	94	99
LCS 320-201042/2-A	Lab Control Sample	104	102	101	104	98	104	104	97
LCSD 320-201036/3-A	Lab Control Sample Dup	108	102	101	110	95	100	106	95
MB 320-201036/1-A	Method Blank	101	100	96	101	94	100	99	93
MB 320-201042/1-A	Method Blank	99	100	97	100	91	97	97	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	3C3-PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	-NMeFOSA (25-150)	-NEtFOSA (25-150)
320-34425-1	FB-816-171212 Field Blank	98	135	103	103	102	93	84	90
320-34425-2	PB-816-171212 Pump Blank	98	136	101	96	101	93	86	87
320-34425-3	FM-26-100-816-171211	98	121	108	106	103	101	82	90
320-34425-4	FM-26-090-816-171211	96	119	106	104	99	98	85	90
320-34425-5	FM-26-080-816-171211	96	114	108	108	102	100	82	86
320-34425-6	FM-26-070-816-171211	96	121	110	108	102	101	84	90
320-34425-7	FM-26-060-816-171211	95	116	109	102	99	95	81	87
320-34425-8	FM-26-050-816-171211	93	130	107	107	101	98	82	84

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	3C3-PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	-NMeFOSA (25-150)	-NEtFOSA (25-150)
320-34425-9	FM-26-040-816-171211	90	122	103	100	95	90	82	85
320-34425-10	FM-32-100-944-171211	98	120	108	102	97	97	84	90
320-34425-11	DUP-1-944-171211	92	123	99	102	100	96	84	86
320-34425-12	DUP-2-944-171211	93	123	102	108	105	96	78	88
320-34425-13	FM-32-90-944-171212	95	116	101	103	95	96	82	88
320-34425-14	FM-32-80-944-171212	100	119	110	107	105	101	89	93
320-34425-15	FM-32-070-944-171213	92	116	105	105	101	93	81	83
320-34425-16	FM-32-060-944-171213	93	117	100	104	100	94	82	87
320-34425-17	FM-32-050-944-171213	96	113	106	106	99	95	83	90
320-34425-18	Pump Blank PB-816-171211	96	145	96	100	102	95	88	93
320-34425-19	Field Blank FB-816-171211	97	147	96	101	104	93	78	88
320-34425-21	FM-30-(85-90)-090-816-171213	104	123	112	110	104	102	88	97
320-34425-22	FM-30-(75-80)-080-816-171213	92	112	105	102	101	95	82	85
320-34425-23	FM-30-(65-70)-070-816-171213	101	124	111	106	100	96	88	97
320-34425-24	Field Blank FB-816-171213	94	134	100	103	105	94	85	93
320-34425-25	Pump Blank PB-816-171213	102	138	112	101	109	99	84	93
320-34425-26	FM-26-030-816-171212	95	114	98	109	101	94	82	83
320-34425-27	FM-26-020-816-171212	96	121	103	101	101	95	82	84
320-34425-28	FM-34-090-886-171211	100	130	107	103	100	101	87	97
320-34425-28 MS	FM-34-090-886-171211	99	129	106	106	103	98	90	93
320-34425-28 MSD	FM-34-090-886-171211	100	124	119	115	103	100	95	97
320-34425-29	FM-34-080-886-171212	96	108	108	107	102	96	81	85
320-34425-30	FM-34-070-886-171213	93	103	102	104	96	94	81	84
320-34425-31	FM-34-060-886-171213	97	111	99	103	98	91	84	87
320-34425-32	FM-34-050-886-171213	97	113	103	106	102	96	82	88
LCS 320-201036/2-A	Lab Control Sample	91	128	106	100	99	92	84	84
LCS 320-201042/2-A	Lab Control Sample	98	114	105	104	107	96	85	91
LCSD 320-201036/3-A	Lab Control Sample Dup	100	116	99	105	97	95	83	85
MB 320-201036/1-A	Method Blank	91	114	100	99	95	91	79	78
MB 320-201042/1-A	Method Blank	89	115	98	98	98	89	83	81

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)						
320-34425-1	FB-816-171212 Field Blank	43	79						
320-34425-2	PB-816-171212 Pump Blank	44	80						
320-34425-3	FM-26-100-816-171211	42	80						
320-34425-4	FM-26-090-816-171211	43	77						
320-34425-5	FM-26-080-816-171211	42	79						
320-34425-6	FM-26-070-816-171211	43	83						
320-34425-7	FM-26-060-816-171211	40	79						
320-34425-8	FM-26-050-816-171211	44	78						
320-34425-9	FM-26-040-816-171211	42	76						
320-34425-10	FM-32-100-944-171211	43	76						
320-34425-11	DUP-1-944-171211	41	75						
320-34425-12	DUP-2-944-171211	41	75						
320-34425-13	FM-32-90-944-171212	42	74						
320-34425-14	FM-32-80-944-171212	43	83						
320-34425-15	FM-32-070-944-171213	41	77						
320-34425-16	FM-32-060-944-171213	41	77						

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)								
320-34425-17	FM-32-050-944-171213	43	78								
320-34425-18	Pump Blank PB-816-171211	40	82								
320-34425-19	Field Blank FB-816-171211	42	76								
320-34425-21	FM-30-(85-90)-090-816-171213	43	83								
320-34425-22	FM-30-(75-80)-080-816-171213	40	73								
320-34425-23	FM-30-(65-70)-070-816-171213	42	82								
320-34425-24	Field Blank FB-816-171213	42	78								
320-34425-25	Pump Blank PB-816-171213	44	82								
320-34425-26	FM-26-030-816-171212	44	81								
320-34425-27	FM-26-020-816-171212	42	77								
320-34425-28	FM-34-090-886-171211	40	79								
320-34425-28 MS	FM-34-090-886-171211	42	80								
320-34425-28 MSD	FM-34-090-886-171211	44	80								
320-34425-29	FM-34-080-886-171212	40	79								
320-34425-30	FM-34-070-886-171213	42	75								
320-34425-31	FM-34-060-886-171213	39	77								
320-34425-32	FM-34-050-886-171213	44	76								
LCS 320-201036/2-A	Lab Control Sample	42	81								
LCS 320-201042/2-A	Lab Control Sample	43	80								
LCSD 320-201036/3-A	Lab Control Sample Dup	43	83								
MB 320-201036/1-A	Method Blank	41	79								
MB 320-201042/1-A	Method Blank	39	76								

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFHpA = 13C4-PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2-PFTeDA
13C3-PFBS = 13C3-PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2FTS
M282FTS = M2-8:2FTS

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-201036/1-A
Matrix: Water
Analysis Batch: 201221

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201036

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorohexanesulfonic acid (PFHxS)	0.316	J	2.00	0.17	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/22/17 07:51	12/22/17 22:46	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35	ng/L		12/22/17 07:51	12/22/17 22:46	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10	ng/L		12/22/17 07:51	12/22/17 22:46	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/22/17 07:51	12/22/17 22:46	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/22/17 07:51	12/22/17 22:46	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/22/17 07:51	12/22/17 22:46	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C5 PFPeA	*100*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C2 PFHxA	*96*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C4-PFHpA	*101*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C4 PFOA	*94*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C5 PFNA	*100*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C2 PFDA	*99*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C2 PFUnA	*93*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C2 PFDoA	*91*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C2-PFTeDA	*114*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C3-PFBS	*100*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
18O2 PFHxS	*99*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C4 PFOS	*95*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
13C8 FOSA	*91*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
d3-NMeFOSAA	*79*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
d5-NEtFOSAA	*78*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
M2-6:2FTS	*41*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*
M2-8:2FTS	*79*		*25 - 150*	*12/22/17 07:51*	*12/22/17 22:46*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-201036/2-A
Matrix: Water
Analysis Batch: 201221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201036

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	37.81		ng/L		95	78 - 138
Perfluoropentanoic acid (PFPeA)	40.0	37.64		ng/L		94	66 - 136
Perfluorohexanoic acid (PFHxA)	40.0	37.72		ng/L		94	76 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	36.97		ng/L		92	78 - 138
Perfluorooctanoic acid (PFOA)	40.0	35.74		ng/L		89	70 - 130
Perfluorononanoic acid (PFNA)	40.0	38.86		ng/L		97	77 - 137
Perfluorodecanoic acid (PFDA)	40.0	43.41		ng/L		109	74 - 134
Perfluoroundecanoic acid (PFUnA)	40.0	34.65		ng/L		87	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	40.50		ng/L		101	72 - 132
Perfluorotridecanoic Acid (PFTriA)	40.0	41.59		ng/L		104	56 - 163
Perfluorotetradecanoic acid (PFTeA)	40.0	37.30		ng/L		93	63 - 123
Perfluorobutanesulfonic acid (PFBS)	35.4	34.60		ng/L		98	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	36.4	36.28		ng/L		100	77 - 137
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.53		ng/L		99	83 - 143
Perfluorooctanesulfonic acid (PFOS)	37.1	35.51		ng/L		96	74 - 134
Perfluorodecanesulfonic acid (PFDS)	38.6	35.78		ng/L		93	75 - 135
Perfluorooctane Sulfonamide (FOSA)	40.0	38.81		ng/L		97	82 - 142
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	36.27		ng/L		91	77 - 137
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	34.12		ng/L		85	79 - 139
6:2FTS	37.9	35.58		ng/L		94	82 - 142
8:2FTS	38.3	34.05		ng/L		89	80 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*107*		*25 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C2 PFHxA	*102*		*25 - 150*
13C4-PFHpA	*104*		*25 - 150*
13C4 PFOA	*97*		*25 - 150*
13C5 PFNA	*98*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*99*		*25 - 150*
13C2 PFDoA	*91*		*25 - 150*
13C2-PFTeDA	*128*		*25 - 150*
13C3-PFBS	*106*		*25 - 150*
18O2 PFHxS	*100*		*25 - 150*
13C4 PFOS	*99*		*25 - 150*
13C8 FOSA	*92*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-201036/2-A
Matrix: Water
Analysis Batch: 201221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201036

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d3-NMeFOSAA	84		25 - 150
d5-NEtFOSAA	84		25 - 150
M2-6:2FTS	42		25 - 150
M2-8:2FTS	81		25 - 150

Lab Sample ID: LCSD 320-201036/3-A
Matrix: Water
Analysis Batch: 201221

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 201036

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	39.36		ng/L		98	78 - 138	4	30
Perfluoropentanoic acid (PFPeA)			40.0	40.96		ng/L		102	66 - 136	8	30
Perfluorohexanoic acid (PFHxA)			40.0	39.52		ng/L		99	76 - 136	5	30
Perfluoroheptanoic acid (PFHpA)			40.0	36.12		ng/L		90	78 - 138	2	30
Perfluorooctanoic acid (PFOA)			40.0	38.13		ng/L		95	70 - 130	6	30
Perfluorononanoic acid (PFNA)			40.0	40.06		ng/L		100	77 - 137	3	30
Perfluorodecanoic acid (PFDA)			40.0	38.68		ng/L		97	74 - 134	12	30
Perfluoroundecanoic acid (PFUnA)			40.0	37.99		ng/L		95	68 - 128	9	30
Perfluorododecanoic acid (PFDoA)			40.0	39.74		ng/L		99	72 - 132	2	30
Perfluorotridecanoic Acid (PFTriA)			40.0	37.31		ng/L		93	56 - 163	11	30
Perfluorotetradecanoic acid (PFTeA)			40.0	38.70		ng/L		97	63 - 123	4	30
Perfluorobutanesulfonic acid (PFBS)			35.4	39.70		ng/L		112	79 - 139	14	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	34.88		ng/L		96	77 - 137	4	30
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	40.53		ng/L		106	83 - 143	8	30
Perfluorooctanesulfonic acid (PFOS)			37.1	36.97		ng/L		100	74 - 134	4	30
Perfluorodecanesulfonic acid (PFDS)			38.6	37.50		ng/L		97	75 - 135	5	30
Perfluorooctane Sulfonamide (FOSA)			40.0	39.51		ng/L		99	82 - 142	2	30
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)			40.0	39.94		ng/L		100	77 - 137	10	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)			40.0	38.01		ng/L		95	79 - 139	11	30
6:2FTS			37.9	37.63		ng/L		99	82 - 142	6	30
8:2FTS			38.3	36.70		ng/L		96	80 - 140	8	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFBA	108		25 - 150
13C5 PFPeA	102		25 - 150
13C2 PFHxA	101		25 - 150
13C4-PFHpA	110		25 - 150
13C4 PFOA	95		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-201036/3-A
Matrix: Water
Analysis Batch: 201221

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 201036

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C5 PFNA	100		25 - 150
13C2 PFDA	106		25 - 150
13C2 PFUnA	95		25 - 150
13C2 PFDoA	100		25 - 150
13C2-PFTeDA	116		25 - 150
13C3-PFBS	99		25 - 150
18O2 PFHxS	105		25 - 150
13C4 PFOS	97		25 - 150
13C8 FOSA	95		25 - 150
d3-NMeFOSAA	83		25 - 150
d5-NEtFOSAA	85		25 - 150
M2-6:2FTS	43		25 - 150
M2-8:2FTS	83		25 - 150

Lab Sample ID: MB 320-201042/1-A
Matrix: Water
Analysis Batch: 201222

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorotetradecanoic acid (PFTeA)	0.345	J	2.00	0.29	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorohexanesulfonic acid (PFHxS)	0.320	J	2.00	0.17	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32	ng/L		12/22/17 07:57	12/23/17 02:18	1
Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35	ng/L		12/22/17 07:57	12/23/17 02:18	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10	ng/L		12/22/17 07:57	12/23/17 02:18	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90	ng/L		12/22/17 07:57	12/23/17 02:18	1
6:2FTS	2.00	U	20.0	2.00	ng/L		12/22/17 07:57	12/23/17 02:18	1
8:2FTS	2.00	U	20.0	2.00	ng/L		12/22/17 07:57	12/23/17 02:18	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	99		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C5 PFPeA	100		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C2 PFHxA	97		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C4-PFHpA	100		25 - 150	12/22/17 07:57	12/23/17 02:18	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-201042/1-A
Matrix: Water
Analysis Batch: 201222

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201042

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	91		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C5 PFNA	97		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C2 PFDA	97		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C2 PFUnA	94		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C2 PFDoA	89		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C2-PFTeDA	115		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C3-PFBS	98		25 - 150	12/22/17 07:57	12/23/17 02:18	1
18O2 PFHxS	98		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C4 PFOS	98		25 - 150	12/22/17 07:57	12/23/17 02:18	1
13C8 FOSA	89		25 - 150	12/22/17 07:57	12/23/17 02:18	1
d3-NMeFOSAA	83		25 - 150	12/22/17 07:57	12/23/17 02:18	1
d5-NEtFOSAA	81		25 - 150	12/22/17 07:57	12/23/17 02:18	1
M2-6:2FTS	39		25 - 150	12/22/17 07:57	12/23/17 02:18	1
M2-8:2FTS	76		25 - 150	12/22/17 07:57	12/23/17 02:18	1

Lab Sample ID: LCS 320-201042/2-A
Matrix: Water
Analysis Batch: 201222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	38.95		ng/L		97	78 - 138
Perfluoropentanoic acid (PFPeA)	40.0	37.59		ng/L		94	66 - 136
Perfluorohexanoic acid (PFHxA)	40.0	38.41		ng/L		96	76 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	37.82		ng/L		95	78 - 138
Perfluorooctanoic acid (PFOA)	40.0	34.75		ng/L		87	70 - 130
Perfluorononanoic acid (PFNA)	40.0	39.20		ng/L		98	77 - 137
Perfluorodecanoic acid (PFDA)	40.0	38.57		ng/L		96	74 - 134
Perfluoroundecanoic acid (PFUnA)	40.0	34.64		ng/L		87	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	39.05		ng/L		98	72 - 132
Perfluorotridecanoic Acid (PFTriA)	40.0	36.55		ng/L		91	56 - 163
Perfluorotetradecanoic acid (PFTeA)	40.0	38.46		ng/L		96	63 - 123
Perfluorobutanesulfonic acid (PFBS)	35.4	33.81		ng/L		96	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.77		ng/L		90	77 - 137
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	35.36		ng/L		93	83 - 143
Perfluorooctanesulfonic acid (PFOS)	37.1	34.56		ng/L		93	74 - 134
Perfluorodecanesulfonic acid (PFDS)	38.6	33.35		ng/L		86	75 - 135
Perfluorooctane Sulfonamide (FOSA)	40.0	37.19		ng/L		93	82 - 142
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	36.71		ng/L		92	77 - 137

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-201042/2-A
Matrix: Water
Analysis Batch: 201222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	35.27		ng/L		88	79 - 139
6:2FTS	37.9	37.70		ng/L		99	82 - 142
8:2FTS	38.3	36.88		ng/L		96	80 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*104*		*25 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C2 PFHxA	*101*		*25 - 150*
13C4-PFHpA	*104*		*25 - 150*
13C4 PFOA	*98*		*25 - 150*
13C5 PFNA	*104*		*25 - 150*
13C2 PFDA	*104*		*25 - 150*
13C2 PFUnA	*97*		*25 - 150*
13C2 PFDoA	*98*		*25 - 150*
13C2-PFTeDA	*114*		*25 - 150*
13C3-PFBS	*105*		*25 - 150*
18O2 PFHxS	*104*		*25 - 150*
13C4 PFOS	*107*		*25 - 150*
13C8 FOSA	*96*		*25 - 150*
d3-NMeFOSAA	*85*		*25 - 150*
d5-NEtFOSAA	*91*		*25 - 150*
M2-6:2FTS	*43*		*25 - 150*
M2-8:2FTS	*80*		*25 - 150*

Lab Sample ID: 320-34425-28 MS
Matrix: Water
Analysis Batch: 201222

Client Sample ID: FM-34-090-886-171211
Prep Type: Total/NA
Prep Batch: 201042

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	0.35	U	39.0	38.01		ng/L		97	78 - 138
Perfluoropentanoic acid (PFPeA)	0.49	U	39.0	35.64		ng/L		91	66 - 136
Perfluorohexanoic acid (PFHxA)	0.57	U	39.0	36.45		ng/L		93	76 - 136
Perfluoroheptanoic acid (PFHpA)	0.25	U	39.0	35.07		ng/L		90	78 - 138
Perfluorooctanoic acid (PFOA)	0.84	U	39.0	33.19		ng/L		85	70 - 130
Perfluorononanoic acid (PFNA)	0.27	U	39.0	34.46		ng/L		88	77 - 137
Perfluorodecanoic acid (PFDA)	0.31	U	39.0	40.14		ng/L		103	74 - 134
Perfluoroundecanoic acid (PFUnA)	1.09	U	39.0	34.72		ng/L		89	68 - 128
Perfluorododecanoic acid (PFDoA)	0.54	U	39.0	38.50		ng/L		99	72 - 132
Perfluorotridecanoic Acid (PFTriA)	1.29	U	39.0	38.15		ng/L		98	56 - 163
Perfluorotetradecanoic acid (PFTeA)	0.29	U	39.0	33.66		ng/L		86	63 - 123
Perfluorobutanesulfonic acid (PFBS)	0.20	U	34.5	36.06		ng/L		104	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	35.5	32.51		ng/L		91	77 - 137

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-34425-28 MS | **Client Sample ID: FM-34-090-886-171211**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 201222 | **Prep Batch: 201042**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	37.2	35.59		ng/L		96	83 - 143
Perfluorooctanesulfonic acid (PFOS)	0.53	U	36.2	34.62		ng/L		96	74 - 134
Perfluorodecanesulfonic acid (PFDS)	0.32	U	37.6	33.45		ng/L		89	75 - 135
Perfluorooctane Sulfonamide (FOSA)	0.35	U	39.0	37.23		ng/L		95	82 - 142
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.07	U	39.0	35.34		ng/L		91	77 - 137
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.88	U	39.0	33.99		ng/L		87	79 - 139
6:2FTS	1.98	U	37.0	37.59		ng/L		102	82 - 142
8:2FTS	1.98	U	37.4	34.74		ng/L		93	80 - 140

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*109*		*25 - 150*
13C5 PFPeA	*112*		*25 - 150*
13C2 PFHxA	*106*		*25 - 150*
13C4-PFHpA	*107*		*25 - 150*
13C4 PFOA	*103*		*25 - 150*
13C5 PFNA	*110*		*25 - 150*
13C2 PFDA	*97*		*25 - 150*
13C2 PFUnA	*98*		*25 - 150*
13C2 PFDoA	*99*		*25 - 150*
13C2-PFTeDA	*129*		*25 - 150*
13C3-PFBS	*106*		*25 - 150*
18O2 PFHxS	*106*		*25 - 150*
13C4 PFOS	*103*		*25 - 150*
13C8 FOSA	*98*		*25 - 150*
d3-NMeFOSAA	*90*		*25 - 150*
d5-NEtFOSAA	*93*		*25 - 150*
M2-6:2FTS	*42*		*25 - 150*
M2-8:2FTS	*80*		*25 - 150*

Lab Sample ID: 320-34425-28 MSD | **Client Sample ID: FM-34-090-886-171211**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 201222 | **Prep Batch: 201042**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	0.35	U	40.9	40.34		ng/L		99	78 - 138	6	30
Perfluoropentanoic acid (PFPeA)	0.49	U	40.9	38.16		ng/L		93	66 - 136	7	30
Perfluorohexanoic acid (PFHxA)	0.57	U	40.9	41.17		ng/L		101	76 - 136	12	30
Perfluoroheptanoic acid (PFHpA)	0.25	U	40.9	42.06		ng/L		103	78 - 138	18	30
Perfluorooctanoic acid (PFOA)	0.84	U	40.9	36.07		ng/L		88	70 - 130	8	30
Perfluorononanoic acid (PFNA)	0.27	U	40.9	40.31		ng/L		99	77 - 137	16	30
Perfluorodecanoic acid (PFDA)	0.31	U	40.9	39.88		ng/L		98	74 - 134	1	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-34425-28 MSD
Matrix: Water
Analysis Batch: 201222

Client Sample ID: FM-34-090-886-171211
Prep Type: Total/NA
Prep Batch: 201042

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)	1.09	U	40.9	38.04		ng/L		93	68 - 128	9	30
Perfluorododecanoic acid (PFDoA)	0.54	U	40.9	42.40		ng/L		104	72 - 132	10	30
Perfluorotridecanoic Acid (PFTriA)	1.29	U	40.9	44.09		ng/L		108	56 - 163	14	30
Perfluorotetradecanoic acid (PFTeA)	0.29	U	40.9	38.83		ng/L		95	63 - 123	14	30
Perfluorobutanesulfonic acid (PFBS)	0.20	U	36.2	34.92		ng/L		97	79 - 139	3	30
Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	37.2	33.38		ng/L		89	77 - 137	3	30
Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	38.9	38.63		ng/L		99	83 - 143	8	30
Perfluorooctanesulfonic acid (PFOS)	0.53	U	38.0	38.32		ng/L		101	74 - 134	10	30
Perfluorodecanesulfonic acid (PFDS)	0.32	U	39.4	37.40		ng/L		95	75 - 135	11	30
Perfluorooctane Sulfonamide (FOSA)	0.35	U	40.9	39.41		ng/L		96	82 - 142	6	30
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.07	U	40.9	36.30		ng/L		89	77 - 137	3	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.88	U	40.9	35.42		ng/L		87	79 - 139	4	30
6:2FTS	1.98	U	38.8	37.64		ng/L		97	82 - 142	0	30
8:2FTS	1.98	U	39.2	40.23		ng/L		103	80 - 140	15	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*112*		*25 - 150*
13C5 PFPeA	*115*		*25 - 150*
13C2 PFHxA	*106*		*25 - 150*
13C4-PFHpA	*105*		*25 - 150*
13C4 PFOA	*104*		*25 - 150*
13C5 PFNA	*105*		*25 - 150*
13C2 PFDA	*109*		*25 - 150*
13C2 PFUnA	*107*		*25 - 150*
13C2 PFDoA	*100*		*25 - 150*
13C2-PFTeDA	*124*		*25 - 150*
13C3-PFBS	*119*		*25 - 150*
18O2 PFHxS	*115*		*25 - 150*
13C4 PFOS	*103*		*25 - 150*
13C8 FOSA	*100*		*25 - 150*
d3-NMeFOSAA	*95*		*25 - 150*
d5-NEtFOSAA	*97*		*25 - 150*
M2-6:2FTS	*44*		*25 - 150*
M2-8:2FTS	*80*		*25 - 150*

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

LCMS

Prep Batch: 201036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34425-1	FB-816-171212 Field Blank	Total/NA	Water	3535	
320-34425-2	PB-816-171212 Pump Blank	Total/NA	Water	3535	
320-34425-3	FM-26-100-816-171211	Total/NA	Water	3535	
320-34425-4	FM-26-090-816-171211	Total/NA	Water	3535	
320-34425-5	FM-26-080-816-171211	Total/NA	Water	3535	
320-34425-6	FM-26-070-816-171211	Total/NA	Water	3535	
320-34425-7	FM-26-060-816-171211	Total/NA	Water	3535	
320-34425-8	FM-26-050-816-171211	Total/NA	Water	3535	
320-34425-9	FM-26-040-816-171211	Total/NA	Water	3535	
320-34425-10	FM-32-100-944-171211	Total/NA	Water	3535	
320-34425-11	DUP-1-944-171211	Total/NA	Water	3535	
320-34425-12	DUP-2-944-171211	Total/NA	Water	3535	
320-34425-13	FM-32-90-944-171212	Total/NA	Water	3535	
320-34425-14	FM-32-80-944-171212	Total/NA	Water	3535	
320-34425-15	FM-32-070-944-171213	Total/NA	Water	3535	
320-34425-16	FM-32-060-944-171213	Total/NA	Water	3535	
320-34425-17	FM-32-050-944-171213	Total/NA	Water	3535	
320-34425-18	Pump Blank PB-816-171211	Total/NA	Water	3535	
320-34425-19	Field Blank FB-816-171211	Total/NA	Water	3535	
320-34425-21	FM-30-(85-90)-090-816-171213	Total/NA	Water	3535	
MB 320-201036/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-201036/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-201036/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Prep Batch: 201042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34425-22	FM-30-(75-80)-080-816-171213	Total/NA	Water	3535	
320-34425-23	FM-30-(65-70)-070-816-171213	Total/NA	Water	3535	
320-34425-24	Field Blank FB-816-171213	Total/NA	Water	3535	
320-34425-25	Pump Blank PB-816-171213	Total/NA	Water	3535	
320-34425-26	FM-26-030-816-171212	Total/NA	Water	3535	
320-34425-27	FM-26-020-816-171212	Total/NA	Water	3535	
320-34425-28	FM-34-090-886-171211	Total/NA	Water	3535	
320-34425-29	FM-34-080-886-171212	Total/NA	Water	3535	
320-34425-30	FM-34-070-886-171213	Total/NA	Water	3535	
320-34425-31	FM-34-060-886-171213	Total/NA	Water	3535	
320-34425-32	FM-34-050-886-171213	Total/NA	Water	3535	
MB 320-201042/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-201042/2-A	Lab Control Sample	Total/NA	Water	3535	
320-34425-28 MS	FM-34-090-886-171211	Total/NA	Water	3535	
320-34425-28 MSD	FM-34-090-886-171211	Total/NA	Water	3535	

Analysis Batch: 201221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34425-1	FB-816-171212 Field Blank	Total/NA	Water	537 (modified)	201036
320-34425-2	PB-816-171212 Pump Blank	Total/NA	Water	537 (modified)	201036
320-34425-3	FM-26-100-816-171211	Total/NA	Water	537 (modified)	201036
320-34425-4	FM-26-090-816-171211	Total/NA	Water	537 (modified)	201036
320-34425-5	FM-26-080-816-171211	Total/NA	Water	537 (modified)	201036
320-34425-6	FM-26-070-816-171211	Total/NA	Water	537 (modified)	201036
320-34425-7	FM-26-060-816-171211	Total/NA	Water	537 (modified)	201036

LCMS (Continued)

Analysis Batch: 201221 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34425-8	FM-26-050-816-171211	Total/NA	Water	537 (modified)	201036
320-34425-9	FM-26-040-816-171211	Total/NA	Water	537 (modified)	201036
320-34425-10	FM-32-100-944-171211	Total/NA	Water	537 (modified)	201036
320-34425-11	DUP-1-944-171211	Total/NA	Water	537 (modified)	201036
320-34425-12	DUP-2-944-171211	Total/NA	Water	537 (modified)	201036
320-34425-13	FM-32-90-944-171212	Total/NA	Water	537 (modified)	201036
320-34425-14	FM-32-80-944-171212	Total/NA	Water	537 (modified)	201036
320-34425-15	FM-32-070-944-171213	Total/NA	Water	537 (modified)	201036
320-34425-16	FM-32-060-944-171213	Total/NA	Water	537 (modified)	201036
320-34425-17	FM-32-050-944-171213	Total/NA	Water	537 (modified)	201036
320-34425-18	Pump Blank PB-816-171211	Total/NA	Water	537 (modified)	201036
320-34425-19	Field Blank FB-816-171211	Total/NA	Water	537 (modified)	201036
320-34425-21	FM-30-(85-90)-090-816-171213	Total/NA	Water	537 (modified)	201036
MB 320-201036/1-A	Method Blank	Total/NA	Water	537 (modified)	201036
LCS 320-201036/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	201036
LCSD 320-201036/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	201036

Analysis Batch: 201222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-34425-22	FM-30-(75-80)-080-816-171213	Total/NA	Water	537 (modified)	201042
320-34425-23	FM-30-(65-70)-070-816-171213	Total/NA	Water	537 (modified)	201042
320-34425-24	Field Blank FB-816-171213	Total/NA	Water	537 (modified)	201042
320-34425-25	Pump Blank PB-816-171213	Total/NA	Water	537 (modified)	201042
320-34425-26	FM-26-030-816-171212	Total/NA	Water	537 (modified)	201042
320-34425-27	FM-26-020-816-171212	Total/NA	Water	537 (modified)	201042
320-34425-28	FM-34-090-886-171211	Total/NA	Water	537 (modified)	201042
320-34425-29	FM-34-080-886-171212	Total/NA	Water	537 (modified)	201042
320-34425-30	FM-34-070-886-171213	Total/NA	Water	537 (modified)	201042
320-34425-31	FM-34-060-886-171213	Total/NA	Water	537 (modified)	201042
320-34425-32	FM-34-050-886-171213	Total/NA	Water	537 (modified)	201042
MB 320-201042/1-A	Method Blank	Total/NA	Water	537 (modified)	201042
LCS 320-201042/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	201042
320-34425-28 MS	FM-34-090-886-171211	Total/NA	Water	537 (modified)	201042
320-34425-28 MSD	FM-34-090-886-171211	Total/NA	Water	537 (modified)	201042

Client Sample ID: FB-816-171212 Field Blank — Lab Sample ID: 320-34425-1

Date Collected: 12/12/17 07:45 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/22/17 23:10	JRB	TAL SAC

Client Sample ID: PB-816-171212 Pump Blank — Lab Sample ID: 320-34425-2

Date Collected: 12/12/17 07:50 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/22/17 23:18	JRB	TAL SAC

Client Sample ID: FM-26-100-816-171211 — Lab Sample ID: 320-34425-3

Date Collected: 12/11/17 11:00 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/22/17 23:26	JRB	TAL SAC

Client Sample ID: FM-26-090-816-171211 — Lab Sample ID: 320-34425-4

Date Collected: 12/11/17 11:50 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/22/17 23:34	JRB	TAL SAC

Client Sample ID: FM-26-080-816-171211 — Lab Sample ID: 320-34425-5

Date Collected: 12/11/17 12:42 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/22/17 23:41	JRB	TAL SAC

Client Sample ID: FM-26-070-816-171211 — Lab Sample ID: 320-34425-6

Date Collected: 12/11/17 13:28 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/22/17 23:49	JRB	TAL SAC

Client Sample ID: FM-26-060-816-171211
Lab Sample ID: 320-34425-7
Date Collected: 12/11/17 14:10
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/22/17 23:57	JRB	TAL SAC

Client Sample ID: FM-26-050-816-171211
Lab Sample ID: 320-34425-8
Date Collected: 12/12/17 08:39
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 00:13	JRB	TAL SAC

Client Sample ID: FM-26-040-816-171211
Lab Sample ID: 320-34425-9
Date Collected: 12/12/17 09:27
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 00:21	JRB	TAL SAC

Client Sample ID: FM-32-100-944-171211
Lab Sample ID: 320-34425-10
Date Collected: 12/11/17 14:00
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 00:28	JRB	TAL SAC

Client Sample ID: DUP-1-944-171211
Lab Sample ID: 320-34425-11
Date Collected: 12/11/17 14:00
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 00:36	JRB	TAL SAC

Client Sample ID: DUP-2-944-171211
Lab Sample ID: 320-34425-12
Date Collected: 12/11/17 14:00
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 00:44	JRB	TAL SAC

Client Sample ID: FM-32-90-944-171212
Lab Sample ID: 320-34425-13
Date Collected: 12/12/17 08:30
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 00:52	JRB	TAL SAC

Client Sample ID: FM-32-80-944-171212
Lab Sample ID: 320-34425-14
Date Collected: 12/12/17 09:30
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 01:00	JRB	TAL SAC

Client Sample ID: FM-32-070-944-171213
Lab Sample ID: 320-34425-15
Date Collected: 12/13/17 07:40
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 01:08	JRB	TAL SAC

Client Sample ID: FM-32-060-944-171213
Lab Sample ID: 320-34425-16
Date Collected: 12/13/17 08:30
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 01:16	JRB	TAL SAC

Client Sample ID: FM-32-050-944-171213
Lab Sample ID: 320-34425-17
Date Collected: 12/13/17 07:40
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 01:23	JRB	TAL SAC

Client Sample ID: Pump Blank PB-816-171211
Lab Sample ID: 320-34425-18
Date Collected: 12/11/17 09:50
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 01:39	JRB	TAL SAC

Client Sample ID: Field Blank FB-816-171211 — Lab Sample ID: 320-34425-19

Date Collected: 12/11/17 09:50 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 01:47	JRB	TAL SAC

Client Sample ID: FM-30-(85-90)-090-816-171213 — Lab Sample ID: 320-34425-21

Date Collected: 12/13/17 11:32 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201036	12/22/17 07:51	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201221	12/23/17 01:55	JRB	TAL SAC

Client Sample ID: FM-30-(75-80)-080-816-171213 — Lab Sample ID: 320-34425-22

Date Collected: 12/13/17 12:25 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 02:34	JRB	TAL SAC

Client Sample ID: FM-30-(65-70)-070-816-171213 — Lab Sample ID: 320-34425-23

Date Collected: 12/13/17 13:08 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 02:42	JRB	TAL SAC

Client Sample ID: Field Blank FB-816-171213 — Lab Sample ID: 320-34425-24

Date Collected: 12/13/17 09:00 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 02:50	JRB	TAL SAC

Client Sample ID: Pump Blank PB-816-171213 — Lab Sample ID: 320-34425-25

Date Collected: 12/13/17 09:03 — **Matrix: Water**
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 02:58	JRB	TAL SAC

Client Sample ID: FM-26-030-816-171212
Lab Sample ID: 320-34425-26
Date Collected: 12/12/17 10:35
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 03:05	JRB	TAL SAC

Client Sample ID: FM-26-020-816-171212
Lab Sample ID: 320-34425-27
Date Collected: 12/12/17 11:40
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 03:13	JRB	TAL SAC

Client Sample ID: FM-34-090-886-171211
Lab Sample ID: 320-34425-28
Date Collected: 12/11/17 13:05
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 03:21	JRB	TAL SAC

Client Sample ID: FM-34-080-886-171212
Lab Sample ID: 320-34425-29
Date Collected: 12/12/17 09:42
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 03:52	JRB	TAL SAC

Client Sample ID: FM-34-070-886-171213
Lab Sample ID: 320-34425-30
Date Collected: 12/13/17 09:53
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 04:00	JRB	TAL SAC

Client Sample ID: FM-34-060-886-171213
Lab Sample ID: 320-34425-31
Date Collected: 12/13/17 11:00
Matrix: Water
Date Received: 12/18/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 04:08	JRB	TAL SAC

Lab Chronicle

Client: PW Grosser Consulting
Project/Site: Suffolk County Firematics Site

TestAmerica Job ID: 320-34425-1

Client Sample ID: FM-34-050-886-171213
Date Collected: 12/13/17 12:39
Date Received: 12/18/17 09:40

Lab Sample ID: 320-34425-32
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201042	12/22/17 07:57	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	201222	12/23/17 04:16	JRB	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: PW Grosser Consulting
TestAmerica Job ID: 320-34425-1
Project/Site: Suffolk County Firematics Site

Laboratory: TestAmerica Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-055	12-18-17 *
Arizona	State Program	9	AZ0708	08-11-18
Arkansas DEQ	State Program	6	88-0691	06-17-18
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-18
Connecticut	State Program	1	PH-0691	06-30-19
Florida	NELAP	4	E87570	06-30-18
Georgia	State Program	4	N/A	01-28-19
Hawaii	State Program	9	N/A	01-29-18
Illinois	NELAP	5	200060	03-17-18
Kansas	NELAP	7	E-10375	12-31-17 *
L-A-B	DoD ELAP		L2468	01-20-18
Louisiana	NELAP	6	30612	06-30-18
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-18
New Hampshire	NELAP	1	2997	04-18-18
New Jersey	NELAP	2	CA005	06-30-18
New York	NELAP	2	11666	04-01-18
Oregon	NELAP	10	4040	01-28-18
Pennsylvania	NELAP	3	68-01272	03-31-18
Texas	NELAP	6	T104704399	05-31-18
US Fish & Wildlife	Federal		LE148388-0	07-31-18
USDA	Federal		P330-11-00436	12-30-17 *
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-18
Virginia	NELAP	3	460278	03-14-18
Washington	State Program	10	C581	05-05-18
West Virginia (DW)	State Program	3	9930C	12-31-17
Wyoming	State Program	8	8TMS-L	01-28-19

Laboratory: TestAmerica Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Connecticut	State Program	1	PH-0200	09-30-18
New Jersey	NELAP	2	12028	06-30-18
New York	NELAP	2	11452	04-01-18
Pennsylvania	NELAP	3	68-00522	02-28-18
USDA	Federal		NJCA-003-08	06-13-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method PFC IDA

Fluorinated Hydrocarbons by Method PFAS IDA

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	PFBS #	PFHxA #	PFHpA #	PFHxS #	M262FTS #	PFOA #
FB-816-171212 Field Blank	320-34425-1	104	99	103	102	106	103	43	96
PB-816-171212 Pump Blank	320-34425-2	105	103	101	97	104	96	44	98
FM-26-100-816-171211	320-34425-3	108	107	108	105	109	106	42	98
FM-26-090-816-171211	320-34425-4	109	104	106	103	112	104	43	97
FM-26-080-816-171211	320-34425-5	107	105	108	102	105	108	42	100
FM-26-070-816-171211	320-34425-6	107	106	110	107	108	108	43	95
FM-26-060-816-171211	320-34425-7	105	106	109	99	104	102	40	97
FM-26-050-816-171211	320-34425-8	107	110	107	105	114	107	44	100
FM-26-040-816-171211	320-34425-9	91	100	103	98	104	100	42	93
FM-32-100-944-171211	320-34425-10	105	102	108	102	105	102	43	101
DUP-1-944-171211	320-34425-11	105	103	99	99	102	102	41	98
DUP-2-944-171211	320-34425-12	105	104	102	98	104	108	41	97
FM-32-90-944-171212	320-34425-13	103	105	101	99	102	103	42	100
FM-32-80-944-171212	320-34425-14	109	107	110	107	110	107	43	101
FM-32-070-944-171213	320-34425-15	102	105	105	103	106	105	41	96
FM-32-060-944-171213	320-34425-16	99	110	100	102	105	104	41	97
FM-32-050-944-171213	320-34425-17	97	110	106	96	107	106	43	101
Pump Blank PB-816-171211	320-34425-18	103	101	96	101	105	100	40	97
Field Blank FB-816-171211	320-34425-19	104	102	96	97	99	101	42	99
FM-30-(85-90) -090-816-171213	320-34425-21	110	108	112	108	112	110	43	99
	MB 320-201036/1-A	101	100	100	96	101	99	41	94
	LCS 320-201036/2-A	107	102	106	102	104	100	42	97
	LCSD 320-201036/3-A	108	102	99	101	110	105	43	95

	QC LIMITS
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5 PFPeA	25-150
PFBS = 13C3-PFBS	25-150
PFHxA = 13C2 PFHxA	25-150
PFHpA = 13C4-PFHpA	25-150
PFHxS = 18O2 PFHxS	25-150
M262FTS = M2-6:2FTS	25-150
PFOA = 13C4 PFOA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFNA #	PFOS #	M282FTS #	PFDA #	PFOSA #	d3NMFOS #	d5NEFOS #	PFUnA #
FB-816-171212 Field Blank	320-34425-1	111	102	79	102	93	84	90	92
PB-816-171212 Pump Blank	320-34425-2	107	101	80	103	93	86	87	101
FM-26-100-816-171211	320-34425-3	102	103	80	108	101	82	90	95
FM-26-090-816-171211	320-34425-4	101	99	77	104	98	85	90	99
FM-26-080-816-171211	320-34425-5	105	102	79	104	100	82	86	96
FM-26-070-816-171211	320-34425-6	102	102	83	103	101	84	90	101
FM-26-060-816-171211	320-34425-7	101	99	79	103	95	81	87	97
FM-26-050-816-171211	320-34425-8	104	101	78	104	98	82	84	98
FM-26-040-816-171211	320-34425-9	95	95	76	97	90	82	85	93
FM-32-100-944-171211	320-34425-10	96	97	76	98	97	84	90	102
DUP-1-944-171211	320-34425-11	99	100	75	96	96	84	86	100
DUP-2-944-171211	320-34425-12	107	105	75	97	96	78	88	94
FM-32-90-944-171212	320-34425-13	97	95	74	96	96	82	88	96
FM-32-80-944-171212	320-34425-14	107	105	83	104	101	89	93	105
FM-32-070-944-171213	320-34425-15	101	101	77	101	93	81	83	97
FM-32-060-944-171213	320-34425-16	102	100	77	101	94	82	87	95
FM-32-050-944-171213	320-34425-17	99	99	78	97	95	83	90	97
Pump Blank PB-816-171211	320-34425-18	106	102	82	98	95	88	93	101
Field Blank FB-816-171211	320-34425-19	110	104	76	101	93	78	88	99
FM-30-(85-90)-090-816-171213	320-34425-21	108	104	83	103	102	88	97	104
	MB 320-201036/1-A	100	95	79	99	91	79	78	93
	LCS 320-201036/2-A	98	99	81	94	92	84	84	99
	LCSD 320-201036/3-A	100	97	83	106	95	83	85	95

	QC LIMITS
PFNA = 13C5 PFNA	25-150
PFOS = 13C4 PFOS	25-150
M282FTS = M2-8:2FTS	25-150
PFDA = 13C2 PFDA	25-150
PFOSA = 13C8 FOSA	25-150
d3NMFOS = d3-NMeFOSAA	25-150
d5NEFOS = d5-NEtFOSAA	25-150
PFUnA = 13C2 PFUnA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFDoA #	PFTDA #
FB-816-171212 Field Blank	320-34425-1	98	135
PB-816-171212 Pump Blank	320-34425-2	98	136
FM-26-100-816-171211	320-34425-3	98	121
FM-26-090-816-171211	320-34425-4	96	119
FM-26-080-816-171211	320-34425-5	96	114
FM-26-070-816-171211	320-34425-6	96	121
FM-26-060-816-171211	320-34425-7	95	116
FM-26-050-816-171211	320-34425-8	93	130
FM-26-040-816-171211	320-34425-9	90	122
FM-32-100-944-171211	320-34425-10	98	120
DUP-1-944-171211	320-34425-11	92	123
DUP-2-944-171211	320-34425-12	93	123
FM-32-90-944-171212	320-34425-13	95	116
FM-32-80-944-171212	320-34425-14	100	119
FM-32-070-944-171213	320-34425-15	92	116
FM-32-060-944-171213	320-34425-16	93	117
FM-32-050-944-171213	320-34425-17	96	113
Pump Blank PB-816-171211	320-34425-18	96	145
Field Blank FB-816-171211	320-34425-19	97	147
FM-30-(85-90)-090-816-171213	320-34425-21	104	123
	MB 320-201036/1-A	91	114
	LCS 320-201036/2-A	91	128
	LCSD 320-201036/3-A	100	116

	QC LIMITS
PFDoA = 13C2 PFDoA	25-150
PFTDA = 13C2-PFTeDA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	PFBS #	PFHxA #	PFHpA #	PFHxS #	M262FTS #	PFOA #
FM-30-(75-80) -080-816-171213	320-34425-22	104	100	105	98	103	102	40	97
FM-30-(65-70) -070-816-171213	320-34425-23	110	112	111	108	107	106	42	105
Field Blank FB-816-171213	320-34425-24	103	101	100	98	104	103	42	93
Pump Blank PB-816-171213	320-34425-25	108	106	112	102	106	101	44	104
FM-26-030-816-171212	320-34425-26	91	109	98	103	108	109	44	102
FM-26-020-816-171212	320-34425-27	86	106	103	105	110	101	42	99
FM-34-090-886-171211	320-34425-28	109	109	107	106	104	103	40	99
FM-34-080-886-171212	320-34425-29	107	111	108	103	104	107	40	97
FM-34-070-886-171213	320-34425-30	105	105	102	97	100	104	42	97
FM-34-060-886-171213	320-34425-31	105	105	99	99	102	103	39	97
FM-34-050-886-171213	320-34425-32	109	112	103	104	104	106	44	99
	MB 320-201042/1-A	99	100	98	97	100	98	39	91
	LCS 320-201042/2-A	104	102	105	101	104	104	43	98
FM-34-090-886-171211 MS	320-34425-28 MS	109	112	106	106	107	106	42	103
FM-34-090-886-171211 MSD	320-34425-28 MSD	112	115	119	106	105	115	44	104

	QC LIMITS
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5 PFPeA	25-150
PFBS = 13C3-PFBS	25-150
PFHxA = 13C2 PFHxA	25-150
PFHpA = 13C4-PFHpA	25-150
PFHxS = 18O2 PFHxS	25-150
M262FTS = M2-6:2FTS	25-150
PFOA = 13C4 PFOA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFNA #	PFOS #	PFOSA #	M282FTS #	PFDA #	d3NMFOS #	d5NEFOS #	PFUnA #
FM-30-(75-80) -080-816-171213	320-34425-22	102	101	95	73	97	82	85	93
FM-30-(65-70) -070-816-171213	320-34425-23	103	100	96	82	107	88	97	103
Field Blank FB-816-171213	320-34425-24	110	105	94	78	100	85	93	102
Pump Blank PB-816-171213	320-34425-25	116	109	99	82	105	84	93	106
FM-26-030-816-171212	320-34425-26	102	101	94	81	103	82	83	97
FM-26-020-816-171212	320-34425-27	99	101	95	77	104	82	84	103
FM-34-090-886-171211	320-34425-28	104	100	101	79	105	87	97	102
FM-34-080-886-171212	320-34425-29	102	102	96	79	101	81	85	93
FM-34-070-886-171213	320-34425-30	99	96	94	75	98	81	84	95
FM-34-060-886-171213	320-34425-31	97	98	91	77	97	84	87	94
FM-34-050-886-171213	320-34425-32	100	102	96	76	104	82	88	96
	MB 320-201042/1-A	97	98	89	76	97	83	81	94
	LCS 320-201042/2-A	104	107	96	80	104	85	91	97
FM-34-090-886-171211 MS	320-34425-28 MS	110	103	98	80	97	90	93	98
FM-34-090-886-171211 MSD	320-34425-28 MSD	105	103	100	80	109	95	97	107

	QC LIMITS
PFNA = 13C5 PFNA	25-150
PFOS = 13C4 PFOS	25-150
PFOSA = 13C8 FOSA	25-150
M282FTS = M2-8:2FTS	25-150
PFDA = 13C2 PFDA	25-150
d3NMFOS = d3-NMeFOSAA	25-150
d5NEFOS = d5-NEtFOSAA	25-150
PFUnA = 13C2 PFUnA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFDoA #	PFTDA #
FM-30-(75-80) -080-816-171213	320-34425-22	92	112
FM-30-(65-70) -070-816-171213	320-34425-23	101	124
Field Blank FB-816-171213	320-34425-24	94	134
Pump Blank PB-816-171213	320-34425-25	102	138
FM-26-030-816-171212	320-34425-26	95	114
FM-26-020-816-171212	320-34425-27	96	121
FM-34-090-886-171211	320-34425-28	100	130
FM-34-080-886-171212	320-34425-29	96	108
FM-34-070-886-171213	320-34425-30	93	103
FM-34-060-886-171213	320-34425-31	97	111
FM-34-050-886-171213	320-34425-32	97	113
	MB 320-201042/1-A	89	115
	LCS 320-201042/2-A	98	114
FM-34-090-886-171211 MS	320-34425-28 MS	99	129
FM-34-090-886-171211 MSD	320-34425-28 MSD	100	124

	QC LIMITS
PFDoA = 13C2 PFDoA	25-150
PFTDA = 13C2-PFTeDA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_011.d

Lab ID: LCS 320-201036/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	37.81	95	78-138	
Perfluoropentanoic acid (PFPeA)	40.0	37.64	94	66-136	
Perfluorohexanoic acid (PFHxA)	40.0	37.72	94	76-136	
Perfluoroheptanoic acid (PFHpA)	40.0	36.97	92	78-138	
Perfluorooctanoic acid (PFOA)	40.0	35.74	89	70-130	
Perfluorononanoic acid (PFNA)	40.0	38.86	97	77-137	
Perfluorodecanoic acid (PFDA)	40.0	43.41	109	74-134	
Perfluoroundecanoic acid (PFUnA)	40.0	34.65	87	68-128	
Perfluorododecanoic acid (PFDoA)	40.0	40.50	101	72-132	
Perfluorotridecanoic Acid (PFTriA)	40.0	41.59	104	56-163	
Perfluorotetradecanoic acid (PFTeA)	40.0	37.30	93	63-123	
Perfluorobutanesulfonic acid (PFBS)	35.4	34.60	98	79-139	
Perfluorohexanesulfonic acid (PFHxS)	36.4	36.28	100	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.53	99	83-143	
Perfluorooctanesulfonic acid (PFOS)	37.1	35.51	96	74-134	
Perfluorodecanesulfonic acid (PFDS)	38.6	35.78	93	75-135	
Perfluorooctane Sulfonamide (FOSA)	40.0	38.81	97	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	36.27	91	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	34.12	85	79-139	
6:2FTS	37.9	35.58	94	82-142	
8:2FTS	38.3	34.05	89	80-140	
13C4 PFBA	100	106.5	107	25-150	
13C5 PFPeA	100	102.1	102	25-150	
13C2 PFHxA	100	102.4	102	25-150	
13C4-PFHpA	100	104.3	104	25-150	
13C4 PFOA	100	97.24	97	25-150	
13C5 PFNA	100	98.43	98	25-150	
13C2 PFDA	100	93.66	94	25-150	
13C2 PFUnA	100	99.02	99	25-150	
13C2 PFDoA	100	90.77	91	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_011.d

Lab ID: LCS 320-201036/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
13C2-PFTeDA	100	128.1	128	25-150	
13C3-PFBS	93.0	98.17	106	25-150	
18O2 PFHxS	94.6	94.26	100	25-150	
13C4 PFOS	95.6	94.51	99	25-150	
13C8 FOSA	100	92.27	92	25-150	
d3-NMeFOSAA	100	83.69	84	25-150	
d5-NEtFOSAA	100	84.13	84	25-150	
M2-6:2FTS	95.0	39.87	42	25-150	
M2-8:2FTS	95.8	77.69	81	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_038.d

Lab ID: LCS 320-201042/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	38.95	97	78-138	
Perfluoropentanoic acid (PFPeA)	40.0	37.59	94	66-136	
Perfluorohexanoic acid (PFHxA)	40.0	38.41	96	76-136	
Perfluoroheptanoic acid (PFHpA)	40.0	37.82	95	78-138	
Perfluorooctanoic acid (PFOA)	40.0	34.75	87	70-130	
Perfluorononanoic acid (PFNA)	40.0	39.20	98	77-137	
Perfluorodecanoic acid (PFDA)	40.0	38.57	96	74-134	
Perfluoroundecanoic acid (PFUnA)	40.0	34.64	87	68-128	
Perfluorododecanoic acid (PFDoA)	40.0	39.05	98	72-132	
Perfluorotridecanoic Acid (PFTriA)	40.0	36.55	91	56-163	
Perfluorotetradecanoic acid (PFTeA)	40.0	38.46	96	63-123	
Perfluorobutanesulfonic acid (PFBS)	35.4	33.81	96	79-139	
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.77	90	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	35.36	93	83-143	
Perfluorooctanesulfonic acid (PFOS)	37.1	34.56	93	74-134	
Perfluorodecanesulfonic acid (PFDS)	38.6	33.35	86	75-135	
Perfluorooctane Sulfonamide (FOSA)	40.0	37.19	93	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	36.71	92	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	35.27	88	79-139	
6:2FTS	37.9	37.70	99	82-142	
8:2FTS	38.3	36.88	96	80-140	
13C4 PFBA	100	103.5	104	25-150	
13C5 PFPeA	100	102.2	102	25-150	
13C2 PFHxA	100	101.1	101	25-150	
13C4-PFHpA	100	103.9	104	25-150	
13C4 PFOA	100	98.42	98	25-150	
13C5 PFNA	100	104.0	104	25-150	
13C2 PFDA	100	104.2	104	25-150	
13C2 PFUnA	100	96.67	97	25-150	
13C2 PFDoA	100	97.79	98	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_038.d

Lab ID: LCS 320-201042/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
13C2-PFTeDA	100	113.9	114	25-150	
13C3-PFBS	93.0	97.94	105	25-150	
18O2 PFHxS	94.6	98.17	104	25-150	
13C4 PFOS	95.6	102.3	107	25-150	
13C8 FOSA	100	96.16	96	25-150	
d3-NMeFOSAA	100	85.46	85	25-150	
d5-NEtFOSAA	100	91.38	91	25-150	
M2-6:2FTS	95.0	41.12	43	25-150	
M2-8:2FTS	95.8	76.80	80	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_012.d

Lab ID: LCSD 320-201036/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	39.36	98	4	30	78-138	
Perfluoropentanoic acid (PFPeA)	40.0	40.96	102	8	30	66-136	
Perfluorohexanoic acid (PFHxA)	40.0	39.52	99	5	30	76-136	
Perfluoroheptanoic acid (PFHpA)	40.0	36.12	90	2	30	78-138	
Perfluorooctanoic acid (PFOA)	40.0	38.13	95	6	30	70-130	
Perfluorononanoic acid (PFNA)	40.0	40.06	100	3	30	77-137	
Perfluorodecanoic acid (PFDA)	40.0	38.68	97	12	30	74-134	
Perfluoroundecanoic acid (PFUnA)	40.0	37.99	95	9	30	68-128	
Perfluorododecanoic acid (PFDoA)	40.0	39.74	99	2	30	72-132	
Perfluorotridecanoic Acid (PFTriA)	40.0	37.31	93	11	30	56-163	
Perfluorotetradecanoic acid (PFTeA)	40.0	38.70	97	4	30	63-123	
Perfluorobutanesulfonic acid (PFBS)	35.4	39.70	112	14	30	79-139	
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.88	96	4	30	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	40.53	106	8	30	83-143	
Perfluorooctanesulfonic acid (PFOS)	37.1	36.97	100	4	30	74-134	
Perfluorodecanesulfonic acid (PFDS)	38.6	37.50	97	5	30	75-135	
Perfluorooctane Sulfonamide (FOSA)	40.0	39.51	99	2	30	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	39.94	100	10	30	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	38.01	95	11	30	79-139	
6:2FTS	37.9	37.63	99	6	30	82-142	
8:2FTS	38.3	36.70	96	8	30	80-140	
13C4 PFBA	100	108.3	108			25-150	
13C5 PFPeA	100	102.0	102			25-150	
13C2 PFHxA	100	100.6	101			25-150	
13C4-PFHpA	100	110.2	110			25-150	
13C4 PFOA	100	94.91	95			25-150	
13C5 PFNA	100	99.78	100			25-150	
13C2 PFDA	100	105.9	106			25-150	
13C2 PFUnA	100	94.87	95			25-150	
13C2 PFDoA	100	100.4	100			25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_012.d

Lab ID: LCSD 320-201036/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
13C2-PFTeDA	100	116.2	116			25-150	
13C3-PFBS	93.0	91.89	99			25-150	
18O2 PFHxS	94.6	99.70	105			25-150	
13C4 PFOS	95.6	92.42	97			25-150	
13C8 FOSA	100	95.19	95			25-150	
d3-NMeFOSAA	100	82.59	83			25-150	
d5-NEtFOSAA	100	85.38	85			25-150	
M2-6:2FTS	95.0	40.42	43			25-150	
M2-8:2FTS	95.8	79.15	83			25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_046.d

Lab ID: 320-34425-28 MS Client ID: FM-34-090-886-171211 MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	39.0	0.35 U	38.01	97	78-138	
Perfluoropentanoic acid (PFPeA)	39.0	0.49 U	35.64	91	66-136	
Perfluorohexanoic acid (PFHxA)	39.0	0.57 U	36.45	93	76-136	
Perfluoroheptanoic acid (PFHpA)	39.0	0.25 U	35.07	90	78-138	
Perfluorooctanoic acid (PFOA)	39.0	0.84 U	33.19	85	70-130	
Perfluorononanoic acid (PFNA)	39.0	0.27 U	34.46	88	77-137	
Perfluorodecanoic acid (PFDA)	39.0	0.31 U	40.14	103	74-134	
Perfluoroundecanoic acid (PFUnA)	39.0	1.09 U	34.72	89	68-128	
Perfluorododecanoic acid (PFDoA)	39.0	0.54 U	38.50	99	72-132	
Perfluorotridecanoic Acid (PFTriA)	39.0	1.29 U	38.15	98	56-163	
Perfluorotetradecanoic acid (PFTeA)	39.0	0.29 U	33.66	86	63-123	
Perfluorobutanesulfonic acid (PFBS)	34.5	0.20 U	36.06	104	79-139	
Perfluorohexanesulfonic acid (PFHxS)	35.5	0.27 J	32.51	91	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	37.2	0.19 U	35.59	96	83-143	
Perfluorooctanesulfonic acid (PFOS)	36.2	0.53 U	34.62	96	74-134	
Perfluorodecanesulfonic acid (PFDS)	37.6	0.32 U	33.45	89	75-135	
Perfluorooctane Sulfonamide (FOSA)	39.0	0.35 U	37.23	95	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	39.0	3.07 U	35.34	91	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	39.0	1.88 U	33.99	87	79-139	
6:2FTS	37.0	1.98 U	37.59	102	82-142	
8:2FTS	37.4	1.98 U	34.74	93	80-140	
13C4 PFBA	97.6	108	106.2	109	25-150	
13C5 PFPeA	97.6	108	109.6	112	25-150	
13C2 PFHxA	97.6	105	103.3	106	25-150	
13C4-PFHpA	97.6	103	104.5	107	25-150	
13C4 PFOA	97.6	97.8	100.2	103	25-150	
13C5 PFNA	97.6	103	107.4	110	25-150	
13C2 PFDA	97.6	104	94.81	97	25-150	
13C2 PFUnA	97.6	101	96.05	98	25-150	
13C2 PFDoA	97.6	98.8	96.92	99	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_046.d

Lab ID: 320-34425-28 MS Client ID: FM-34-090-886-171211 MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
13C2-PFTeDA	97.6	129	125.5	129	25-150	
13C3-PFBS	90.8	98.4	95.87	106	25-150	
18O2 PFHxS	92.3	96.5	98.22	106	25-150	
13C4 PFOS	93.3	94.6	96.39	103	25-150	
13C8 FOSA	97.6	99.7	95.88	98	25-150	
d3-NMeFOSAA	97.6	86.6	87.79	90	25-150	
d5-NEtFOSAA	97.6	96.2	91.03	93	25-150	
M2-6:2FTS	92.7	38.0	39.41	42	25-150	
M2-8:2FTS	93.5	75.0	74.39	80	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_048.d

Lab ID: 320-34425-28 MSD Client ID: FM-34-090-886-171211 MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.9	40.34	99	6	30	78-138	
Perfluoropentanoic acid (PFPeA)	40.9	38.16	93	7	30	66-136	
Perfluorohexanoic acid (PFHxA)	40.9	41.17	101	12	30	76-136	
Perfluoroheptanoic acid (PFHpA)	40.9	42.06	103	18	30	78-138	
Perfluorooctanoic acid (PFOA)	40.9	36.07	88	8	30	70-130	
Perfluorononanoic acid (PFNA)	40.9	40.31	99	16	30	77-137	
Perfluorodecanoic acid (PFDA)	40.9	39.88	98	1	30	74-134	
Perfluoroundecanoic acid (PFUnA)	40.9	38.04	93	9	30	68-128	
Perfluorododecanoic acid (PFDoA)	40.9	42.40	104	10	30	72-132	
Perfluorotridecanoic Acid (PFTriA)	40.9	44.09	108	14	30	56-163	
Perfluorotetradecanoic acid (PFTeA)	40.9	38.83	95	14	30	63-123	
Perfluorobutanesulfonic acid (PFBS)	36.2	34.92	97	3	30	79-139	
Perfluorohexanesulfonic acid (PFHxS)	37.2	33.38	89	3	30	77-137	
Perfluoroheptanesulfonic Acid (PFHpS)	38.9	38.63	99	8	30	83-143	
Perfluorooctanesulfonic acid (PFOS)	38.0	38.32	101	10	30	74-134	
Perfluorodecanesulfonic acid (PFDS)	39.4	37.40	95	11	30	75-135	
Perfluorooctane Sulfonamide (FOSA)	40.9	39.41	96	6	30	82-142	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.9	36.30	89	3	30	77-137	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.9	35.42	87	4	30	79-139	
6:2FTS	38.8	37.64	97	0	30	82-142	
8:2FTS	39.2	40.23	103	15	30	80-140	
13C4 PFBA	102	114.2	112			25-150	
13C5 PFPeA	102	117.6	115			25-150	
13C2 PFHxA	102	107.9	106			25-150	
13C4-PFHpA	102	107.3	105			25-150	
13C4 PFOA	102	106.8	104			25-150	
13C5 PFNA	102	107.0	105			25-150	
13C2 PFDA	102	111.7	109			25-150	
13C2 PFUnA	102	109.3	107			25-150	
13C2 PFDoA	102	102.7	100			25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2017.12.22LLB_048.d

Lab ID: 320-34425-28 MSD Client ID: FM-34-090-886-171211 MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
13C2-PFTeDA	102	127.2	124			25-150	
13C3-PFBS	95.1	113.4	119			25-150	
18O2 PFHxS	96.7	111.0	115			25-150	
13C4 PFOS	97.8	100.6	103			25-150	
13C8 FOSA	102	102.7	100			25-150	
d3-NMeFOSAA	102	97.00	95			25-150	
d5-NEtFOSAA	102	99.09	97			25-150	
M2-6:2FTS	97.1	42.36	44			25-150	
M2-8:2FTS	98.0	78.31	80			25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab File ID: 2017.12.22LLB_010.d Lab Sample ID: MB 320-201036/1-A

Matrix: Water Date Extracted: 12/22/2017 07:51

Instrument ID: A8_N Date Analyzed: 12/22/2017 22:46

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-201036/2-A	2017.12.22LLB_011.d	12/22/2017 22:54
	LCSD 320-201036/3-A	2017.12.22LLB_012.d	12/22/2017 23:02
FB-816-171212 Field Blank	320-34425-1	2017.12.22LLB_013.d	12/22/2017 23:10
PB-816-171212 Pump Blank	320-34425-2	2017.12.22LLB_014.d	12/22/2017 23:18
FM-26-100-816-171211	320-34425-3	2017.12.22LLB_015.d	12/22/2017 23:26
FM-26-090-816-171211	320-34425-4	2017.12.22LLB_016.d	12/22/2017 23:34
FM-26-080-816-171211	320-34425-5	2017.12.22LLB_017.d	12/22/2017 23:41
FM-26-070-816-171211	320-34425-6	2017.12.22LLB_018.d	12/22/2017 23:49
FM-26-060-816-171211	320-34425-7	2017.12.22LLB_019.d	12/22/2017 23:57
FM-26-050-816-171211	320-34425-8	2017.12.22LLB_021.d	12/23/2017 00:13
FM-26-040-816-171211	320-34425-9	2017.12.22LLB_022.d	12/23/2017 00:21
FM-32-100-944-171211	320-34425-10	2017.12.22LLB_023.d	12/23/2017 00:28
DUP-1-944-171211	320-34425-11	2017.12.22LLB_024.d	12/23/2017 00:36
DUP-2-944-171211	320-34425-12	2017.12.22LLB_025.d	12/23/2017 00:44
FM-32-90-944-171212	320-34425-13	2017.12.22LLB_026.d	12/23/2017 00:52
FM-32-80-944-171212	320-34425-14	2017.12.22LLB_027.d	12/23/2017 01:00
FM-32-070-944-171213	320-34425-15	2017.12.22LLB_028.d	12/23/2017 01:08
FM-32-060-944-171213	320-34425-16	2017.12.22LLB_029.d	12/23/2017 01:16
FM-32-050-944-171213	320-34425-17	2017.12.22LLB_030.d	12/23/2017 01:23
Pump Blank PB-816-171211	320-34425-18	2017.12.22LLB_032.d	12/23/2017 01:39
Field Blank FB-816-171211	320-34425-19	2017.12.22LLB_033.d	12/23/2017 01:47
FM-30-(85-90)-090-816-171213	320-34425-21	2017.12.22LLB_034.d	12/23/2017 01:55

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab File ID: 2017.12.22LLB_037.d Lab Sample ID: MB 320-201042/1-A

Matrix: Water Date Extracted: 12/22/2017 07:57

Instrument ID: A8_N Date Analyzed: 12/23/2017 02:18

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-201042/2-A	2017.12.22LLB_038.d	12/23/2017 02:26
FM-30-(75-80)-080-816-171213	320-34425-22	2017.12.22LLB_039.d	12/23/2017 02:34
FM-30-(65-70)-070-816-171213	320-34425-23	2017.12.22LLB_040.d	12/23/2017 02:42
Field Blank FB-816-171213	320-34425-24	2017.12.22LLB_041.d	12/23/2017 02:50
Pump Blank PB-816-171213	320-34425-25	2017.12.22LLB_042.d	12/23/2017 02:58
FM-26-030-816-171212	320-34425-26	2017.12.22LLB_043.d	12/23/2017 03:05
FM-26-020-816-171212	320-34425-27	2017.12.22LLB_044.d	12/23/2017 03:13
FM-34-090-886-171211	320-34425-28	2017.12.22LLB_045.d	12/23/2017 03:21
FM-34-090-886-171211 MS	320-34425-28 MS	2017.12.22LLB_046.d	12/23/2017 03:29
FM-34-090-886-171211 MSD	320-34425-28 MSD	2017.12.22LLB_048.d	12/23/2017 03:44
FM-34-080-886-171212	320-34425-29	2017.12.22LLB_049.d	12/23/2017 03:52
FM-34-070-886-171213	320-34425-30	2017.12.22LLB_050.d	12/23/2017 04:00
FM-34-060-886-171213	320-34425-31	2017.12.22LLB_051.d	12/23/2017 04:08
FM-34-050-886-171213	320-34425-32	2017.12.22LLB_052.d	12/23/2017 04:16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FB-816-171212 Field Blank | Lab Sample ID: 320-34425-1

Matrix: Water | Lab File ID: 2017.12.22LLB_013.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 07:45

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 263.5(mL) | Date Analyzed: 12/22/2017 23:10

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.33	U	1.90	0.33
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.46	U	1.90	0.46
307-24-4	Perfluorohexanoic acid (PFHxA)	0.55	U	1.90	0.55
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.24	U	1.90	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	0.81	U	1.90	0.81
375-95-1	Perfluorononanoic acid (PFNA)	0.26	U	1.90	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.29	U	1.90	0.29
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.04	U	1.90	1.04
307-55-1	Perfluorododecanoic acid (PFDoA)	0.52	U	1.90	0.52
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.23	U	1.90	1.23
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.90	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.19	U	1.90	0.19
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.28	J B	1.90	0.16
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	1.90	0.18
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.51	U	1.90	0.51
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.30	U	1.90	0.30
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.33	U	1.90	0.33
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	2.94	U	19.0	2.94
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.80	U	19.0	1.80
27619-97-2	6:2FTS	1.90	U	19.0	1.90
39108-34-4	8:2FTS	1.90	U	19.0	1.90

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FB-816-171212 Field Blank | Lab Sample ID: 320-34425-1

Matrix: Water | Lab File ID: 2017.12.22LLB_013.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 07:45

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 263.5(mL) | Date Analyzed: 12/22/2017 23:10

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	104		25-150
STL01893	13C5 PFPeA	99		25-150
STL00993	13C2 PFHxA	102		25-150
STL01892	13C4-PFHpA	106		25-150
STL00990	13C4 PFOA	96		25-150
STL00995	13C5 PFNA	111		25-150
STL00996	13C2 PFDA	102		25-150
STL00997	13C2 PFUnA	92		25-150
STL00998	13C2 PFDoA	98		25-150
STL02116	13C2-PFTeDA	135		25-150
STL02337	13C3-PFBS	103		25-150
STL00994	18O2 PFHxS	103		25-150
STL00991	13C4 PFOS	102		25-150
STL01056	13C8 FOSA	93		25-150
STL02118	d3-NMeFOSAA	84		25-150
STL02117	d5-NEtFOSAA	90		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	79		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_013.d
Lims ID: 320-34425-A-1-A
Client ID: FB-816-171212 Field Blank
Sample Type: Client
Inject. Date: 22-Dec-2017 23:10:24 ALS Bottle#: 8 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-1-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:27:59

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.535	7346347	2.59		104	20428	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.426	1.419	0.007	1.004	13352	0.004959			2.0	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.630	4200655	2.48		99.1	119788	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.680	1.670	0.010	1.005	7150	0.003812			7.4	
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.705	0.002	0.644	86938	2.41		103	2961	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.741	4605092	2.55		102	42110	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.864	4420205	2.64		106	47718	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	17458	0.007453			66.2	
399.00 > 99.00	2.319	2.304	0.015	1.006	4757		3.67(1.50-4.49)		5.8	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.869	5146754	2.43		103	44556	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.642	-0.011	1.003	7460	0.0145			178	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.642	-0.018	0.989	787735	1.01		42.5	16974	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.654	-0.001	1.000	4626198	2.40		96.1	52470	
* 62 13C2-PFOA										
415.00 > 370.00	2.653	2.656	-0.003		4658885	2.50			43655	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.653	2.656	-0.003	1.000	8713	0.004477			13.3	
413.00 > 169.00	2.660	2.656	0.004	1.003	6033		1.44(0.84-2.52)		51.9	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.141	3392304	2.43		102	35637	
D 19 13C5 PFNA										
468.00 > 423.00	3.026	3.028	-0.002	1.141	3807428	2.78		111	43590	
D 21 13C8 FOSA										
506.00 > 78.00	3.373	3.370	0.003	1.271	4406775	2.32		92.8	26868	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.372	-0.007	0.998	5308	0.003139			175	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.377	0.003	1.274	826299	1.90		79.2	16283	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.389	-0.001	1.277	2873087	2.55		102	35507	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.539	3.543	-0.004	1.334	1267769	2.09		83.8	20120	
28 N-methyl perfluorooctane sulfonami										M
570.00 > 419.00	3.539	3.548	-0.009	1.000	2551	0.004686			20.1	M
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.712	-0.013	1.395	1336327	2.26		90.4	8883	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.398	1975550	2.30		92.0	18986	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.708	3.720	-0.012	1.002	2192	0.004127			66.1	
D 36 13C2 PFDoA										
615.00 > 570.00	3.999	4.011	-0.012	1.508	2258726	2.44		97.5	28031	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.502	4.518	-0.016	1.697	3501959	3.38		135	30600	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:02 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_013.d

Injection Date: 22-Dec-2017 23:10:24 Instrument ID: A8_N

Lims ID: 320-34425-A-1-A Lab Sample ID: 320-34425-1

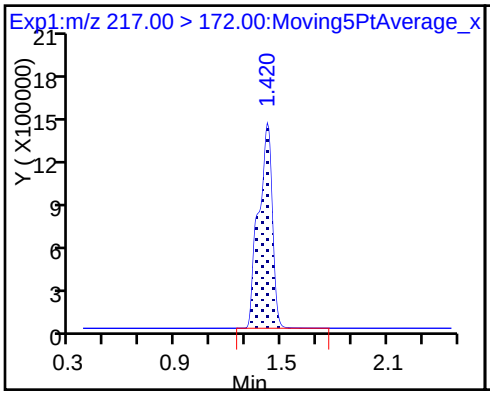
Client ID: FB-816-171212 Field Blank

Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 5

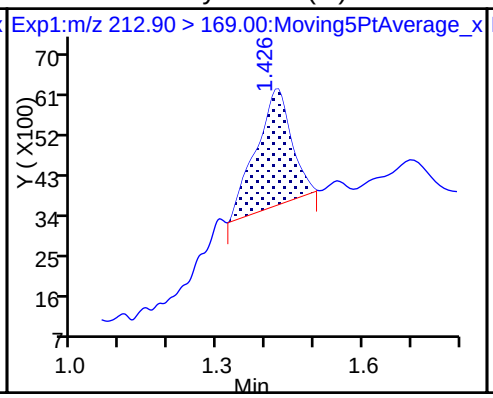
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

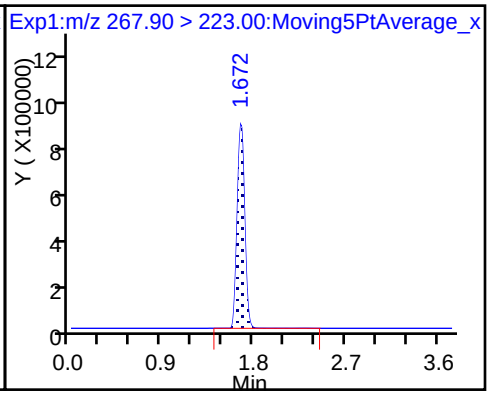
D 1 13C4 PFBA



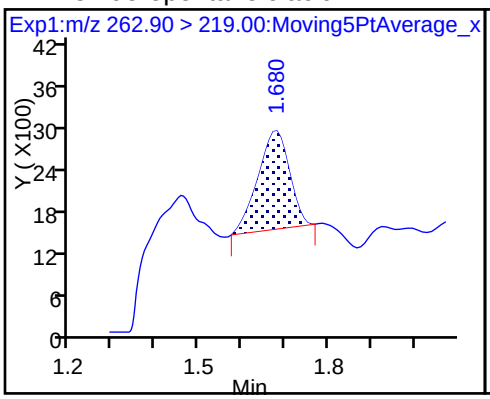
2 Perfluorobutyric acid (M)



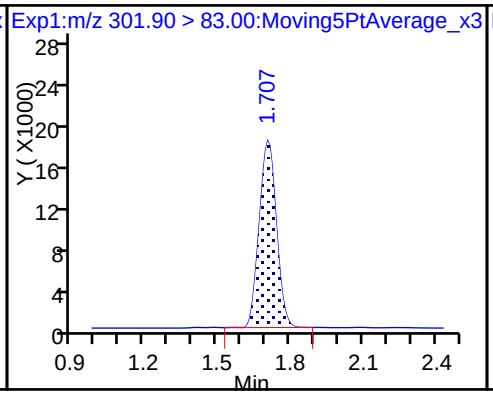
D 3 13C5-PFPeA



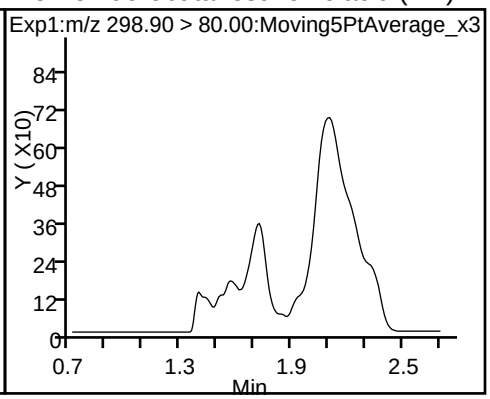
4 Perfluoropentanoic acid



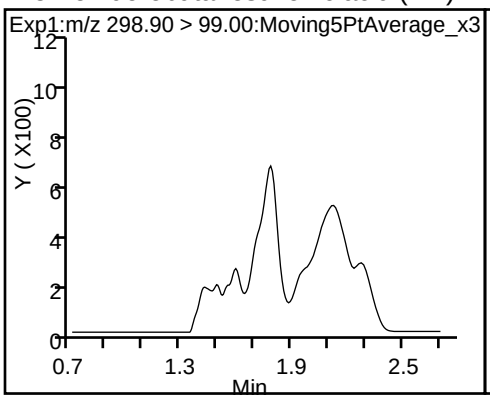
D 47 13C3-PFBS



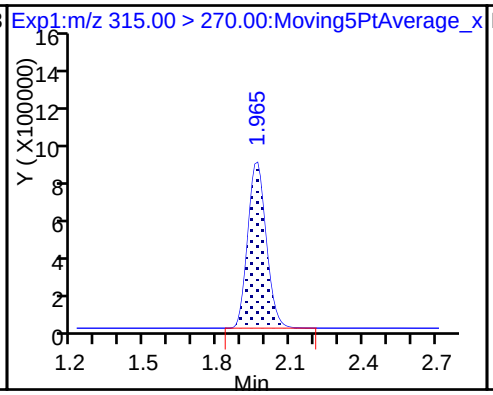
5 Perfluorobutanesulfonic acid (ND)



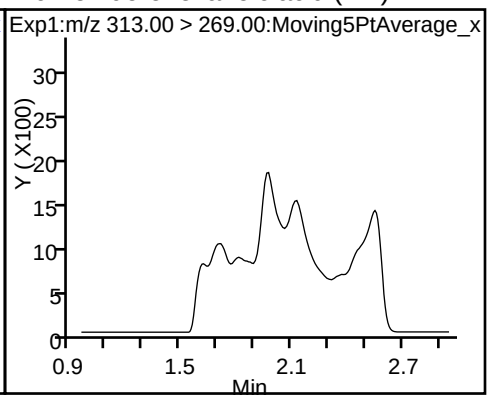
5 Perfluorobutanesulfonic acid (ND)



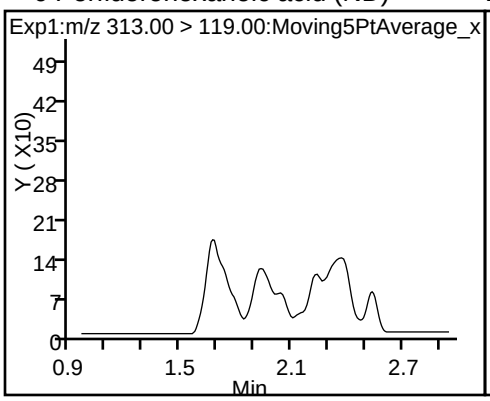
D 7 13C2 PFHxA



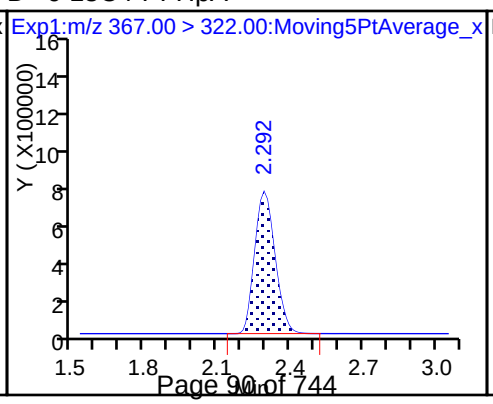
6 Perfluorohexanoic acid (ND)



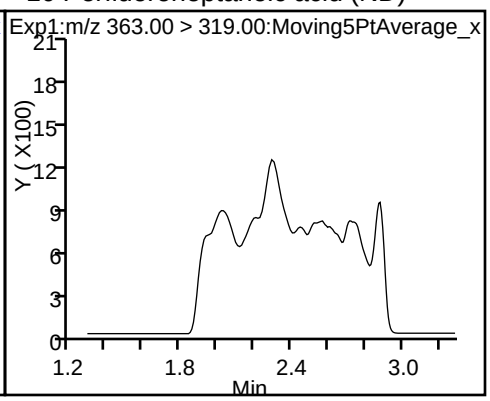
6 Perfluorohexanoic acid (ND)



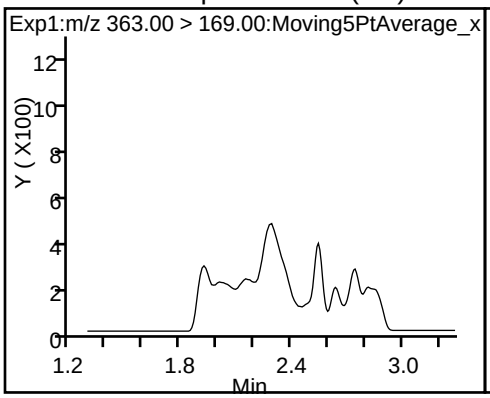
D 9 13C4-PFHpA



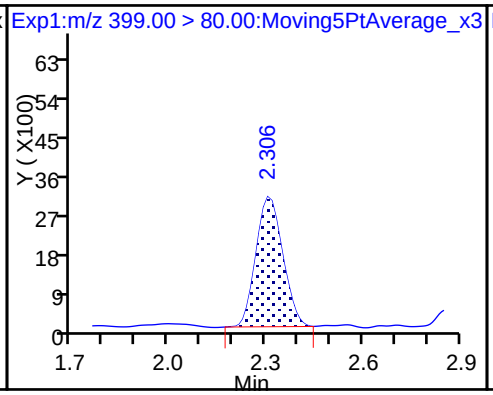
10 Perfluoroheptanoic acid (ND)



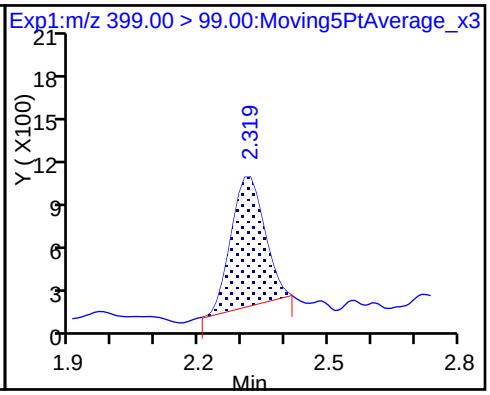
10 Perfluoroheptanoic acid (ND)



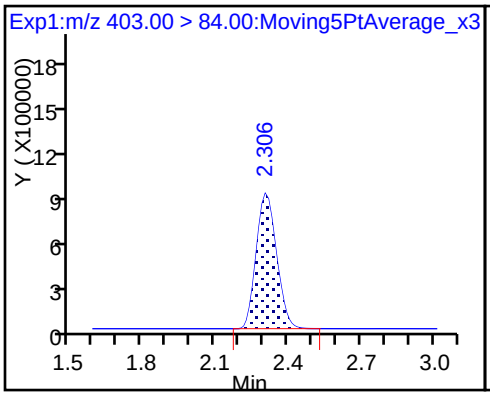
8 Perfluorohexanesulfonic acid



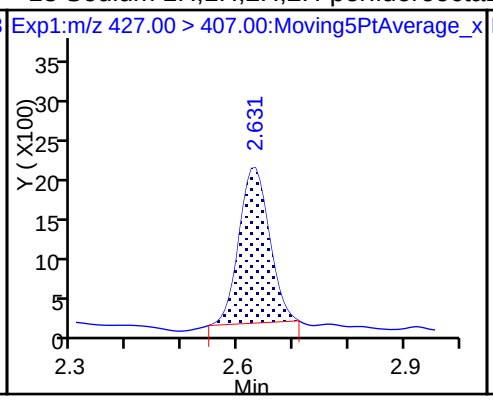
8 Perfluorohexanesulfonic acid



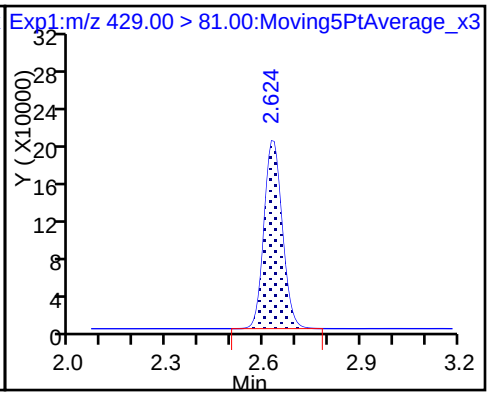
D 11 18O2 PFHxS



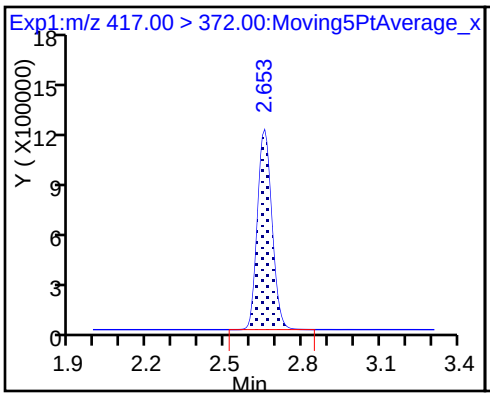
13 Sodium 1H,1H,2H,2H-perfluorooctane



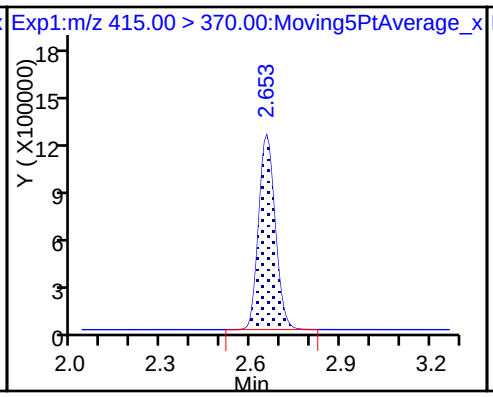
D 12 M2-6:2FTS



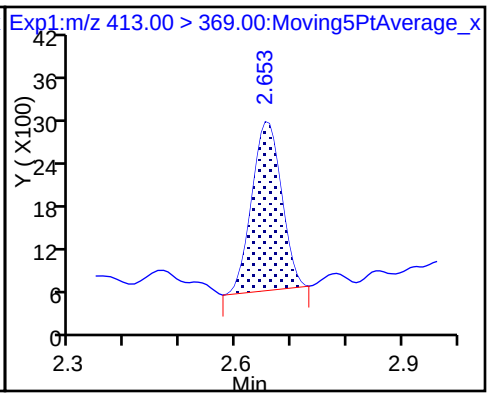
D 14 13C4 PFOA



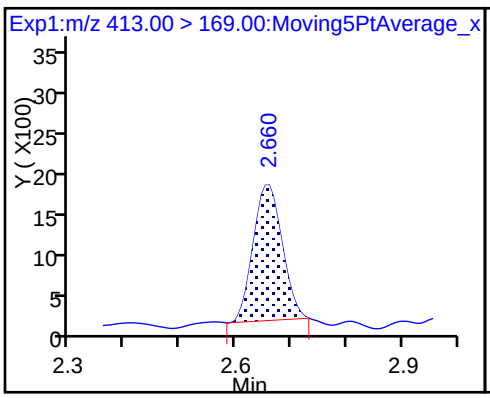
* 62 13C2-PFOA



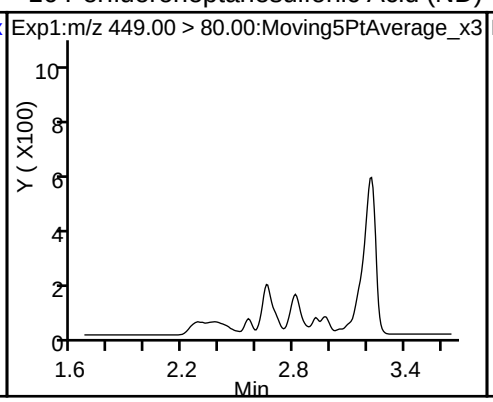
15 Perfluorooctanoic acid



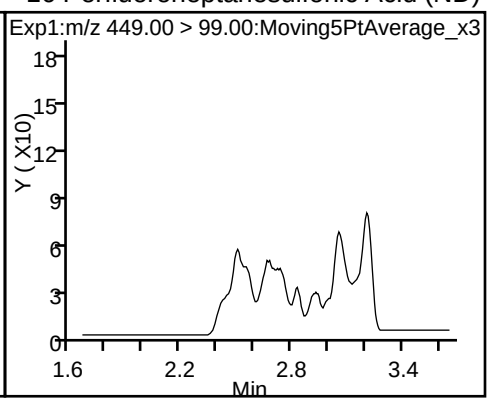
15 Perfluorooctanoic acid



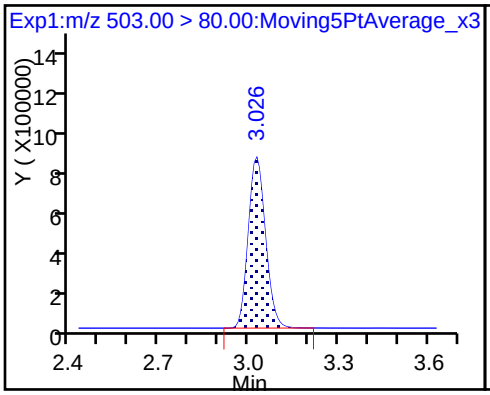
16 Perfluoroheptanesulfonic Acid (ND)



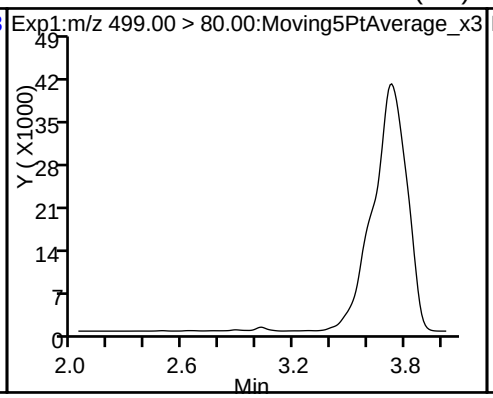
16 Perfluoroheptanesulfonic Acid (ND)



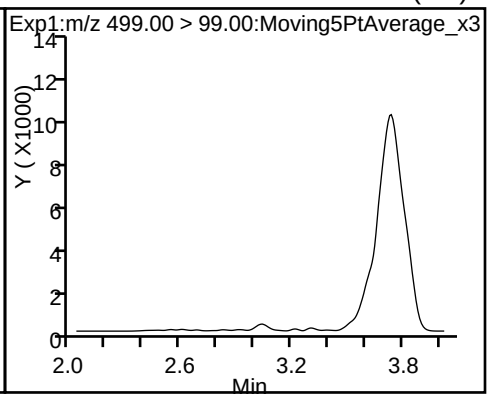
D 18 13C4 PFOS



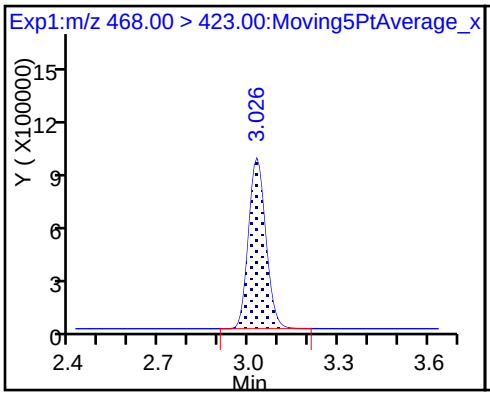
17 Perfluorooctane sulfonic acid (ND)



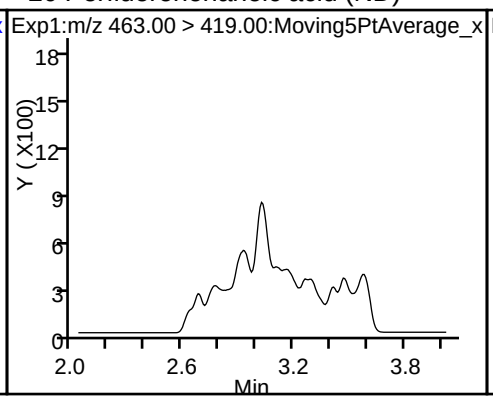
17 Perfluorooctane sulfonic acid (ND)



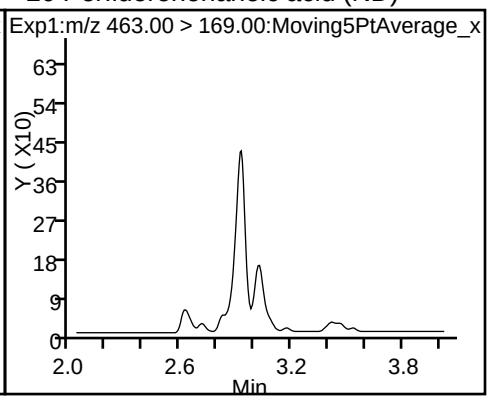
D 19 13C5 PFNA



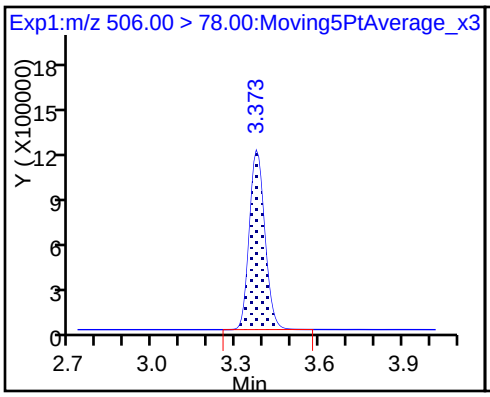
20 Perfluorononanoic acid (ND)



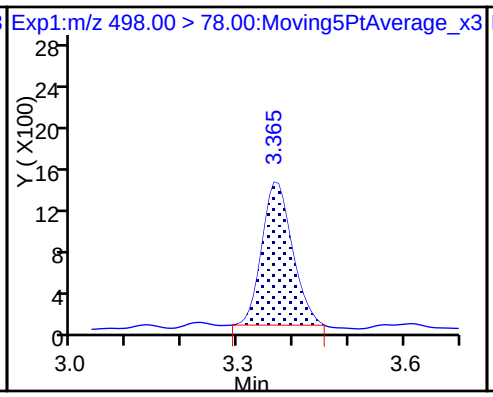
20 Perfluorononanoic acid (ND)



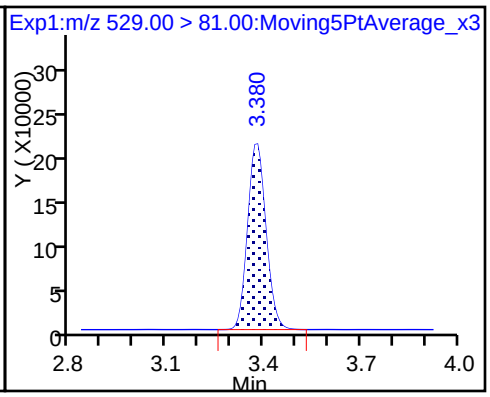
D 21 13C8 FOSA



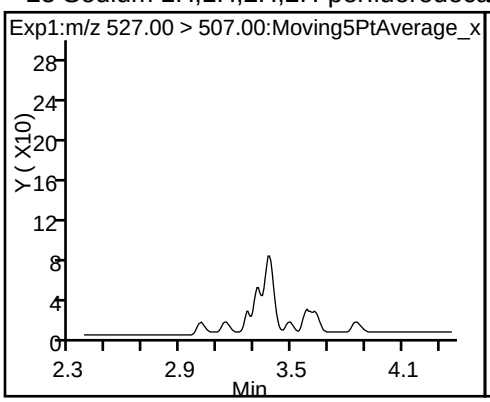
22 Perfluorooctane Sulfonamide



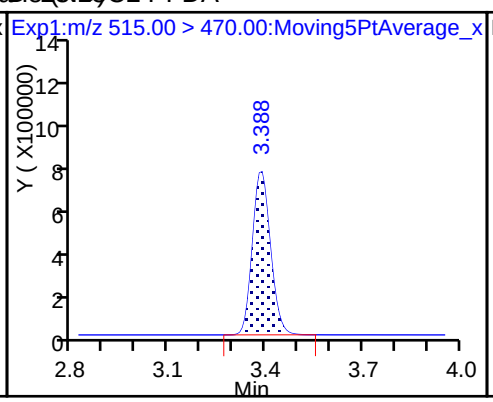
D 26 M2-8:2FTS



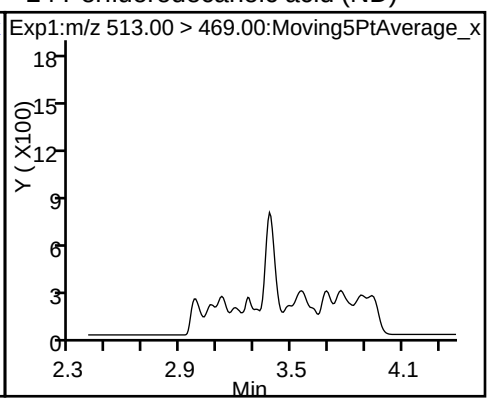
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



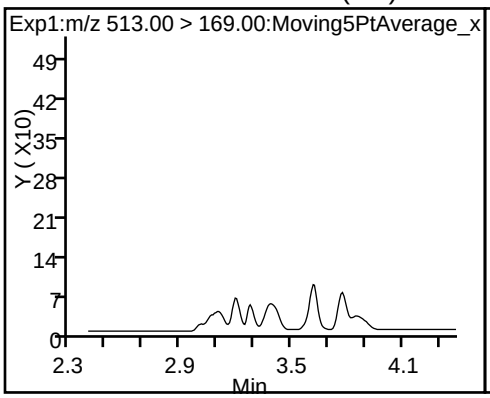
D 13C2 PFDA



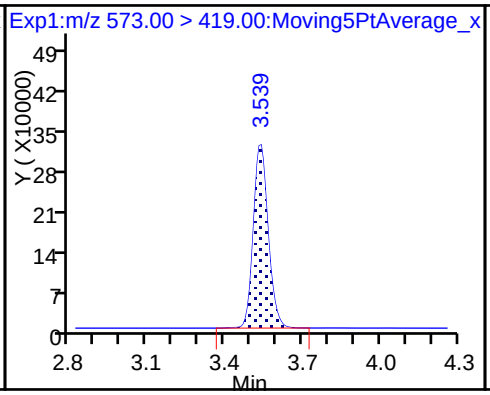
24 Perfluorodecanoic acid (ND)



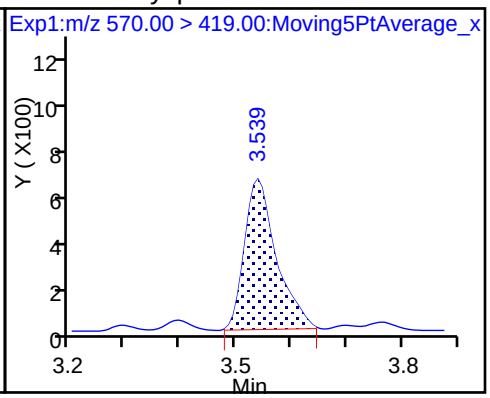
24 Perfluorodecanoic acid (ND)



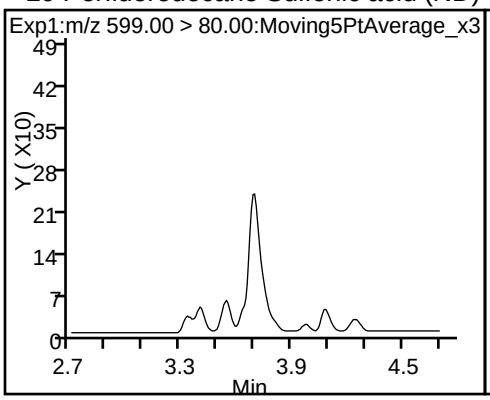
D 27 d3-NMeFOSAA



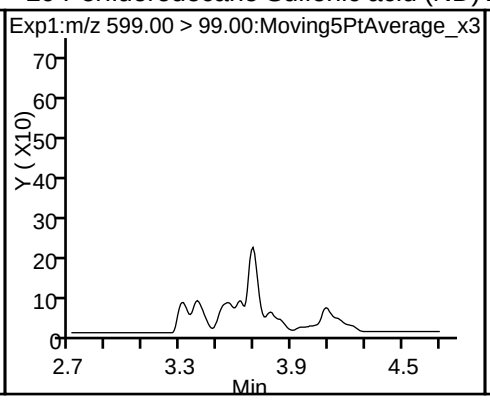
28 N-methyl perfluorooctane sulfonami (M)



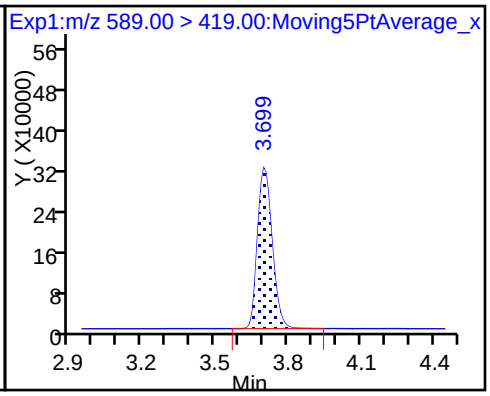
29 Perfluorodecane Sulfonic acid (ND)



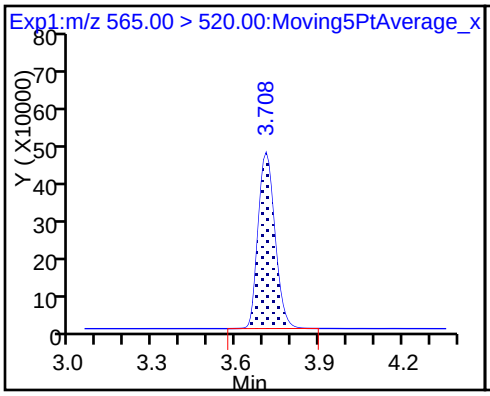
29 Perfluorodecane Sulfonic acid (ND)



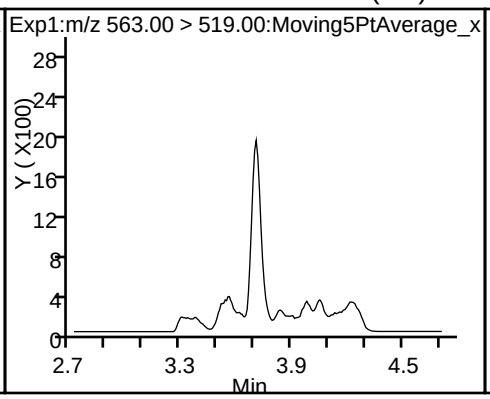
D 32 d5-NEtFOSAA



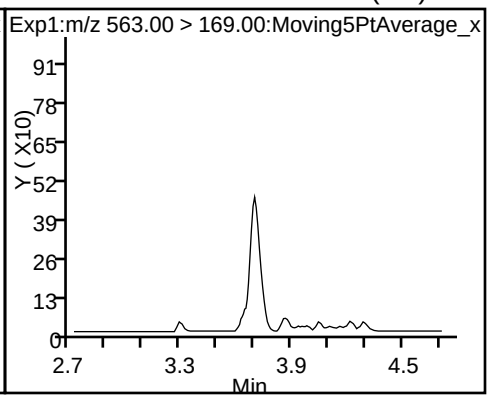
D 30 13C2 PFUnA



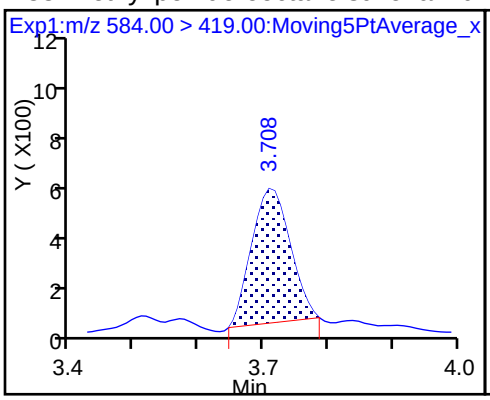
31 Perfluoroundecanoic acid (ND)



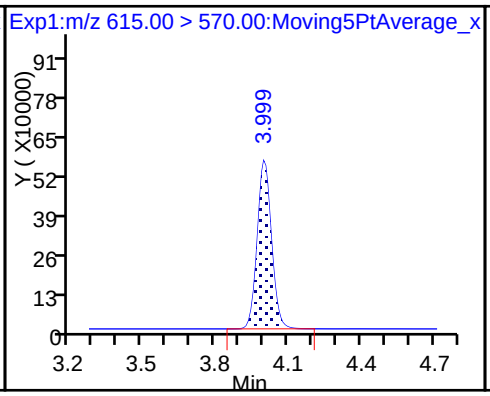
31 Perfluoroundecanoic acid (ND)



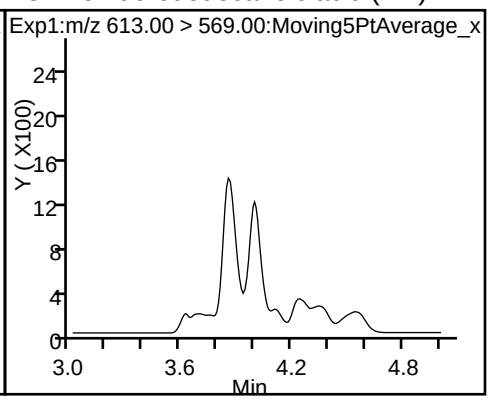
33 N-ethyl perfluorooctane sulfonamid



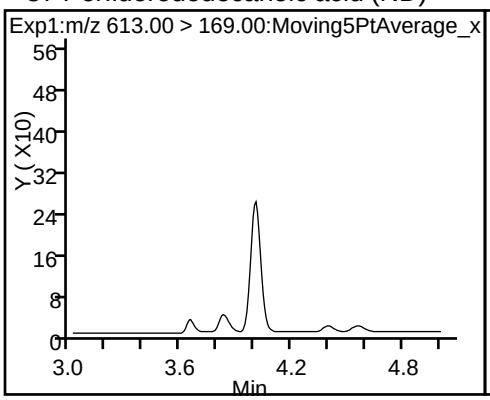
D 36 13C2 PFDoA



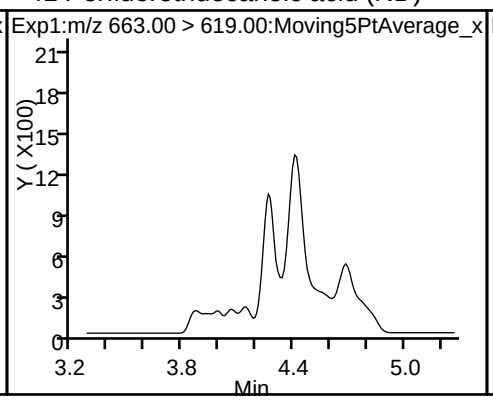
37 Perfluorododecanoic acid (ND)



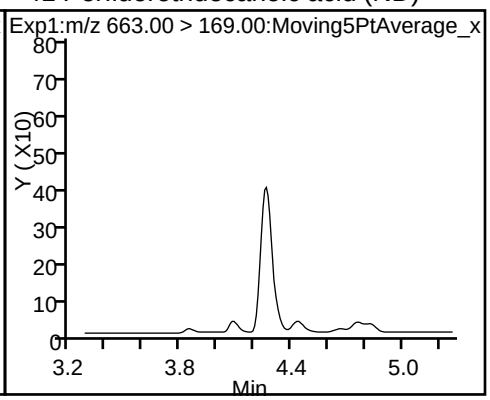
37 Perfluorododecanoic acid (ND)



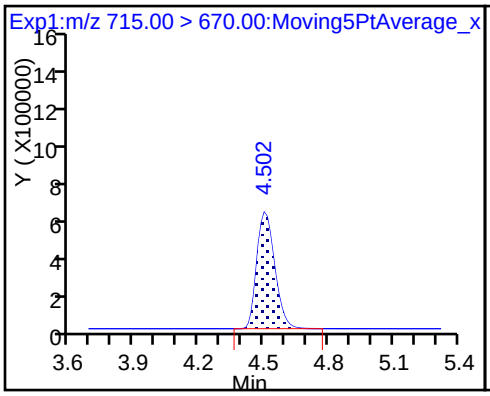
41 Perfluorotridecanoic acid (ND)



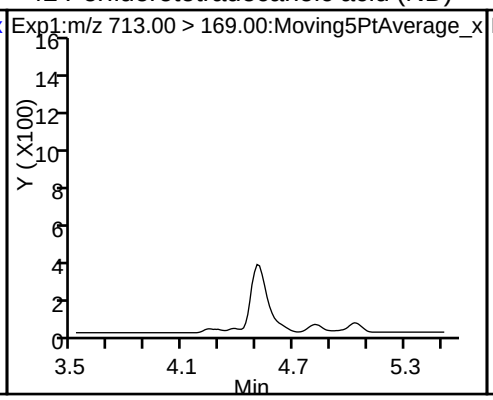
41 Perfluorotridecanoic acid (ND)



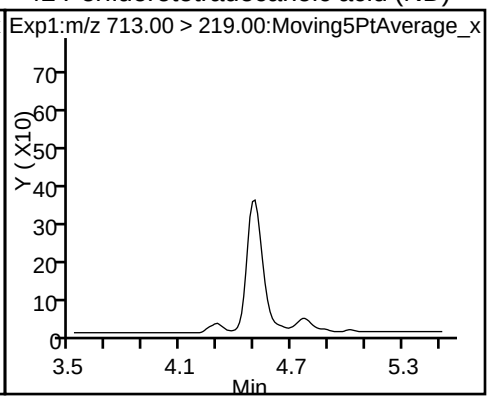
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

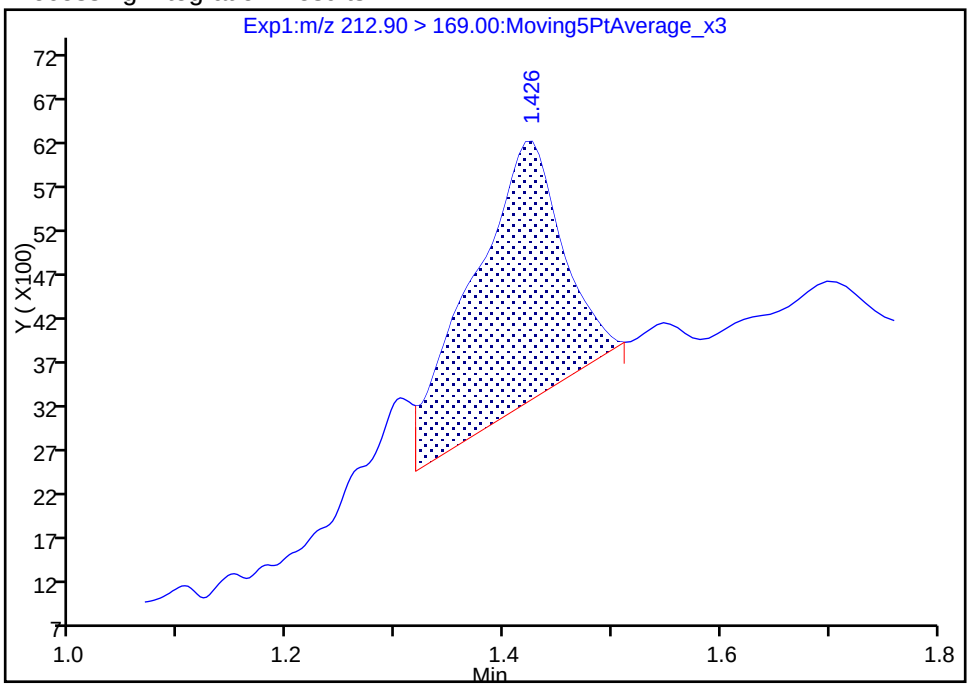
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_013.d				
Injection Date:	22-Dec-2017 23:10:24	Instrument ID:	A8_N		
Lims ID:	320-34425-A-1-A	Lab Sample ID:	320-34425-1		
Client ID:	FB-816-171212 Field Blank				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	8	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

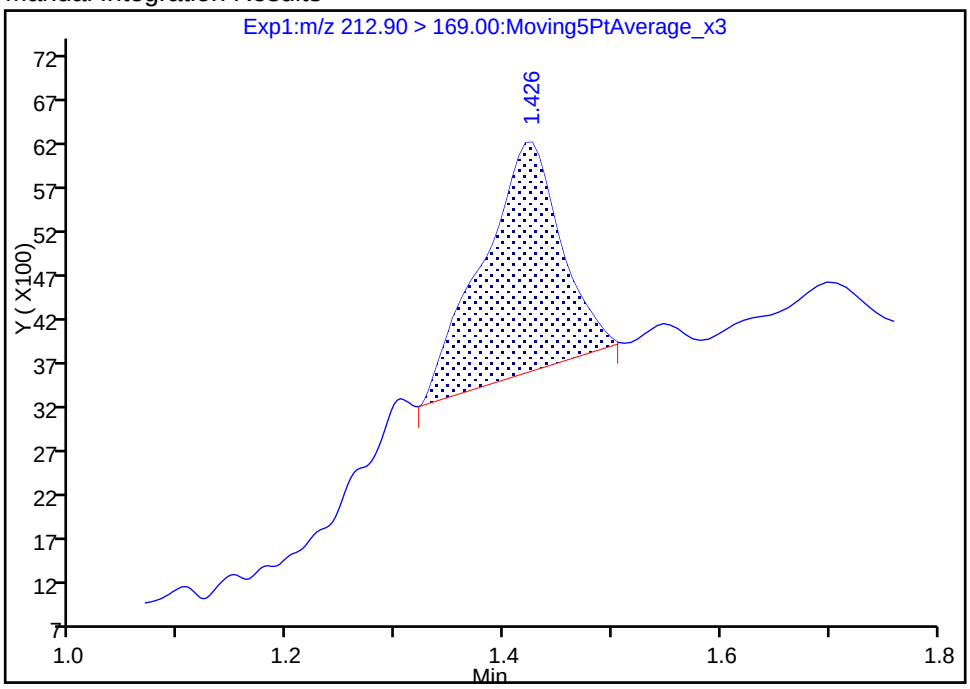
Processing Integration Results

RT: 1.43
Area: 17704
Amount: 0.006575
Amount Units: ng/ml



Manual Integration Results

RT: 1.43
Area: 13352
Amount: 0.004959
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:26:42
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

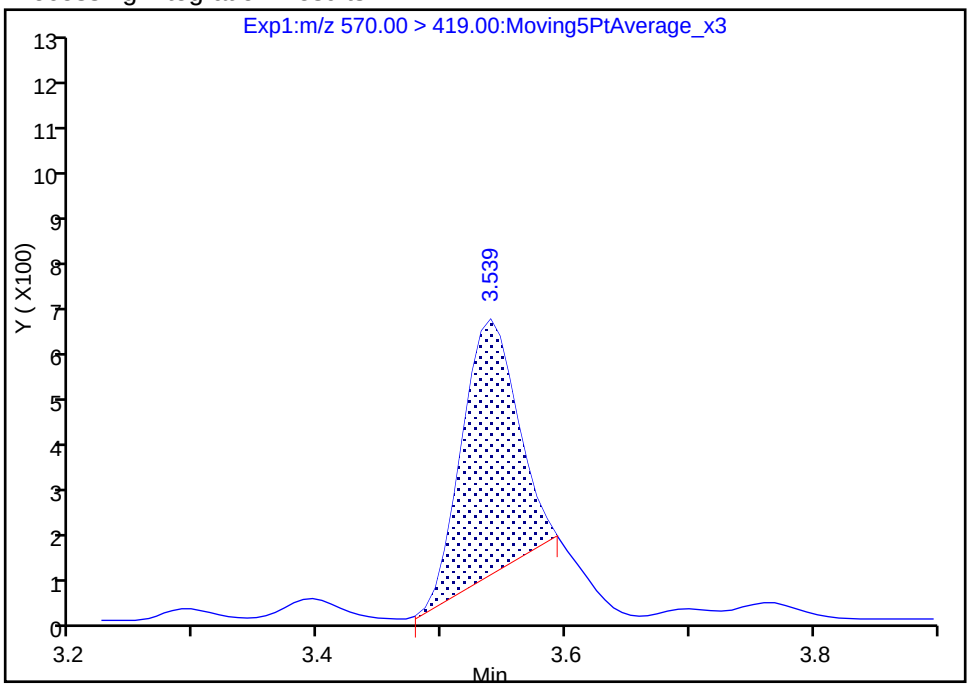
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_013.d				
Injection Date:	22-Dec-2017 23:10:24	Instrument ID:	A8_N		
Lims ID:	320-34425-A-1-A	Lab Sample ID:	320-34425-1		
Client ID:	FB-816-171212 Field Blank				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	8	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

28 N-methyl perfluorooctane sulfonamidoacetic a, CAS: 2355-31-9

Signal: 1

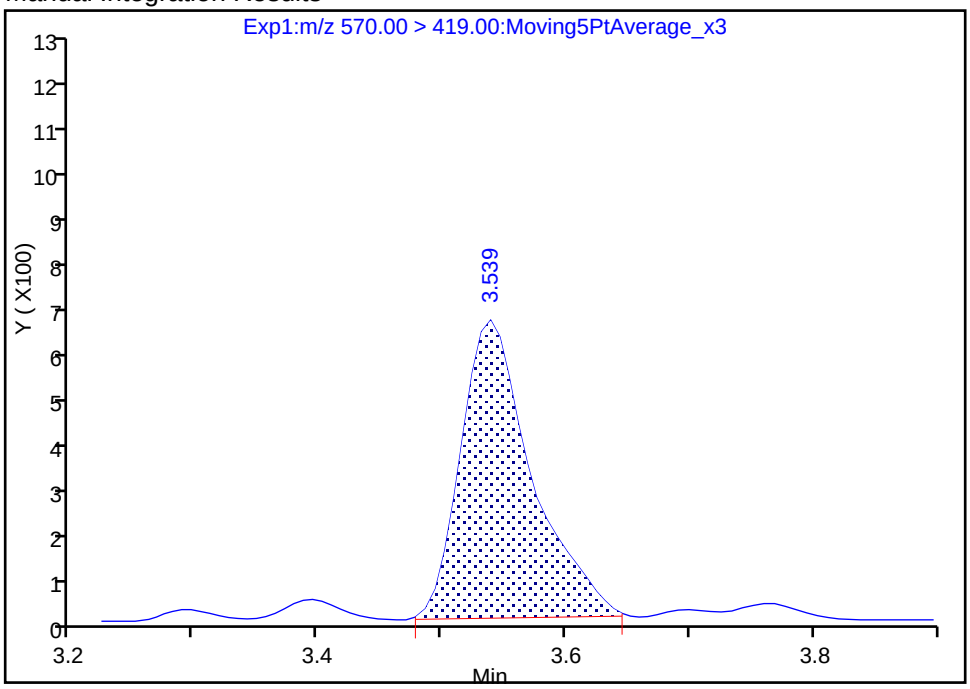
Processing Integration Results

RT: 3.54
Area: 1710
Amount: 0.003141
Amount Units: ng/ml



Manual Integration Results

RT: 3.54
Area: 2551
Amount: 0.004686
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:27:25
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: PB-816-171212 Pump Blank | Lab Sample ID: 320-34425-2

Matrix: Water | Lab File ID: 2017.12.22LLB_014.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 07:50

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 250.3(mL) | Date Analyzed: 12/22/2017 23:18

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.31	J B	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: PB-816-171212 Pump Blank | Lab Sample ID: 320-34425-2

Matrix: Water | Lab File ID: 2017.12.22LLB_014.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 07:50

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 250.3(mL) | Date Analyzed: 12/22/2017 23:18

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	105		25-150
STL01893	13C5 PFPeA	103		25-150
STL00993	13C2 PFHxA	97		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	98		25-150
STL00995	13C5 PFNA	107		25-150
STL00996	13C2 PFDA	103		25-150
STL00997	13C2 PFUnA	101		25-150
STL00998	13C2 PFDoA	98		25-150
STL02116	13C2-PFTeDA	136		25-150
STL02337	13C3-PFBS	101		25-150
STL00994	18O2 PFHxS	96		25-150
STL00991	13C4 PFOS	101		25-150
STL01056	13C8 FOSA	93		25-150
STL02118	d3-NMeFOSAA	86		25-150
STL02117	d5-NEtFOSAA	87		25-150
STL02279	M2-6:2FTS	44		25-150
STL02280	M2-8:2FTS	80		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_014.d
Lims ID: 320-34425-A-2-A
Client ID: PB-816-171212 Pump Blank
Sample Type: Client
Inject. Date: 22-Dec-2017 23:18:15 ALS Bottle#: 9 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-2-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:36:53

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.418	1.419	-0.001	0.534	7396620	2.62		105	21823	
2 Perfluorobutyric acid										
212.90 > 169.00	1.424	1.419	0.005	1.004	17966	0.006627			3.8	
D 3 13C5-PFPeA										
267.90 > 223.00	1.676	1.670	0.006	0.631	4329463	2.56		103	46033	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.667	1.670	-0.003	0.995	4717	0.002440			5.5	
D 47 13C3-PFBS										
301.90 > 83.00	1.712	1.705	0.007	0.645	84799	2.36		101	2880	
D 7 13C2 PFHxA										
315.00 > 270.00	1.959	1.953	0.006	0.738	4389452	2.44		97.4	42517	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.291	-0.005	0.861	4333686	2.60		104	35297	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.312	2.304	0.008	1.000	17093	0.007832			61.2	
399.00 > 99.00	2.299	2.304	-0.005	0.994	5207		3.28(1.50-4.49)		25.2	
D 11 18O2 PFHxS										
403.00 > 84.00	2.312	2.304	0.008	0.871	4794892	2.28		96.3	54485	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.626	2.642	-0.016	1.000	9057	0.0172			299	
D 12 M2-6:2FTS										
429.00 > 81.00	2.626	2.642	-0.016	0.989	806820	1.04		43.7	17758	
D 14 13C4 PFOA										
417.00 > 372.00	2.647	2.654	-0.007	0.997	4702902	2.45		98.1	47062	
* 62 13C2-PFOA										
415.00 > 370.00	2.654	2.656	-0.002		4640403	2.50			55092	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.647	2.656	-0.009	1.000	9413	0.004758			16.1	
413.00 > 169.00	2.654	2.656	-0.002	1.003	4932		1.91(0.84-2.52)		37.8	
D 18 13C4 PFOS										
503.00 > 80.00	3.020	3.025	-0.005	1.138	3340352	2.40		101	34617	
D 19 13C5 PFNA										
468.00 > 423.00	3.028	3.028	0.0	1.141	3656999	2.68		107	50191	
D 21 13C8 FOSA										
506.00 > 78.00	3.373	3.370	0.003	1.271	4380366	2.32		92.6	24974	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.366	3.372	-0.006	0.998	3586	0.002134			135	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.377	-0.004	1.271	828427	1.91		79.7	16450	
D 23 13C2 PFDA										
515.00 > 470.00	3.381	3.389	-0.008	1.274	2884182	2.57		103	49857	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.543	-0.010	1.331	1297450	2.15		86.1	14886	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.700	3.712	-0.012	1.394	1285463	2.18		87.3	7804	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.397	2165195	2.53		101	27500	
D 36 13C2 PFDoA										
615.00 > 570.00	3.999	4.011	-0.012	1.507	2270472	2.46		98.4	37693	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.502	4.518	-0.016	1.696	3509170	3.40		136	30472	

Report Date: 26-Dec-2017 15:10:04 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_014.d

Injection Date: 22-Dec-2017 23:18:15 Instrument ID: A8_N

Lims ID: 320-34425-A-2-A Lab Sample ID: 320-34425-2

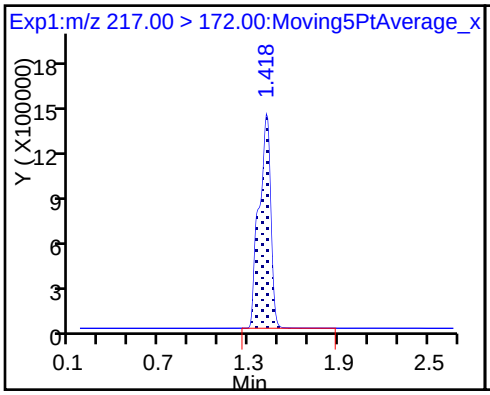
Client ID: PB-816-171212 Pump Blank

Operator ID: SACINSTLCMS01 ALS Bottle#: 9 Worklist Smp#: 6

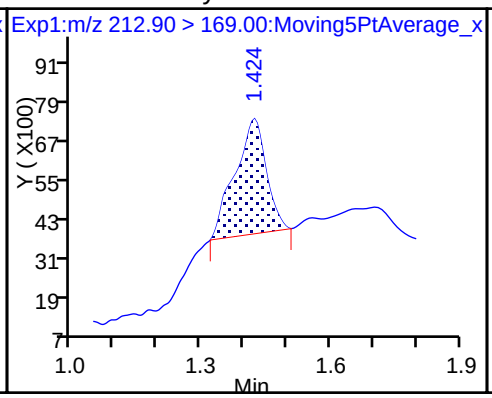
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

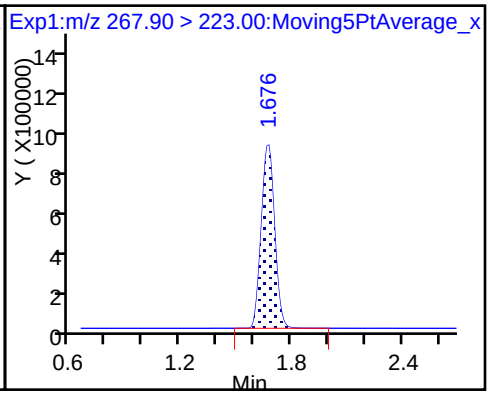
D 1 13C4 PFBA



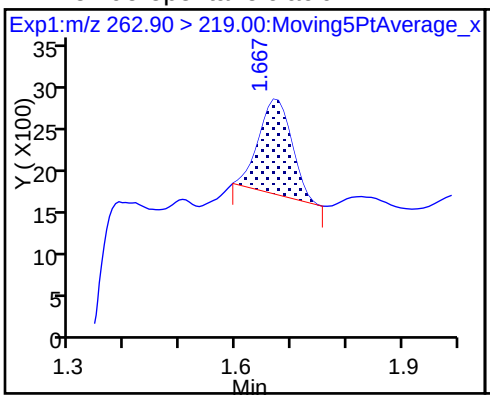
2 Perfluorobutyric acid



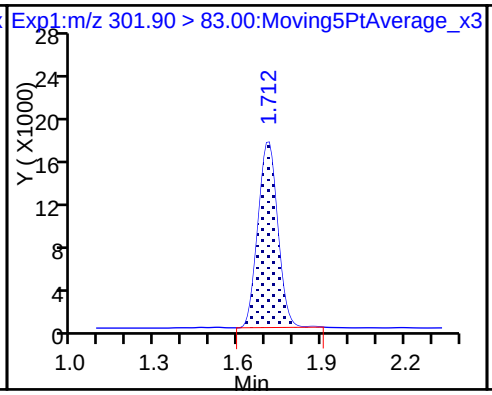
D 3 13C5-PFPeA



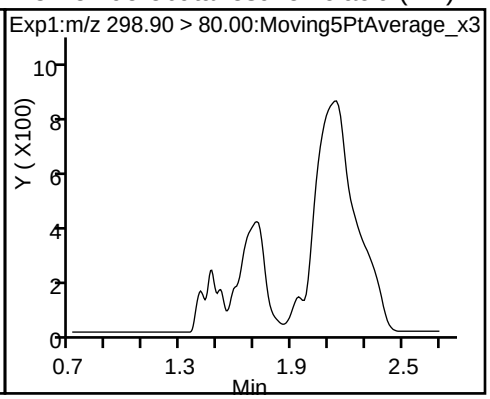
4 Perfluoropentanoic acid



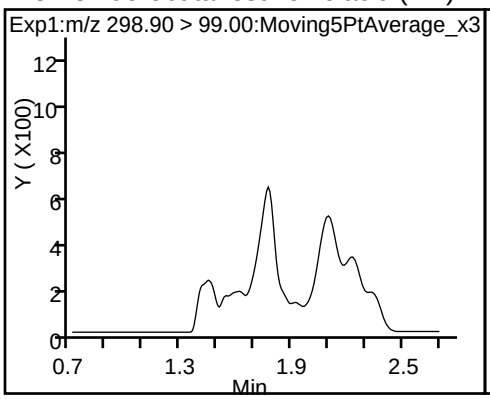
D 47 13C3-PFBS



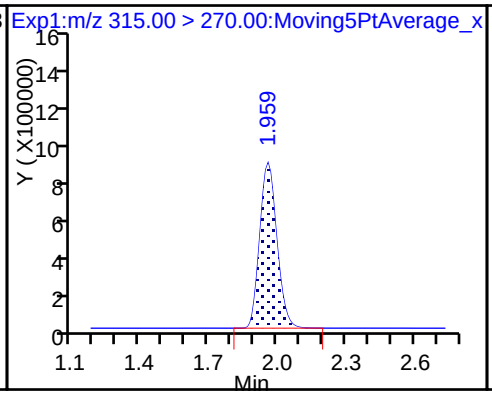
5 Perfluorobutanesulfonic acid (ND)



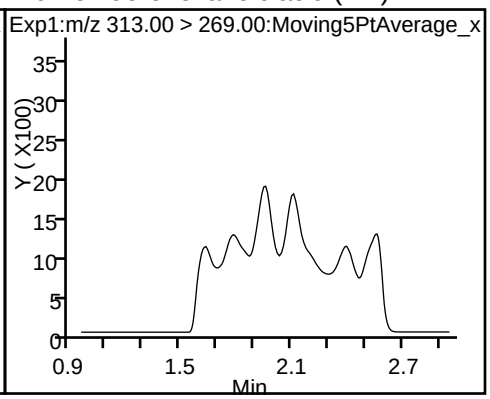
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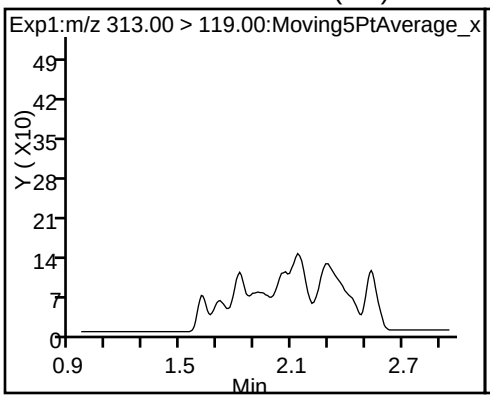
D 7 13C2 PFHxA



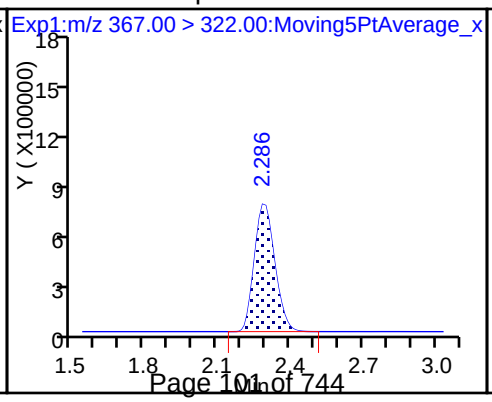
6 Perfluorohexanoic acid (ND)



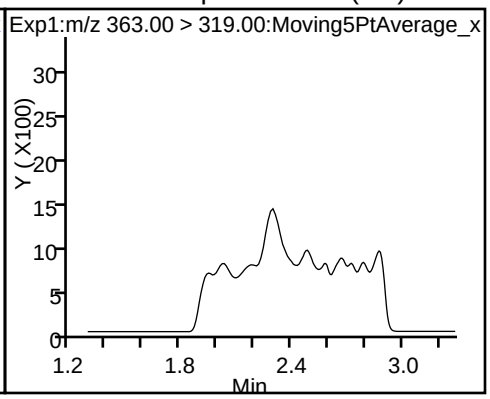
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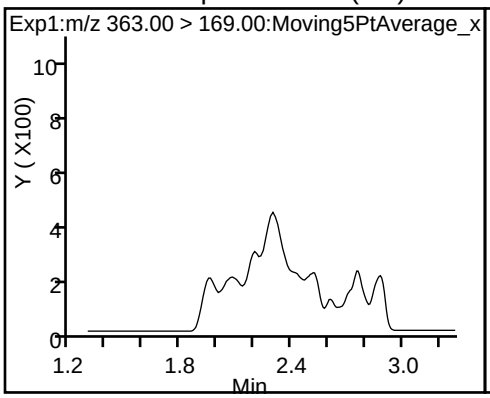
D 9 13C4-PFHpA



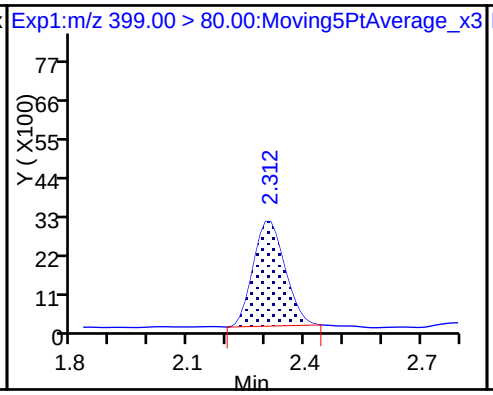
10 Perfluoroheptanoic acid (ND)



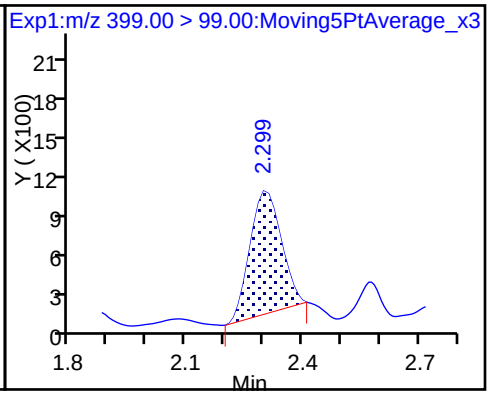
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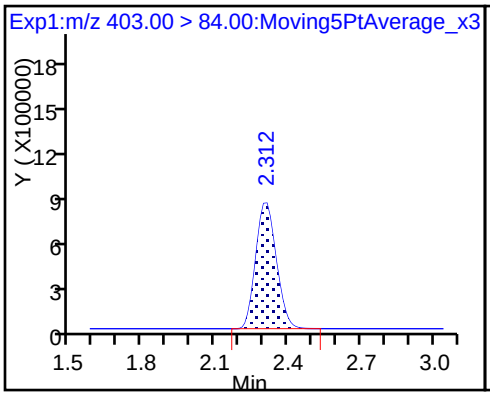
8 Perfluorohexanesulfonic acid



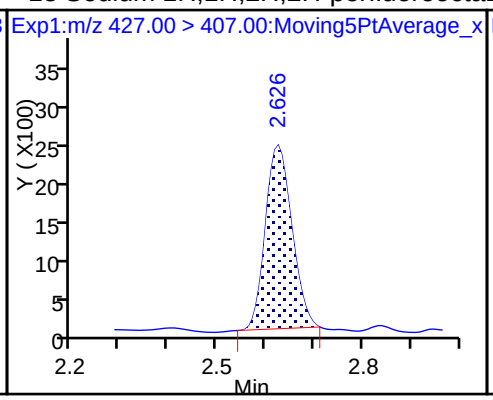
8 Perfluorohexanesulfonic acid



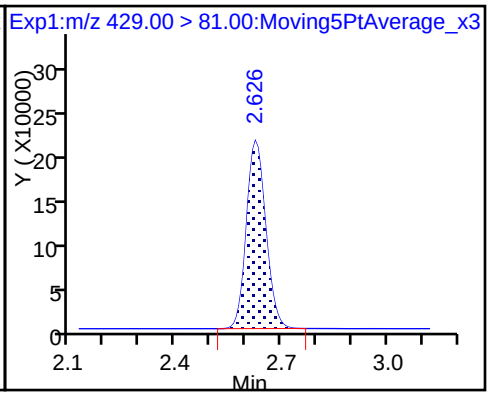
D 11 18O2 PFHxS



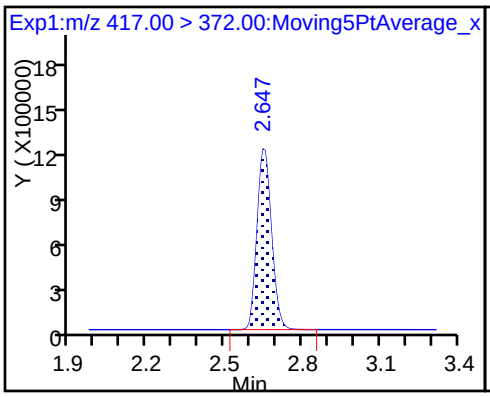
13 Sodium 1H,1H,2H,2H-perfluorooctane



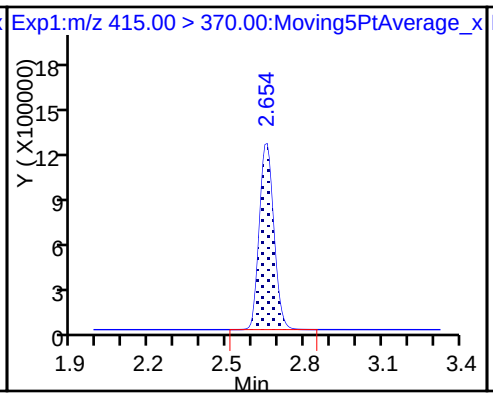
D 12 M2-6:2FTS



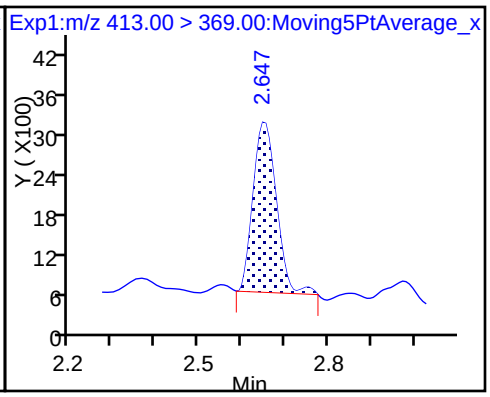
D 14 13C4 PFOA



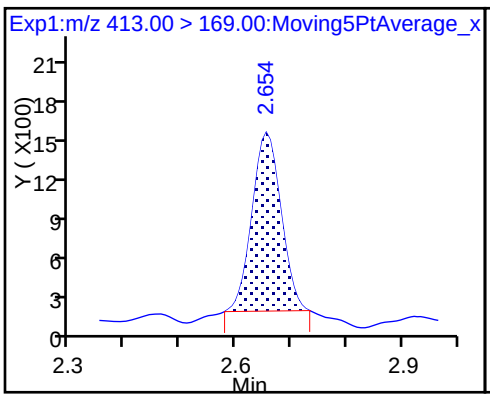
* 62 13C2-PFOA



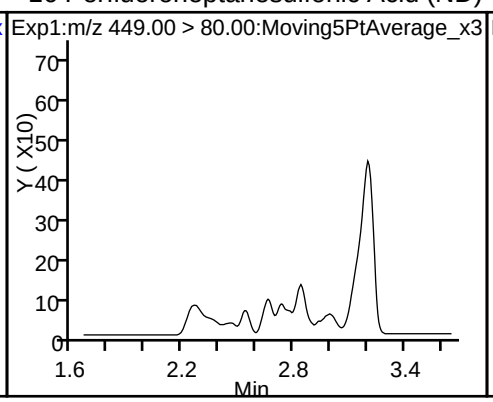
15 Perfluorooctanoic acid



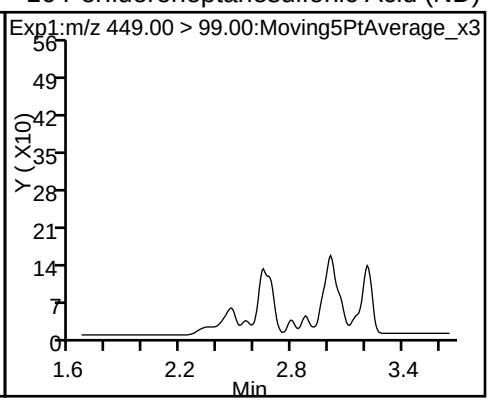
15 Perfluorooctanoic acid



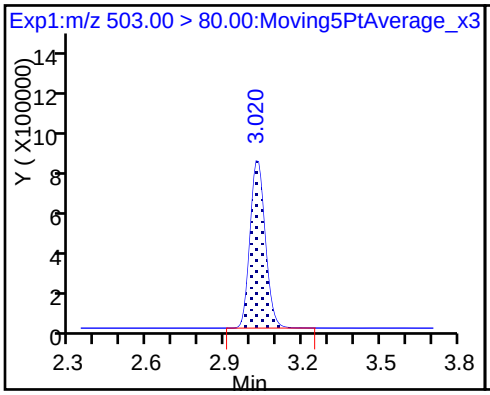
16 Perfluoroheptanesulfonic Acid (ND)



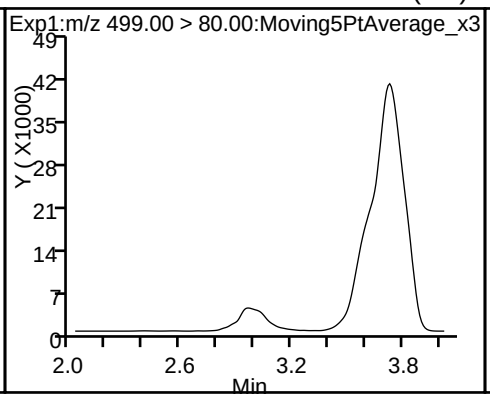
16 Perfluoroheptanesulfonic Acid (ND)



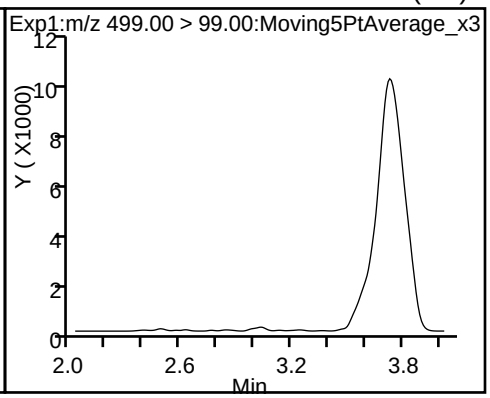
D 18 13C4 PFOS



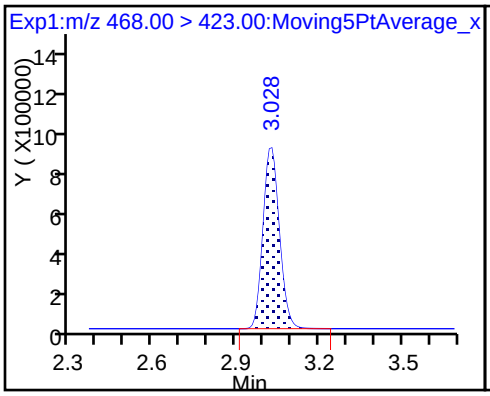
17 Perfluorooctane sulfonic acid (ND)



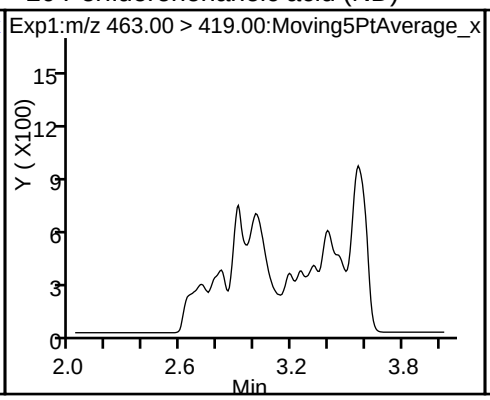
17 Perfluorooctane sulfonic acid (ND)



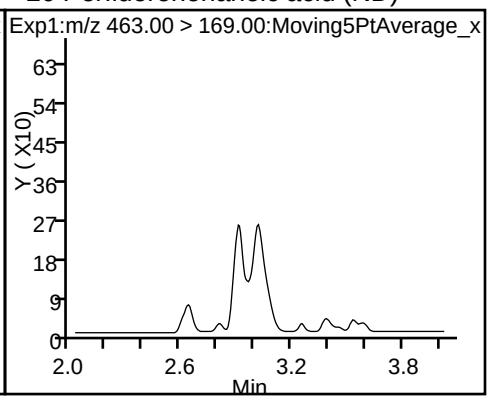
D 19 13C5 PFNA



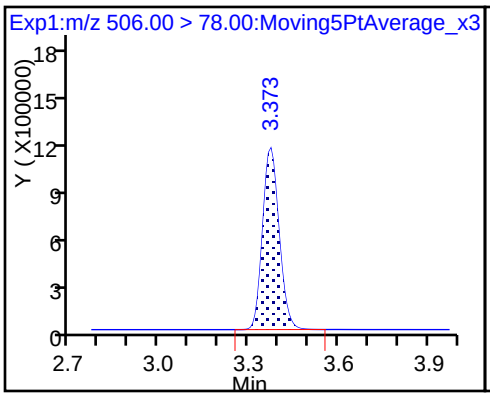
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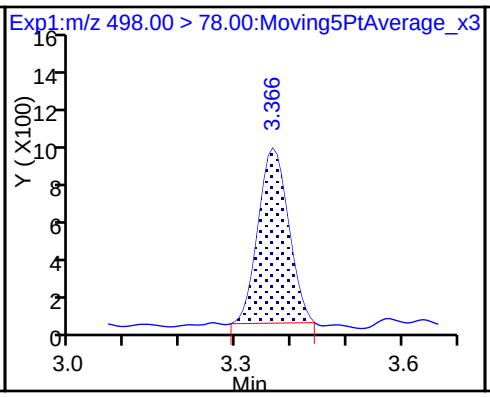
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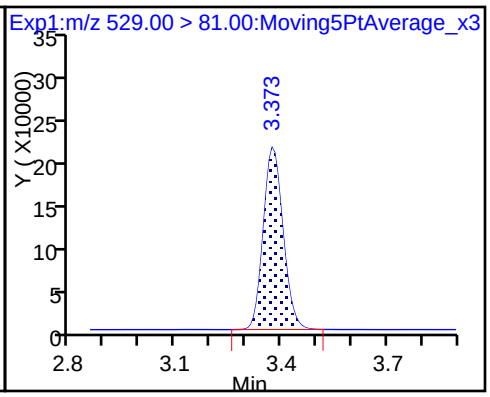
D 21 13C8 FOSA



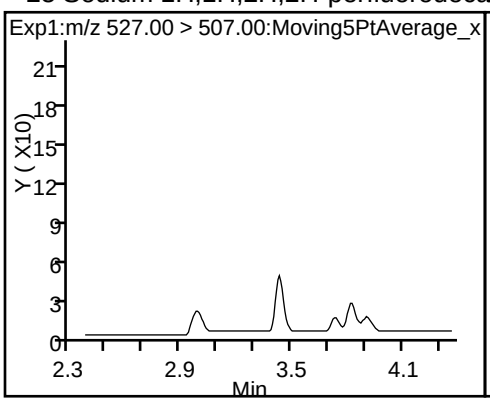
22 Perfluorooctane Sulfonamide



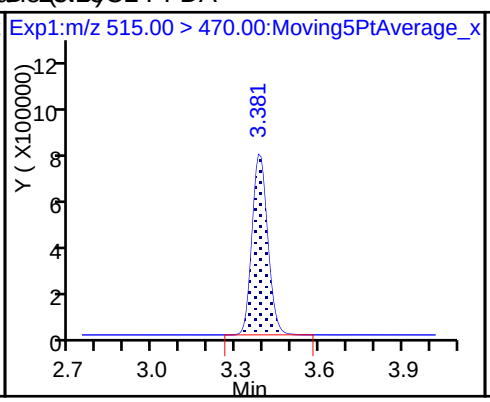
D 26 M2-8:2FTS



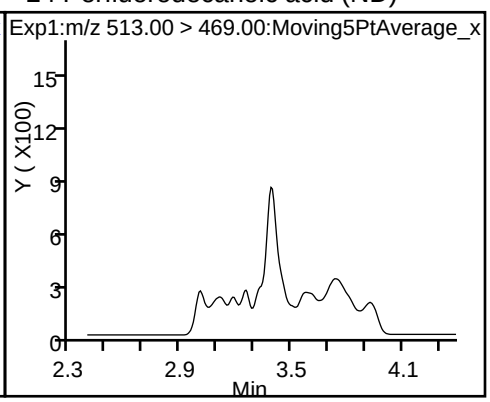
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



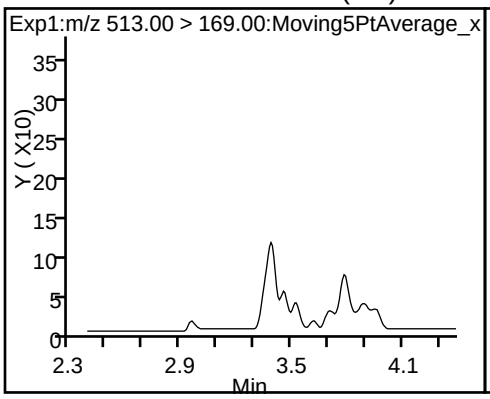
D 13C2 PFDA



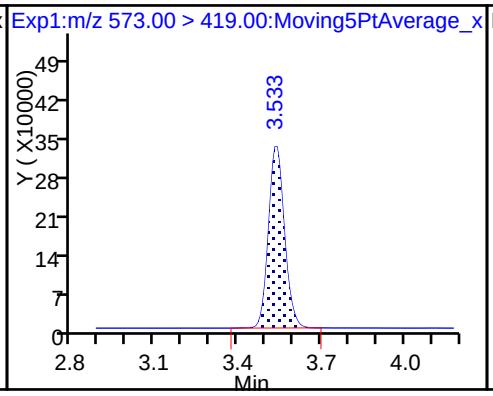
24 Perfluorodecanoic acid (ND)



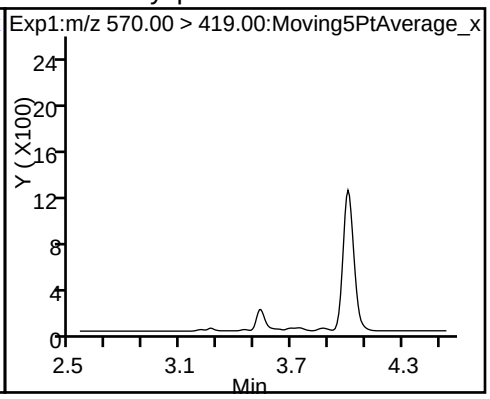
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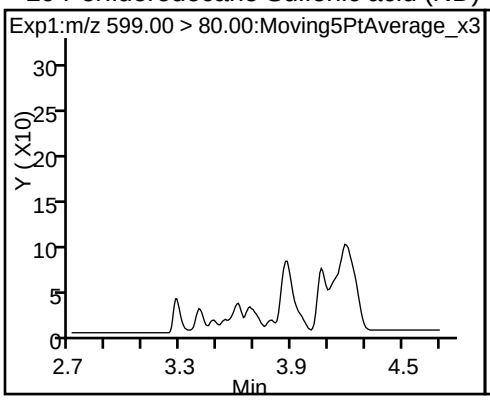
D 27 d3-NMeFOSAA



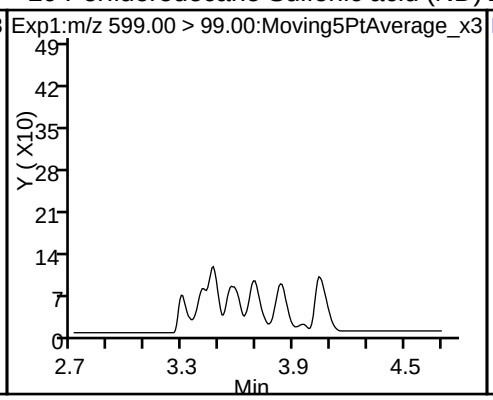
28 N-methyl perfluorooctane sulfonami (ND)



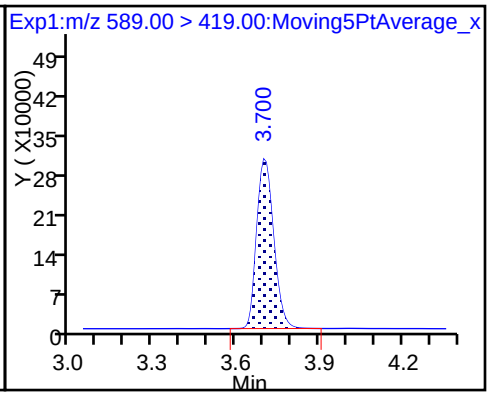
29 Perfluorodecane Sulfonic acid (ND)



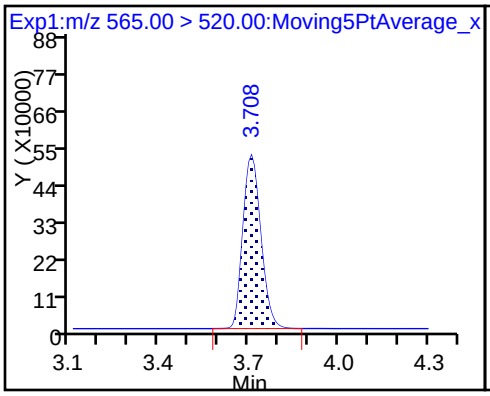
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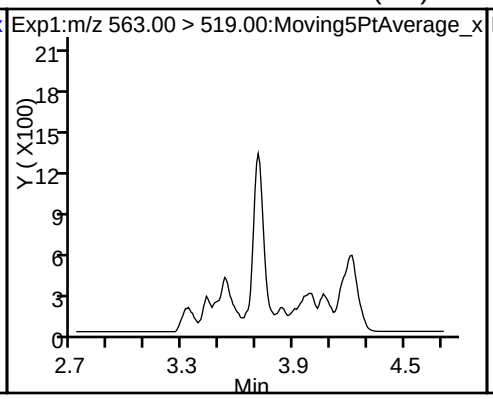
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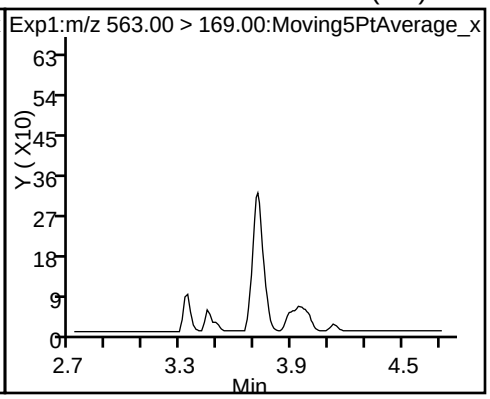
D 30 13C2 PFUnA



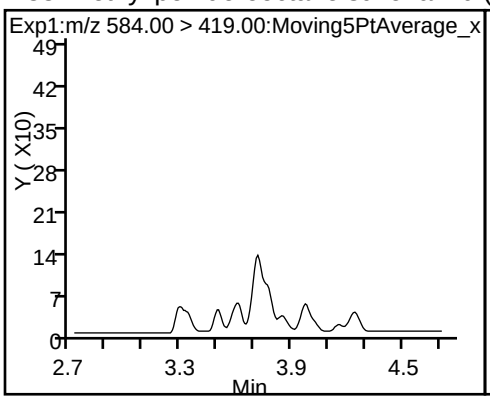
31 Perfluoroundecanoic acid (ND)



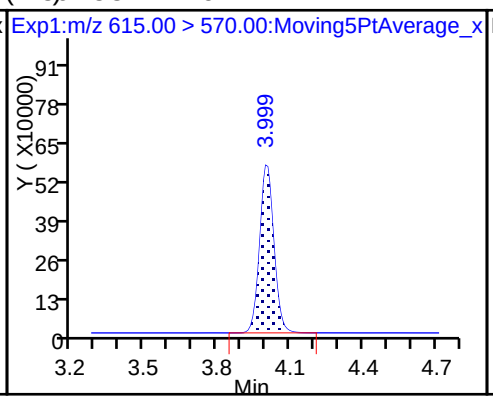
31 Perfluoroundecanoic acid (ND)



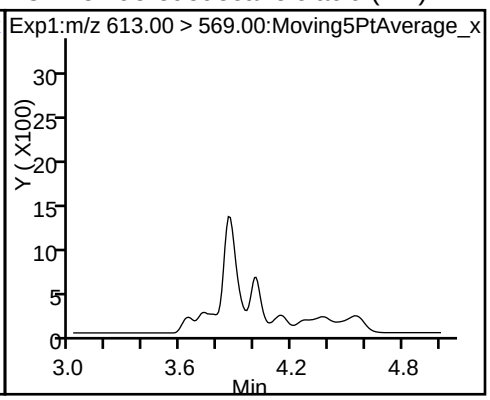
33 N-ethyl perfluorooctane sulfonamid (ND)



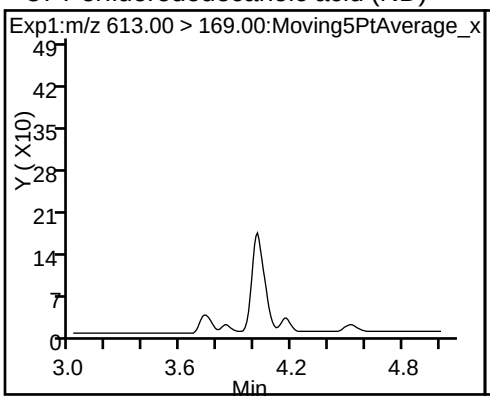
D 36 13C2 PFDoA



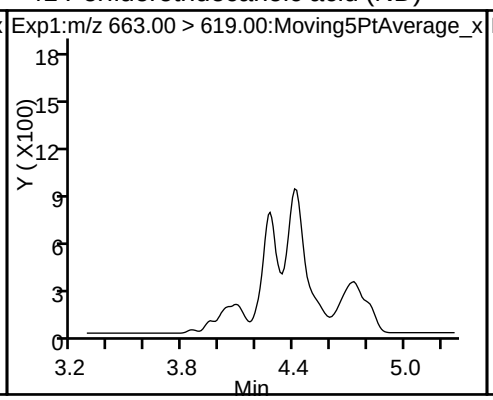
37 Perfluorododecanoic acid (ND)



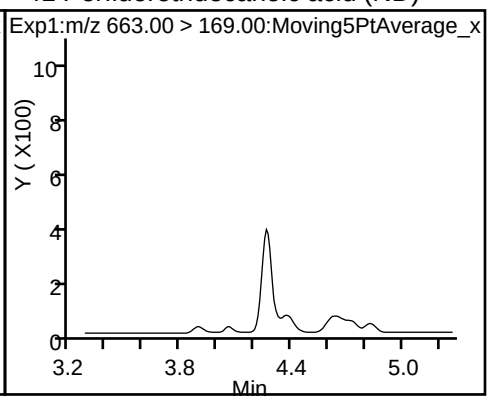
37 Perfluorododecanoic acid (ND)



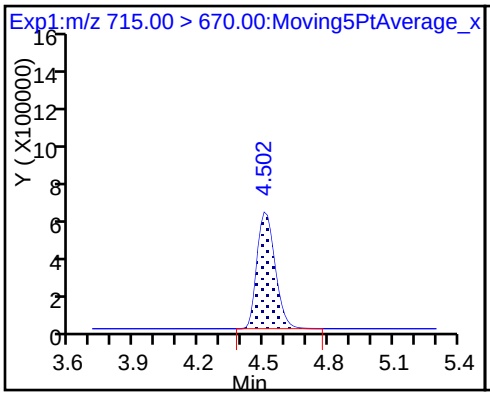
41 Perfluorotridecanoic acid (ND)



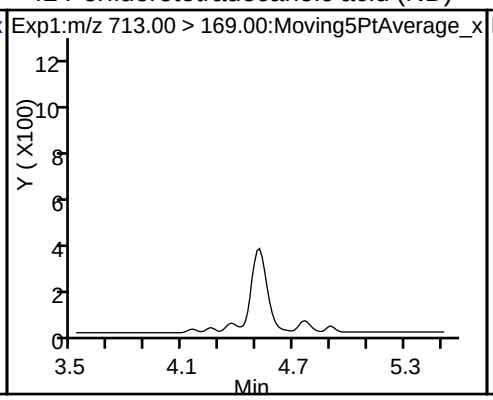
41 Perfluorotridecanoic acid (ND)



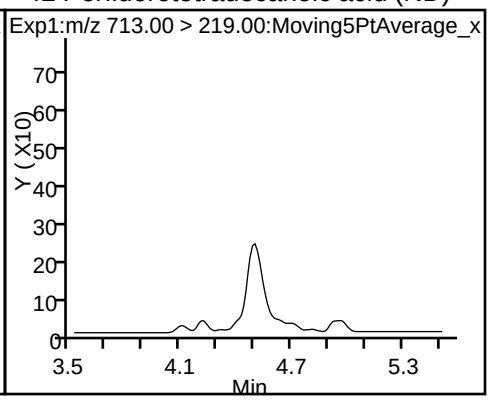
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-100-816-171211 | Lab Sample ID: 320-34425-3

Matrix: Water | Lab File ID: 2017.12.22LLB_015.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 11:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 234(mL) | Date Analyzed: 12/22/2017 23:26

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.0	J	2.14	0.37
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.98	J	2.14	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	2.89		2.14	0.62
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.03	J	2.14	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	1.85	J	2.14	0.91
375-95-1	Perfluorononanoic acid (PFNA)	1.92	J	2.14	0.29
335-76-2	Perfluorodecanoic acid (PFDA)	0.33	U	2.14	0.33
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.18	U	2.14	1.18
307-55-1	Perfluorododecanoic acid (PFDoA)	0.59	U	2.14	0.59
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.39	U	2.14	1.39
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.14	0.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	3.59		2.14	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	29.1	B	2.14	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.95	J	2.14	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	20.0		2.14	0.58
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.14	0.34
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.37	J	2.14	0.37
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.31	U	21.4	3.31
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.03	U	21.4	2.03
27619-97-2	6:2FTS	2.14	U	21.4	2.14
39108-34-4	8:2FTS	2.14	U	21.4	2.14

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-100-816-171211 | Lab Sample ID: 320-34425-3

Matrix: Water | Lab File ID: 2017.12.22LLB_015.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 11:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 234(mL) | Date Analyzed: 12/22/2017 23:26

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	108		25-150
STL01893	13C5 PFPeA	107		25-150
STL00993	13C2 PFHxA	105		25-150
STL01892	13C4-PFHpA	109		25-150
STL00990	13C4 PFOA	98		25-150
STL00995	13C5 PFNA	102		25-150
STL00996	13C2 PFDA	108		25-150
STL00997	13C2 PFUnA	95		25-150
STL00998	13C2 PFDoA	98		25-150
STL02116	13C2-PFTeDA	121		25-150
STL02337	13C3-PFBS	108		25-150
STL00994	18O2 PFHxS	106		25-150
STL00991	13C4 PFOS	103		25-150
STL01056	13C8 FOSA	101		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	90		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	80		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_015.d
Lims ID: 320-34425-A-3-A
Client ID: FM-26-100-816-171211
Sample Type: Client
Inject. Date: 22-Dec-2017 23:26:09 ALS Bottle#: 10 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-3-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:39:36

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.537	7285117	2.70		108	18940	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	62297	0.0233			13.7	
D 3 13C5-PFPeA										
267.90 > 223.00	1.680	1.670	0.010	0.633	4326419	2.68		107	34534	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.680	1.670	0.010	1.000	89419	0.0463			107	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.647	86290	2.51		108	3529	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	234526	0.0840			1368	
298.90 > 99.00	1.716	1.707	0.009	1.000	94683		2.48(1.25-3.74)		765	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.741	4517501	2.62		105	44262	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.965	1.956	0.009	1.000	122424	0.0677			279	
313.00 > 119.00	1.965	1.956	0.009	1.000	10500		11.66(5.03-15.10)		206	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.864	4335093	2.72		109	32636	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.292	2.291	0.001	1.000	43911	0.0242			81.5	
363.00 > 169.00	2.292	2.291	0.001	1.000	16666		2.63(1.13-3.40)		122	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	1560801	0.6810			4148	
399.00 > 99.00	2.306	2.304	0.002	1.000	492607		3.17(1.50-4.49)		1977	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.869	5035164	2.50		106	51236	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.642	-0.011	1.000	8637	0.0178			206	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.992	745345	1.00		42.2	17563	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.654	-0.001	1.000	4490897	2.45		97.9	53385	
* 62 13C2-PFOA										
415.00 > 370.00	2.653	2.656	-0.003		4440122	2.50			46091	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.660	2.656	0.004	1.003	81773	0.0433			122	M
413.00 > 169.00	2.660	2.656	0.004	1.003	47664		1.72(0.84-2.52)		278	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.667	2.662	0.005	1.000	39556	0.0221			102	
449.00 > 99.00	2.660	2.662	-0.002	0.997	13741		2.88(1.94-5.82)		196	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.141	3263586	2.45		103	38553	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	2.909	3.028	-0.119	0.961	676122	0.4671			52.4	
499.00 > 99.00	3.026	3.028	-0.002	1.000	146814		4.61(2.31-6.93)		67.2	
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.028	0.006	1.144	3339532	2.56		102	48740	
20 Perfluorononanoic acid										
463.00 > 419.00	3.034	3.029	0.005	1.000	60282	0.0448			234	
463.00 > 169.00	3.034	3.029	0.005	1.000	14478		4.16(1.90-5.69)		200	
D 21 13C8 FOSA										
506.00 > 78.00	3.380	3.370	0.010	1.274	4572655	2.53		101	31588	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.372	0.008	1.000	15062	0.008585			654	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.377	0.003	1.274	798357	1.92		80.3	23340	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.389	-0.001	1.277	2909301	2.71		108	44571	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.547	3.543	0.004	1.337	1187505	2.06		82.3	12996	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.547	3.548	-0.001	1.000	2636	0.005169			33.9	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.398	1267983	2.25		90.0	8096	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.401	1935041	2.36		94.5	30875	
31 Perfluoroundecanoic acid										M
563.00 > 519.00	3.717	3.718	-0.001	1.000	3479	0.004907			22.0	
563.00 > 169.00	3.717	3.718	-0.001	1.000	1258		2.77(0.00-0.00)		23.0	M
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.717	3.720	-0.003	1.002	4201	0.008336			134	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.011	-0.004	1.511	2169082	2.46		98.3	36536	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 43 13C2-PFTeDA										
715.00 > 670.00	4.516	4.518	-0.002	1.702	2981894	3.02		121	24636	

QC Flag Legend

Review Flags

M - Manually Integrated

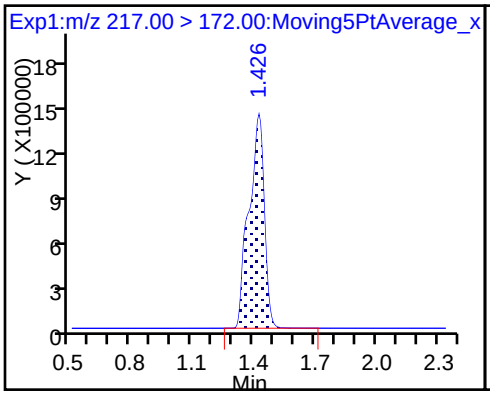
Report Date: 26-Dec-2017 15:10:06 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

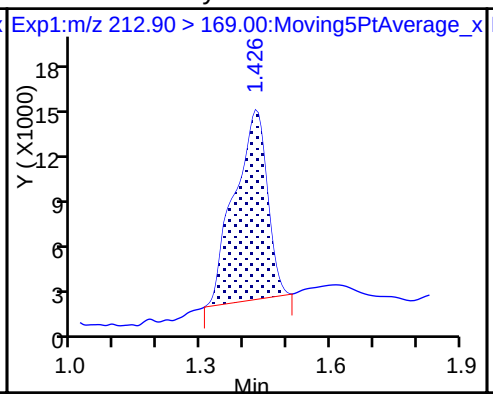
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_015.d

Injection Date:	22-Dec-2017 23:26:09	Instrument ID:	A8_N		
Lims ID:	320-34425-A-3-A	Lab Sample ID:	320-34425-3		
Client ID:	FM-26-100-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	10	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		

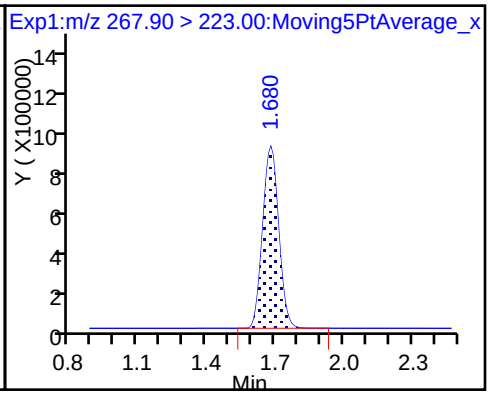
D 1 13C4 PFBA



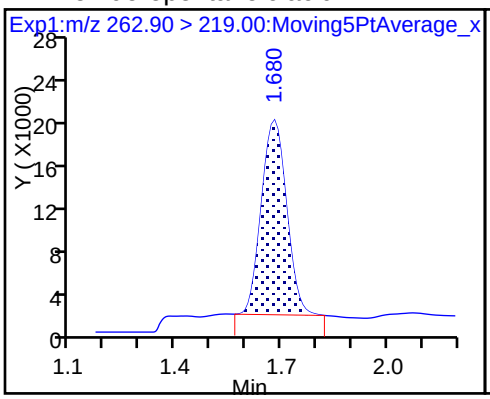
2 Perfluorobutyric acid



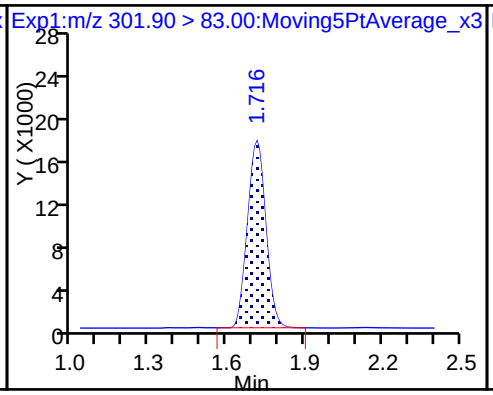
D 3 13C5-PFPeA



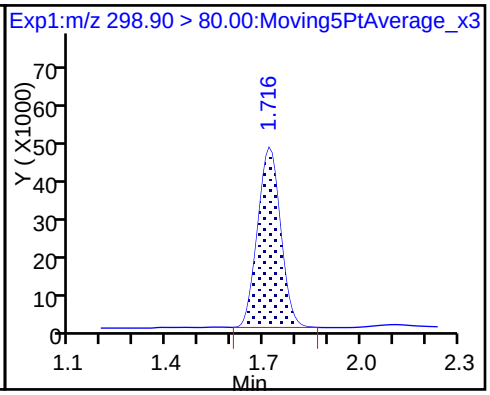
4 Perfluoropentanoic acid



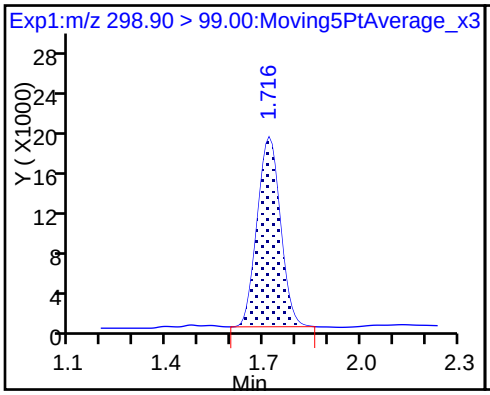
D 47 13C3-PFBS



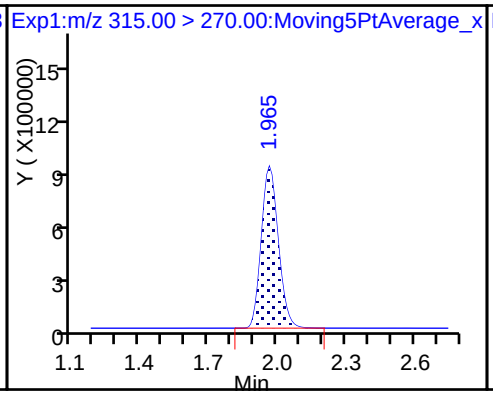
5 Perfluorobutanesulfonic acid



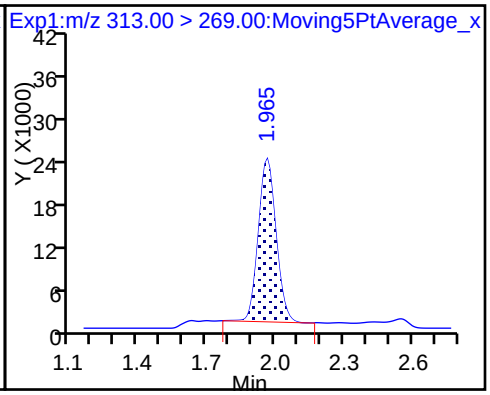
5 Perfluorobutanesulfonic acid



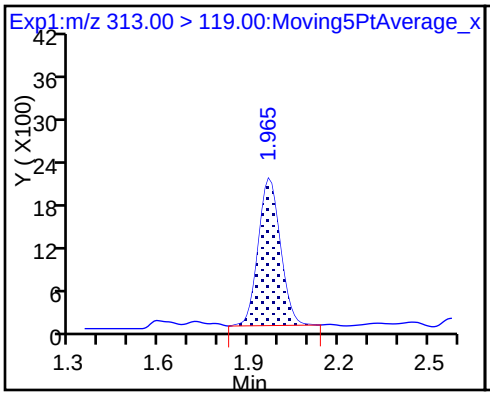
D 7 13C2 PFHxA



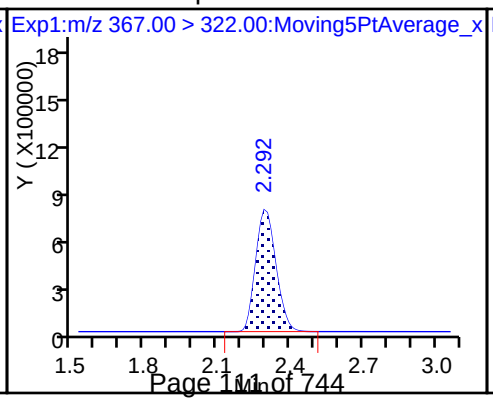
6 Perfluorohexanoic acid



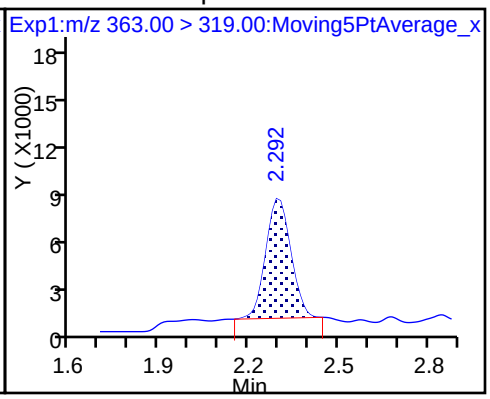
6 Perfluorohexanoic acid



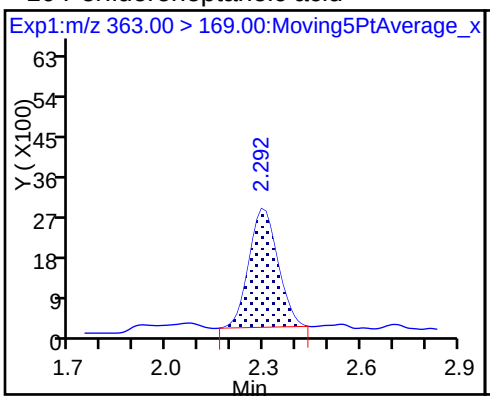
D 9 13C4-PFHpA



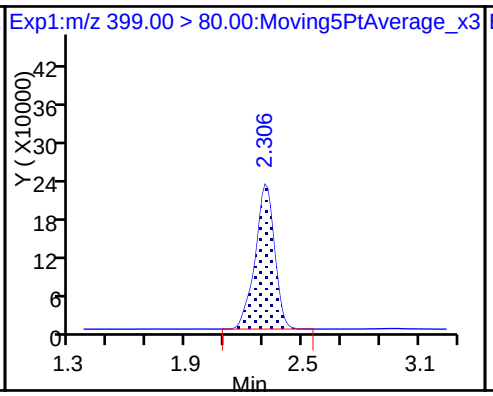
10 Perfluoroheptanoic acid



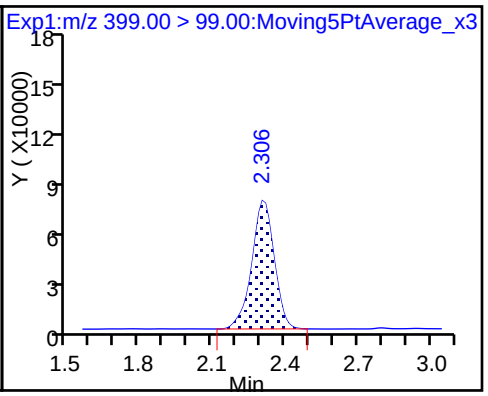
10 Perfluoroheptanoic acid



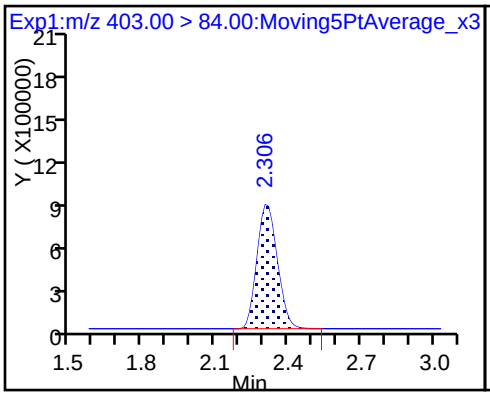
8 Perfluorohexanesulfonic acid



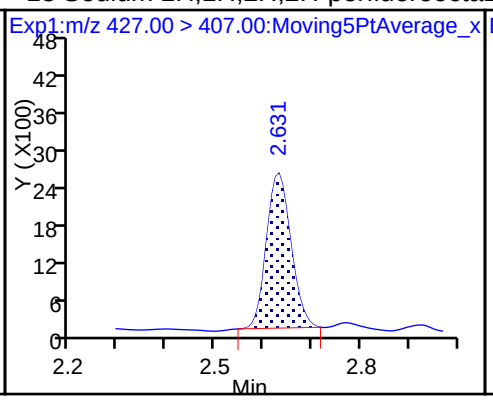
8 Perfluorohexanesulfonic acid



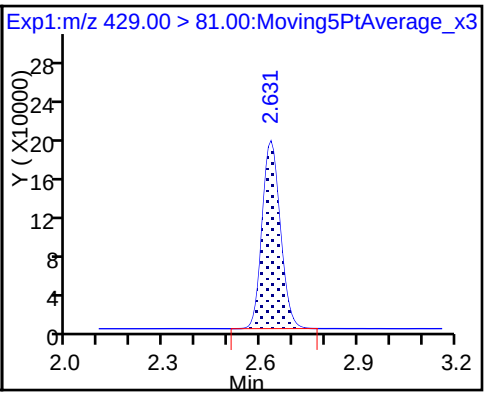
D 11 18O2 PFHxS



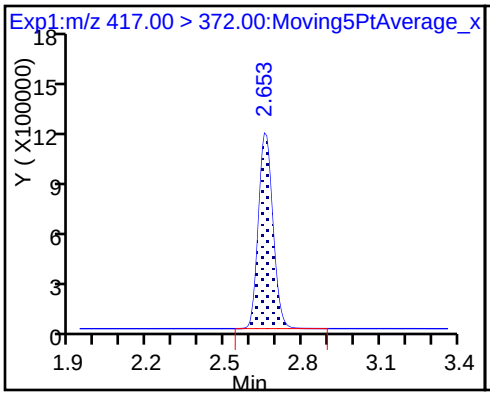
13 Sodium 1H,1H,2H,2H-perfluorooctane



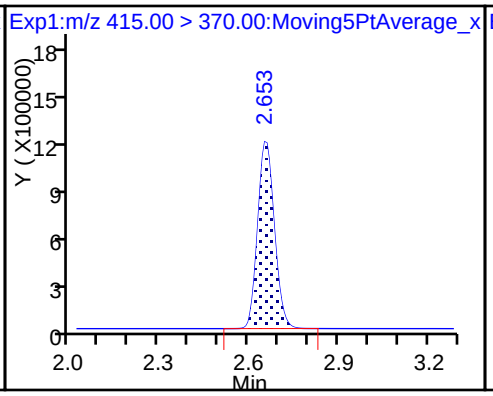
D 12 M2-6:2FTS



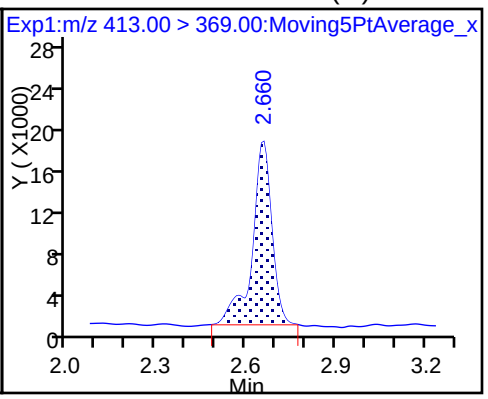
D 14 13C4 PFOA



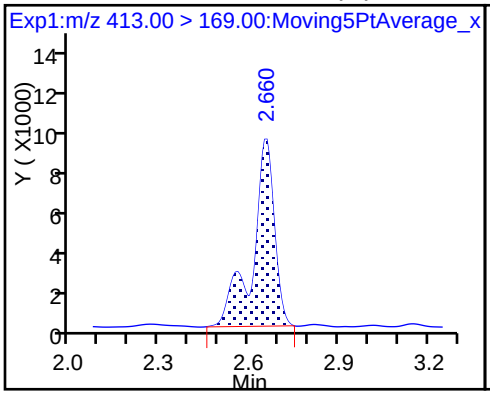
* 62 13C2-PFOA



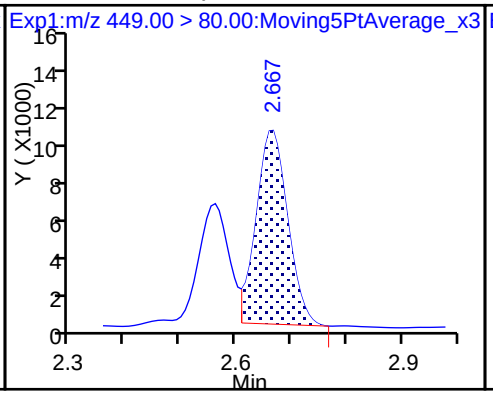
15 Perfluorooctanoic acid (M)



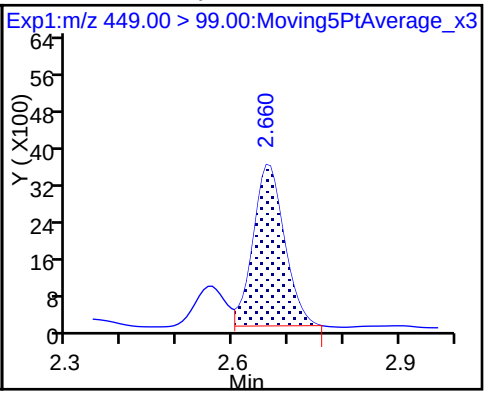
15 Perfluorooctanoic acid (M)



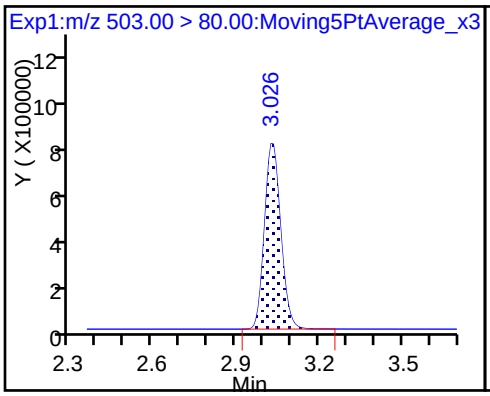
16 Perfluoroheptanesulfonic Acid



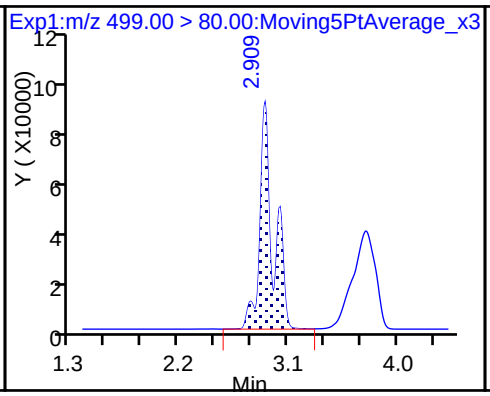
16 Perfluoroheptanesulfonic Acid



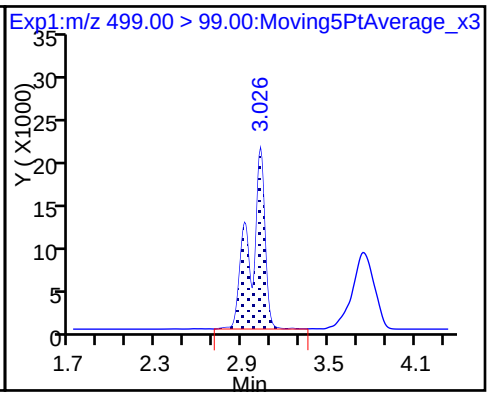
D 18 13C4 PFOS



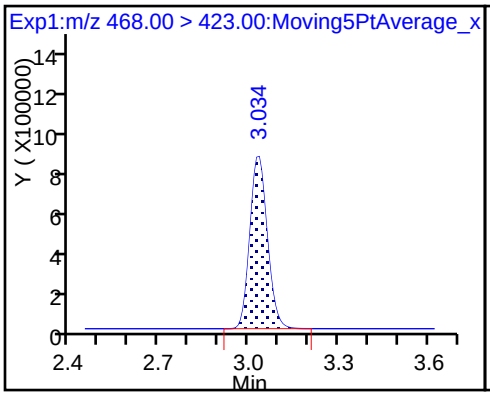
17 Perfluorooctane sulfonic acid



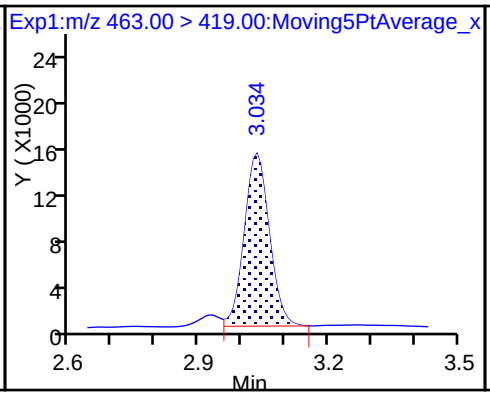
17 Perfluorooctane sulfonic acid



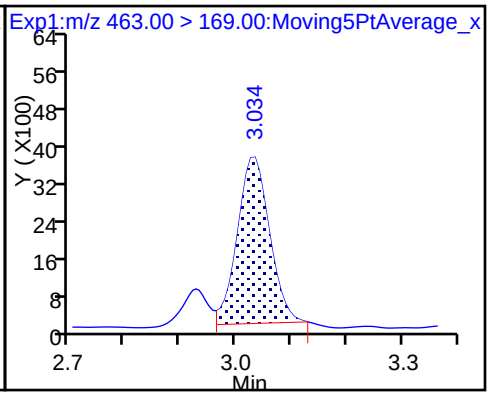
D 19 13C5 PFNA



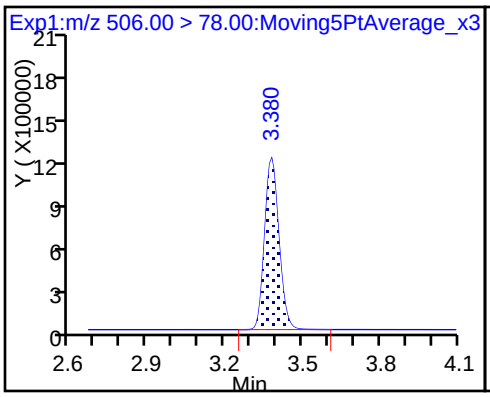
20 Perfluorononanoic acid



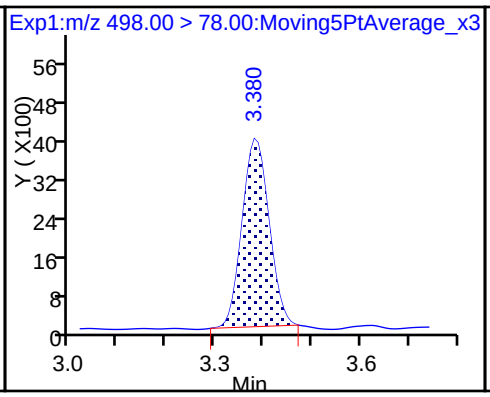
20 Perfluorononanoic acid



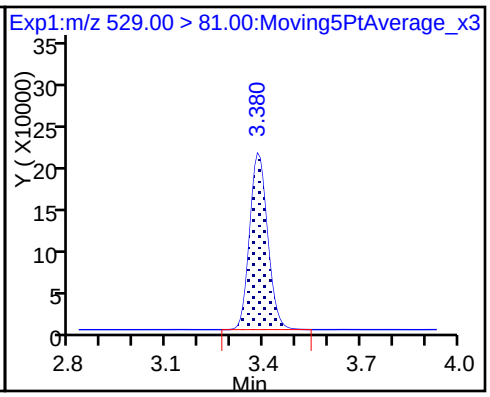
D 21 13C8 FOSA



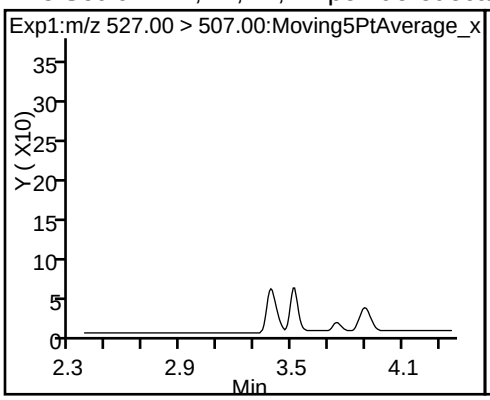
22 Perfluorooctane Sulfonamide



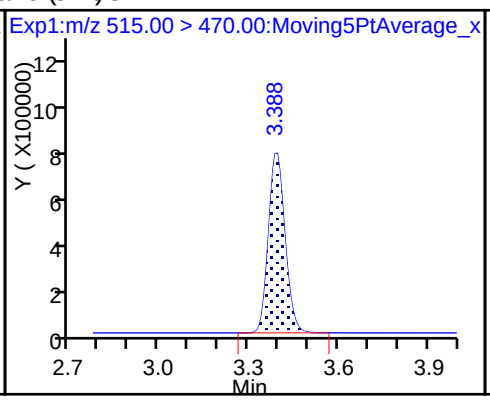
D 26 M2-8:2FTS



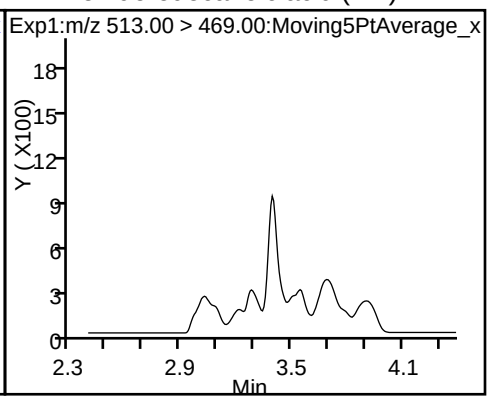
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



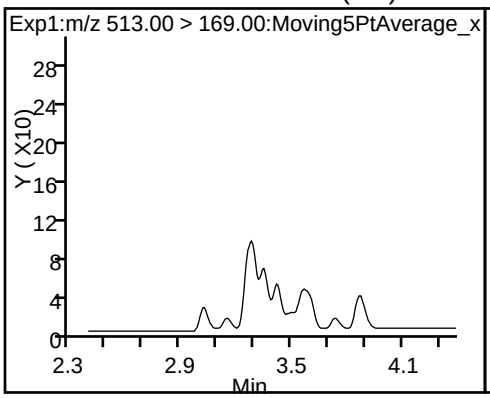
D 23 13C2 PFDA



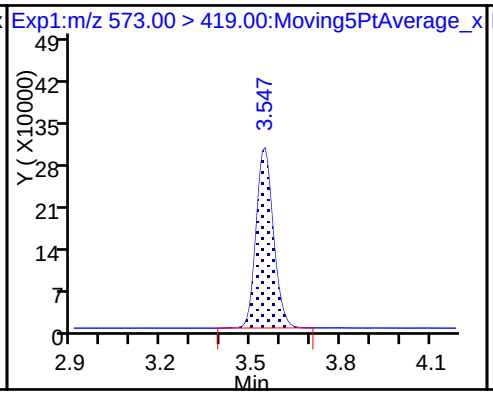
24 Perfluorodecanoic acid (ND)



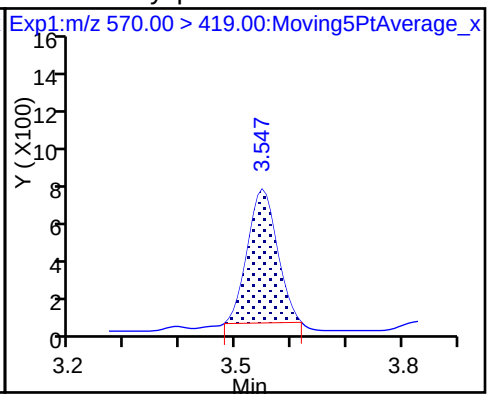
24 Perfluorodecanoic acid (ND)



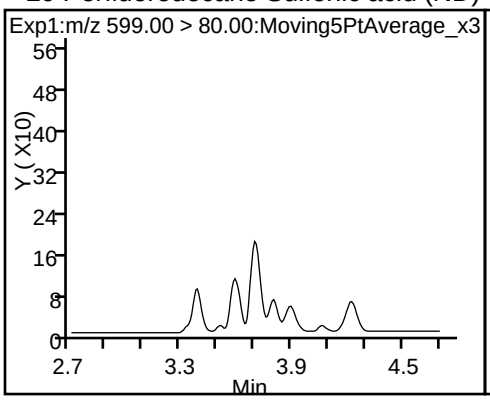
D 27 d3-NMeFOSAA



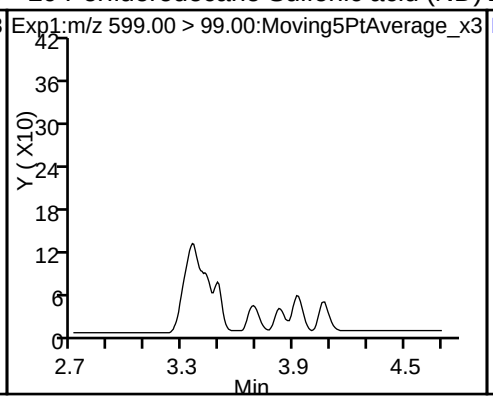
28 N-methyl perfluorooctane sulfonami



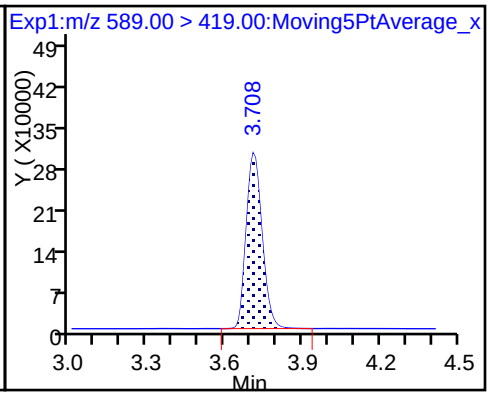
29 Perfluorodecane Sulfonic acid (ND)



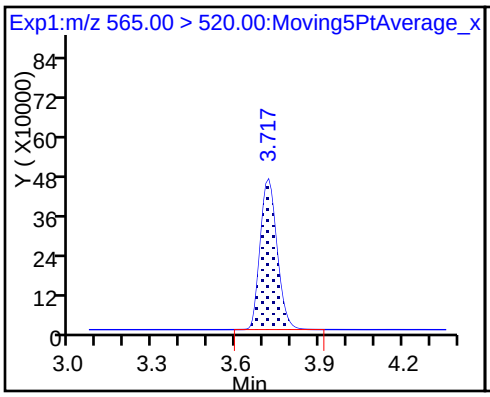
29 Perfluorodecane Sulfonic acid (ND)



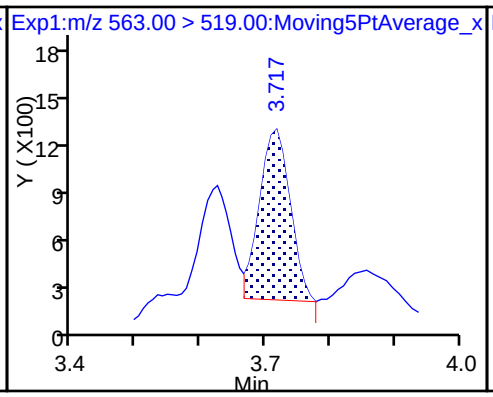
D 32 d5-NEtFOSAA



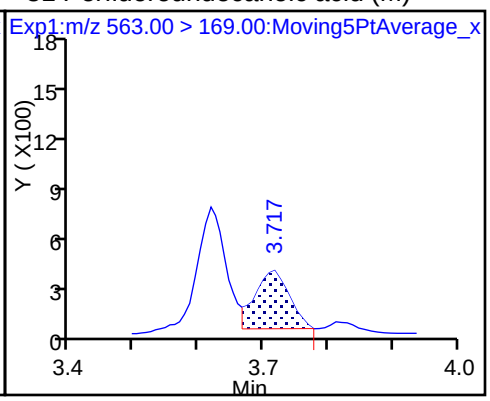
D 30 13C2 PFUnA



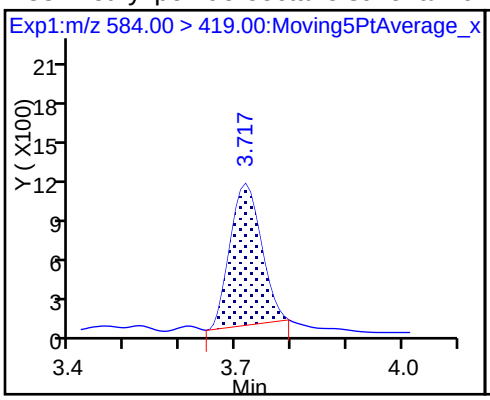
31 Perfluoroundecanoic acid



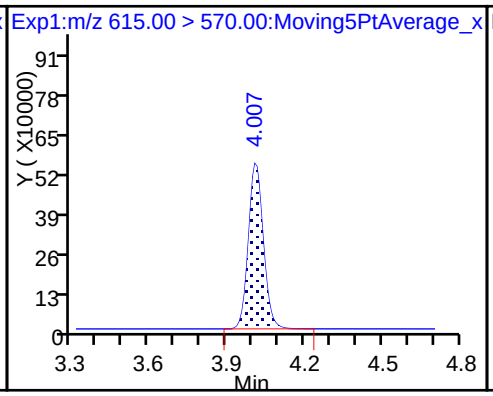
31 Perfluoroundecanoic acid (M)



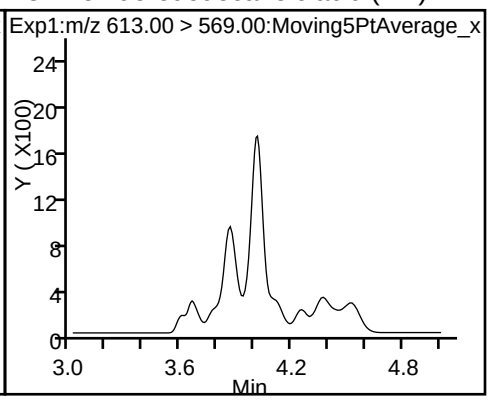
33 N-ethyl perfluorooctane sulfonamid



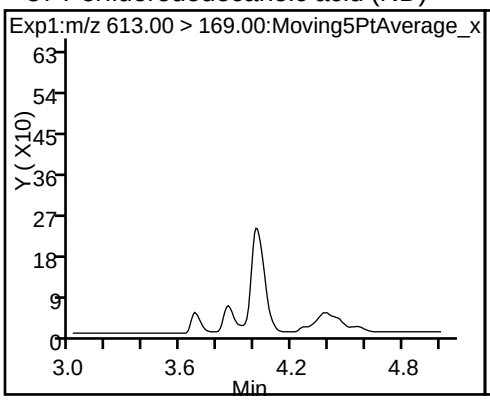
D 36 13C2 PFDoA



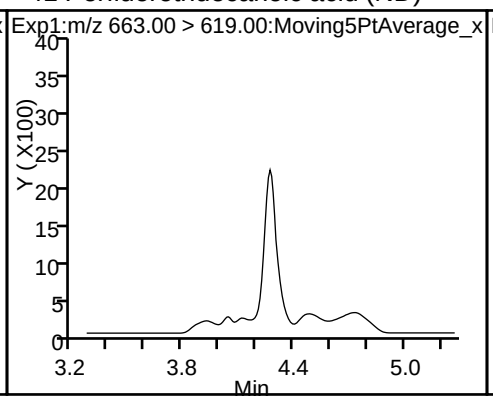
37 Perfluorododecanoic acid (ND)



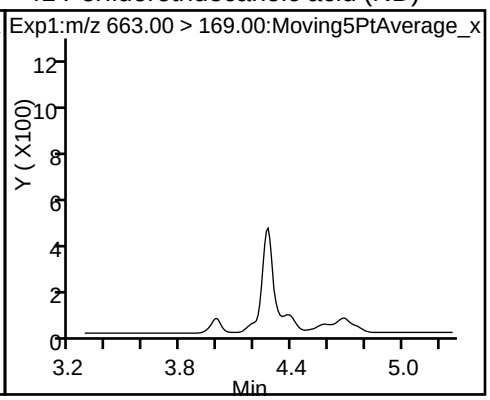
37 Perfluorododecanoic acid (ND)



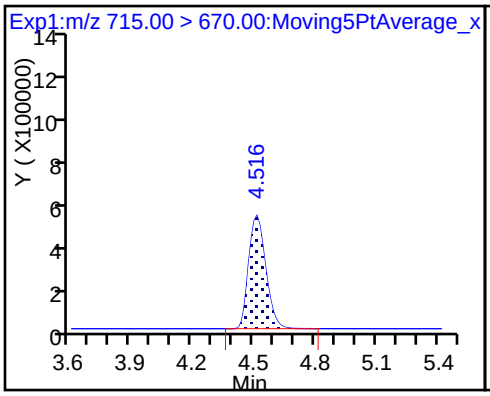
41 Perfluorotridecanoic acid (ND)



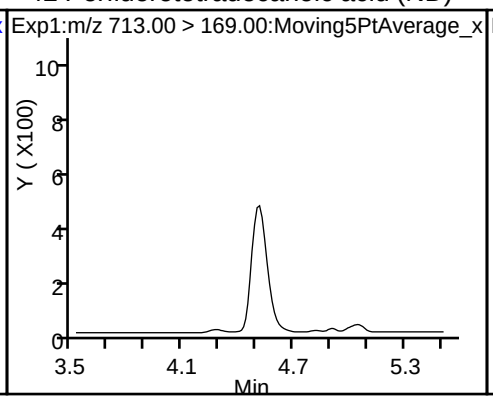
41 Perfluorotridecanoic acid (ND)



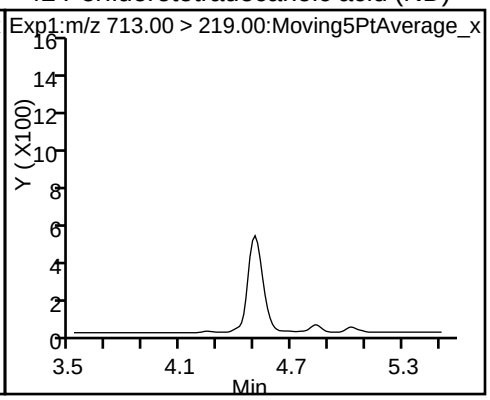
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



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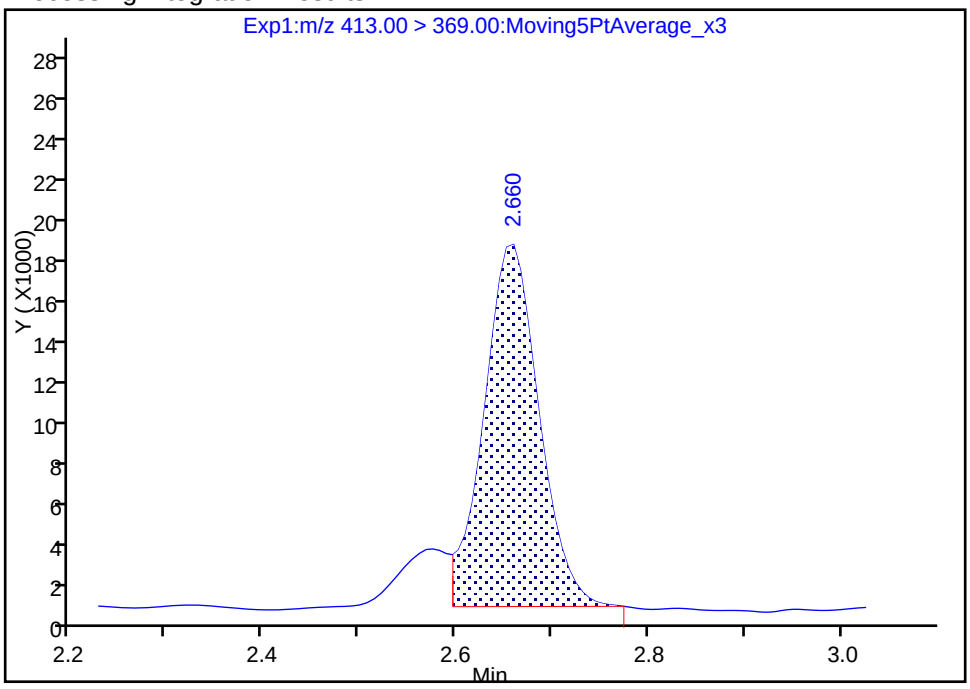
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Injection Date:	22-Dec-2017 23:26:09	Instrument ID:	A8_N		
Lims ID:	320-34425-A-3-A	Lab Sample ID:	320-34425-3		
Client ID:	FM-26-100-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	10	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

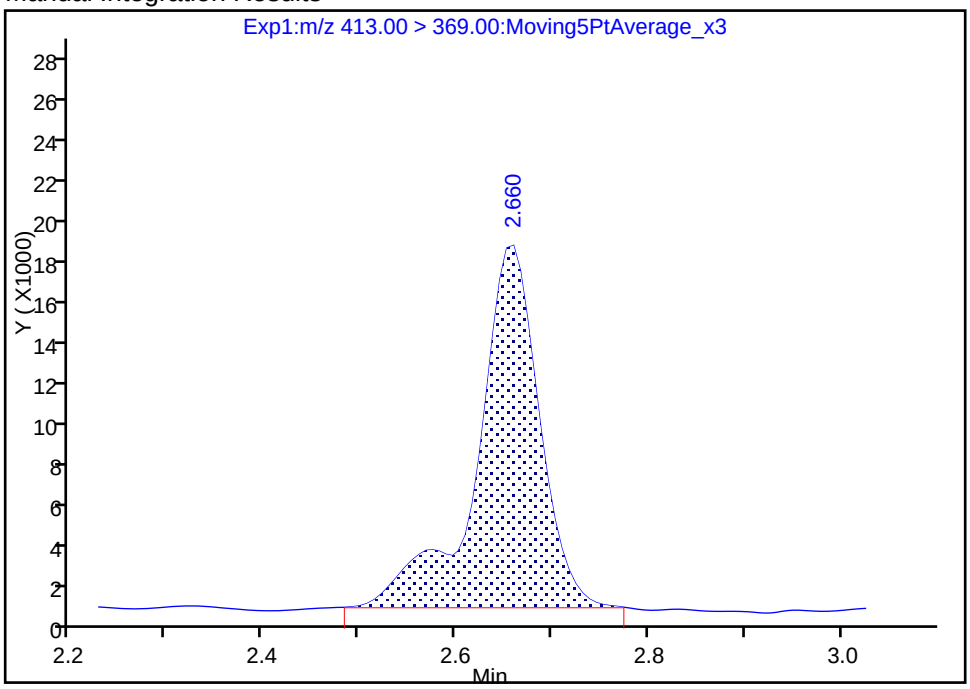
Processing Integration Results

RT: 2.66
Area: 71271
Amount: 0.037728
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 81773
Amount: 0.043287
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:37:26
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

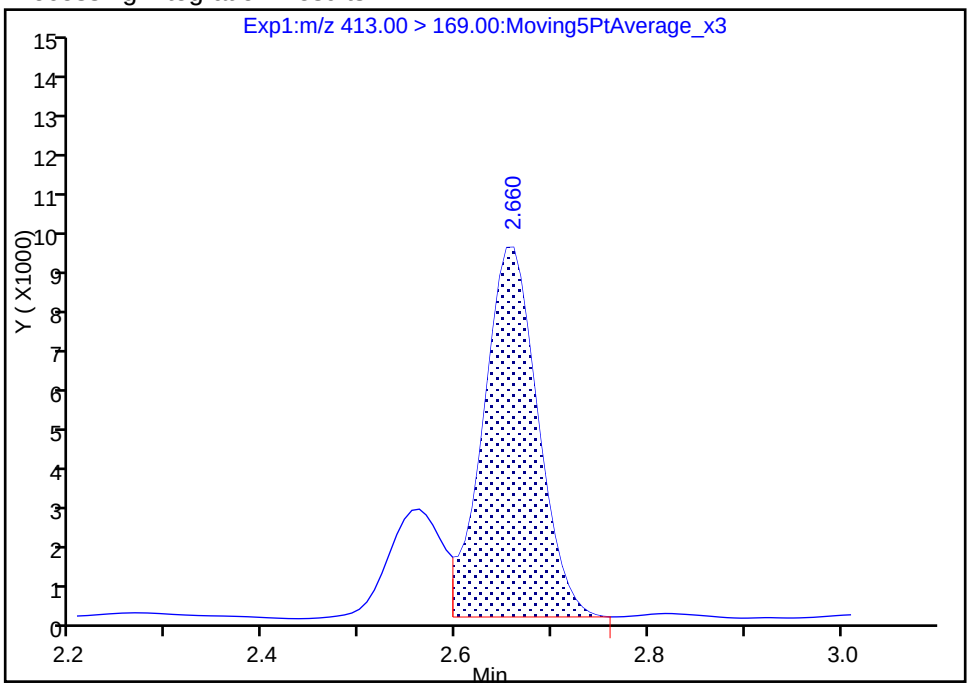
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Lims ID:	320-34425-A-3-A	Lab Sample ID:	320-34425-3		
Client ID:	FM-26-100-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	10	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

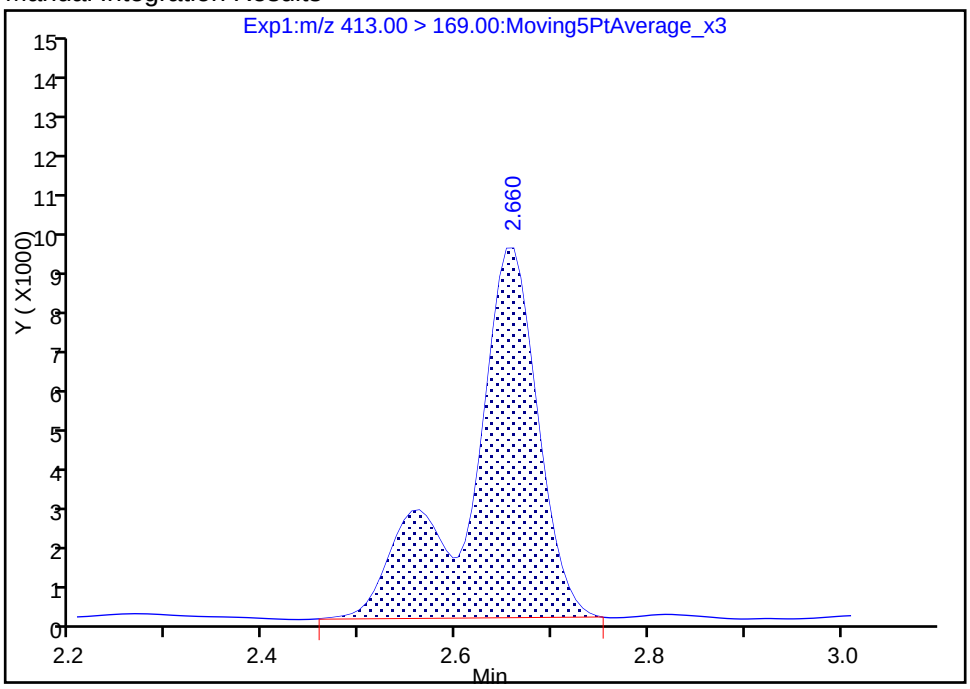
Processing Integration Results

RT: 2.66
Area: 37040
Amount: 0.037728
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 47664
Amount: 0.043287
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:37:34

Audit Action: Manually Integrated Audit Reason: Isomers

TestAmerica Sacramento

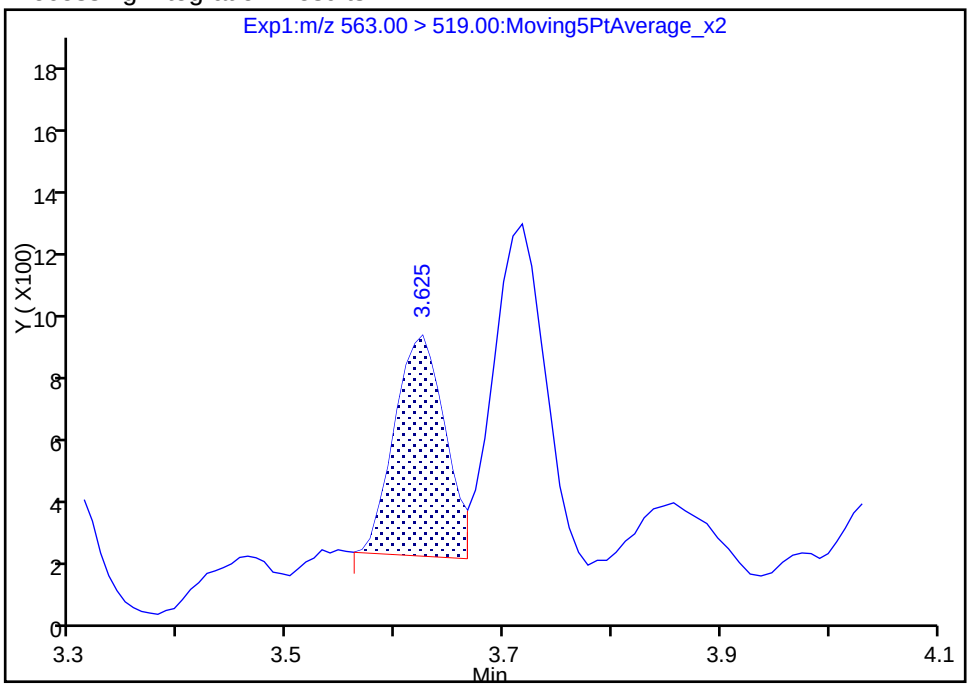
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Injection Date:	22-Dec-2017 23:26:09	Instrument ID:	A8_N		
Lims ID:	320-34425-A-3-A	Lab Sample ID:	320-34425-3		
Client ID:	FM-26-100-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	10	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

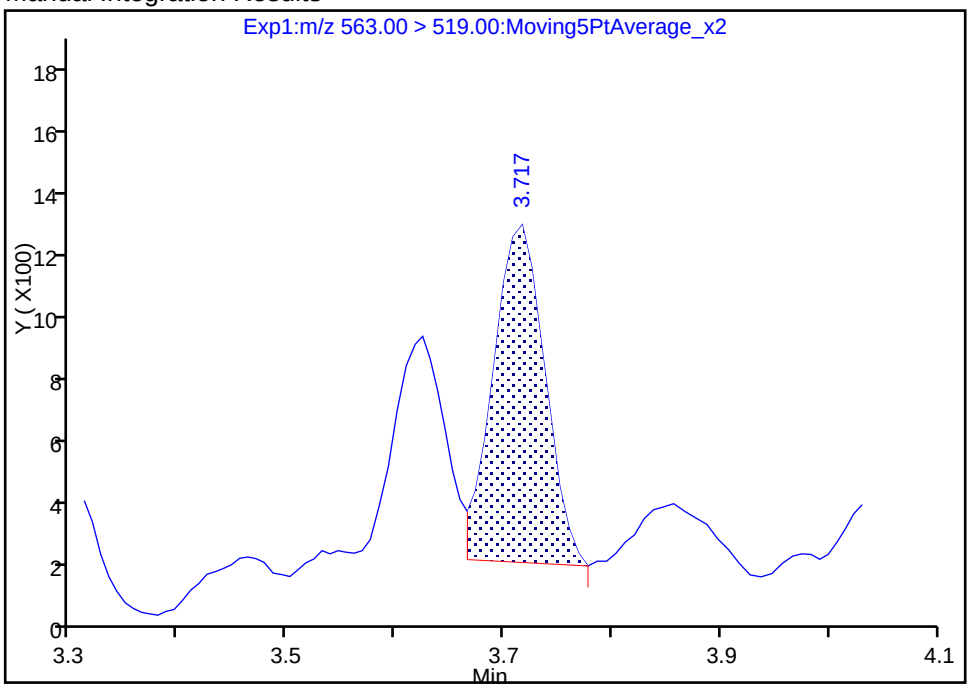
Processing Integration Results

RT: 3.62
Area: 2217
Amount: 0.003127
Amount Units: ng/ml



Manual Integration Results

RT: 3.72
Area: 3479
Amount: 0.004907
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:37:56
Audit Action: Assigned Compound ID Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

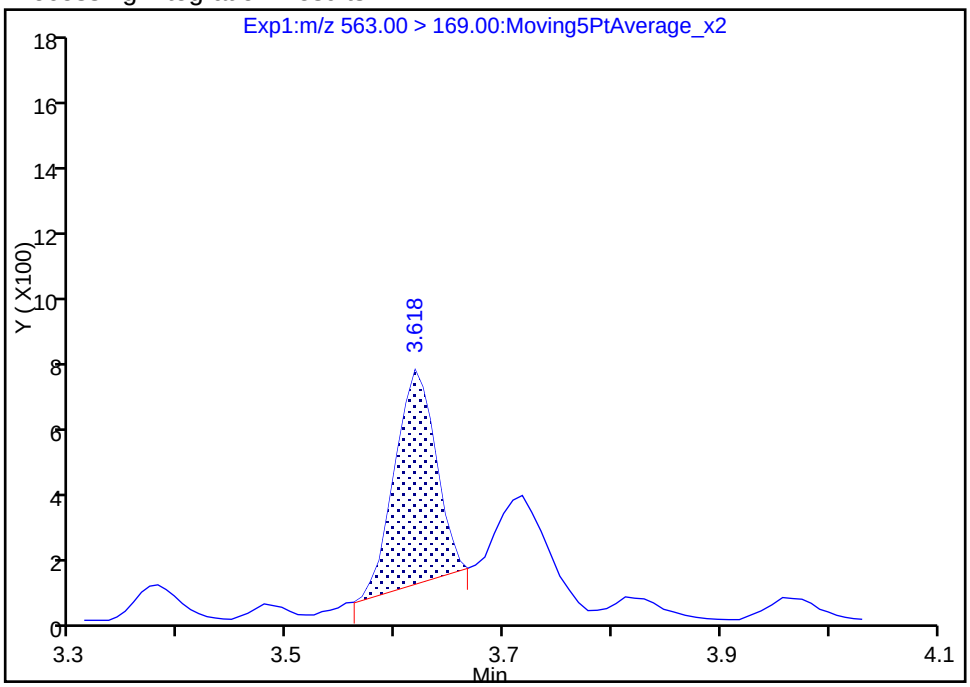
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_015.d				
Injection Date:	22-Dec-2017 23:26:09	Instrument ID:	A8_N		
Lims ID:	320-34425-A-3-A	Lab Sample ID:	320-34425-3		
Client ID:	FM-26-100-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	10	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

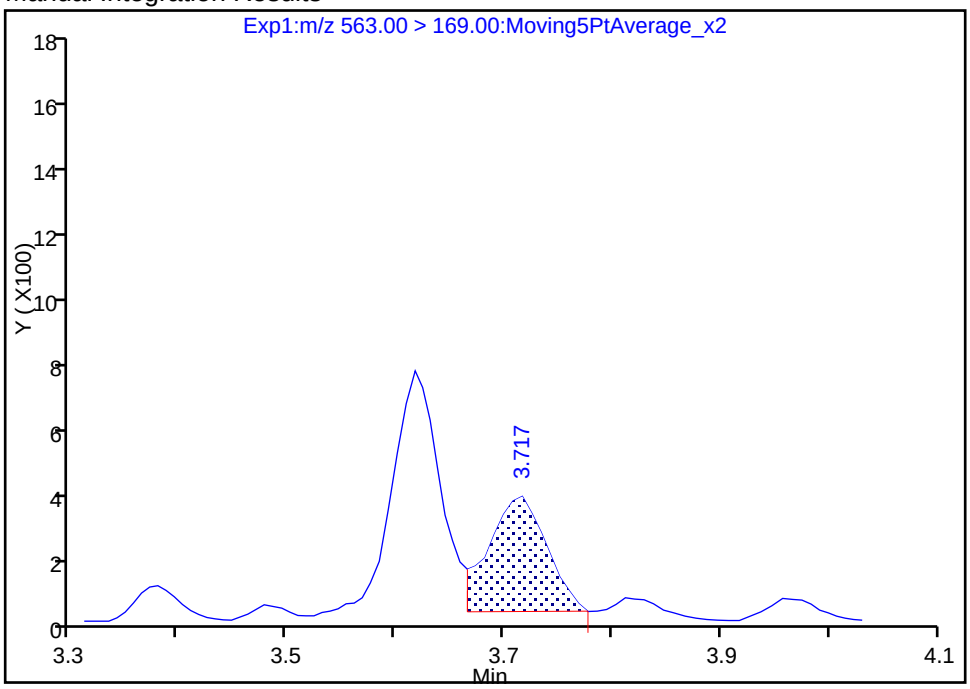
Processing Integration Results

RT: 3.62
Area: 1677
Amount: 0.003127
Amount Units: ng/ml



Manual Integration Results

RT: 3.72
Area: 1258
Amount: 0.004907
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:38:25

Audit Action: Manually Integrated Audit Reason: Wrong peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-090-816-171211 | Lab Sample ID: 320-34425-4

Matrix: Water | Lab File ID: 2017.12.22LLB_016.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 11:50

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 231.2(mL) | Date Analyzed: 12/22/2017 23:34

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.67	J	2.16	0.38
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.88		2.16	0.53
307-24-4	Perfluorohexanoic acid (PFHxA)	5.93		2.16	0.63
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.98	J	2.16	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	3.44		2.16	0.92
375-95-1	Perfluorononanoic acid (PFNA)	4.92		2.16	0.29
335-76-2	Perfluorodecanoic acid (PFDA)	0.34	U	2.16	0.34
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.19	U	2.16	1.19
307-55-1	Perfluorododecanoic acid (PFDoA)	0.59	U	2.16	0.59
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.41	U	2.16	1.41
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.16	0.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.96		2.16	0.22
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	29.2	B	2.16	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.61	J	2.16	0.21
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	46.1		2.16	0.58
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.35	U	2.16	0.35
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.38	U	2.16	0.38
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.35	U	21.6	3.35
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.05	U	21.6	2.05
27619-97-2	6:2FTS	2.16	U	21.6	2.16
39108-34-4	8:2FTS	2.16	U	21.6	2.16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-090-816-171211 | Lab Sample ID: 320-34425-4

Matrix: Water | Lab File ID: 2017.12.22LLB_016.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 11:50

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 231.2(mL) | Date Analyzed: 12/22/2017 23:34

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	109		25-150
STL01893	13C5 PFPeA	104		25-150
STL00993	13C2 PFHxA	103		25-150
STL01892	13C4-PFHpA	112		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	101		25-150
STL00996	13C2 PFDA	104		25-150
STL00997	13C2 PFUnA	99		25-150
STL00998	13C2 PFDoA	96		25-150
STL02116	13C2-PFTeDA	119		25-150
STL02337	13C3-PFBS	106		25-150
STL00994	18O2 PFHxS	104		25-150
STL00991	13C4 PFOS	99		25-150
STL01056	13C8 FOSA	98		25-150
STL02118	d3-NMeFOSAA	85		25-150
STL02117	d5-NEtFOSAA	90		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	77		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_016.d
Lims ID: 320-34425-A-4-A
Client ID: FM-26-090-816-171211
Sample Type: Client
Inject. Date: 22-Dec-2017 23:34:01 ALS Bottle#: 11 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-4-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:41:16

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.425	1.419	0.006	0.537	7345390	2.73		109	18195	
2 Perfluorobutyric acid										
212.90 > 169.00	1.431	1.419	0.012	1.004	104100	0.0387			24.5	
D 3 13C5-PFPeA										
267.90 > 223.00	1.679	1.670	0.009	0.632	4196883	2.60		104	36775	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.670	0.009	1.000	168220	0.0898			215	
D 47 13C3-PFBS										
301.90 > 83.00	1.714	1.705	0.009	0.645	84954	2.47		106	3483	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.714	1.707	0.007	1.000	188264	0.0685			965	
298.90 > 99.00	1.714	1.707	0.007	1.000	80550		2.34(1.25-3.74)		774	
D 7 13C2 PFHxA										
315.00 > 270.00	1.963	1.953	0.010	0.739	4421061	2.57		103	44987	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.963	1.956	0.007	1.000	242805	0.1371			459	M
313.00 > 119.00	1.963	1.956	0.007	1.000	22782		10.66(5.03-15.10)		476	
D 9 13C4-PFHpA										
367.00 > 322.00	2.304	2.291	0.013	0.867	4472485	2.81		112	42794	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.304	2.291	0.013	1.000	85847	0.0459			155	
363.00 > 169.00	2.304	2.291	0.013	1.000	31388		2.74(1.13-3.40)		247	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.317	2.304	0.013	1.000	1522218	0.6754			3609	
399.00 > 99.00	2.317	2.304	0.013	1.000	468077		3.25(1.50-4.49)		885	
D 11 18O2 PFHxS										
403.00 > 84.00	2.317	2.304	0.013	0.872	4951982	2.46		104	53226	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.628	2.642	-0.014	1.000	19506	0.0397			715	
D 12 M2-6:2FTS										
429.00 > 81.00	2.628	2.642	-0.014	0.989	753241	1.02		42.7	16411	
D 14 13C4 PFOA										
417.00 > 372.00	2.657	2.654	0.003	1.000	4450446	2.43		97.2	41697	
* 62 13C2-PFOA										
415.00 > 370.00	2.657	2.656	0.001		4432697	2.50			50590	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.657	2.656	0.001	1.000	148809	0.0795			245	M
413.00 > 169.00	2.657	2.656	0.001	1.000	87580		1.70(0.84-2.52)		648	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.664	2.662	0.002	1.000	63708	0.0371			186	
449.00 > 99.00	2.664	2.662	0.002	1.000	18475		3.45(1.94-5.82)		233	
D 18 13C4 PFOS										
503.00 > 80.00	3.030	3.025	0.005	1.141	3133375	2.36		98.8	33953	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.030	3.028	0.002	1.000	1480005	1.06			139	
499.00 > 99.00	3.030	3.028	0.002	1.000	332654		4.45(2.31-6.93)		209	
D 19 13C5 PFNA										
468.00 > 423.00	3.030	3.028	0.002	1.141	3297648	2.53		101	39343	
20 Perfluorononanoic acid										
463.00 > 419.00	3.030	3.029	0.001	1.000	150890	0.1137			567	
463.00 > 169.00	3.030	3.029	0.001	1.000	39116		3.86(1.90-5.69)		587	
D 21 13C8 FOSA										
506.00 > 78.00	3.383	3.370	0.013	1.274	4443838	2.46		98.4	34916	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.383	3.372	0.011	1.000	14140	0.008293			465	
D 26 M2-8:2FTS										
529.00 > 81.00	3.383	3.377	0.006	1.274	765934	1.85		77.1	14267	
D 23 13C2 PFDA										
515.00 > 470.00	3.391	3.389	0.002	1.276	2798597	2.61		104	30521	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.542	3.543	-0.001	1.333	1222765	2.12		84.9	22192	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.711	3.712	-0.001	1.397	1262334	2.24		89.7	6831	
D 30 13C2 PFUnA										
565.00 > 520.00	3.720	3.717	0.003	1.400	2013759	2.46		98.6	39835	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.011	-0.001	1.509	2110359	2.39		95.8	32990	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.519	4.518	0.001	1.701	2931398	2.98		119	25272	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:09 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_016.d

Injection Date: 22-Dec-2017 23:34:01 Instrument ID: A8_N

Lims ID: 320-34425-A-4-A Lab Sample ID: 320-34425-4

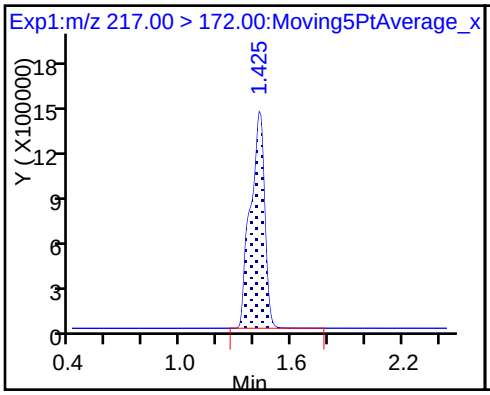
Client ID: FM-26-090-816-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 8

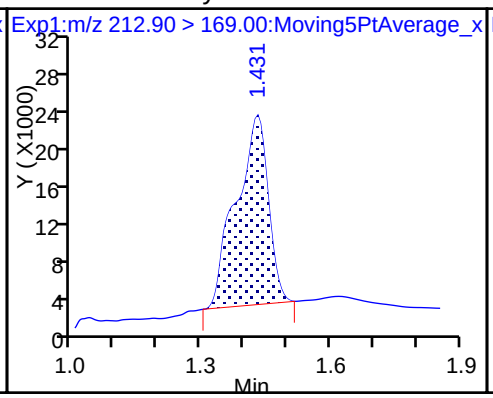
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

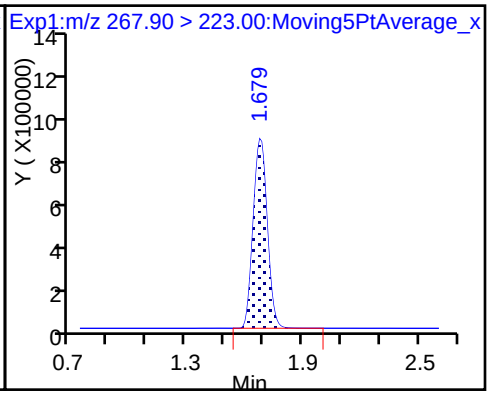
D 1 13C4 PFBA



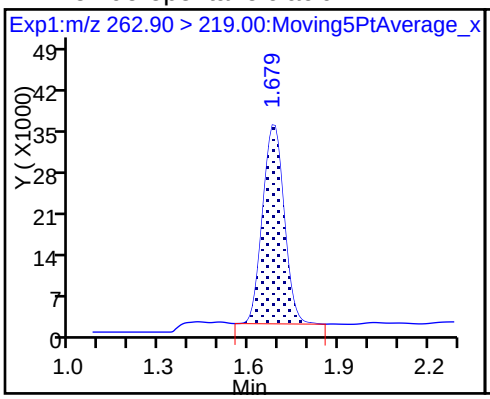
2 Perfluorobutyric acid



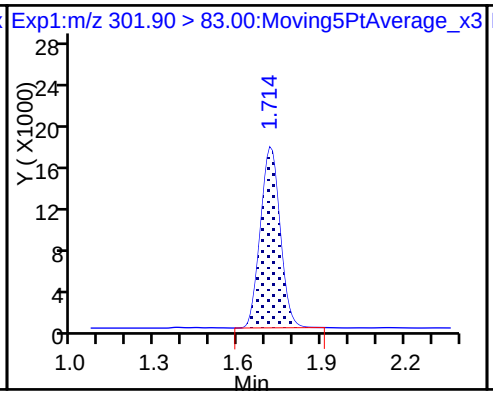
D 3 13C5-PFPeA



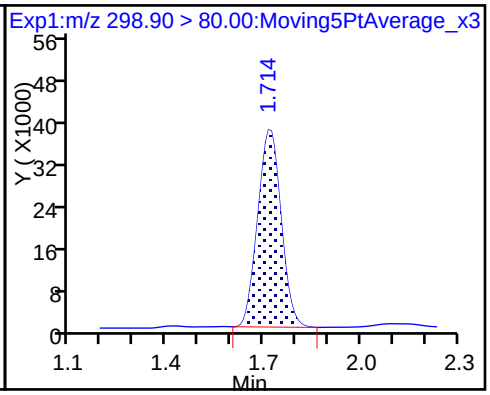
4 Perfluoropentanoic acid



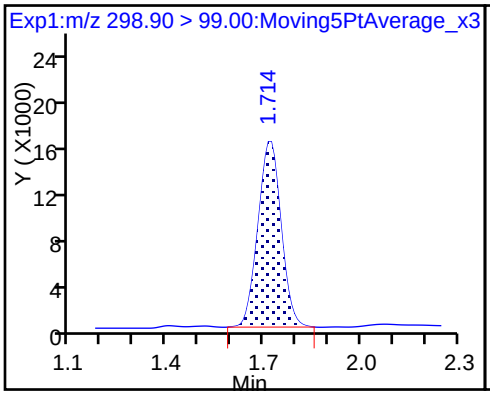
D 47 13C3-PFBS



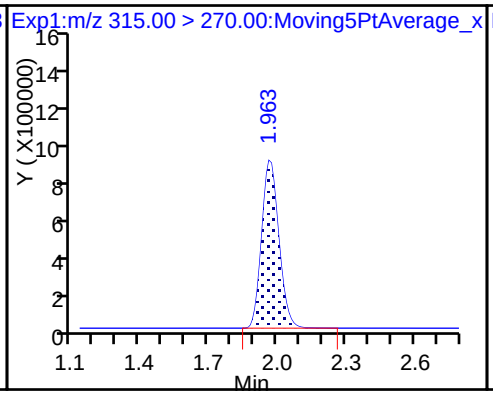
5 Perfluorobutanesulfonic acid



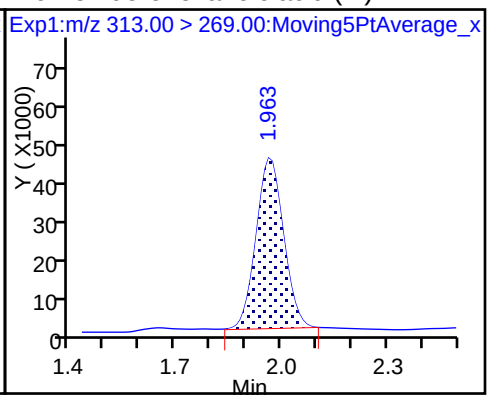
5 Perfluorobutanesulfonic acid



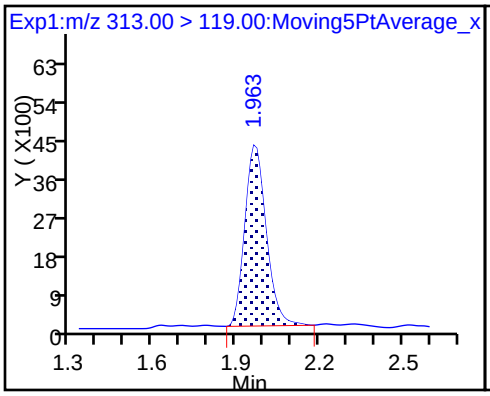
D 7 13C2 PFHxA



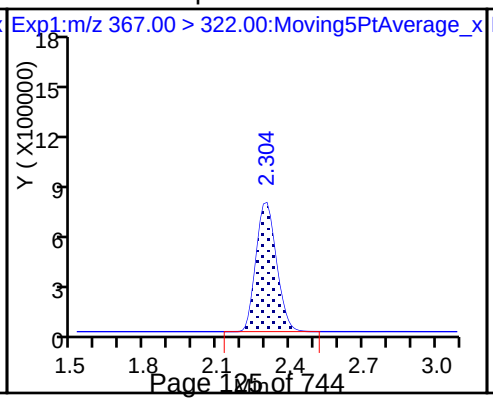
6 Perfluorohexanoic acid (M)



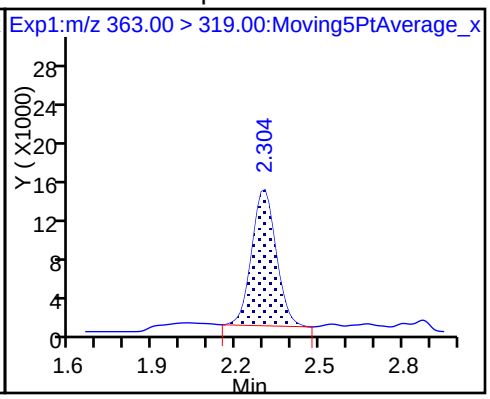
6 Perfluorohexanoic acid



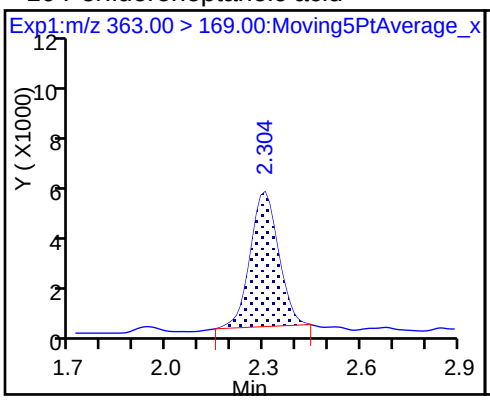
D 9 13C4-PFHpA



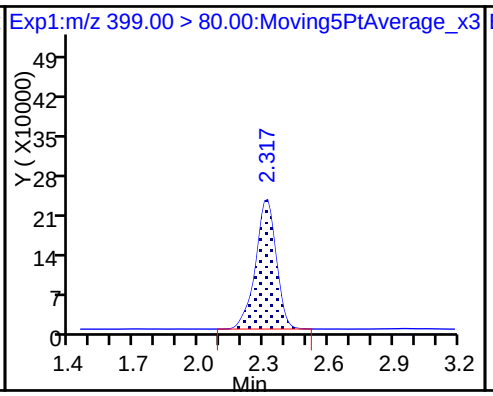
10 Perfluoroheptanoic acid



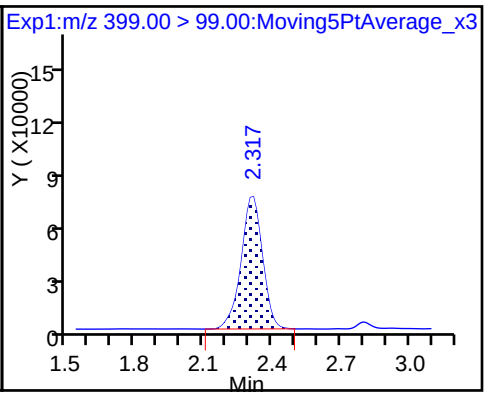
10 Perfluoroheptanoic acid



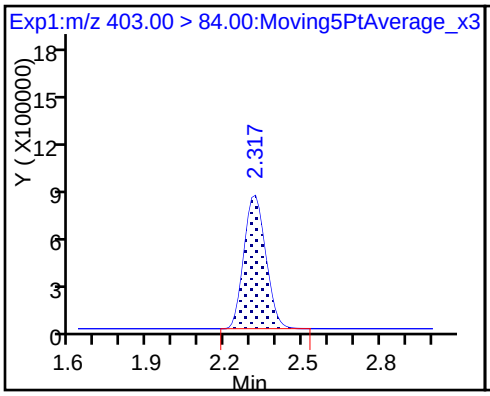
8 Perfluorohexanesulfonic acid



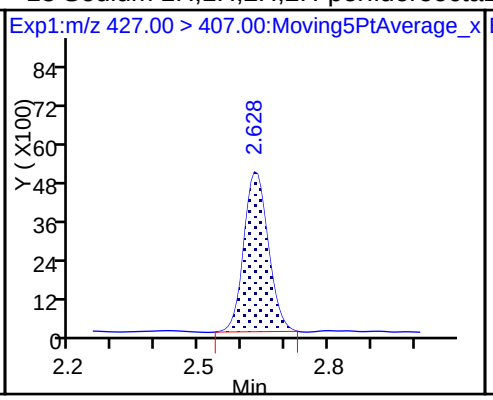
8 Perfluorohexanesulfonic acid



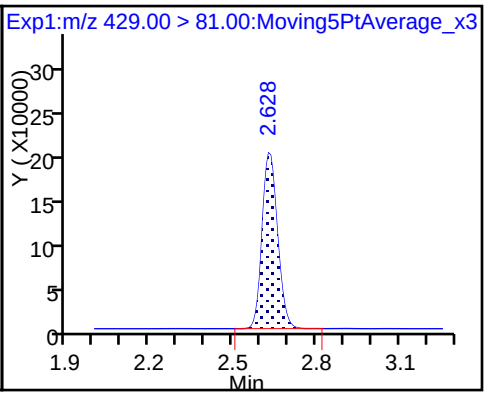
D 11 18O2 PFHxS



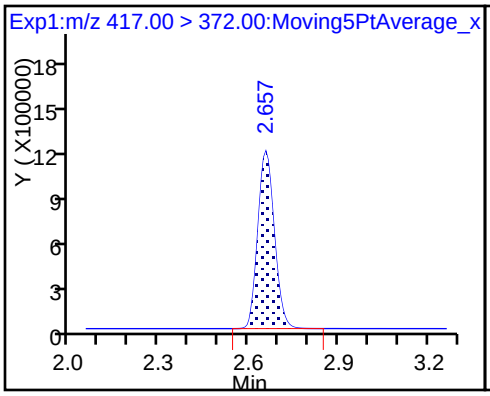
13 Sodium 1H,1H,2H,2H-perfluorooctane



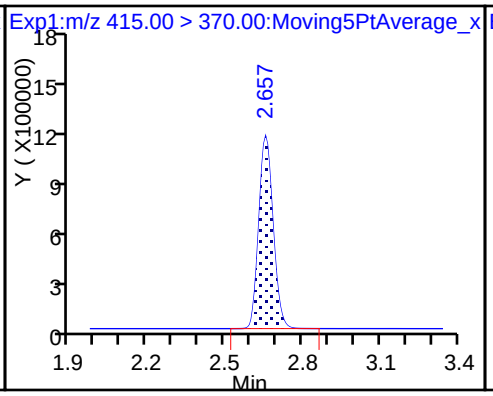
D 12 M2-6:2FTS



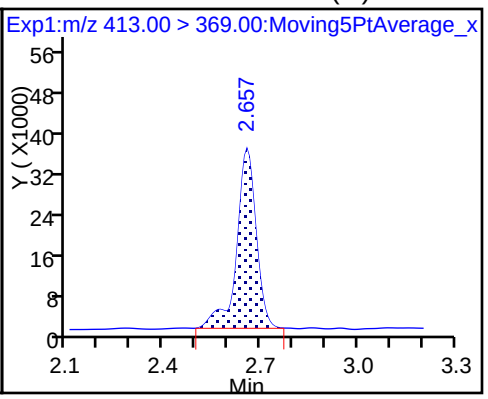
D 14 13C4 PFOA



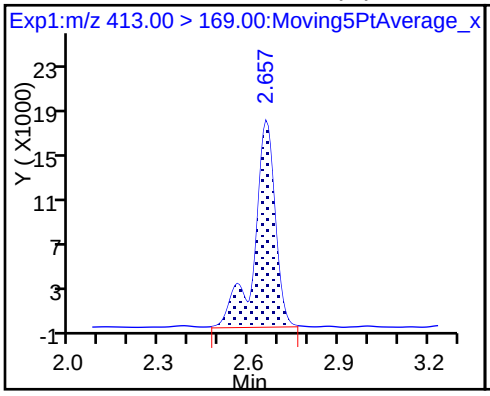
* 62 13C2-PFOA



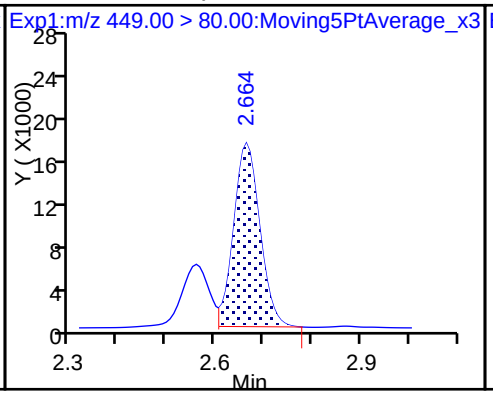
15 Perfluorooctanoic acid (M)



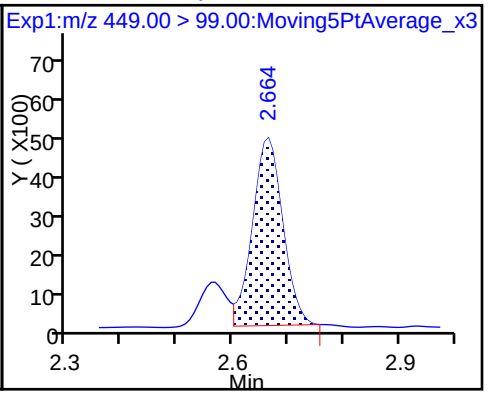
15 Perfluorooctanoic acid (M)



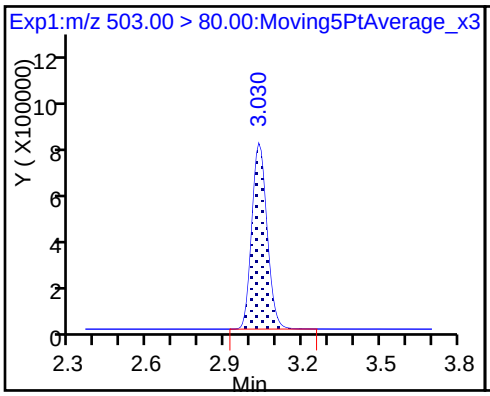
16 Perfluoroheptanesulfonic Acid



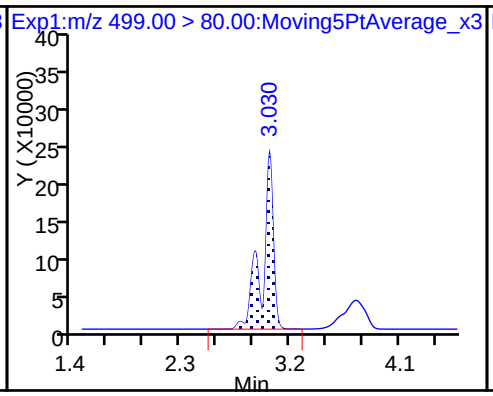
16 Perfluoroheptanesulfonic Acid



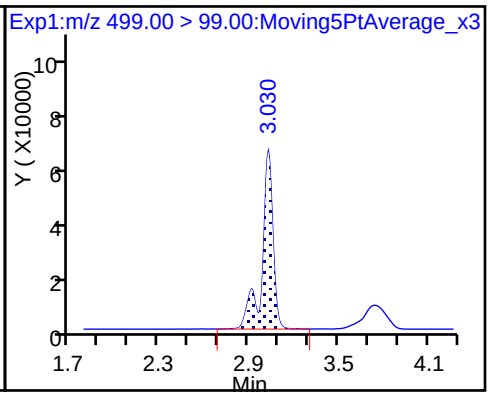
D 18 13C4 PFOS



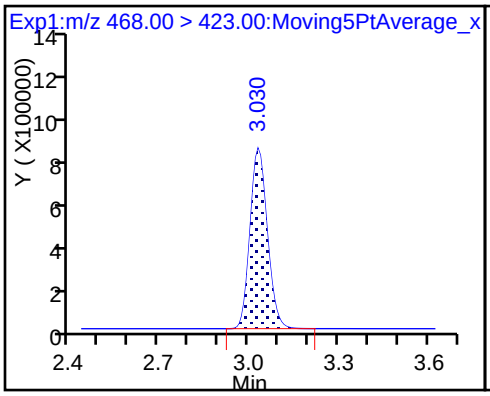
17 Perfluorooctane sulfonic acid



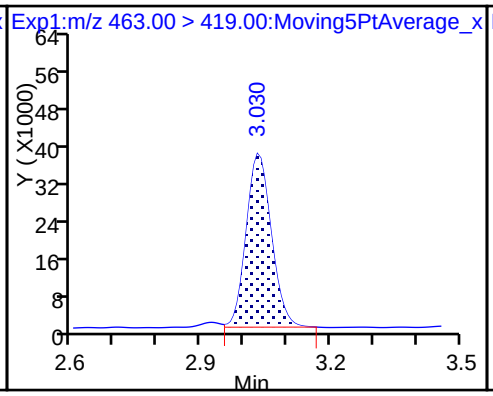
17 Perfluorooctane sulfonic acid



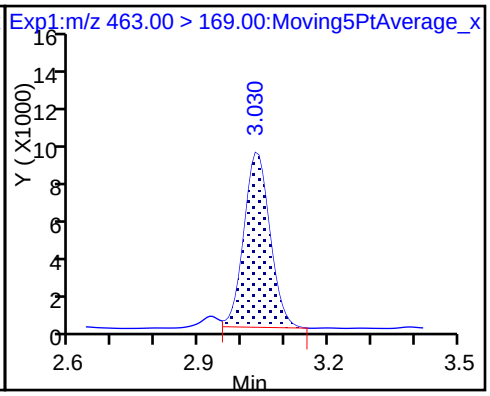
D 19 13C5 PFNA



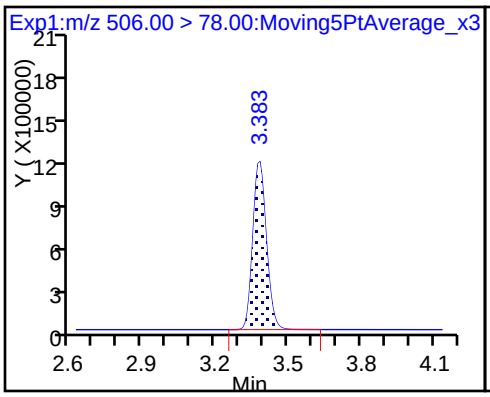
20 Perfluorononanoic acid



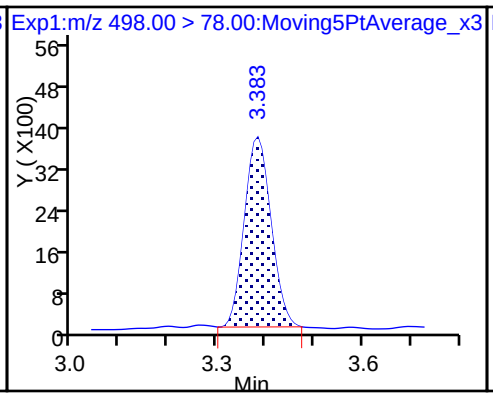
20 Perfluorononanoic acid



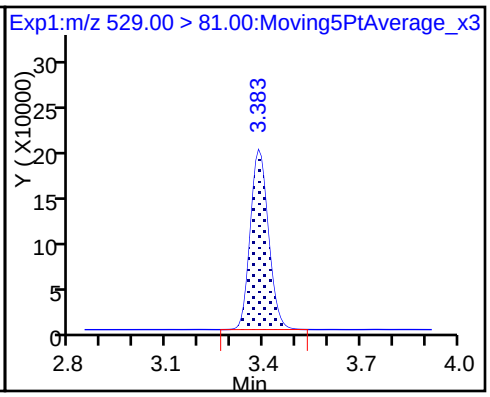
D 21 13C8 FOSA



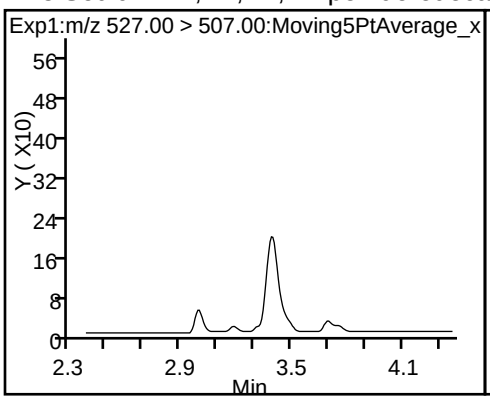
22 Perfluorooctane Sulfonamide



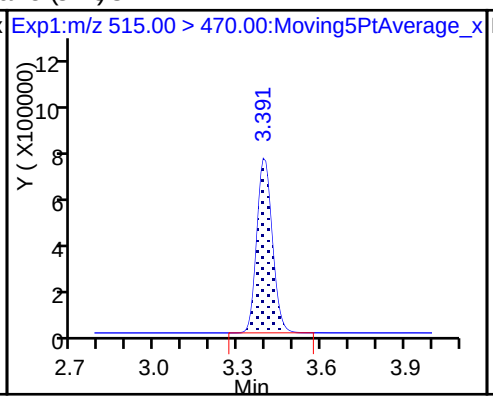
D 26 M2-8:2FTS



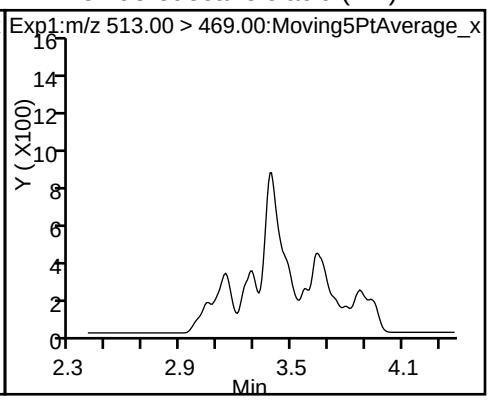
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



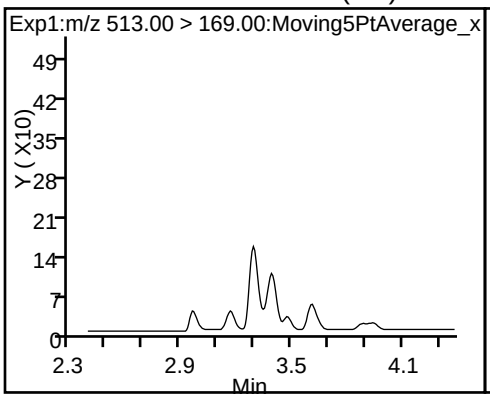
D 13C2 PFDA



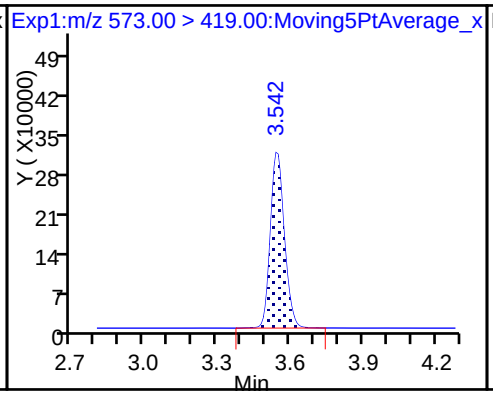
24 Perfluorodecanoic acid (ND)



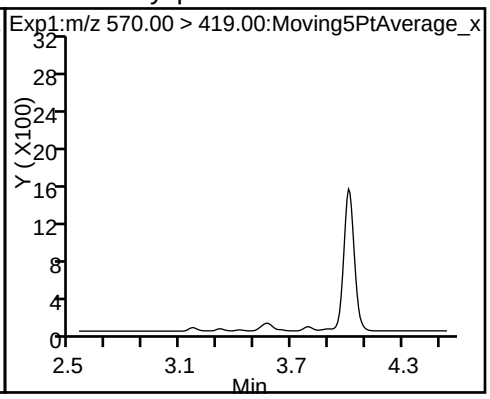
24 Perfluorodecanoic acid (ND)



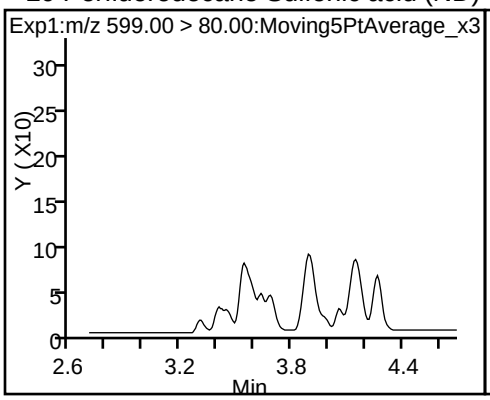
D 27 d3-NMeFOSAA



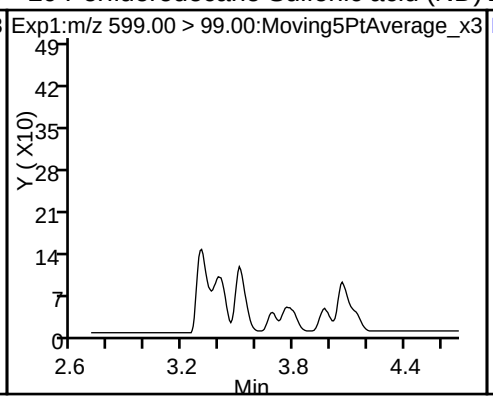
28 N-methyl perfluorooctane sulfonami (ND)



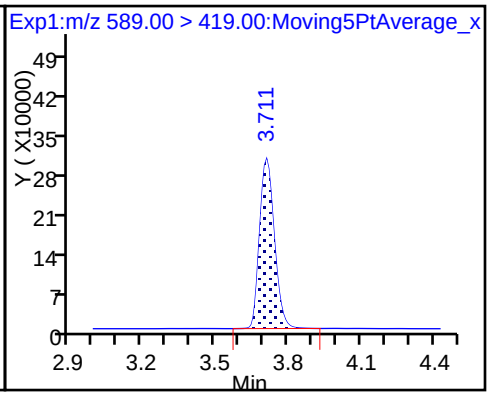
29 Perfluorodecane Sulfonic acid (ND)



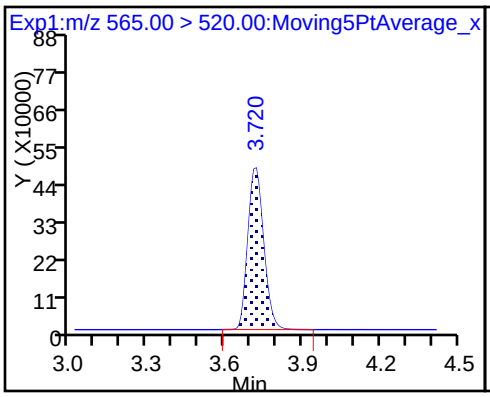
29 Perfluorodecane Sulfonic acid (ND)



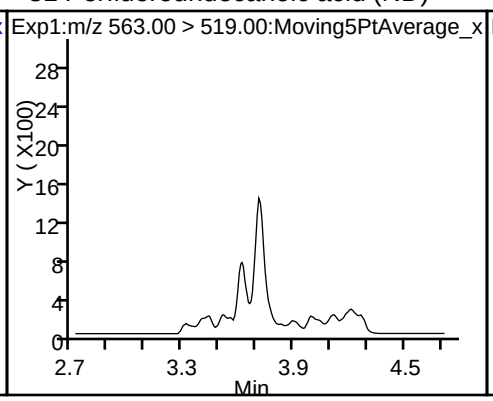
D 32 d5-NEtFOSAA



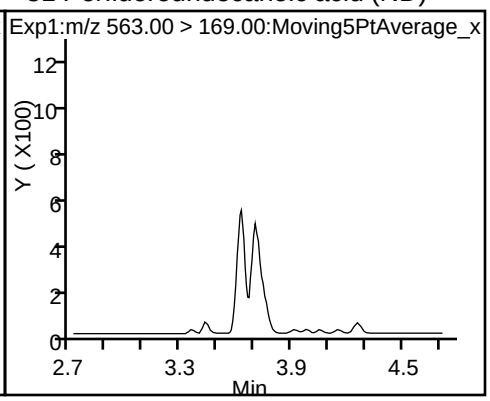
D 30 13C2 PFUnA



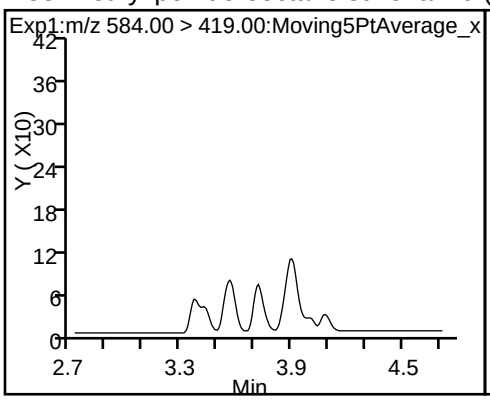
31 Perfluoroundecanoic acid (ND)



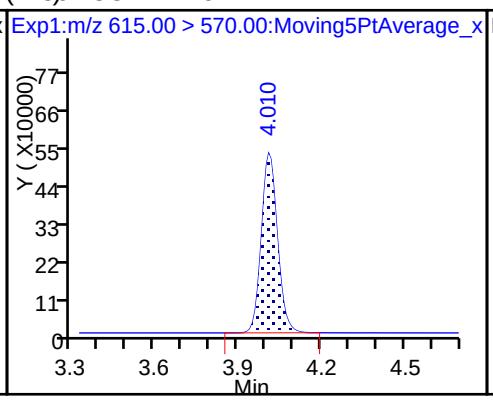
31 Perfluoroundecanoic acid (ND)



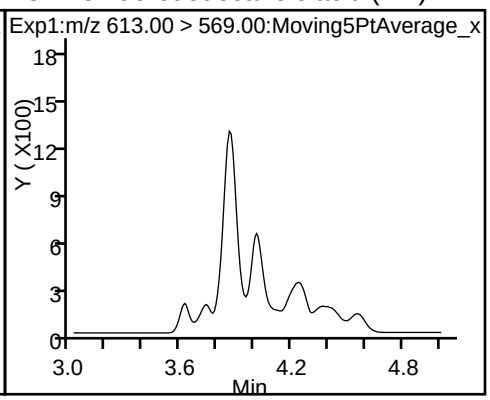
33 N-ethyl perfluorooctane sulfonamid (ND)



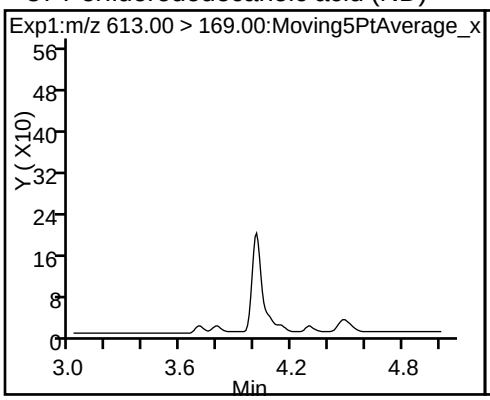
D 36 13C2 PFDoA



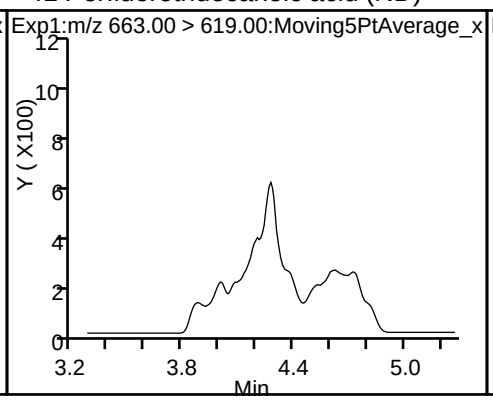
37 Perfluorododecanoic acid (ND)



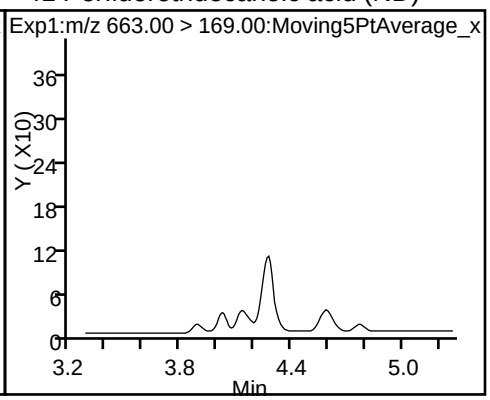
37 Perfluorododecanoic acid (ND)



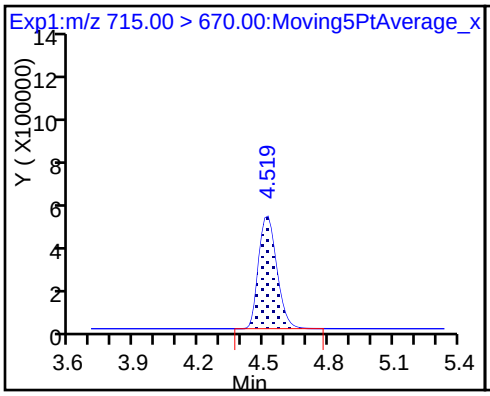
41 Perfluorotridecanoic acid (ND)



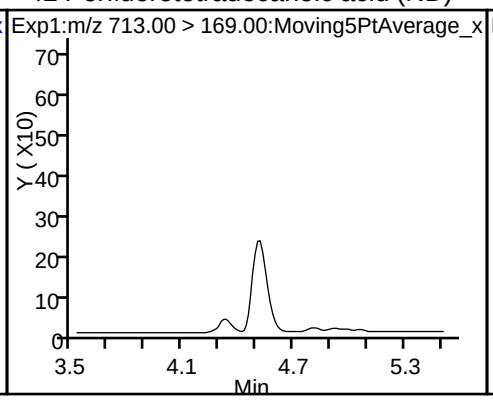
41 Perfluorotridecanoic acid (ND)



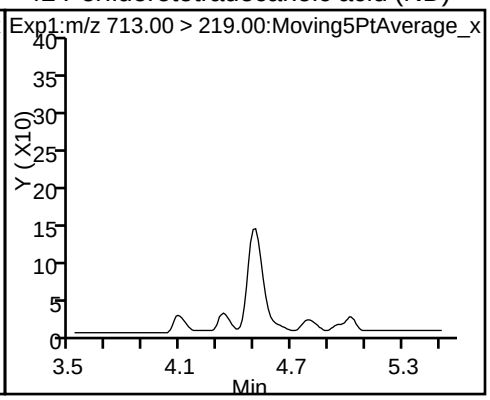
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

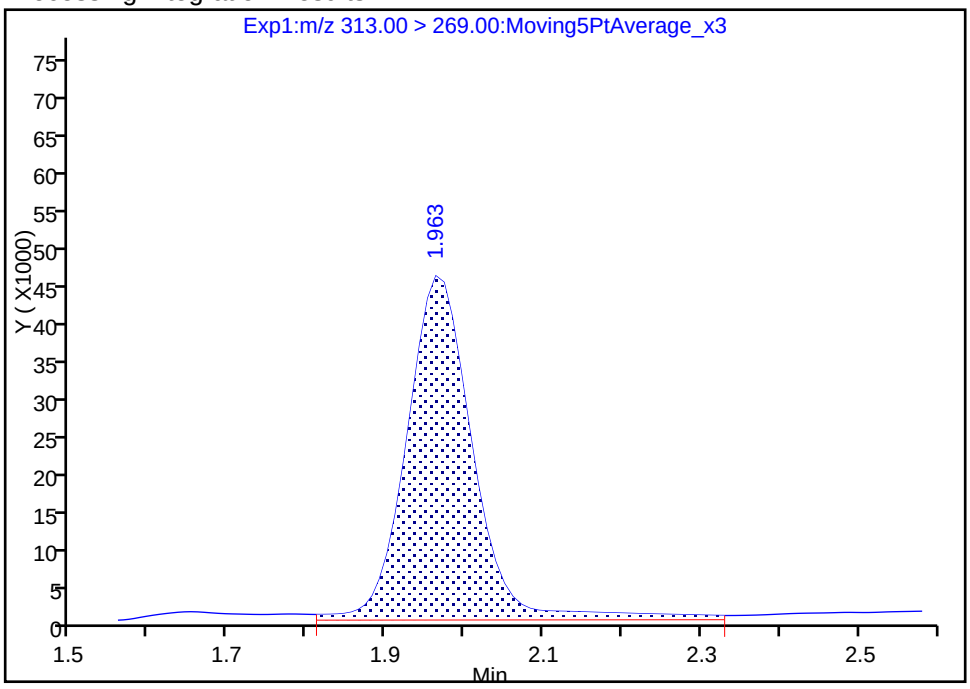
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_016.d				
Injection Date:	22-Dec-2017 23:34:01	Instrument ID:	A8_N		
Lims ID:	320-34425-A-4-A	Lab Sample ID:	320-34425-4		
Client ID:	FM-26-090-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	11	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

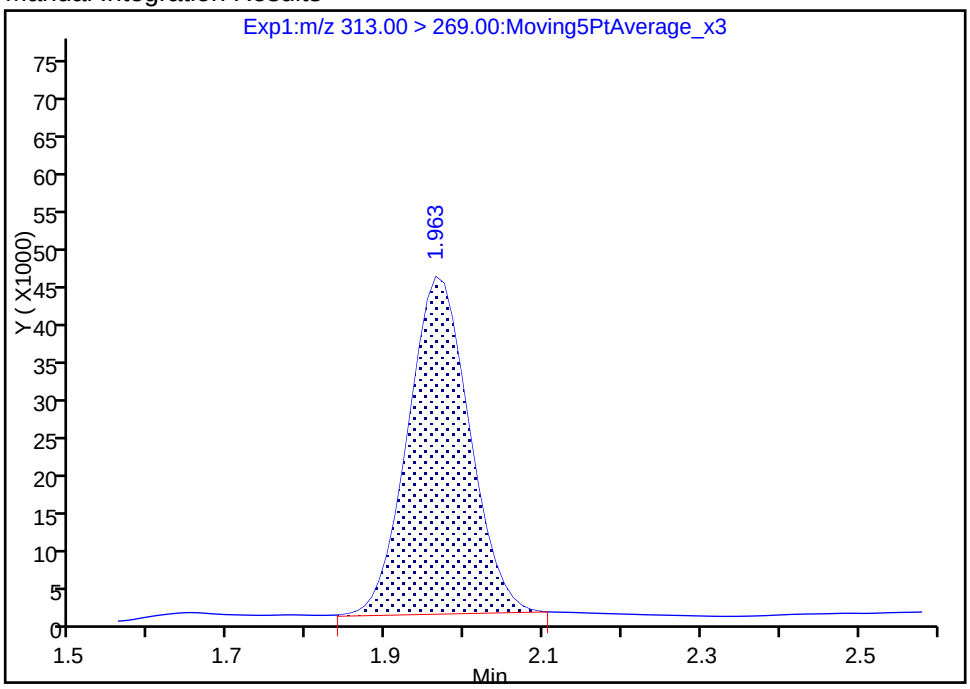
Processing Integration Results

RT: 1.96
Area: 269995
Amount: 0.152494
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 242805
Amount: 0.137137
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:40:07
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

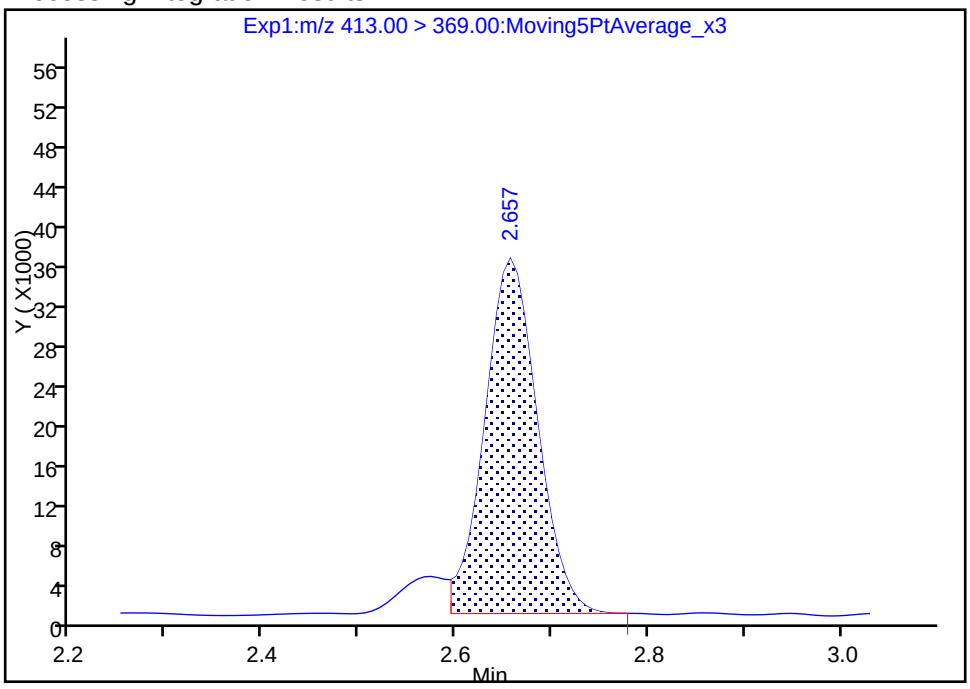
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_016.d				
Injection Date:	22-Dec-2017 23:34:01	Instrument ID:	A8_N		
Lims ID:	320-34425-A-4-A	Lab Sample ID:	320-34425-4		
Client ID:	FM-26-090-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	11	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

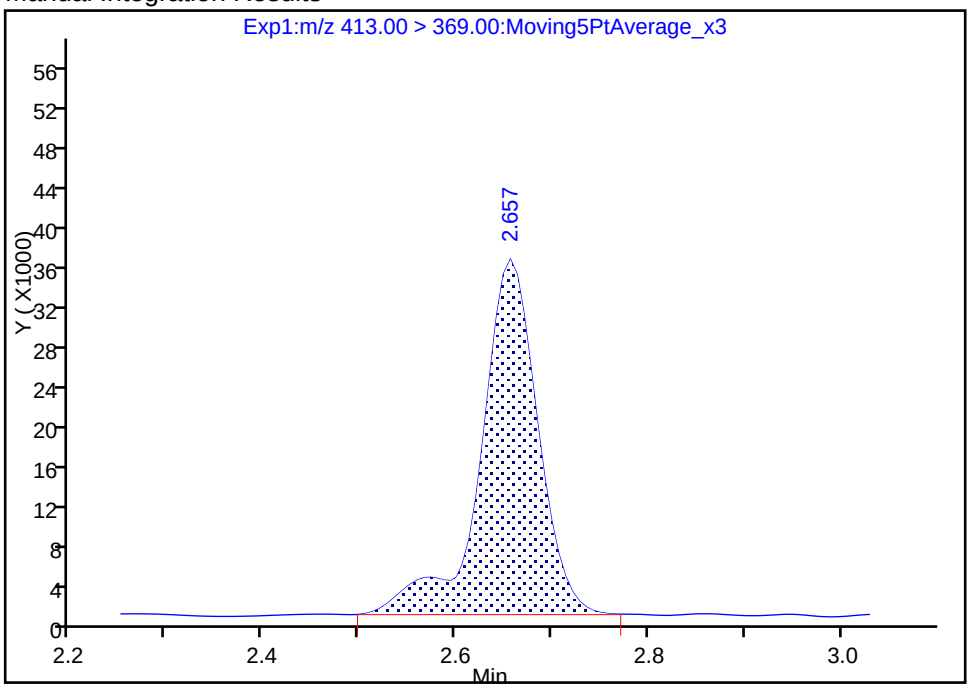
Processing Integration Results

RT: 2.66
Area: 135815
Amount: 0.072548
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 148809
Amount: 0.079489
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:40:29
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

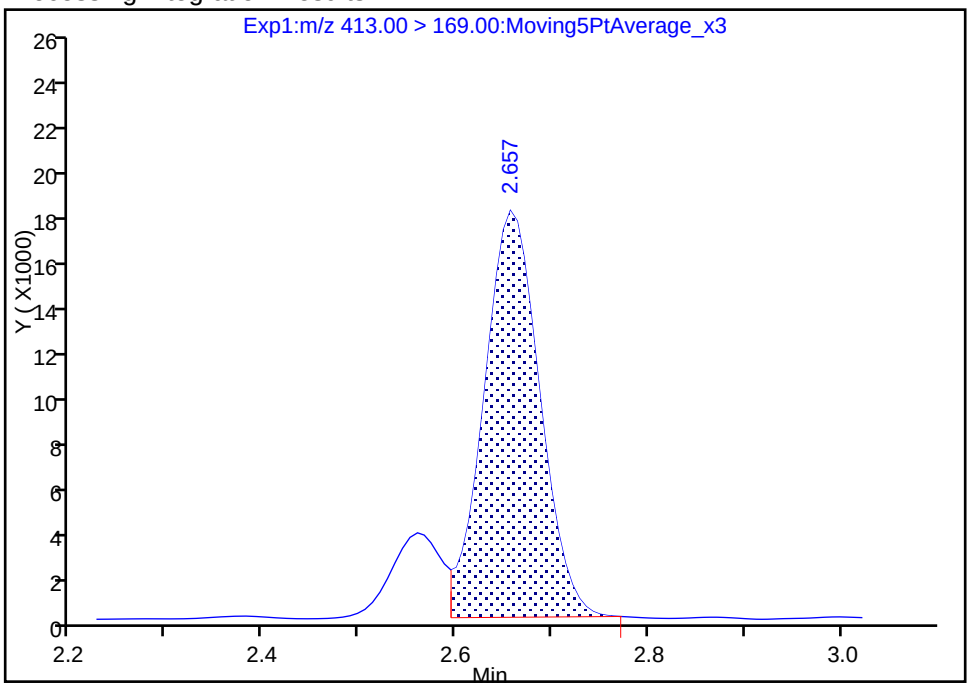
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_016.d				
Injection Date:	22-Dec-2017 23:34:01	Instrument ID:	A8_N		
Lims ID:	320-34425-A-4-A	Lab Sample ID:	320-34425-4		
Client ID:	FM-26-090-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	11	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

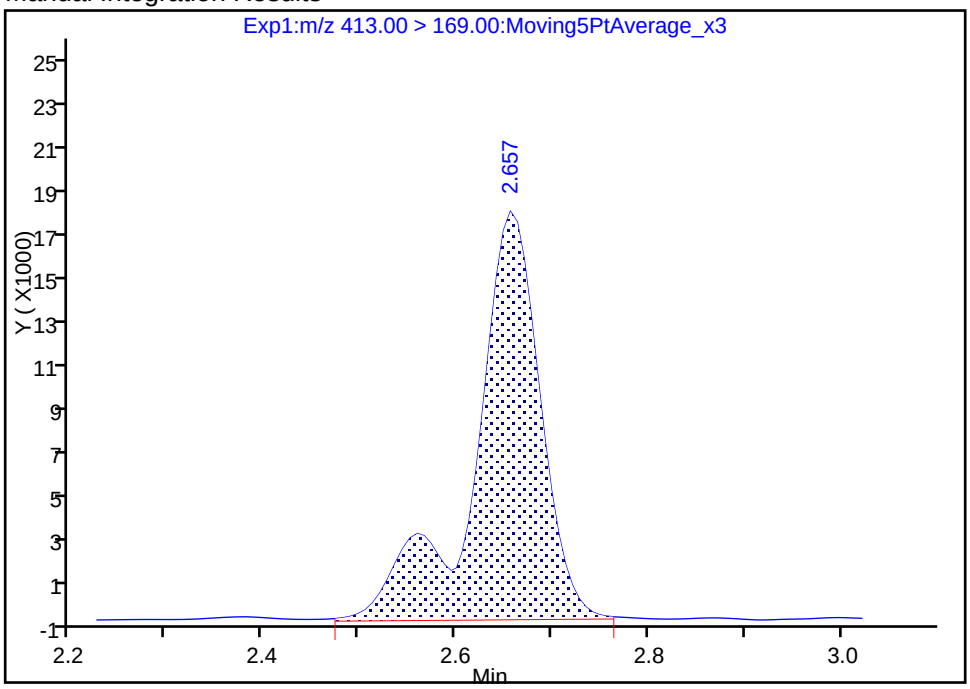
Processing Integration Results

RT: 2.66
Area: 72592
Amount: 0.072548
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 87580
Amount: 0.079489
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:40:40

Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-080-816-171211 | Lab Sample ID: 320-34425-5

Matrix: Water | Lab File ID: 2017.12.22LLB_017.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 12:42

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 263.2(mL) | Date Analyzed: 12/22/2017 23:41

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.33	U	1.90	0.33
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.47	U	1.90	0.47
307-24-4	Perfluorohexanoic acid (PFHxA)	0.55	U	1.90	0.55
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.24	U	1.90	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	0.81	U	1.90	0.81
375-95-1	Perfluorononanoic acid (PFNA)	0.26	U	1.90	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.29	U	1.90	0.29
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.04	U	1.90	1.04
307-55-1	Perfluorododecanoic acid (PFDoA)	0.52	U	1.90	0.52
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.23	U	1.90	1.23
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.90	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.19	U	1.90	0.19
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.46	J B	1.90	0.16
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	1.90	0.18
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.93	J	1.90	0.51
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.30	U	1.90	0.30
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.33	U	1.90	0.33
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	2.94	U	19.0	2.94
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.80	U	19.0	1.80
27619-97-2	6:2FTS	1.90	U	19.0	1.90
39108-34-4	8:2FTS	1.90	U	19.0	1.90

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-080-816-171211 | Lab Sample ID: 320-34425-5

Matrix: Water | Lab File ID: 2017.12.22LLB_017.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 12:42

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 263.2(mL) | Date Analyzed: 12/22/2017 23:41

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	107		25-150
STL01893	13C5 PFPeA	105		25-150
STL00993	13C2 PFHxA	102		25-150
STL01892	13C4-PFHpA	105		25-150
STL00990	13C4 PFOA	100		25-150
STL00995	13C5 PFNA	105		25-150
STL00996	13C2 PFDA	104		25-150
STL00997	13C2 PFUnA	96		25-150
STL00998	13C2 PFDoA	96		25-150
STL02116	13C2-PFTeDA	114		25-150
STL02337	13C3-PFBS	108		25-150
STL00994	18O2 PFHxS	108		25-150
STL00991	13C4 PFOS	102		25-150
STL01056	13C8 FOSA	100		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	86		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	79		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_017.d
Lims ID: 320-34425-A-5-A
Client ID: FM-26-080-816-171211
Sample Type: Client
Inject. Date: 22-Dec-2017 23:41:50 ALS Bottle#: 12 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-5-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:42:32

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.535	7370241	2.68		107	22789	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	21249	0.007866			5.1	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.630	4295812	2.61		105	42541	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.663	1.670	-0.007	0.995	14566	0.007594			16.9	M
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.705	0.002	0.644	87640	2.50		108	3058	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.741	4471861	2.55		102	36712	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.955	1.956	-0.001	0.995	18173	0.0101			38.7	
313.00 > 119.00	1.976	1.956	0.020	1.005	1945		9.34(5.03-15.10)		39.1	M
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.864	4257970	2.62		105	46300	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	28467	0.0120			74.5	
399.00 > 99.00	2.306	2.304	0.002	1.000	9819		2.90(1.50-4.49)		29.0	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.869	5216877	2.54		108	50544	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.642	-0.011	1.000	9308	0.0187			245	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.992	760814	1.01		42.3	16791	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.654	-0.001	1.000	4662293	2.50		99.9	45594	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 62 13C2-PFOA										
415.00 > 370.00	2.653	2.656	-0.003		4518865	2.50			43913	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.660	2.656	0.004	1.003	11800	0.006017			19.5	
413.00 > 169.00	2.660	2.656	0.004	1.003	6101		1.93(0.84-2.52)		47.4	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.141	3291569	2.43		102	37791	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.026	3.028	-0.002	1.000	35564	0.0244			4.6	
499.00 > 99.00	3.026	3.028	-0.002	1.000	8960		3.97(2.31-6.93)		5.6	
D 19 13C5 PFNA										
468.00 > 423.00	3.026	3.028	-0.002	1.141	3479157	2.62		105	38371	
20 Perfluorononanoic acid										
463.00 > 419.00	3.026	3.029	-0.003	1.000	8406	0.006003			36.8	
463.00 > 169.00	3.026	3.029	-0.003	1.000	1959		4.29(1.90-5.69)		39.4	
D 21 13C8 FOSA										
506.00 > 78.00	3.373	3.370	0.003	1.271	4614357	2.51		100	29637	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.373	3.372	0.001	1.000	7415	0.004188			270	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.377	-0.004	1.271	798465	1.89		78.9	22951	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.389	-0.001	1.277	2834932	2.59		104	35220	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.543	-0.003	1.335	1203248	2.05		82.0	16134	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.712	-0.013	1.394	1233648	2.15		86.0	6910	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.398	2000295	2.40		96.0	32226	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.011	-0.005	1.510	2160243	2.40		96.2	41626	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.501	4.518	-0.017	1.697	2851917	2.84		114	25826	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:11 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_017.d

Injection Date: 22-Dec-2017 23:41:50 Instrument ID: A8_N

Lims ID: 320-34425-A-5-A Lab Sample ID: 320-34425-5

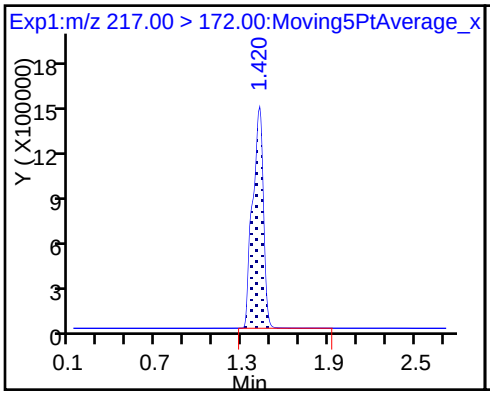
Client ID: FM-26-080-816-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 12 Worklist Smp#: 9

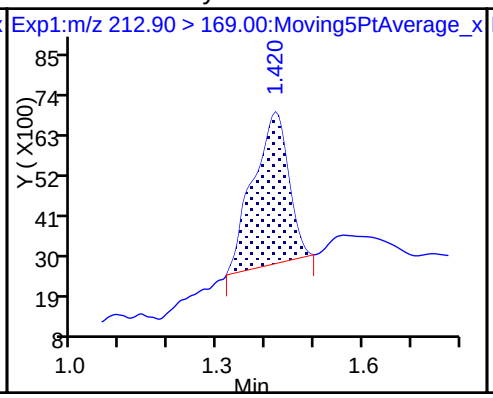
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

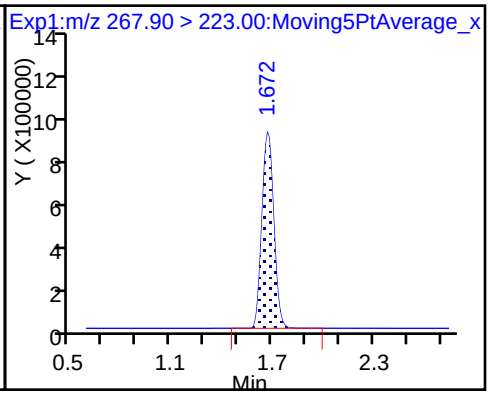
D 1 13C4 PFBA



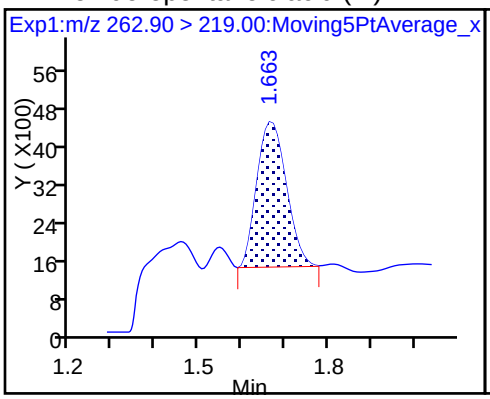
2 Perfluorobutyric acid



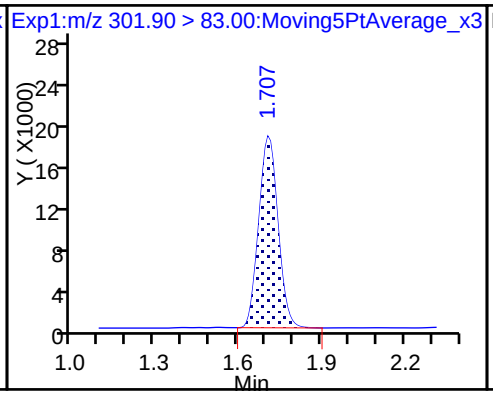
D 3 13C5-PFPeA



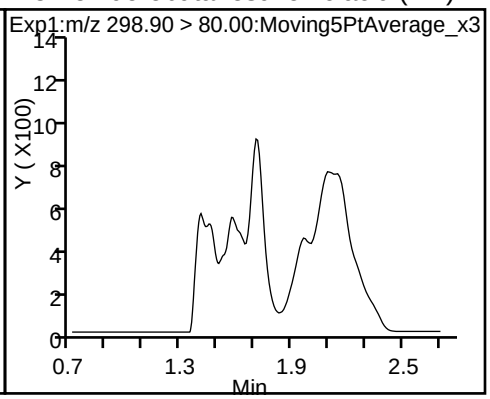
4 Perfluoropentanoic acid (M)



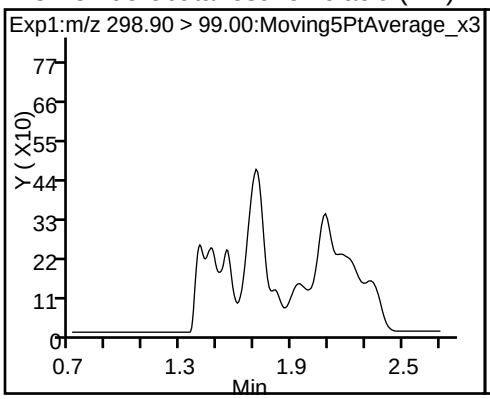
D 47 13C3-PFBS



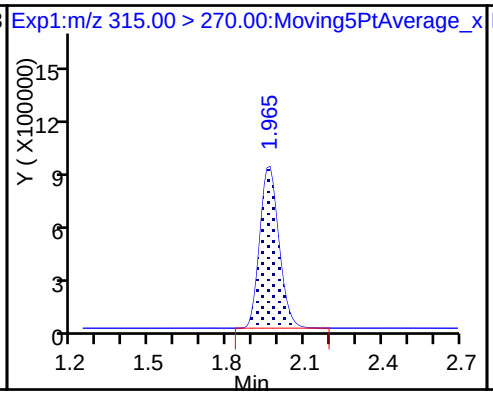
5 Perfluorobutanesulfonic acid (ND)



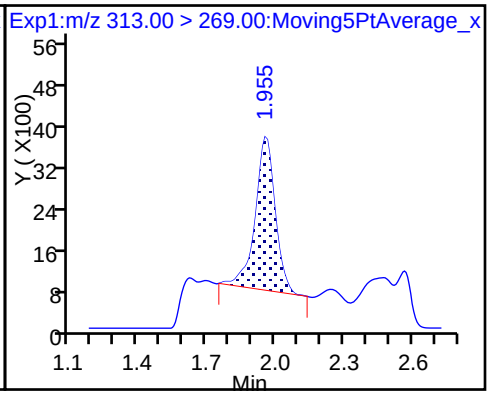
5 Perfluorobutanesulfonic acid (ND)



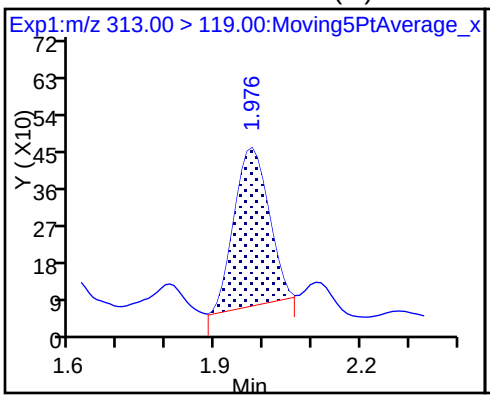
D 7 13C2 PFHxA



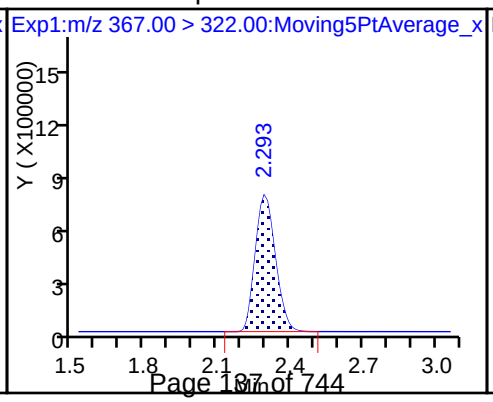
6 Perfluorohexanoic acid



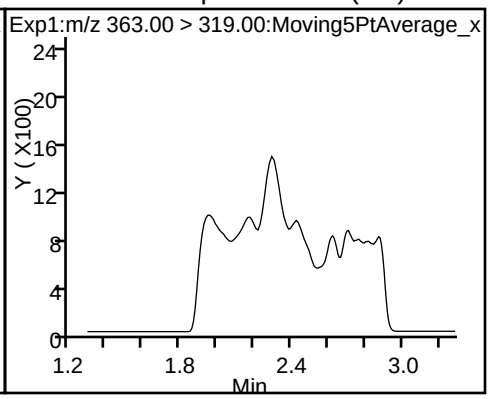
6 Perfluorohexanoic acid (M)



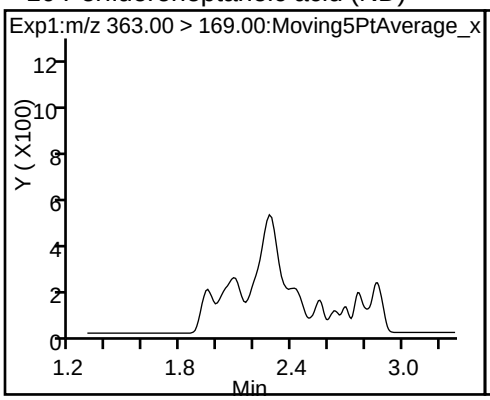
D 9 13C4-PFHpA



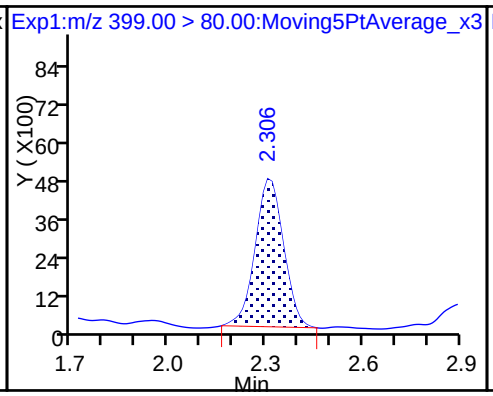
10 Perfluoroheptanoic acid (ND)



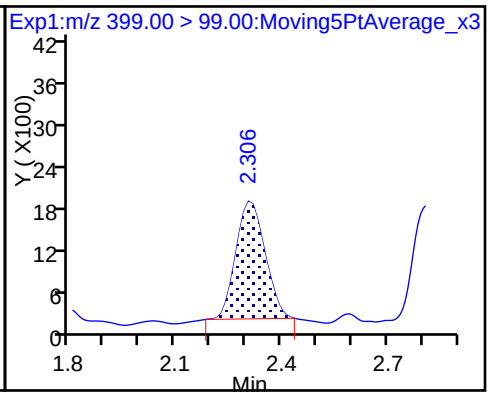
10 Perfluoroheptanoic acid (ND)



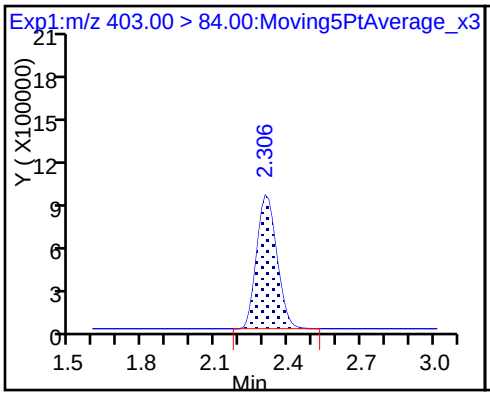
8 Perfluorohexanesulfonic acid



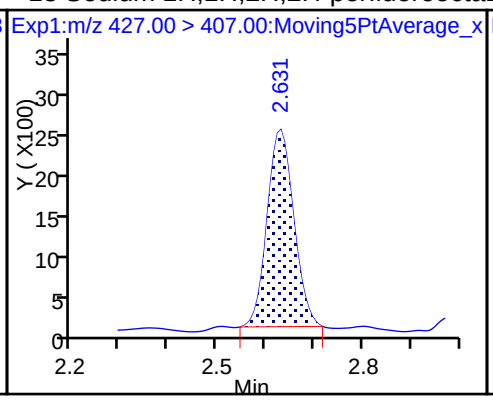
8 Perfluorohexanesulfonic acid



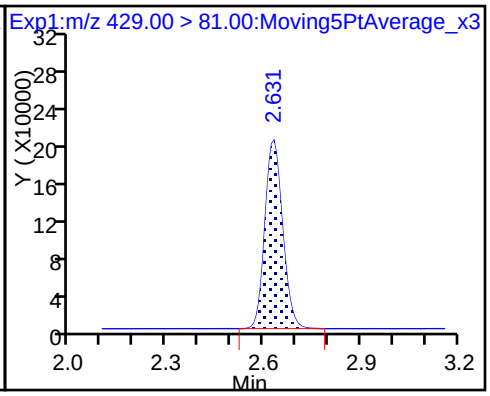
D 11 18O2 PFHxS



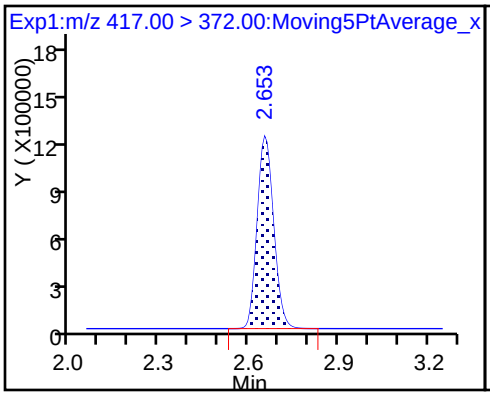
13 Sodium 1H,1H,2H,2H-perfluorooctane



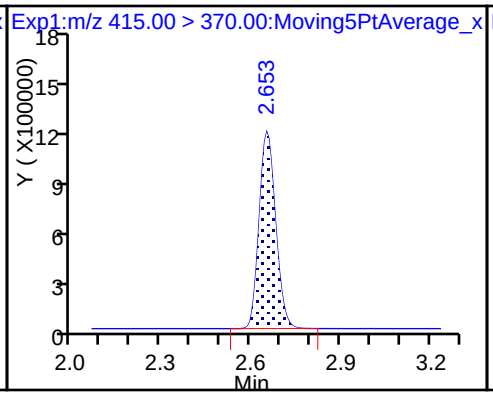
D 12 M2-6:2FTS



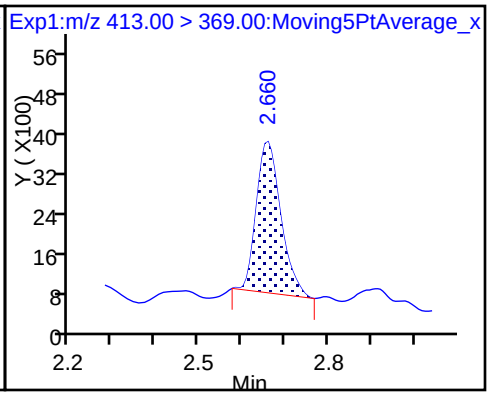
D 14 13C4 PFOA



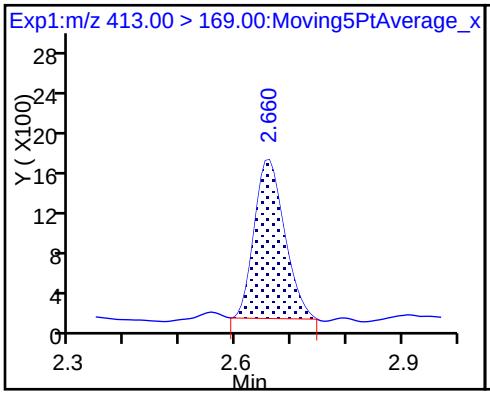
* 62 13C2-PFOA



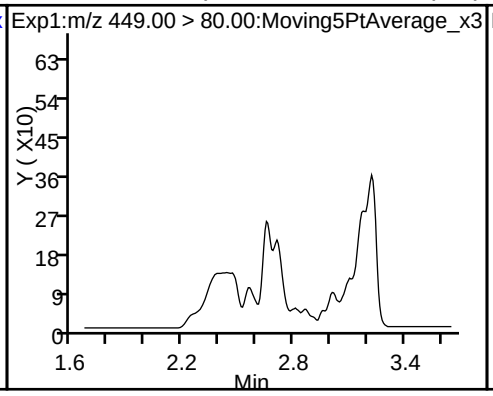
15 Perfluorooctanoic acid



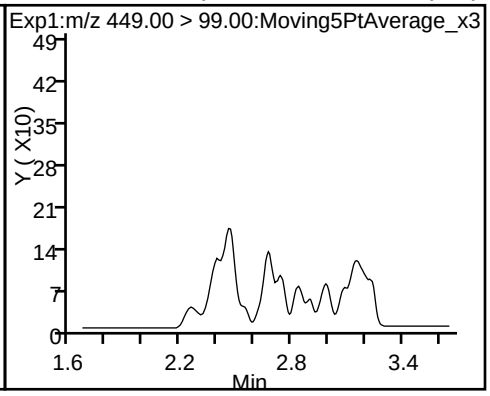
15 Perfluorooctanoic acid



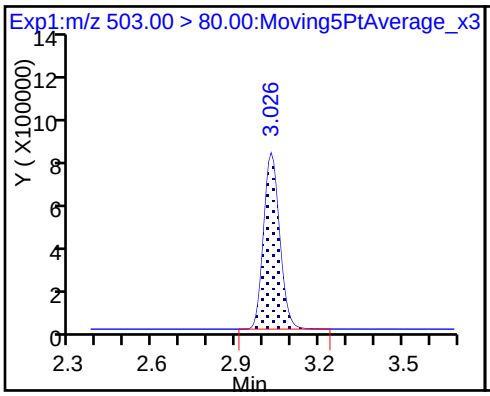
16 Perfluoroheptanesulfonic Acid (ND)



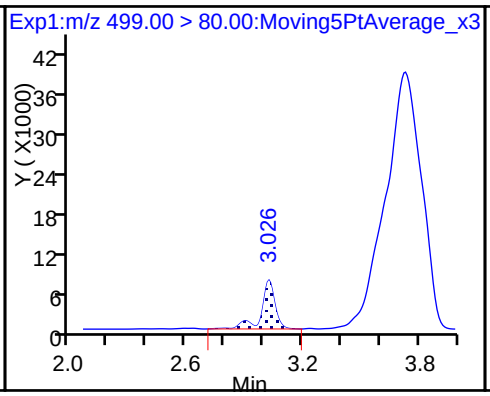
16 Perfluoroheptanesulfonic Acid (ND)



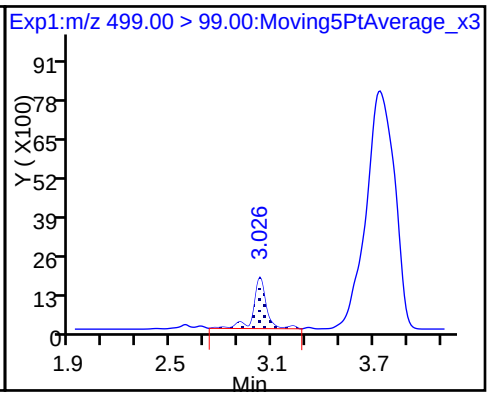
D 18 13C4 PFOS



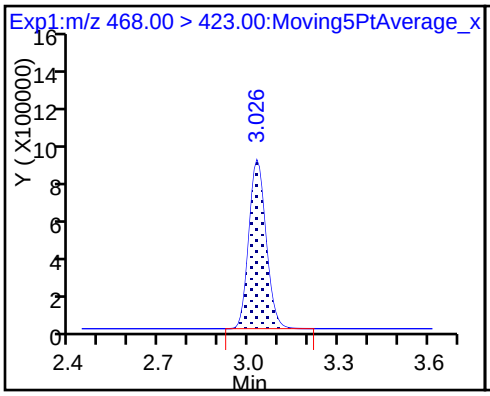
17 Perfluorooctane sulfonic acid



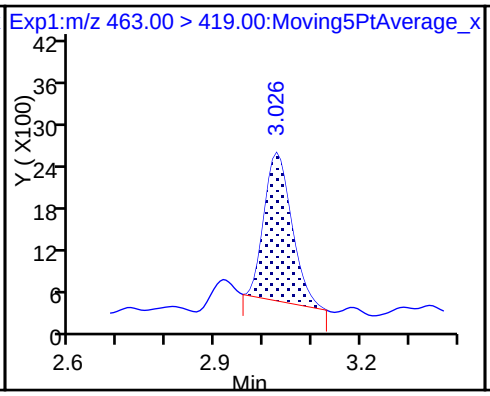
17 Perfluorooctane sulfonic acid



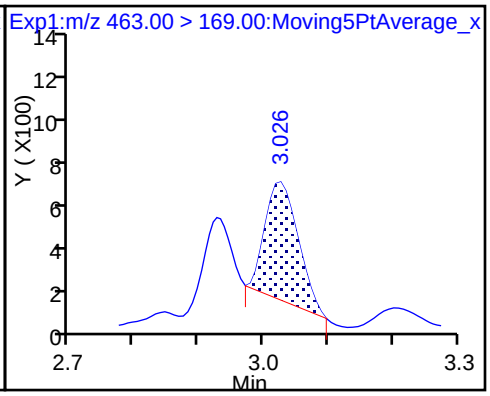
D 19 13C5 PFNA



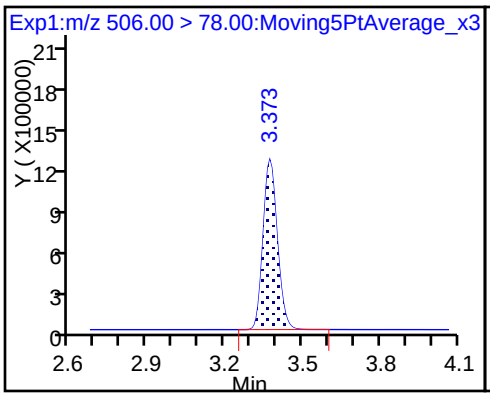
20 Perfluorononanoic acid



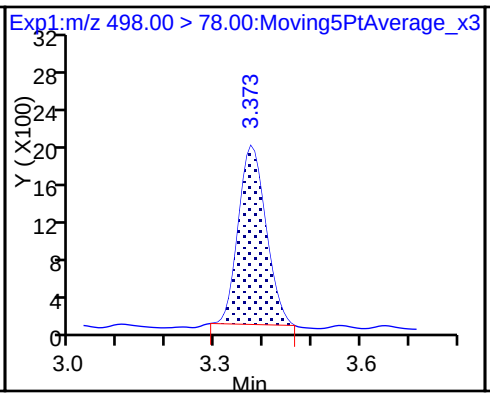
20 Perfluorononanoic acid



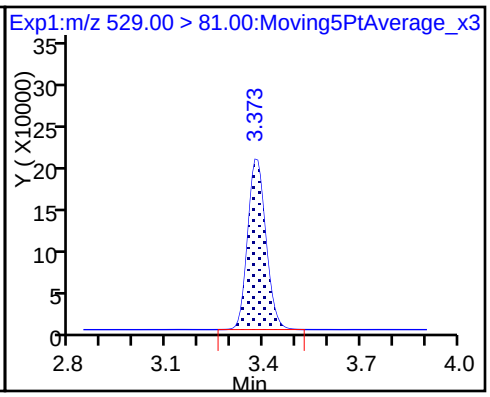
D 21 13C8 FOSA



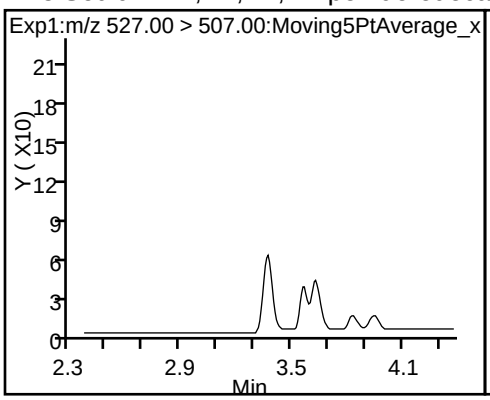
22 Perfluorooctane Sulfonamide



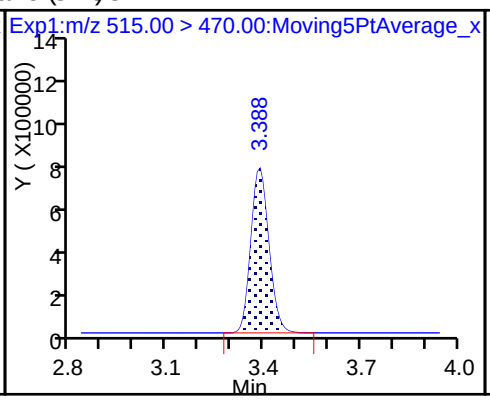
D 26 M2-8:2FTS



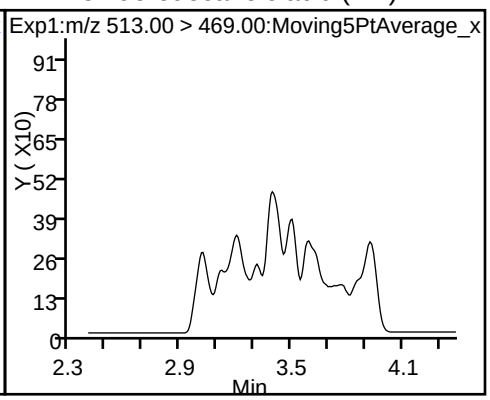
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



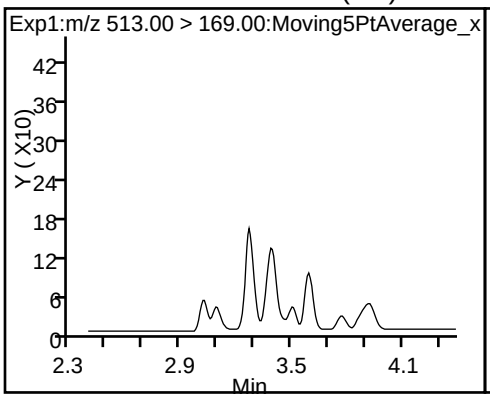
D 23 13C2 PFDA



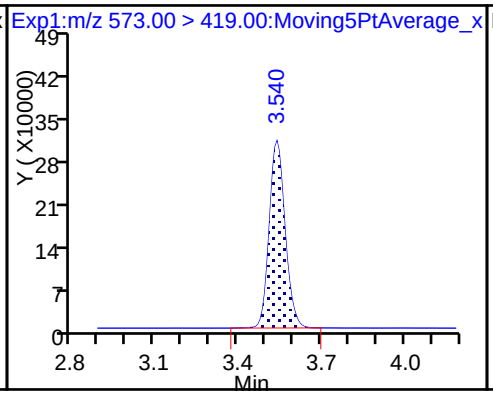
24 Perfluorodecanoic acid (ND)



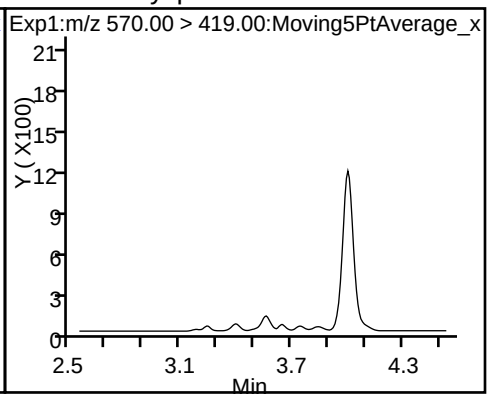
24 Perfluorodecanoic acid (ND)



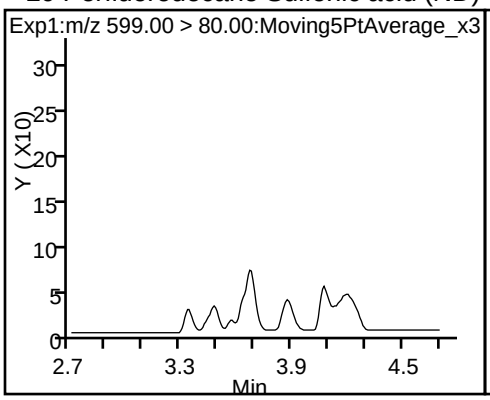
D 27 d3-NMeFOSAA



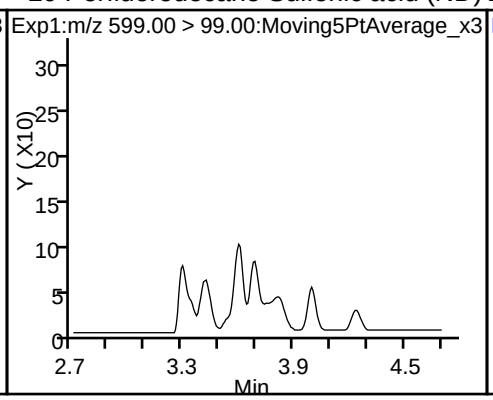
28 N-methyl perfluorooctane sulfonami (ND)



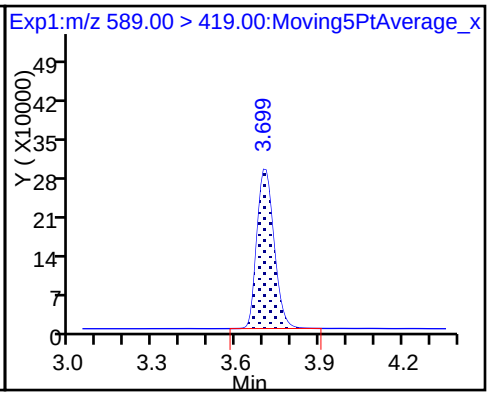
29 Perfluorodecane Sulfonic acid (ND)



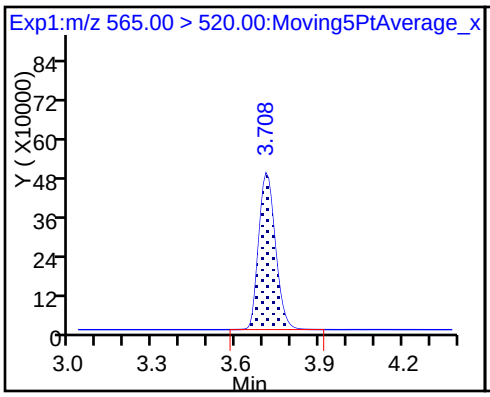
29 Perfluorodecane Sulfonic acid (ND)



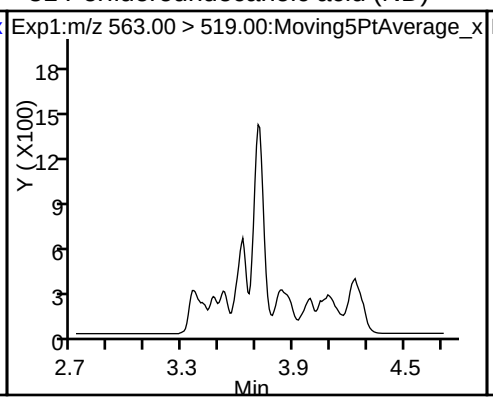
D 32 d5-NEtFOSAA



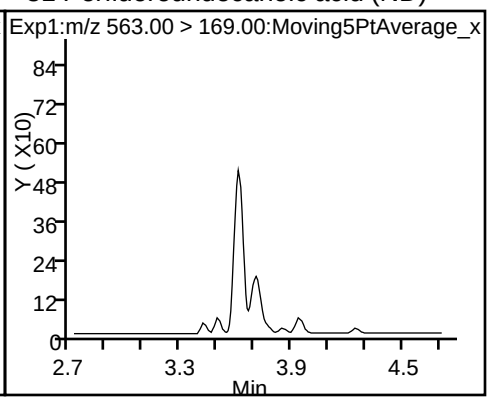
D 30 13C2 PFUnA



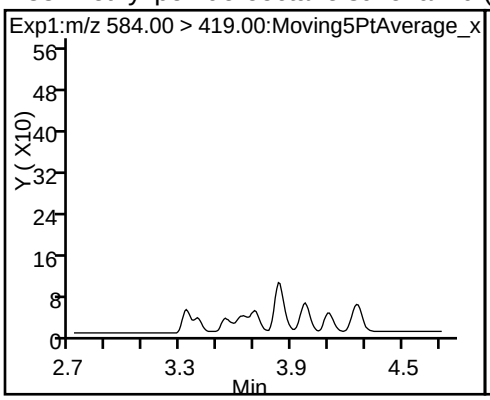
31 Perfluoroundecanoic acid (ND)



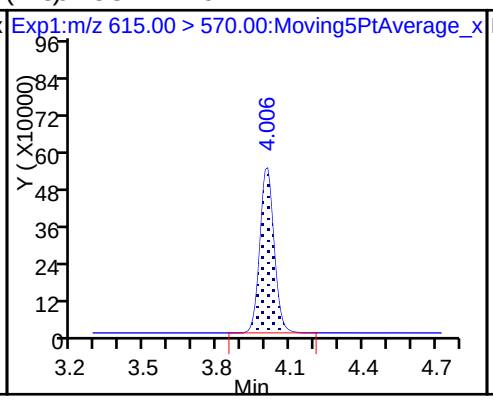
31 Perfluoroundecanoic acid (ND)



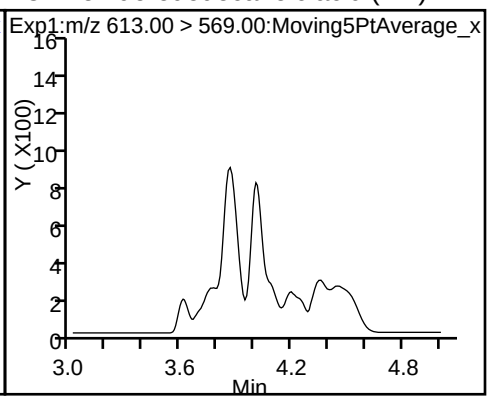
33 N-ethyl perfluorooctane sulfonamid (ND)



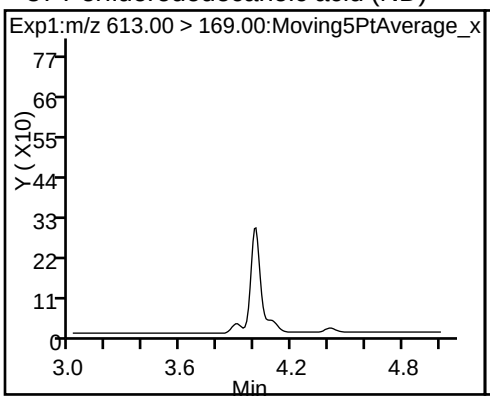
D 36 13C2 PFDoA



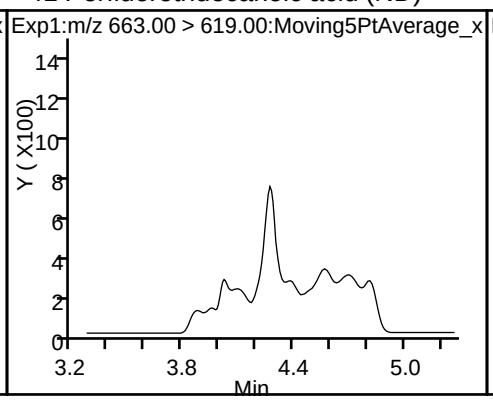
37 Perfluorododecanoic acid (ND)



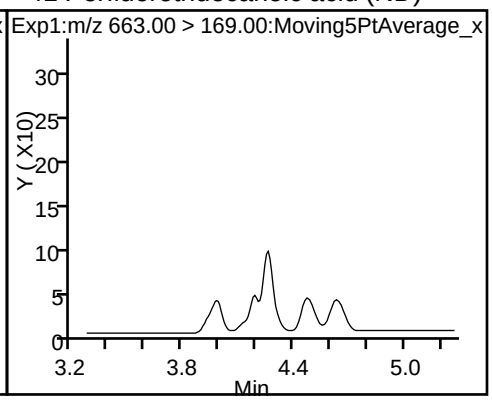
37 Perfluorododecanoic acid (ND)



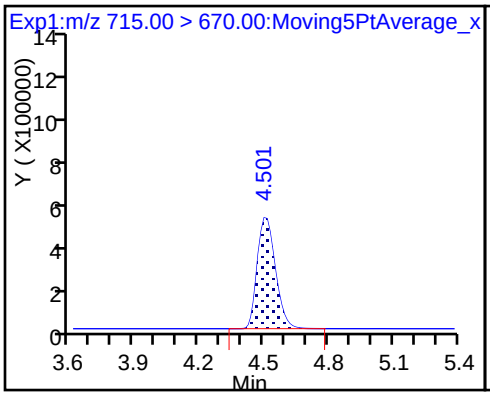
41 Perfluorotridecanoic acid (ND)



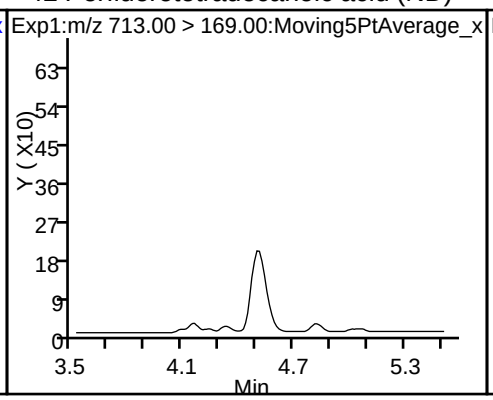
41 Perfluorotridecanoic acid (ND)



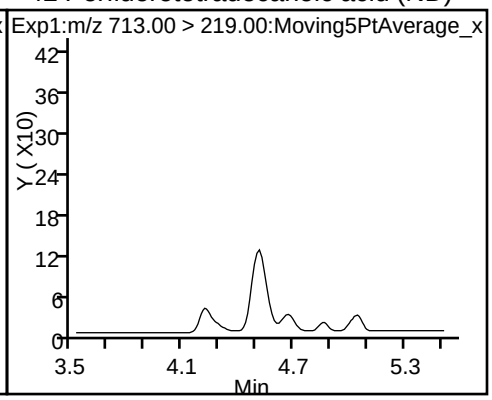
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

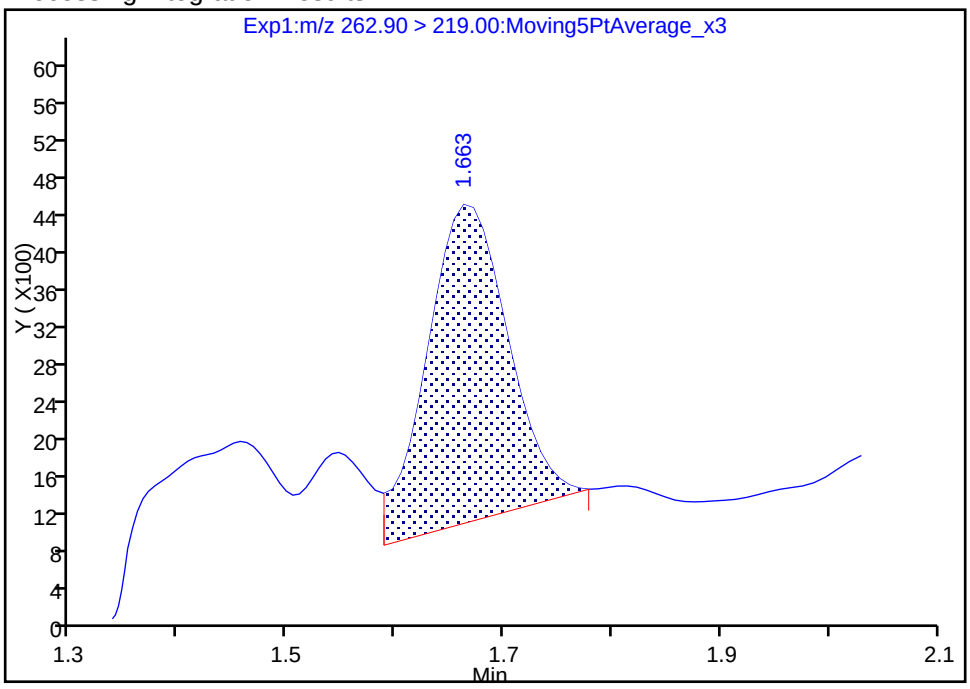
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_017.d				
Injection Date:	22-Dec-2017 23:41:50	Instrument ID:	A8_N		
Lims ID:	320-34425-A-5-A	Lab Sample ID:	320-34425-5		
Client ID:	FM-26-080-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	12	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

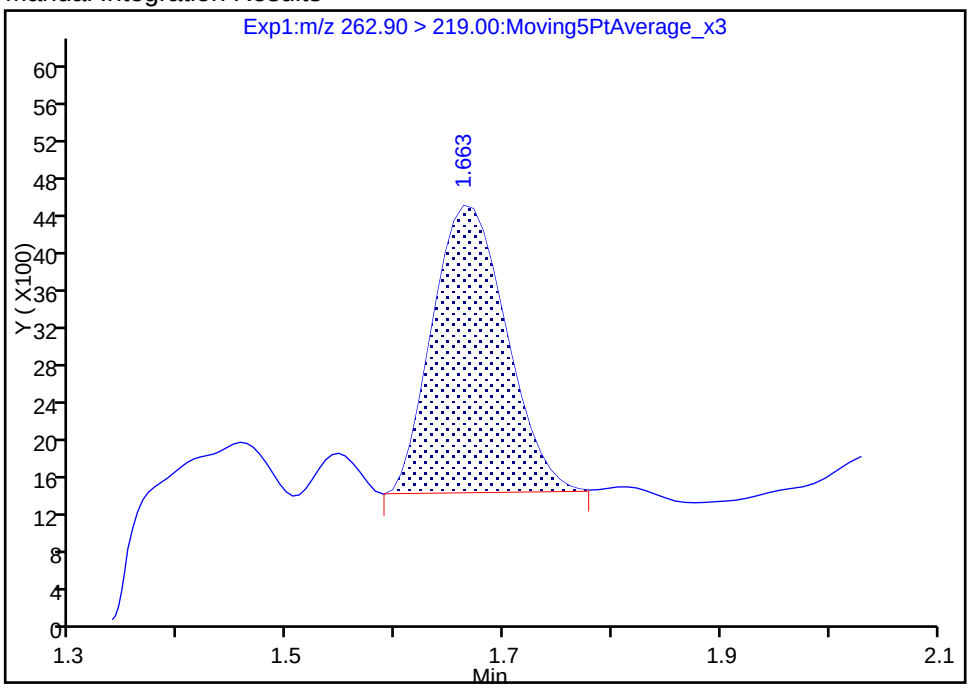
Processing Integration Results

RT: 1.66
Area: 17674
Amount: 0.009215
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 14566
Amount: 0.007594
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:41:37
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

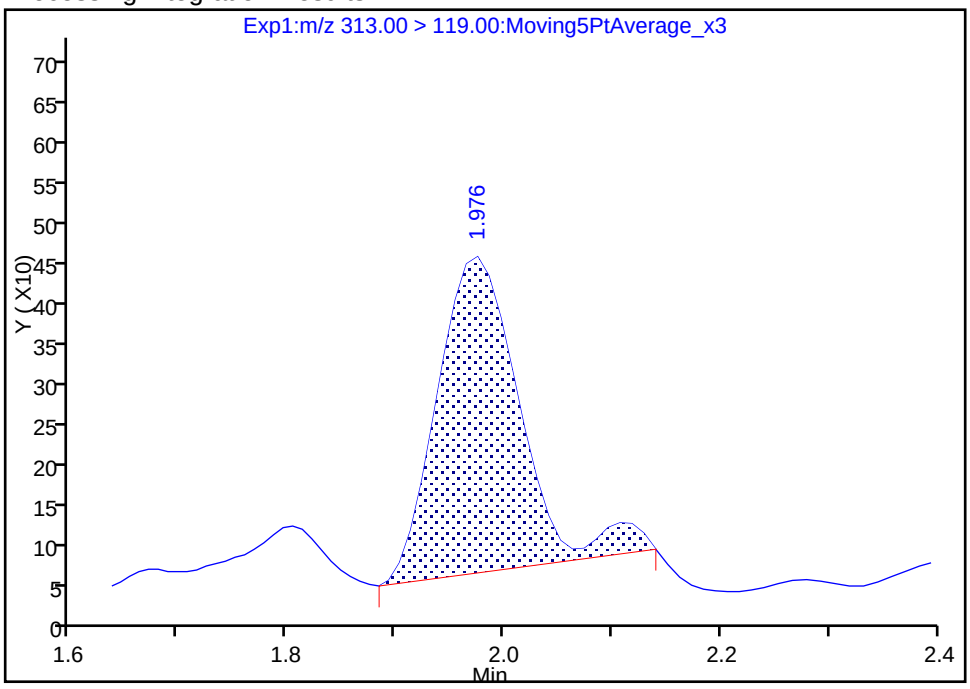
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_017.d				
Injection Date:	22-Dec-2017 23:41:50	Instrument ID:	A8_N		
Lims ID:	320-34425-A-5-A	Lab Sample ID:	320-34425-5		
Client ID:	FM-26-080-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	12	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

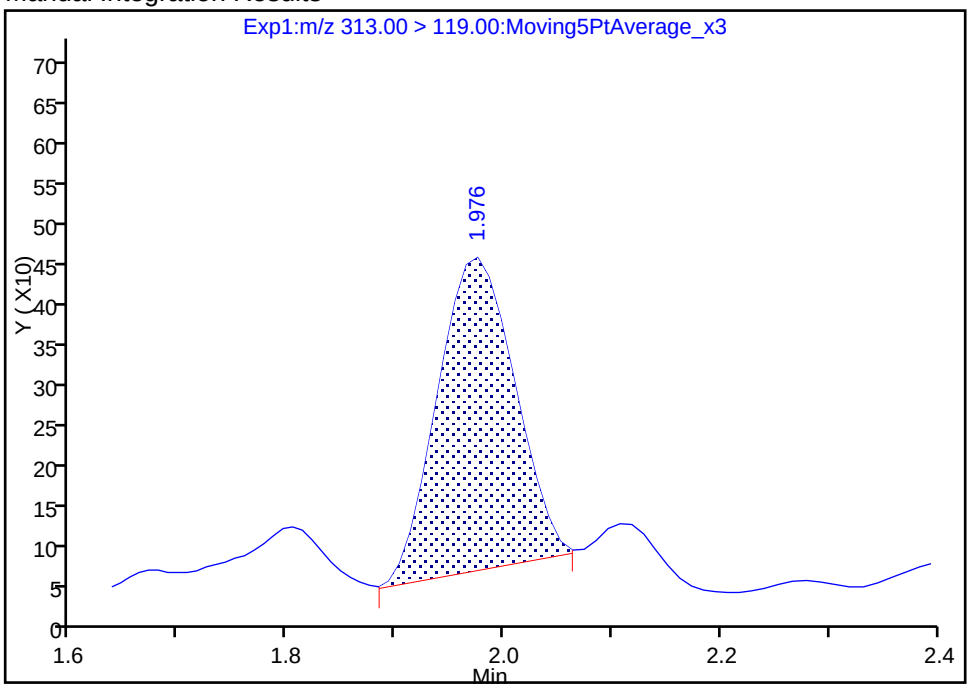
Processing Integration Results

RT: 1.98
Area: 2102
Amount: 0.010148
Amount Units: ng/ml



Manual Integration Results

RT: 1.98
Area: 1945
Amount: 0.010148
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:41:53
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-070-816-171211 | Lab Sample ID: 320-34425-6

Matrix: Water | Lab File ID: 2017.12.22LLB_018.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 13:28

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 249.5(mL) | Date Analyzed: 12/22/2017 23:49

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.55	J	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.99	J	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	1.20	J	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.39	J	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.36	J	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.29	J	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.96	B	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.41		2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.11	U	20.0	3.11
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-070-816-171211 | Lab Sample ID: 320-34425-6

Matrix: Water | Lab File ID: 2017.12.22LLB_018.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 13:28

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 249.5(mL) | Date Analyzed: 12/22/2017 23:49

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	107		25-150
STL01893	13C5 PFPeA	106		25-150
STL00993	13C2 PFHxA	107		25-150
STL01892	13C4-PFHpA	108		25-150
STL00990	13C4 PFOA	95		25-150
STL00995	13C5 PFNA	102		25-150
STL00996	13C2 PFDA	103		25-150
STL00997	13C2 PFUnA	101		25-150
STL00998	13C2 PFDoA	96		25-150
STL02116	13C2-PFTeDA	121		25-150
STL02337	13C3-PFBS	110		25-150
STL00994	18O2 PFHxS	108		25-150
STL00991	13C4 PFOS	102		25-150
STL01056	13C8 FOSA	101		25-150
STL02118	d3-NMeFOSAA	84		25-150
STL02117	d5-NEtFOSAA	90		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	83		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_018.d
Lims ID: 320-34425-A-6-A
Client ID: FM-26-070-816-171211
Sample Type: Client
Inject. Date: 22-Dec-2017 23:49:42 ALS Bottle#: 13 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-6-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:44:36

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.418	1.419	-0.001	0.536	7186666	2.67		107	23548	
2 Perfluorobutyric acid										
212.90 > 169.00	1.418	1.419	-0.001	1.000	36165	0.0137			8.6	
D 3 13C5-PFPeA										
267.90 > 223.00	1.669	1.670	-0.001	0.631	4276001	2.65		106	37190	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.669	1.670	-0.001	1.000	47342	0.0248			49.5	
D 47 13C3-PFBS										
301.90 > 83.00	1.704	1.705	-0.001	0.645	87647	2.55		110	2566	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.713	1.707	0.006	1.005	20706	0.007302			61.4	
298.90 > 99.00	1.704	1.707	-0.003	1.000	9973		2.08(1.25-3.74)		56.1	
D 7 13C2 PFHxA										
315.00 > 270.00	1.963	1.953	0.010	0.742	4606014	2.68		107	42315	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.952	1.956	-0.004	0.995	55185	0.0299			90.8	M
313.00 > 119.00	1.952	1.956	-0.004	0.995	5376		10.27(5.03-15.10)		103	
D 9 13C4-PFHpA										
367.00 > 322.00	2.290	2.291	-0.001	0.866	4298689	2.70		108	32468	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.290	2.291	-0.001	1.000	17329	0.009634			27.3	
363.00 > 169.00	2.290	2.291	-0.001	1.000	8547		2.03(1.13-3.40)		75.7	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.303	2.304	-0.001	1.000	290095	0.1238			565	
399.00 > 99.00	2.303	2.304	-0.001	1.000	90026		3.22(1.50-4.49)		191	
D 11 18O2 PFHxS										
403.00 > 84.00	2.303	2.304	-0.001	0.871	5148320	2.56		108	55812	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.623	2.642	-0.019	1.000	5852	0.0118			153	
D 12 M2-6:2FTS										
429.00 > 81.00	2.623	2.642	-0.019	0.992	760037	1.03		43.2	16474	
D 14 13C4 PFOA										
417.00 > 372.00	2.644	2.654	-0.010	1.000	4361591	2.38		95.3	41560	
* 62 13C2-PFOA										
415.00 > 370.00	2.644	2.656	-0.012		4428354	2.50			52137	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.644	2.656	-0.012	1.000	34584	0.0188			54.4	M
413.00 > 169.00	2.651	2.656	-0.005	1.003	19434		1.78(0.84-2.52)		150	M
D 18 13C4 PFOS										
503.00 > 80.00	3.016	3.025	-0.009	1.141	3243155	2.45		102	33605	
17 Perfluorooctane sulfonic acid										M
499.00 > 80.00	2.902	3.028	-0.126	0.962	122321	0.0850			11.3	
499.00 > 99.00	3.016	3.028	-0.012	1.000	24610		4.97(2.31-6.93)		12.6	M
D 19 13C5 PFNA										
468.00 > 423.00	3.016	3.028	-0.012	1.141	3306356	2.54		102	35689	
20 Perfluorononanoic acid										
463.00 > 419.00	3.024	3.029	-0.005	1.003	11932	0.008966			45.6	
463.00 > 169.00	3.024	3.029	-0.005	1.003	2679		4.45(1.90-5.69)		56.1	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.275	4565926	2.53		101	29054	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.372	-0.002	1.000	8857	0.005056			397	
D 26 M2-8:2FTS										
529.00 > 81.00	3.370	3.377	-0.007	1.275	823604	1.99		83.0	13440	
D 23 13C2 PFDA										
515.00 > 470.00	3.378	3.389	-0.011	1.277	2760966	2.57		103	39915	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.529	3.543	-0.014	1.335	1203437	2.09		83.6	16005	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.697	3.712	-0.015	1.398	1262783	2.25		89.9	7333	
D 30 13C2 PFUnA										
565.00 > 520.00	3.706	3.717	-0.011	1.401	2055298	2.52		101	35617	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.706	3.720	-0.014	1.002	3077	0.006131			143	
D 36 13C2 PFDoA										
615.00 > 570.00	3.997	4.011	-0.014	1.511	2122429	2.41		96.4	40421	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.261	4.277	-0.016	1.000	4985	0.005064			35.3	
663.00 > 169.00	4.270	4.277	-0.007	1.002	1996		2.50(1.25-3.76)		107	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.500	4.518	-0.018	1.702	2988210	3.04		121	25611	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:14 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_018.d

Injection Date: 22-Dec-2017 23:49:42 Instrument ID: A8_N

Lims ID: 320-34425-A-6-A Lab Sample ID: 320-34425-6

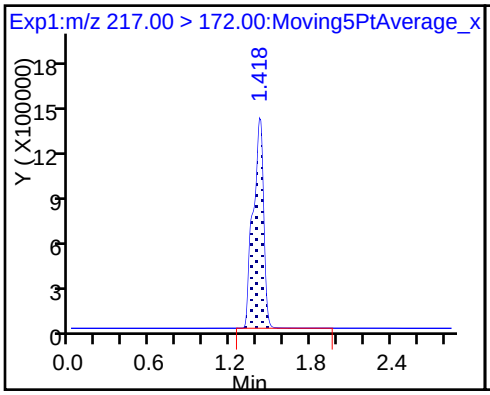
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Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 10

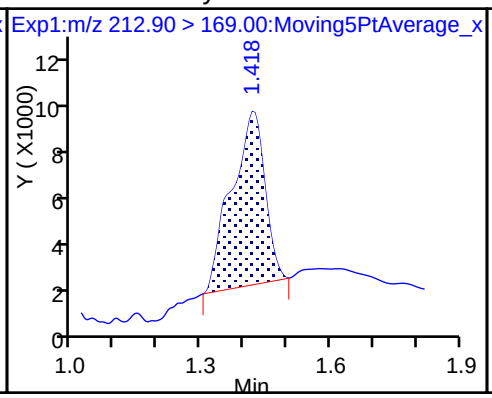
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

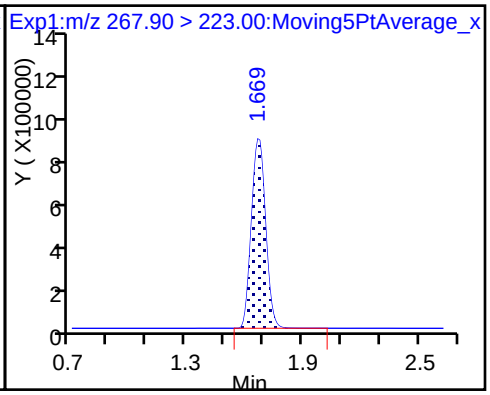
D 1 13C4 PFBA



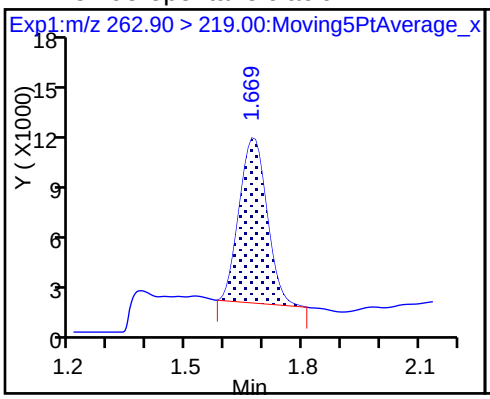
2 Perfluorobutyric acid



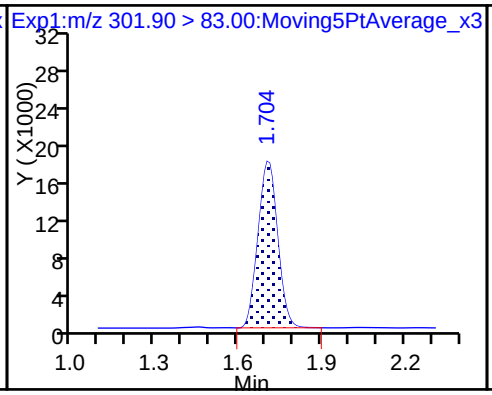
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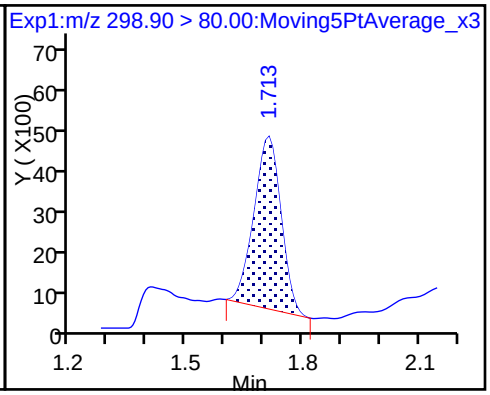
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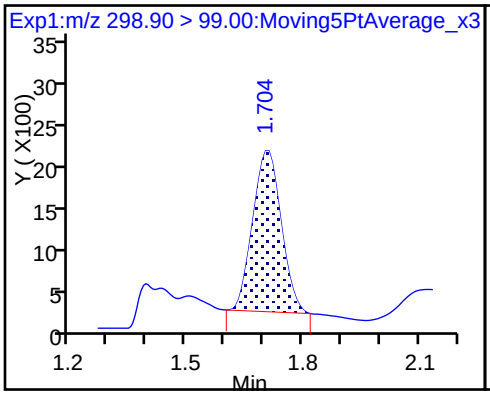
D 47 13C3-PFBS



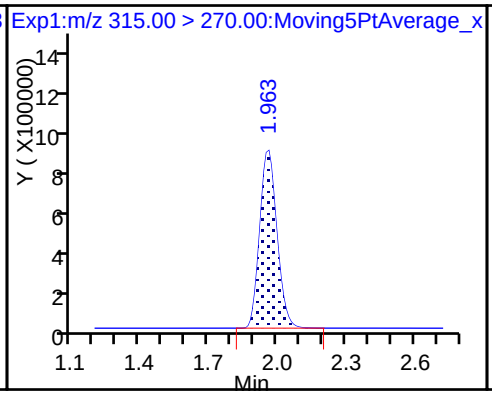
5 Perfluorobutanesulfonic acid



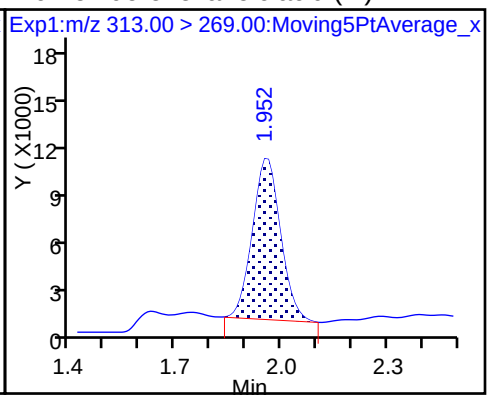
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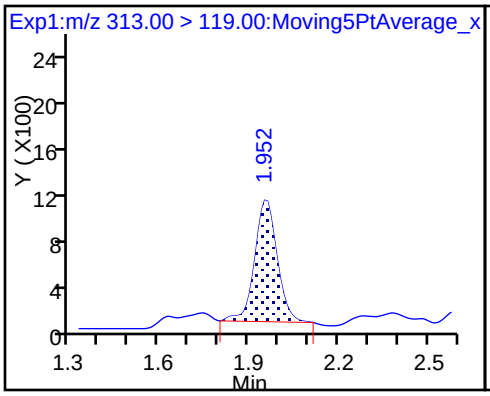
D 7 13C2 PFHxA



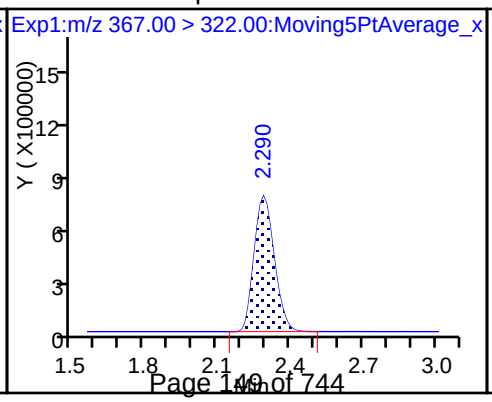
6 Perfluorohexanoic acid (M)



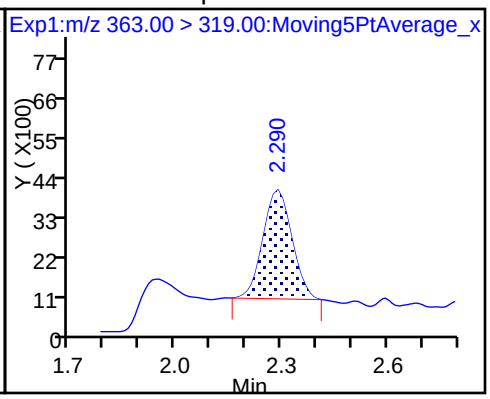
6 Perfluorohexanoic acid



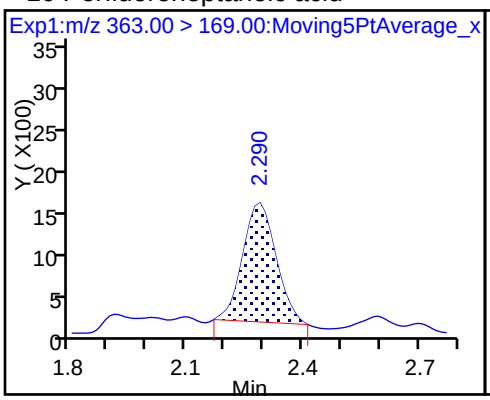
D 9 13C4-PFHpA



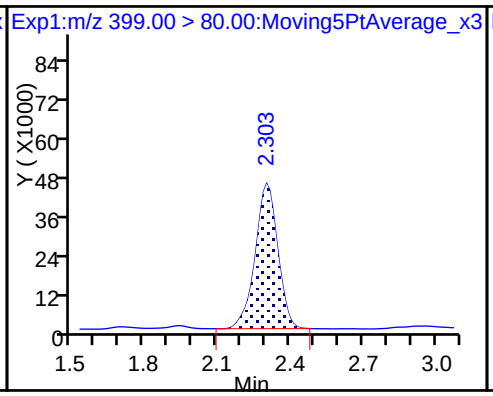
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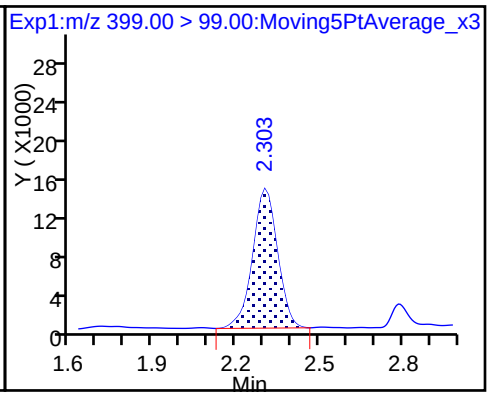
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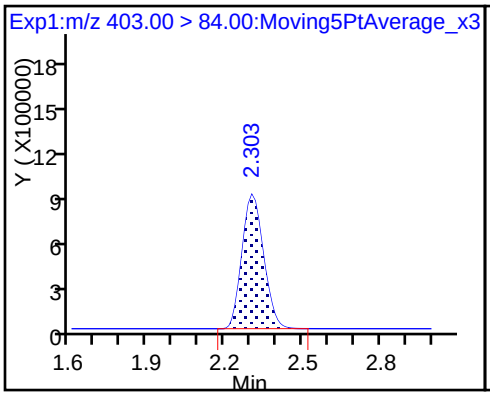
8 Perfluorohexanesulfonic acid



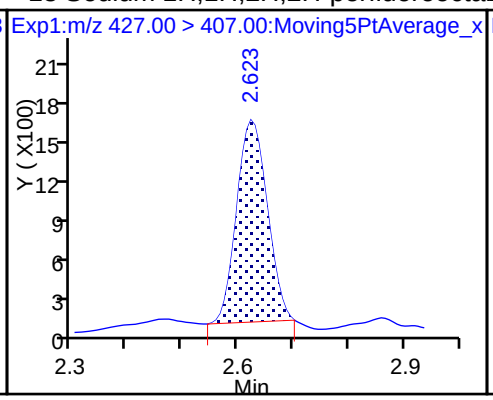
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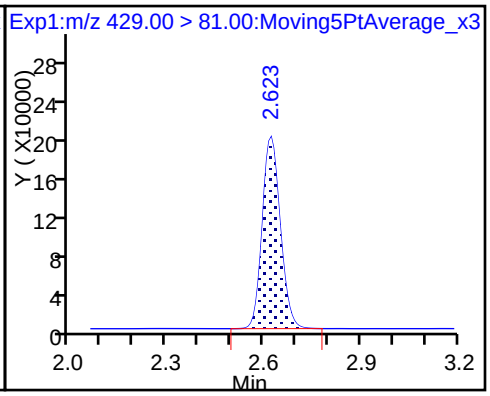
D 11 18O2 PFHxS



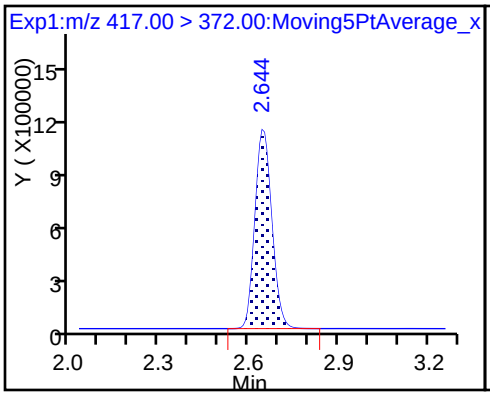
13 Sodium 1H,1H,2H,2H-perfluorooctane



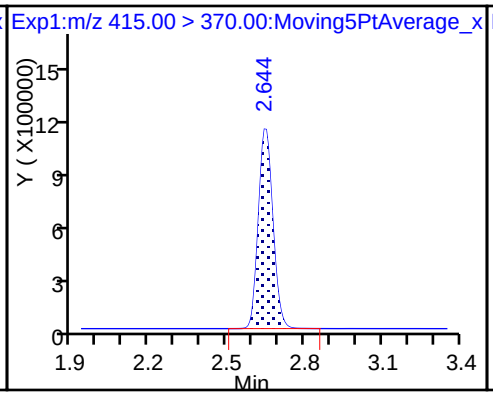
D 12 M2-6:2FTS



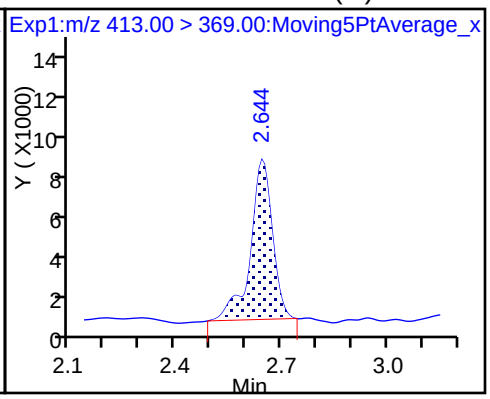
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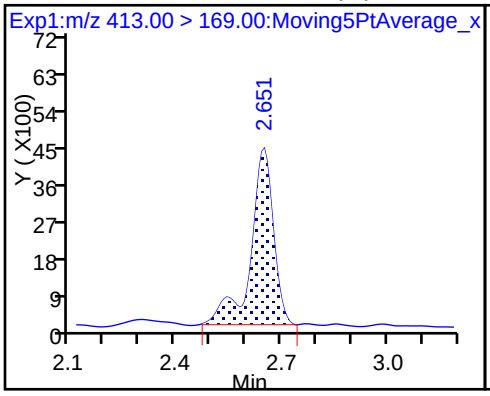
* 62 13C2-PFOA



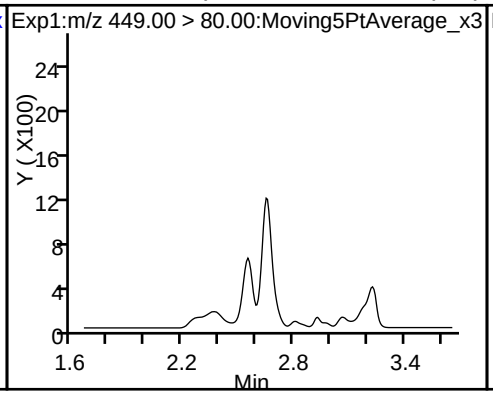
15 Perfluorooctanoic acid (M)



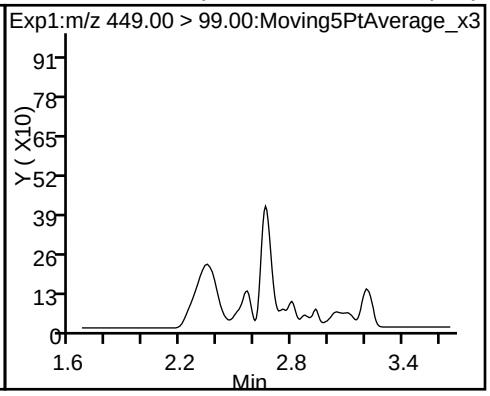
15 Perfluorooctanoic acid (M)



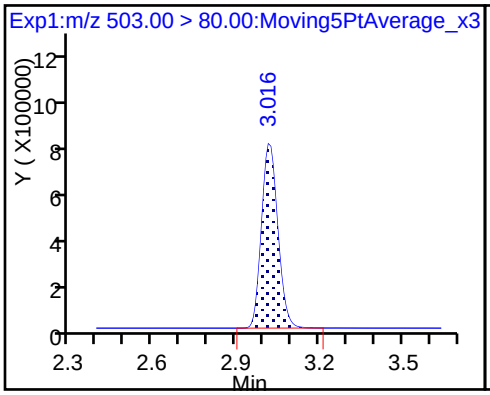
16 Perfluoroheptanesulfonic Acid (ND)



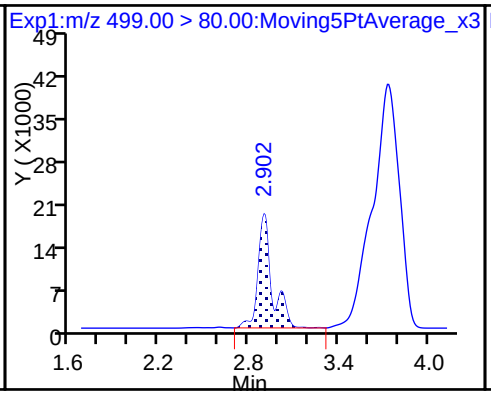
16 Perfluoroheptanesulfonic Acid (ND)



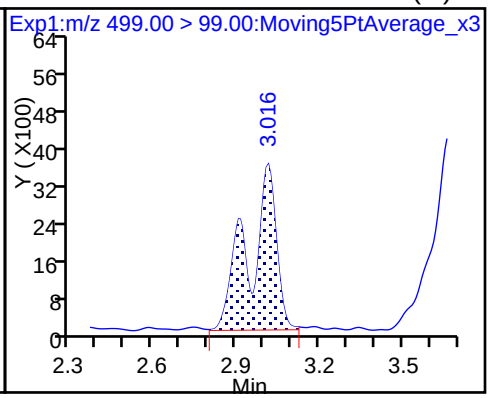
D 18 13C4 PFOS



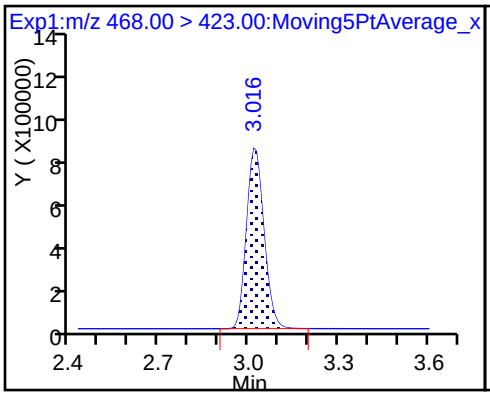
17 Perfluorooctane sulfonic acid



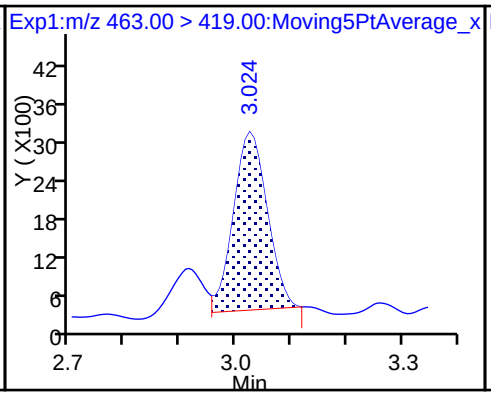
17 Perfluorooctane sulfonic acid (M)



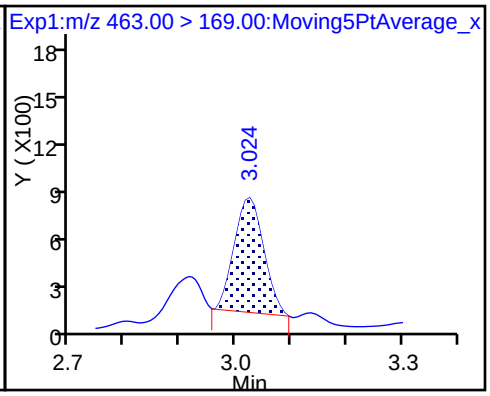
D 19 13C5 PFNA



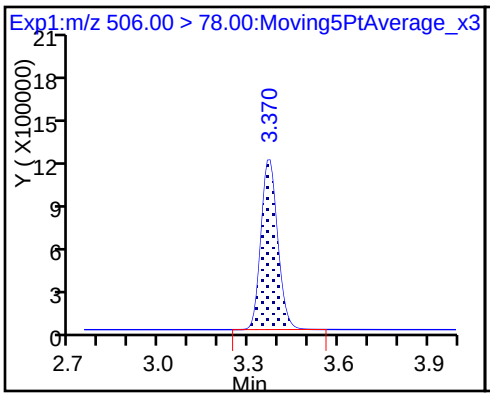
20 Perfluorononanoic acid



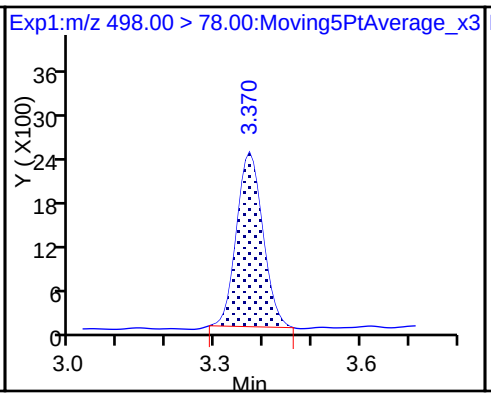
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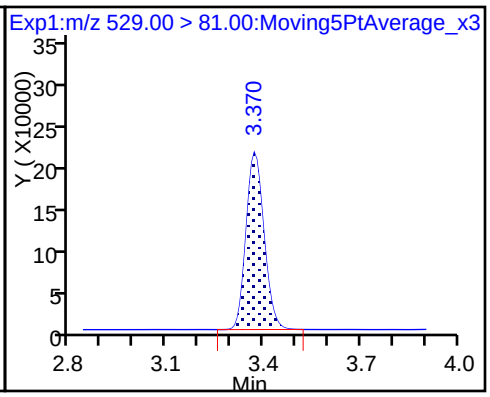
D 21 13C8 FOSA



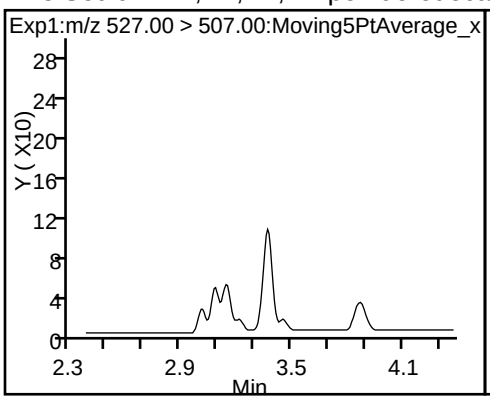
22 Perfluorooctane Sulfonamide



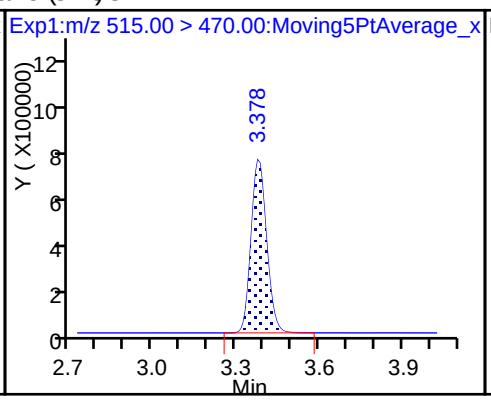
D 26 M2-8:2FTS



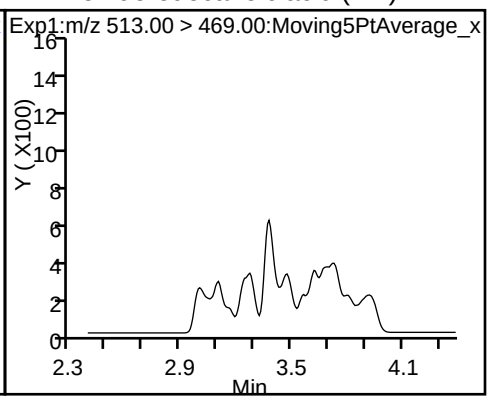
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



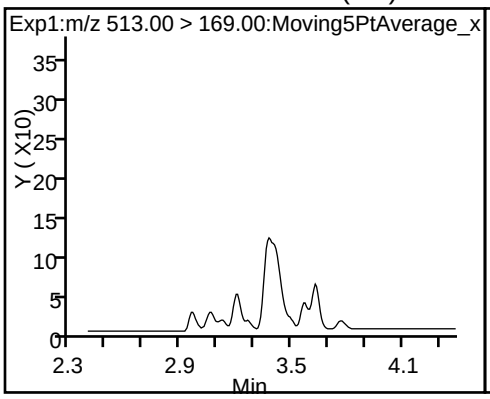
D 23 13C2 PFDA



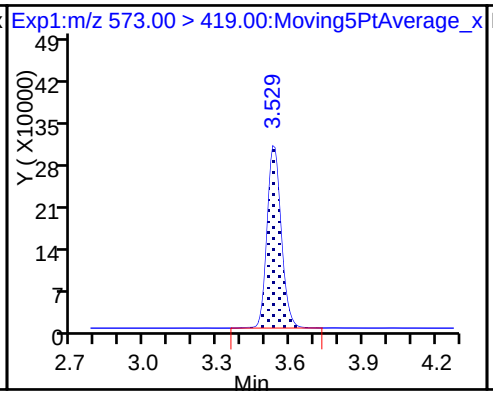
24 Perfluorodecanoic acid (ND)



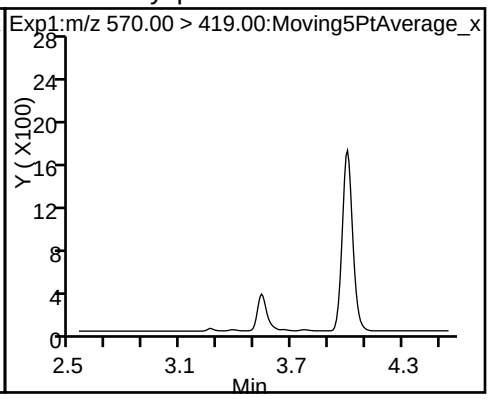
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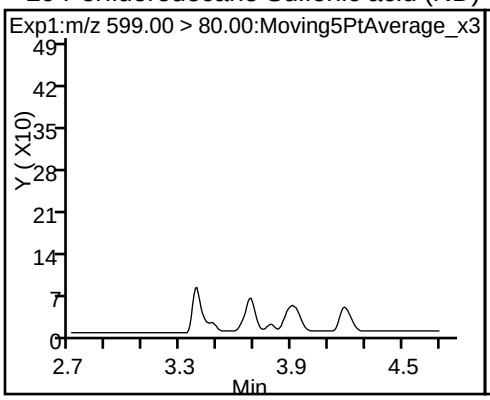
D 27 d3-NMeFOSAA



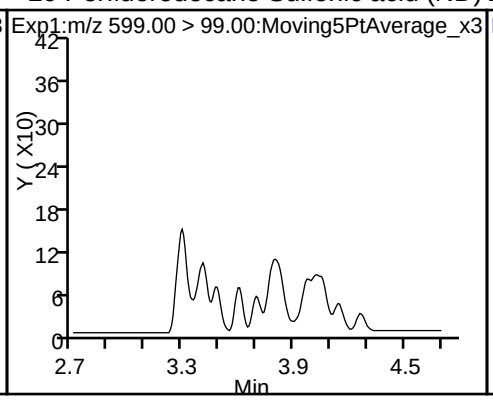
28 N-methyl perfluorooctane sulfonami (ND)



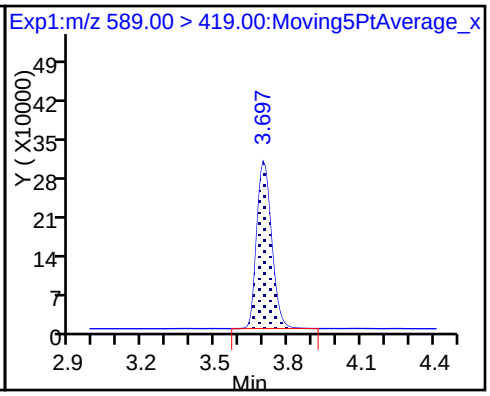
29 Perfluorodecane Sulfonic acid (ND)



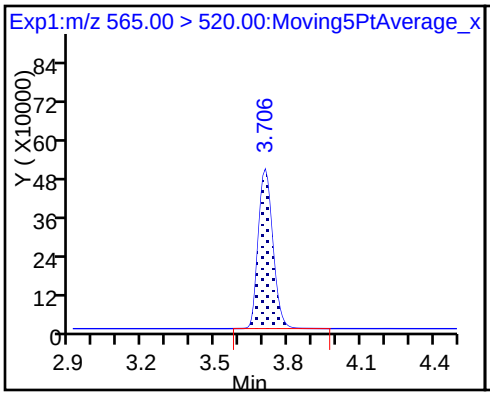
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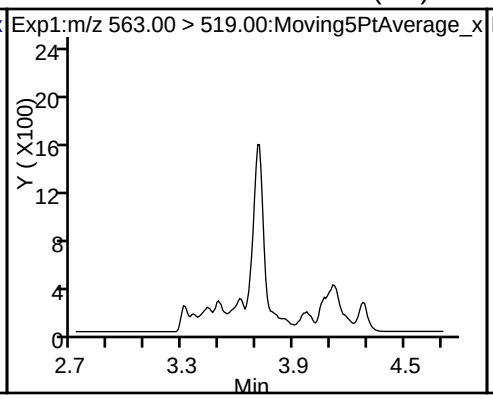
D 32 d5-NEtFOSAA



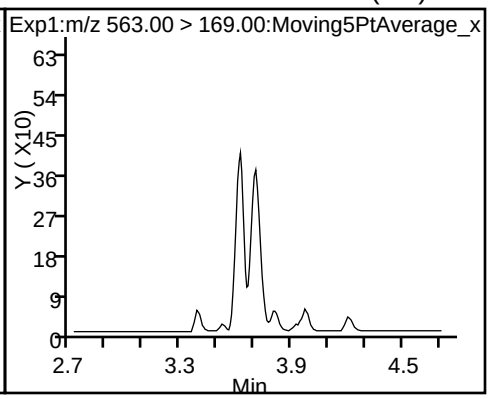
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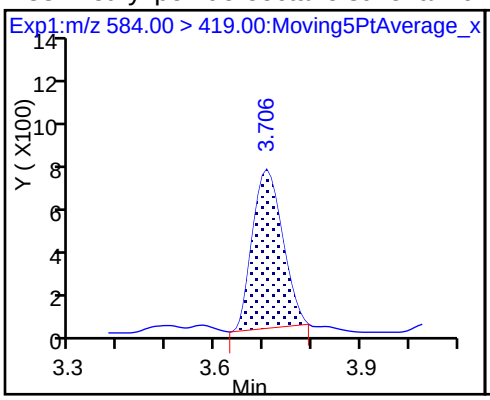
31 Perfluoroundecanoic acid (ND)



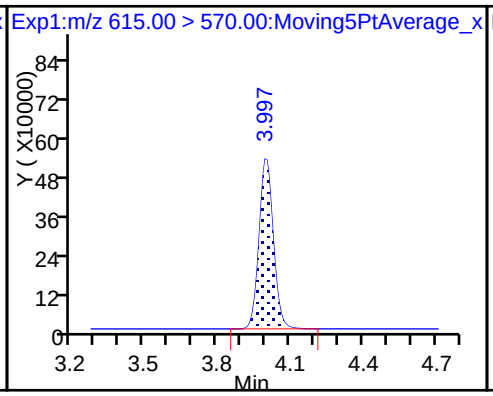
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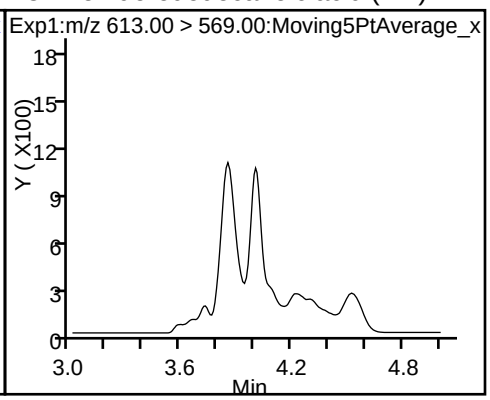
33 N-ethyl perfluorooctane sulfonamid



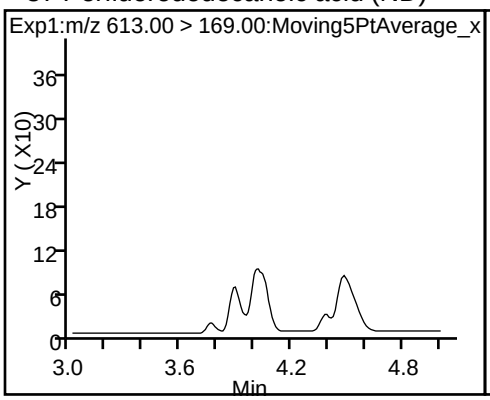
D 36 13C2 PFDoA



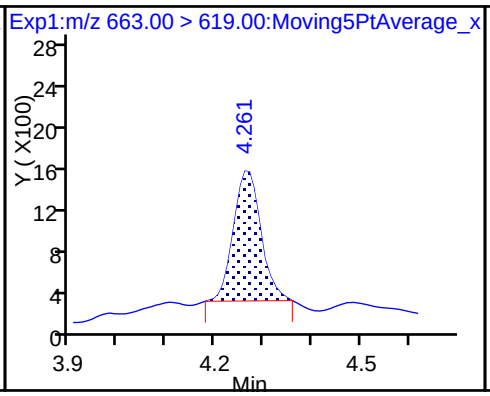
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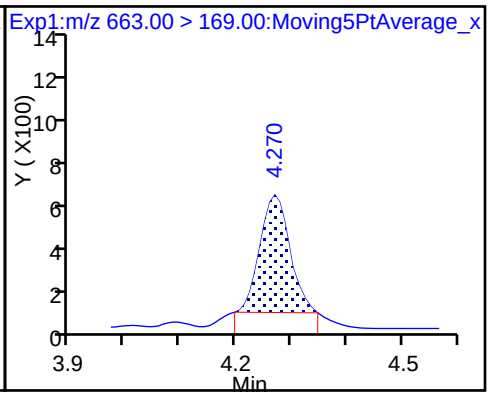
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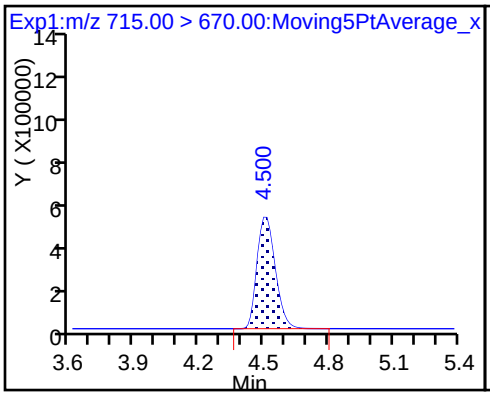
41 Perfluorotridecanoic acid



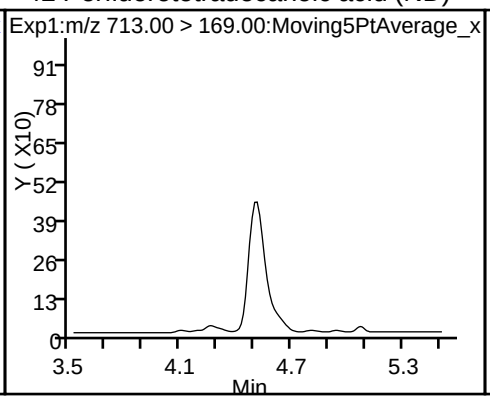
41 Perfluorotridecanoic acid



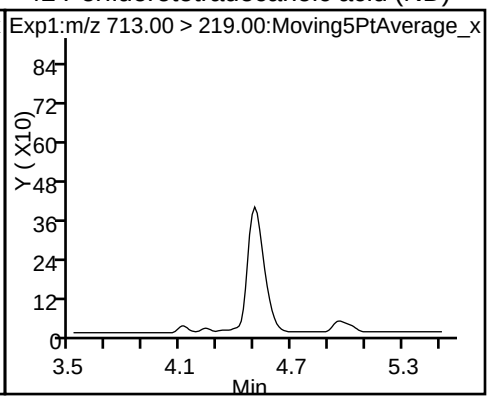
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

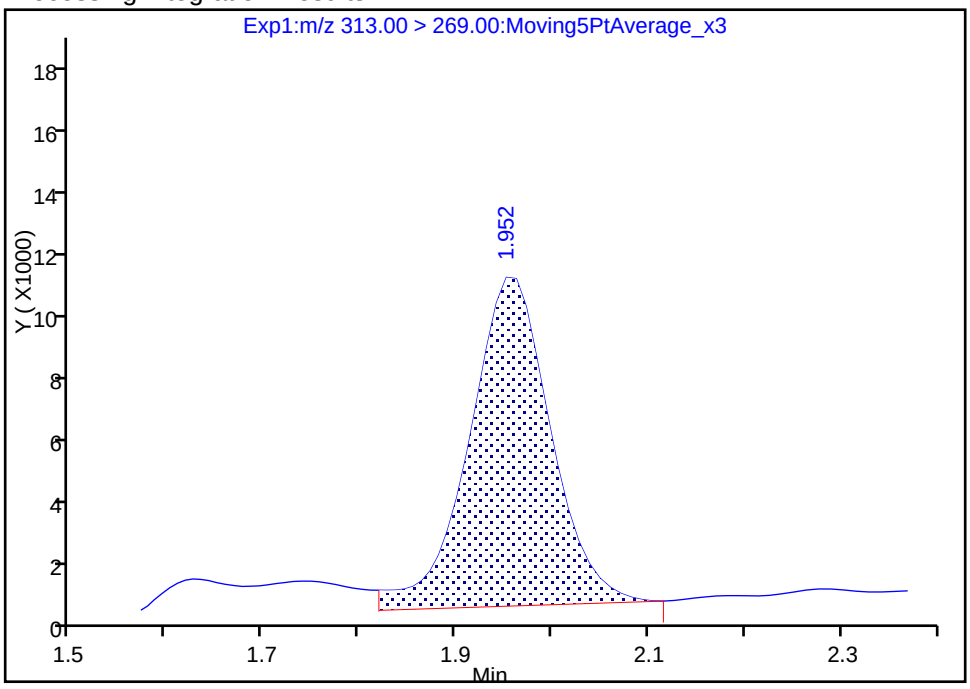
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Injection Date:	22-Dec-2017 23:49:42	Instrument ID:	A8_N		
Lims ID:	320-34425-A-6-A	Lab Sample ID:	320-34425-6		
Client ID:	FM-26-070-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	13	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

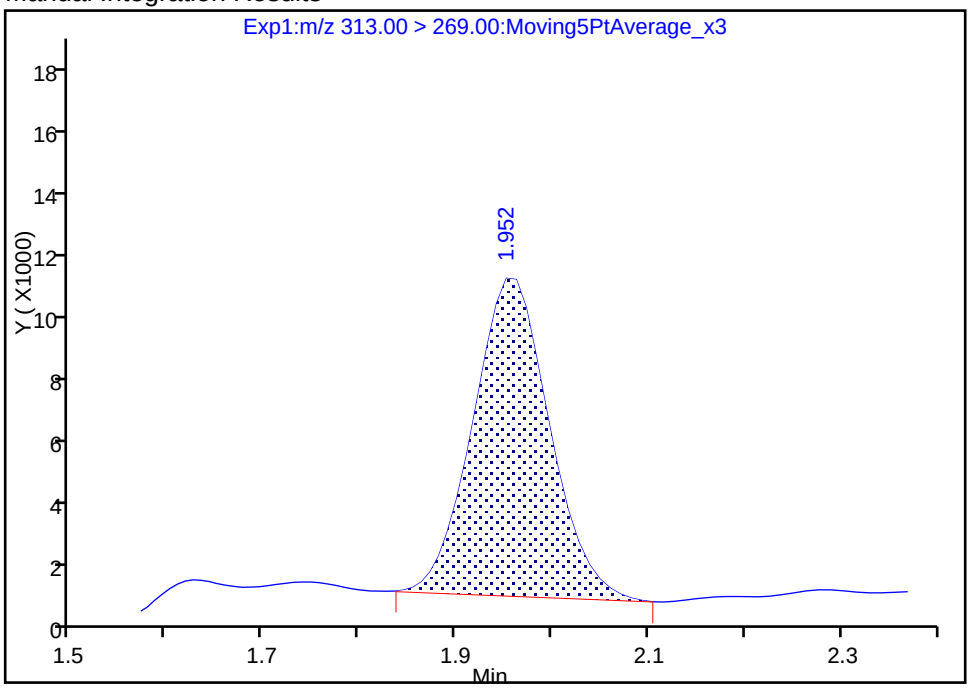
Processing Integration Results

RT: 1.95
Area: 60715
Amount: 0.032915
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 55185
Amount: 0.029917
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:42:56
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

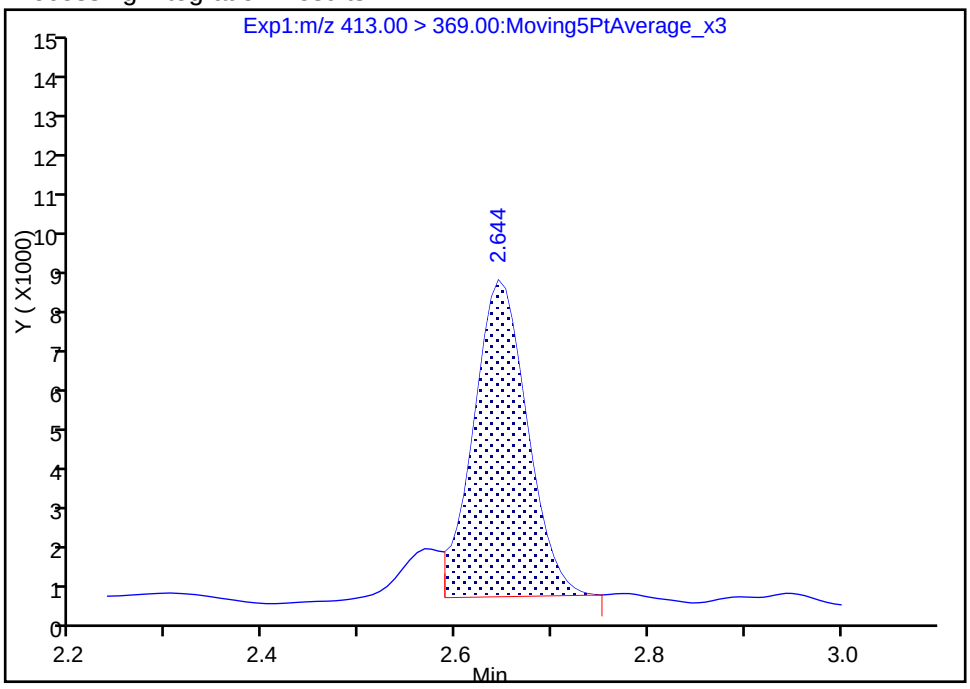
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Injection Date:	22-Dec-2017 23:49:42	Instrument ID:	A8_N		
Lims ID:	320-34425-A-6-A	Lab Sample ID:	320-34425-6		
Client ID:	FM-26-070-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	13	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

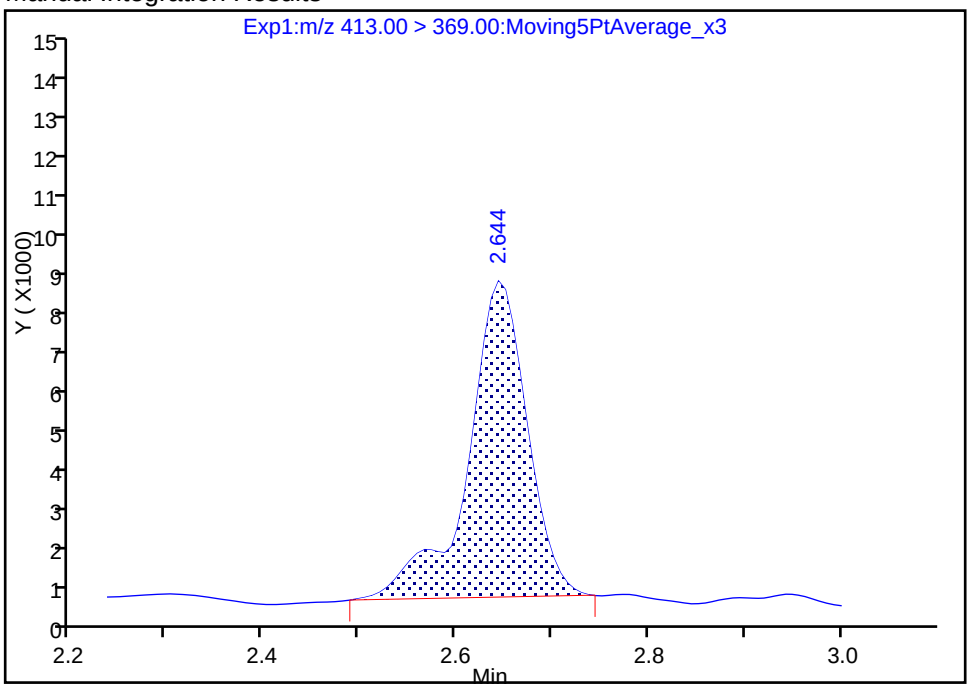
Processing Integration Results

RT: 2.64
Area: 31052
Amount: 0.016925
Amount Units: ng/ml



Manual Integration Results

RT: 2.64
Area: 34584
Amount: 0.018850
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:43:26

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

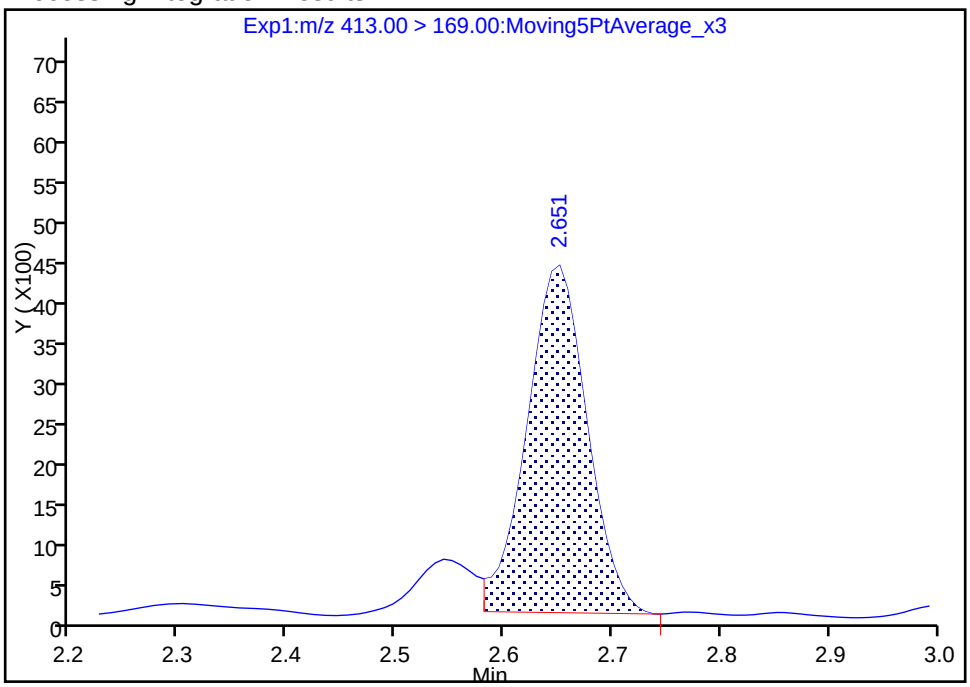
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_018.d				
Injection Date:	22-Dec-2017 23:49:42	Instrument ID:	A8_N		
Lims ID:	320-34425-A-6-A	Lab Sample ID:	320-34425-6		
Client ID:	FM-26-070-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	13	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

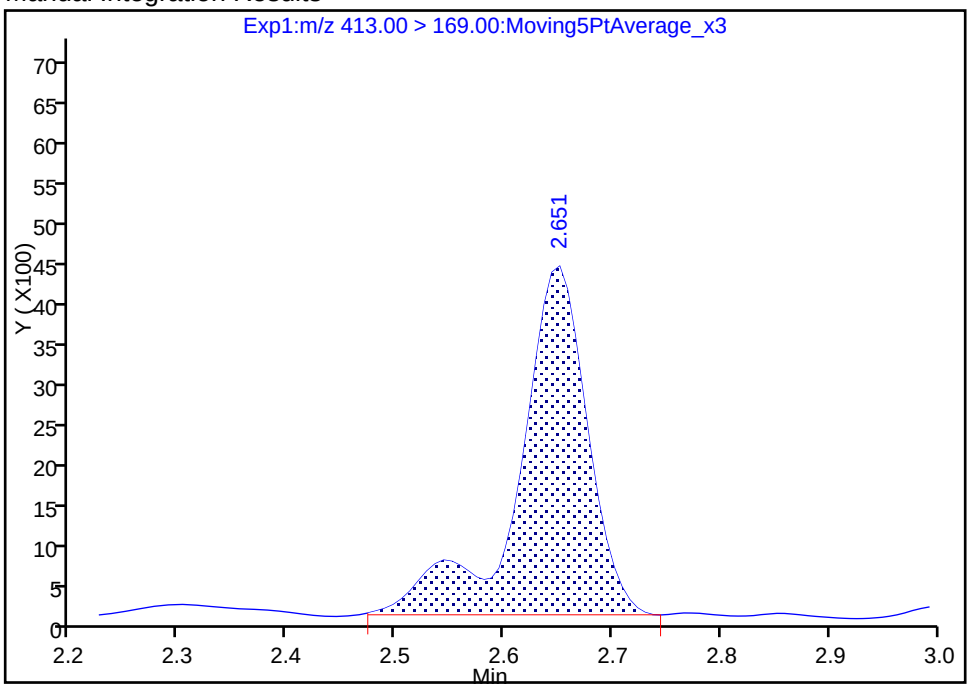
Processing Integration Results

RT: 2.65
Area: 16747
Amount: 0.016925
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 19434
Amount: 0.018850
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:43:33
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

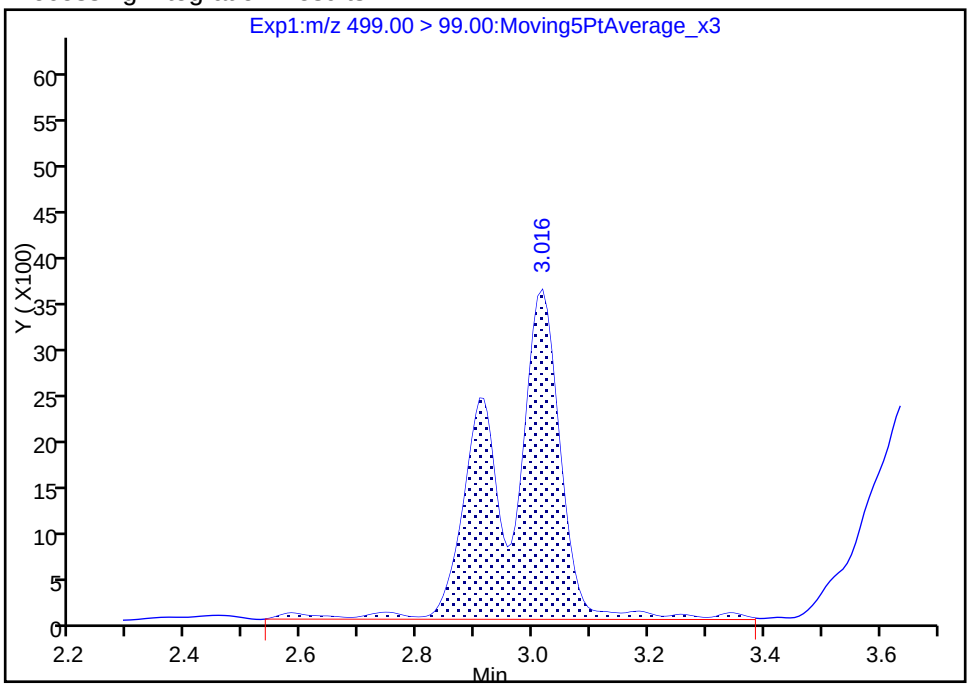
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_018.d				
Injection Date:	22-Dec-2017 23:49:42	Instrument ID:	A8_N		
Lims ID:	320-34425-A-6-A	Lab Sample ID:	320-34425-6		
Client ID:	FM-26-070-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	13	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

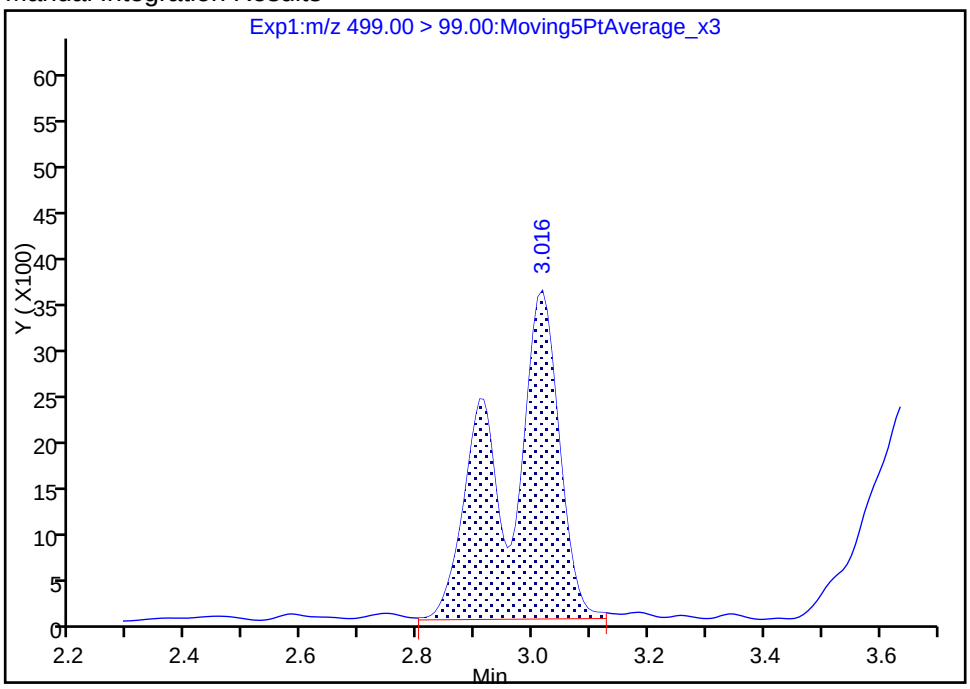
Processing Integration Results

RT: 3.02
Area: 26239
Amount: 0.085035
Amount Units: ng/ml



Manual Integration Results

RT: 3.02
Area: 24610
Amount: 0.085035
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:43:55

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-060-816-171211 | Lab Sample ID: 320-34425-7

Matrix: Water | Lab File ID: 2017.12.22LLB_019.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 14:10

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 235.8(mL) | Date Analyzed: 12/22/2017 23:57

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.37	U	2.12	0.37
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.52	U	2.12	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	0.61	U	2.12	0.61
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.27	U	2.12	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	0.90	U	2.12	0.90
375-95-1	Perfluorononanoic acid (PFNA)	0.29	U	2.12	0.29
335-76-2	Perfluorodecanoic acid (PFDA)	0.33	U	2.12	0.33
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.17	U	2.12	1.17
307-55-1	Perfluorododecanoic acid (PFDoA)	0.58	U	2.12	0.58
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.38	U	2.12	1.38
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.12	0.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.21	U	2.12	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.99	J B	2.12	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.12	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.24	J	2.12	0.57
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.12	0.34
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.37	U	2.12	0.37
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.29	U	21.2	3.29
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.01	U	21.2	2.01
27619-97-2	6:2FTS	2.12	U	21.2	2.12
39108-34-4	8:2FTS	2.12	U	21.2	2.12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-060-816-171211 | Lab Sample ID: 320-34425-7

Matrix: Water | Lab File ID: 2017.12.22LLB_019.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 14:10

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 235.8(mL) | Date Analyzed: 12/22/2017 23:57

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	105		25-150
STL01893	13C5 PFPeA	106		25-150
STL00993	13C2 PFHxA	99		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	101		25-150
STL00996	13C2 PFDA	103		25-150
STL00997	13C2 PFUnA	97		25-150
STL00998	13C2 PFDoA	95		25-150
STL02116	13C2-PFTeDA	116		25-150
STL02337	13C3-PFBS	109		25-150
STL00994	18O2 PFHxS	102		25-150
STL00991	13C4 PFOS	99		25-150
STL01056	13C8 FOSA	95		25-150
STL02118	d3-NMeFOSAA	81		25-150
STL02117	d5-NEtFOSAA	87		25-150
STL02279	M2-6:2FTS	40		25-150
STL02280	M2-8:2FTS	79		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_019.d
Lims ID: 320-34425-A-7-A
Client ID: FM-26-060-816-171211
Sample Type: Client
Inject. Date: 22-Dec-2017 23:57:35 ALS Bottle#: 14 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-7-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:45:42

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.536	7465871	2.62		105	19140	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.004	11627	0.004249			3.5	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.631	4510374	2.65		106	41080	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.005	20444	0.0102			24.1	
D 47 13C3-PFBS										
301.90 > 83.00	1.708	1.705	0.003	0.644	92454	2.54		109	3296	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.708	1.707	0.001	1.000	10465	0.003499			40.1	
298.90 > 99.00	1.708	1.707	0.001	1.000	4067		2.57(1.25-3.74)		29.8	
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.953	0.002	0.737	4501622	2.47		99.0	49380	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.955	1.956	-0.001	1.000	13238	0.007343			24.9	M
313.00 > 119.00	1.955	1.956	-0.001	1.000	1372		9.65(5.03-15.10)		25.0	M
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.865	4386656	2.61		104	30717	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	6216	0.003386			10.5	
363.00 > 169.00	2.293	2.291	0.002	1.000	2573		2.42(1.13-3.40)		22.3	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	109449	0.0468			238	
399.00 > 99.00	2.306	2.304	0.002	1.000	32223		3.40(1.50-4.49)		84.0	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.870	5134571	2.42		102	47220	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.623	2.642	-0.019	0.997	7682	0.0160			246	
D 12 M2-6:2FTS										
429.00 > 81.00	2.630	2.642	-0.012	0.992	736575	0.9392		39.5	17490	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	1.000	4688097	2.42		96.9	49644	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.656	-0.004		4685216	2.50			49843	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.652	2.656	-0.004	1.000	14941	0.007576			26.3	
413.00 > 169.00	2.652	2.656	-0.004	1.000	6498		2.30(0.84-2.52)		55.7	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3315150	2.36		98.9	27054	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.028	-0.003	1.000	42841	0.0291			3.9	
499.00 > 99.00	3.025	3.028	-0.003	1.000	10438		4.10(2.31-6.93)		5.9	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.028	-0.003	1.141	3460793	2.52		101	36021	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.271	4554572	2.38		95.4	30516	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.002	2738	0.001567			85.0	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.274	832125	1.90		79.3	21592	
D 23 13C2 PFDA										
515.00 > 470.00	3.386	3.389	-0.003	1.277	2924027	2.58		103	43084	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.537	3.543	-0.006	1.334	1238446	2.03		81.4	16543	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.712	-0.006	1.398	1300159	2.19		87.4	7021	
D 30 13C2 PFUnA										
565.00 > 520.00	3.706	3.717	-0.011	1.398	2091952	2.42		96.9	31456	
D 36 13C2 PFDoA										
615.00 > 570.00	4.005	4.011	-0.006	1.510	2210647	2.37		94.9	34336	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.500	4.518	-0.018	1.697	3021120	2.90		116	20689	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:17 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_019.d

Injection Date: 22-Dec-2017 23:57:35 Instrument ID: A8_N

Lims ID: 320-34425-A-7-A Lab Sample ID: 320-34425-7

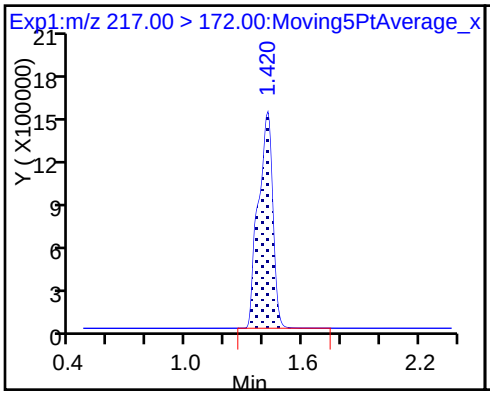
Client ID: FM-26-060-816-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 11

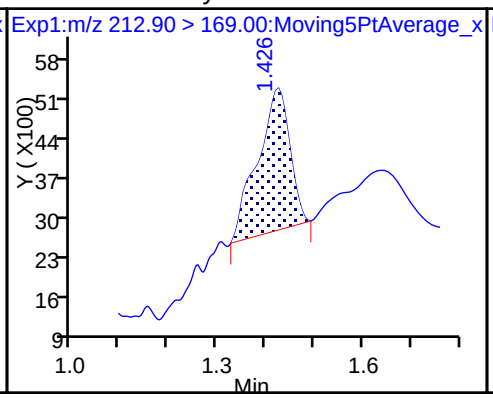
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

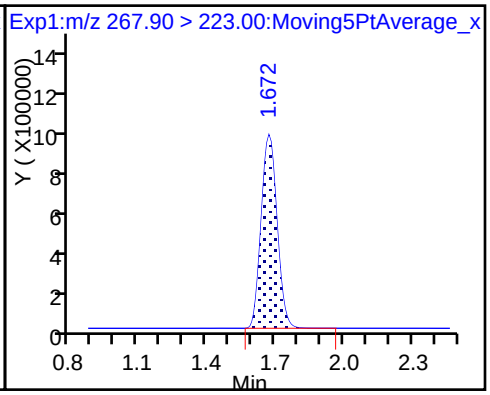
D 1 13C4 PFBA



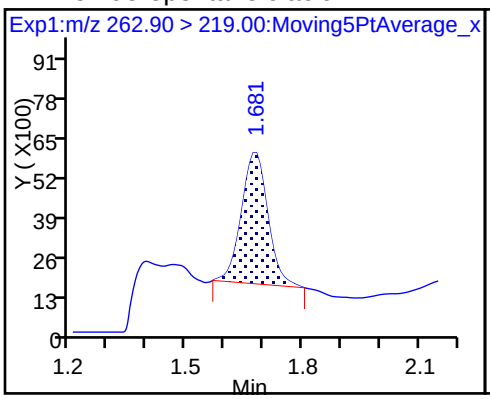
2 Perfluorobutyric acid



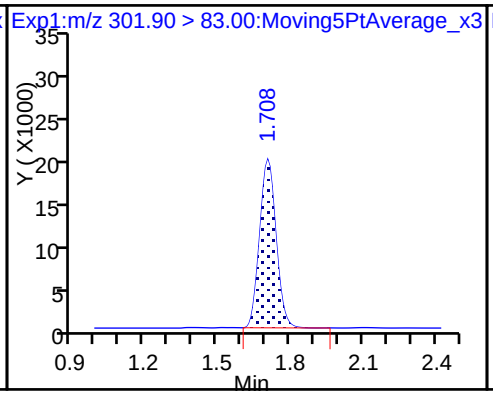
D 3 13C5-PFPeA



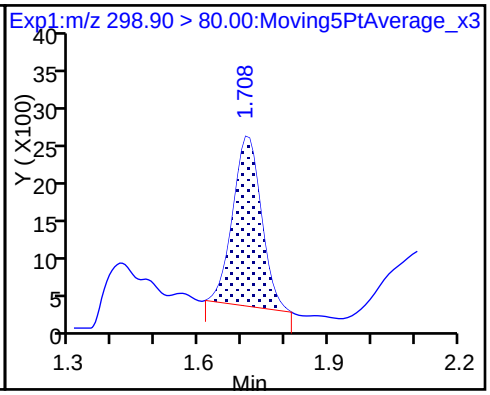
4 Perfluoropentanoic acid



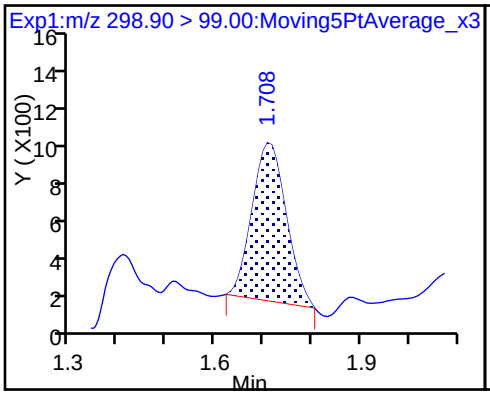
D 47 13C3-PFBS



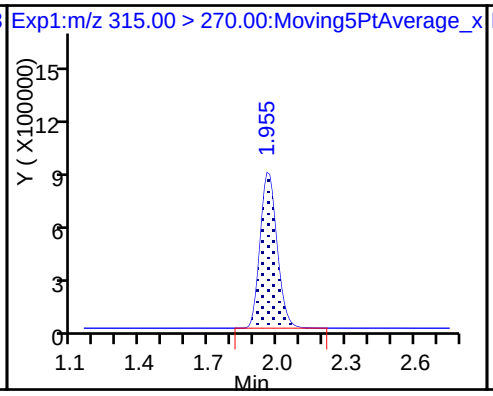
5 Perfluorobutanesulfonic acid



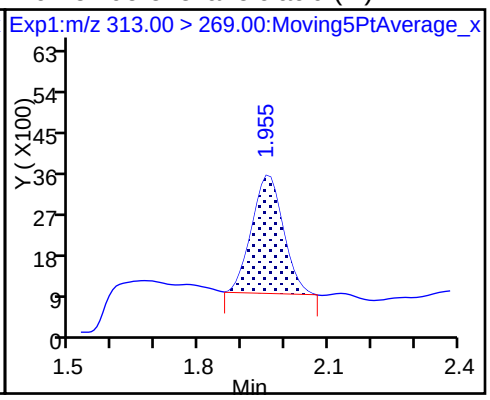
5 Perfluorobutanesulfonic acid



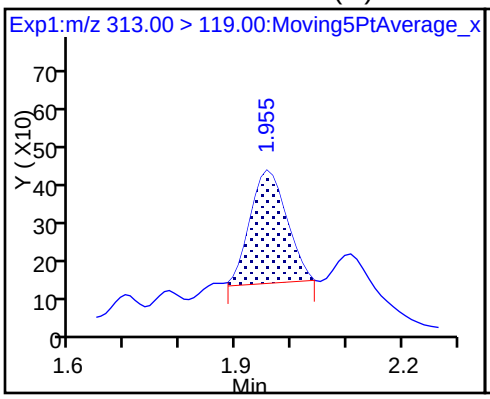
D 7 13C2 PFHxA



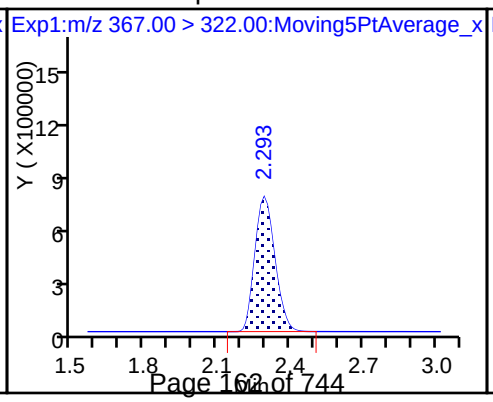
6 Perfluorohexanoic acid (M)



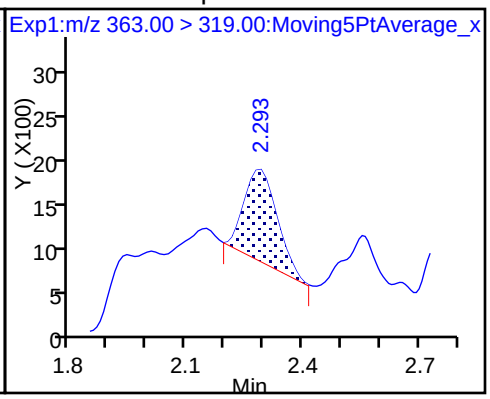
6 Perfluorohexanoic acid (M)



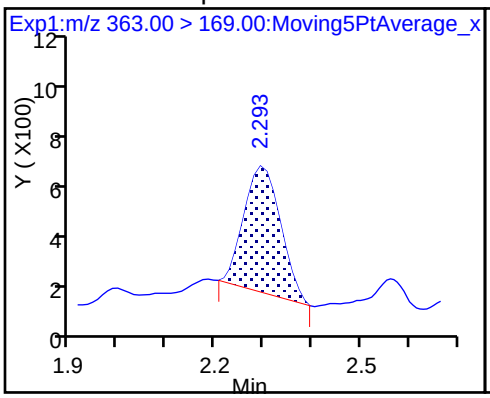
D 9 13C4-PFHpA



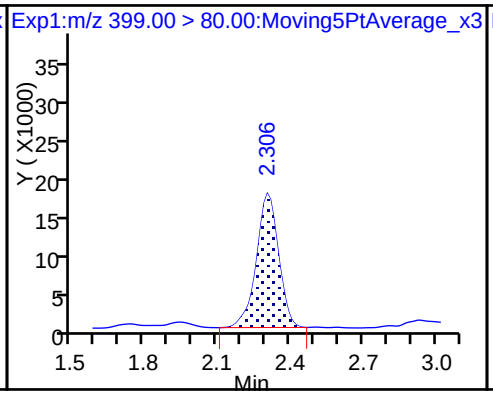
10 Perfluoroheptanoic acid



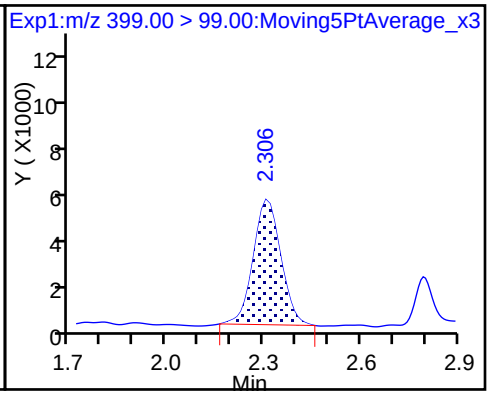
10 Perfluoroheptanoic acid



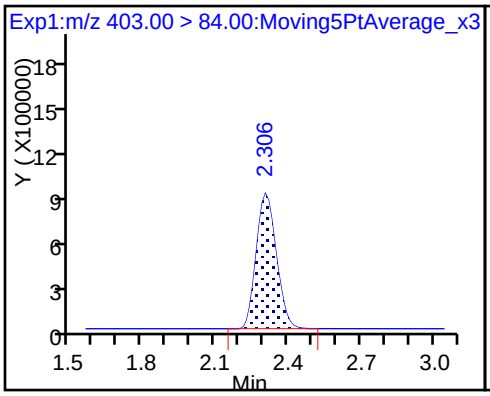
8 Perfluorohexanesulfonic acid



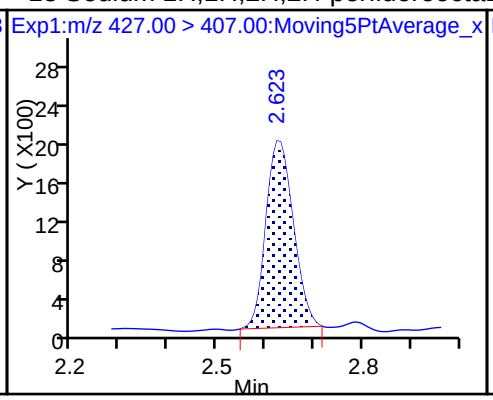
8 Perfluorohexanesulfonic acid



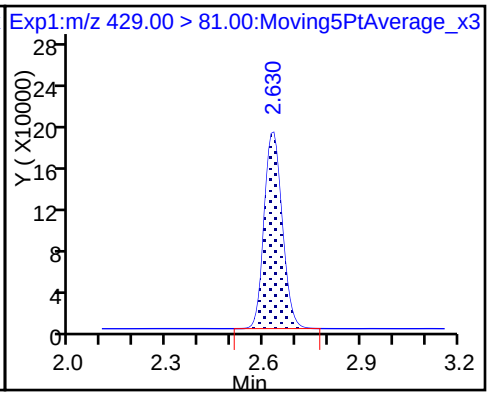
D 11 18O2 PFHxS



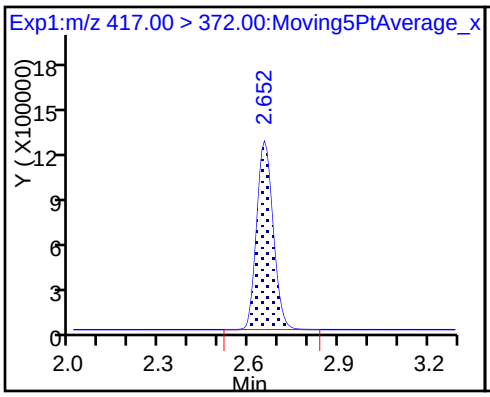
13 Sodium 1H,1H,2H,2H-perfluorooctane



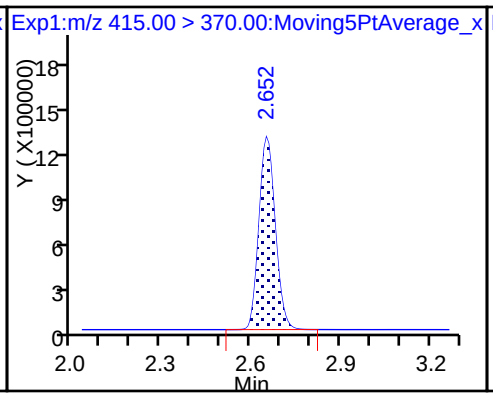
D 12 M2-6:2FTS



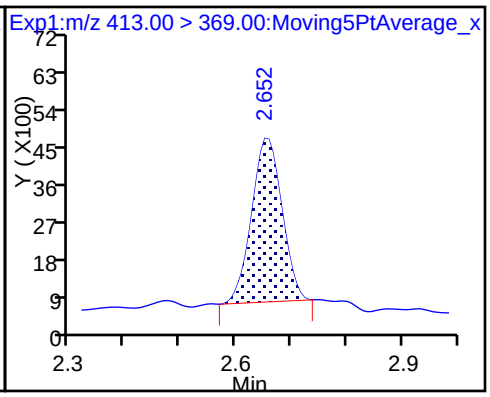
D 14 13C4 PFOA



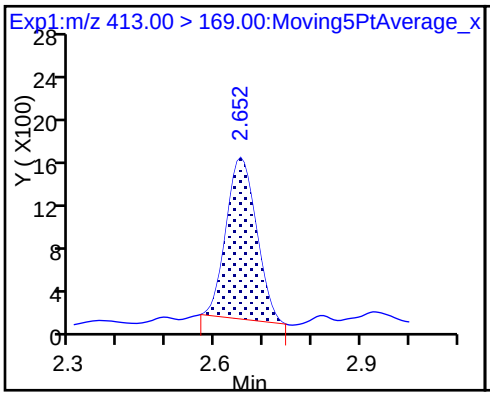
* 62 13C2-PFOA



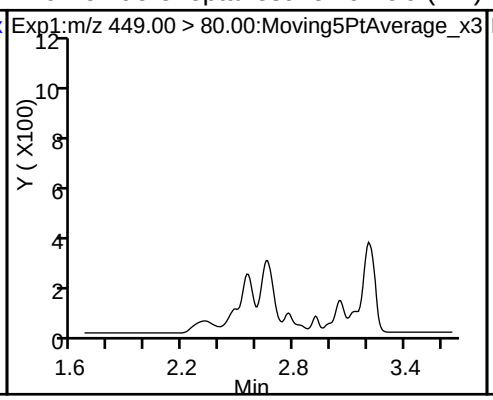
15 Perfluorooctanoic acid



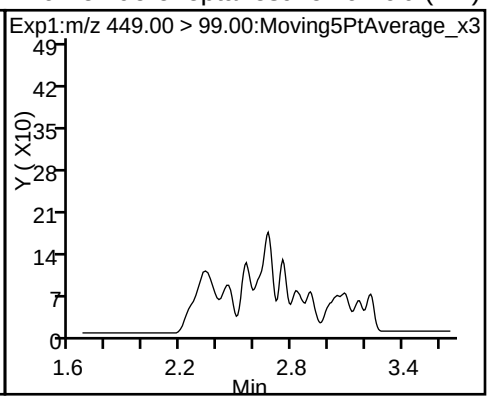
15 Perfluorooctanoic acid



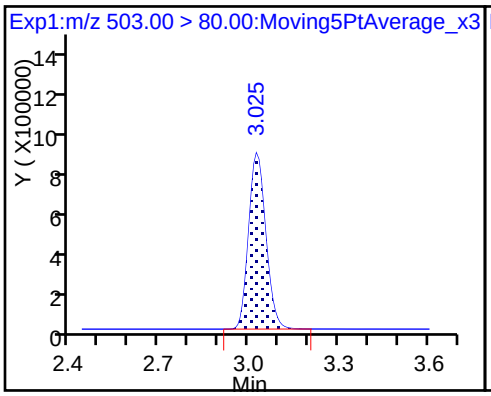
16 Perfluoroheptanesulfonic Acid (ND)



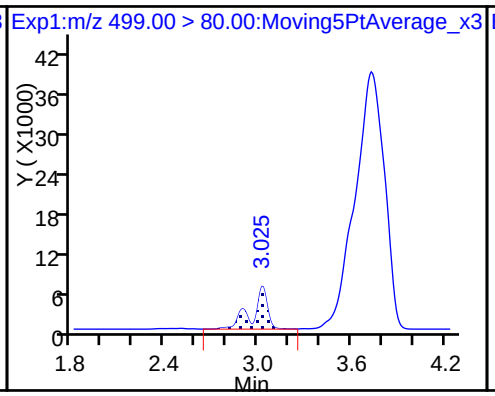
16 Perfluoroheptanesulfonic Acid (ND)



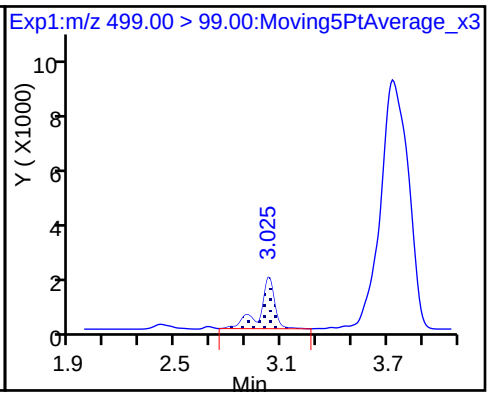
D 18 13C4 PFOS



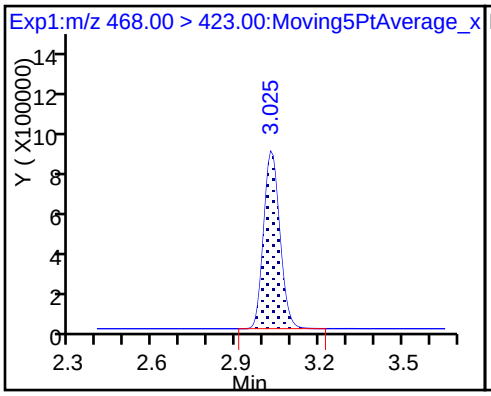
17 Perfluorooctane sulfonic acid



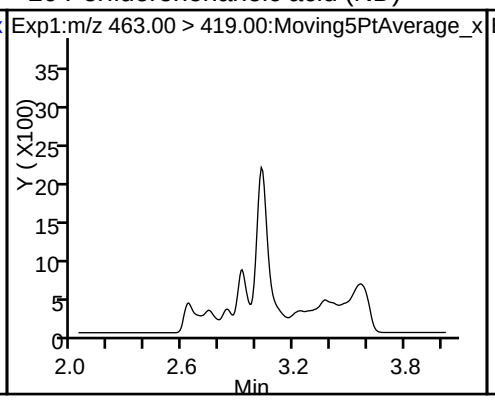
17 Perfluorooctane sulfonic acid



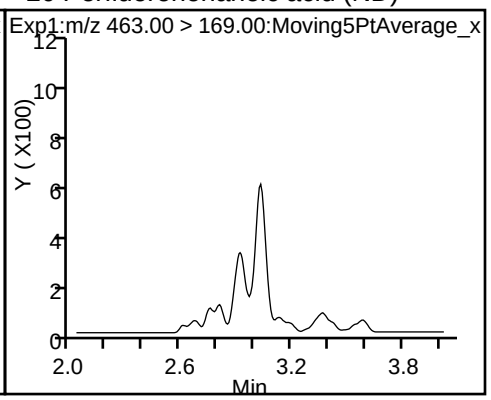
D 19 13C5 PFNA



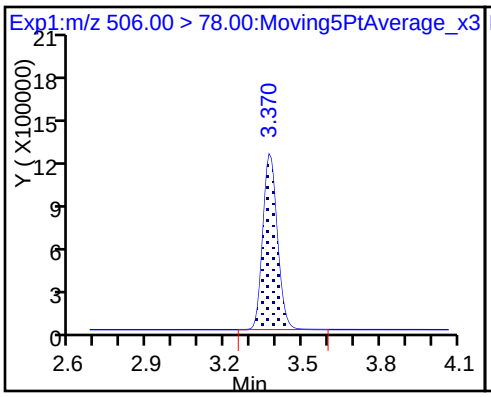
20 Perfluorononanoic acid (ND)



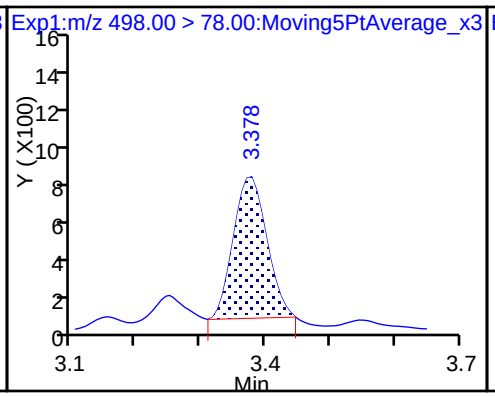
20 Perfluorononanoic acid (ND)



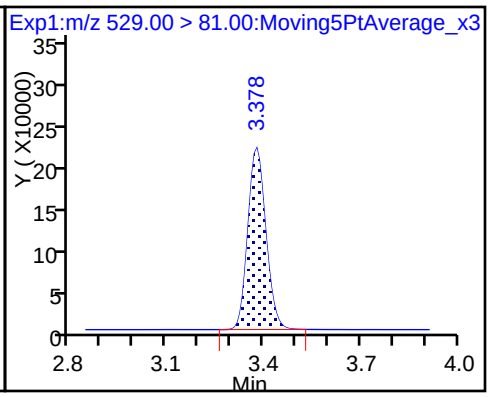
D 21 13C8 FOSA



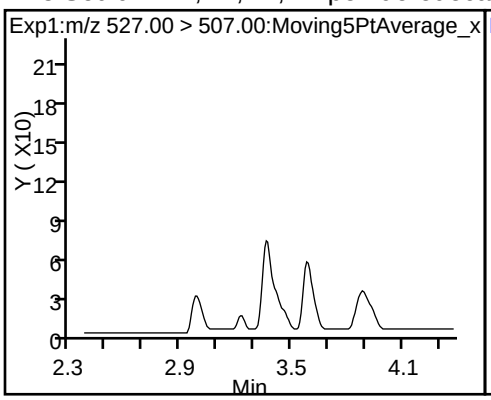
22 Perfluorooctane Sulfonamide



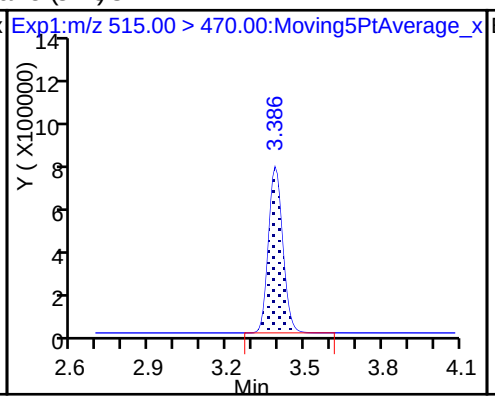
D 26 M2-8:2FTS



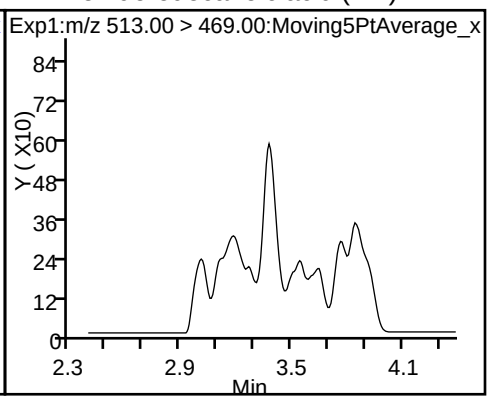
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



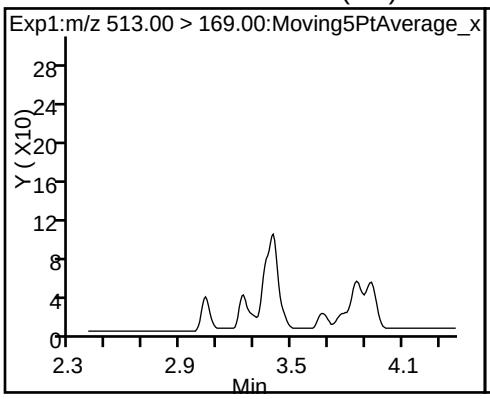
D 23 13C2 PFDA



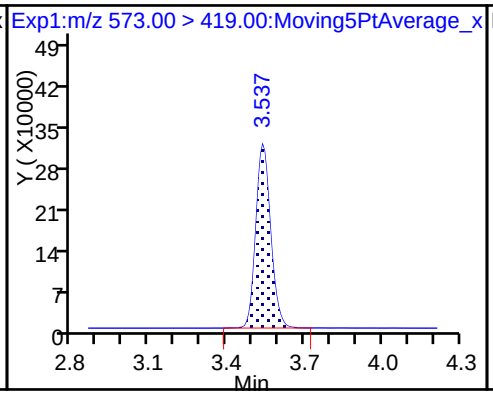
24 Perfluorodecanoic acid (ND)



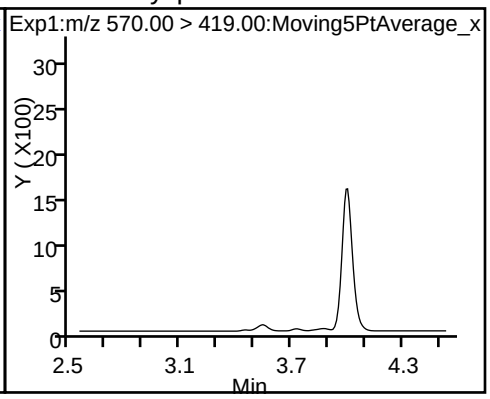
24 Perfluorodecanoic acid (ND)



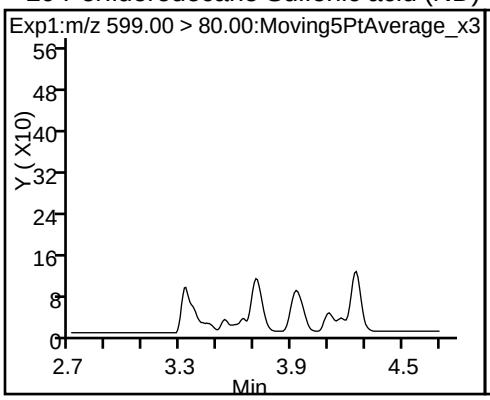
D 27 d3-NMeFOSAA



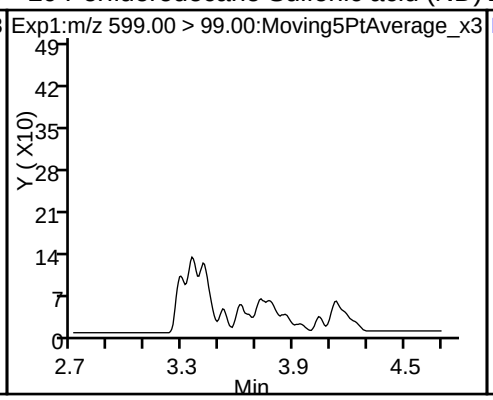
28 N-methyl perfluorooctane sulfonami (ND)



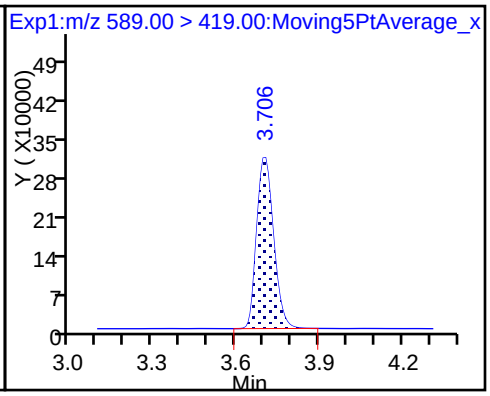
29 Perfluorodecane Sulfonic acid (ND)



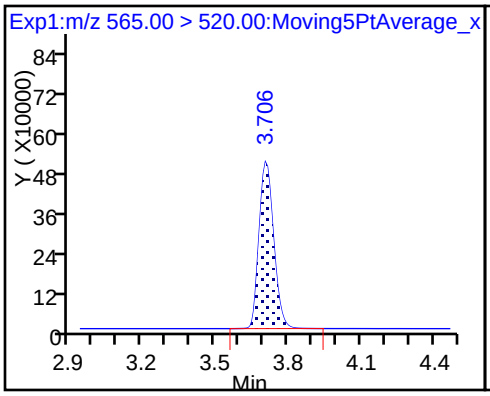
29 Perfluorodecane Sulfonic acid (ND)



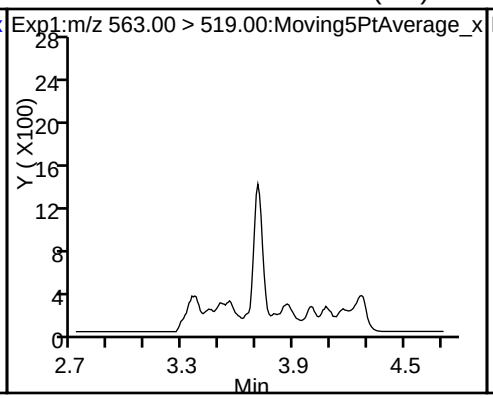
D 32 d5-NEtFOSAA



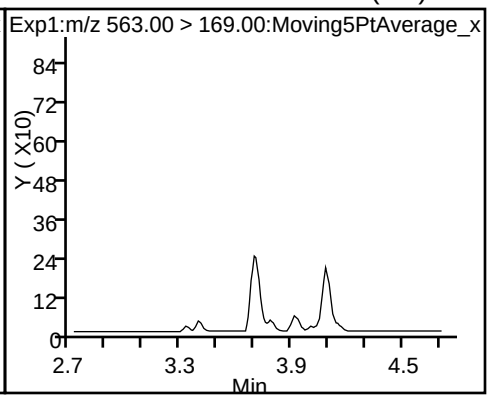
D 30 13C2 PFUnA



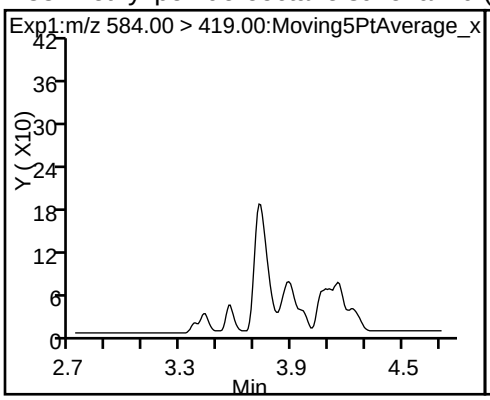
31 Perfluoroundecanoic acid (ND)



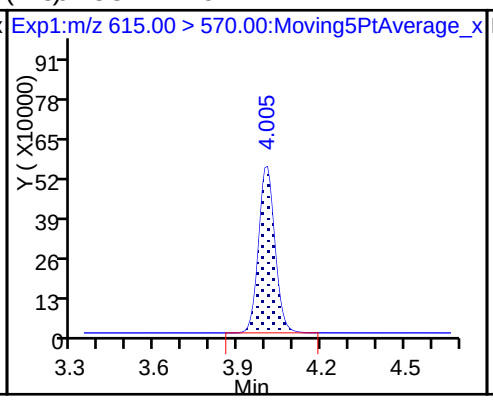
31 Perfluoroundecanoic acid (ND)



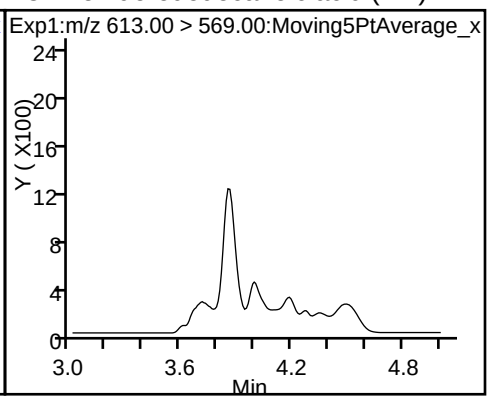
33 N-ethyl perfluorooctane sulfonamid (ND)



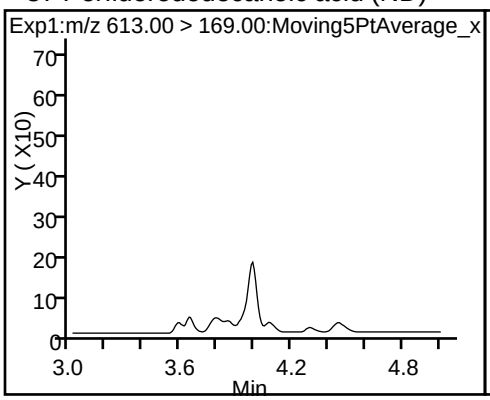
D 36 13C2 PFDoA



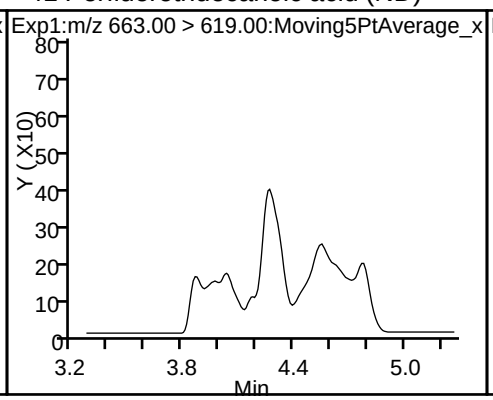
37 Perfluorododecanoic acid (ND)



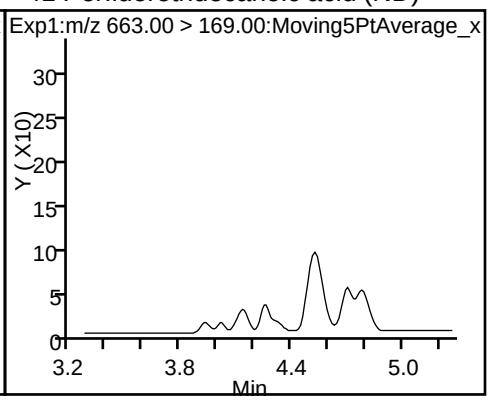
37 Perfluorododecanoic acid (ND)



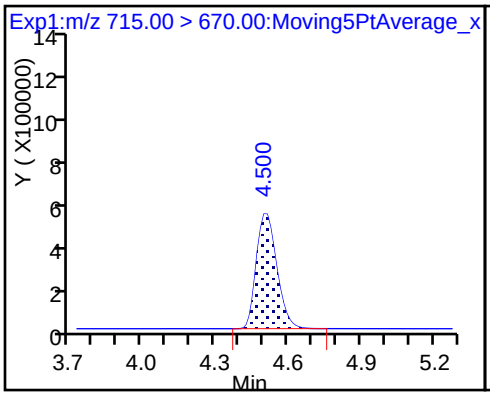
41 Perfluorotridecanoic acid (ND)



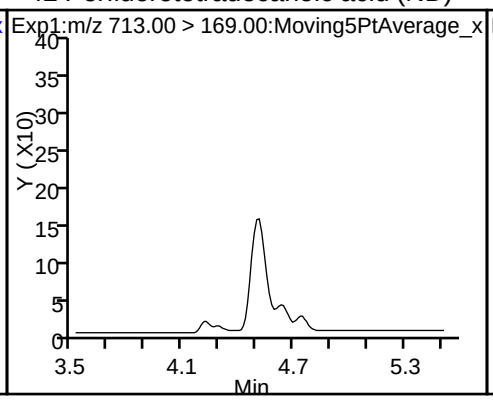
41 Perfluorotridecanoic acid (ND)



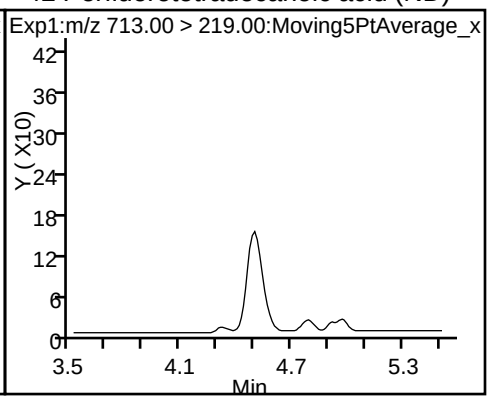
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

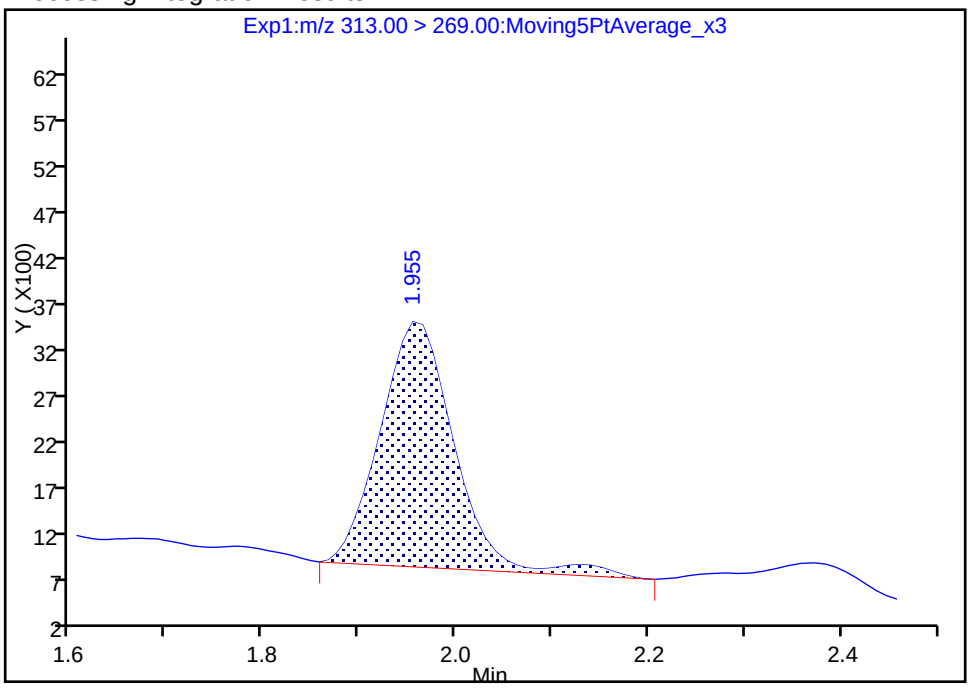
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_019.d				
Injection Date:	22-Dec-2017 23:57:35	Instrument ID:	A8_N		
Lims ID:	320-34425-A-7-A	Lab Sample ID:	320-34425-7		
Client ID:	FM-26-060-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	14	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

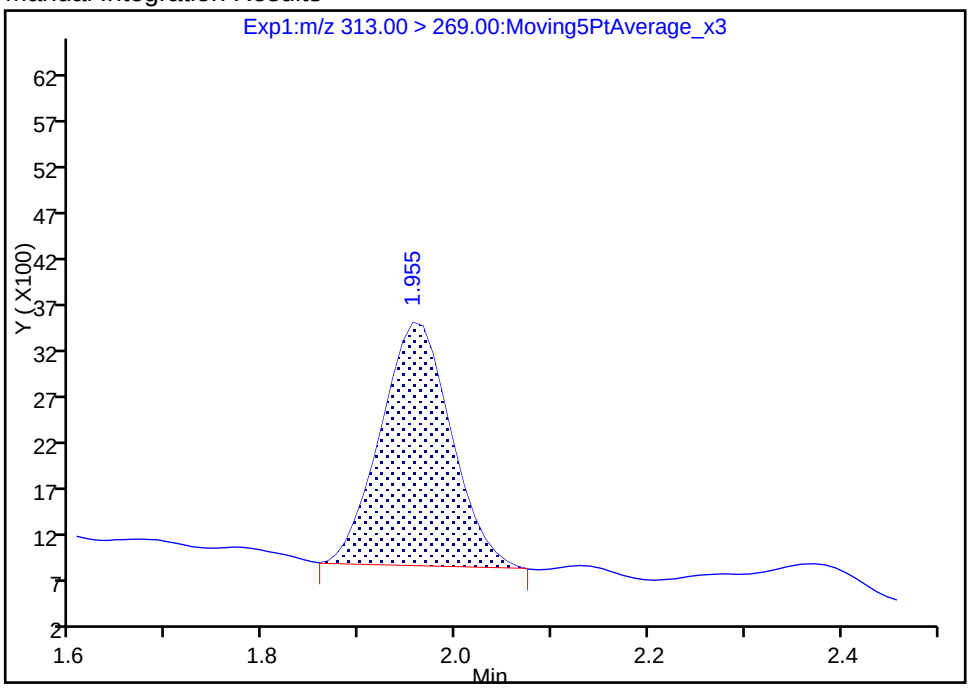
Processing Integration Results

RT: 1.96
Area: 14078
Amount: 0.007809
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 13238
Amount: 0.007343
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:44:59
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

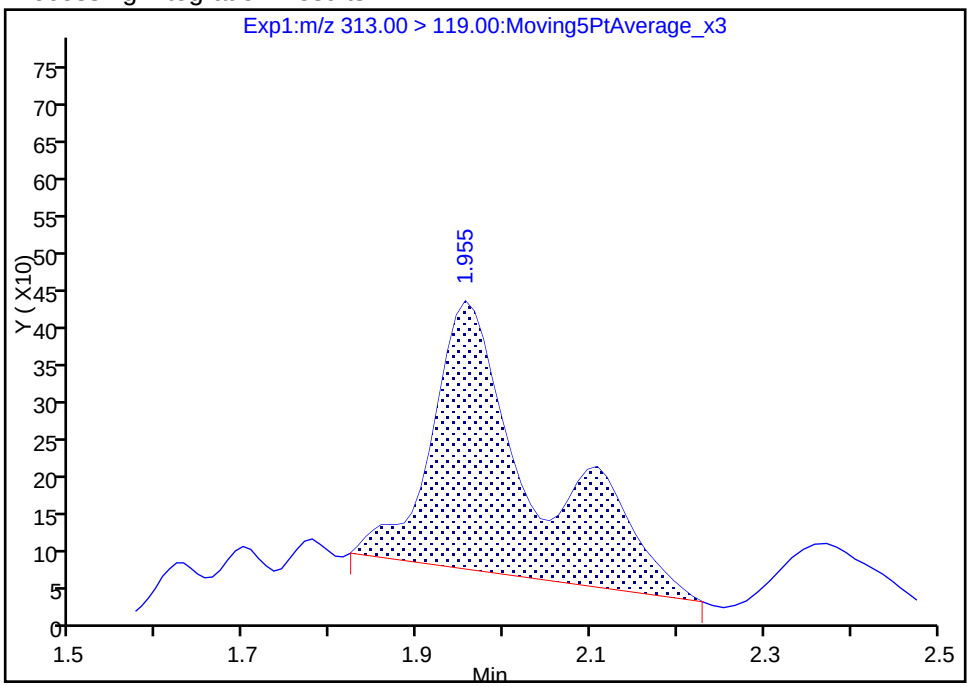
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_019.d				
Injection Date:	22-Dec-2017 23:57:35	Instrument ID:	A8_N		
Lims ID:	320-34425-A-7-A	Lab Sample ID:	320-34425-7		
Client ID:	FM-26-060-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	14	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

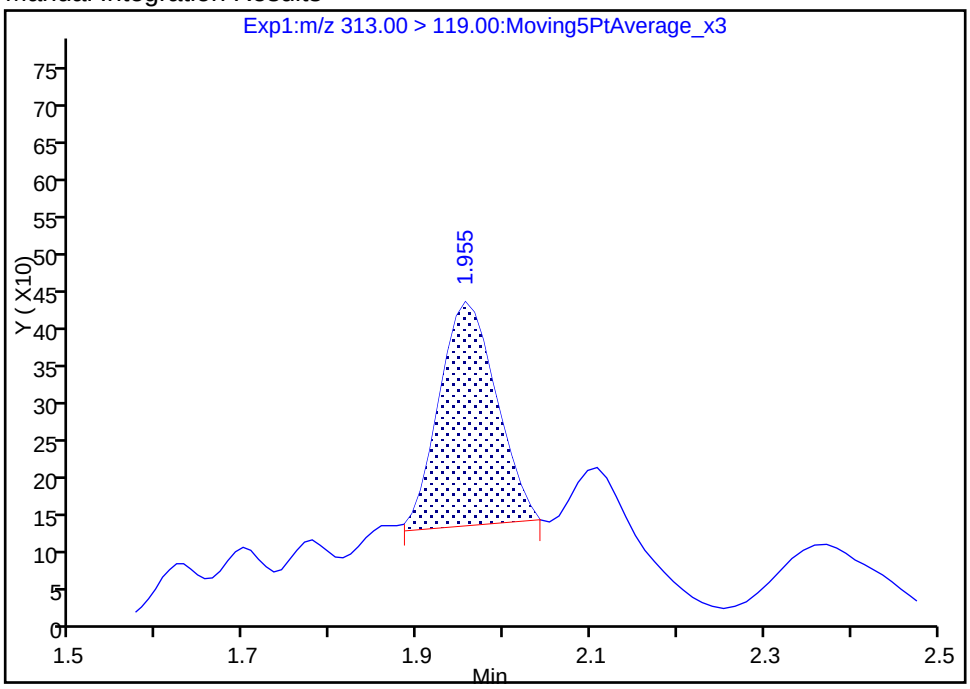
Processing Integration Results

RT: 1.96
Area: 3001
Amount: 0.007809
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 1372
Amount: 0.007343
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:45:05
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-050-816-171211 | Lab Sample ID: 320-34425-8

Matrix: Water | Lab File ID: 2017.12.22LLB_021.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 08:39

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 241.7(mL) | Date Analyzed: 12/23/2017 00:13

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.47		2.07	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	7.58		2.07	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	4.13		2.07	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.48	J	2.07	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	1.62	J	2.07	0.88
375-95-1	Perfluorononanoic acid (PFNA)	0.89	J	2.07	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.07	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.14	U	2.07	1.14
307-55-1	Perfluorododecanoic acid (PFDoA)	0.57	U	2.07	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.07	1.34
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.07	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.48	J	2.07	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	6.25	B	2.07	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.07	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	6.35		2.07	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.07	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.42	J	2.07	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.21	U	20.7	3.21
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.97	U	20.7	1.97
27619-97-2	6:2FTS	2.07	U	20.7	2.07
39108-34-4	8:2FTS	2.07	U	20.7	2.07

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-050-816-171211 | Lab Sample ID: 320-34425-8

Matrix: Water | Lab File ID: 2017.12.22LLB_021.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 08:39

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 241.7(mL) | Date Analyzed: 12/23/2017 00:13

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	107		25-150
STL01893	13C5 PFPeA	110		25-150
STL00993	13C2 PFHxA	105		25-150
STL01892	13C4-PFHpA	114		25-150
STL00990	13C4 PFOA	100		25-150
STL00995	13C5 PFNA	104		25-150
STL00996	13C2 PFDA	104		25-150
STL00997	13C2 PFUnA	98		25-150
STL00998	13C2 PFDoA	93		25-150
STL02116	13C2-PFTeDA	130		25-150
STL02337	13C3-PFBS	107		25-150
STL00994	18O2 PFHxS	107		25-150
STL00991	13C4 PFOS	101		25-150
STL01056	13C8 FOSA	98		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	84		25-150
STL02279	M2-6:2FTS	44		25-150
STL02280	M2-8:2FTS	78		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_021.d
Lims ID: 320-34425-A-8-A
Client ID: FM-26-050-816-171211
Sample Type: Client
Inject. Date: 23-Dec-2017 00:13:17 ALS Bottle#: 15 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-8-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:19 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:46:55

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7106072	2.67		107	19130	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	155436	0.0597			42.0	
D 3 13C5-PFPeA										
267.90 > 223.00	1.680	1.670	0.010	0.632	4393914	2.76		110	36503	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.680	1.670	0.010	1.000	359358	0.1832			323	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.645	84662	2.49		107	2518	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	31603	0.0115			83.5	
298.90 > 99.00	1.716	1.707	0.009	1.000	13538		2.33(1.25-3.74)		74.9	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.739	4484939	2.64		105	49010	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.965	1.956	0.009	1.000	179292	0.0998			299	
313.00 > 119.00	1.965	1.956	0.009	1.000	15099		11.87(5.03-15.10)		269	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.862	4491767	2.85		114	39050	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.292	2.291	0.001	1.000	67287	0.0358			113	
363.00 > 169.00	2.292	2.291	0.001	1.000	25953		2.59(1.13-3.40)		205	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	346442	0.1510			664	
399.00 > 99.00	2.306	2.304	0.002	1.000	108690		3.19(1.50-4.49)		169	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.867	5040764	2.54		107	51191	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.642	-0.011	1.000	13235	0.0267			358	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.989	758755	1.03		43.6	14416	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.654	-0.001	0.997	4509618	2.49		99.7	55733	
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.656	0.004		4380333	2.50			43905	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.660	2.656	0.004	1.003	74492	0.0393			119	M
413.00 > 169.00	2.653	2.656	-0.003	1.000	46079		1.62(0.84-2.52)		307	M
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.138	3173709	2.42		101	37480	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.034	3.028	0.006	1.003	215880	0.1534			15.5	
499.00 > 99.00	3.034	3.028	0.006	1.003	48416		4.46(2.31-6.93)		27.1	
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.028	0.006	1.141	3338699	2.60		104	39715	
20 Perfluorononanoic acid										
463.00 > 419.00	3.034	3.029	0.005	1.000	28871	0.0215			115	
463.00 > 169.00	3.034	3.029	0.005	1.000	5535		5.22(1.90-5.69)		133	
D 21 13C8 FOSA										
506.00 > 78.00	3.373	3.370	0.003	1.268	4359895	2.44		97.7	23135	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.372	0.008	1.002	16963	0.0101			428	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.377	0.003	1.271	768548	1.88		78.3	17975	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.389	-0.001	1.274	2760376	2.60		104	42286	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.547	3.543	0.004	1.333	1161792	2.04		81.6	16314	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.547	3.548	-0.001	1.000	3878	0.007773			36.1	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.394	1172417	2.11		84.3	6788	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.397	1983005	2.46		98.2	25221	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.717	3.720	-0.003	1.002	4950	0.0106			153	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.011	-0.004	1.507	2035418	2.34		93.5	33902	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.698	3151088	3.24		130	34105	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:23 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_021.d

Injection Date: 23-Dec-2017 00:13:17 Instrument ID: A8_N

Lims ID: 320-34425-A-8-A Lab Sample ID: 320-34425-8

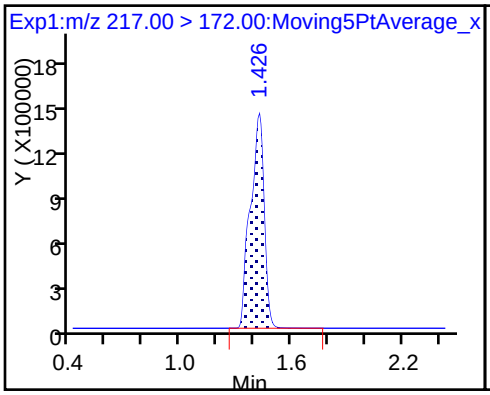
Client ID: FM-26-050-816-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 15 Worklist Smp#: 13

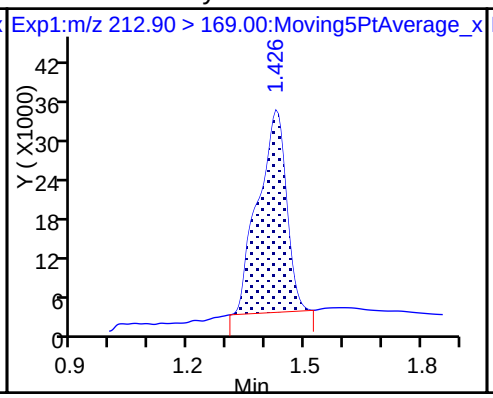
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

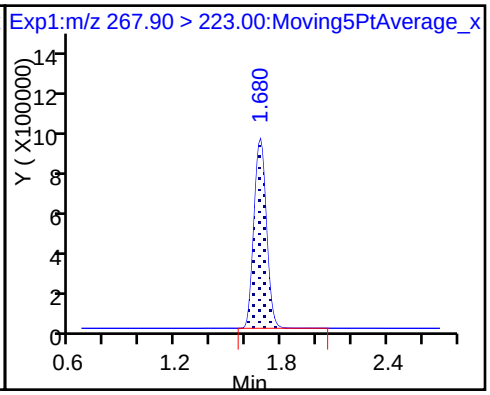
D 1 13C4 PFBA



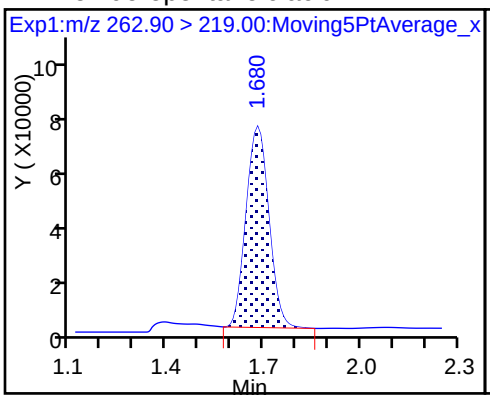
2 Perfluorobutyric acid



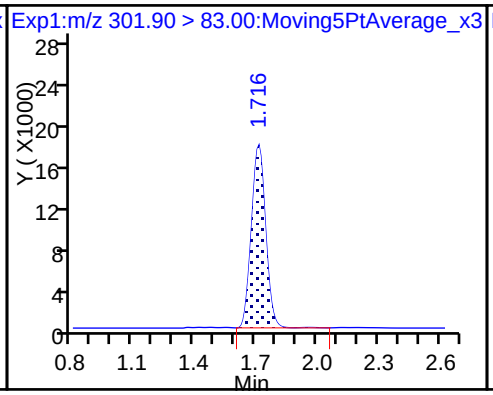
D 3 13C5-PFPeA



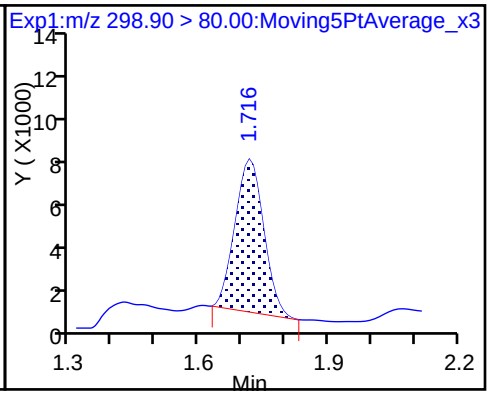
4 Perfluoropentanoic acid



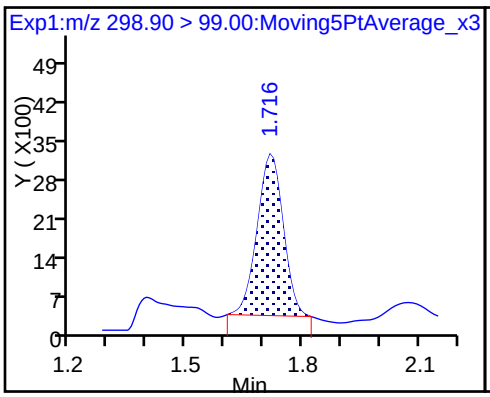
D 47 13C3-PFBS



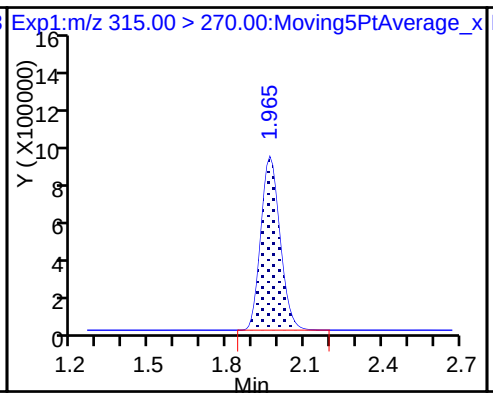
5 Perfluorobutanesulfonic acid



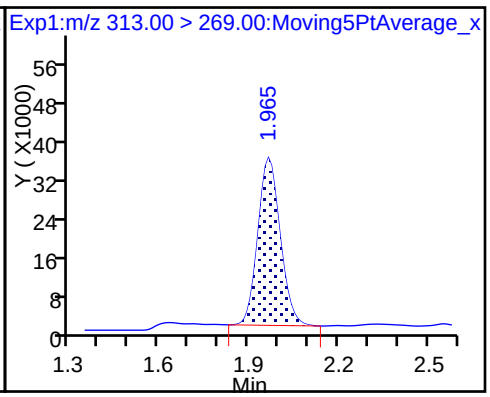
5 Perfluorobutanesulfonic acid



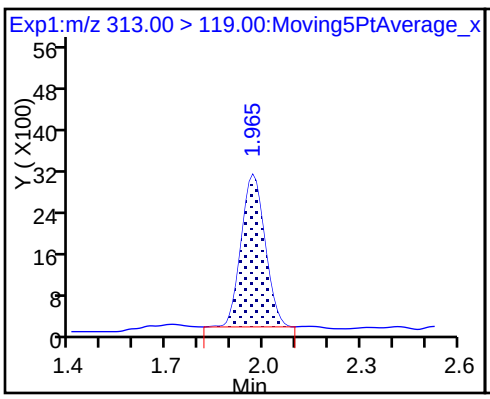
D 7 13C2 PFHxA



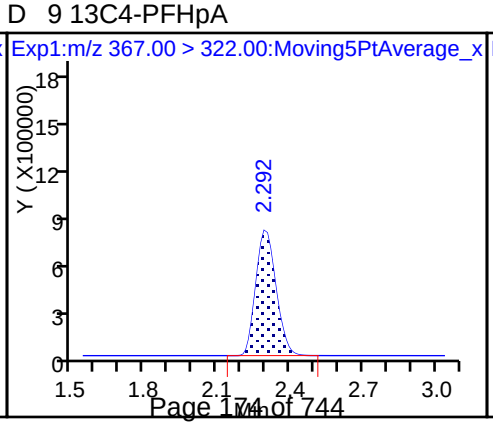
6 Perfluorohexanoic acid



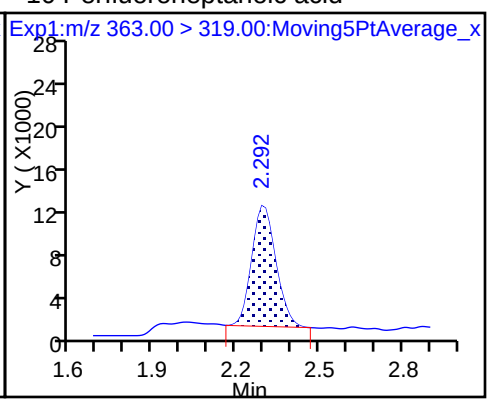
6 Perfluorohexanoic acid



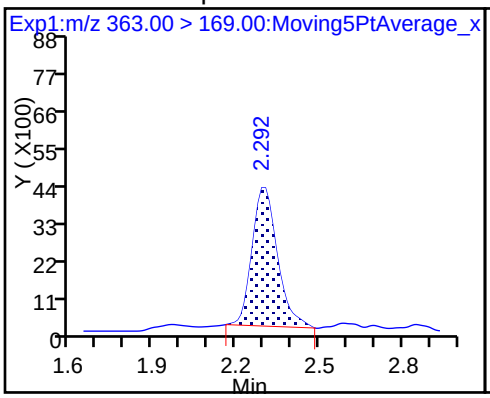
D 9 13C4-PFHpA



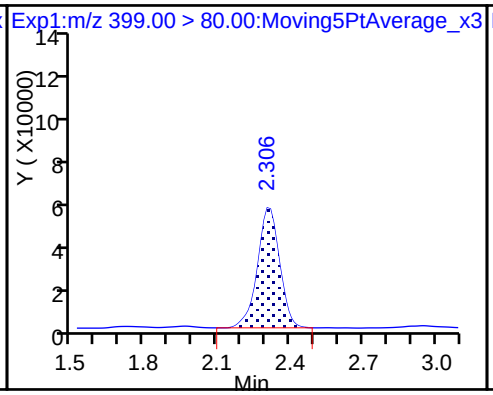
10 Perfluoroheptanoic acid



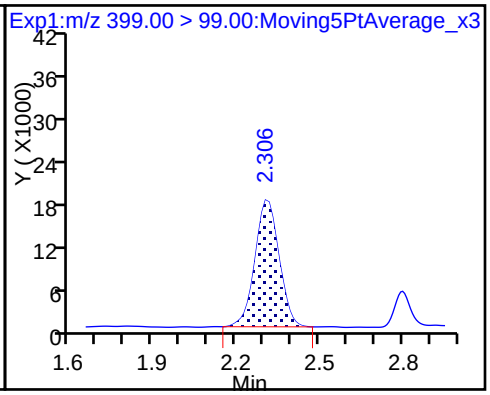
10 Perfluoroheptanoic acid



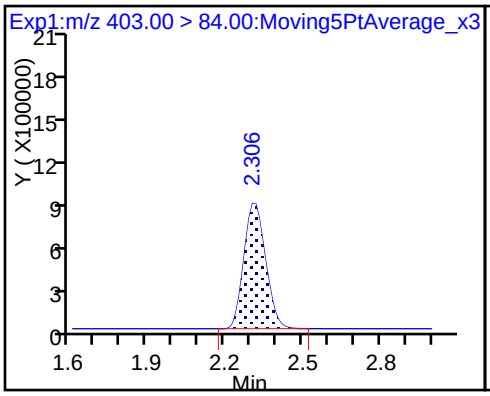
8 Perfluorohexanesulfonic acid



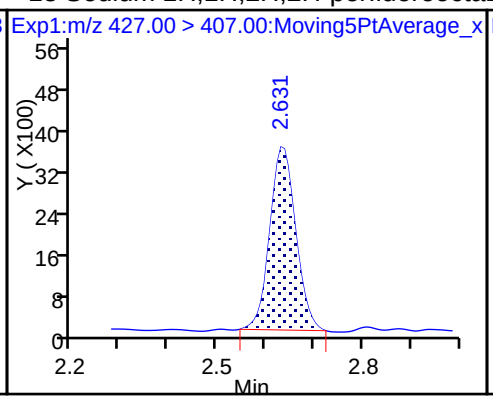
8 Perfluorohexanesulfonic acid



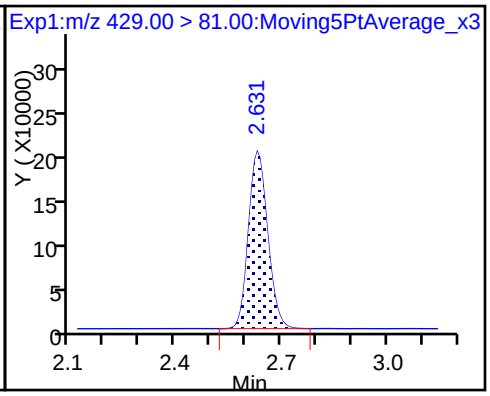
D 11 18O2 PFHxS



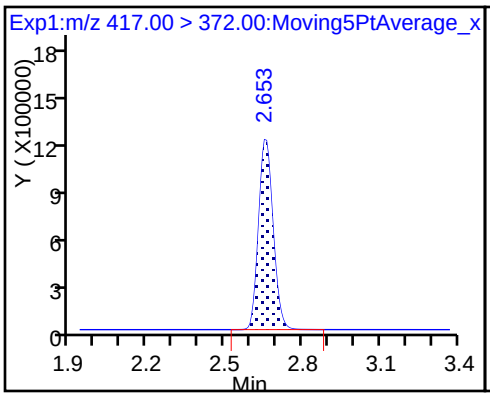
13 Sodium 1H,1H,2H,2H-perfluorooctane



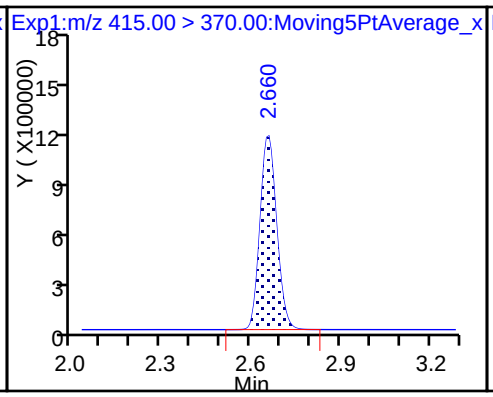
D 12 M2-6:2FTS



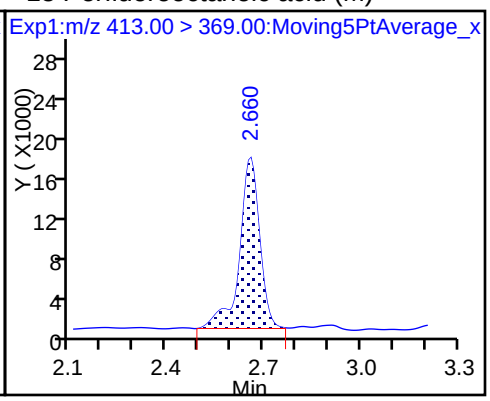
D 14 13C4 PFOA



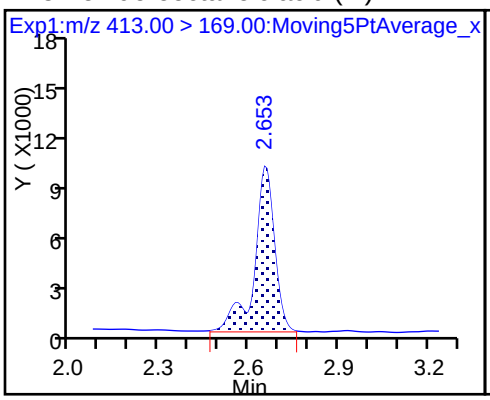
* 62 13C2-PFOA



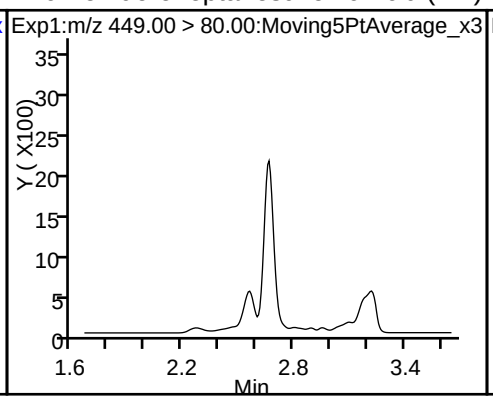
15 Perfluorooctanoic acid (M)



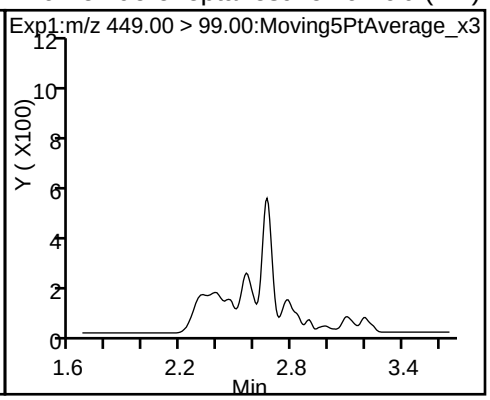
15 Perfluorooctanoic acid (M)



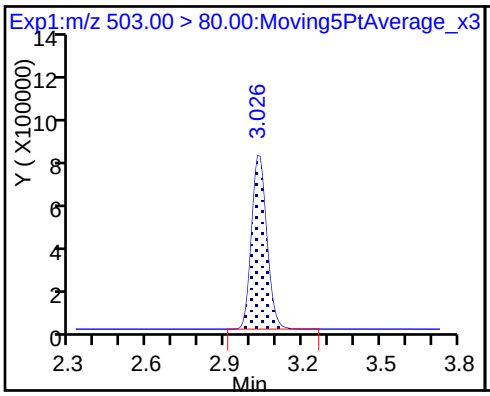
16 Perfluoroheptanesulfonic Acid (ND)



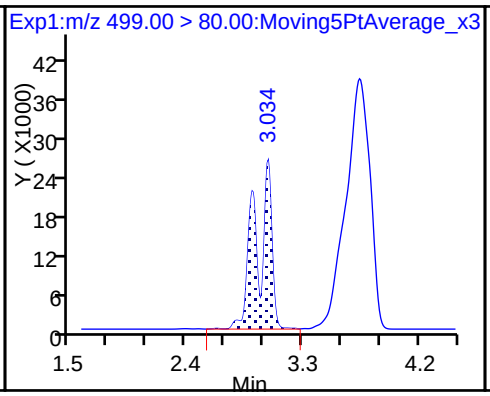
16 Perfluoroheptanesulfonic Acid (ND)



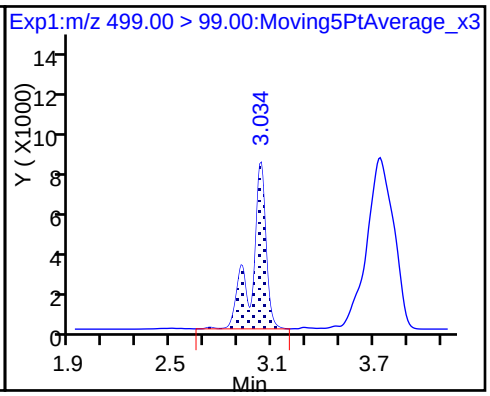
D 18 13C4 PFOS



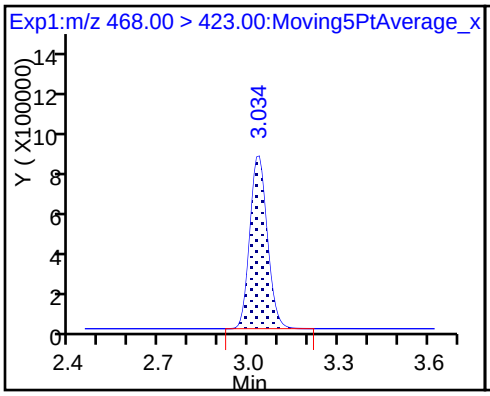
17 Perfluorooctane sulfonic acid



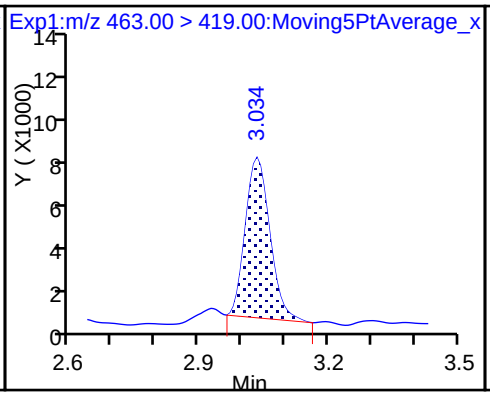
17 Perfluorooctane sulfonic acid



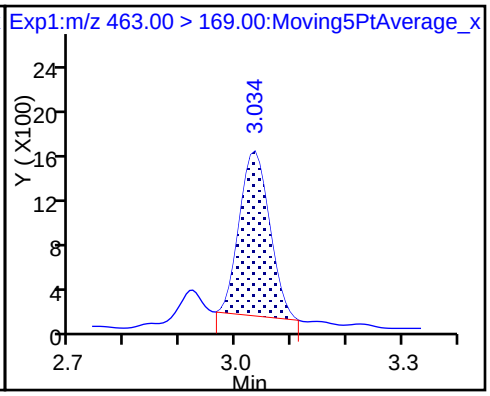
D 19 13C5 PFNA



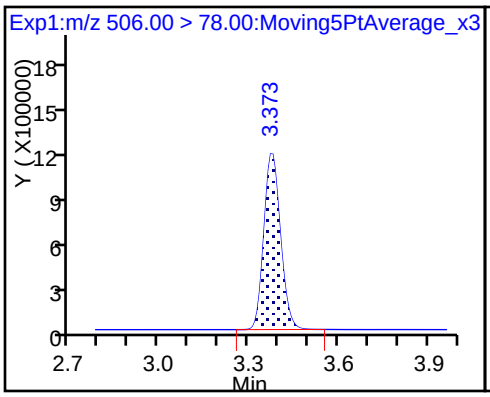
20 Perfluorononanoic acid



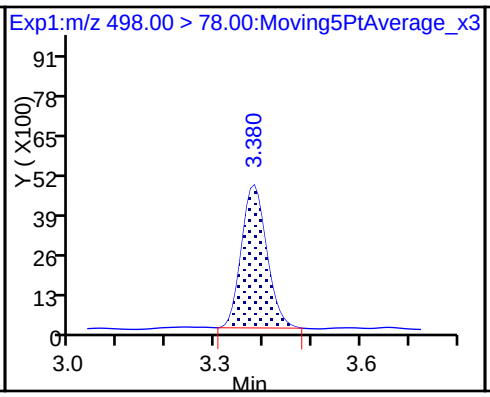
20 Perfluorononanoic acid



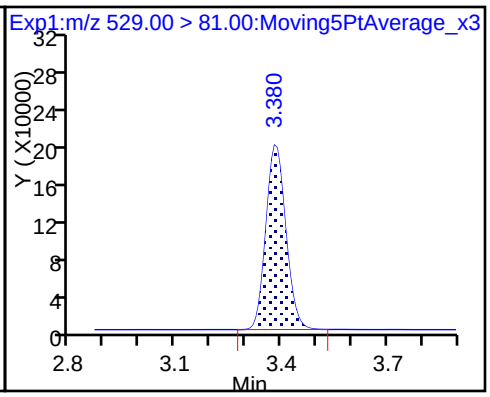
D 21 13C8 FOSA



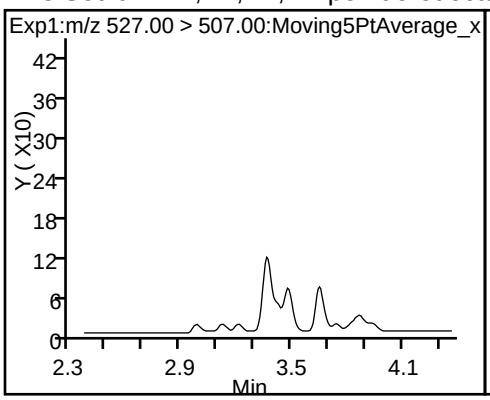
22 Perfluorooctane Sulfonamide



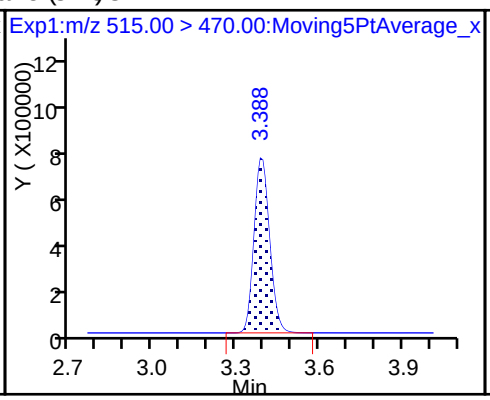
D 26 M2-8:2FTS



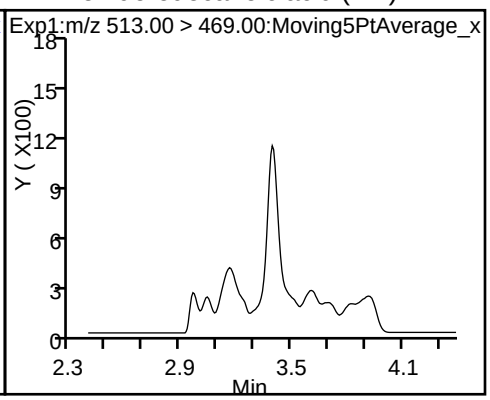
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



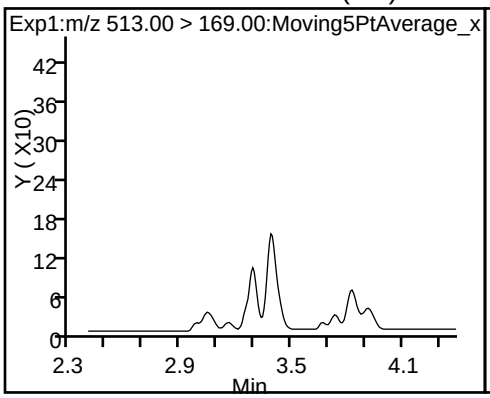
D 23 13C2 PFDA



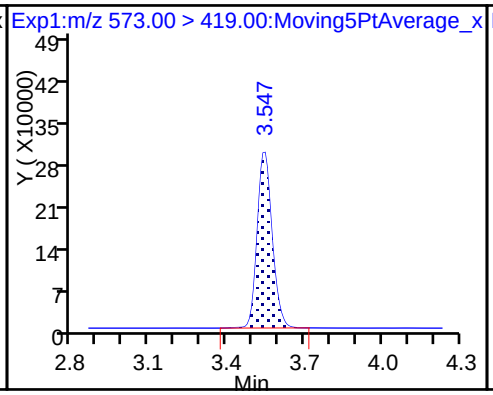
24 Perfluorodecanoic acid (ND)



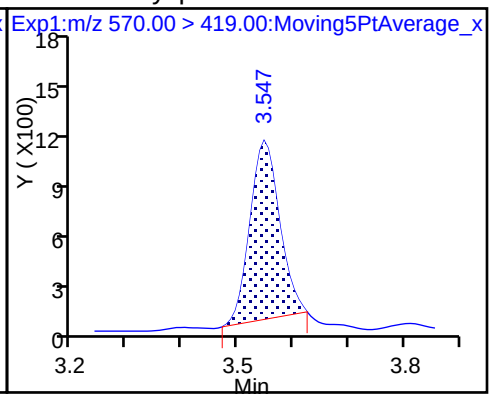
24 Perfluorodecanoic acid (ND)



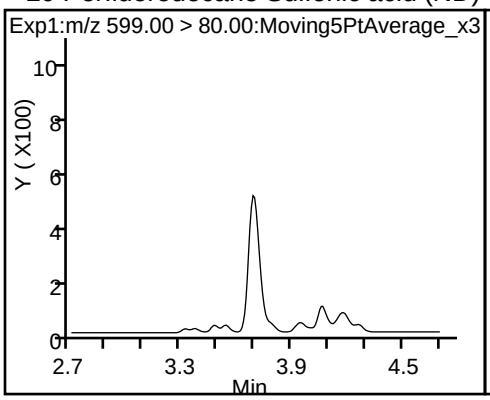
D 27 d3-NMeFOSAA



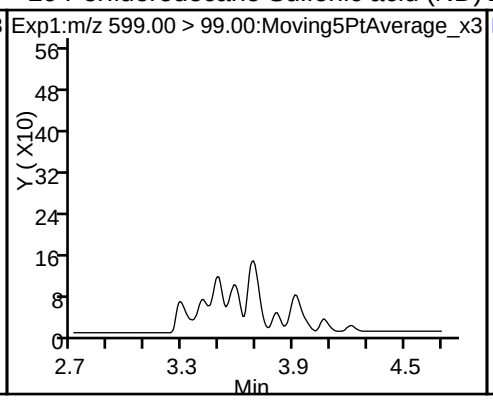
28 N-methyl perfluorooctane sulfonami



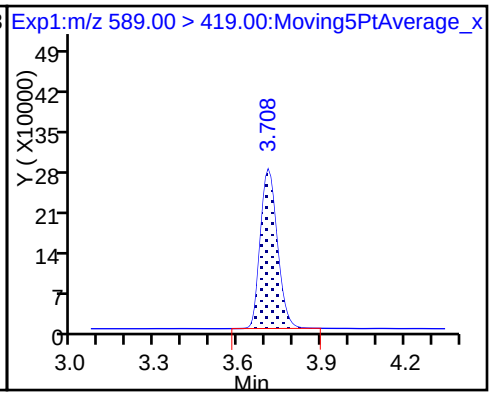
29 Perfluorodecane Sulfonic acid (ND)



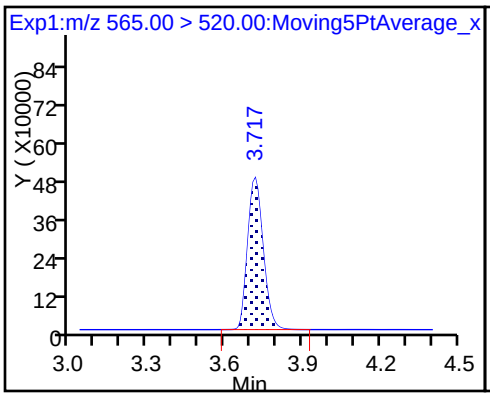
29 Perfluorodecane Sulfonic acid (ND)



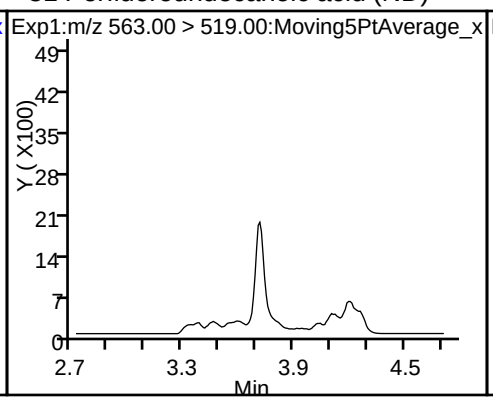
D 32 d5-NEtFOSAA



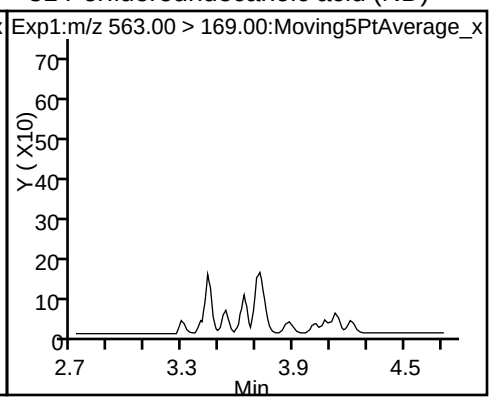
D 30 13C2 PFUnA



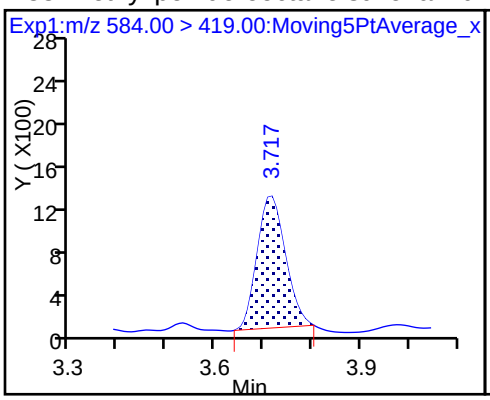
31 Perfluoroundecanoic acid (ND)



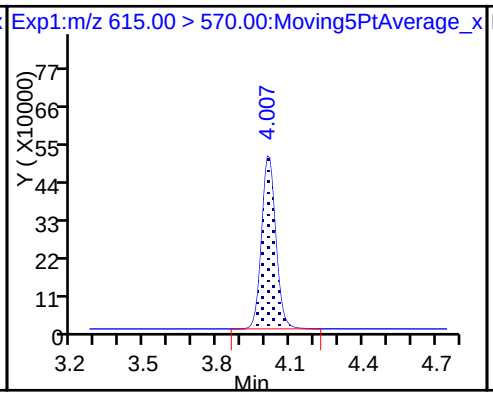
31 Perfluoroundecanoic acid (ND)



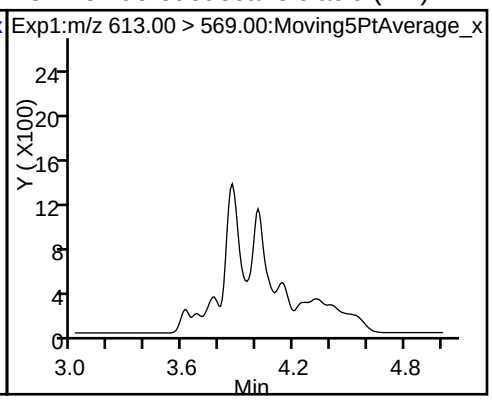
33 N-ethyl perfluorooctane sulfonamid



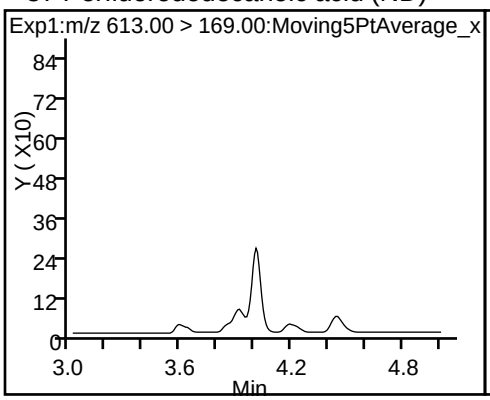
D 36 13C2 PFDoA



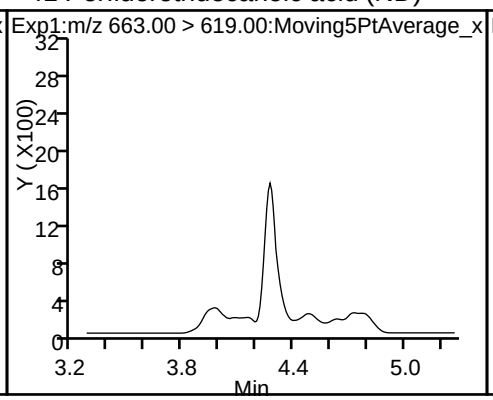
37 Perfluorododecanoic acid (ND)



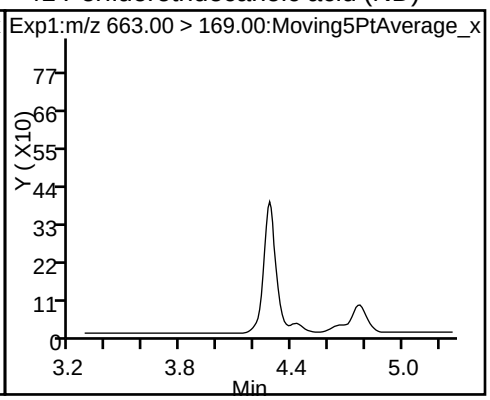
37 Perfluorododecanoic acid (ND)



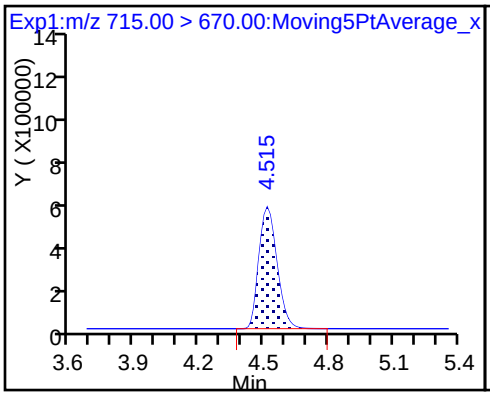
41 Perfluorotridecanoic acid (ND)



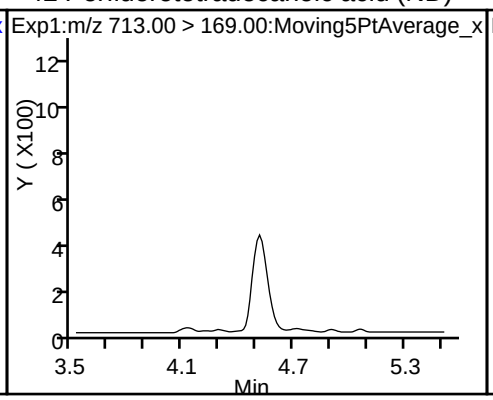
41 Perfluorotridecanoic acid (ND)



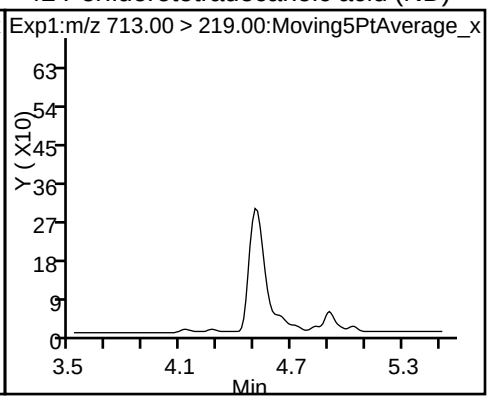
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

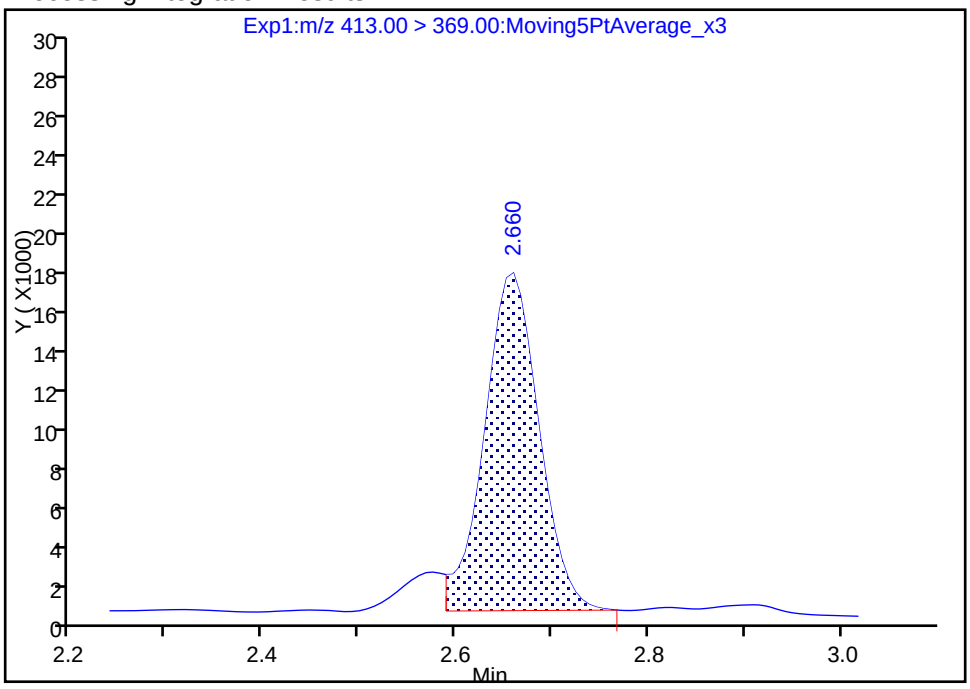
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_021.d				
Injection Date:	23-Dec-2017 00:13:17	Instrument ID:	A8_N		
Lims ID:	320-34425-A-8-A	Lab Sample ID:	320-34425-8		
Client ID:	FM-26-050-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

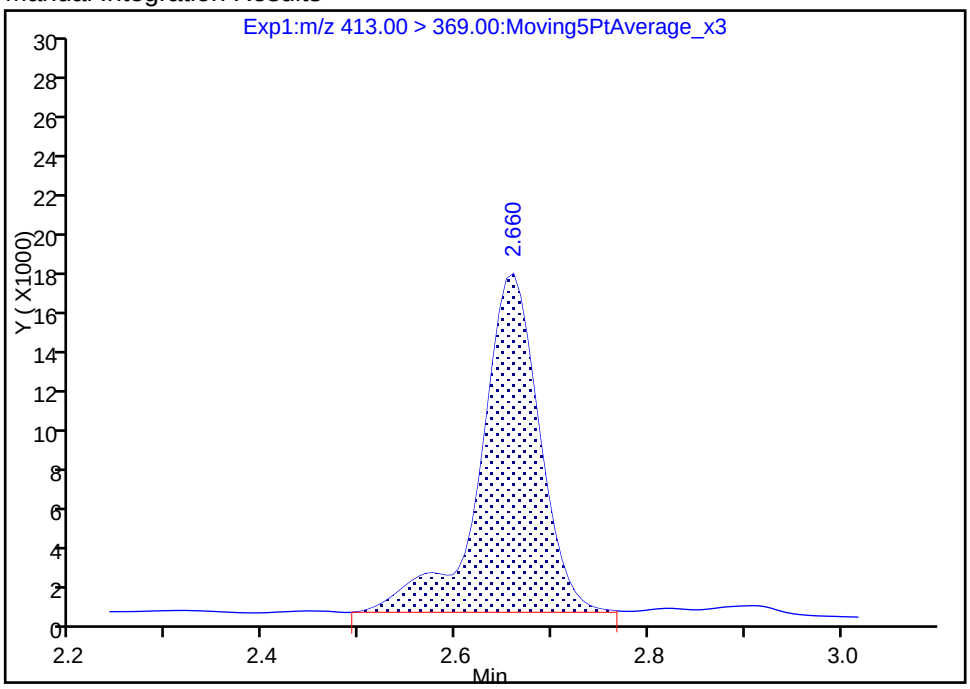
Processing Integration Results

RT: 2.66
Area: 67761
Amount: 0.035721
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 74492
Amount: 0.039269
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:46:18

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

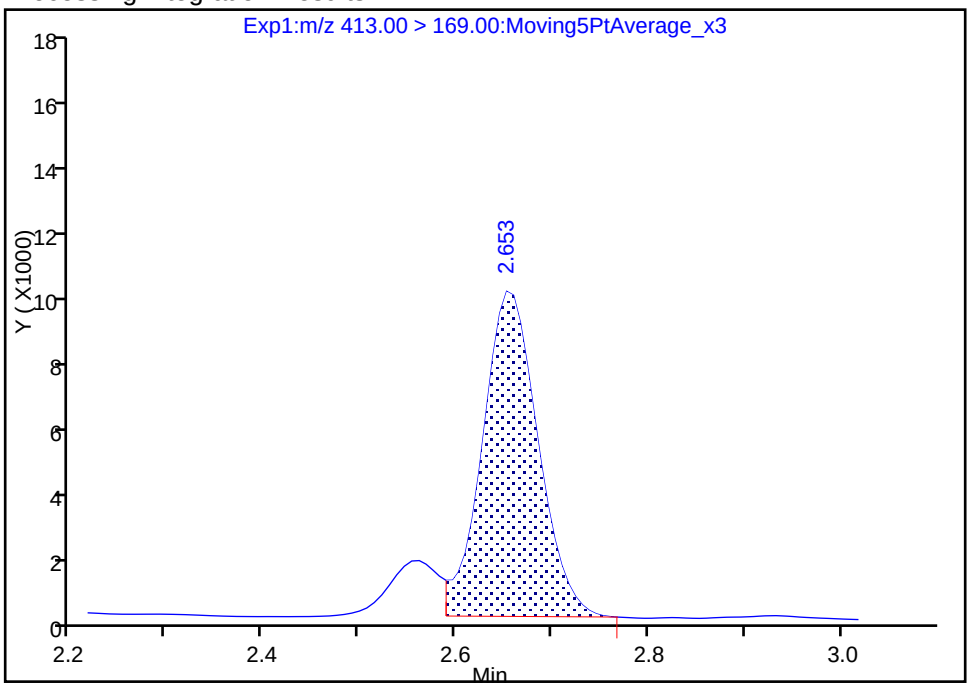
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_021.d				
Injection Date:	23-Dec-2017 00:13:17	Instrument ID:	A8_N		
Lims ID:	320-34425-A-8-A	Lab Sample ID:	320-34425-8		
Client ID:	FM-26-050-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

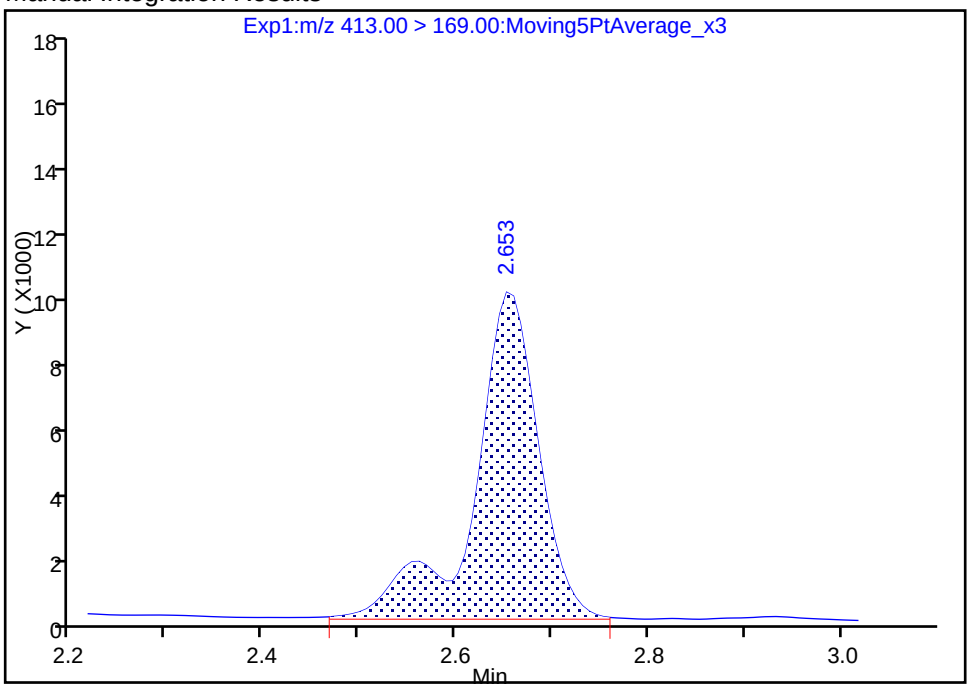
Processing Integration Results

RT: 2.65
Area: 39100
Amount: 0.035721
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 46079
Amount: 0.039269
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:46:27

Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-040-816-171211 | Lab Sample ID: 320-34425-9

Matrix: Water | Lab File ID: 2017.12.22LLB_022.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 09:27

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 252.6(mL) | Date Analyzed: 12/23/2017 00:21

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	7.34		1.98	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	16.6		1.98	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	14.2		1.98	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	6.90		1.98	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	8.61		1.98	0.84
375-95-1	Perfluorononanoic acid (PFNA)	2.77		1.98	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	1.98	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.09	U	1.98	1.09
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.98	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.29	U	1.98	1.29
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.98	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.47	J	1.98	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	15.0	B	1.98	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.41	J	1.98	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	32.8		1.98	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.98	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.50	J	1.98	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.07	U	19.8	3.07
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.88	U	19.8	1.88
27619-97-2	6:2FTS	1.98	U	19.8	1.98
39108-34-4	8:2FTS	1.98	U	19.8	1.98

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-040-816-171211 | Lab Sample ID: 320-34425-9

Matrix: Water | Lab File ID: 2017.12.22LLB_022.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 09:27

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 252.6(mL) | Date Analyzed: 12/23/2017 00:21

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	91		25-150
STL01893	13C5 PFPeA	100		25-150
STL00993	13C2 PFHxA	98		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	93		25-150
STL00995	13C5 PFNA	95		25-150
STL00996	13C2 PFDA	97		25-150
STL00997	13C2 PFUnA	93		25-150
STL00998	13C2 PFDoA	90		25-150
STL02116	13C2-PFTeDA	122		25-150
STL02337	13C3-PFBS	103		25-150
STL00994	18O2 PFHxS	100		25-150
STL00991	13C4 PFOS	95		25-150
STL01056	13C8 FOSA	90		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	85		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	76		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_022.d
Lims ID: 320-34425-A-9-A
Client ID: FM-26-040-816-171211
Sample Type: Client
Inject. Date: 23-Dec-2017 00:21:07 ALS Bottle#: 16 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-9-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:19 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:49:01

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	6491585	2.28		91.3	16193	
2 Perfluorobutyric acid										
212.90 > 169.00	1.432	1.419	0.013	1.004	441379	0.1855			123	
D 3 13C5-PFPeA										
267.90 > 223.00	1.688	1.670	0.018	0.635	4267655	2.51		100	28772	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.688	1.670	0.018	1.000	796917	0.4182			291	M
D 47 13C3-PFBS										
301.90 > 83.00	1.715	1.705	0.010	0.645	86944	2.39		103	2002	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.724	1.707	0.017	1.005	104364	0.0371			79.1	M
298.90 > 99.00	1.724	1.707	0.017	1.005	47456		2.20(1.25-3.74)		109	
D 7 13C2 PFHxA										
315.00 > 270.00	1.974	1.953	0.021	0.743	4439726	2.44		97.7	36109	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.974	1.956	0.018	1.000	635739	0.3576			582	M
313.00 > 119.00	1.974	1.956	0.018	1.000	58122		10.94(5.03-15.10)		800	
D 9 13C4-PFHpA										
367.00 > 322.00	2.304	2.291	0.013	0.867	4368004	2.60		104	40175	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.304	2.291	0.013	1.000	318442	0.1742			467	
363.00 > 169.00	2.304	2.291	0.013	1.000	125966		2.53(1.13-3.40)		772	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.318	2.304	0.014	1.000	867007	0.3799			1127	
399.00 > 99.00	2.318	2.304	0.014	1.000	281189		3.08(1.50-4.49)		901	
D 11 18O2 PFHxS										
403.00 > 84.00	2.318	2.304	0.014	0.872	5014179	2.36		99.8	48784	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.637	2.642	-0.005	1.000	16227	0.0319			390	
D 12 M2-6:2FTS										
429.00 > 81.00	2.637	2.642	-0.005	0.992	778427	0.99		41.8	10588	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	4476450	2.31		92.6	45372	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4681015	2.50			44439	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.659	2.656	0.003	1.000	409759	0.2176			601	M
413.00 > 169.00	2.659	2.656	0.003	1.000	222365		1.84(0.84-2.52)		1580	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.666	2.662	0.004	1.000	18022	0.0103			119	
449.00 > 99.00	2.666	2.662	0.004	1.000	4703		3.83(1.94-5.82)		73.9	
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.141	3180465	2.27		94.9	25958	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	1169476	0.8290			121	
499.00 > 99.00	3.032	3.028	0.004	1.000	267404		4.37(2.31-6.93)		173	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.141	3254036	2.37		94.7	36767	
20 Perfluorononanoic acid										
463.00 > 419.00	3.032	3.029	0.003	1.000	91661	0.0700			314	
463.00 > 169.00	3.032	3.029	0.003	1.000	19370		4.73(1.90-5.69)		274	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.271	4285361	2.25		89.8	33982	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	20576	0.0125			281	
D 26 M2-8:2FTS										
529.00 > 81.00	3.385	3.377	0.008	1.273	796084	1.82		75.9	14744	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2747622	2.42		97.0	36009	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1242023	2.04		81.7	19544	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.544	3.548	-0.004	1.000	2263	0.004243			28.7	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.715	3.712	0.002	1.397	1267946	2.13		85.4	7648	
D 30 13C2 PFUnA										
565.00 > 520.00	3.723	3.717	0.006	1.400	2009801	2.33		93.1	26637	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.723	3.720	0.003	1.002	4789	0.009503			163	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	2088302	2.24		89.8	37360	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.527	4.518	0.009	1.703	3175754	3.05		122	34011	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:26 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_022.d

Injection Date: 23-Dec-2017 00:21:07 Instrument ID: A8_N

Lims ID: 320-34425-A-9-A Lab Sample ID: 320-34425-9

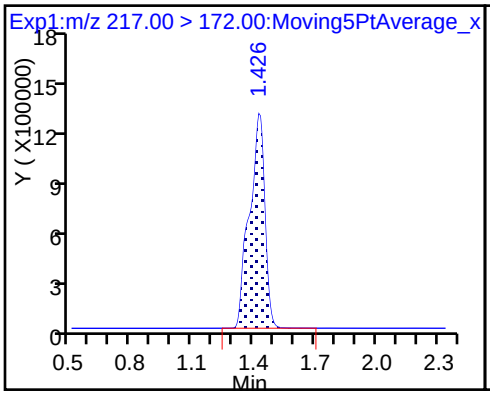
Client ID: FM-26-040-816-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 16 Worklist Smp#: 14

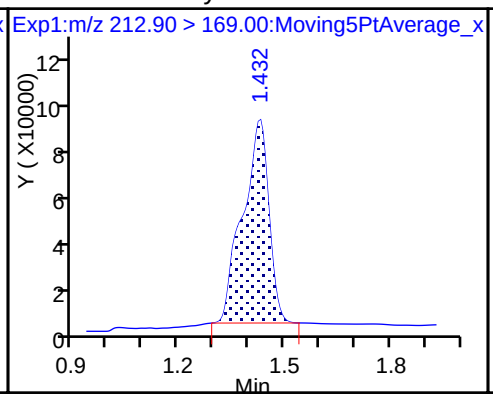
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

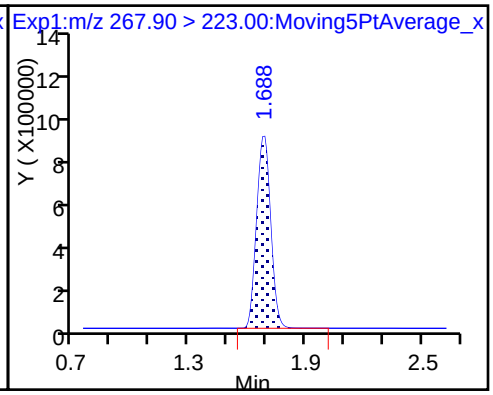
D 1 13C4 PFBA



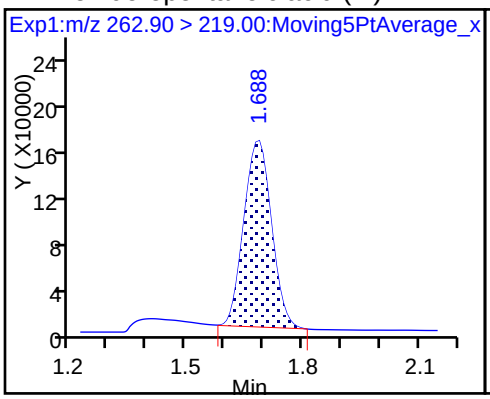
2 Perfluorobutyric acid



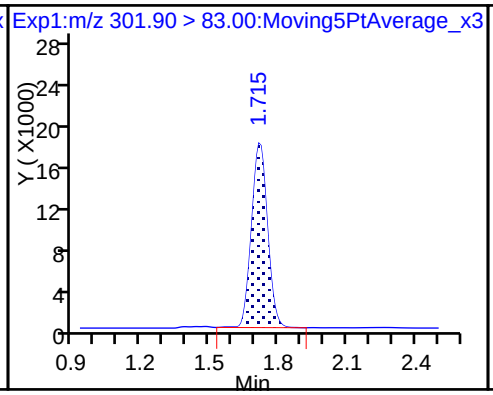
D 3 13C5-PFPeA



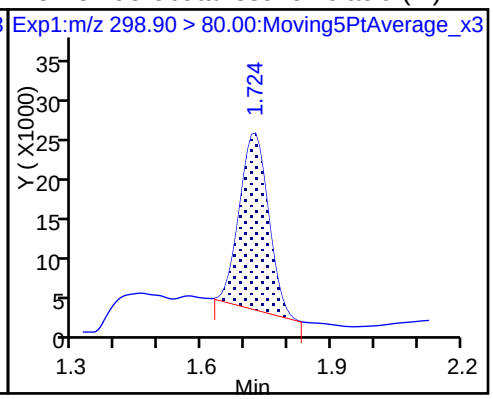
4 Perfluoropentanoic acid (M)



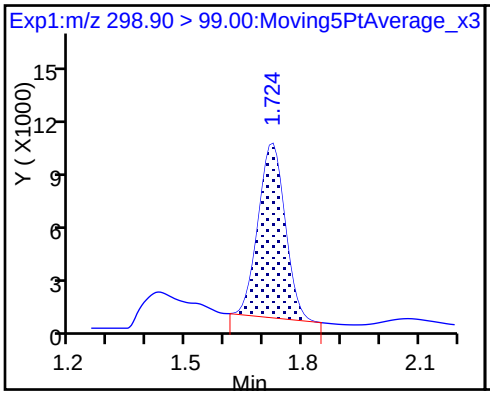
D 47 13C3-PFBS



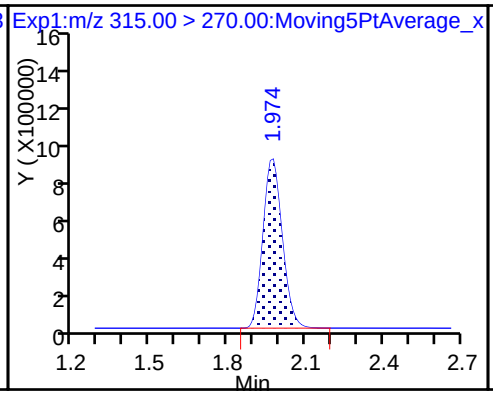
5 Perfluorobutanesulfonic acid (M)



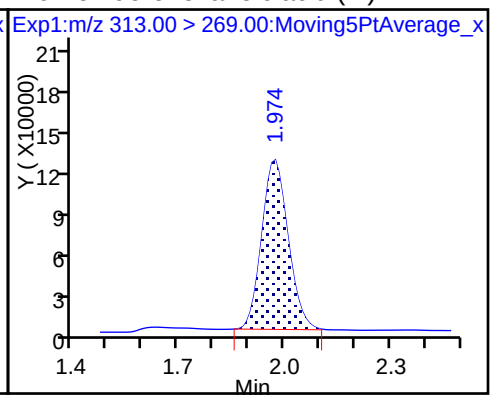
5 Perfluorobutanesulfonic acid



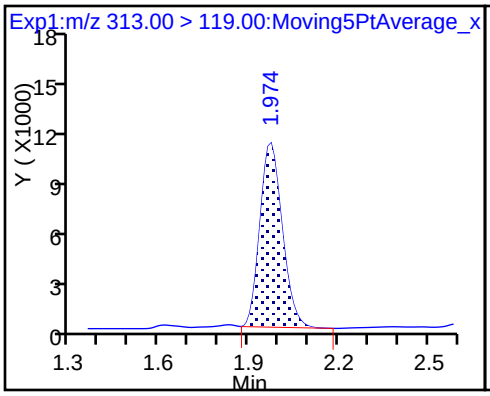
D 7 13C2 PFHxA



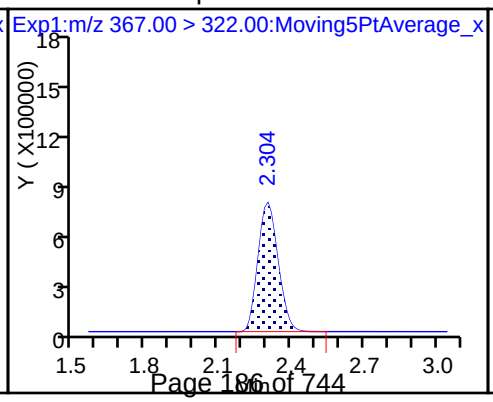
6 Perfluorohexanoic acid (M)



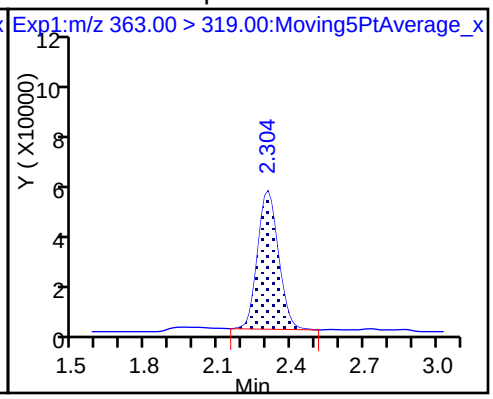
6 Perfluorohexanoic acid



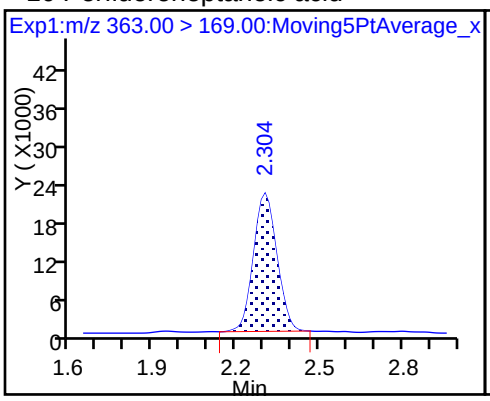
D 9 13C4-PFHpA



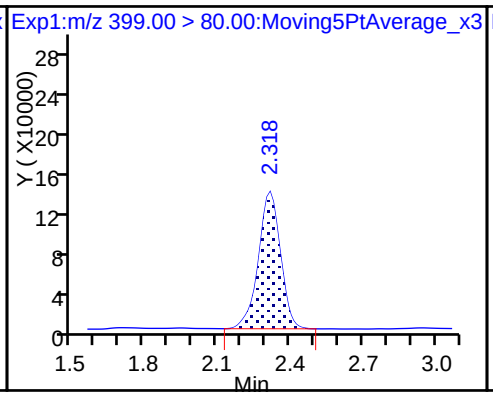
10 Perfluoroheptanoic acid



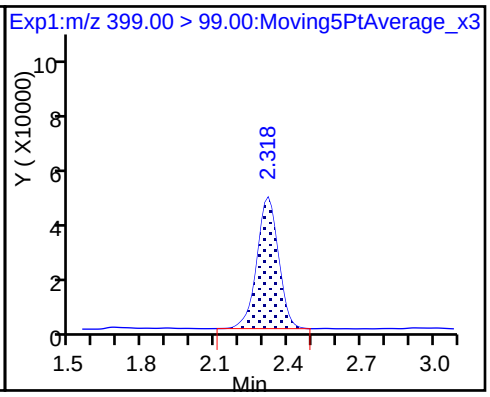
10 Perfluoroheptanoic acid



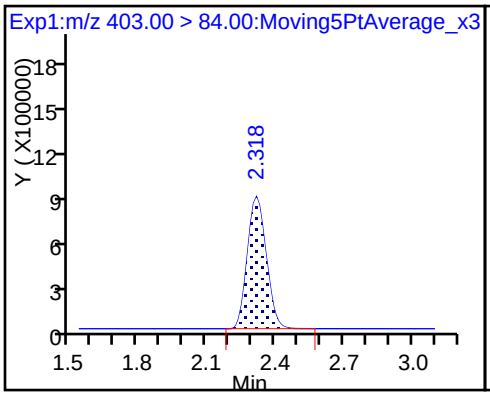
8 Perfluorohexanesulfonic acid



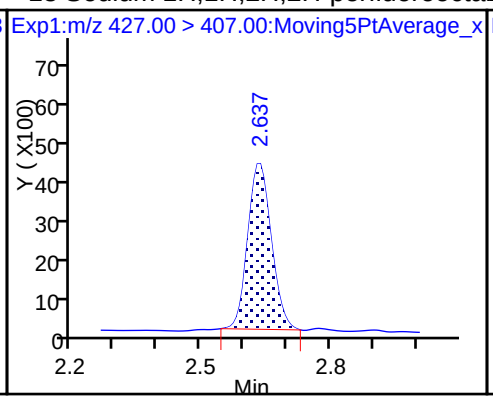
8 Perfluorohexanesulfonic acid



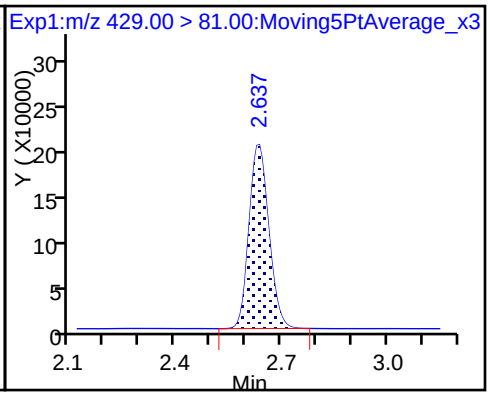
D 11 18O2 PFHxS



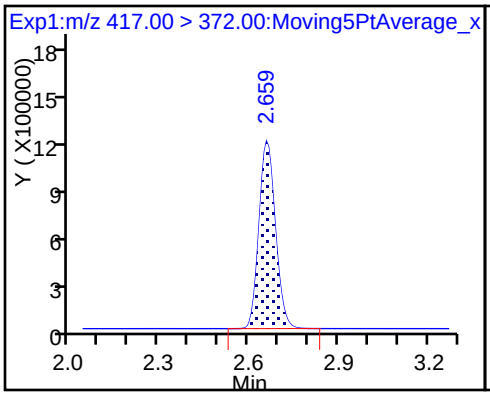
13 Sodium 1H,1H,2H,2H-perfluorooctane



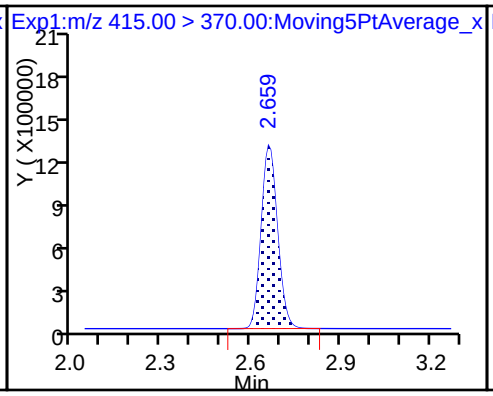
D 12 M2-6:2FTS



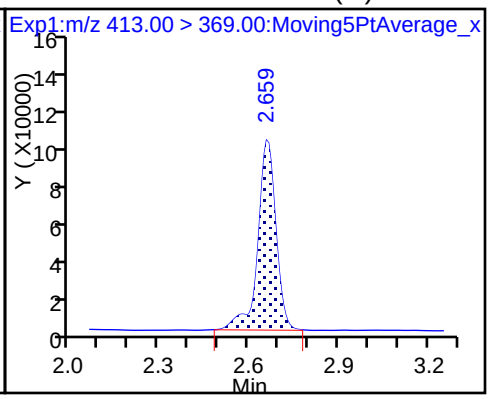
D 14 13C4 PFOA



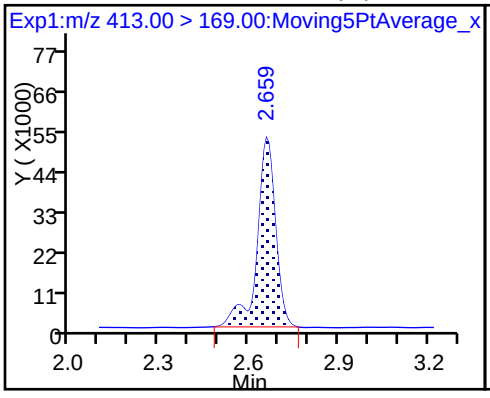
* 62 13C2-PFOA



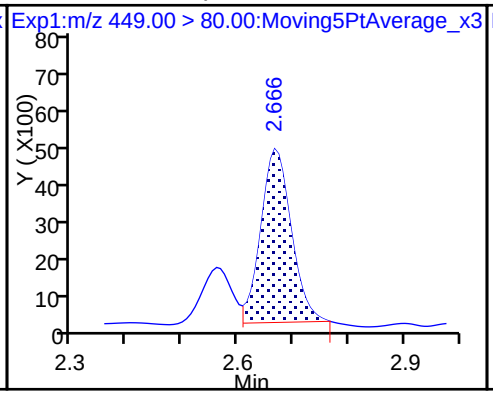
15 Perfluorooctanoic acid (M)



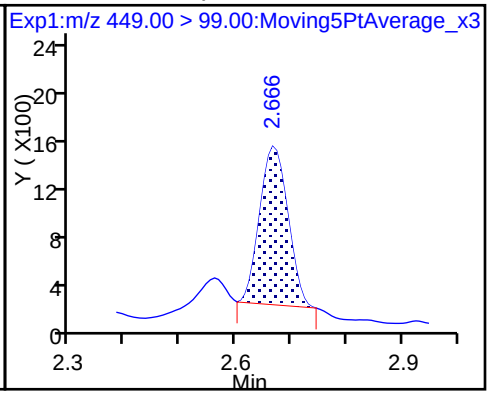
15 Perfluorooctanoic acid (M)



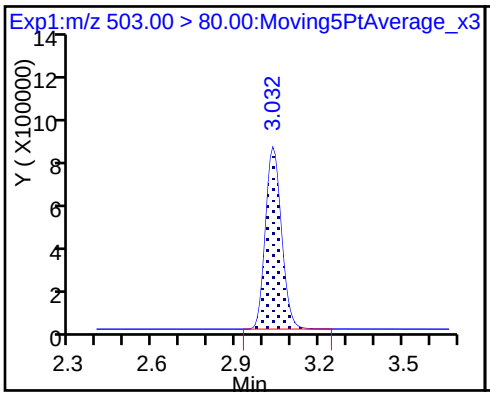
16 Perfluoroheptanesulfonic Acid



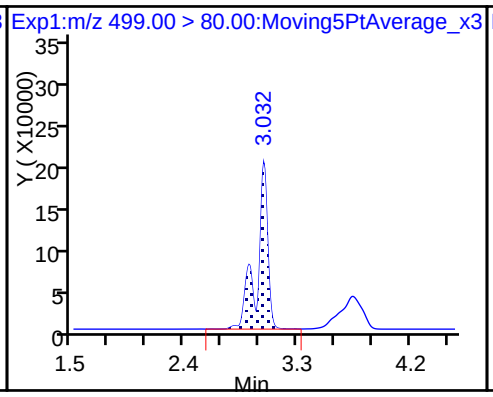
16 Perfluoroheptanesulfonic Acid



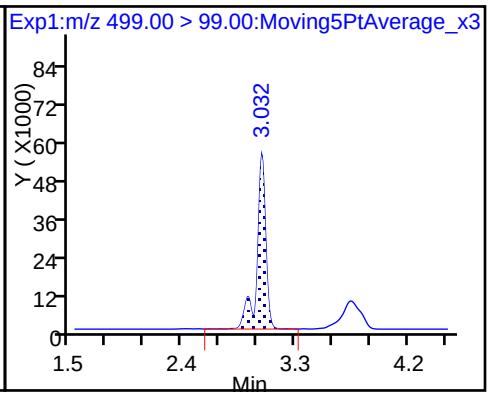
D 18 13C4 PFOS



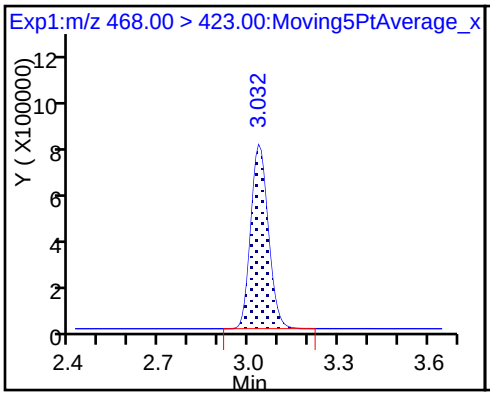
17 Perfluorooctane sulfonic acid



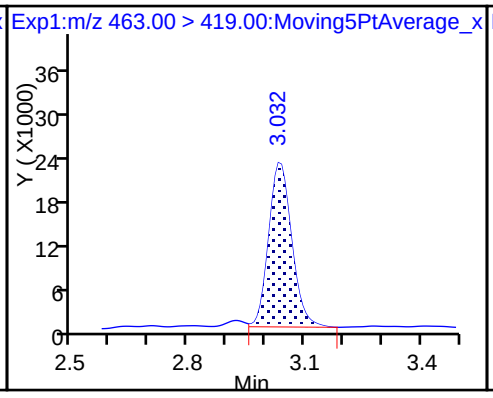
17 Perfluorooctane sulfonic acid



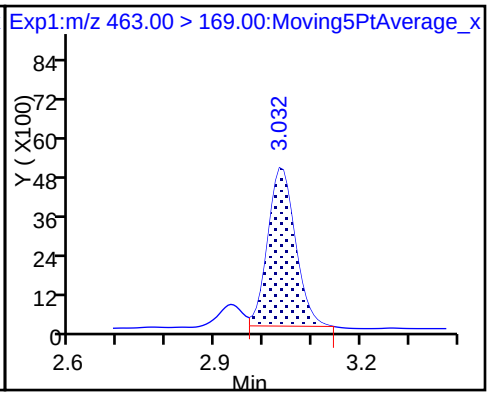
D 19 13C5 PFNA



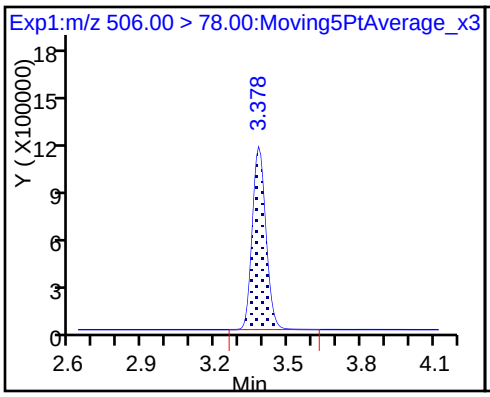
20 Perfluorononanoic acid



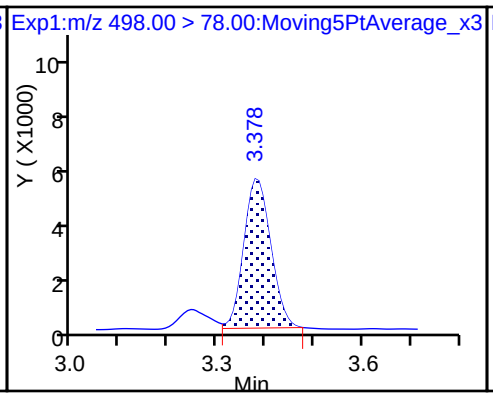
20 Perfluorononanoic acid



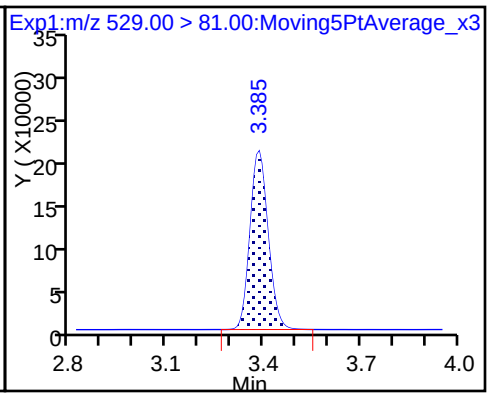
D 21 13C8 FOSA



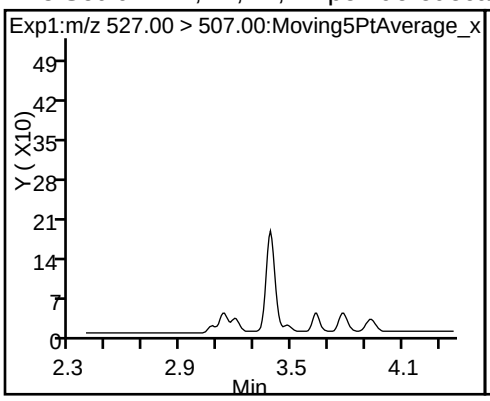
22 Perfluorooctane Sulfonamide



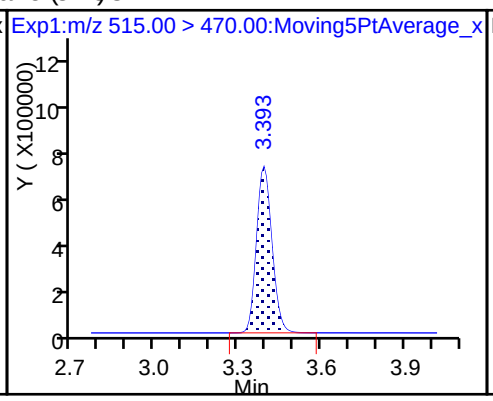
D 26 M2-8:2FTS



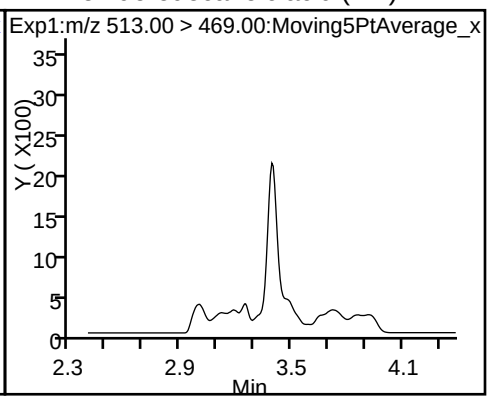
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



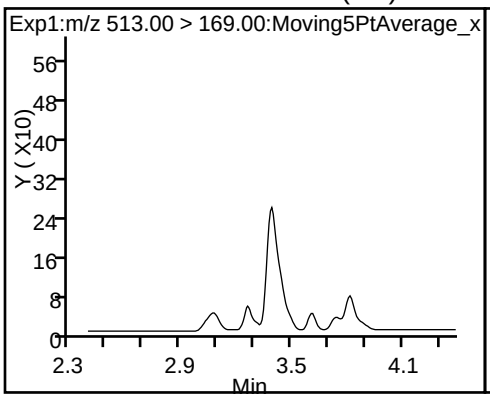
D 23 13C2 PFDA



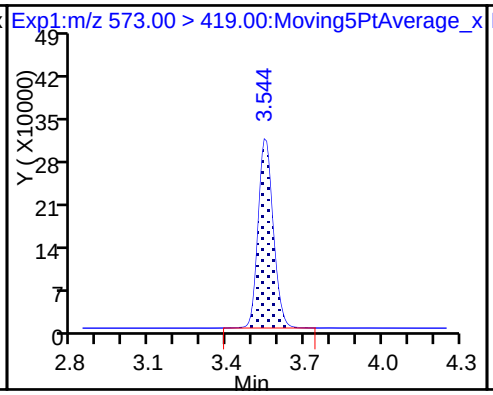
24 Perfluorodecanoic acid (ND)



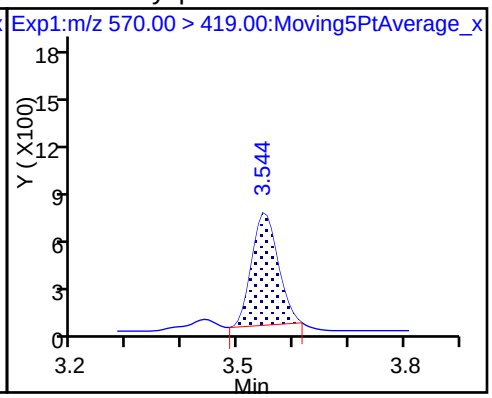
24 Perfluorodecanoic acid (ND)



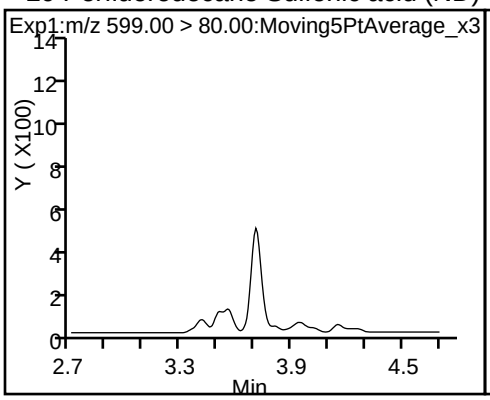
D 27 d3-NMeFOSAA



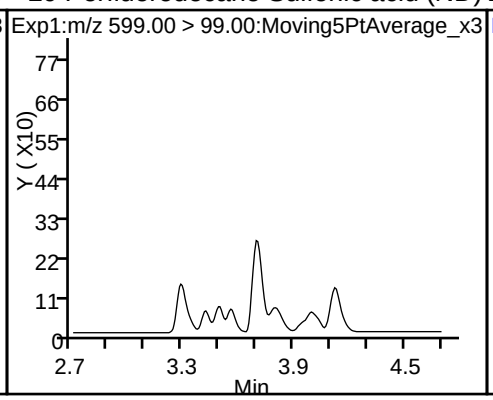
28 N-methyl perfluorooctane sulfonami



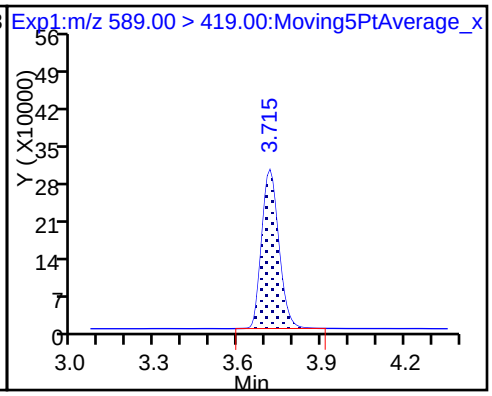
29 Perfluorodecane Sulfonic acid (ND)



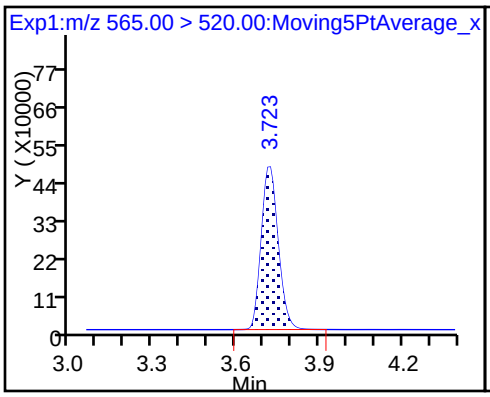
29 Perfluorodecane Sulfonic acid (ND)



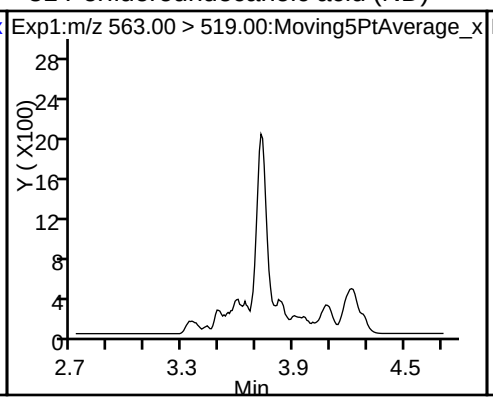
D 32 d5-NEtFOSAA



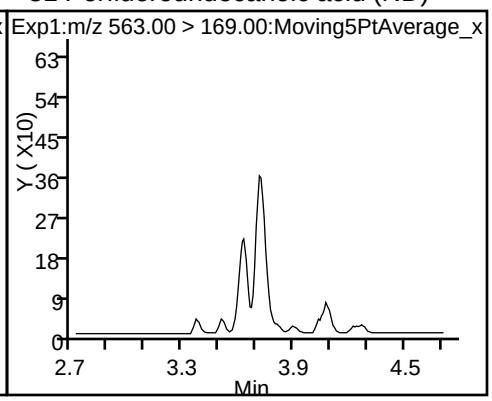
D 30 13C2 PFUnA



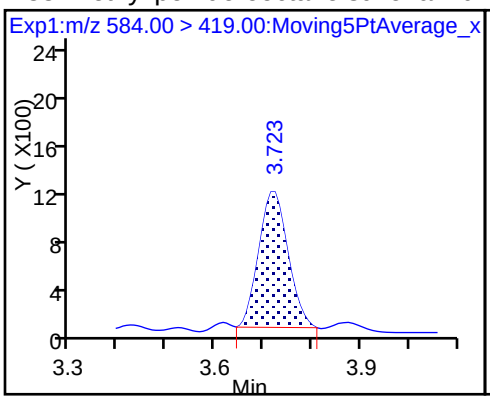
31 Perfluoroundecanoic acid (ND)



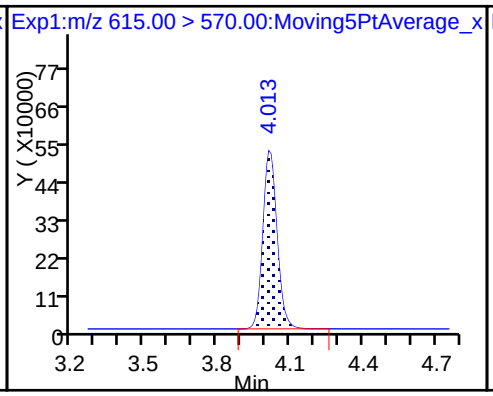
31 Perfluoroundecanoic acid (ND)



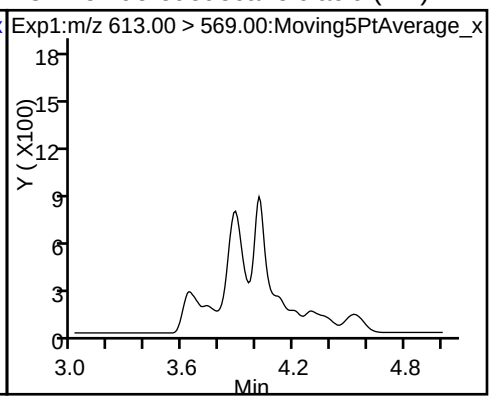
33 N-ethyl perfluorooctane sulfonamid



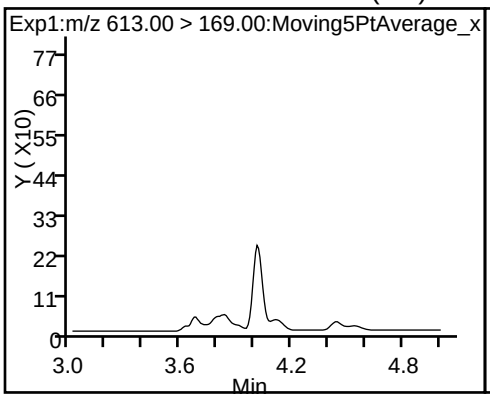
D 36 13C2 PFDoA



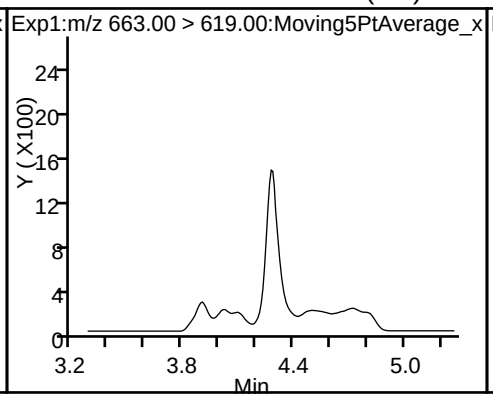
37 Perfluorododecanoic acid (ND)



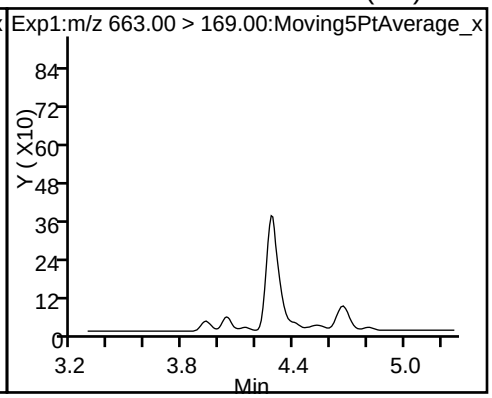
37 Perfluorododecanoic acid (ND)



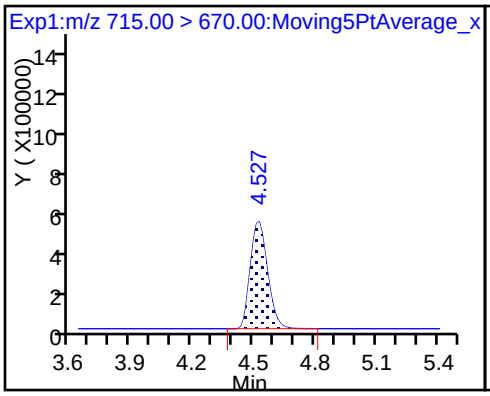
41 Perfluorotridecanoic acid (ND)



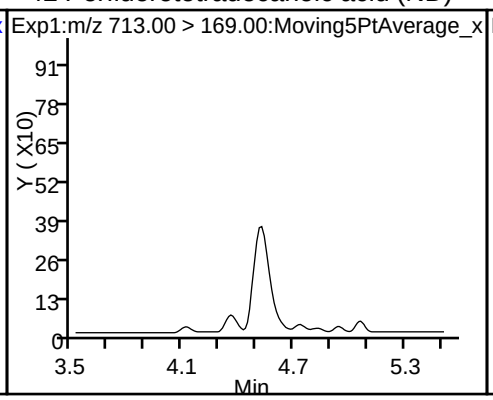
41 Perfluorotridecanoic acid (ND)



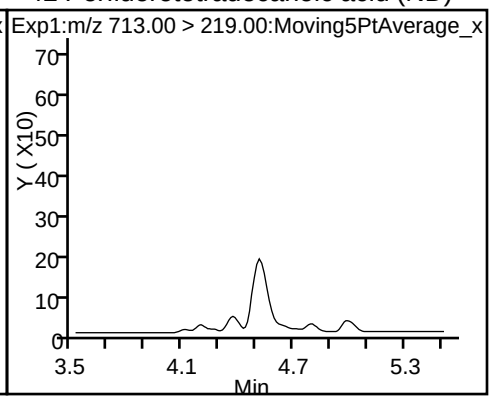
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

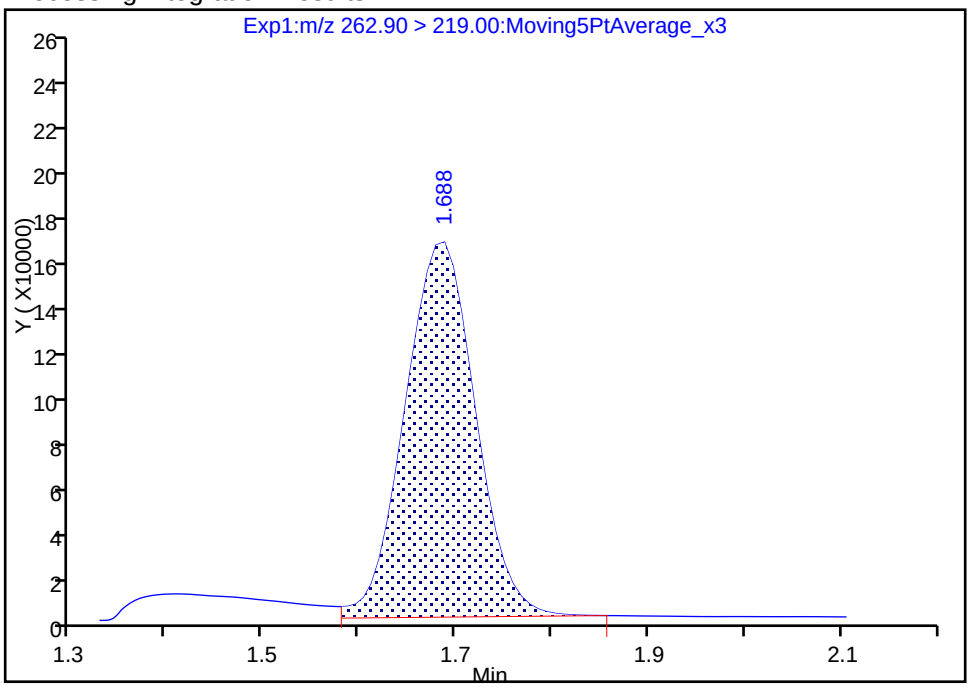
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_022.d				
Injection Date:	23-Dec-2017 00:21:07	Instrument ID:	A8_N		
Lims ID:	320-34425-A-9-A	Lab Sample ID:	320-34425-9		
Client ID:	FM-26-040-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

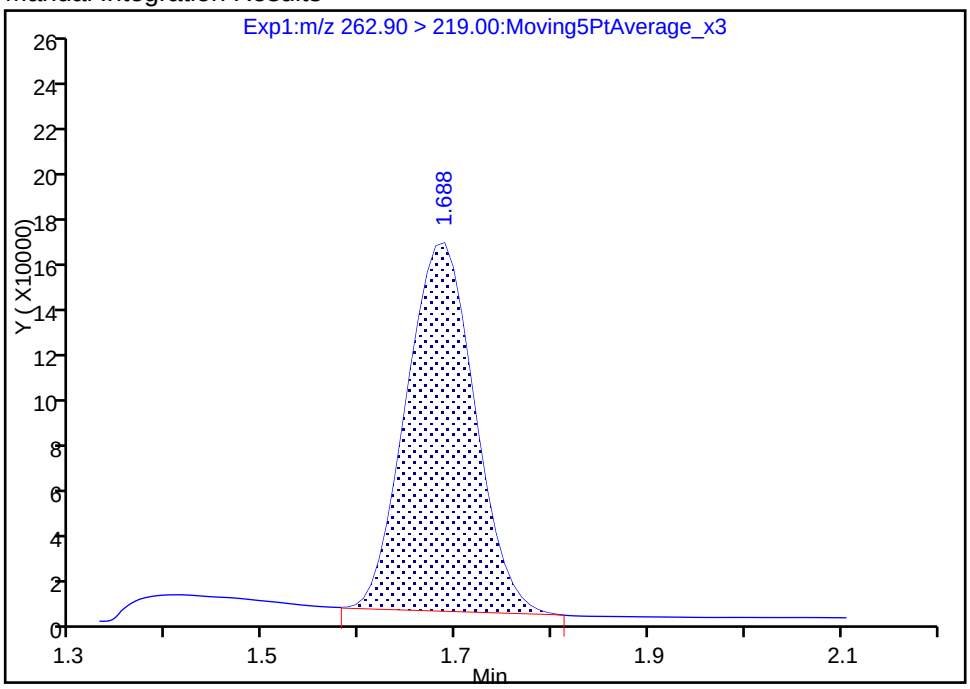
Processing Integration Results

RT: 1.69
Area: 836496
Amount: 0.438996
Amount Units: ng/ml



Manual Integration Results

RT: 1.69
Area: 796917
Amount: 0.418224
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:47:20

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

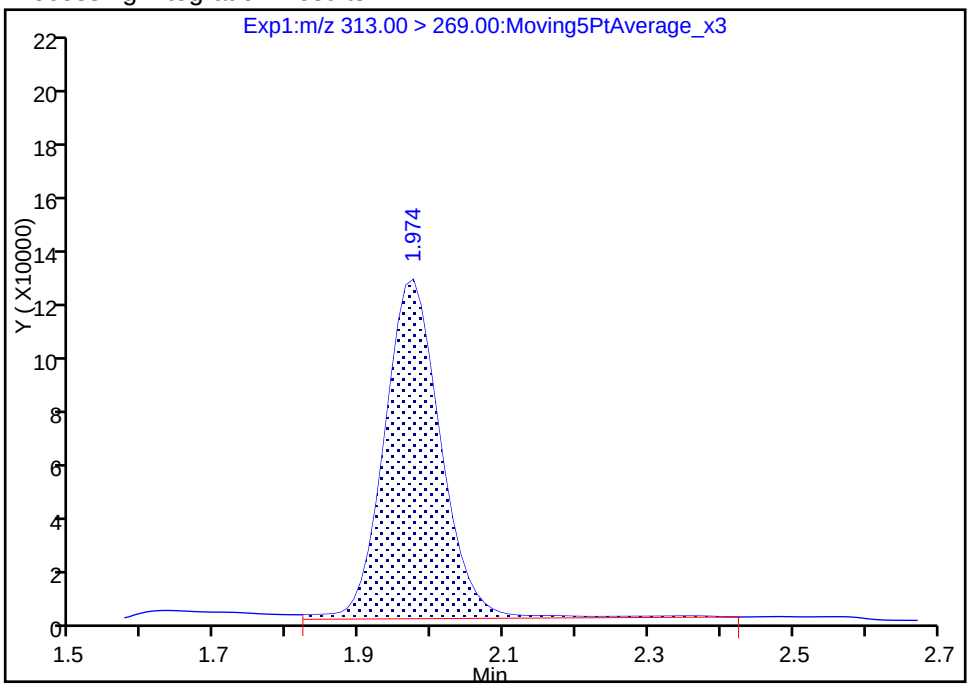
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_022.d				
Injection Date:	23-Dec-2017 00:21:07	Instrument ID:	A8_N		
Lims ID:	320-34425-A-9-A	Lab Sample ID:	320-34425-9		
Client ID:	FM-26-040-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

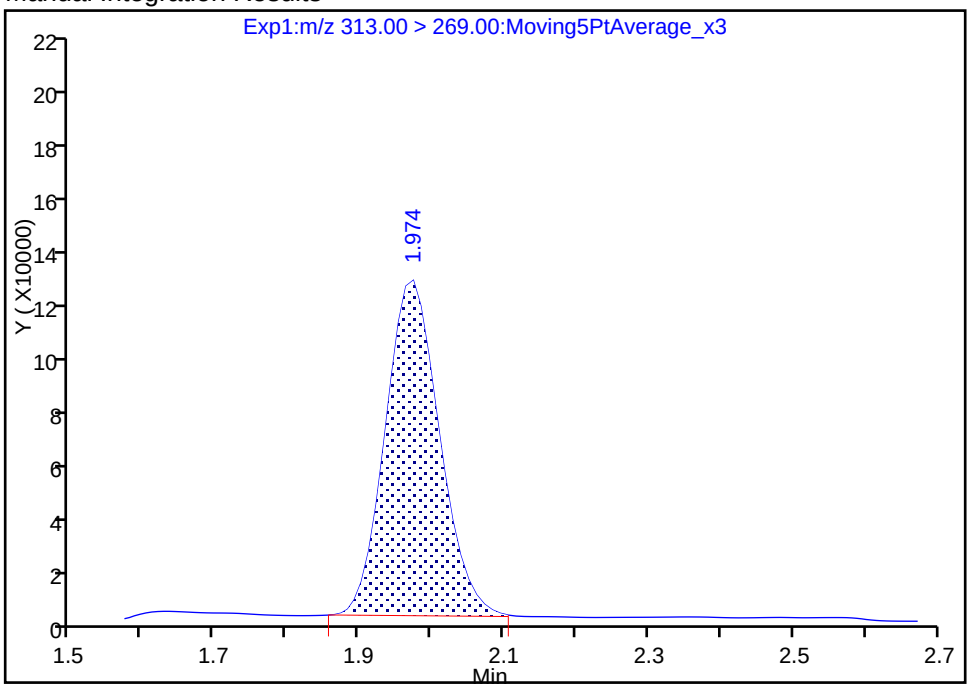
Processing Integration Results

RT: 1.97
Area: 669904
Amount: 0.376773
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 635739
Amount: 0.357558
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:47:57
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

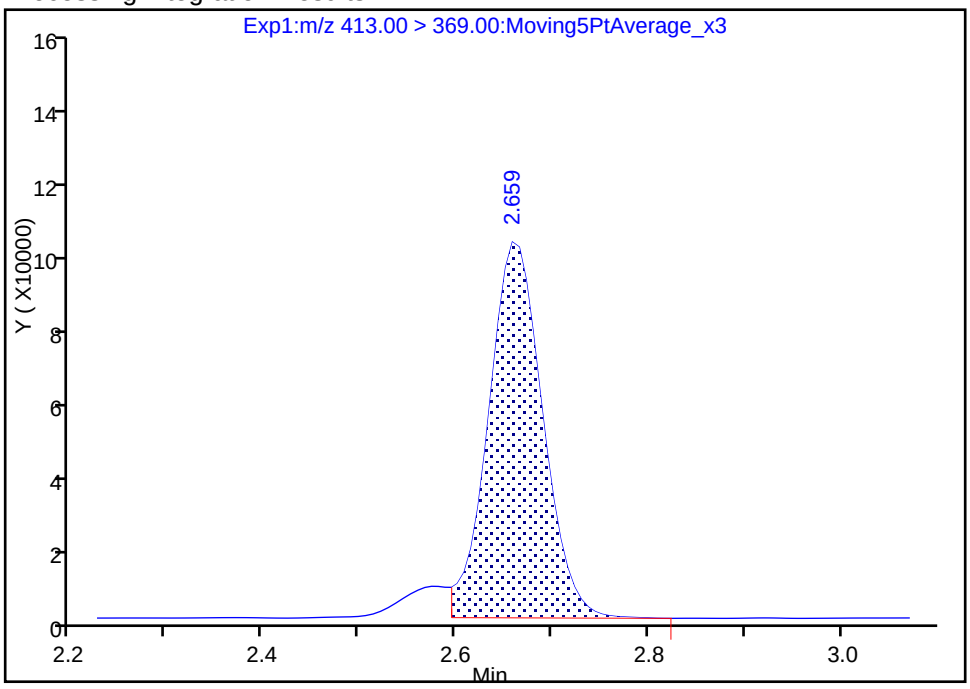
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_022.d				
Injection Date:	23-Dec-2017 00:21:07	Instrument ID:	A8_N		
Lims ID:	320-34425-A-9-A	Lab Sample ID:	320-34425-9		
Client ID:	FM-26-040-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

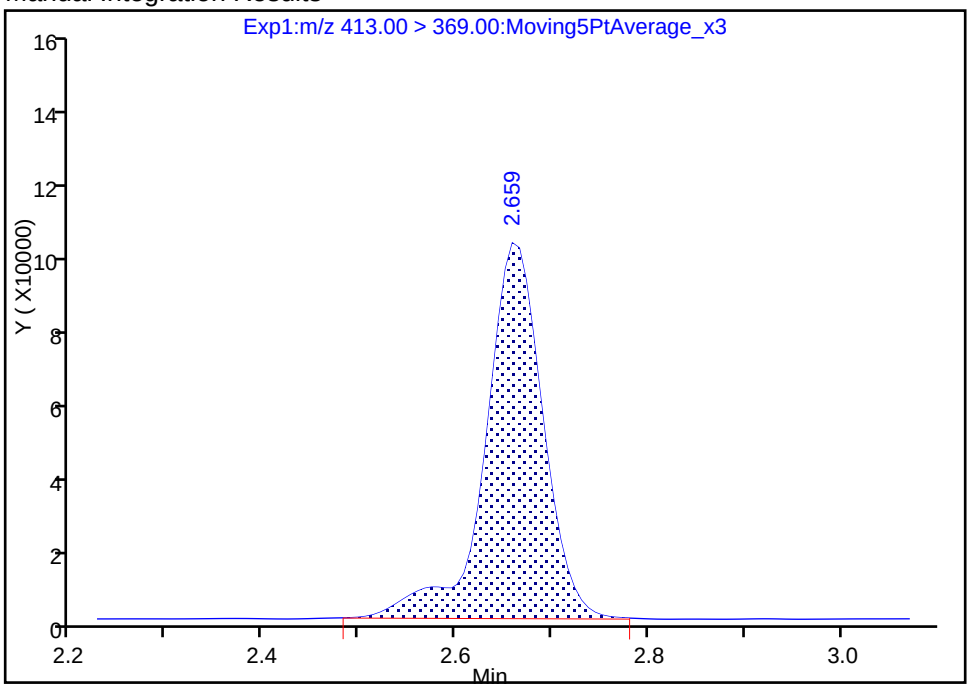
Processing Integration Results

RT: 2.66
Area: 382450
Amount: 0.203105
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 409759
Amount: 0.217608
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:48:24
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

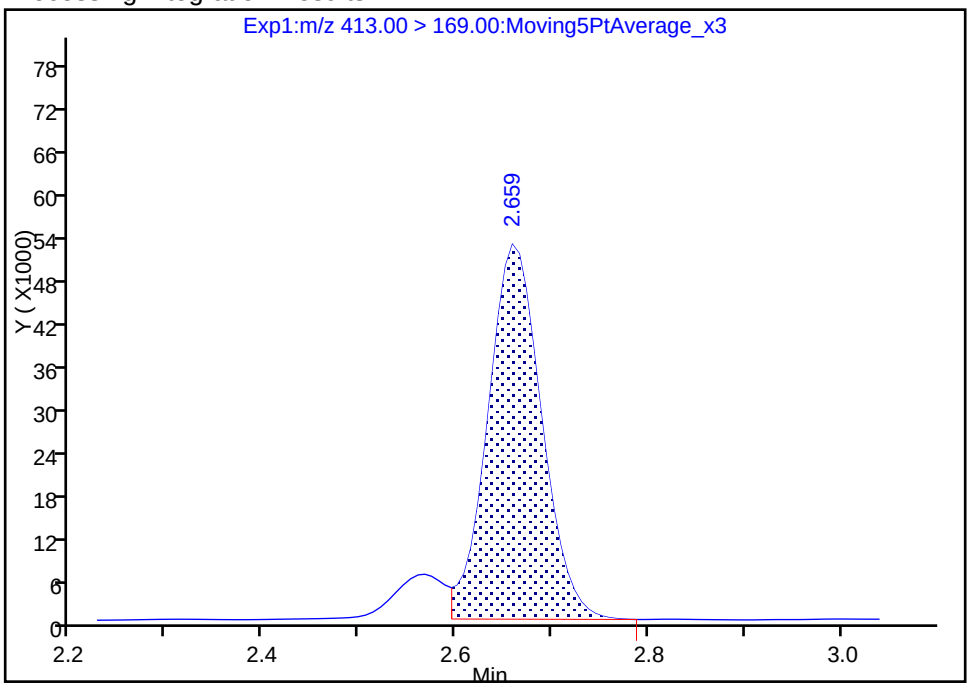
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_022.d				
Injection Date:	23-Dec-2017 00:21:07	Instrument ID:	A8_N		
Lims ID:	320-34425-A-9-A	Lab Sample ID:	320-34425-9		
Client ID:	FM-26-040-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

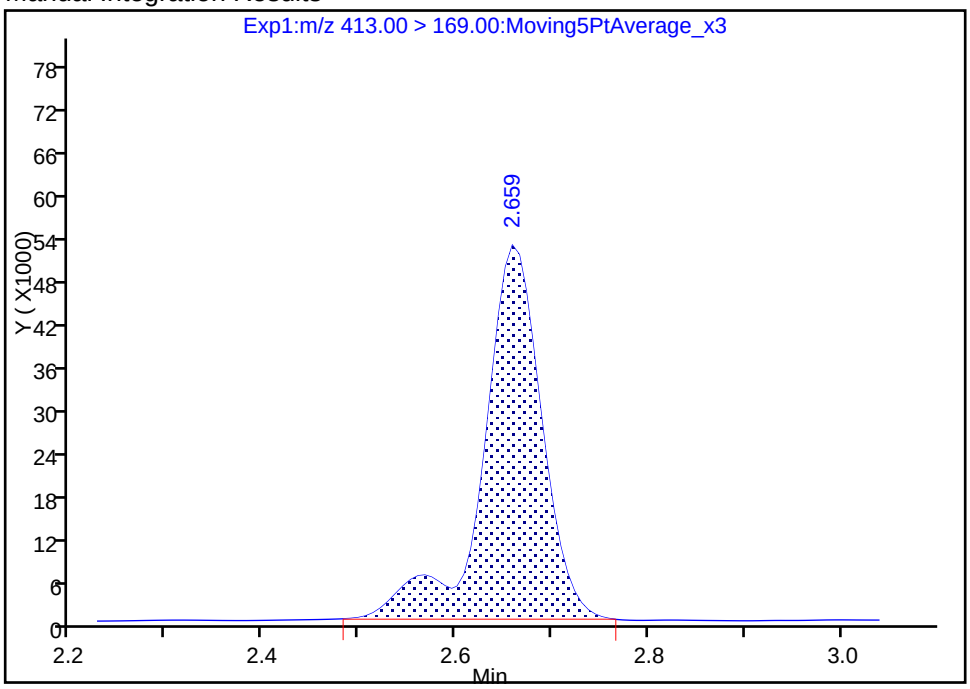
Processing Integration Results

RT: 2.66
Area: 202000
Amount: 0.203105
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 222365
Amount: 0.217608
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:48:31

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

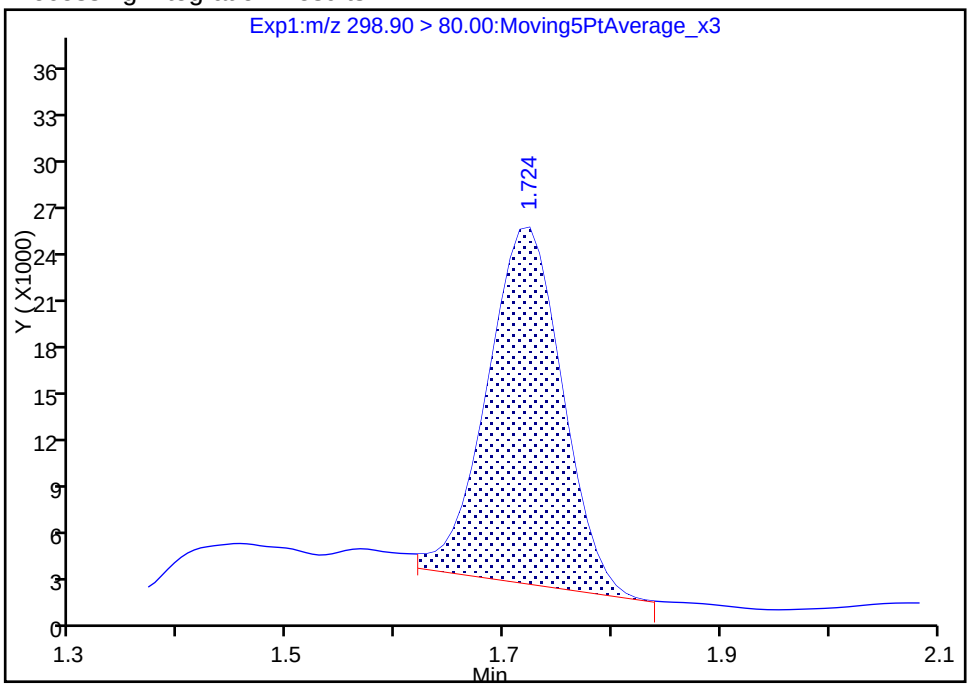
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_022.d				
Injection Date:	23-Dec-2017 00:21:07	Instrument ID:	A8_N		
Lims ID:	320-34425-A-9-A	Lab Sample ID:	320-34425-9		
Client ID:	FM-26-040-816-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

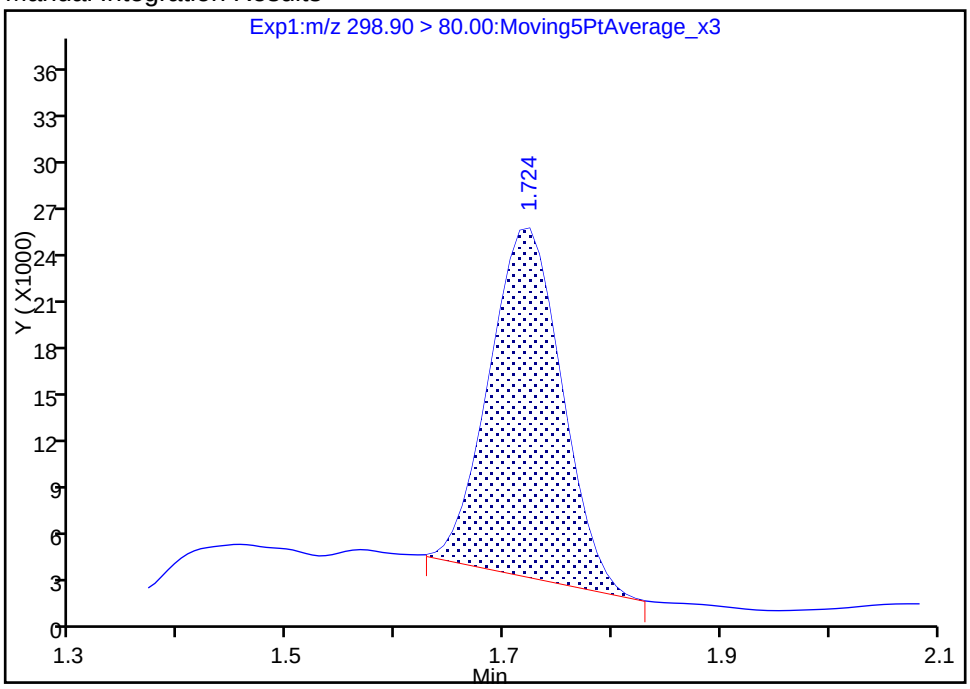
Processing Integration Results

RT: 1.72
Area: 110376
Amount: 0.039239
Amount Units: ng/ml



Manual Integration Results

RT: 1.72
Area: 104364
Amount: 0.037101
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:47:32

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-100-944-171211 | Lab Sample ID: 320-34425-10

Matrix: Water | Lab File ID: 2017.12.22LLB_023.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 14:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 242(mL) | Date Analyzed: 12/23/2017 00:28

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.36	U	2.07	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.51	U	2.07	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	0.60	U	2.07	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.26	U	2.07	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	0.88	U	2.07	0.88
375-95-1	Perfluorononanoic acid (PFNA)	0.28	U	2.07	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.07	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.14	U	2.07	1.14
307-55-1	Perfluorododecanoic acid (PFDoA)	0.57	U	2.07	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.07	1.34
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.07	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.23	J	2.07	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.98	B	2.07	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.07	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.76	J	2.07	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.07	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.07	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.20	U	20.7	3.20
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.7	1.96
27619-97-2	6:2FTS	2.07	U	20.7	2.07
39108-34-4	8:2FTS	2.07	U	20.7	2.07

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-100-944-171211 | Lab Sample ID: 320-34425-10

Matrix: Water | Lab File ID: 2017.12.22LLB_023.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 14:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 242(mL) | Date Analyzed: 12/23/2017 00:28

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	105		25-150
STL01893	13C5 PFPeA	102		25-150
STL00993	13C2 PFHxA	102		25-150
STL01892	13C4-PFHpA	105		25-150
STL00990	13C4 PFOA	101		25-150
STL00995	13C5 PFNA	96		25-150
STL00996	13C2 PFDA	98		25-150
STL00997	13C2 PFUnA	102		25-150
STL00998	13C2 PFDoA	98		25-150
STL02116	13C2-PFTeDA	120		25-150
STL02337	13C3-PFBS	108		25-150
STL00994	18O2 PFHxS	102		25-150
STL00991	13C4 PFOS	97		25-150
STL01056	13C8 FOSA	97		25-150
STL02118	d3-NMeFOSAA	84		25-150
STL02117	d5-NEtFOSAA	90		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	76		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_023.d
Lims ID: 320-34425-A-10-A
Client ID: FM-32-100-944-171211
Sample Type: Client
Inject. Date: 23-Dec-2017 00:28:56 ALS Bottle#: 17 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-10-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 10:53:03 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 27-Dec-2017 10:49:34

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7395549	2.62		105	17253	
2 Perfluorobutyric acid										
212.90 > 169.00	1.433	1.419	0.013	1.004	18008	0.006644			4.8	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4301222	2.55		102	39429	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.000	3990	0.002078			4.6	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.646	90640	2.52		108	3285	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	16417	0.005598			68.5	
298.90 > 99.00	1.716	1.707	0.009	1.000	6516		2.52(1.25-3.74)		46.5	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4593671	2.55		102	43333	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.291	0.015	0.867	4383451	2.63		105	38043	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.319	2.304	0.015	1.000	166612	0.0721			397	
399.00 > 99.00	2.319	2.304	0.015	1.000	58319		2.86(1.50-4.49)		177	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	5074168	2.41		102	49473	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.642	-0.004	1.000	8865	0.0171			248	
D 12 M2-6:2FTS										
429.00 > 81.00	2.638	2.642	-0.004	0.992	794114	1.02		43.1	16325	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	4838310	2.52		101	56052	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4638269	2.50			45541	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.659	2.656	0.003	1.000	9250	0.004545			15.9	
413.00 > 169.00	2.659	2.656	0.003	1.000	4339		2.13(0.84-2.52)		43.6	
D 18 13C4 PFOS										
503.00 > 80.00	3.033	3.025	0.008	1.140	3236478	2.33		97.5	33575	
17 Perfluorooctane sulfonic acid										M
499.00 > 80.00	2.915	3.028	-0.113	0.961	26283	0.0183			2.8	
499.00 > 99.00	3.025	3.028	-0.003	0.997	5668		4.64(2.31-6.93)		2.2	M
D 19 13C5 PFNA										
468.00 > 423.00	3.033	3.028	0.005	1.140	3273208	2.40		96.2	40730	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.270	4579218	2.42		96.9	33222	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.386	3.372	0.014	1.002	5265	0.002997			181	
D 26 M2-8:2FTS										
529.00 > 81.00	3.386	3.377	0.009	1.273	789094	1.82		75.9	22807	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2741038	2.44		97.6	30998	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.545	3.543	0.001	1.333	1258441	2.09		83.5	15818	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.715	3.712	0.003	1.397	1322213	2.25		89.8	6969	
D 30 13C2 PFUnA										
565.00 > 520.00	3.715	3.717	-0.002	1.397	2170934	2.54		102	34671	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	2265123	2.46		98.3	38482	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.698	3096866	3.01		120	26755	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 10:53:14 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_023.d

Injection Date: 23-Dec-2017 00:28:56 Instrument ID: A8_N

Lims ID: 320-34425-A-10-A Lab Sample ID: 320-34425-10

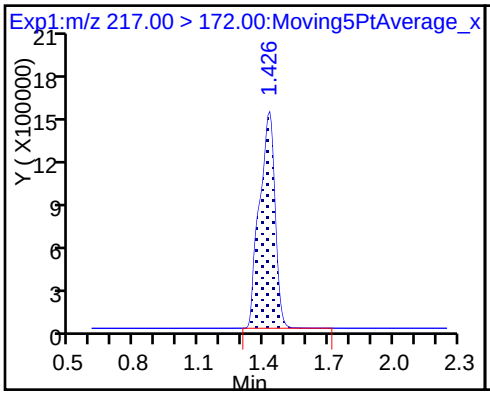
Client ID: FM-32-100-944-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 17 Worklist Smp#: 15

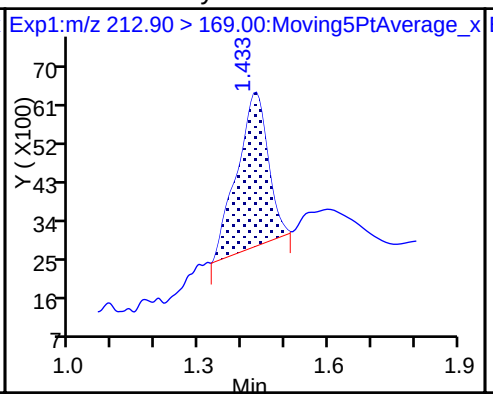
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

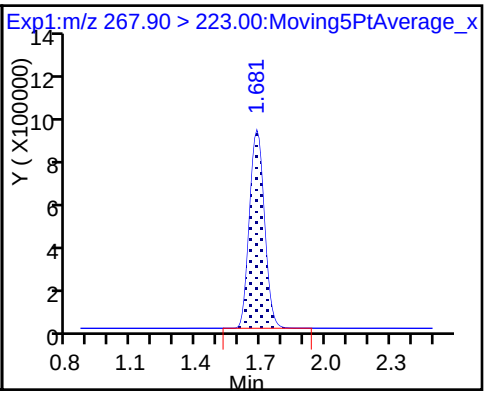
D 1 13C4 PFBA



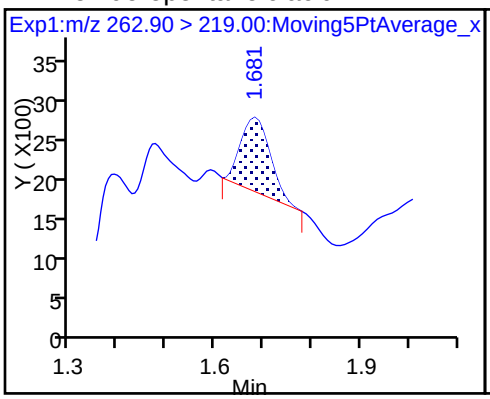
2 Perfluorobutyric acid



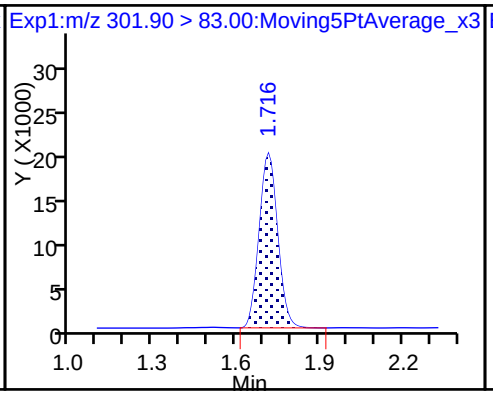
D 3 13C5-PFPeA



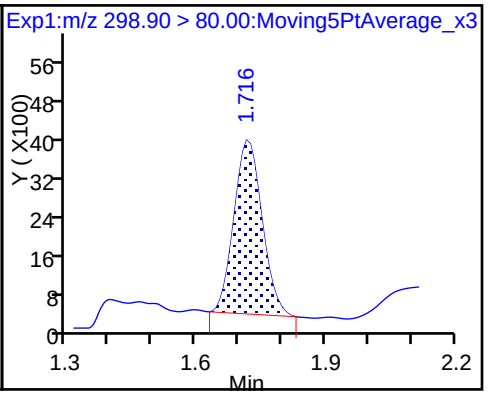
4 Perfluoropentanoic acid



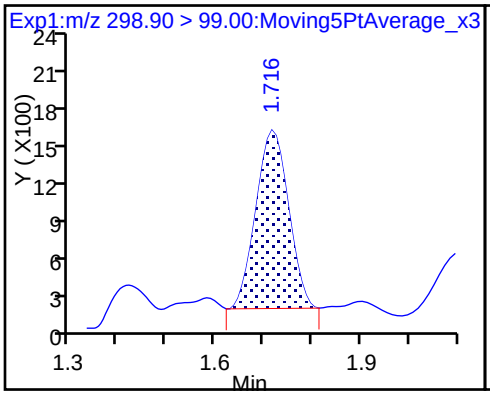
D 47 13C3-PFBS



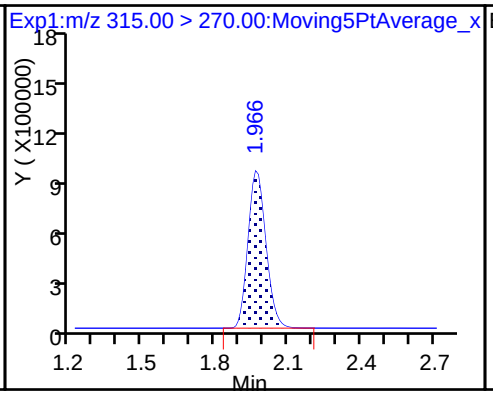
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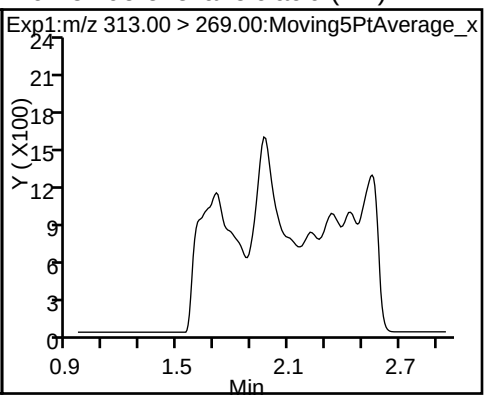
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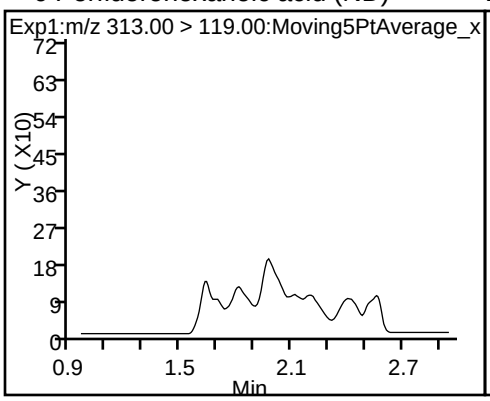
D 7 13C2 PFHxA



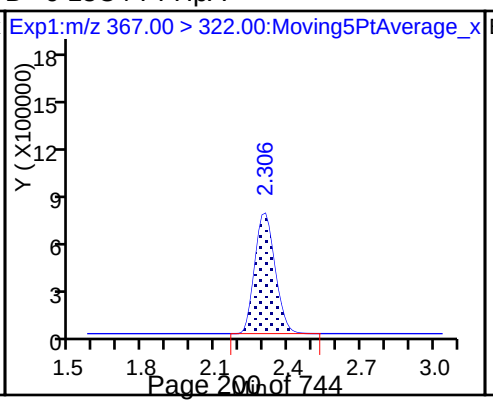
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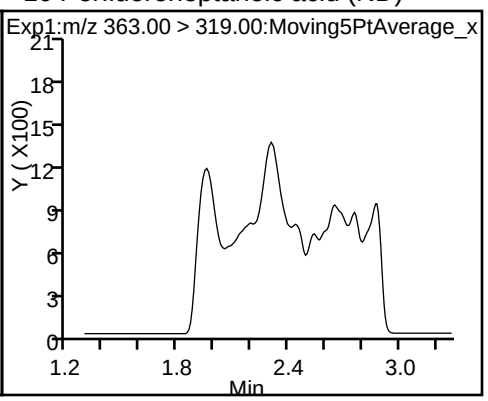
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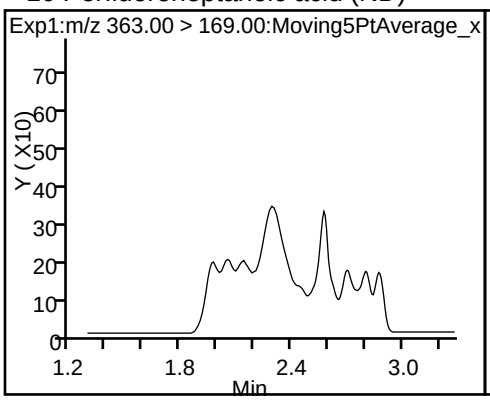
D 9 13C4-PFHpA



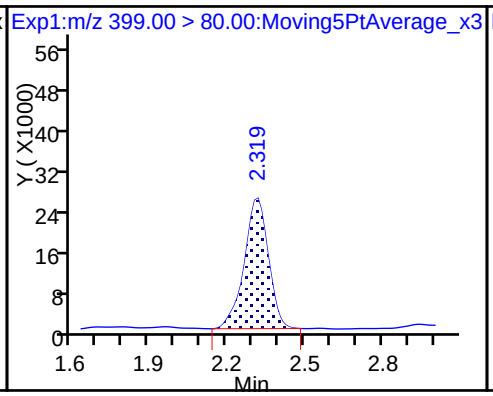
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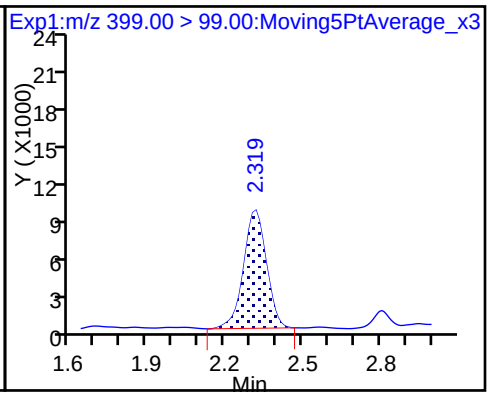
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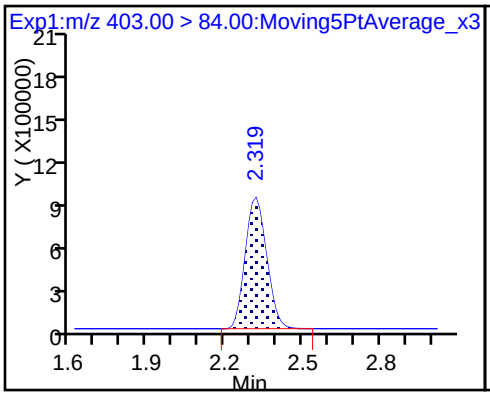
8 Perfluorohexanesulfonic acid



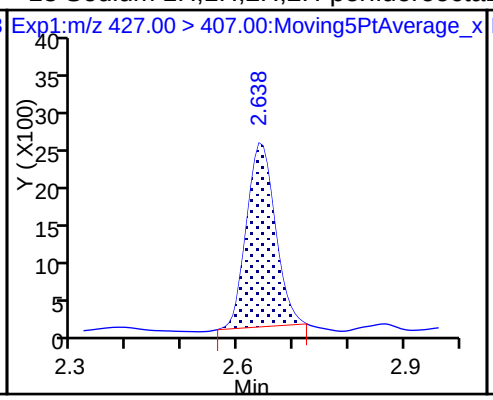
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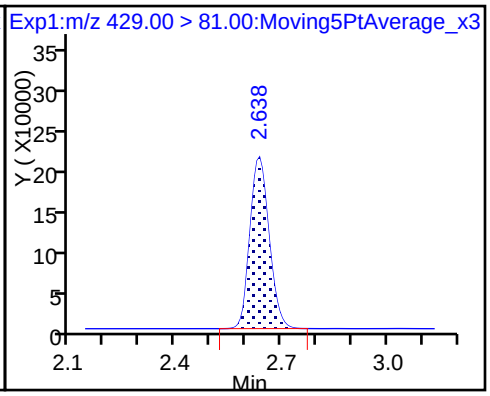
D 11 18O2 PFHxS



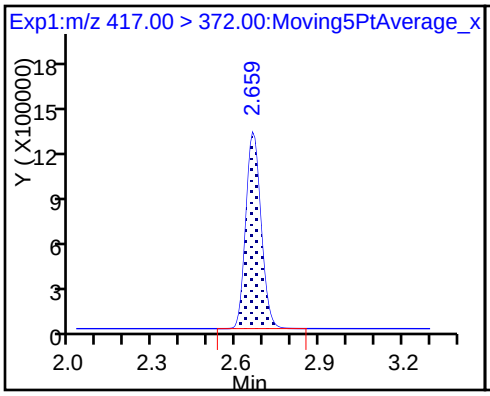
13 Sodium 1H,1H,2H,2H-perfluorooctane



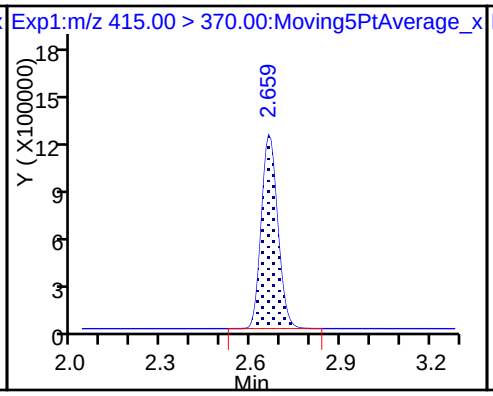
D 12 M2-6:2FTS



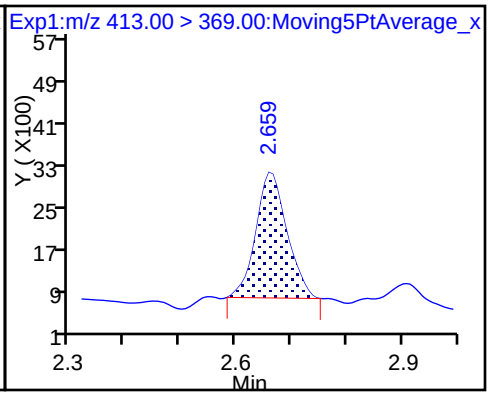
D 14 13C4 PFOA



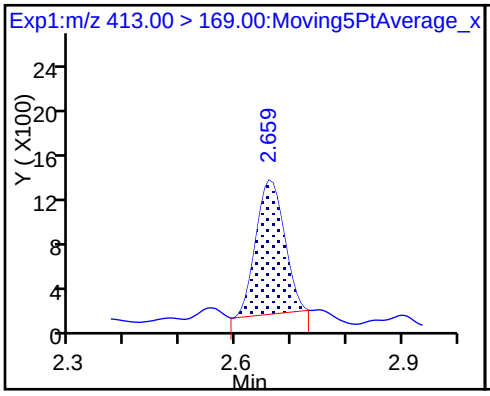
* 62 13C2-PFOA



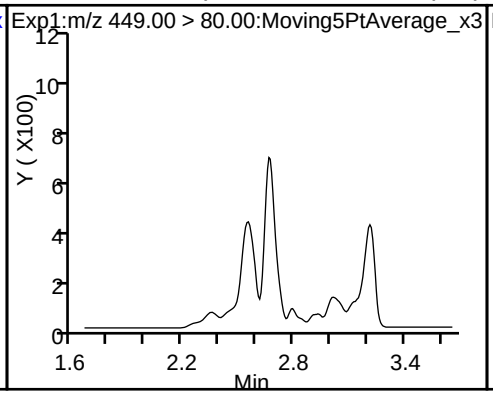
15 Perfluorooctanoic acid



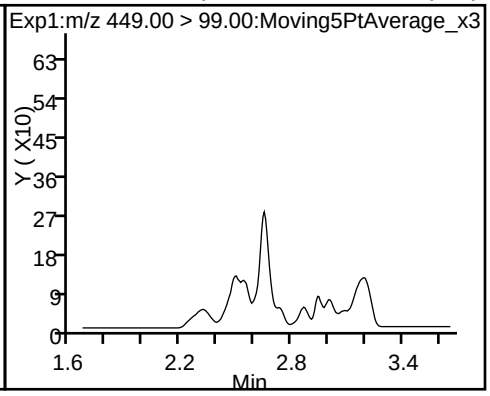
15 Perfluorooctanoic acid



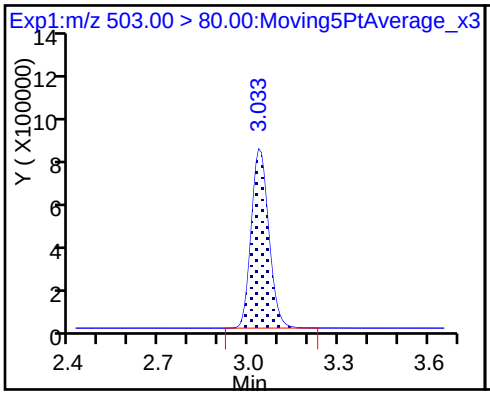
16 Perfluoroheptanesulfonic Acid (ND)



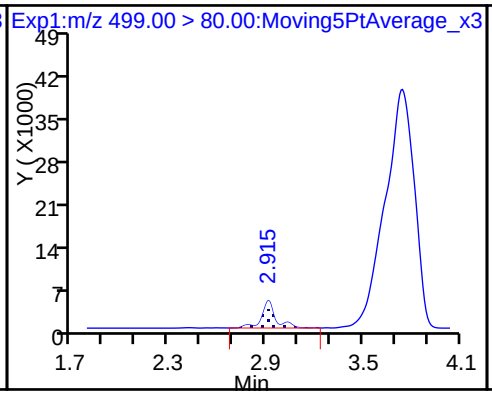
16 Perfluoroheptanesulfonic Acid (ND)



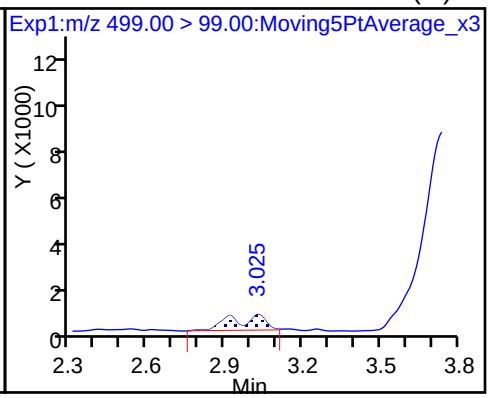
D 18 13C4 PFOS



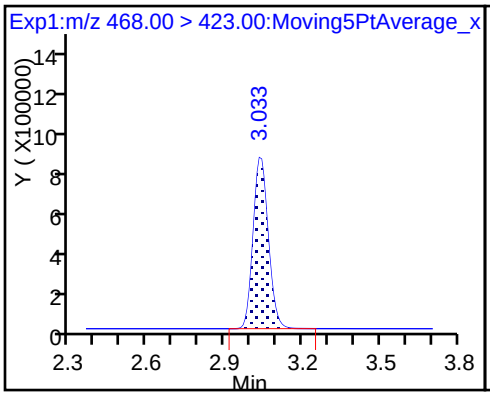
17 Perfluorooctane sulfonic acid



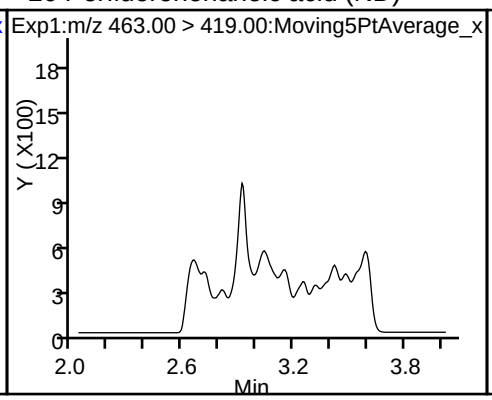
17 Perfluorooctane sulfonic acid (M)



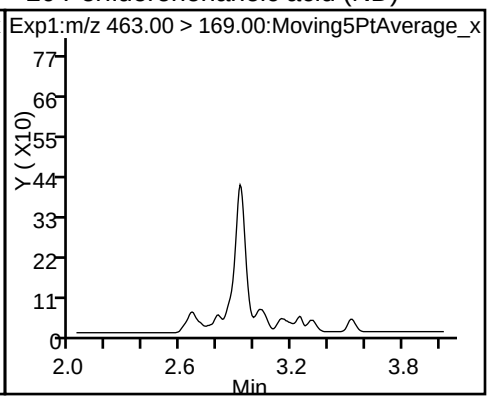
D 19 13C5 PFNA



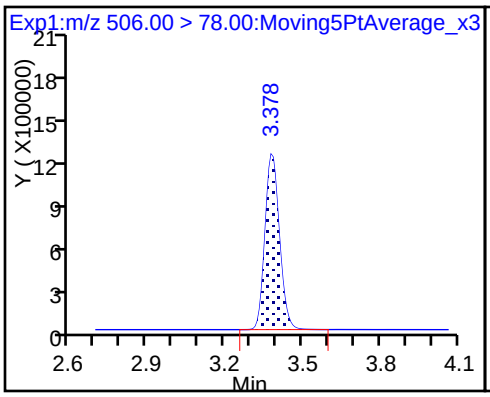
20 Perfluorononanoic acid (ND)



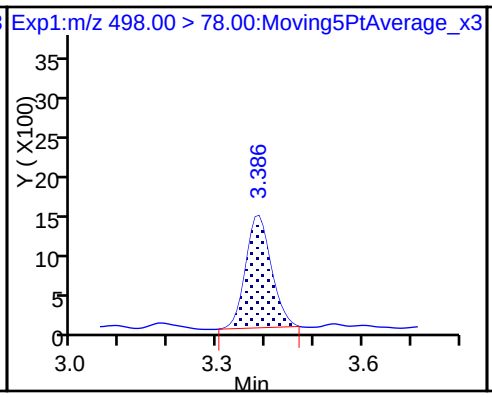
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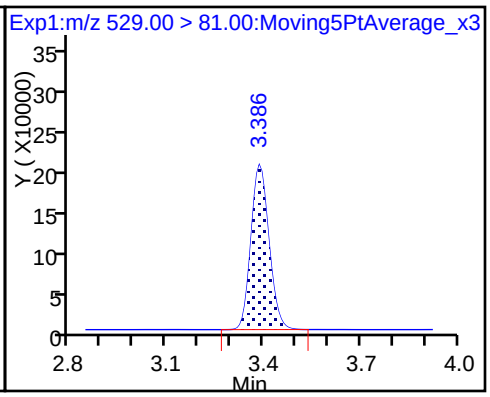
D 21 13C8 FOSA



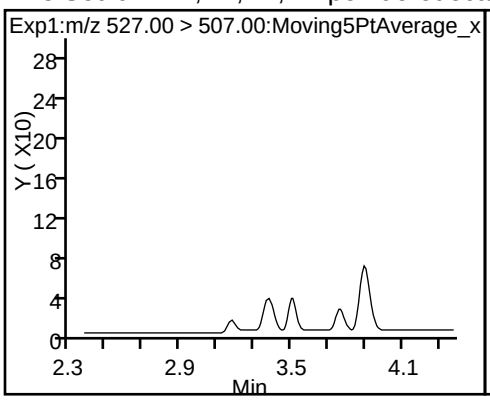
22 Perfluorooctane Sulfonamide



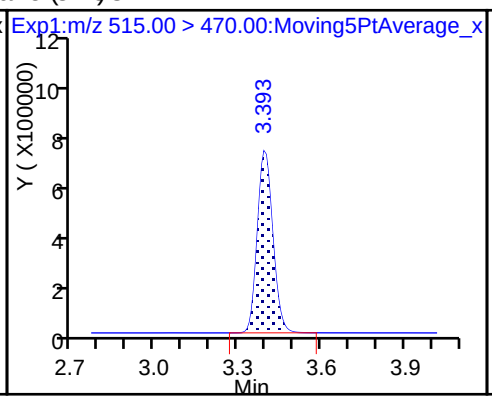
D 26 M2-8:2FTS



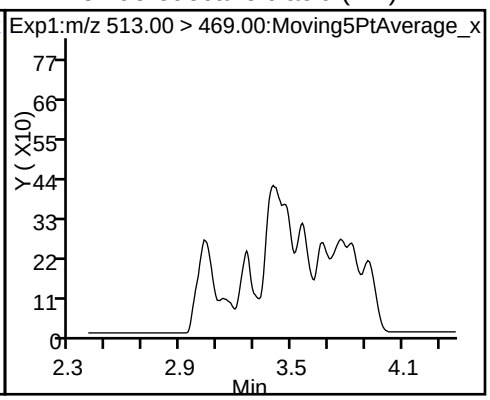
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



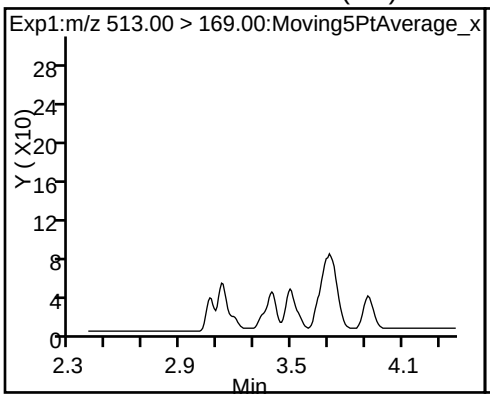
D 23 13C2 PFDA



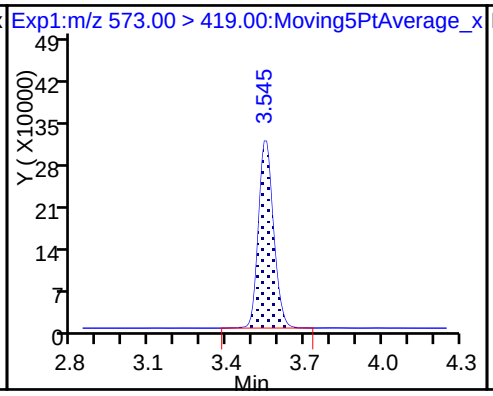
24 Perfluorodecanoic acid (ND)



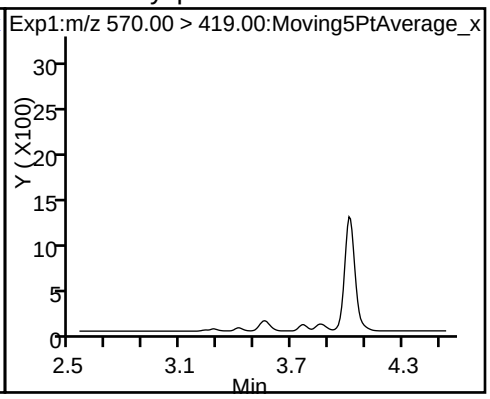
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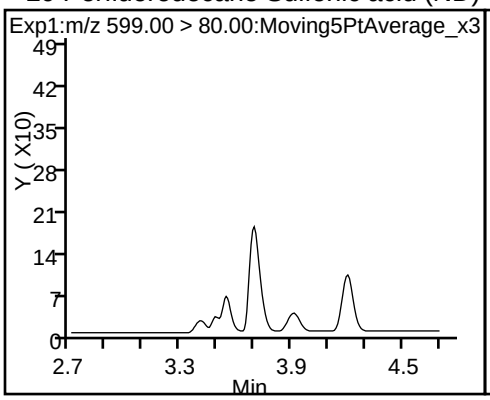
D 27 d3-NMeFOSAA



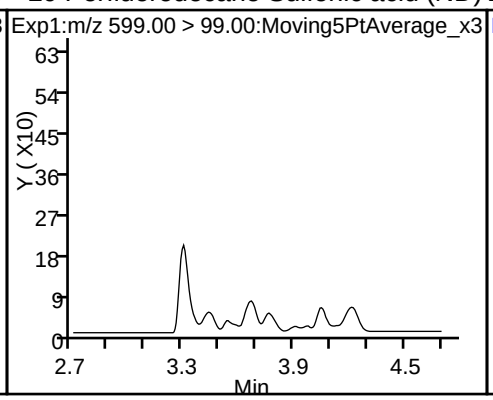
28 N-methyl perfluorooctane sulfonami (ND)



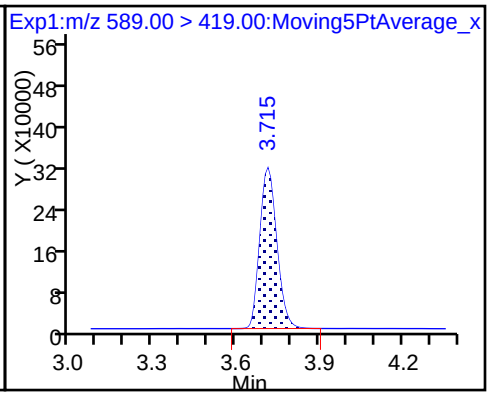
29 Perfluorodecane Sulfonic acid (ND)



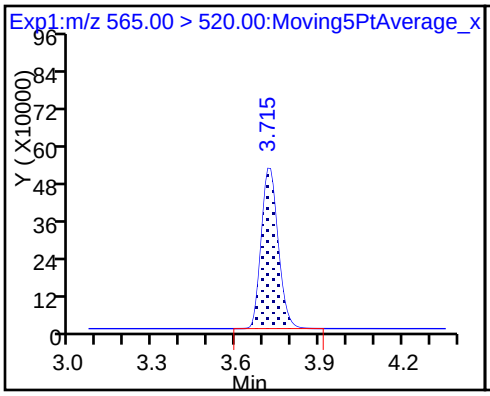
29 Perfluorodecane Sulfonic acid (ND)



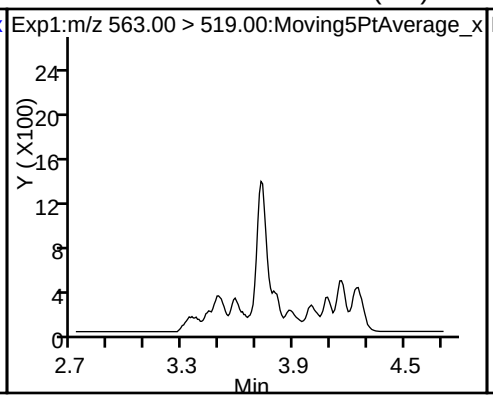
D 32 d5-NEtFOSAA



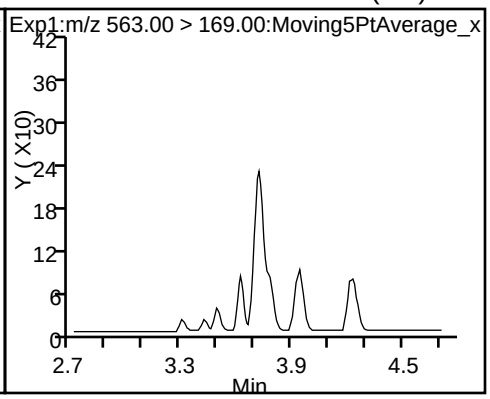
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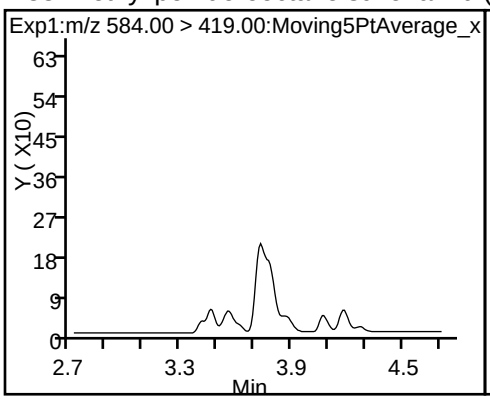
31 Perfluoroundecanoic acid (ND)



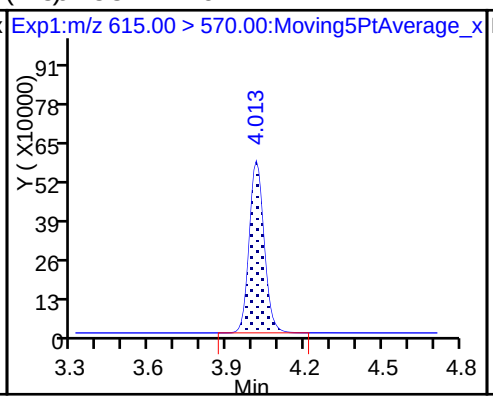
31 Perfluoroundecanoic acid (ND)



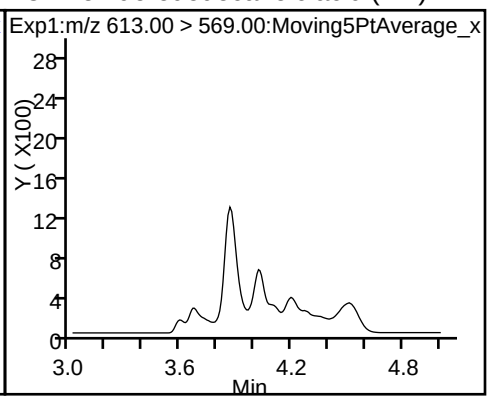
33 N-ethyl perfluorooctane sulfonamid (ND)



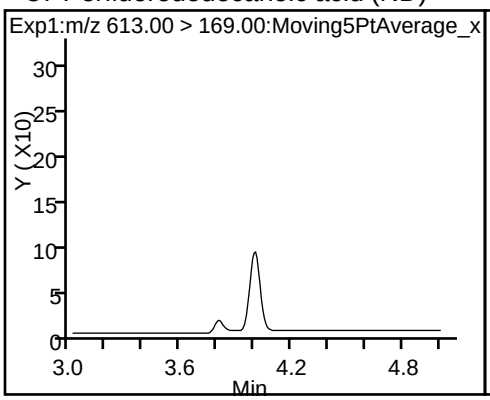
D 36 13C2 PFDoA



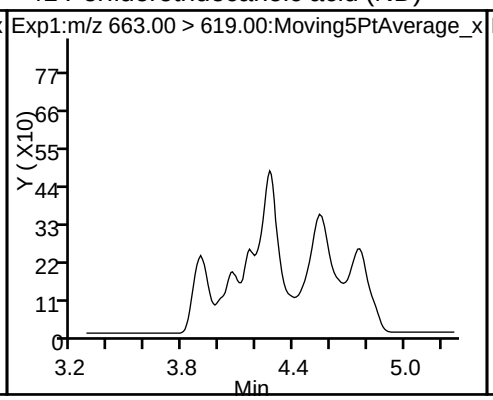
37 Perfluorododecanoic acid (ND)



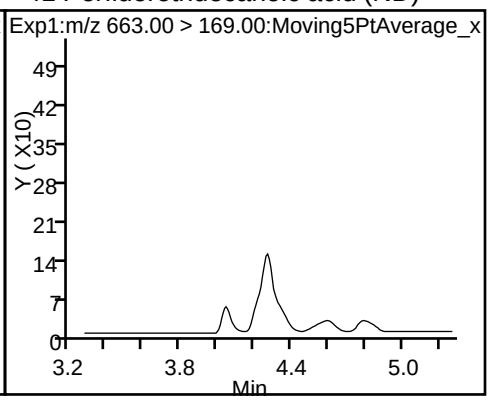
37 Perfluorododecanoic acid (ND)



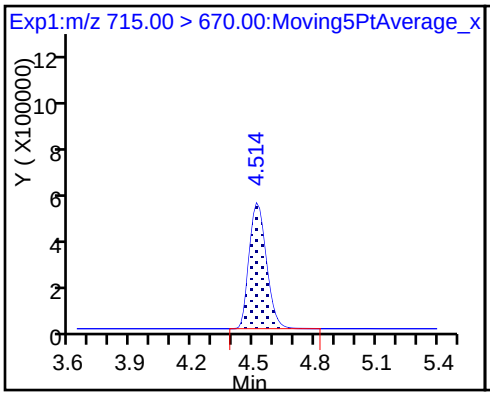
41 Perfluorotridecanoic acid (ND)



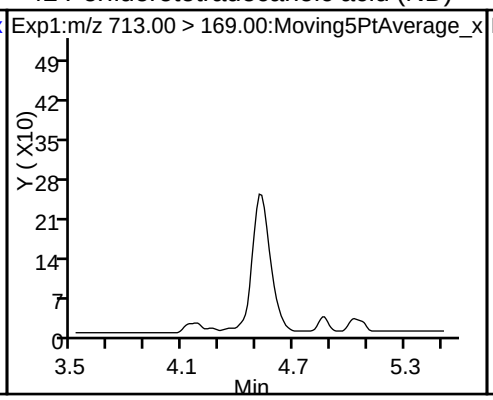
41 Perfluorotridecanoic acid (ND)



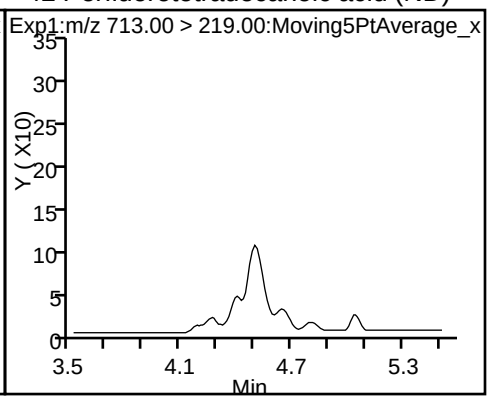
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

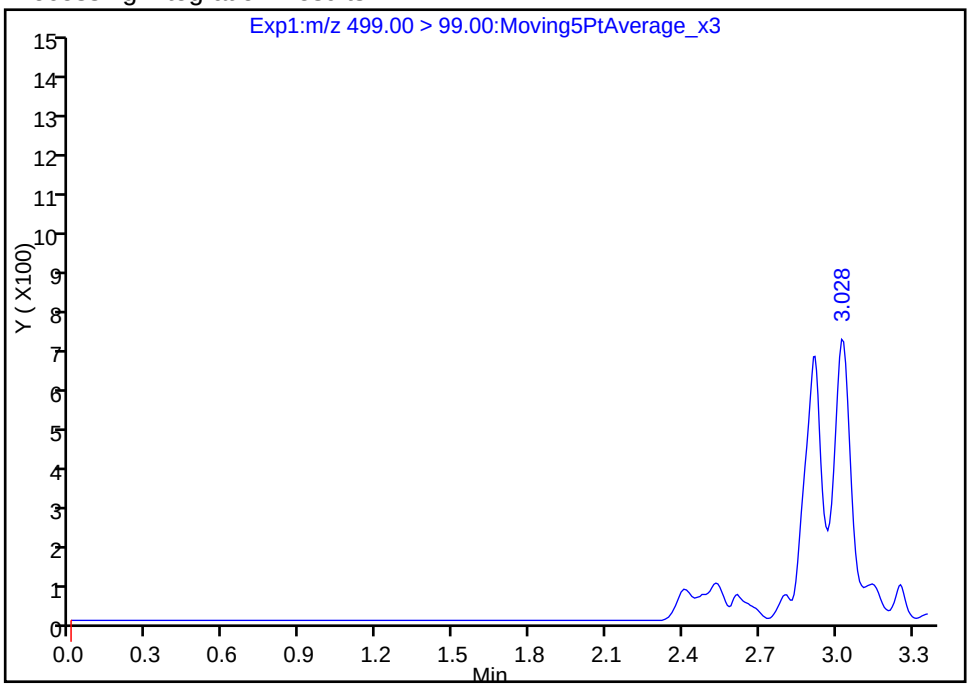
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_023.d				
Injection Date:	23-Dec-2017 00:28:56	Instrument ID:	A8_N		
Lims ID:	320-34425-A-10-A	Lab Sample ID:	320-34425-10		
Client ID:	FM-32-100-944-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	17	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

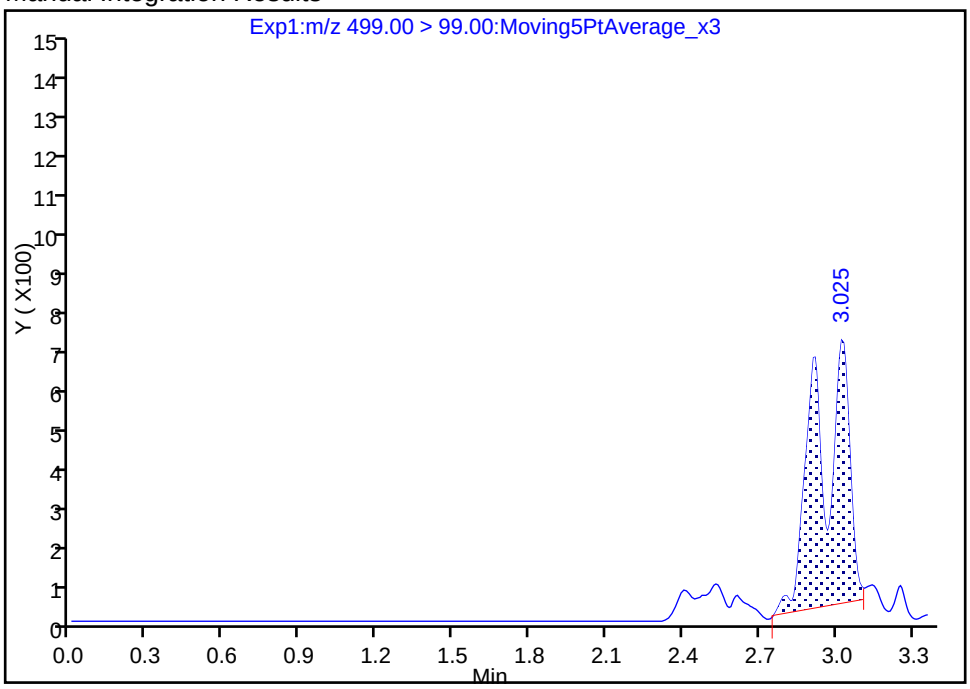
Processing Integration Results

RT: 3.03
Area: 0
Amount: 0.018309
Amount Units: ng/ml



Manual Integration Results

RT: 3.02
Area: 5668
Amount: 0.018309
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 10:49:27

Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: DUP-1-944-171211 | Lab Sample ID: 320-34425-11

Matrix: Water | Lab File ID: 2017.12.22LLB_024.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 14:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 245.8(mL) | Date Analyzed: 12/23/2017 00:36

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.36	U	2.03	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.50	U	2.03	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	0.59	U	2.03	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.03	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.86	U	2.03	0.86
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.03	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.03	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.12	U	2.03	1.12
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.03	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.32	U	2.03	1.32
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.03	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.25	J	2.03	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.75	B	2.03	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.03	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.59	J	2.03	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.03	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.03	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.15	U	20.3	3.15
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.93	U	20.3	1.93
27619-97-2	6:2FTS	2.03	U	20.3	2.03
39108-34-4	8:2FTS	2.03	U	20.3	2.03

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: DUP-1-944-171211 | Lab Sample ID: 320-34425-11

Matrix: Water | Lab File ID: 2017.12.22LLB_024.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 14:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 245.8(mL) | Date Analyzed: 12/23/2017 00:36

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	105		25-150
STL01893	13C5 PFPeA	103		25-150
STL00993	13C2 PFHxA	99		25-150
STL01892	13C4-PFHpA	102		25-150
STL00990	13C4 PFOA	98		25-150
STL00995	13C5 PFNA	99		25-150
STL00996	13C2 PFDA	96		25-150
STL00997	13C2 PFUnA	100		25-150
STL00998	13C2 PFDoA	92		25-150
STL02116	13C2-PFTeDA	123		25-150
STL02337	13C3-PFBS	99		25-150
STL00994	18O2 PFHxS	102		25-150
STL00991	13C4 PFOS	100		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	84		25-150
STL02117	d5-NEtFOSAA	86		25-150
STL02279	M2-6:2FTS	41		25-150
STL02280	M2-8:2FTS	75		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_024.d
Lims ID: 320-34425-A-11-A
Client ID: DUP-1-944-171211
Sample Type: Client
Inject. Date: 23-Dec-2017 00:36:45 ALS Bottle#: 18 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-11-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 10:53:03 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 26-Dec-2017 14:51:35

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.424	1.419	0.005	0.535	7508437	2.63		105	18847	
2 Perfluorobutyric acid										
212.90 > 169.00	1.424	1.419	0.005	1.000	14353	0.005216			3.9	
D 3 13C5-PFPeA										
267.90 > 223.00	1.678	1.670	0.008	0.630	4392822	2.57		103	41804	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.687	1.670	0.017	1.005	10030	0.005114			9.4	M
D 47 13C3-PFBS										
301.90 > 83.00	1.713	1.705	0.008	0.643	84315	2.31		99.5	2914	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.722	1.707	0.015	1.005	16976	0.006223			72.6	
298.90 > 99.00	1.713	1.707	0.006	1.000	6587		2.58(1.25-3.74)		54.6	
D 7 13C2 PFHxA										
315.00 > 270.00	1.971	1.953	0.018	0.740	4527533	2.48		99.2	40279	
D 9 13C4-PFHpA										
367.00 > 322.00	2.301	2.291	0.010	0.864	4320993	2.56		102	37730	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.315	2.304	0.011	1.000	158957	0.0677			392	
399.00 > 99.00	2.315	2.304	0.011	1.000	53599		2.97(1.50-4.49)		232	
D 11 18O2 PFHxS										
403.00 > 84.00	2.315	2.304	0.011	0.869	5160657	2.42		102	43082	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.641	2.642	-0.001	1.003	7680	0.0155			221	
D 12 M2-6:2FTS										
429.00 > 81.00	2.634	2.642	-0.008	0.989	761036	0.9674		40.7	11672	
D 14 13C4 PFOA										
417.00 > 372.00	2.663	2.654	0.009	1.000	4735632	2.44		97.6	54035	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 62 13C2-PFOA										
415.00 > 370.00	2.663	2.656	0.007		4699395	2.50			59149	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.663	2.656	0.007	1.000	9925	0.004982			15.8	
413.00 > 169.00	2.663	2.656	0.007	1.000	6215		1.60(0.84-2.52)		47.3	
D 18 13C4 PFOS										
503.00 > 80.00	3.038	3.025	0.013	1.141	3354719	2.38		99.7	24809	
17 Perfluorooctane sulfonic acid										M
499.00 > 80.00	2.912	3.028	-0.116	0.959	21524	0.0145			2.1	
499.00 > 99.00	3.030	3.028	0.002	0.997	4199		5.13(2.31-6.93)		1.7	M
D 19 13C5 PFNA										
468.00 > 423.00	3.038	3.028	0.010	1.141	3412607	2.47		98.9	40627	
D 21 13C8 FOSA										
506.00 > 78.00	3.383	3.370	0.013	1.271	4577378	2.39		95.6	38502	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.383	3.372	0.011	1.000	3682	0.002097			166	
D 26 M2-8:2FTS										
529.00 > 81.00	3.383	3.377	0.006	1.271	794187	1.81		75.4	16976	
D 23 13C2 PFDA										
515.00 > 470.00	3.398	3.389	0.009	1.276	2738732	2.41		96.3	32263	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.550	3.543	0.007	1.333	1275948	2.09		83.6	18021	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.711	3.712	-0.001	1.394	1287147	2.16		86.3	5385	
D 30 13C2 PFUnA										
565.00 > 520.00	3.720	3.717	0.003	1.397	2166704	2.50		100	37424	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.011	-0.001	1.506	2151581	2.30		92.1	38506	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.523	4.518	0.005	1.698	3221518	3.09		123	27999	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 10:53:15 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_024.d

Injection Date: 23-Dec-2017 00:36:45 Instrument ID: A8_N

Lims ID: 320-34425-A-11-A Lab Sample ID: 320-34425-11

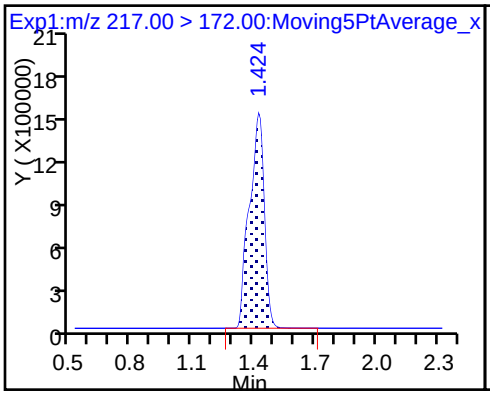
Client ID: DUP-1-944-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 18 Worklist Smp#: 16

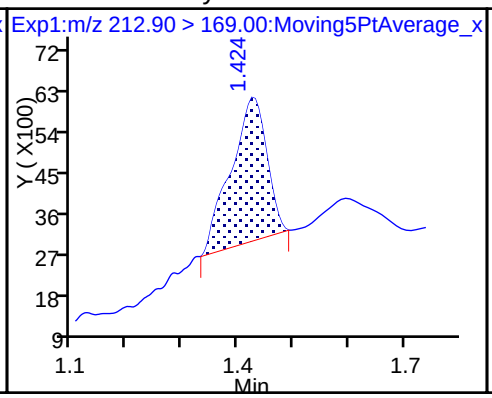
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

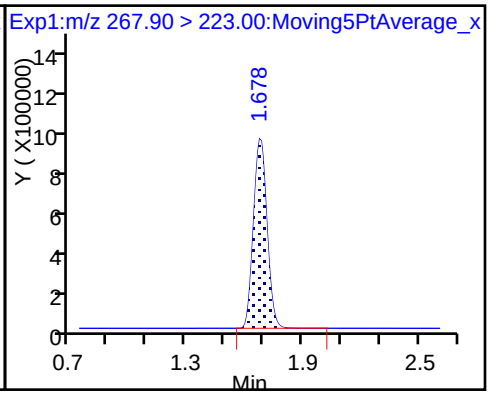
D 1 13C4 PFBA



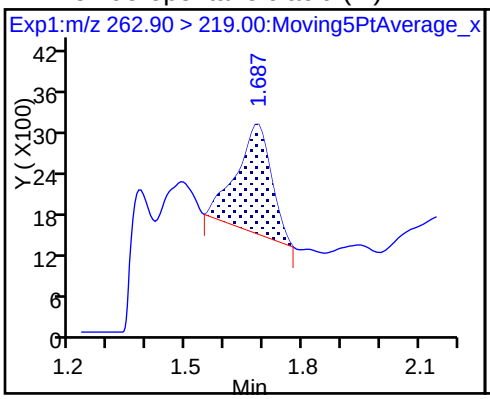
2 Perfluorobutyric acid



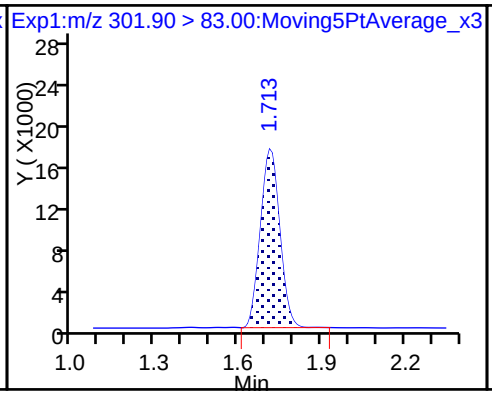
D 3 13C5-PFPeA



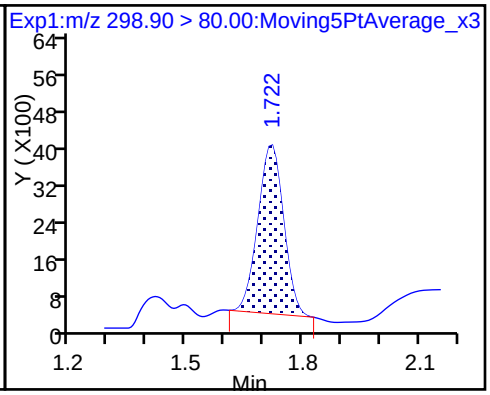
4 Perfluoropentanoic acid (M)



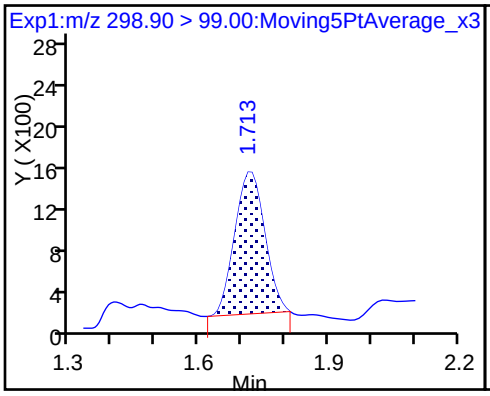
D 47 13C3-PFBS



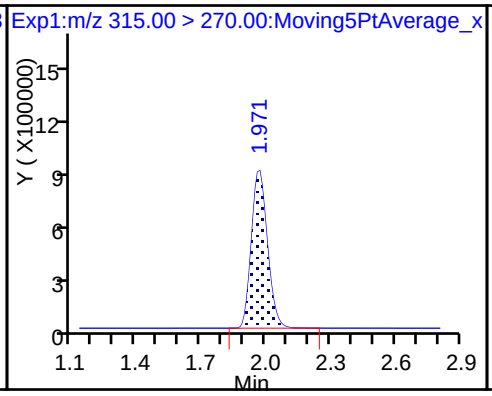
5 Perfluorobutanesulfonic acid



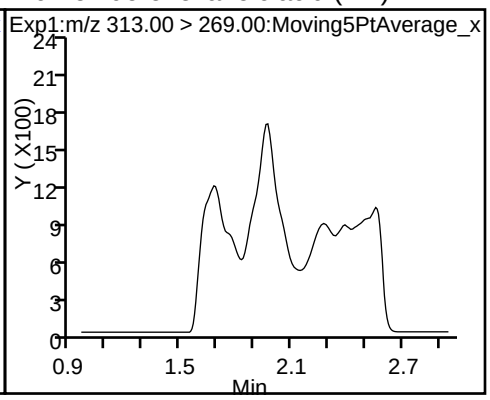
5 Perfluorobutanesulfonic acid



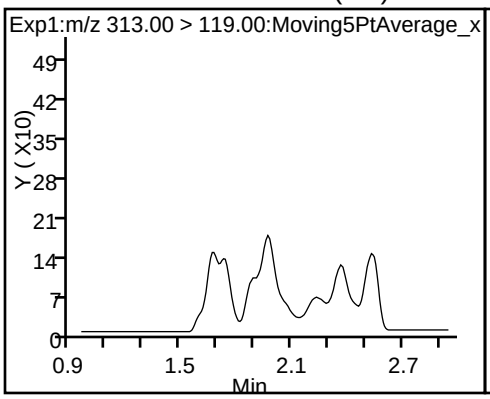
D 7 13C2 PFHxA



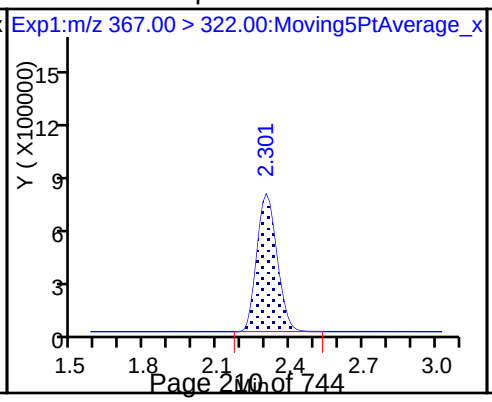
6 Perfluorohexanoic acid (ND)



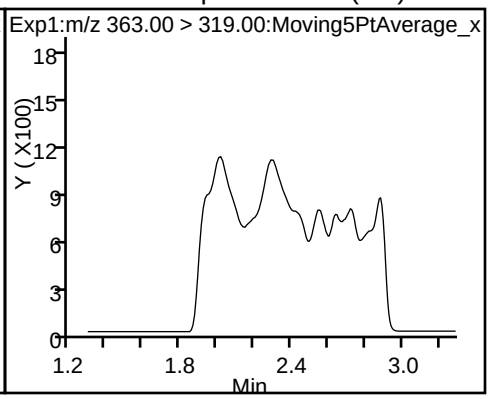
6 Perfluorohexanoic acid (ND)



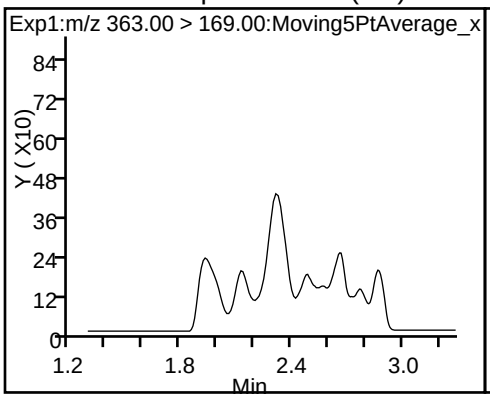
D 9 13C4-PFHpA



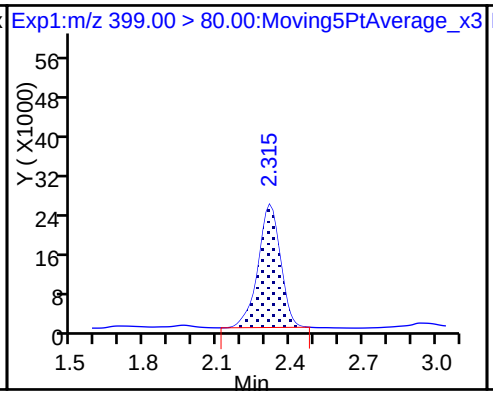
10 Perfluoroheptanoic acid (ND)



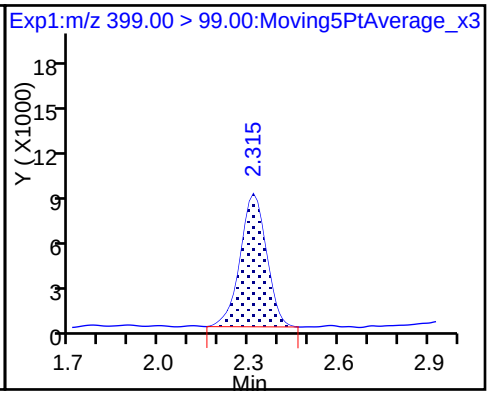
10 Perfluoroheptanoic acid (ND)



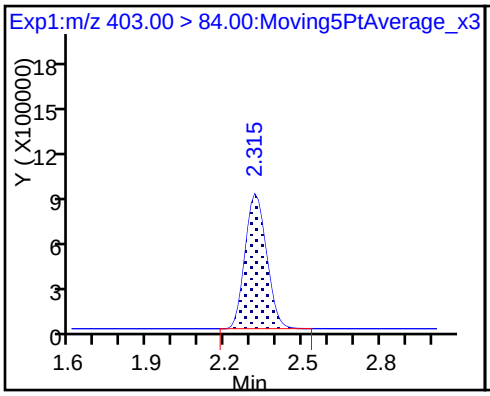
8 Perfluorohexanesulfonic acid



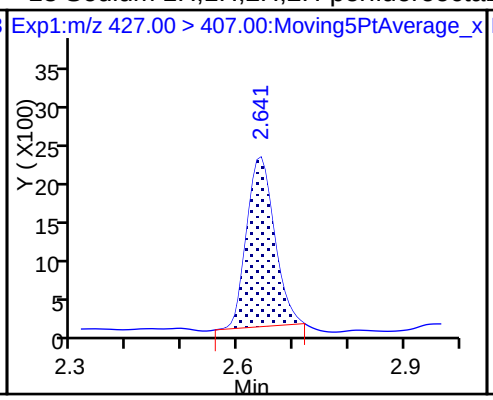
8 Perfluorohexanesulfonic acid



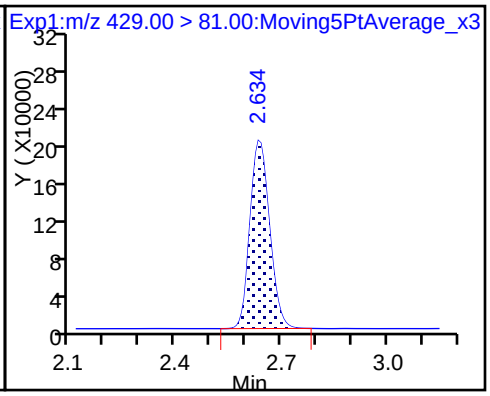
D 11 18O2 PFHxS



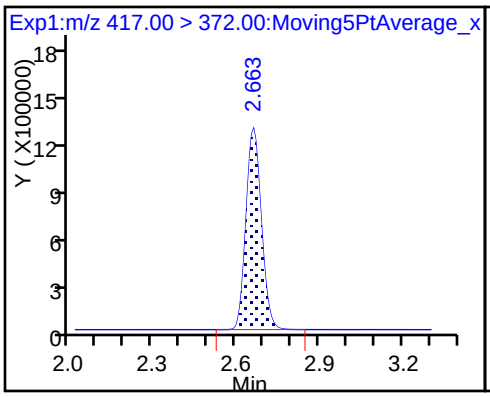
13 Sodium 1H,1H,2H,2H-perfluorooctane



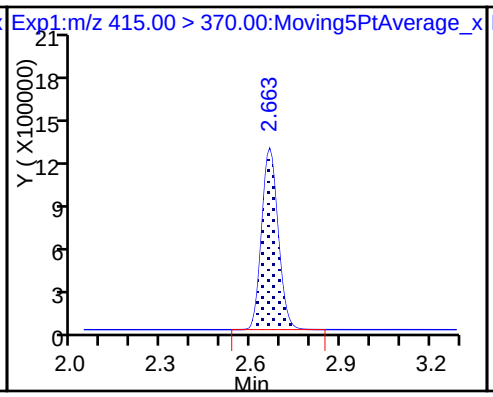
D 12 M2-6:2FTS



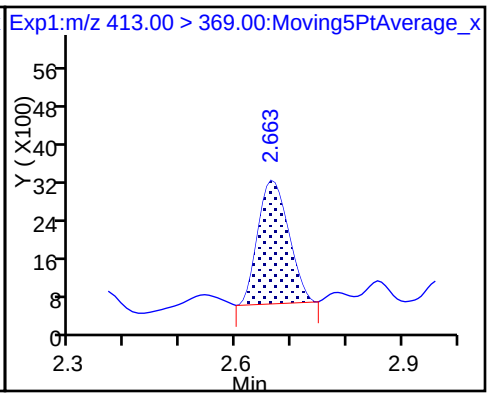
D 14 13C4 PFOA



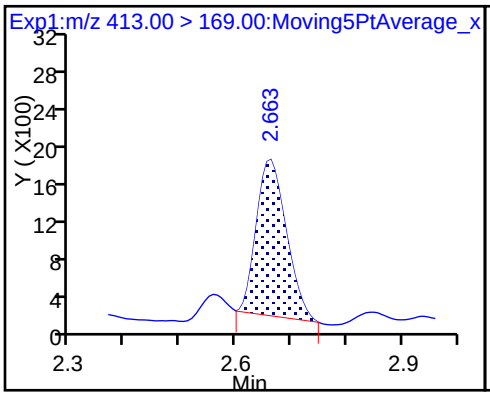
* 62 13C2-PFOA



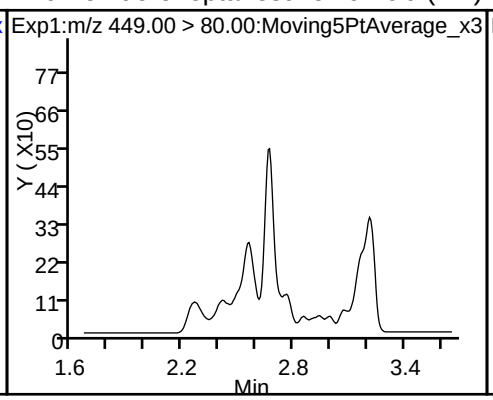
15 Perfluorooctanoic acid



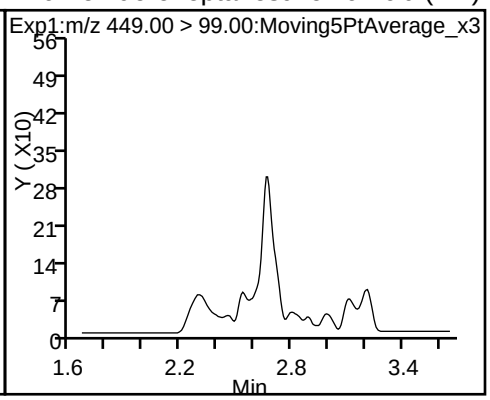
15 Perfluorooctanoic acid



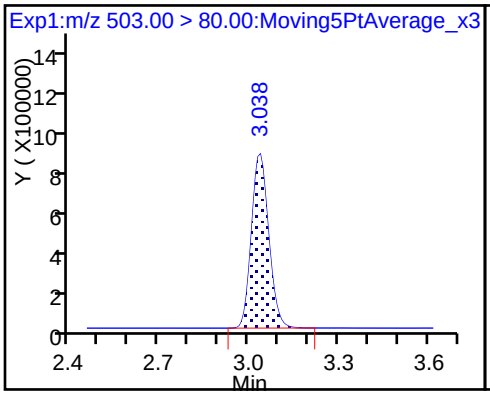
16 Perfluoroheptanesulfonic Acid (ND)



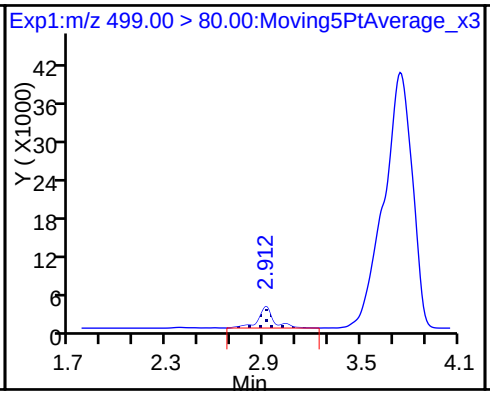
16 Perfluoroheptanesulfonic Acid (ND)



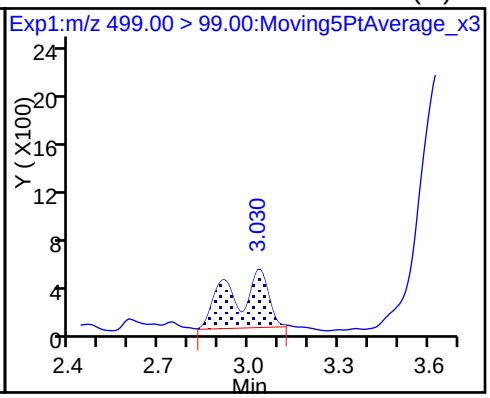
D 18 13C4 PFOS



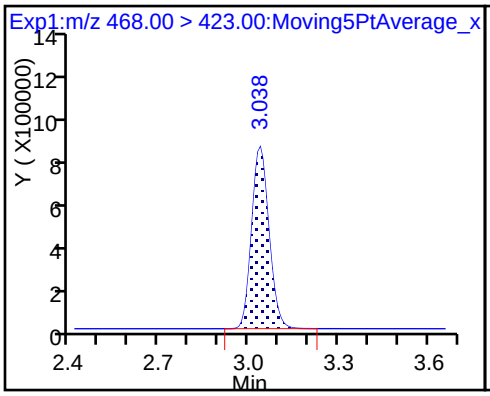
17 Perfluorooctane sulfonic acid



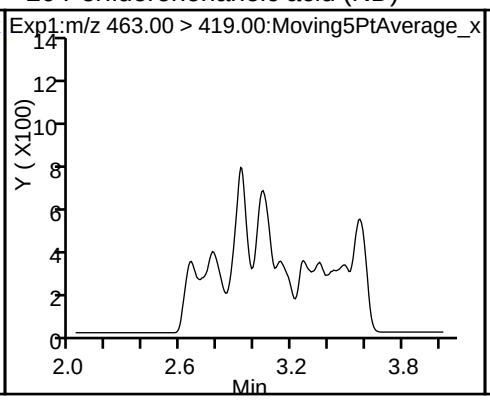
17 Perfluorooctane sulfonic acid (M)



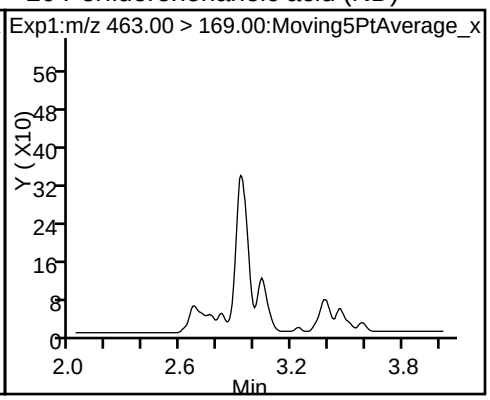
D 19 13C5 PFNA



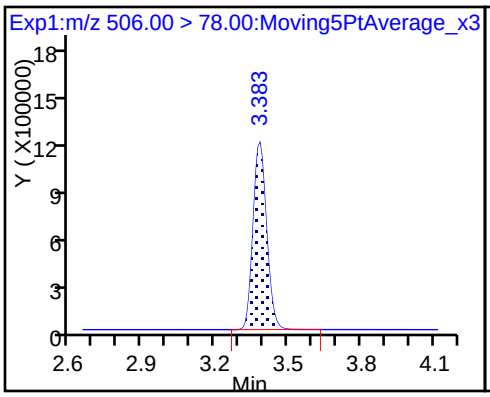
20 Perfluorononanoic acid (ND)



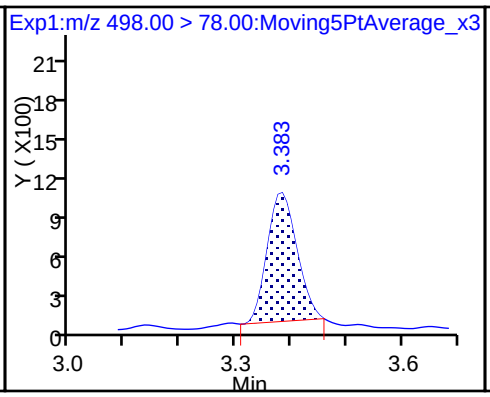
20 Perfluorononanoic acid (ND)



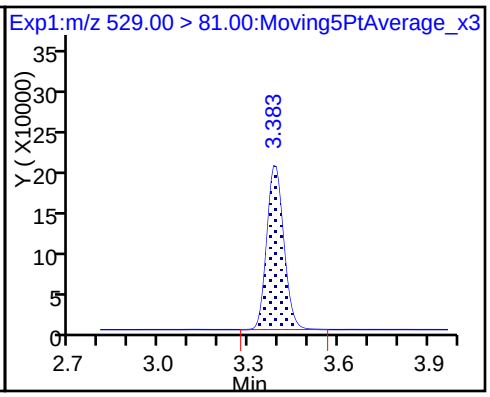
D 21 13C8 FOSA



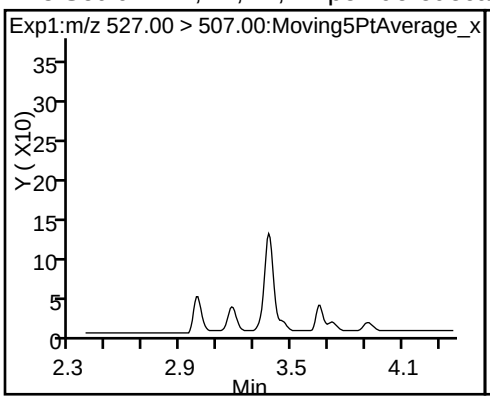
22 Perfluorooctane Sulfonamide



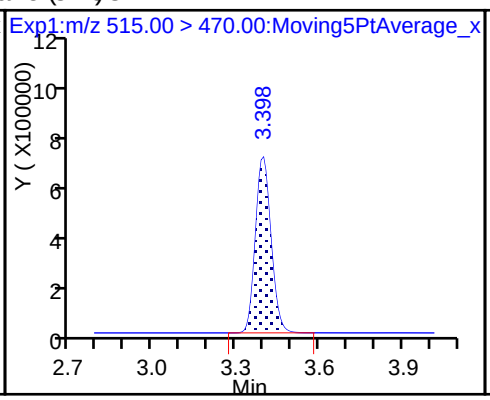
D 26 M2-8:2FTS



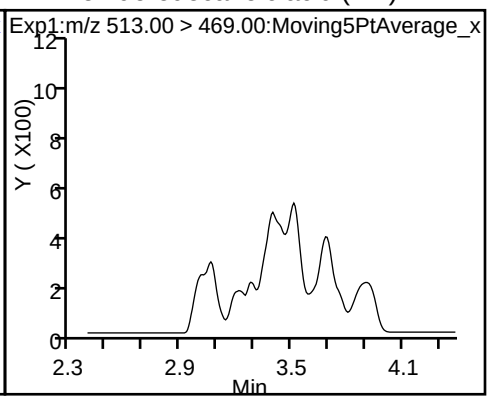
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



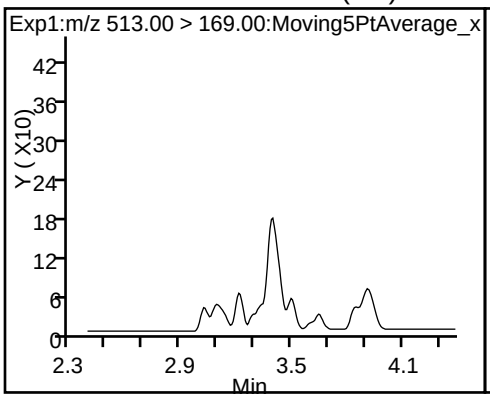
D 23 13C2 PFDA



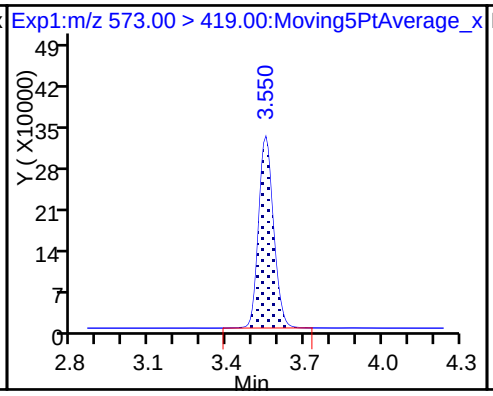
24 Perfluorodecanoic acid (ND)



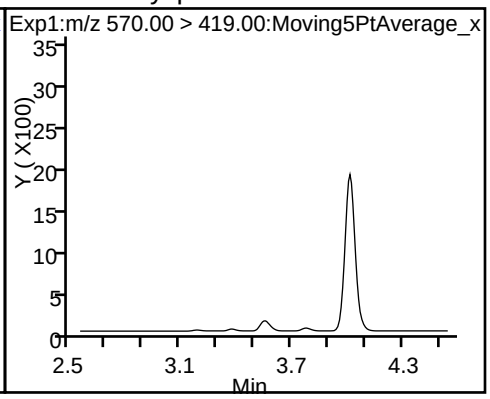
24 Perfluorodecanoic acid (ND)



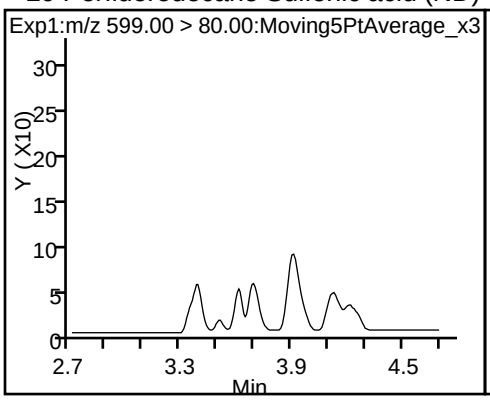
D 27 d3-NMeFOSAA



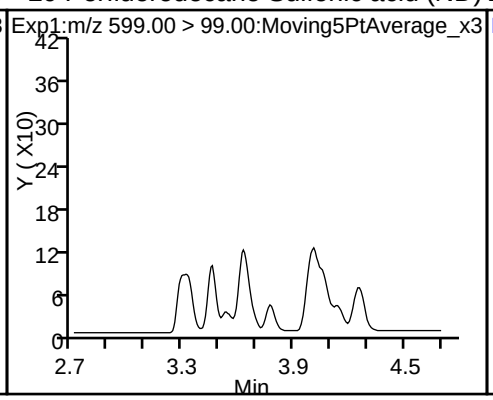
28 N-methyl perfluorooctane sulfonami (ND)



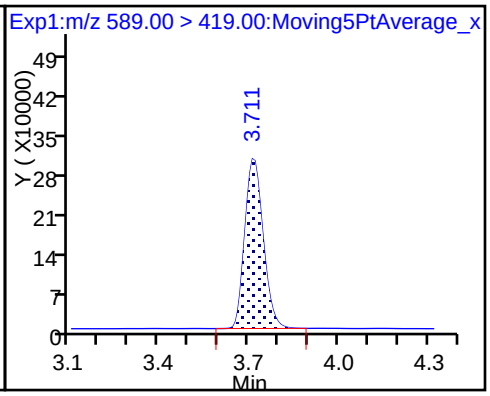
29 Perfluorodecane Sulfonic acid (ND)



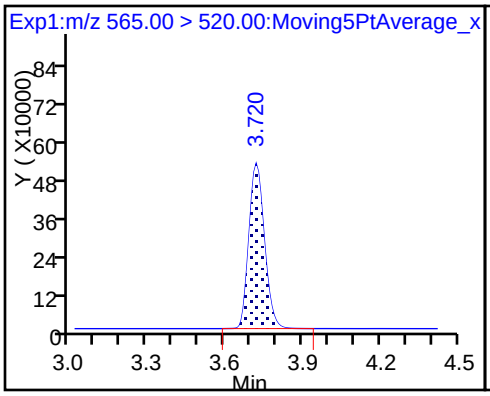
29 Perfluorodecane Sulfonic acid (ND)



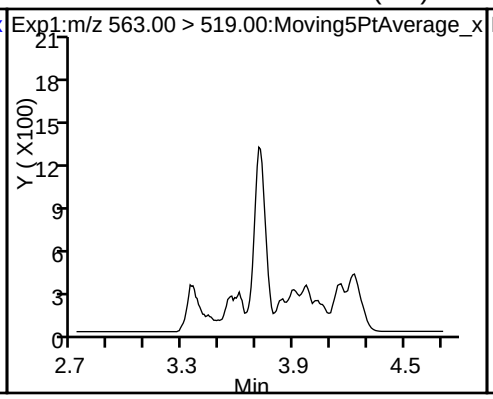
D 32 d5-NEtFOSAA



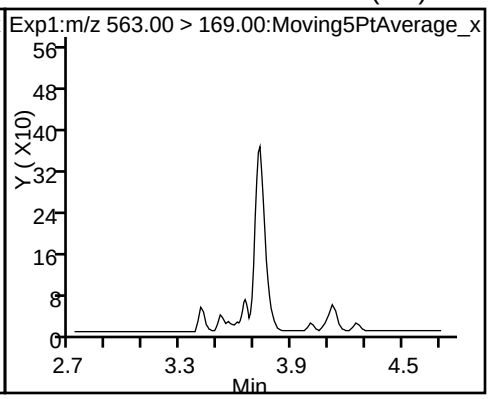
D 30 13C2 PFUnA



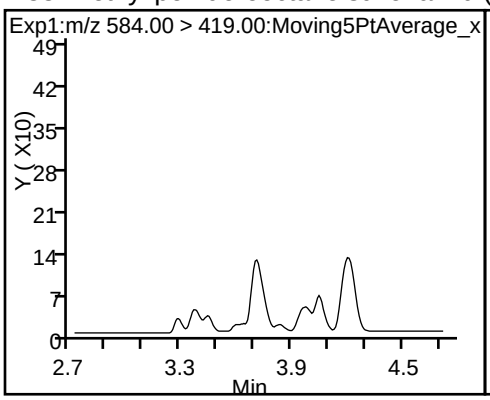
31 Perfluoroundecanoic acid (ND)



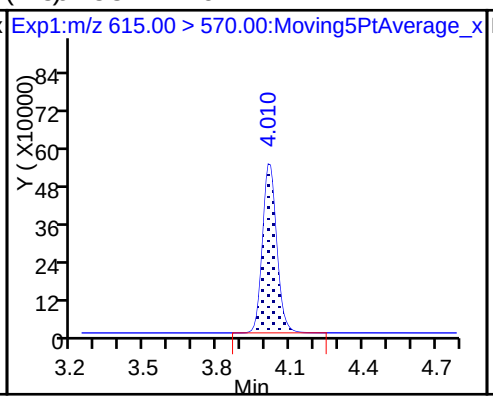
31 Perfluoroundecanoic acid (ND)



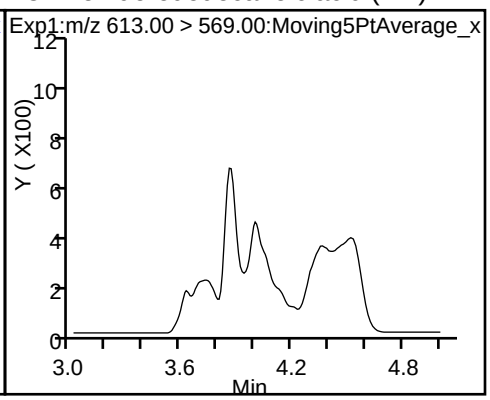
33 N-ethyl perfluorooctane sulfonamid (ND)



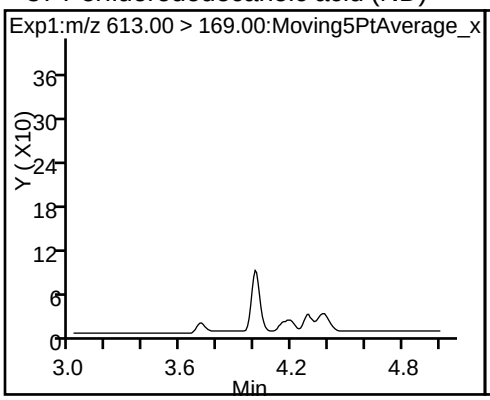
D 36 13C2 PFDoA



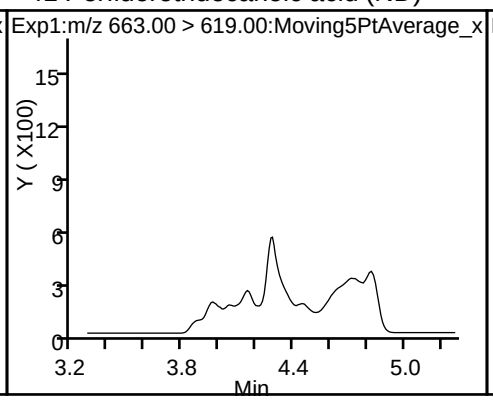
37 Perfluorododecanoic acid (ND)



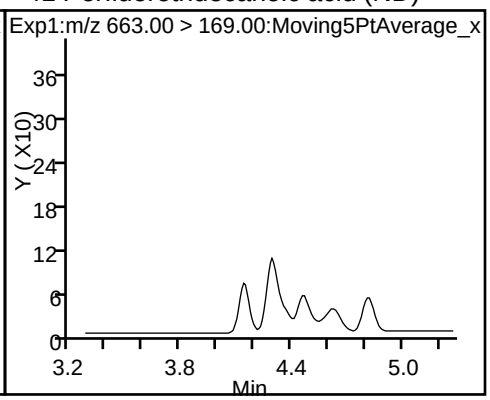
37 Perfluorododecanoic acid (ND)



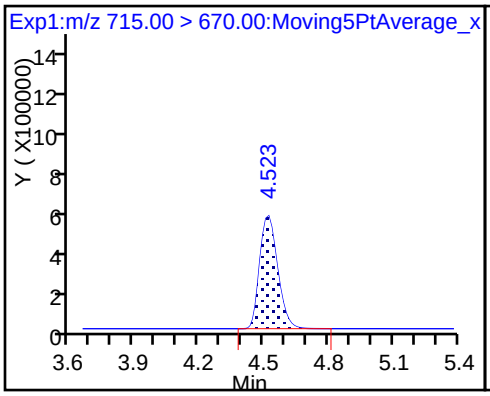
41 Perfluorotridecanoic acid (ND)



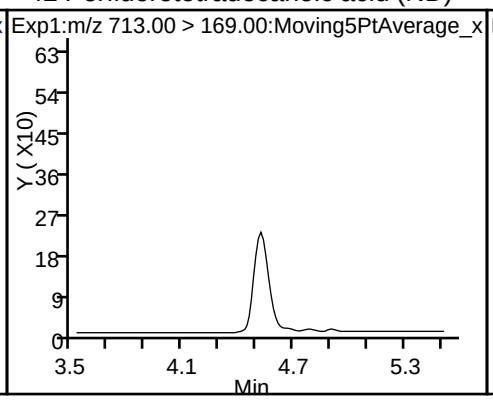
41 Perfluorotridecanoic acid (ND)



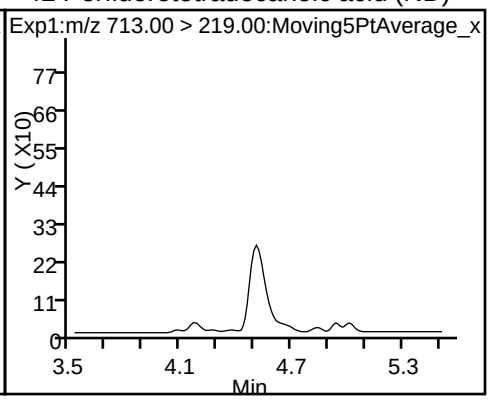
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

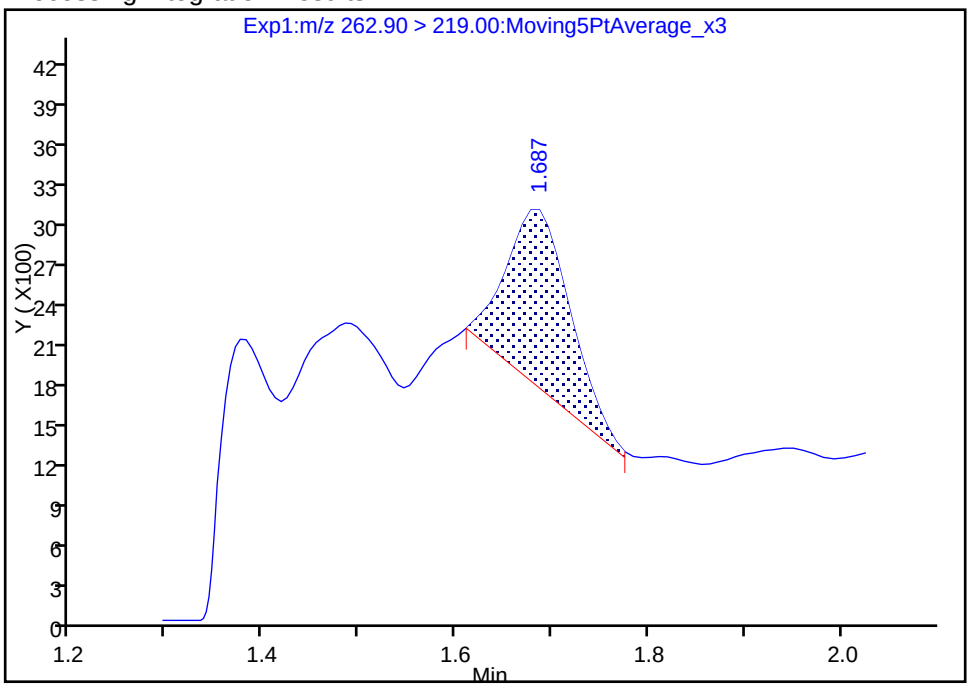
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_024.d				
Injection Date:	23-Dec-2017 00:36:45	Instrument ID:	A8_N		
Lims ID:	320-34425-A-11-A	Lab Sample ID:	320-34425-11		
Client ID:	DUP-1-944-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

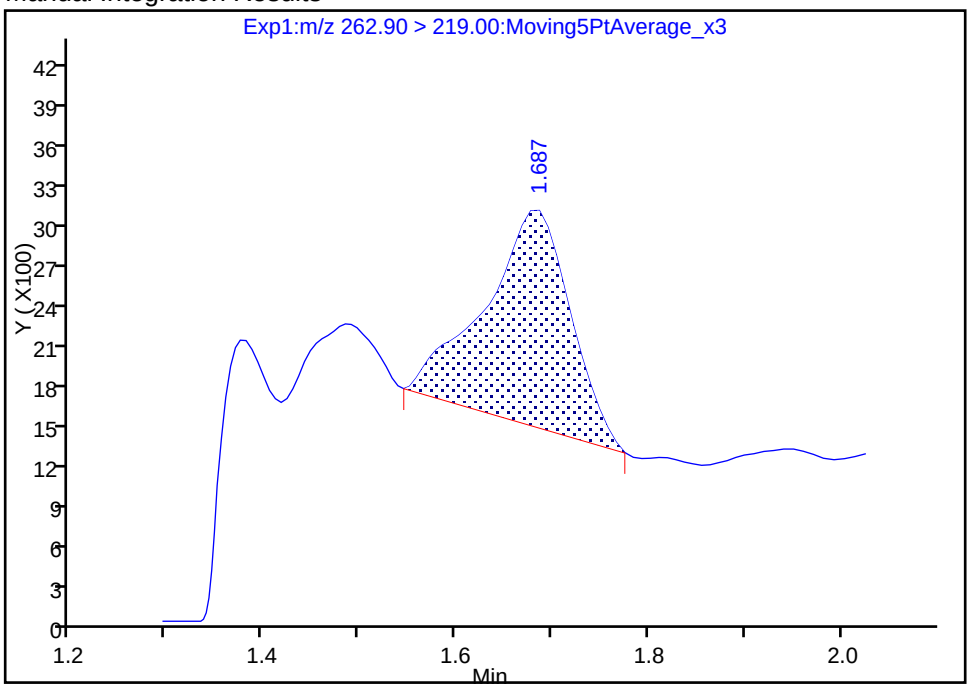
Processing Integration Results

RT: 1.69
Area: 6135
Amount: 0.003128
Amount Units: ng/ml



Manual Integration Results

RT: 1.69
Area: 10030
Amount: 0.005114
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:50:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

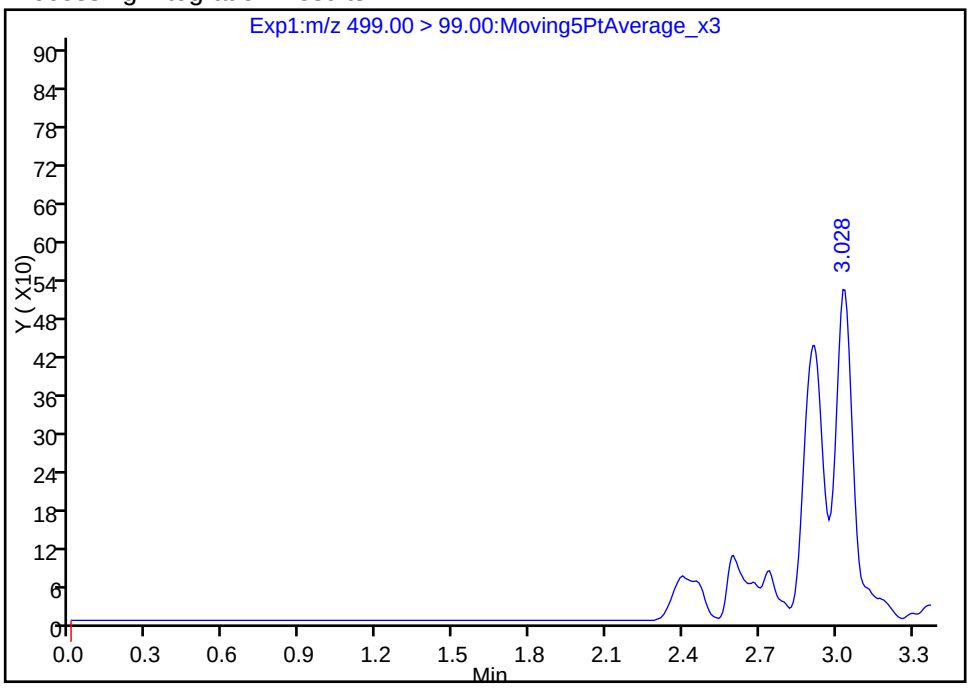
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_024.d				
Injection Date:	23-Dec-2017 00:36:45	Instrument ID:	A8_N		
Lims ID:	320-34425-A-11-A	Lab Sample ID:	320-34425-11		
Client ID:	DUP-1-944-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	18	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

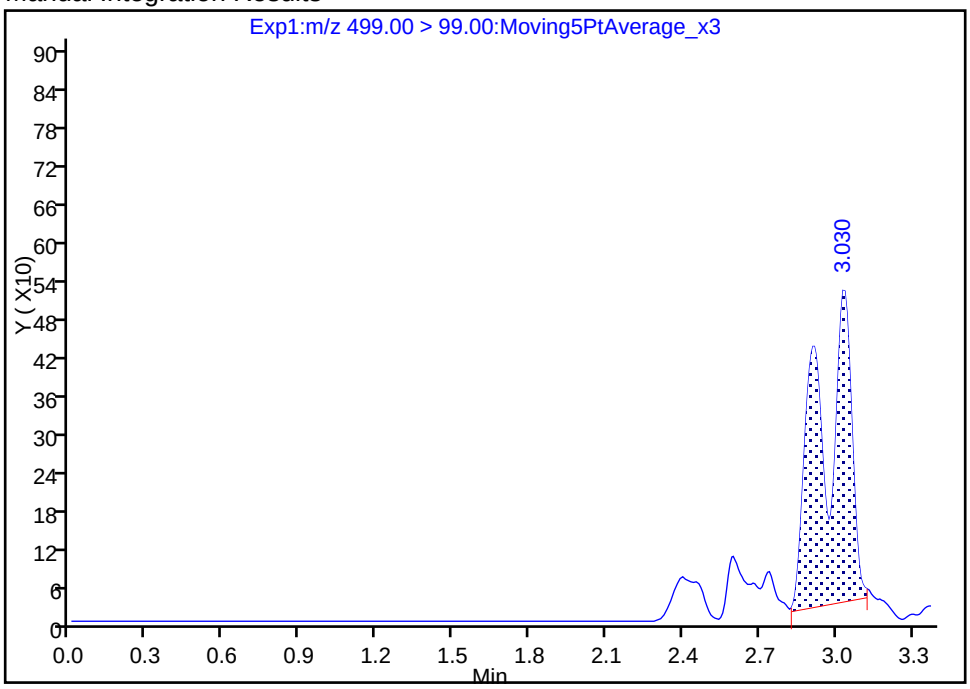
Processing Integration Results

RT: 3.03
Area: 0
Amount: 0.014465
Amount Units: ng/ml



Manual Integration Results

RT: 3.03
Area: 4199
Amount: 0.014465
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 10:50:50

Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: DUP-2-944-171211 | Lab Sample ID: 320-34425-12

Matrix: Water | Lab File ID: 2017.12.22LLB_025.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 14:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 247(mL) | Date Analyzed: 12/23/2017 00:44

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.02	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.50	U	2.02	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	0.59	U	2.02	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.02	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.86	U	2.02	0.86
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.02	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.02	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.11	U	2.02	1.11
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.02	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.32	U	2.02	1.32
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.02	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.26	J	2.02	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.97	B	2.02	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.02	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.62	J	2.02	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.02	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.02	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.14	U	20.2	3.14
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.92	U	20.2	1.92
27619-97-2	6:2FTS	2.02	U	20.2	2.02
39108-34-4	8:2FTS	2.02	U	20.2	2.02

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: DUP-2-944-171211 | Lab Sample ID: 320-34425-12

Matrix: Water | Lab File ID: 2017.12.22LLB_025.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 14:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 247(mL) | Date Analyzed: 12/23/2017 00:44

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	105		25-150
STL01893	13C5 PFPeA	104		25-150
STL00993	13C2 PFHxA	98		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	107		25-150
STL00996	13C2 PFDA	97		25-150
STL00997	13C2 PFUnA	94		25-150
STL00998	13C2 PFDoA	93		25-150
STL02116	13C2-PFTeDA	123		25-150
STL02337	13C3-PFBS	102		25-150
STL00994	18O2 PFHxS	108		25-150
STL00991	13C4 PFOS	105		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	78		25-150
STL02117	d5-NEtFOSAA	88		25-150
STL02279	M2-6:2FTS	41		25-150
STL02280	M2-8:2FTS	75		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_025.d
Lims ID: 320-34425-A-12-A
Client ID: DUP-2-944-171211
Sample Type: Client
Inject. Date: 23-Dec-2017 00:44:36 ALS Bottle#: 19 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-12-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 27-Dec-2017 10:53:03 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK021

First Level Reviewer: barnettj Date: 26-Dec-2017 14:52:43

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.534	7322704	2.63		105	20185	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	17274	0.006436			3.8	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.628	4337865	2.60		104	34526	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.670	0.002	1.000	7752	0.004002			8.3	
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.705	0.002	0.642	84243	2.37		102	2936	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.005	17313	0.006352			78.3	
298.90 > 99.00	1.707	1.707	0.0	1.000	6370		2.72(1.25-3.74)		45.4	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.739	4376583	2.46		98.4	39127	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.862	4291600	2.61		104	35442	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	177376	0.0735			432	
399.00 > 99.00	2.306	2.304	0.002	1.000	53131		3.34(1.50-4.49)		28.4	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.867	5304856	2.55		108	48312	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.642	-0.011	1.000	11488	0.0237			342	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.989	743265	0.9695		40.8	13952	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.654	-0.001	0.997	4583261	2.42		96.9	49458	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.656	0.004		4579871	2.50			52038	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.653	2.656	-0.003	1.000	12566	0.006518			19.6	
413.00 > 169.00	2.660	2.656	0.004	1.003	6169		2.04(0.84-2.52)		45.4	
D 18 13C4 PFOS										
503.00 > 80.00	3.034	3.025	0.009	1.141	3432225	2.50		105	39183	
17 Perfluorooctane sulfonic acid										M
499.00 > 80.00	2.909	3.028	-0.119	0.959	23413	0.0154			2.2	
499.00 > 99.00	3.018	3.028	-0.010	0.995	5235		4.47(2.31-6.93)		2.3	M
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.028	0.006	1.141	3612756	2.69		107	47645	
D 21 13C8 FOSA										
506.00 > 78.00	3.380	3.370	0.010	1.271	4460458	2.39		95.6	25193	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.372	0.008	1.000	11517	0.006730			788	
D 26 M2-8:2FTS										
529.00 > 81.00	3.388	3.377	0.011	1.274	772250	1.80		75.3	13191	
D 23 13C2 PFDA										
515.00 > 470.00	3.395	3.389	0.006	1.277	2701097	2.44		97.4	33755	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.547	3.543	0.004	1.333	1160648	1.95		78.0	18342	
28 N-methyl perfluorooctane sulfonami										M
570.00 > 419.00	3.547	3.548	-0.001	1.000	1974	0.003961			17.6	M
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.394	1282420	2.21		88.2	7356	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.397	1992752	2.36		94.4	39879	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.011	-0.004	1.507	2122898	2.33		93.3	35837	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.698	3117501	3.06		123	35947	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2017 10:54:00 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_025.d

Injection Date: 23-Dec-2017 00:44:36 Instrument ID: A8_N

Lims ID: 320-34425-A-12-A Lab Sample ID: 320-34425-12

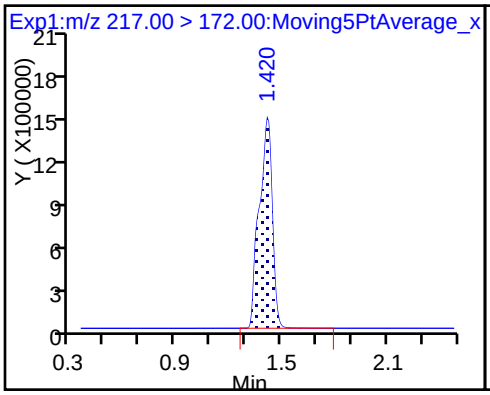
Client ID: DUP-2-944-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 19 Worklist Smp#: 17

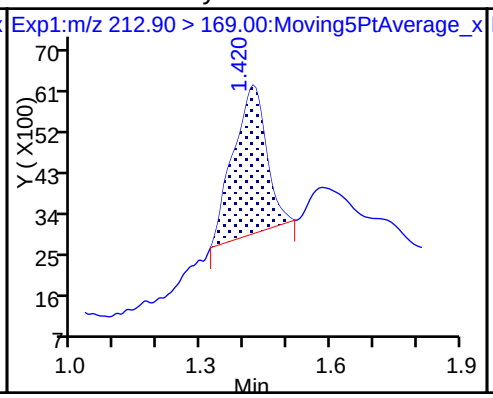
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

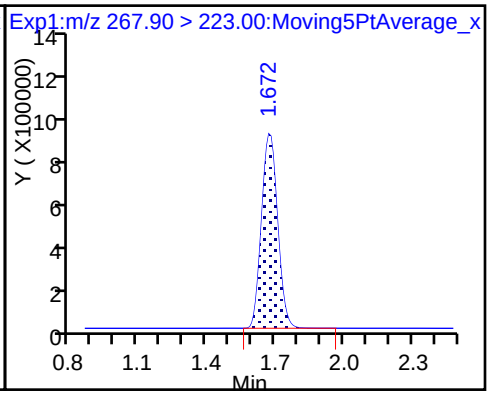
D 1 13C4 PFBA



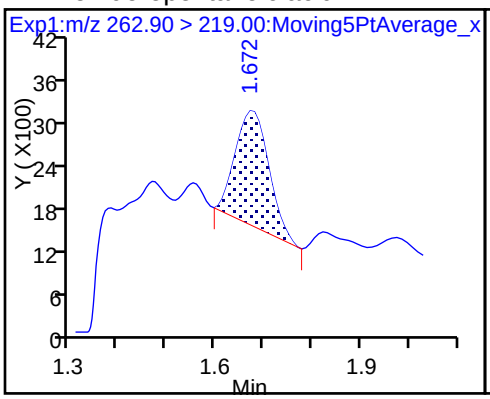
2 Perfluorobutyric acid



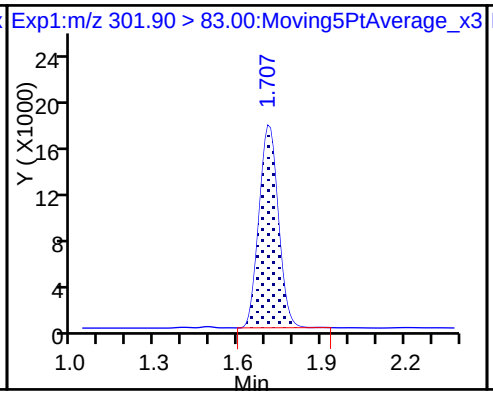
D 3 13C5-PFPeA



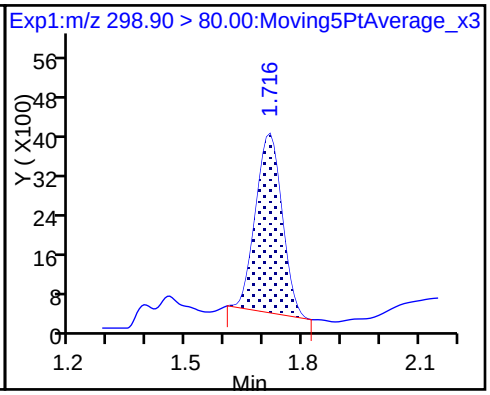
4 Perfluoropentanoic acid



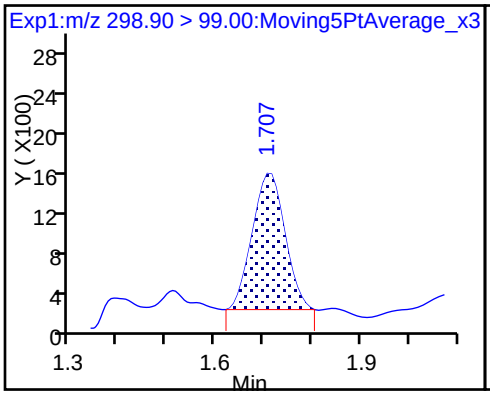
D 47 13C3-PFBS



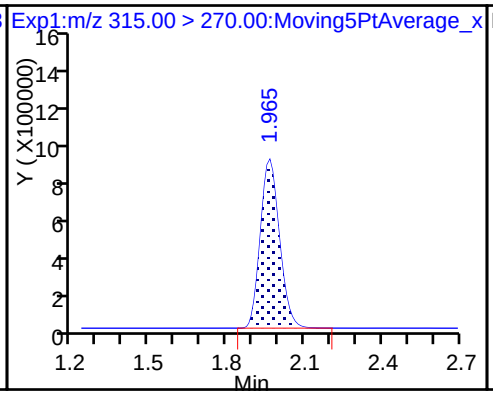
5 Perfluorobutanesulfonic acid



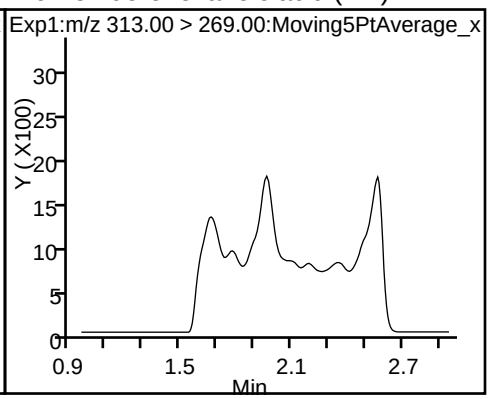
5 Perfluorobutanesulfonic acid



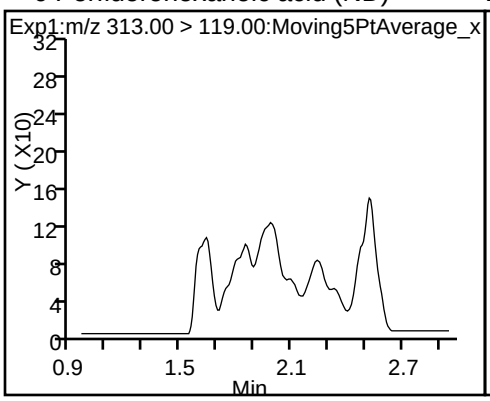
D 7 13C2 PFHxA



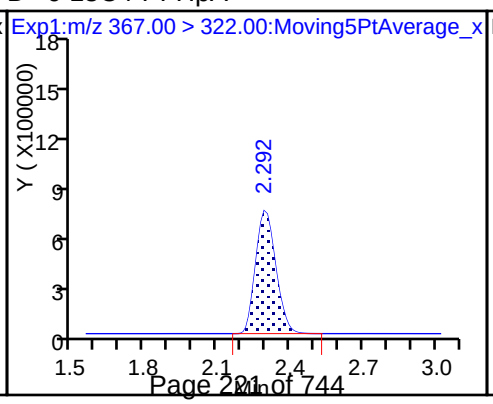
6 Perfluorohexanoic acid (ND)



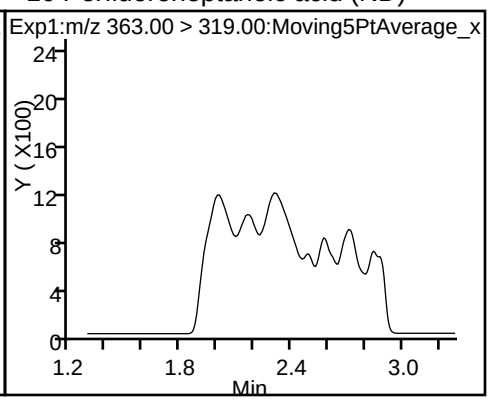
6 Perfluorohexanoic acid (ND)



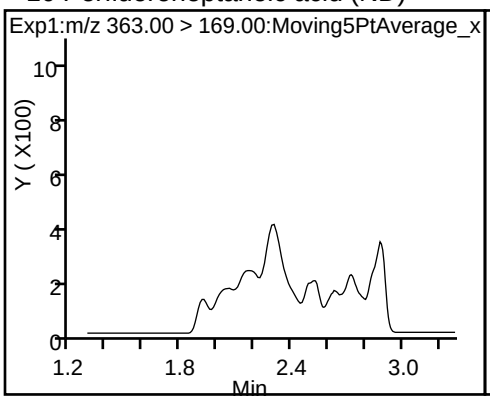
D 9 13C4-PFHpA



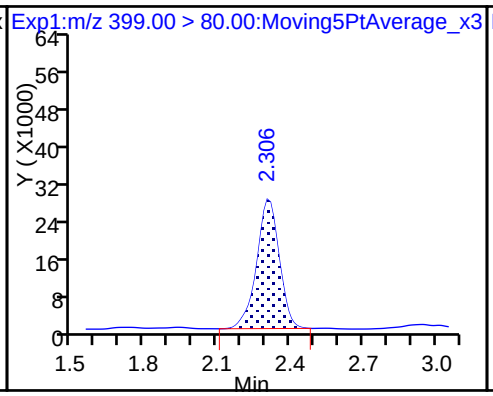
10 Perfluoroheptanoic acid (ND)



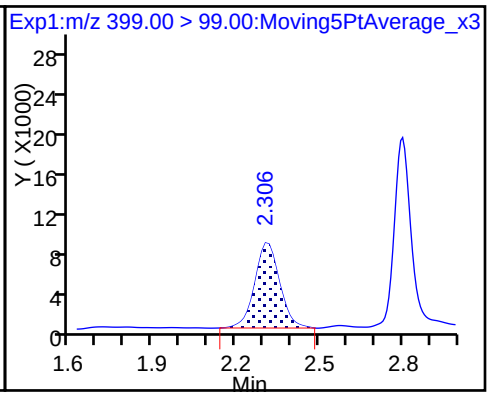
10 Perfluoroheptanoic acid (ND)



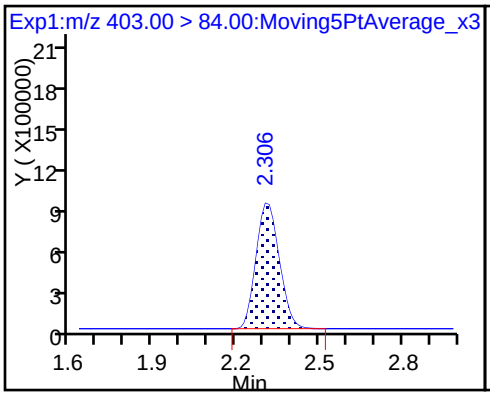
8 Perfluorohexanesulfonic acid



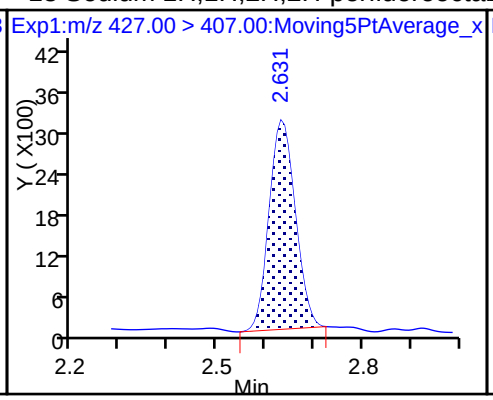
8 Perfluorohexanesulfonic acid



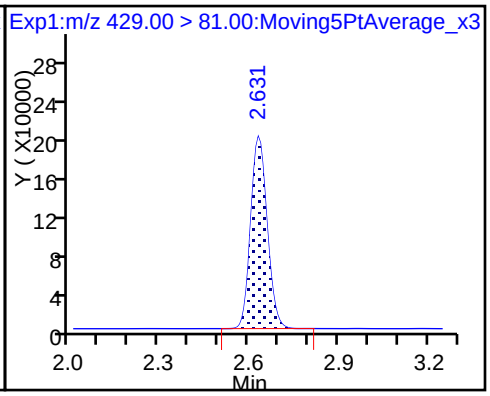
D 11 18O2 PFHxS



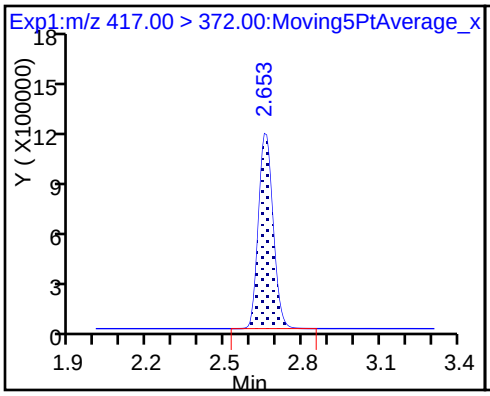
13 Sodium 1H,1H,2H,2H-perfluorooctane



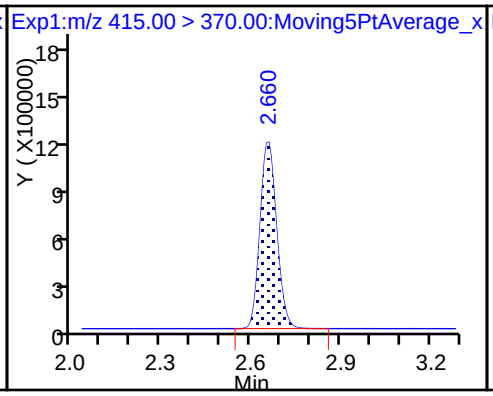
D 12 M2-6:2FTS



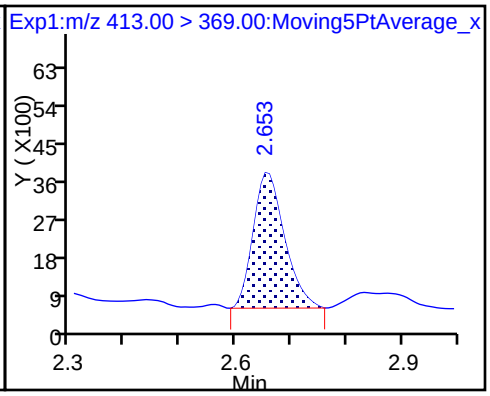
D 14 13C4 PFOA



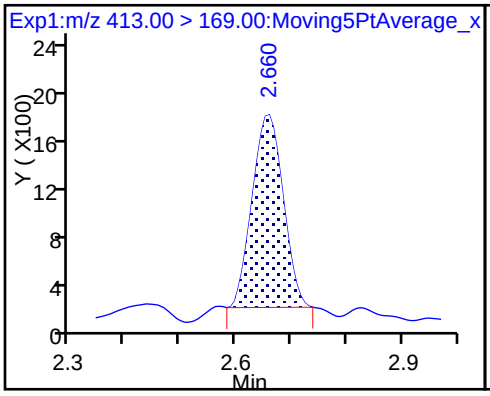
* 62 13C2-PFOA



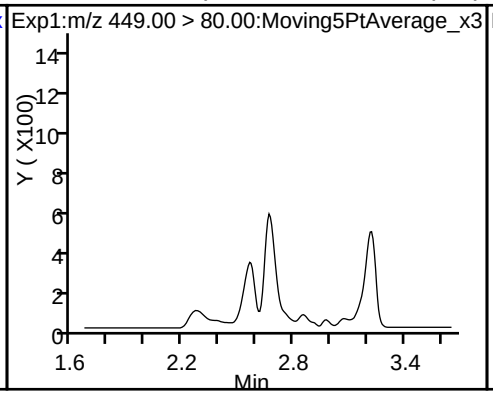
15 Perfluorooctanoic acid



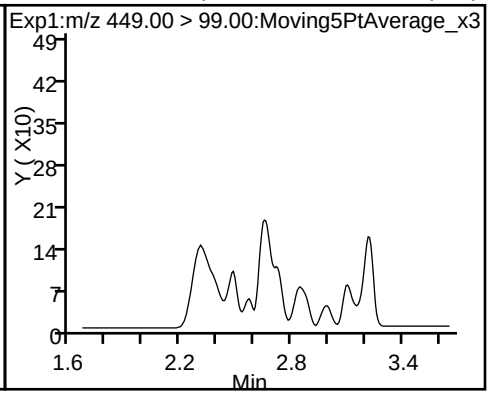
15 Perfluorooctanoic acid



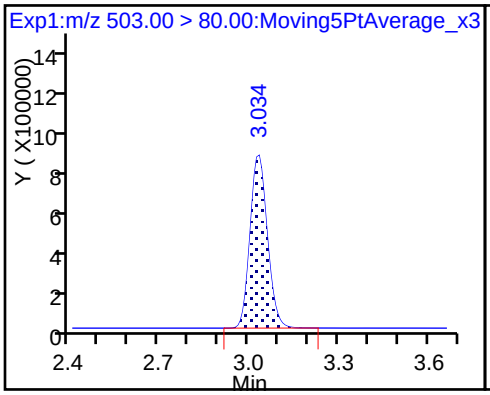
16 Perfluoroheptanesulfonic Acid (ND)



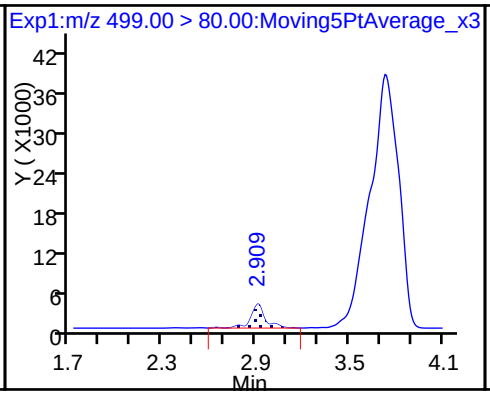
16 Perfluoroheptanesulfonic Acid (ND)



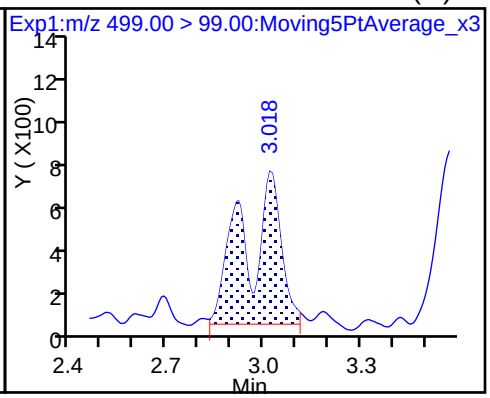
D 18 13C4 PFOS



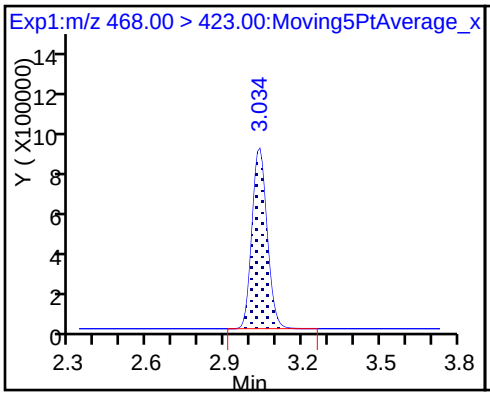
17 Perfluorooctane sulfonic acid



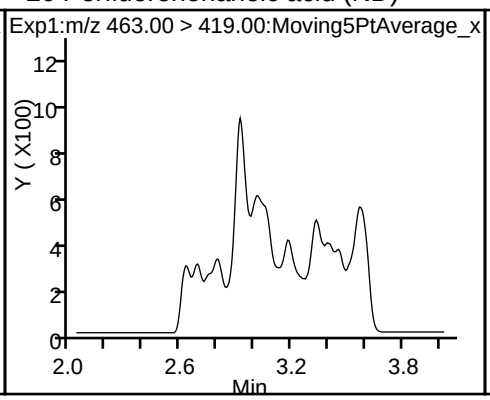
17 Perfluorooctane sulfonic acid (M)



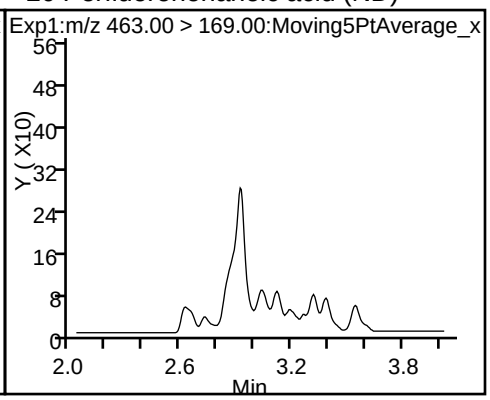
D 19 13C5 PFNA



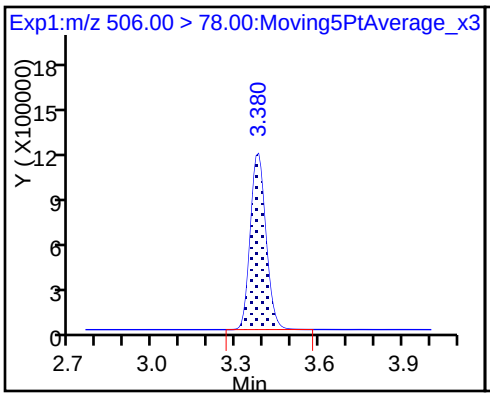
20 Perfluorononanoic acid (ND)



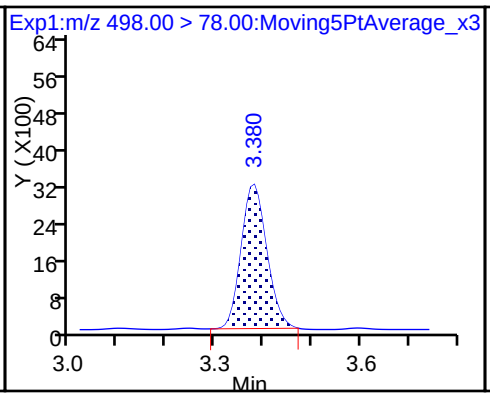
20 Perfluorononanoic acid (ND)



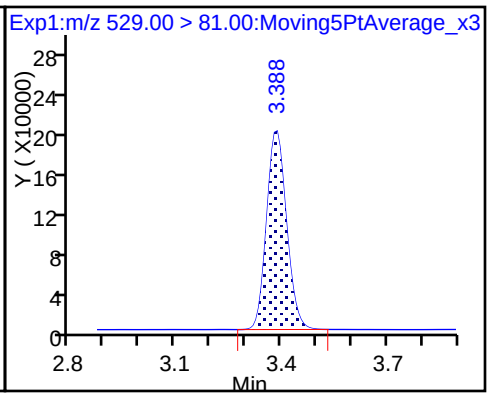
D 21 13C8 FOSA



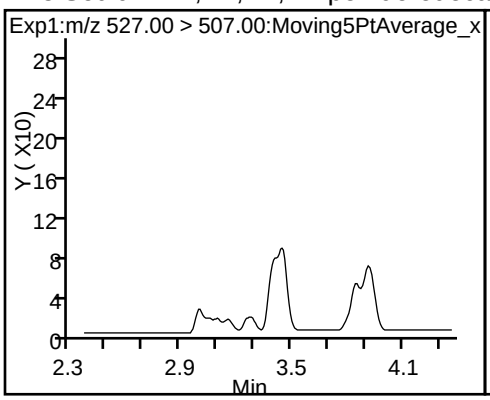
22 Perfluorooctane Sulfonamide



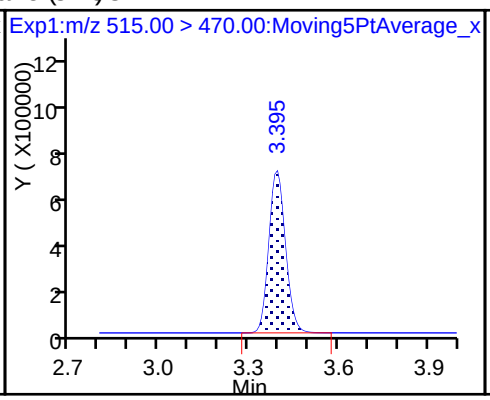
D 26 M2-8:2FTS



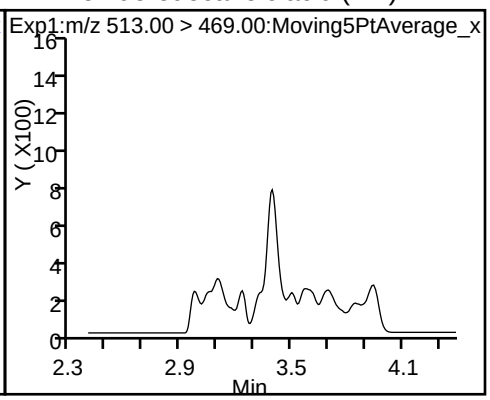
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



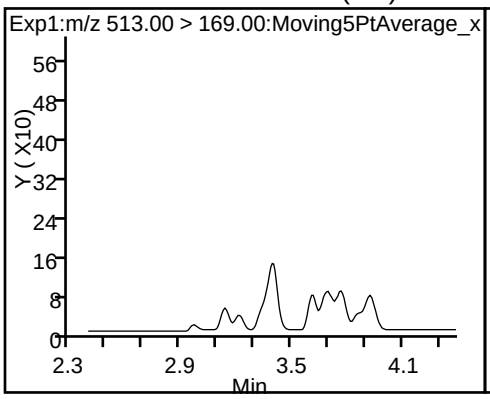
D 13C2 PFDA



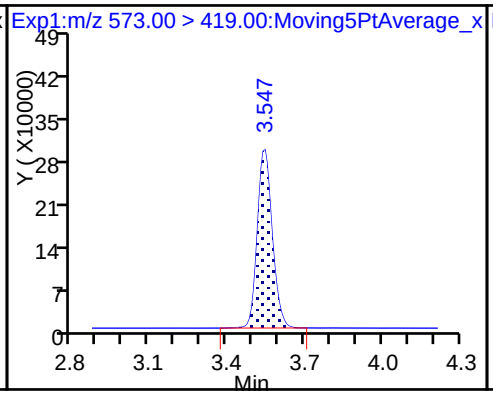
24 Perfluorodecanoic acid (ND)



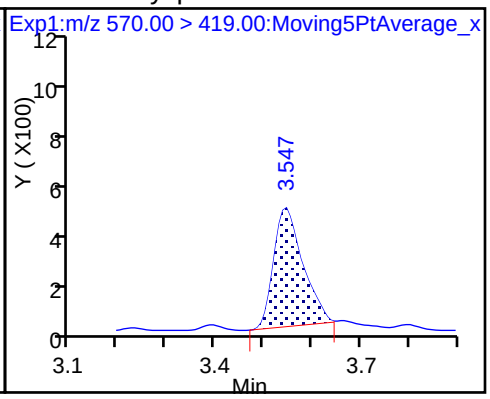
24 Perfluorodecanoic acid (ND)



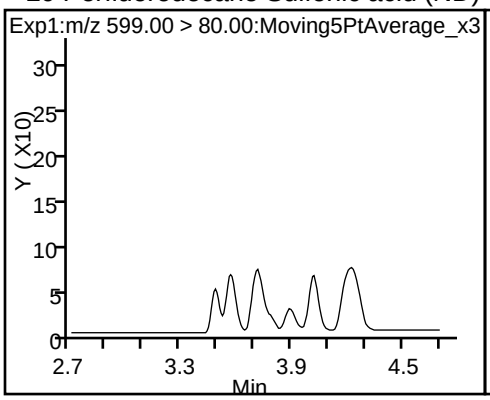
D 27 d3-NMeFOSAA



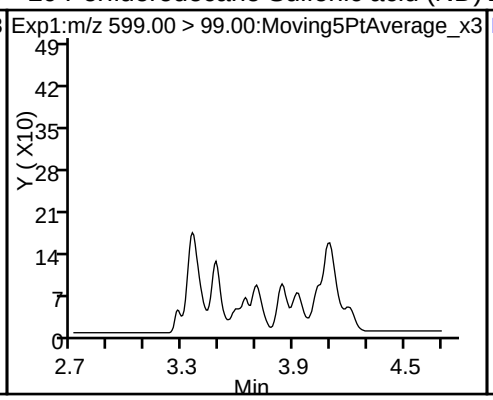
28 N-methyl perfluorooctane sulfonami (M)



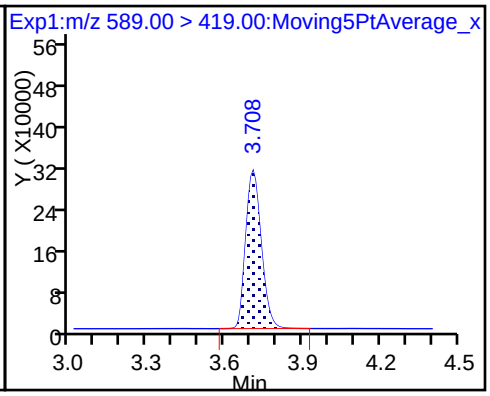
29 Perfluorodecane Sulfonic acid (ND)



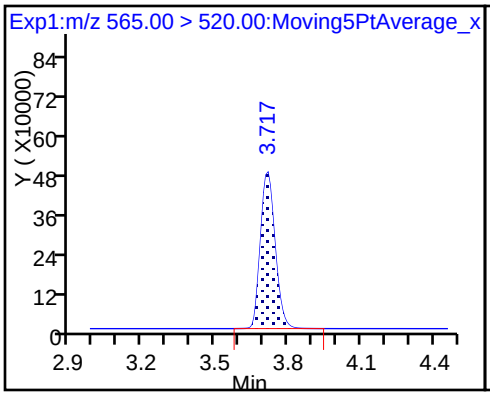
29 Perfluorodecane Sulfonic acid (ND)



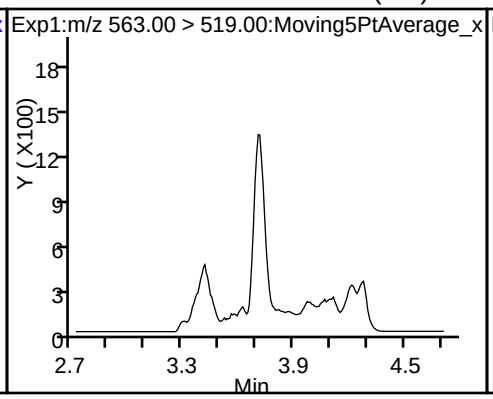
D 32 d5-NEtFOSAA



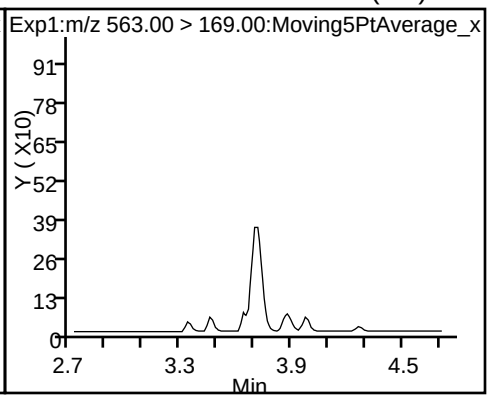
D 30 13C2 PFUnA



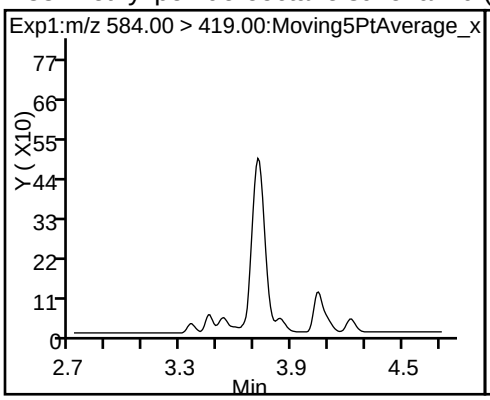
31 Perfluoroundecanoic acid (ND)



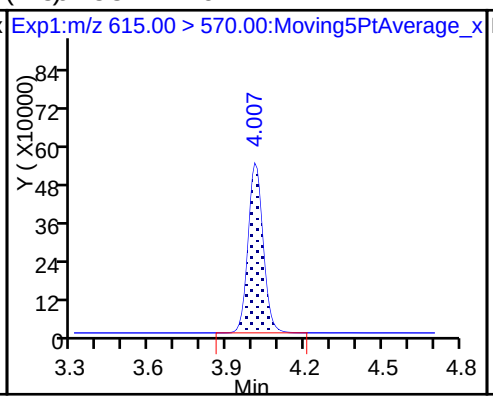
31 Perfluoroundecanoic acid (ND)



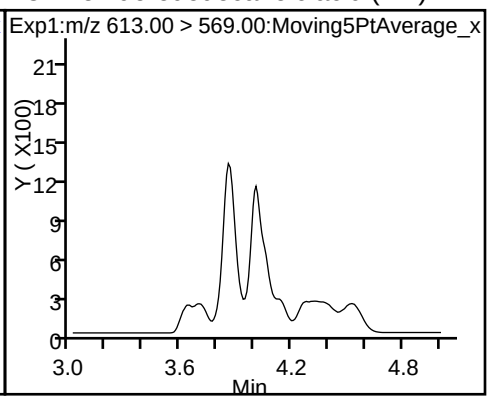
33 N-ethyl perfluorooctane sulfonamid (ND)



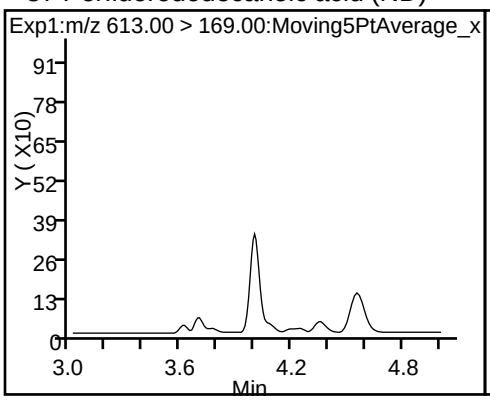
D 36 13C2 PFDoA



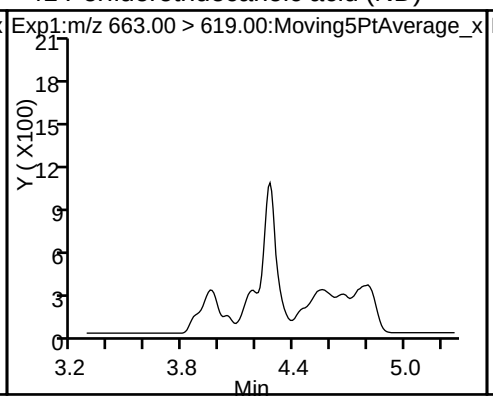
37 Perfluorododecanoic acid (ND)



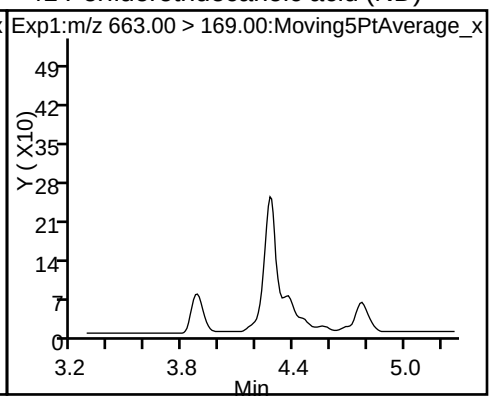
37 Perfluorododecanoic acid (ND)



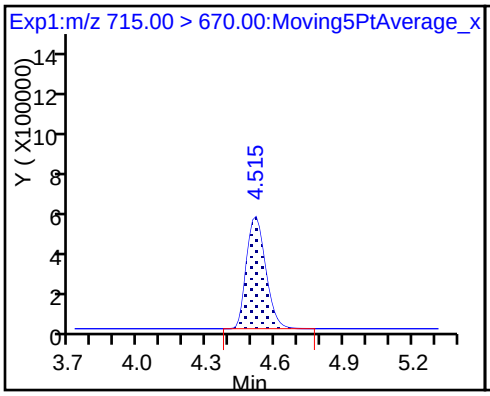
41 Perfluorotridecanoic acid (ND)



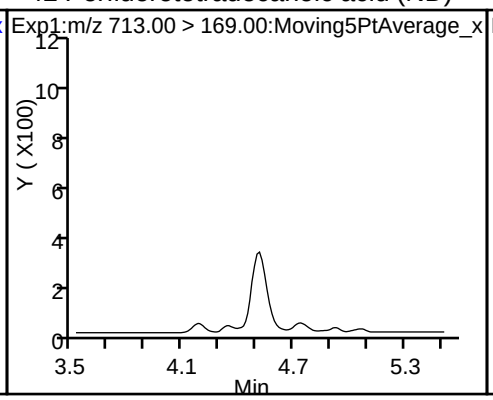
41 Perfluorotridecanoic acid (ND)



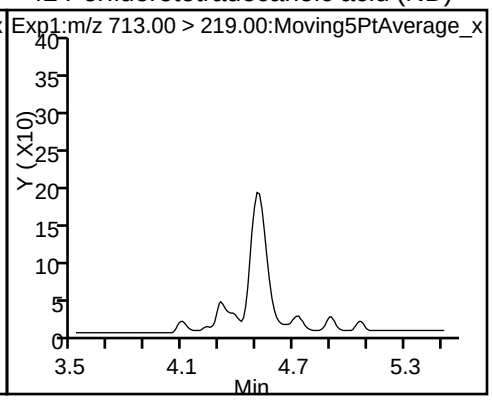
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

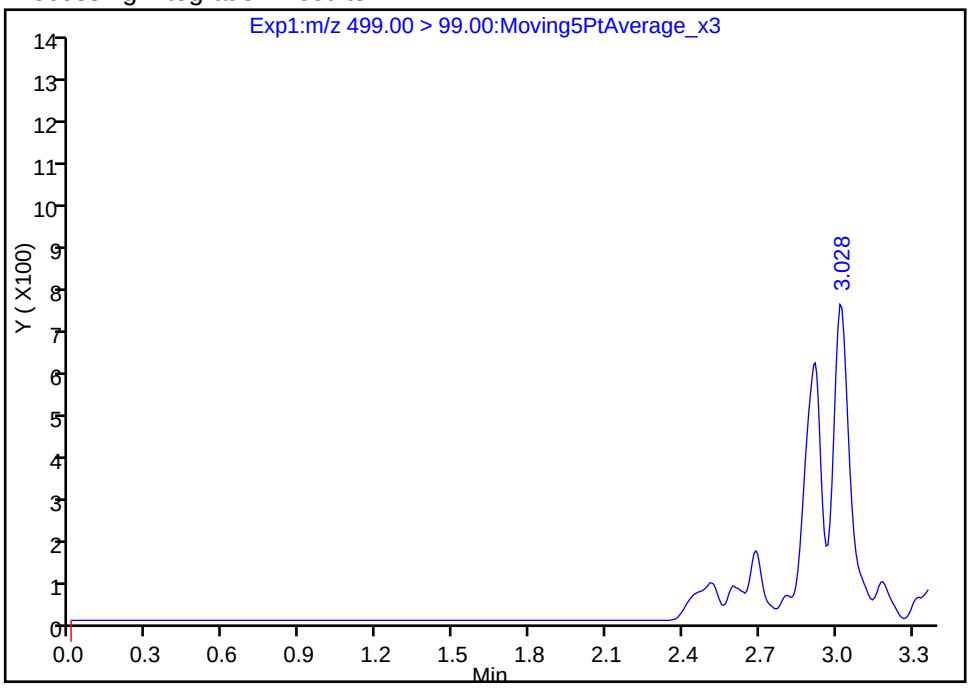
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_025.d				
Injection Date:	23-Dec-2017 00:44:36	Instrument ID:	A8_N		
Lims ID:	320-34425-A-12-A	Lab Sample ID:	320-34425-12		
Client ID:	DUP-2-944-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

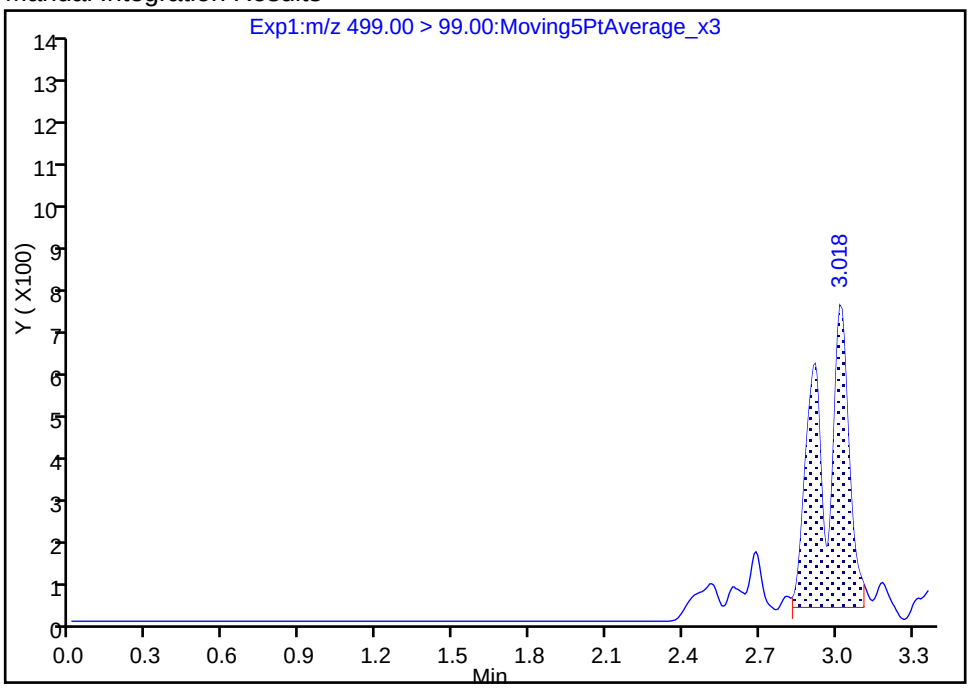
Processing Integration Results

RT: 3.03
Area: 0
Amount: 0.015380
Amount Units: ng/ml



Manual Integration Results

RT: 3.02
Area: 5235
Amount: 0.015380
Amount Units: ng/ml



Reviewer: barnettj, 27-Dec-2017 10:52:22

Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

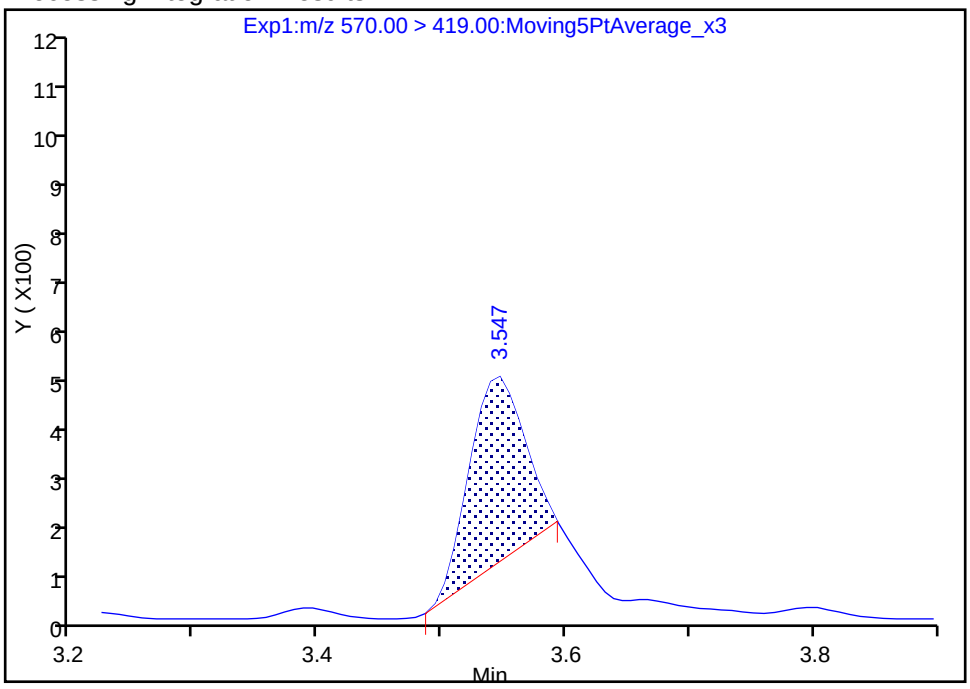
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_025.d				
Injection Date:	23-Dec-2017 00:44:36	Instrument ID:	A8_N		
Lims ID:	320-34425-A-12-A	Lab Sample ID:	320-34425-12		
Client ID:	DUP-2-944-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	19	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

28 N-methyl perfluorooctane sulfonamidoacetic a, CAS: 2355-31-9

Signal: 1

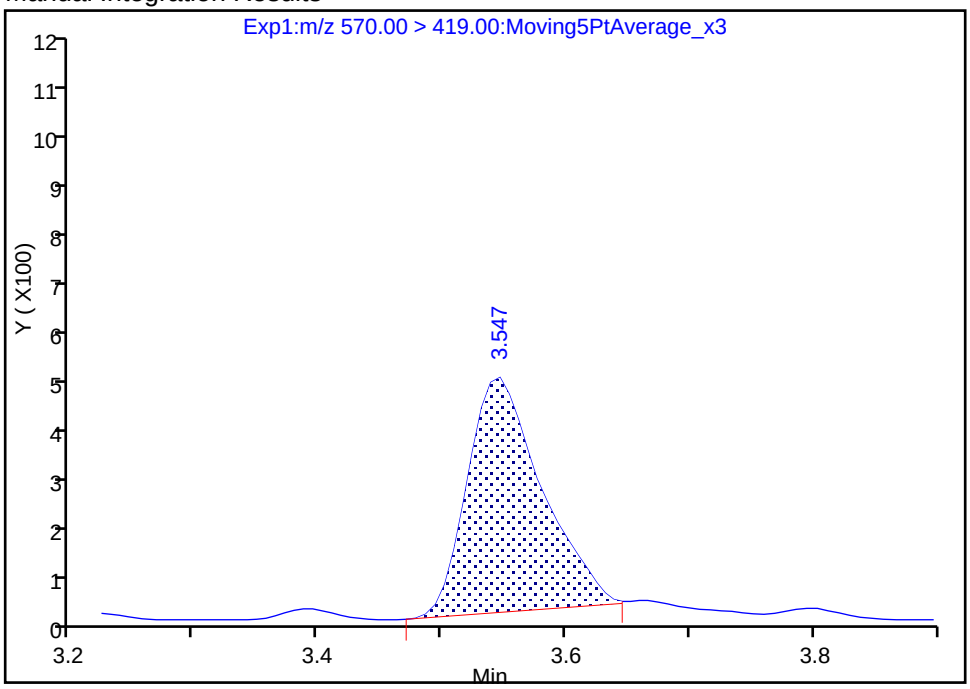
Processing Integration Results

RT: 3.55
Area: 1165
Amount: 0.002337
Amount Units: ng/ml



Manual Integration Results

RT: 3.55
Area: 1974
Amount: 0.003961
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:52:20

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-90-944-171212 | Lab Sample ID: 320-34425-13

Matrix: Water | Lab File ID: 2017.12.22LLB_026.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 08:30

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 255.5(mL) | Date Analyzed: 12/23/2017 00:52

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.41	J	1.96	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.48	U	1.96	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	0.57	U	1.96	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.24	U	1.96	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	0.83	U	1.96	0.83
375-95-1	Perfluorononanoic acid (PFNA)	0.26	U	1.96	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.30	U	1.96	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.08	U	1.96	1.08
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.96	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.96	1.27
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.28	J	1.96	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.39	B	1.96	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.96	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.94		1.96	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.96	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.03	U	19.6	3.03
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	19.6	1.86
27619-97-2	6:2FTS	1.96	U	19.6	1.96
39108-34-4	8:2FTS	1.96	U	19.6	1.96

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-90-944-171212 | Lab Sample ID: 320-34425-13

Matrix: Water | Lab File ID: 2017.12.22LLB_026.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 08:30

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 255.5(mL) | Date Analyzed: 12/23/2017 00:52

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	103		25-150
STL01893	13C5 PFPeA	105		25-150
STL00993	13C2 PFHxA	99		25-150
STL01892	13C4-PFHpA	102		25-150
STL00990	13C4 PFOA	100		25-150
STL00995	13C5 PFNA	97		25-150
STL00996	13C2 PFDA	96		25-150
STL00997	13C2 PFUnA	96		25-150
STL00998	13C2 PFDoA	95		25-150
STL02116	13C2-PFTeDA	116		25-150
STL02337	13C3-PFBS	101		25-150
STL00994	18O2 PFHxS	103		25-150
STL00991	13C4 PFOS	95		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	88		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	74		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_026.d
Lims ID: 320-34425-A-13-A
Client ID: FM-32-90-944-171212
Sample Type: Client
Inject. Date: 23-Dec-2017 00:52:29 ALS Bottle#: 20 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-13-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:19 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:53:46

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.417	1.419	-0.002	0.534	7581103	2.57		103	18037	
2 Perfluorobutyric acid										
212.90 > 169.00	1.424	1.419	0.005	1.004	29019	0.0104			7.2	
D 3 13C5-PFPeA										
267.90 > 223.00	1.676	1.670	0.006	0.631	4640414	2.63		105	51219	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.676	1.670	0.006	1.000	7979	0.003851			7.8	
D 47 13C3-PFBS										
301.90 > 83.00	1.712	1.705	0.007	0.645	88166	2.34		101	3133	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.712	1.707	0.005	1.000	20177	0.007073			75.0	
298.90 > 99.00	1.712	1.707	0.005	1.000	8867		2.28(1.25-3.74)		71.4	
D 7 13C2 PFHxA										
315.00 > 270.00	1.960	1.953	0.007	0.738	4671482	2.48		99.1	41611	
D 9 13C4-PFHpA										
367.00 > 322.00	2.299	2.291	0.008	0.866	4465736	2.56		102	33831	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.312	2.304	0.008	1.000	211214	0.0867			456	
399.00 > 99.00	2.312	2.304	0.008	1.000	62189		3.40(1.50-4.49)		236	
D 11 18O2 PFHxS										
403.00 > 84.00	2.312	2.304	0.008	0.871	5352907	2.43		103	46868	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.626	2.642	-0.016	1.000	8416	0.0160			227	
D 12 M2-6:2FTS										
429.00 > 81.00	2.626	2.642	-0.016	0.989	807057	0.99		41.8	16365	
D 14 13C4 PFOA										
417.00 > 372.00	2.654	2.654	0.0	1.000	4995925	2.49		99.7	57658	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 62 13C2-PFOA										
415.00 > 370.00	2.654	2.656	-0.002		4852988	2.50			55894	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.654	2.656	-0.002	1.000	10140	0.004825			17.9	
413.00 > 169.00	2.654	2.656	-0.002	1.000	4610		2.20(0.84-2.52)		34.7	
D 18 13C4 PFOS										
503.00 > 80.00	3.028	3.025	0.003	1.141	3296074	2.27		94.9	25007	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.028	3.028	0.0	1.000	109748	0.0751			11.6	
499.00 > 99.00	3.028	3.028	0.0	1.000	24642		4.45(2.31-6.93)		15.5	
D 19 13C5 PFNA										
468.00 > 423.00	3.028	3.028	0.0	1.141	3459979	2.43		97.1	34644	
D 21 13C8 FOSA										
506.00 > 78.00	3.374	3.370	0.004	1.271	4733216	2.39		95.7	28788	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.374	3.372	0.002	1.000	5438	0.002994			210	
D 26 M2-8:2FTS										
529.00 > 81.00	3.381	3.377	0.004	1.274	804576	1.77		74.0	20696	
D 23 13C2 PFDA										
515.00 > 470.00	3.389	3.389	0.0	1.277	2819322	2.40		96.0	38584	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.541	3.543	-0.002	1.334	1289087	2.04		81.8	16630	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.397	1353425	2.20		87.9	7032	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.397	2149502	2.40		96.1	24502	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.011	-0.004	1.510	2300114	2.38		95.4	34176	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.516	4.518	-0.002	1.701	3131965	2.91		116	23573	

Report Date: 26-Dec-2017 15:10:38 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_026.d

Injection Date: 23-Dec-2017 00:52:29 Instrument ID: A8_N

Lims ID: 320-34425-A-13-A Lab Sample ID: 320-34425-13

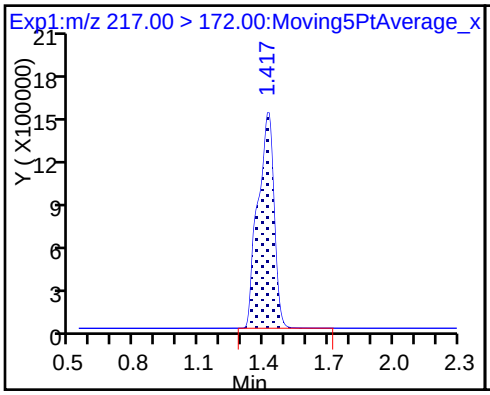
Client ID: FM-32-90-944-171212

Operator ID: SACINSTLCMS01 ALS Bottle#: 20 Worklist Smp#: 18

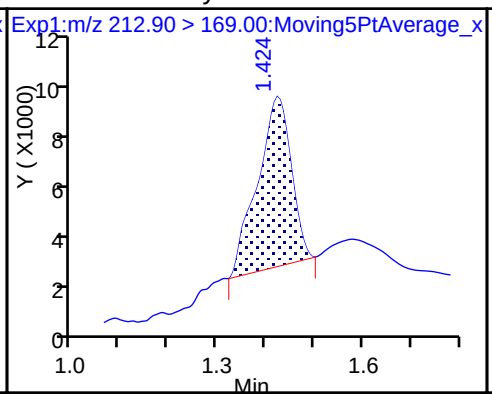
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

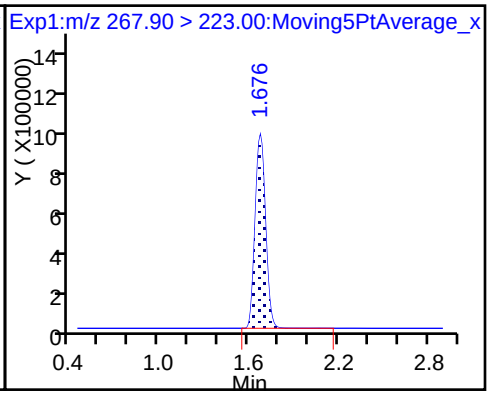
D 1 13C4 PFBA



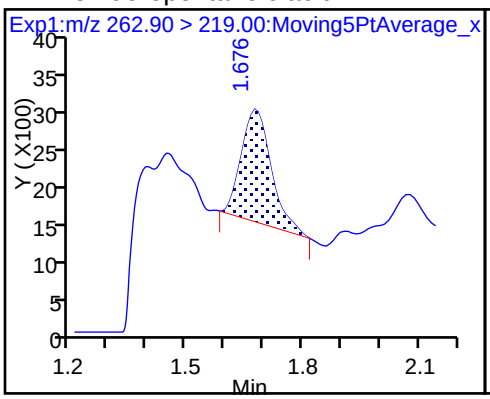
2 Perfluorobutyric acid



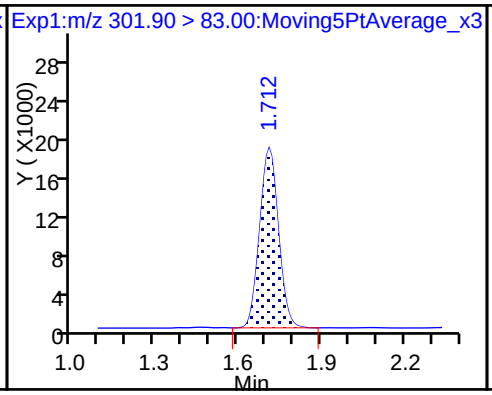
D 3 13C5-PFPeA



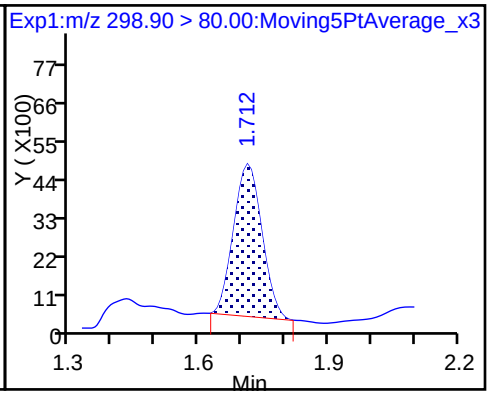
4 Perfluoropentanoic acid



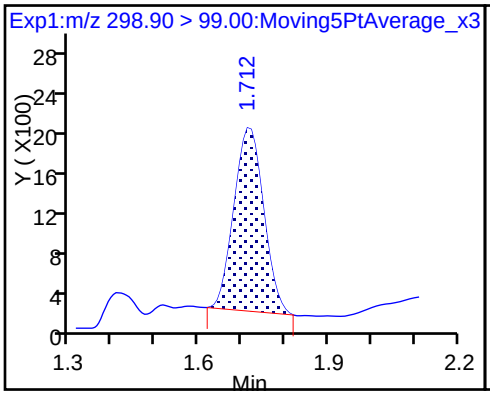
D 47 13C3-PFBS



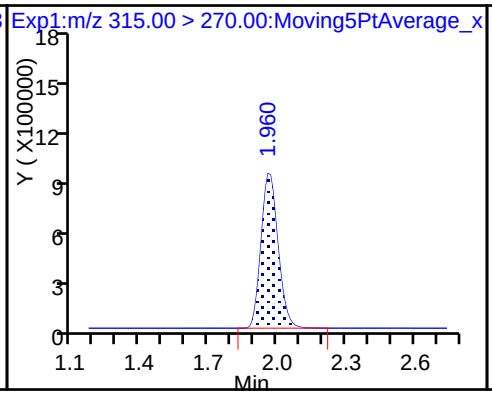
5 Perfluorobutanesulfonic acid



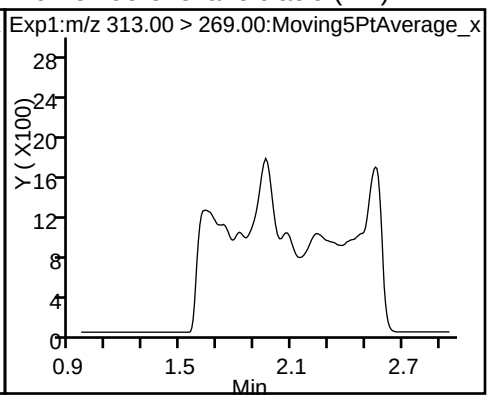
5 Perfluorobutanesulfonic acid



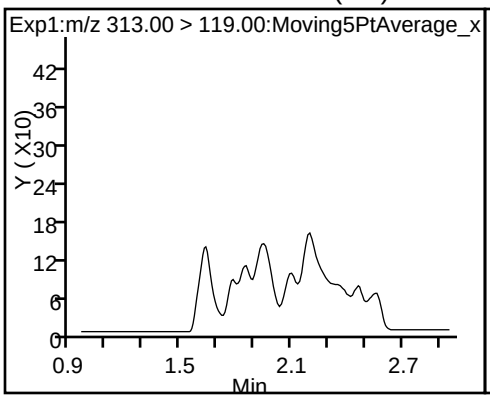
D 7 13C2 PFHxA



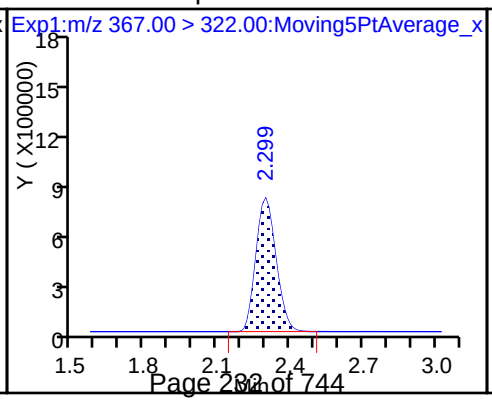
6 Perfluorohexanoic acid (ND)



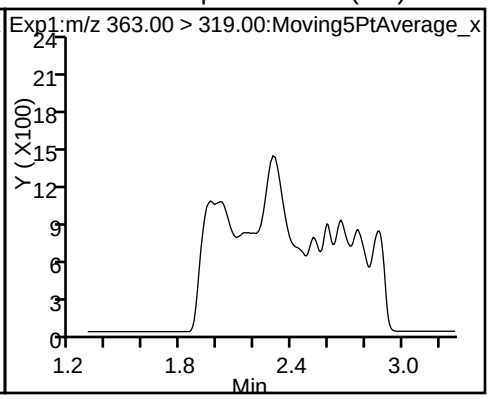
6 Perfluorohexanoic acid (ND)



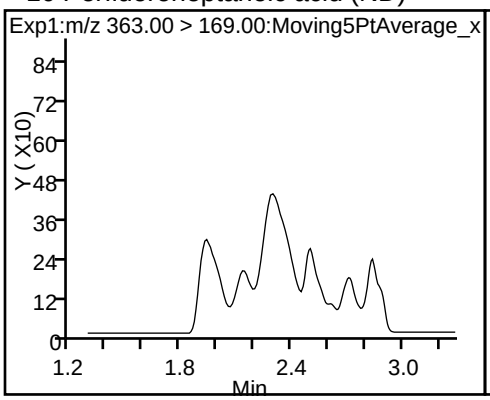
D 9 13C4-PFHpA



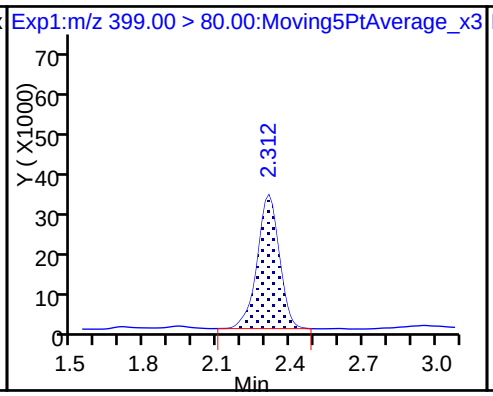
10 Perfluoroheptanoic acid (ND)



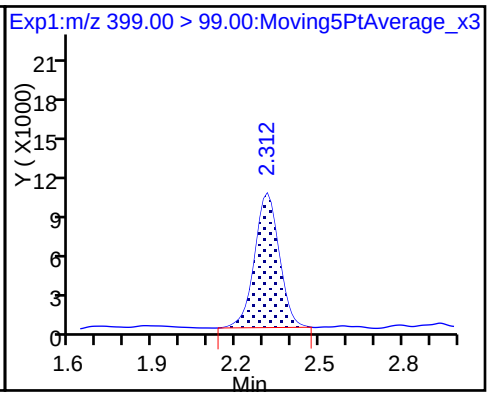
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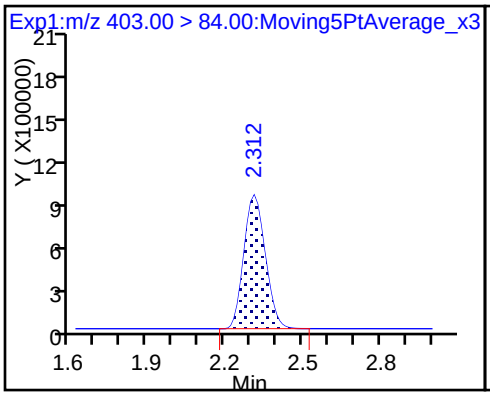
8 Perfluorohexanesulfonic acid



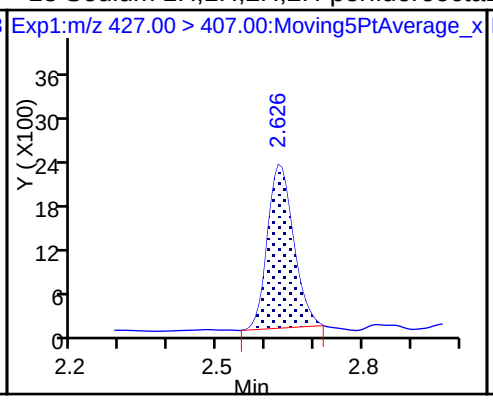
8 Perfluorohexanesulfonic acid



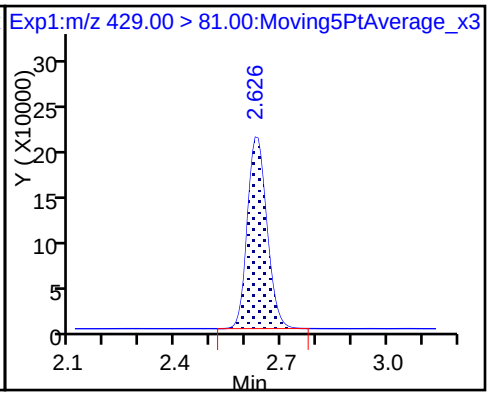
D 11 18O2 PFHxS



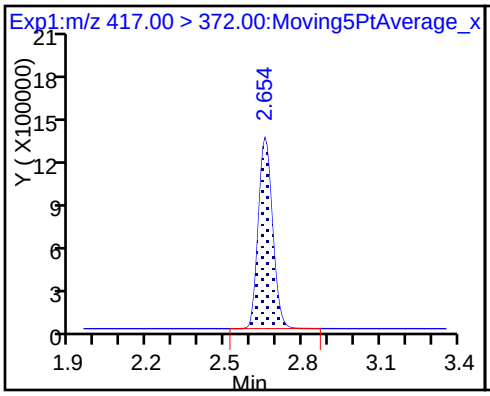
13 Sodium 1H,1H,2H,2H-perfluorooctane



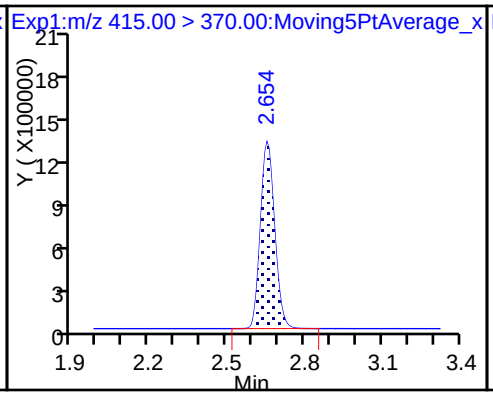
D 12 M2-6:2FTS



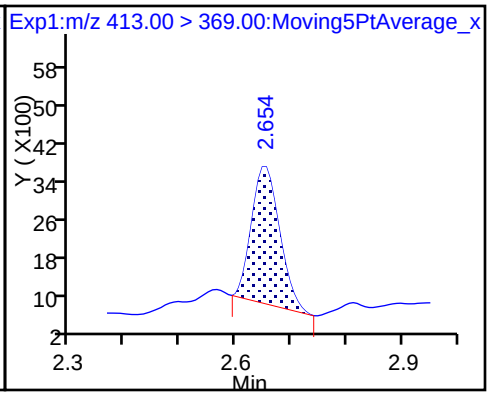
D 14 13C4 PFOA



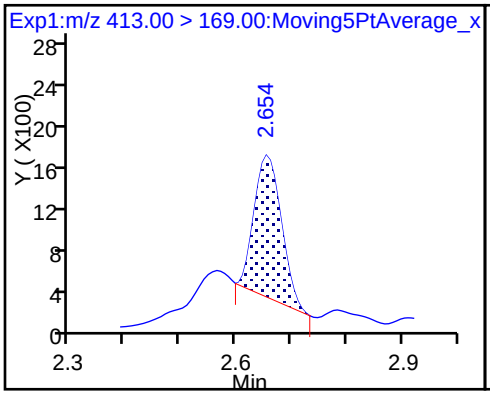
* 62 13C2-PFOA



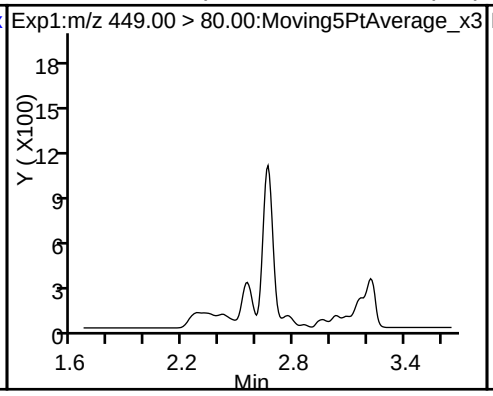
15 Perfluorooctanoic acid



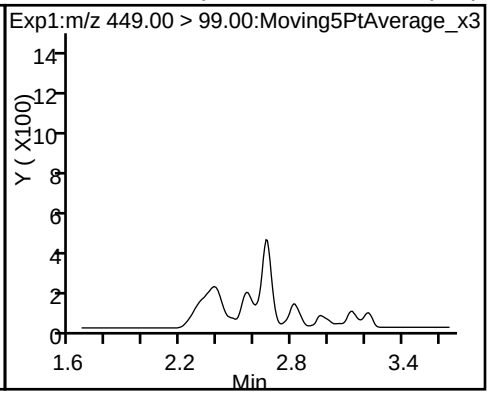
15 Perfluorooctanoic acid



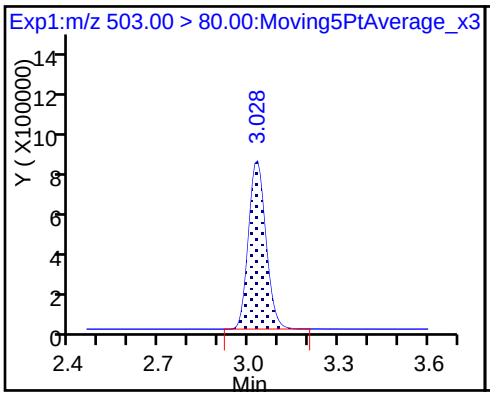
16 Perfluoroheptanesulfonic Acid (ND)



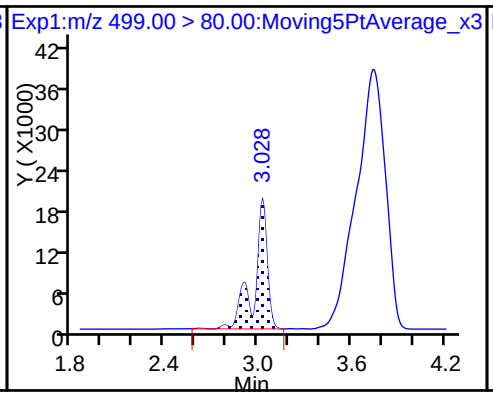
16 Perfluoroheptanesulfonic Acid (ND)



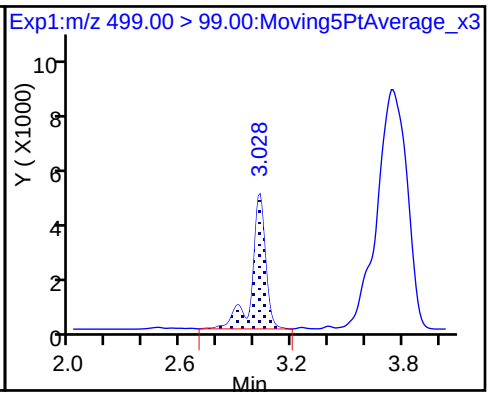
D 18 13C4 PFOS



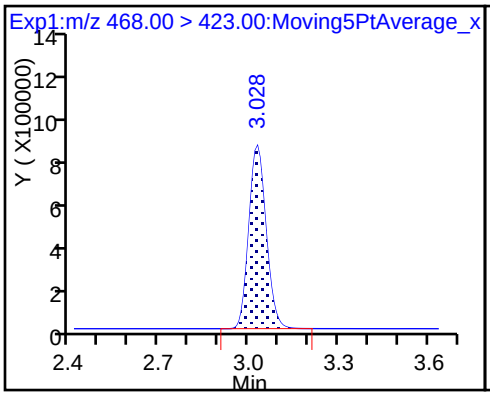
17 Perfluorooctane sulfonic acid



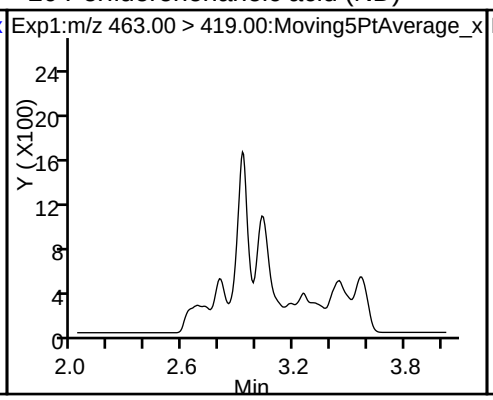
17 Perfluorooctane sulfonic acid



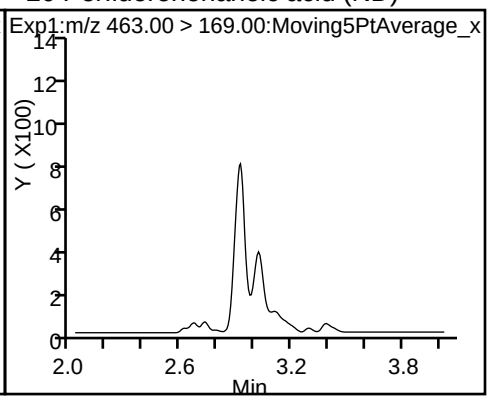
D 19 13C5 PFNA



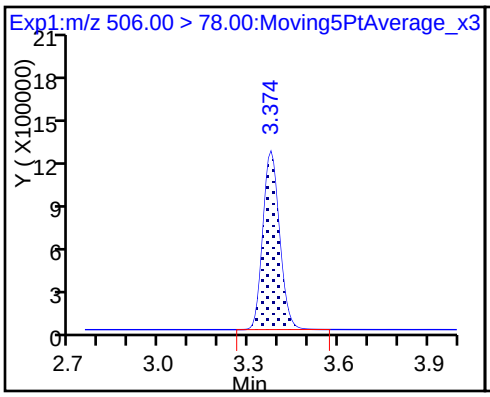
20 Perfluorononanoic acid (ND)



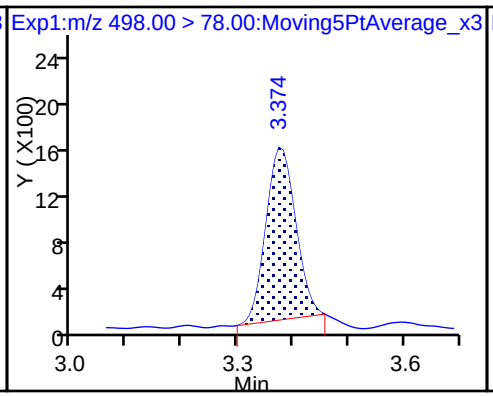
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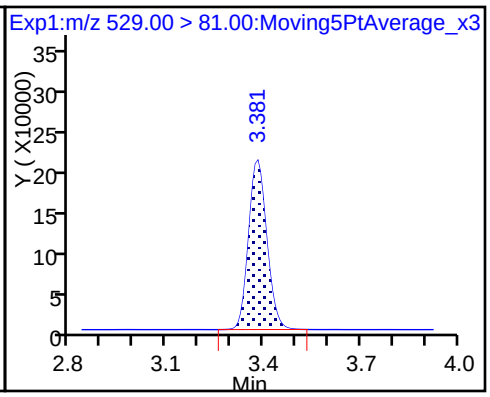
D 21 13C8 FOSA



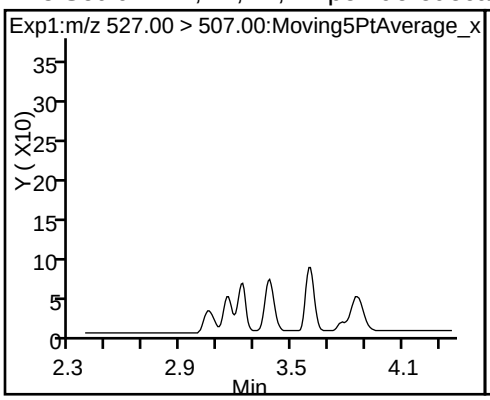
22 Perfluorooctane Sulfonamide



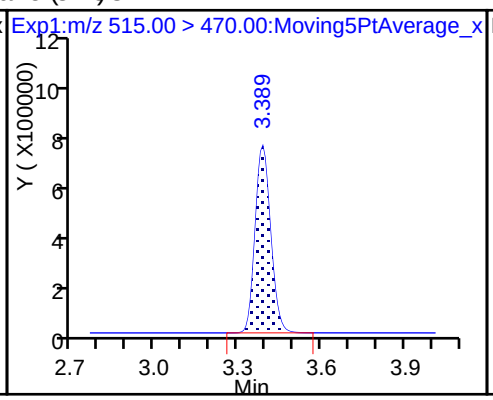
D 26 M2-8:2FTS



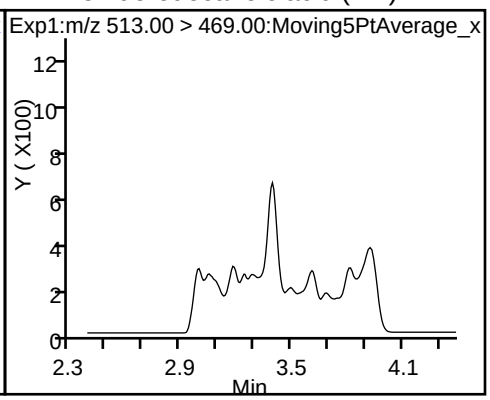
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



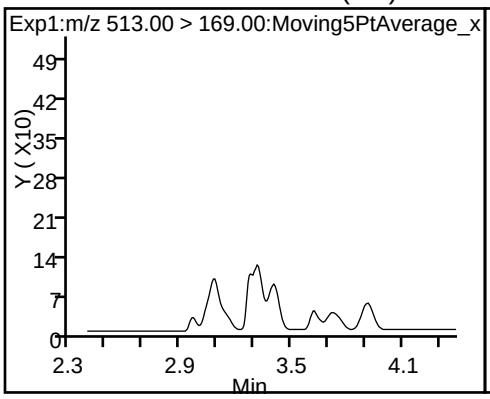
D 23 13C2 PFDA



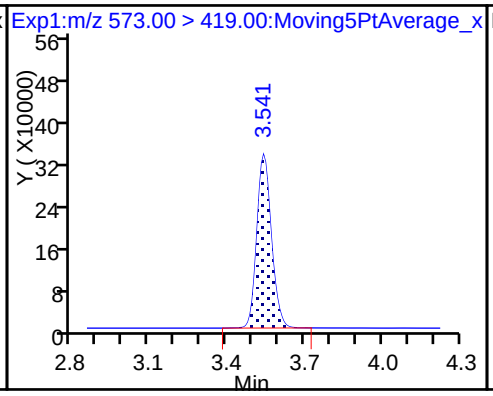
24 Perfluorodecanoic acid (ND)



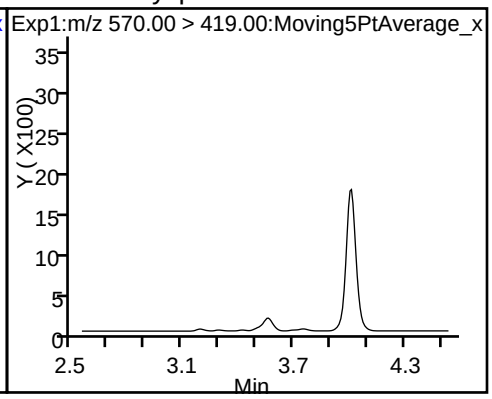
24 Perfluorodecanoic acid (ND)



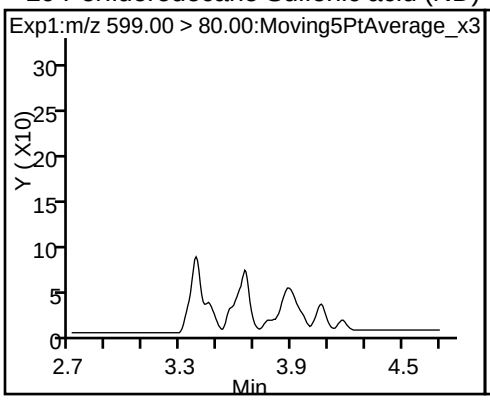
D 27 d3-NMeFOSAA



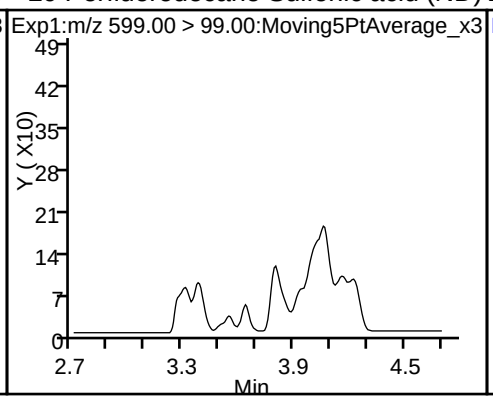
28 N-methyl perfluorooctane sulfonami (ND)



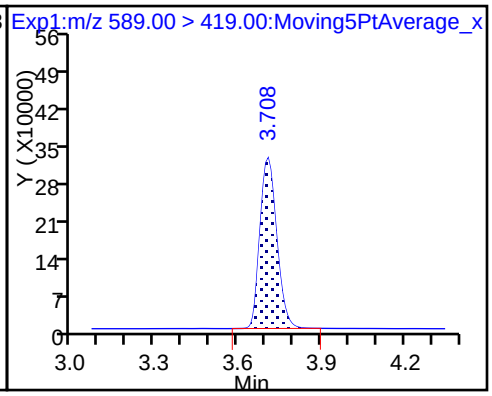
29 Perfluorodecane Sulfonic acid (ND)



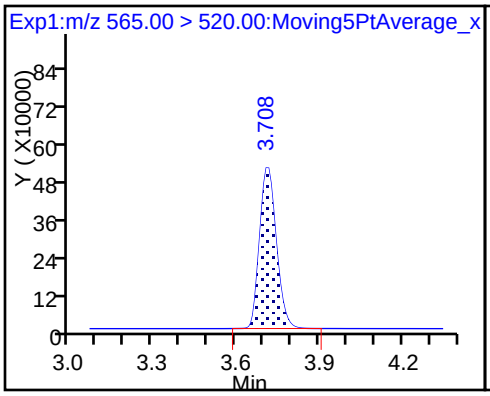
29 Perfluorodecane Sulfonic acid (ND)



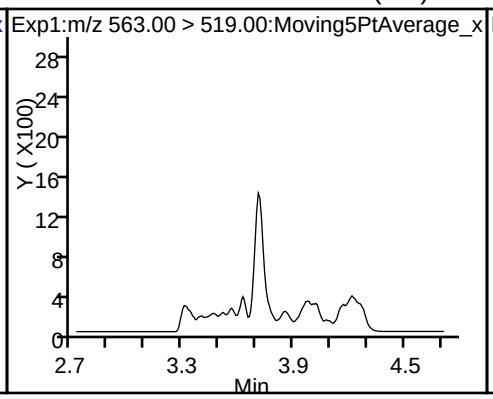
D 32 d5-NEtFOSAA



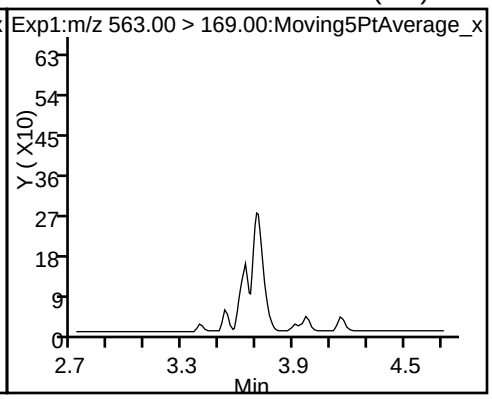
D 30 13C2 PFUnA



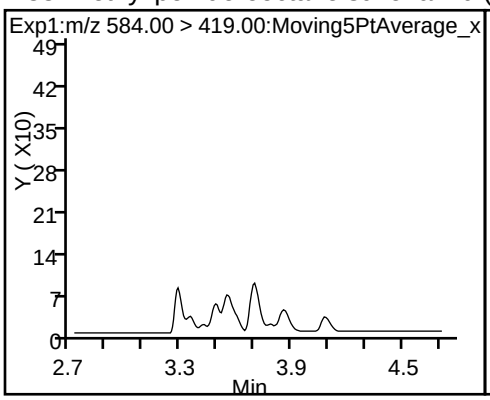
31 Perfluoroundecanoic acid (ND)



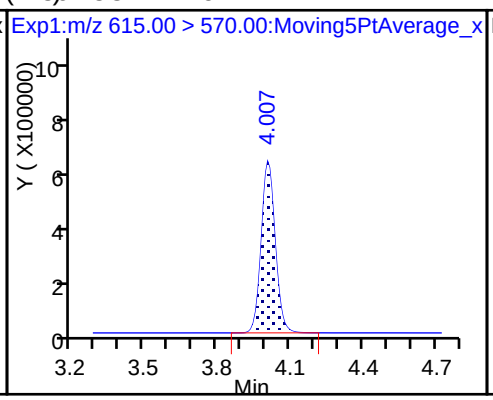
31 Perfluoroundecanoic acid (ND)



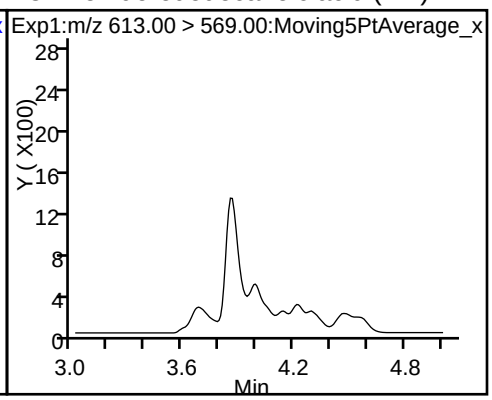
33 N-ethyl perfluorooctane sulfonamid (ND)



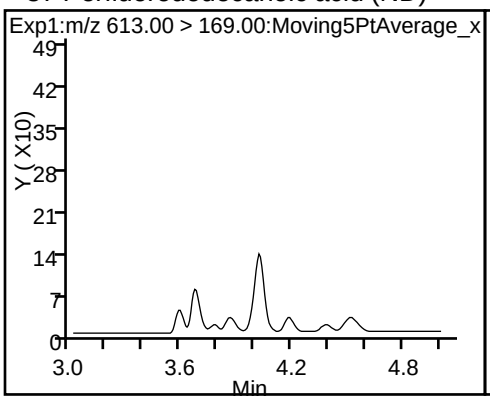
D 36 13C2 PFDoA



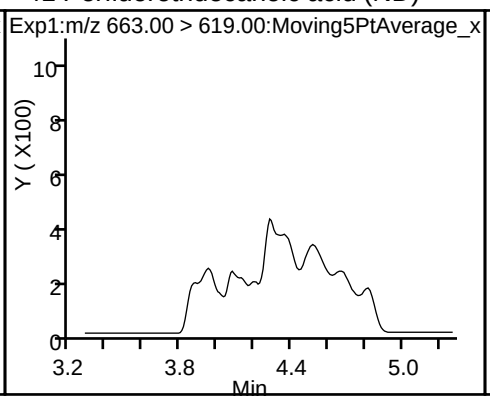
37 Perfluorododecanoic acid (ND)



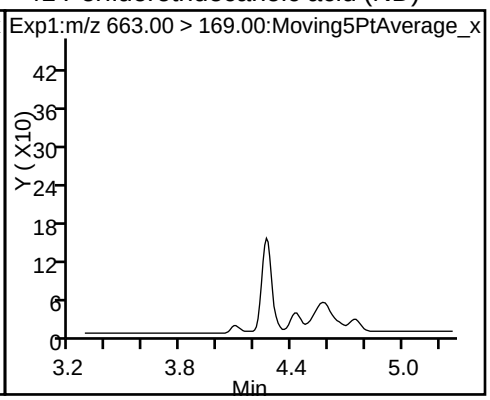
37 Perfluorododecanoic acid (ND)



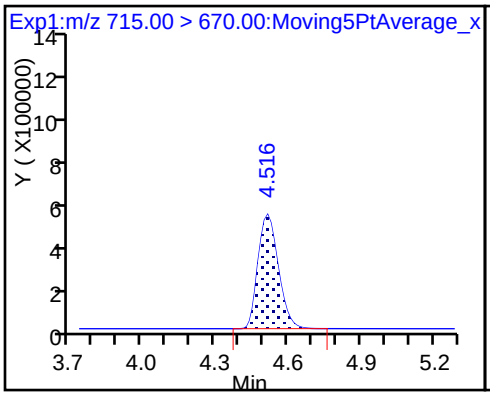
41 Perfluorotridecanoic acid (ND)



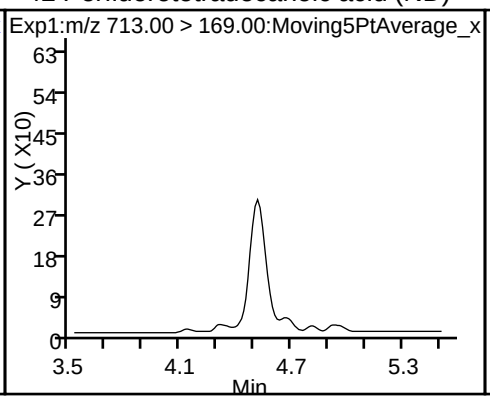
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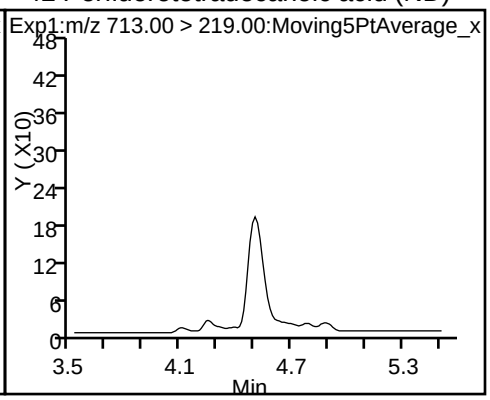
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-80-944-171212 | Lab Sample ID: 320-34425-14

Matrix: Water | Lab File ID: 2017.12.22LLB_027.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 09:30

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 227.9(mL) | Date Analyzed: 12/23/2017 01:00

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.73	J	2.19	0.38
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.54	U	2.19	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	0.64	U	2.19	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.27	U	2.19	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	1.58	J	2.19	0.93
375-95-1	Perfluorononanoic acid (PFNA)	0.39	J	2.19	0.30
335-76-2	Perfluorodecanoic acid (PFDA)	0.34	U	2.19	0.34
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.21	U	2.19	1.21
307-55-1	Perfluorododecanoic acid (PFDoA)	0.60	U	2.19	0.60
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.43	U	2.19	1.43
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.32	U	2.19	0.32
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.42	J	2.19	0.22
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	5.08	B	2.19	0.19
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.21	U	2.19	0.21
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.79		2.19	0.59
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.35	U	2.19	0.35
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.38	U	2.19	0.38
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.40	U	21.9	3.40
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.08	U	21.9	2.08
27619-97-2	6:2FTS	2.19	U	21.9	2.19
39108-34-4	8:2FTS	2.19	U	21.9	2.19

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-80-944-171212 | Lab Sample ID: 320-34425-14

Matrix: Water | Lab File ID: 2017.12.22LLB_027.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 09:30

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 227.9(mL) | Date Analyzed: 12/23/2017 01:00

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	109		25-150
STL01893	13C5 PFPeA	107		25-150
STL00993	13C2 PFHxA	107		25-150
STL01892	13C4-PFHpA	110		25-150
STL00990	13C4 PFOA	101		25-150
STL00995	13C5 PFNA	107		25-150
STL00996	13C2 PFDA	104		25-150
STL00997	13C2 PFUnA	105		25-150
STL00998	13C2 PFDoA	100		25-150
STL02116	13C2-PFTeDA	119		25-150
STL02337	13C3-PFBS	110		25-150
STL00994	18O2 PFHxS	107		25-150
STL00991	13C4 PFOS	105		25-150
STL01056	13C8 FOSA	101		25-150
STL02118	d3-NMeFOSAA	89		25-150
STL02117	d5-NEtFOSAA	93		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	83		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_027.d
Lims ID: 320-34425-A-14-A
Client ID: FM-32-80-944-171212
Sample Type: Client
Inject. Date: 23-Dec-2017 01:00:21 ALS Bottle#: 21 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-14-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:19 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:55:01

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.427	1.419	0.008	0.536	7437194	2.72		109	21210	
2 Perfluorobutyric acid										
212.90 > 169.00	1.433	1.419	0.014	1.004	45148	0.0166			10.3	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4379573	2.67		107	35557	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.690	1.670	0.020	1.005	6423	0.003285			6.6	
D 47 13C3-PFBS										
301.90 > 83.00	1.717	1.705	0.012	0.645	89571	2.56		110	3140	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.717	1.707	0.010	1.000	27755	0.009578			104	
298.90 > 99.00	1.726	1.707	0.019	1.005	10485		2.65(1.25-3.74)		64.3	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4657935	2.66		107	50754	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.291	0.015	0.867	4464494	2.76		110	36965	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.320	2.304	0.016	1.000	272958	0.1158			642	
399.00 > 99.00	2.320	2.304	0.016	1.000	86868		3.14(1.50-4.49)		369	
D 11 18O2 PFHxS										
403.00 > 84.00	2.320	2.304	0.016	0.872	5176671	2.53		107	47821	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.642	-0.004	1.000	8054	0.0161			195	
D 12 M2-6:2FTS										
429.00 > 81.00	2.638	2.642	-0.004	0.992	766989	1.02		42.9	16989	
D 14 13C4 PFOA										
417.00 > 372.00	2.660	2.654	0.006	1.000	4709965	2.53		101	45783	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.656	0.004		4501566	2.50			47399	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.660	2.656	0.004	1.000	71227	0.0360			111	M
413.00 > 169.00	2.667	2.656	0.011	1.003	36707		1.94(0.84-2.52)		232	M
D 18 13C4 PFOS										
503.00 > 80.00	3.034	3.025	0.009	1.141	3384588	2.51		105	35682	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.034	3.028	0.006	1.000	129509	0.0863			14.0	
499.00 > 99.00	3.034	3.028	0.006	1.000	30142		4.30(2.31-6.93)		19.8	
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.028	0.006	1.141	3550477	2.69		107	49309	
20 Perfluorononanoic acid										
463.00 > 419.00	3.034	3.029	0.005	1.000	12841	0.008986			46.8	
463.00 > 169.00	3.034	3.029	0.005	1.000	3687		3.48(1.90-5.69)		56.1	
D 21 13C8 FOSA										
506.00 > 78.00	3.380	3.370	0.010	1.271	4646791	2.53		101	32131	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.373	3.372	0.0	0.998	5532	0.003103			240	
D 26 M2-8:2FTS										
529.00 > 81.00	3.388	3.377	0.011	1.274	835987	1.99		82.9	15119	
D 23 13C2 PFDA										
515.00 > 470.00	3.395	3.389	0.006	1.277	2829561	2.60		104	30741	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.547	3.543	0.004	1.334	1296225	2.22		88.6	18332	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.394	1331334	2.33		93.2	6801	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.398	2187672	2.64		105	35237	
D 36 13C2 PFDoA										
615.00 > 570.00	4.015	4.011	0.004	1.510	2240086	2.50		100	39823	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.698	2983446	2.98		119	24501	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:41 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_027.d

Injection Date: 23-Dec-2017 01:00:21 Instrument ID: A8_N

Lims ID: 320-34425-A-14-A Lab Sample ID: 320-34425-14

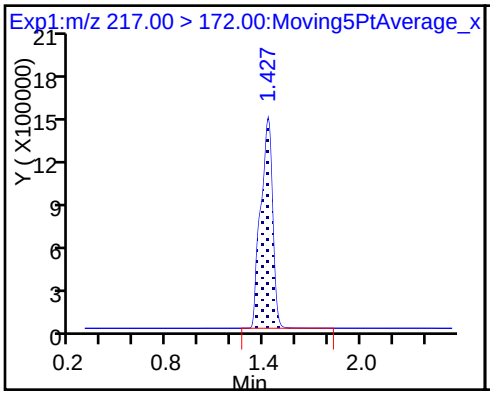
Client ID: FM-32-80-944-171212

Operator ID: SACINSTLCMS01 ALS Bottle#: 21 Worklist Smp#: 19

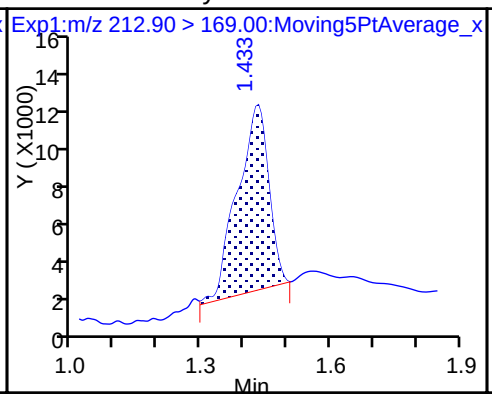
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

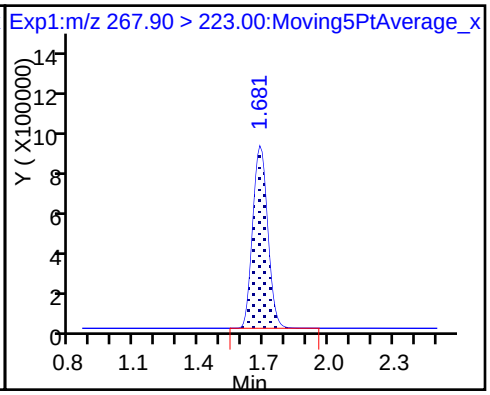
D 1 13C4 PFBA



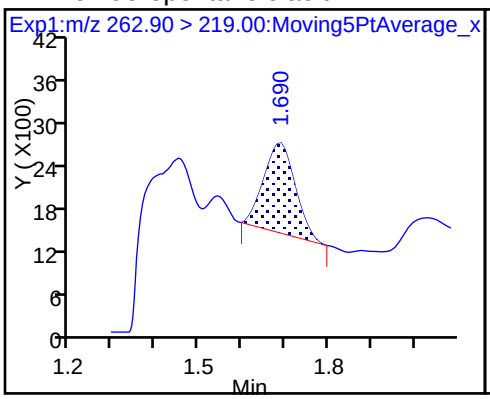
2 Perfluorobutyric acid



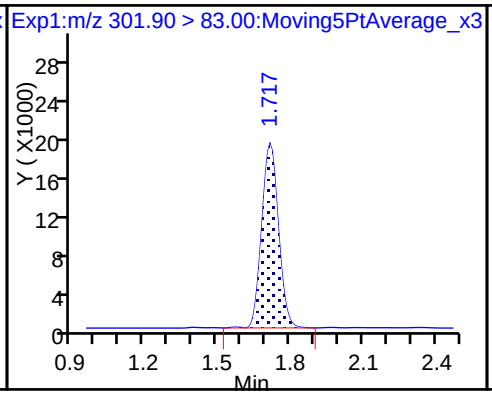
D 3 13C5-PFPeA



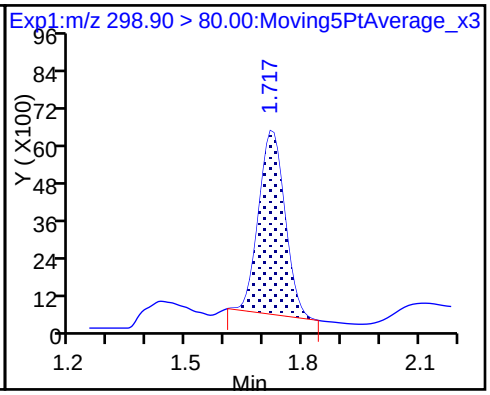
4 Perfluoropentanoic acid



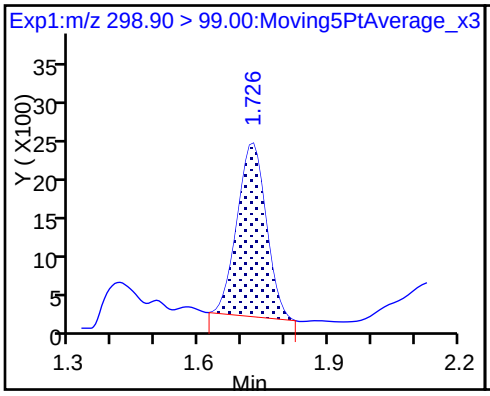
D 47 13C3-PFBS



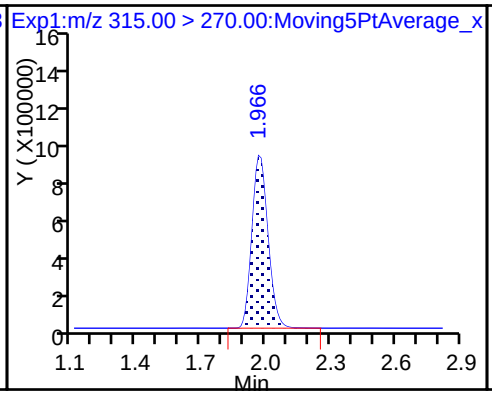
5 Perfluorobutanesulfonic acid



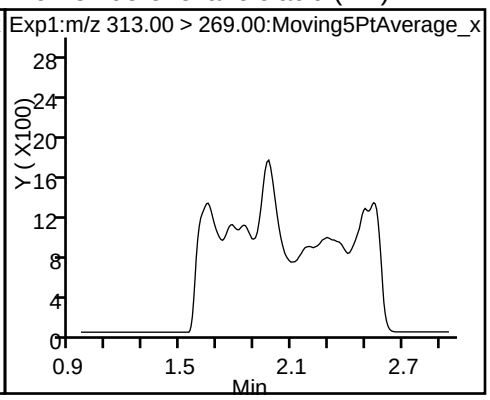
5 Perfluorobutanesulfonic acid



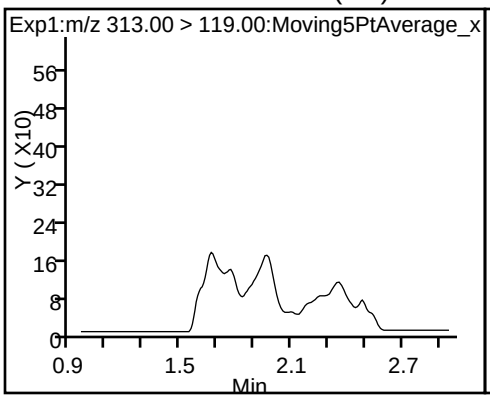
D 7 13C2 PFHxA



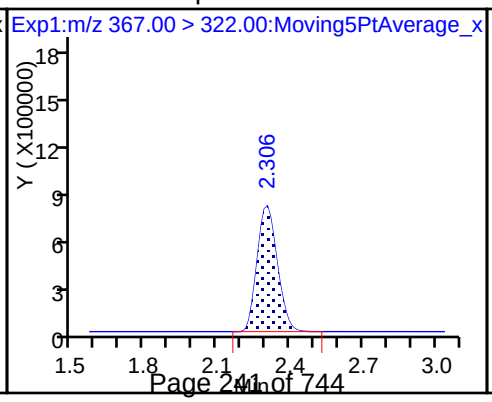
6 Perfluorohexanoic acid (ND)



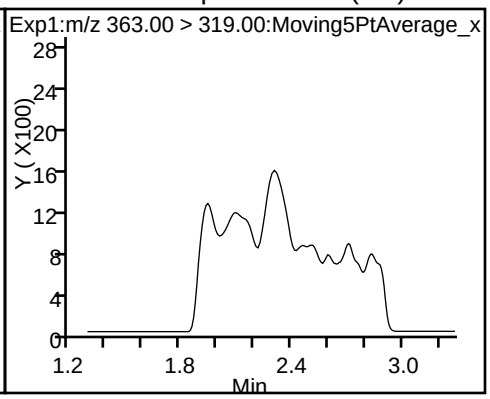
6 Perfluorohexanoic acid (ND)



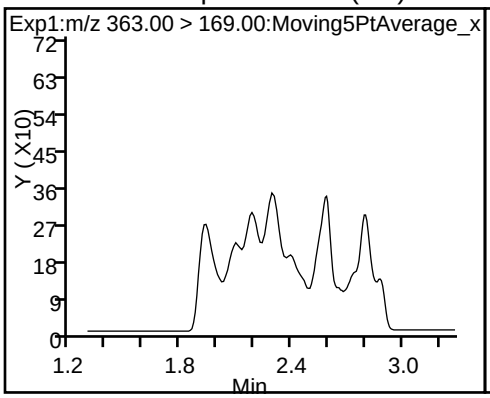
D 9 13C4-PFHpA



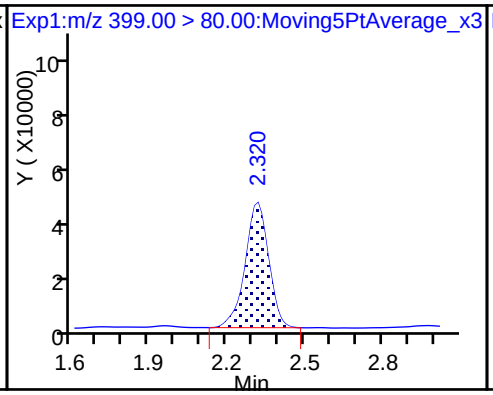
10 Perfluoroheptanoic acid (ND)



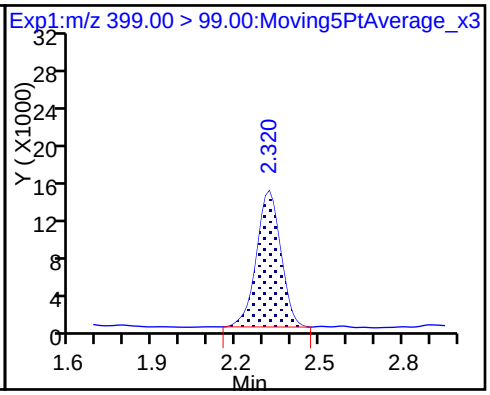
10 Perfluoroheptanoic acid (ND)



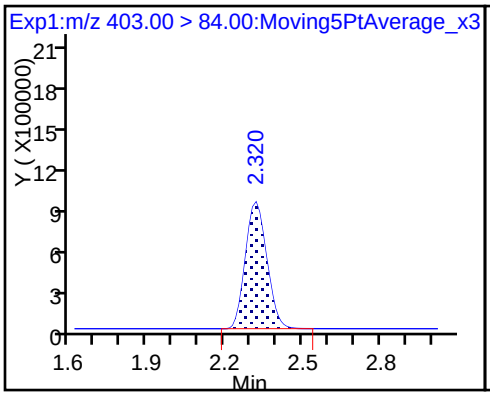
8 Perfluorohexanesulfonic acid



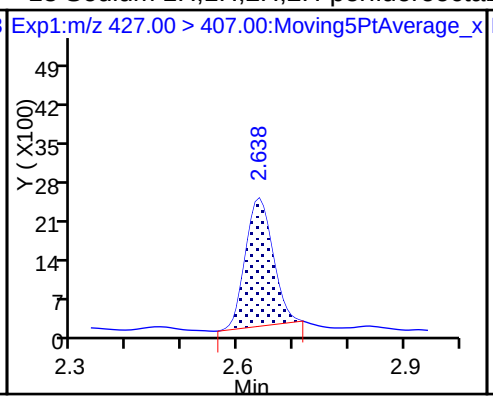
8 Perfluorohexanesulfonic acid



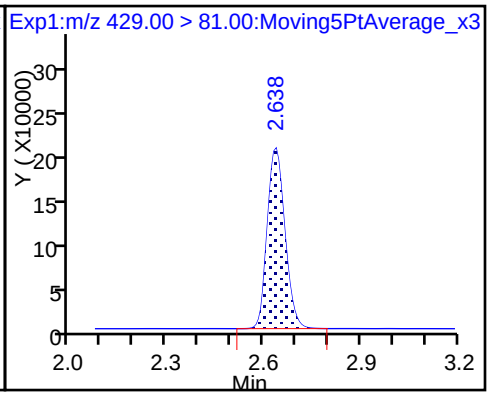
D 11 18O2 PFHxS



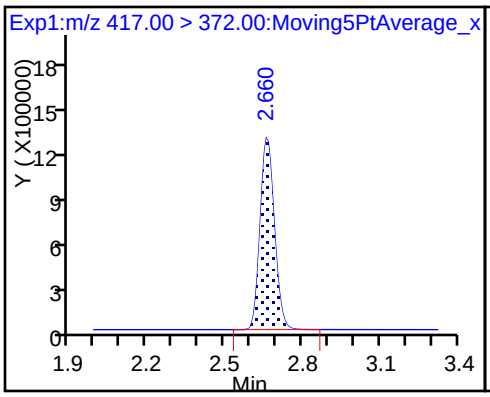
13 Sodium 1H,1H,2H,2H-perfluorooctane



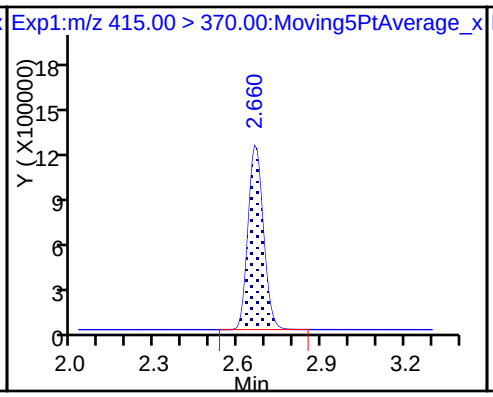
D 12 M2-6:2FTS



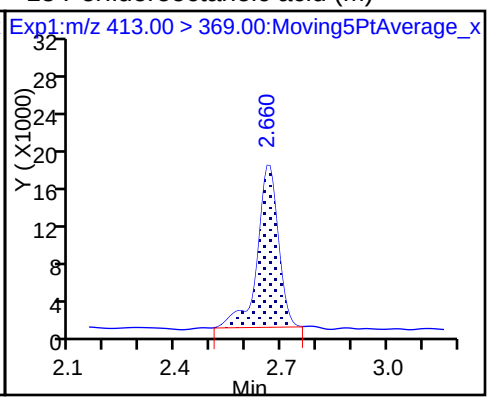
D 14 13C4 PFOA



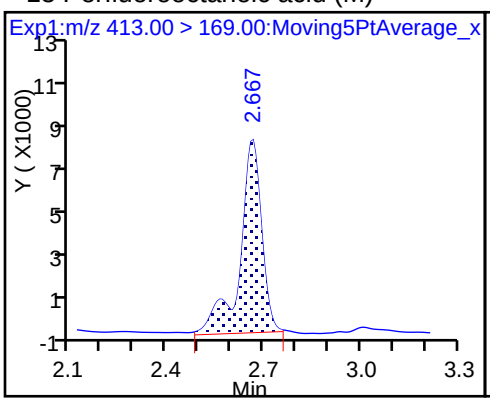
* 62 13C2-PFOA



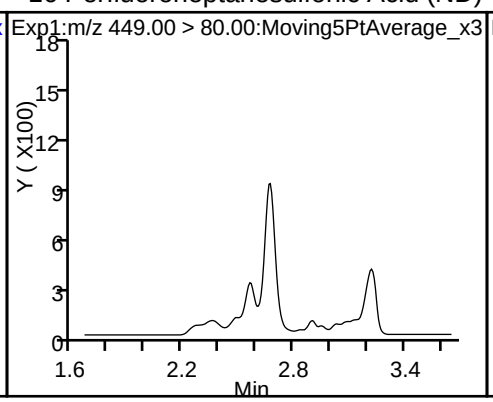
15 Perfluorooctanoic acid (M)



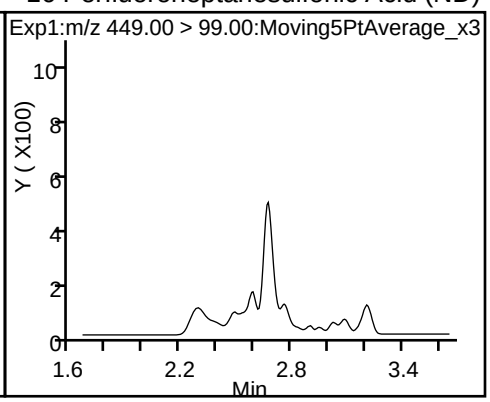
15 Perfluorooctanoic acid (M)



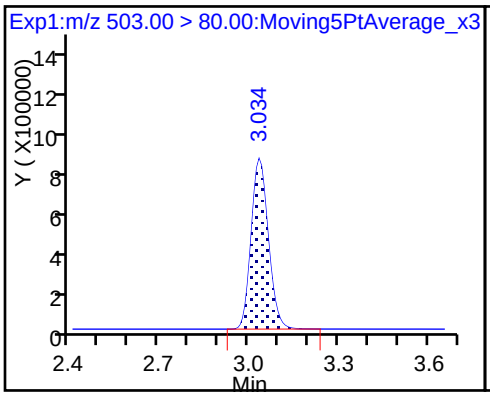
16 Perfluoroheptanesulfonic Acid (ND)



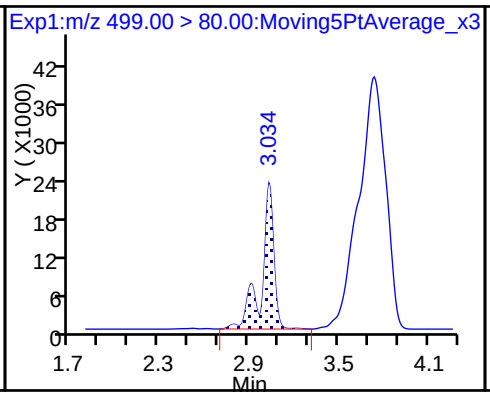
16 Perfluoroheptanesulfonic Acid (ND)



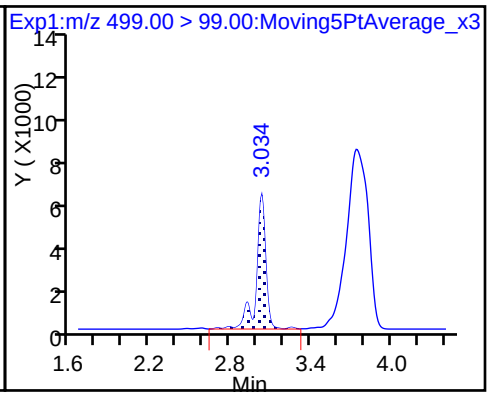
D 18 13C4 PFOS



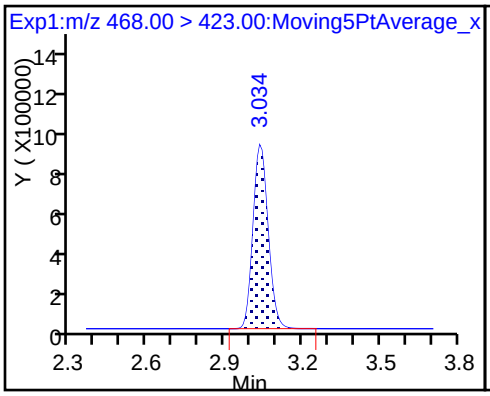
17 Perfluorooctane sulfonic acid



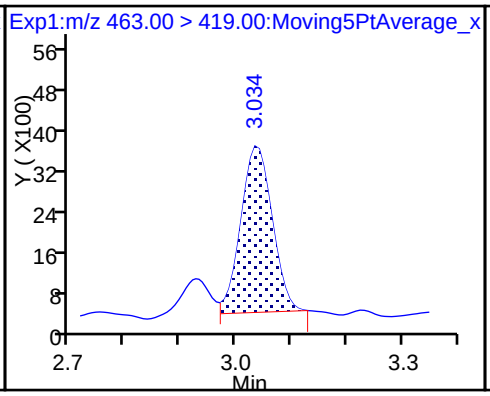
17 Perfluorooctane sulfonic acid



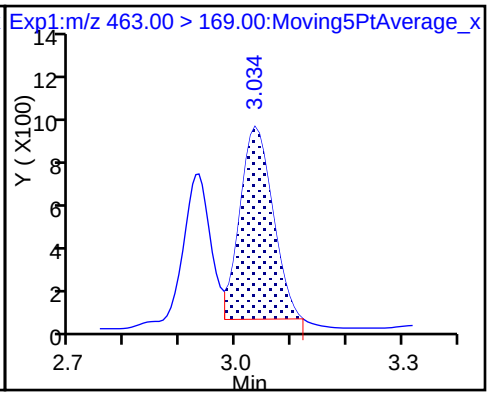
D 19 13C5 PFNA



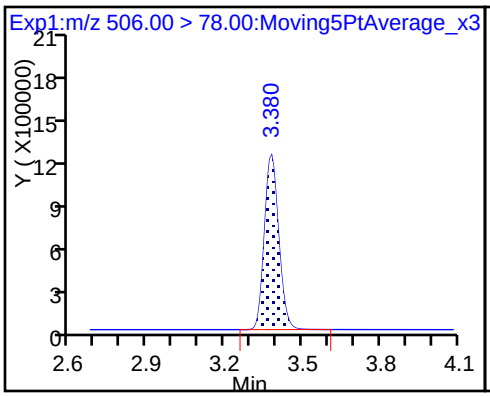
20 Perfluorononanoic acid



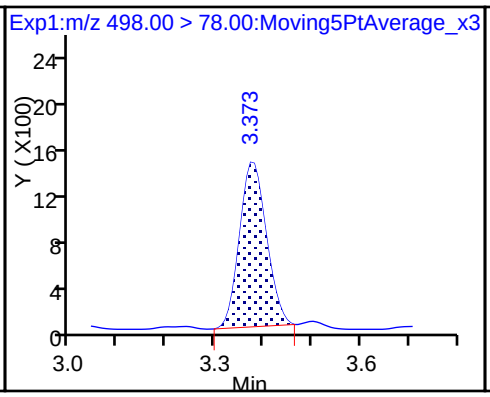
20 Perfluorononanoic acid



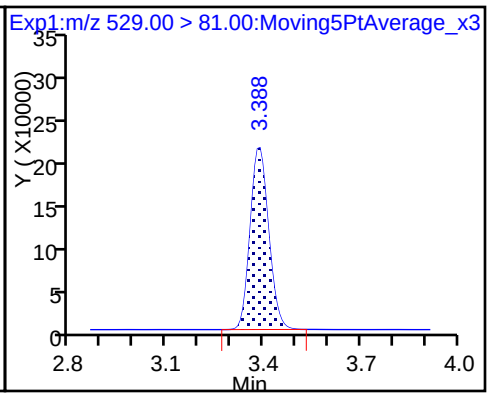
D 21 13C8 FOSA



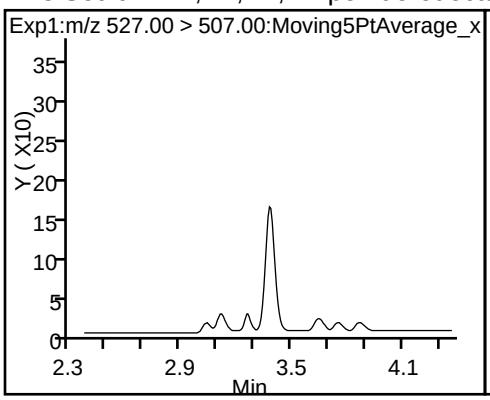
22 Perfluorooctane Sulfonamide



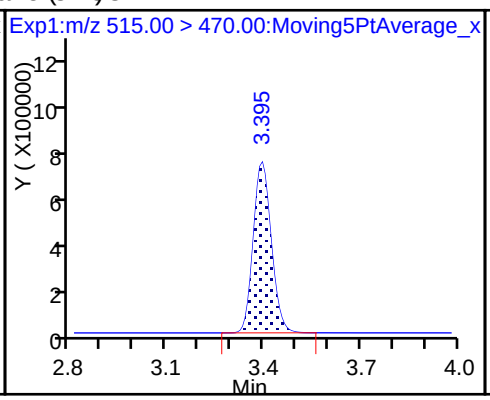
D 26 M2-8:2FTS



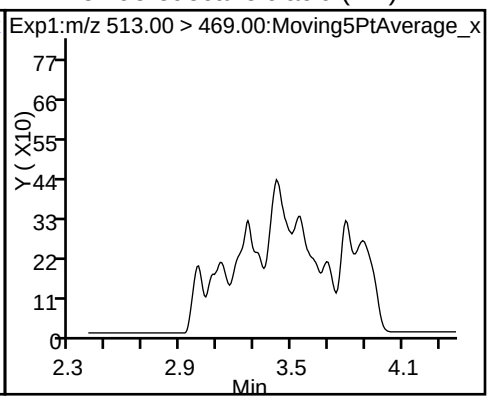
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



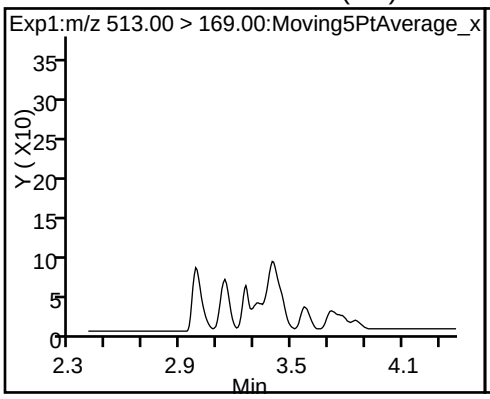
D 13C2 PFDA



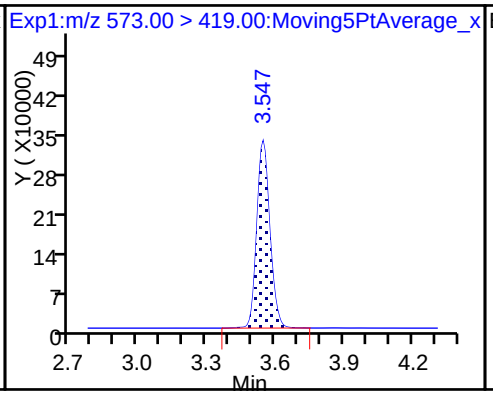
24 Perfluorodecanoic acid (ND)



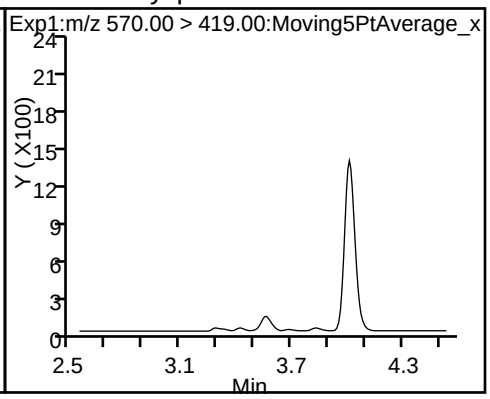
24 Perfluorodecanoic acid (ND)



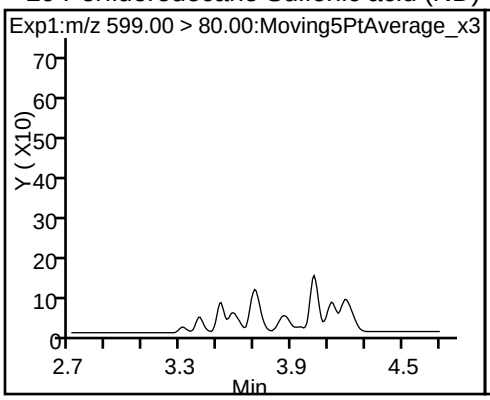
D 27 d3-NMeFOSAA



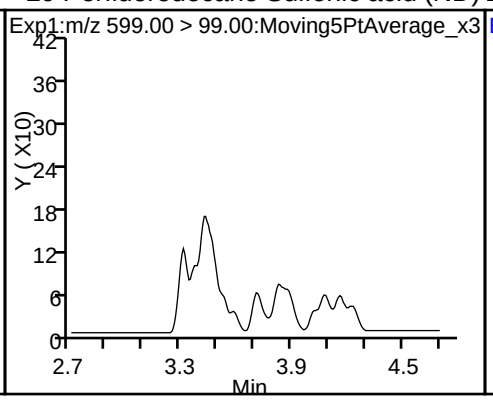
28 N-methyl perfluorooctane sulfonami (ND)



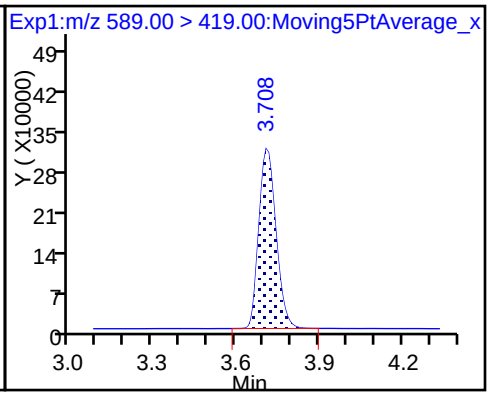
29 Perfluorodecane Sulfonic acid (ND)



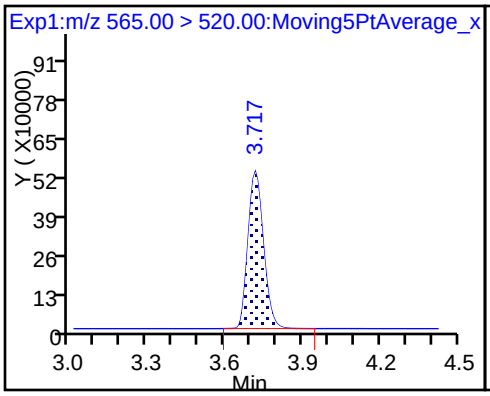
29 Perfluorodecane Sulfonic acid (ND)



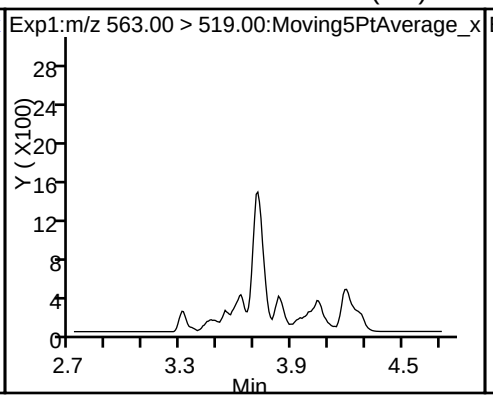
D 32 d5-NEtFOSAA



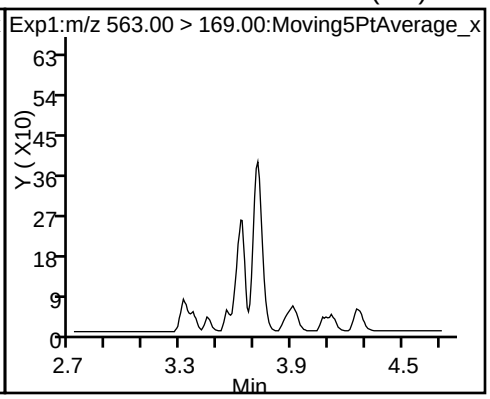
D 30 13C2 PFUnA



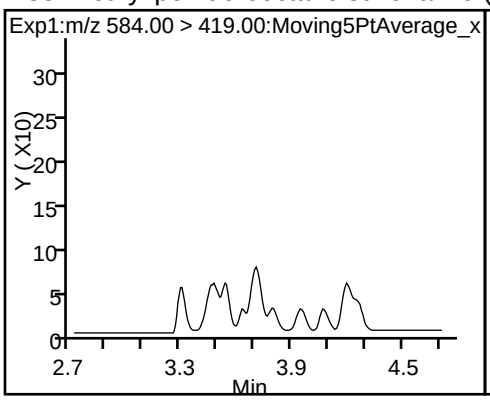
31 Perfluoroundecanoic acid (ND)



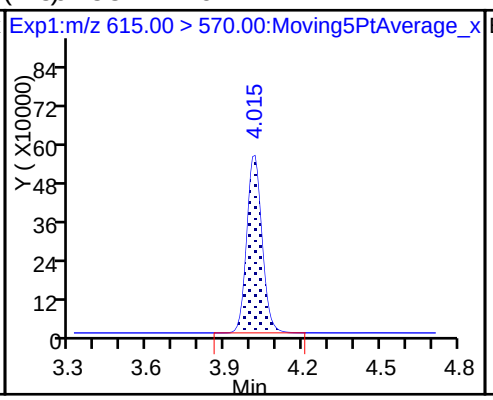
31 Perfluoroundecanoic acid (ND)



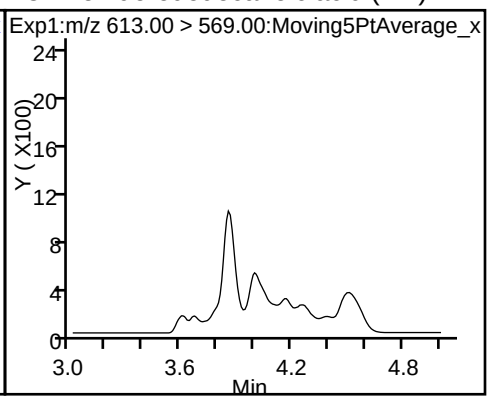
33 N-ethyl perfluorooctane sulfonamid (ND)



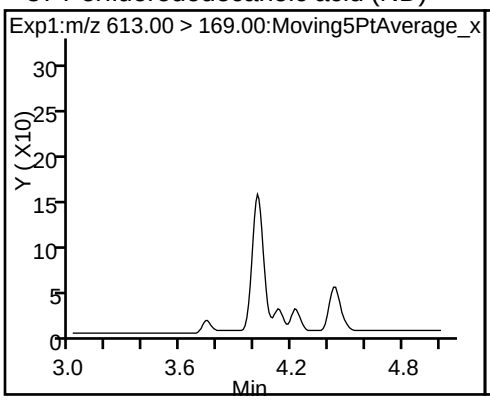
D 36 13C2 PFDoA



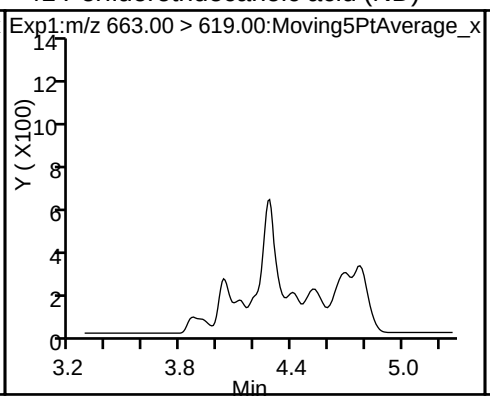
37 Perfluorododecanoic acid (ND)



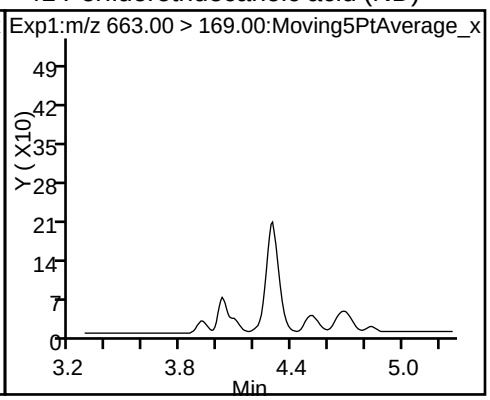
37 Perfluorododecanoic acid (ND)



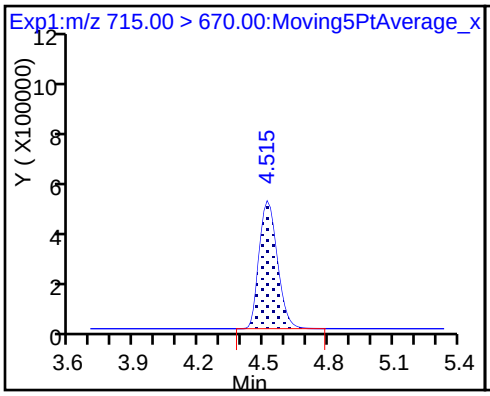
41 Perfluorotridecanoic acid (ND)



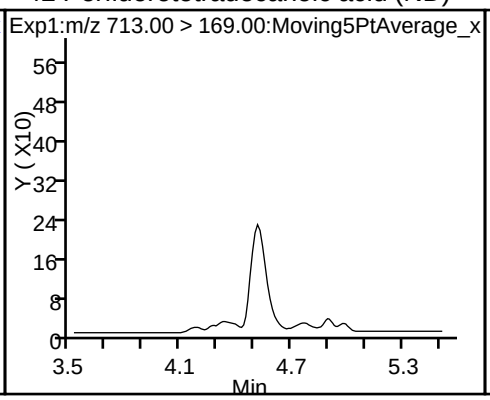
41 Perfluorotridecanoic acid (ND)



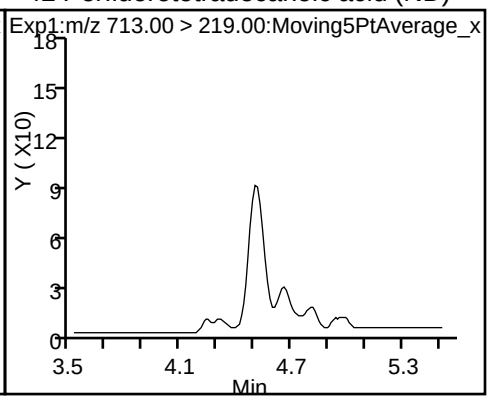
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

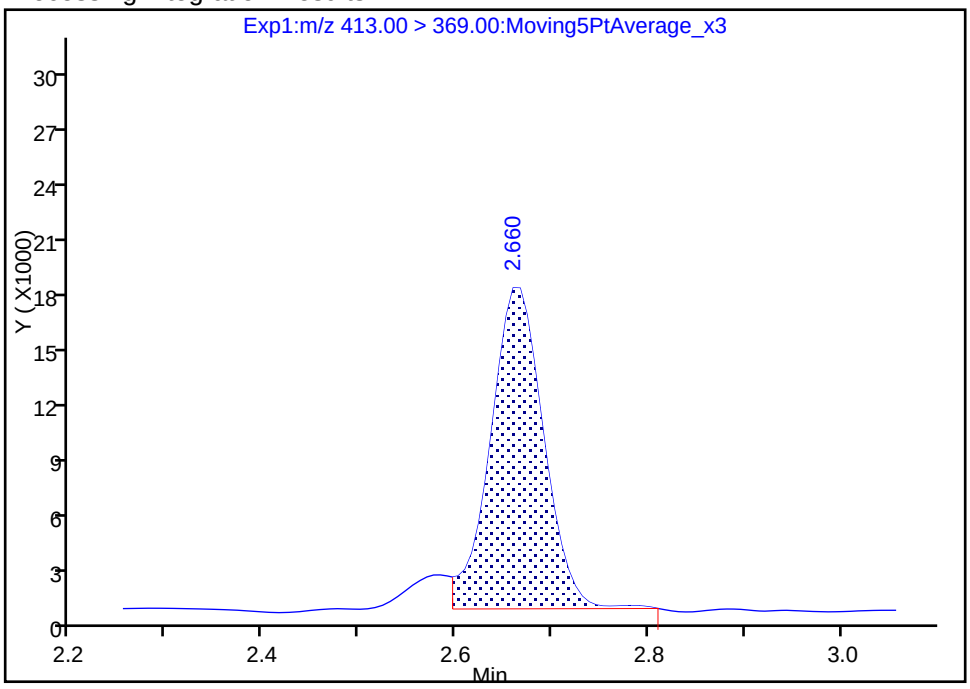
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_027.d				
Injection Date:	23-Dec-2017 01:00:21	Instrument ID:	A8_N		
Lims ID:	320-34425-A-14-A	Lab Sample ID:	320-34425-14		
Client ID:	FM-32-80-944-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	21	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

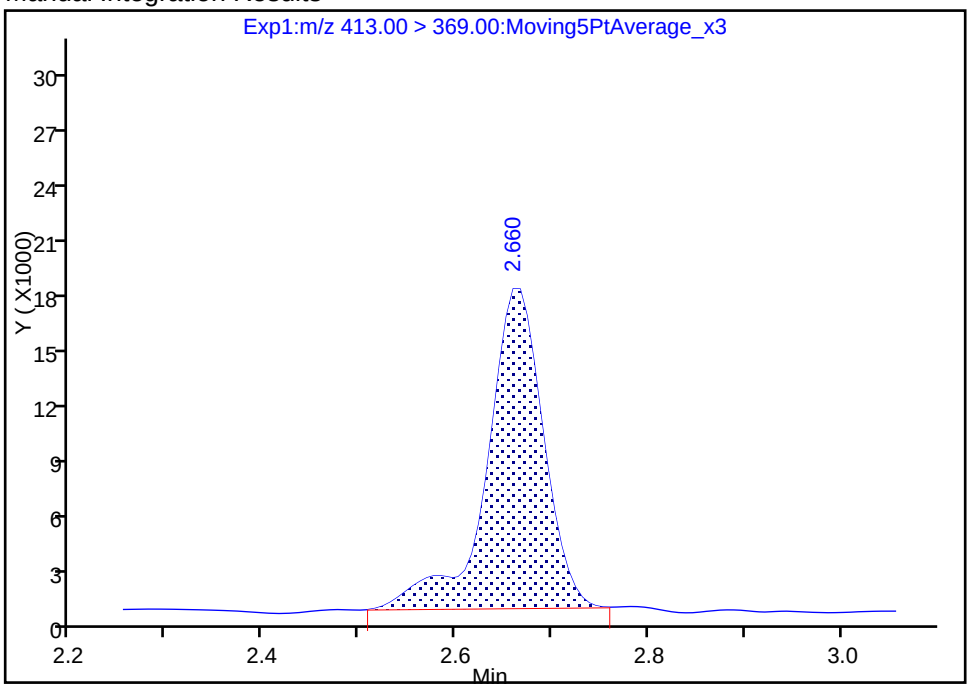
Processing Integration Results

RT: 2.66
Area: 66616
Amount: 0.033623
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 71227
Amount: 0.035951
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:54:20
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

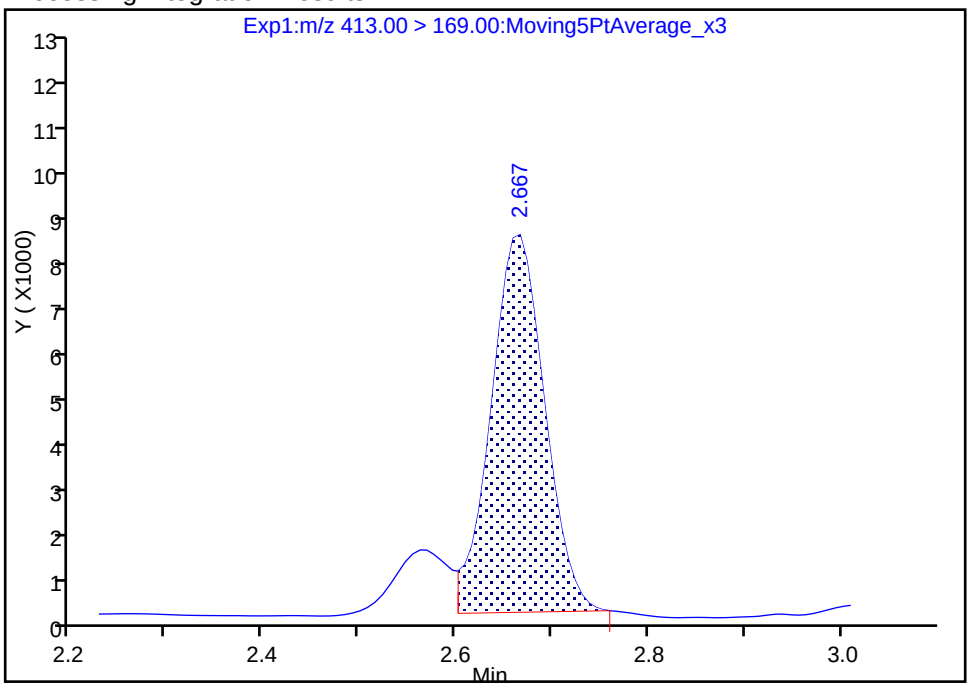
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_027.d				
Injection Date:	23-Dec-2017 01:00:21	Instrument ID:	A8_N		
Lims ID:	320-34425-A-14-A	Lab Sample ID:	320-34425-14		
Client ID:	FM-32-80-944-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	21	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

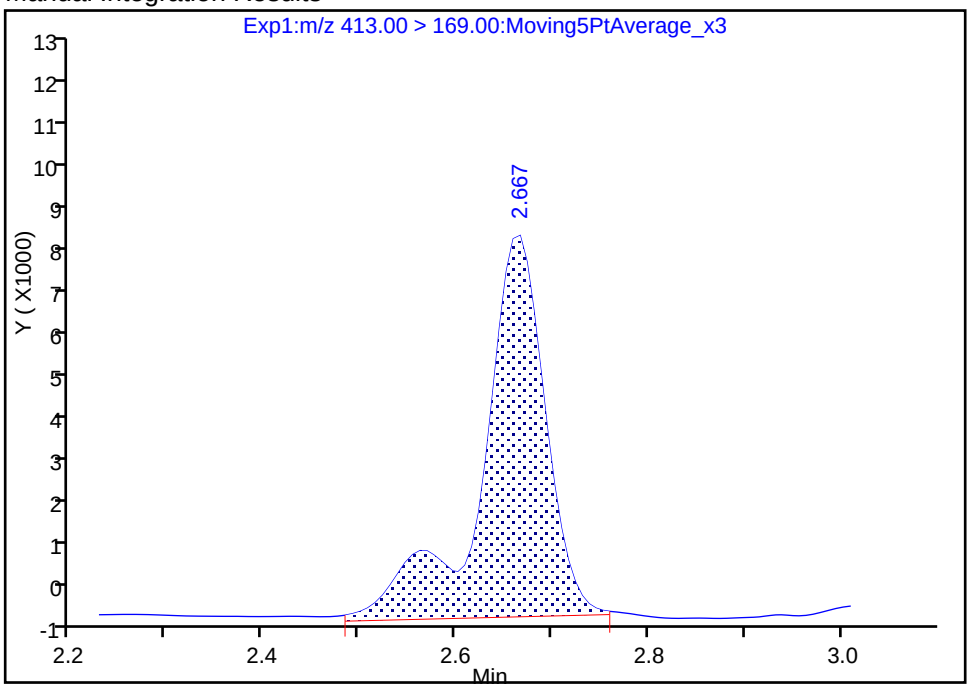
Processing Integration Results

RT: 2.67
Area: 30075
Amount: 0.033623
Amount Units: ng/ml



Manual Integration Results

RT: 2.67
Area: 36707
Amount: 0.035951
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:54:33
Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-070-944-171213 | Lab Sample ID: 320-34425-15

Matrix: Water | Lab File ID: 2017.12.22LLB_028.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 07:40

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 242.6(mL) | Date Analyzed: 12/23/2017 01:08

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.40	J	2.06	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.50	U	2.06	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	0.60	U	2.06	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.26	U	2.06	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	2.11		2.06	0.88
375-95-1	Perfluorononanoic acid (PFNA)	0.74	J	2.06	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.06	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.13	U	2.06	1.13
307-55-1	Perfluorododecanoic acid (PFDoA)	0.57	U	2.06	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.06	1.34
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.06	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.40	J	2.06	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.41	B	2.06	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.06	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	5.31		2.06	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.06	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.06	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.19	U	20.6	3.19
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.6	1.96
27619-97-2	6:2FTS	2.06	U	20.6	2.06
39108-34-4	8:2FTS	2.06	U	20.6	2.06

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-070-944-171213 | Lab Sample ID: 320-34425-15

Matrix: Water | Lab File ID: 2017.12.22LLB_028.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 07:40

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 242.6(mL) | Date Analyzed: 12/23/2017 01:08

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	102		25-150
STL01893	13C5 PFPeA	105		25-150
STL00993	13C2 PFHxA	103		25-150
STL01892	13C4-PFHpA	106		25-150
STL00990	13C4 PFOA	96		25-150
STL00995	13C5 PFNA	101		25-150
STL00996	13C2 PFDA	101		25-150
STL00997	13C2 PFUnA	97		25-150
STL00998	13C2 PFDoA	92		25-150
STL02116	13C2-PFTeDA	116		25-150
STL02337	13C3-PFBS	105		25-150
STL00994	18O2 PFHxS	105		25-150
STL00991	13C4 PFOS	101		25-150
STL01056	13C8 FOSA	93		25-150
STL02118	d3-NMeFOSAA	81		25-150
STL02117	d5-NEtFOSAA	83		25-150
STL02279	M2-6:2FTS	41		25-150
STL02280	M2-8:2FTS	77		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_028.d
Lims ID: 320-34425-A-15-A
Client ID: FM-32-070-944-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 01:08:14 ALS Bottle#: 22 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-15-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:19 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:56:31

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.534	7323102	2.55		102	18921	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.004	91275	0.0340			22.1	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.628	4501586	2.62		105	40681	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.670	0.002	1.000	6576	0.003272			6.6	
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.705	0.002	0.642	89549	2.45		105	2359	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.005	28310	0.009771			80.2	
298.90 > 99.00	1.716	1.707	0.009	1.005	12565		2.25(1.25-3.74)		66.2	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.739	4702423	2.57		103	42362	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.955	1.956	-0.001	0.995	6814	0.003618			10.5	M
313.00 > 119.00	1.965	1.956	0.009	1.000	790		8.63(5.03-15.10)		14.4	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.862	4501288	2.65		106	38989	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.291	0.015	1.006	8560	0.004545			12.4	
363.00 > 169.00	2.306	2.291	0.015	1.006	4849		1.77(1.13-3.40)		37.5	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	0.994	259289	0.1069			453	
399.00 > 99.00	2.306	2.304	0.002	0.994	86167		3.01(1.50-4.49)		308	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	5328197	2.49		105	48831	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.642	-0.004	1.003	8406	0.0166			208	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.989	775558	0.9817		41.3	14581	
D 14 13C4 PFOA										
417.00 > 372.00	2.660	2.654	0.006	1.000	4704090	2.41		96.5	42247	
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.656	0.004		4719778	2.50			46158	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.660	2.656	0.004	1.000	101127	0.0511			173	M
413.00 > 169.00	2.660	2.656	0.004	1.000	58200		1.74(0.84-2.52)		420	M
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.138	3396026	2.40		101	26784	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.026	3.028	-0.002	1.000	194200	0.1289			21.4	
499.00 > 99.00	3.026	3.028	-0.002	1.000	42915		4.53(2.31-6.93)		28.4	
D 19 13C5 PFNA										
468.00 > 423.00	3.026	3.028	-0.002	1.138	3506682	2.53		101	43463	
20 Perfluorononanoic acid										
463.00 > 419.00	3.026	3.029	-0.003	1.000	25295	0.0179			96.9	
463.00 > 169.00	3.026	3.029	-0.003	1.000	4912		5.15(1.90-5.69)		85.8	
D 21 13C8 FOSA										
506.00 > 78.00	3.372	3.370	0.002	1.268	4471012	2.32		93.0	24965	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.372	0.008	1.002	11637	0.006784			384	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.377	0.003	1.271	813491	1.84		76.9	14243	
D 23 13C2 PFDA										
515.00 > 470.00	3.387	3.389	-0.002	1.274	2892035	2.53		101	39826	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.539	3.543	-0.004	1.331	1237218	2.02		80.7	18338	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.394	1237450	2.07		82.6	7975	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.397	2112636	2.43		97.1	31756	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.011	-0.004	1.507	2168199	2.31		92.4	30316	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.698	3049035	2.91		116	25290	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:44 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_028.d

Injection Date: 23-Dec-2017 01:08:14 Instrument ID: A8_N

Lims ID: 320-34425-A-15-A Lab Sample ID: 320-34425-15

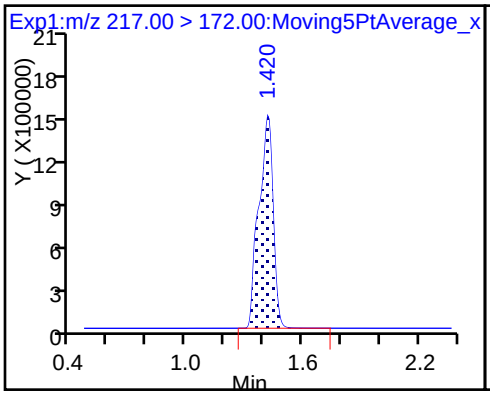
Client ID: FM-32-070-944-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 22 Worklist Smp#: 20

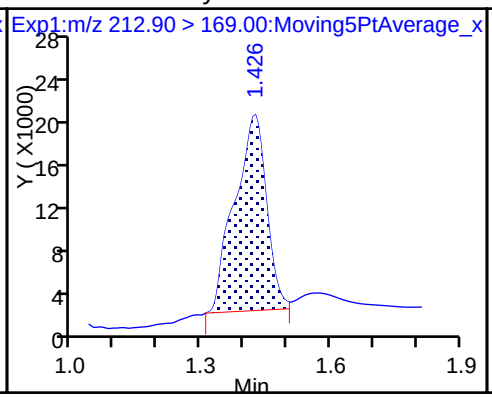
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

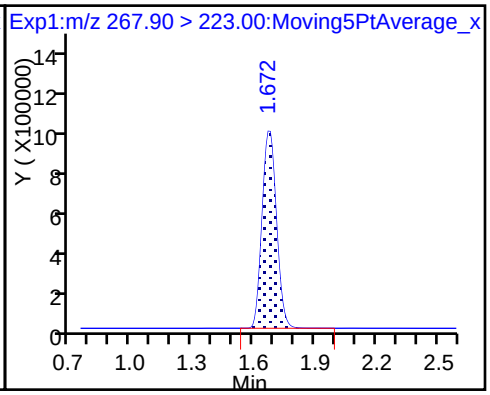
D 1 13C4 PFBA



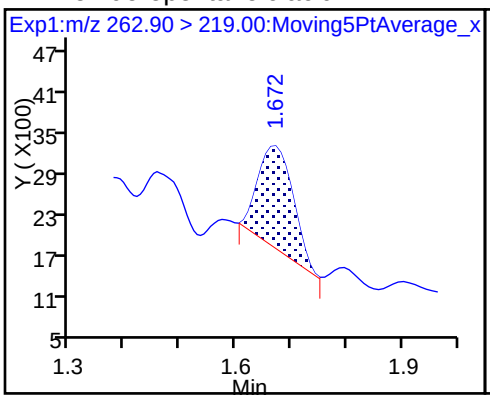
2 Perfluorobutyric acid



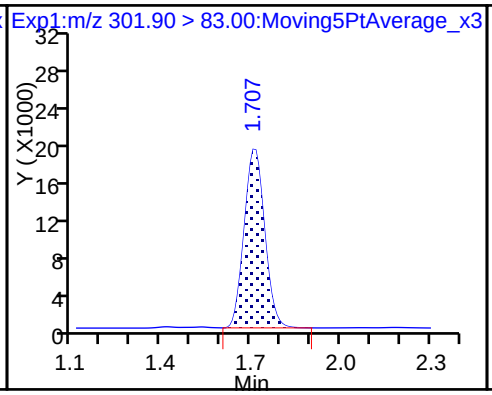
D 3 13C5-PFPeA



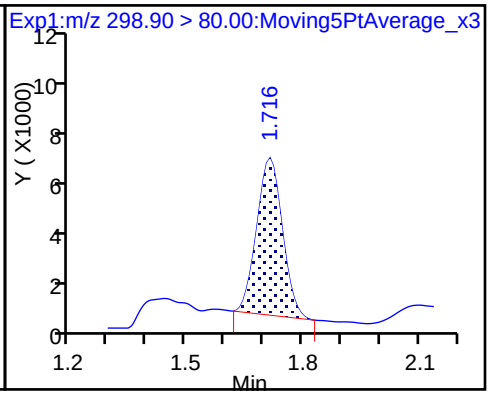
4 Perfluoropentanoic acid



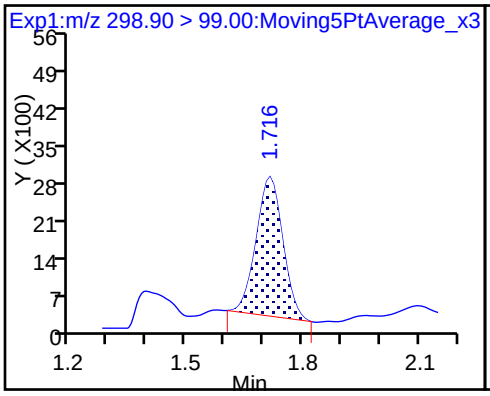
D 47 13C3-PFBS



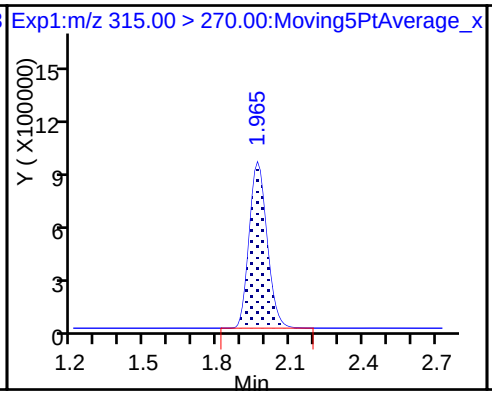
5 Perfluorobutanesulfonic acid



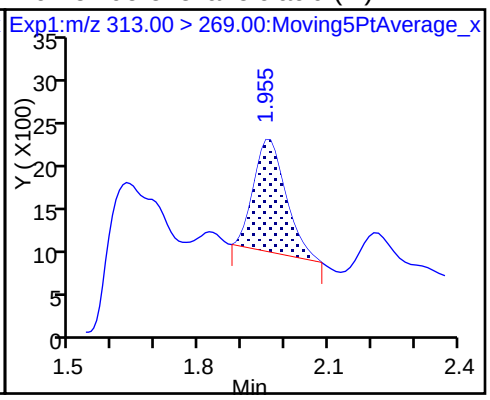
5 Perfluorobutanesulfonic acid



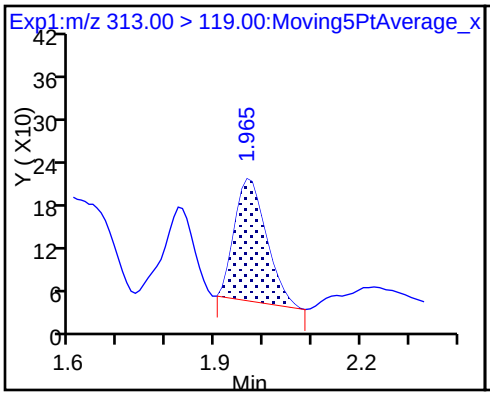
D 7 13C2 PFHxA



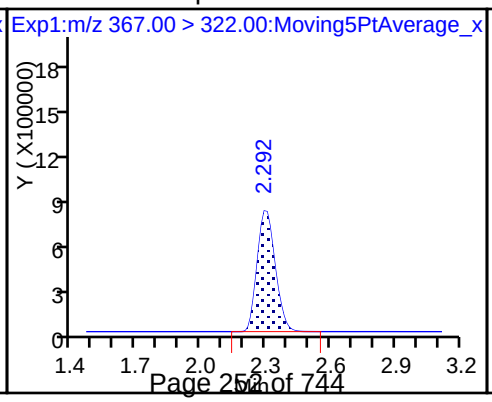
6 Perfluorohexanoic acid (M)



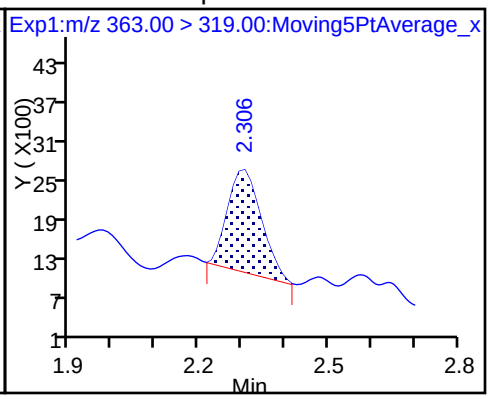
6 Perfluorohexanoic acid



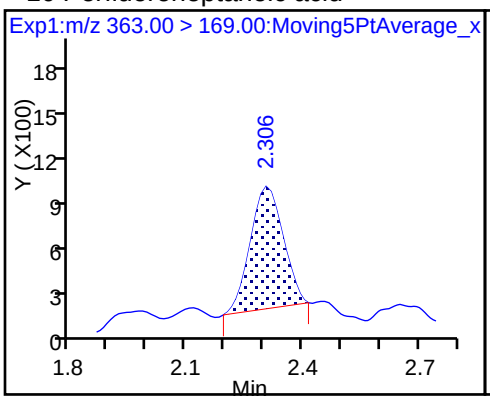
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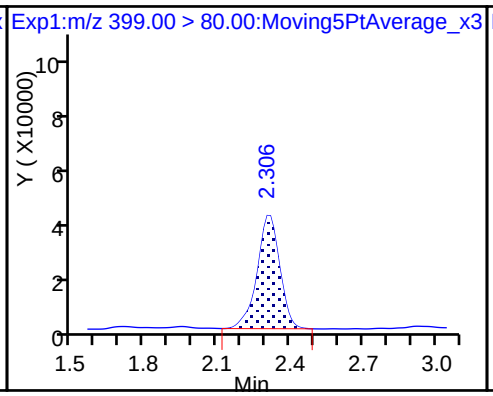
10 Perfluoroheptanoic acid



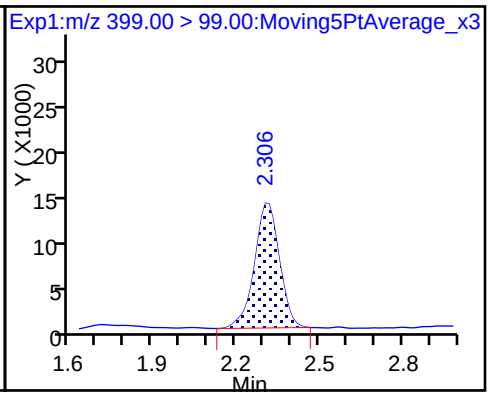
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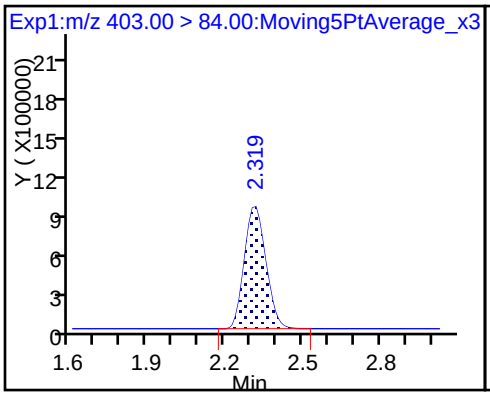
8 Perfluorohexanesulfonic acid



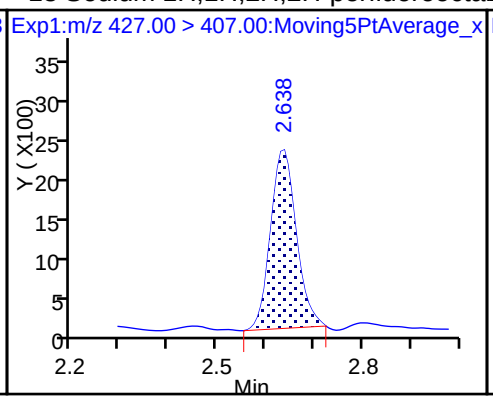
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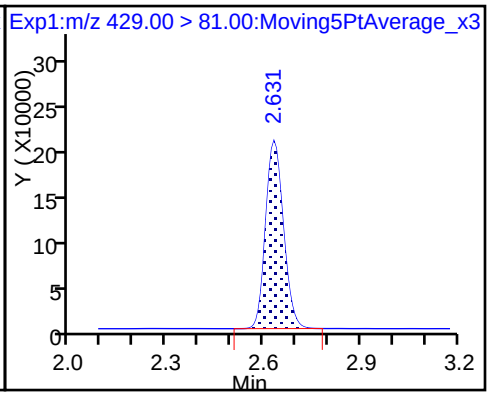
D 11 18O2 PFHxS



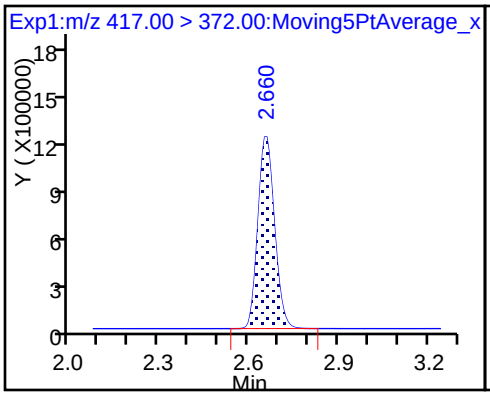
13 Sodium 1H,1H,2H,2H-perfluorooctane



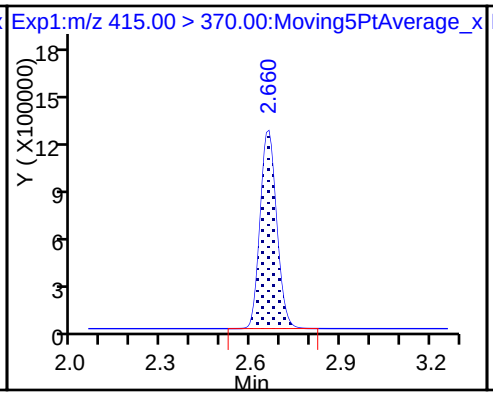
D 12 M2-6:2FTS



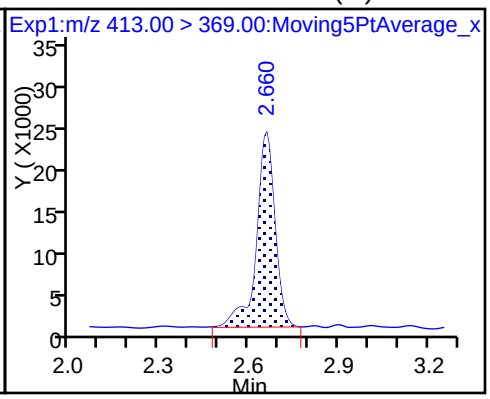
D 14 13C4 PFOA



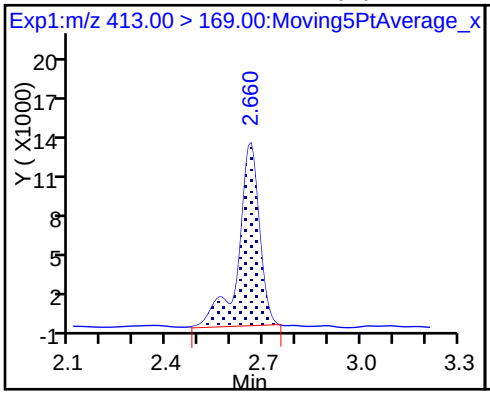
* 62 13C2-PFOA



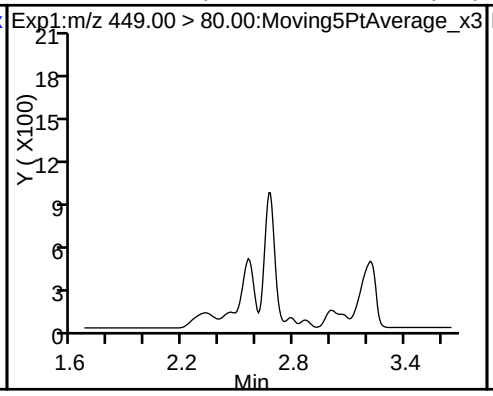
15 Perfluorooctanoic acid (M)



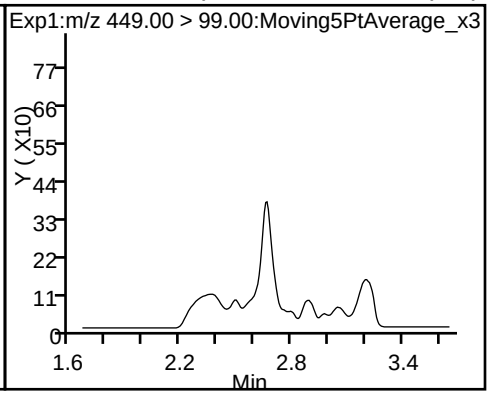
15 Perfluorooctanoic acid (M)



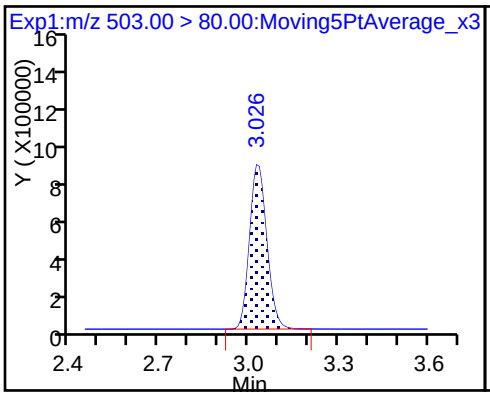
16 Perfluoroheptanesulfonic Acid (ND)



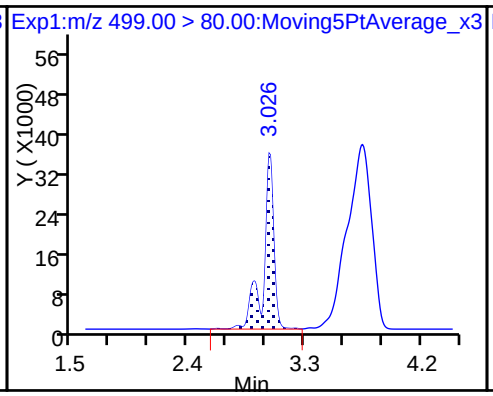
16 Perfluoroheptanesulfonic Acid (ND)



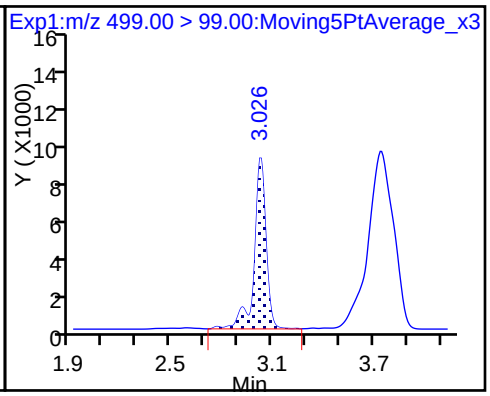
D 18 13C4 PFOS



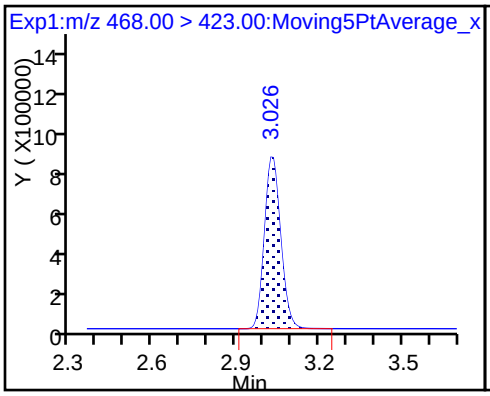
17 Perfluorooctane sulfonic acid



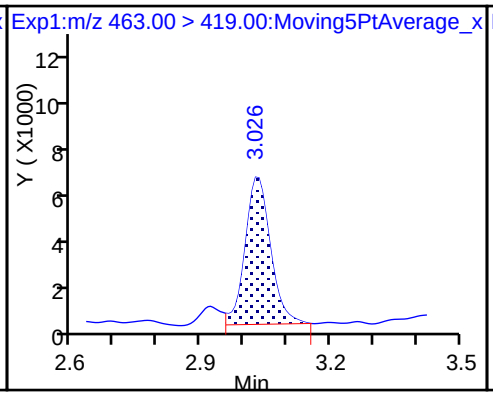
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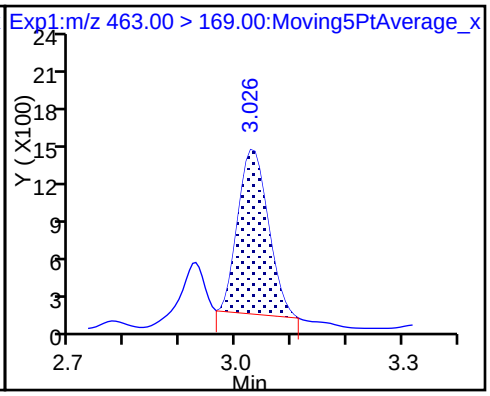
D 19 13C5 PFNA



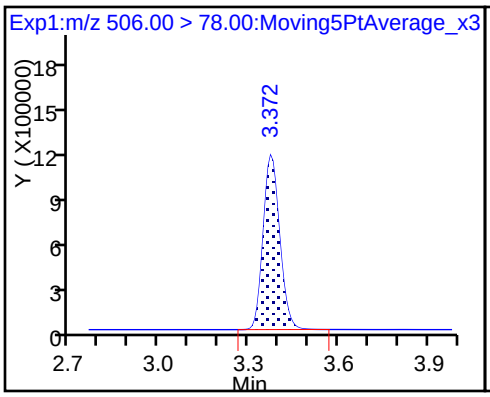
20 Perfluorononanoic acid



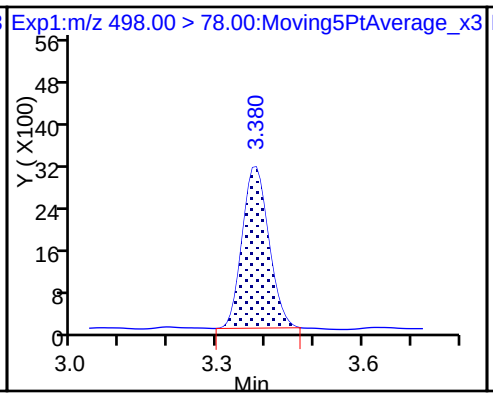
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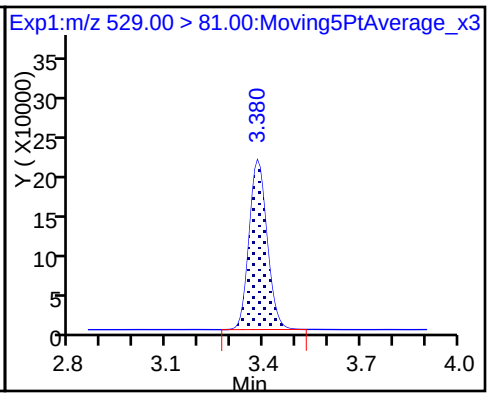
D 21 13C8 FOSA



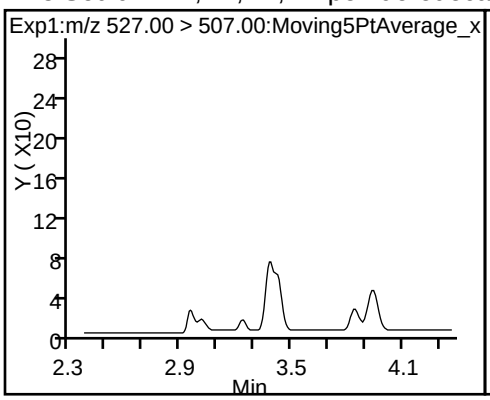
22 Perfluorooctane Sulfonamide



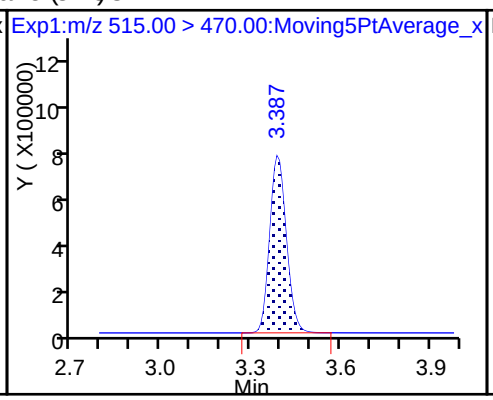
D 26 M2-8:2FTS



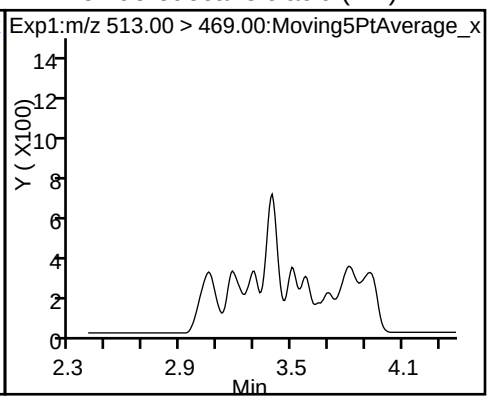
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



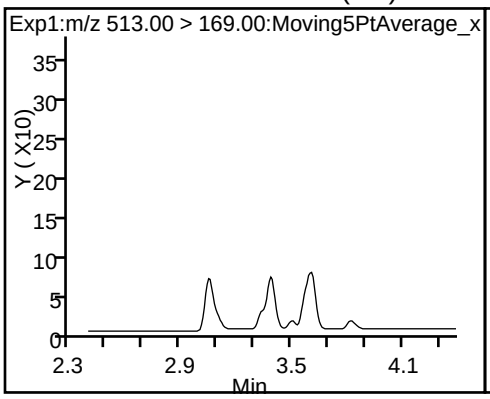
D 23 13C2 PFDA



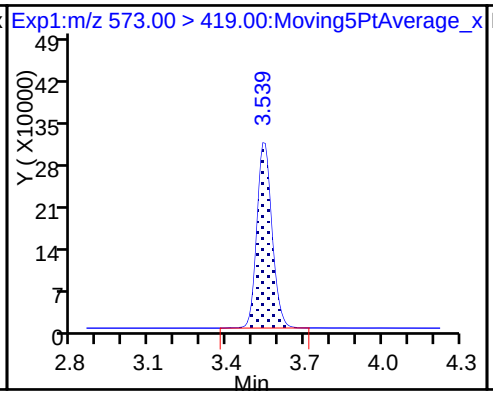
24 Perfluorodecanoic acid (ND)



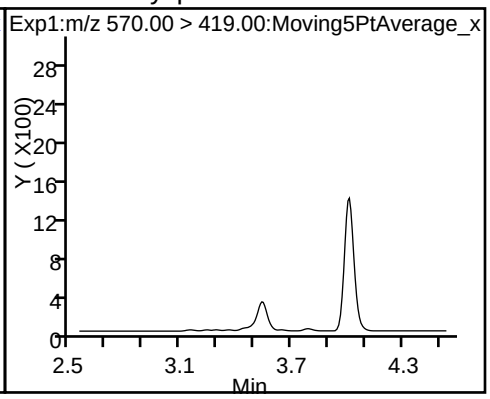
24 Perfluorodecanoic acid (ND)



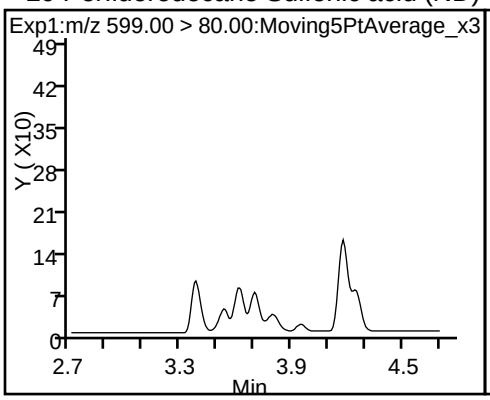
D 27 d3-NMeFOSAA



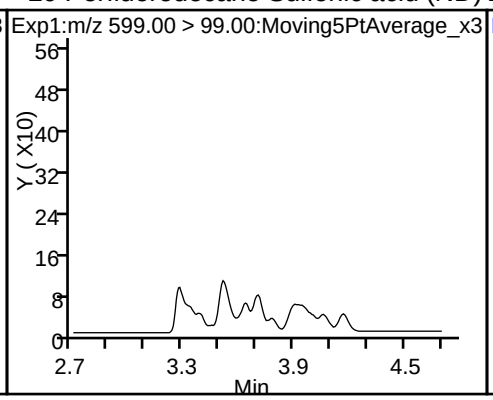
28 N-methyl perfluorooctane sulfonami (ND)



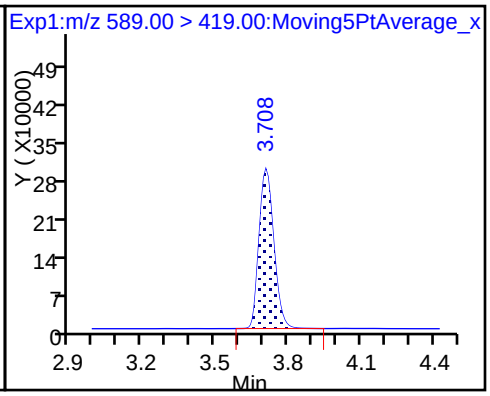
29 Perfluorodecane Sulfonic acid (ND)



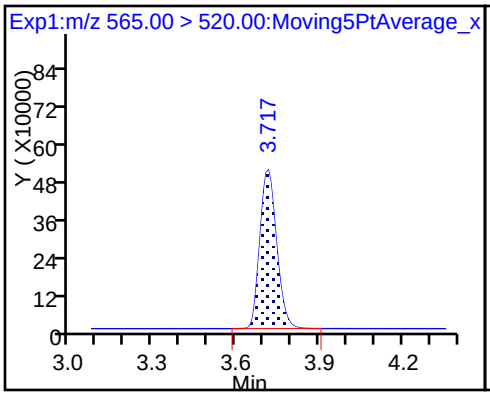
29 Perfluorodecane Sulfonic acid (ND)



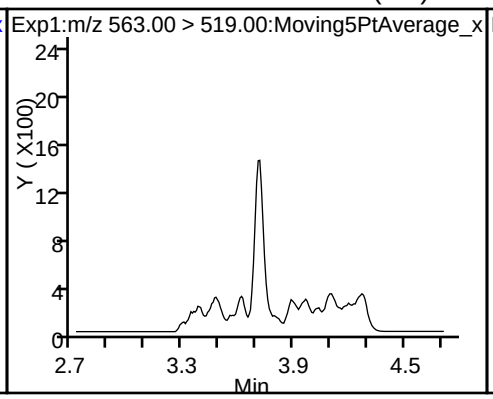
D 32 d5-NEtFOSAA



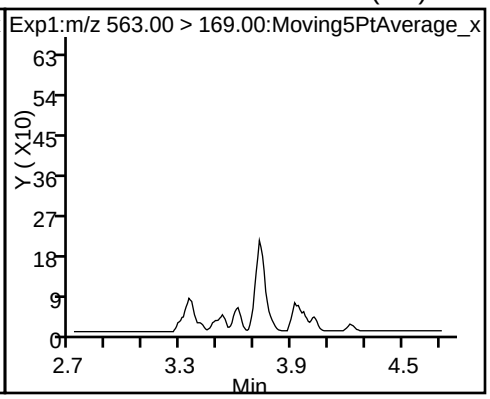
D 30 13C2 PFUnA



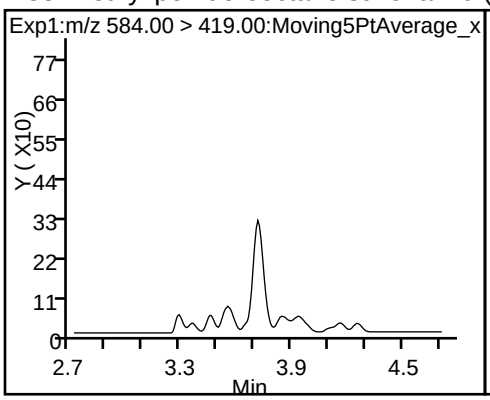
31 Perfluoroundecanoic acid (ND)



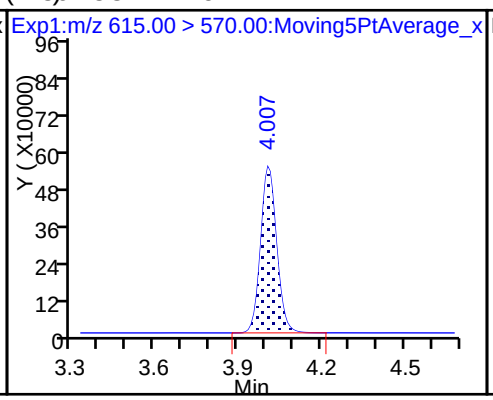
31 Perfluoroundecanoic acid (ND)



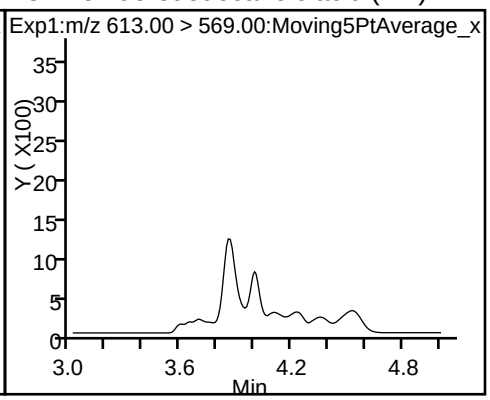
33 N-ethyl perfluorooctane sulfonamid (ND)



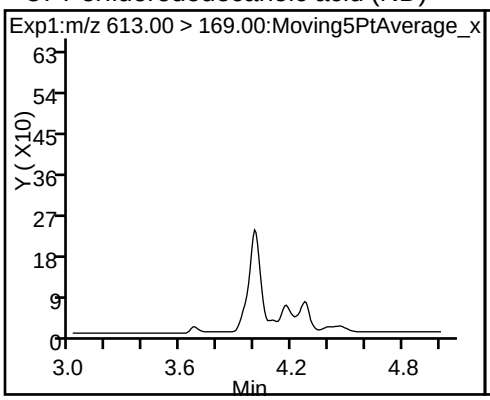
D 36 13C2 PFDoA



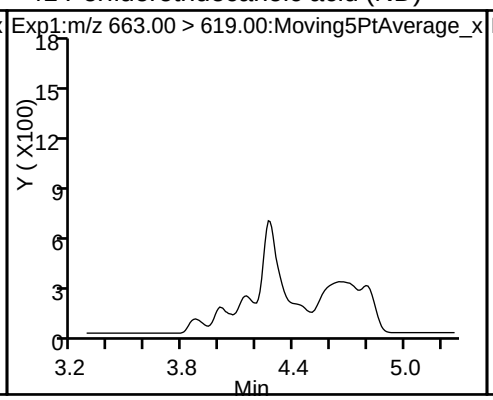
37 Perfluorododecanoic acid (ND)



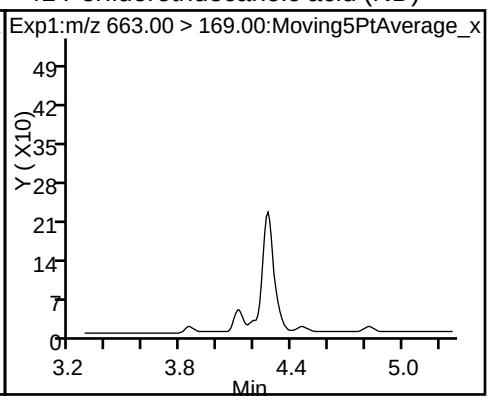
37 Perfluorododecanoic acid (ND)



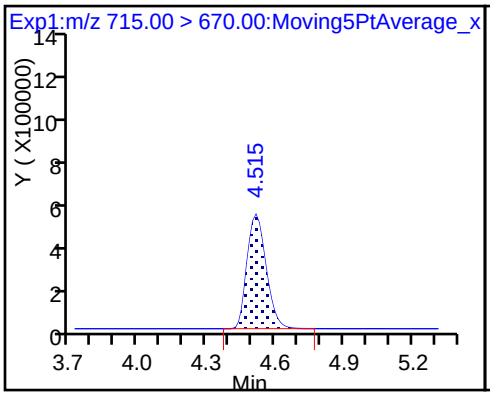
41 Perfluorotridecanoic acid (ND)



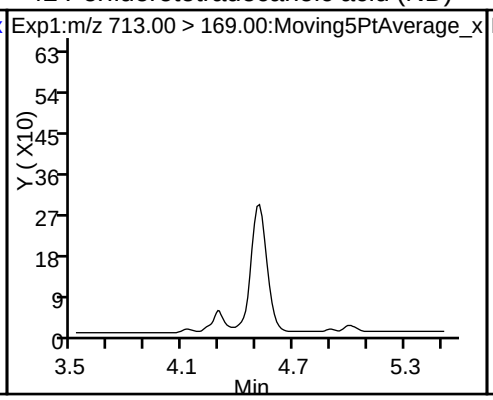
41 Perfluorotridecanoic acid (ND)



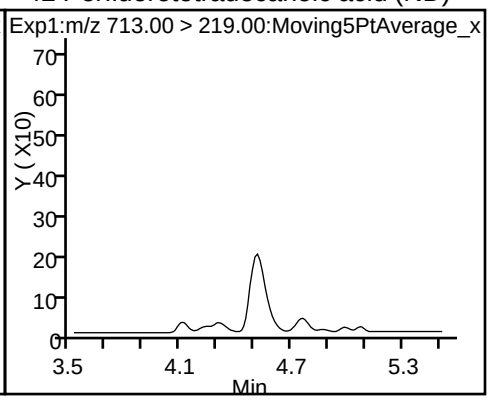
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

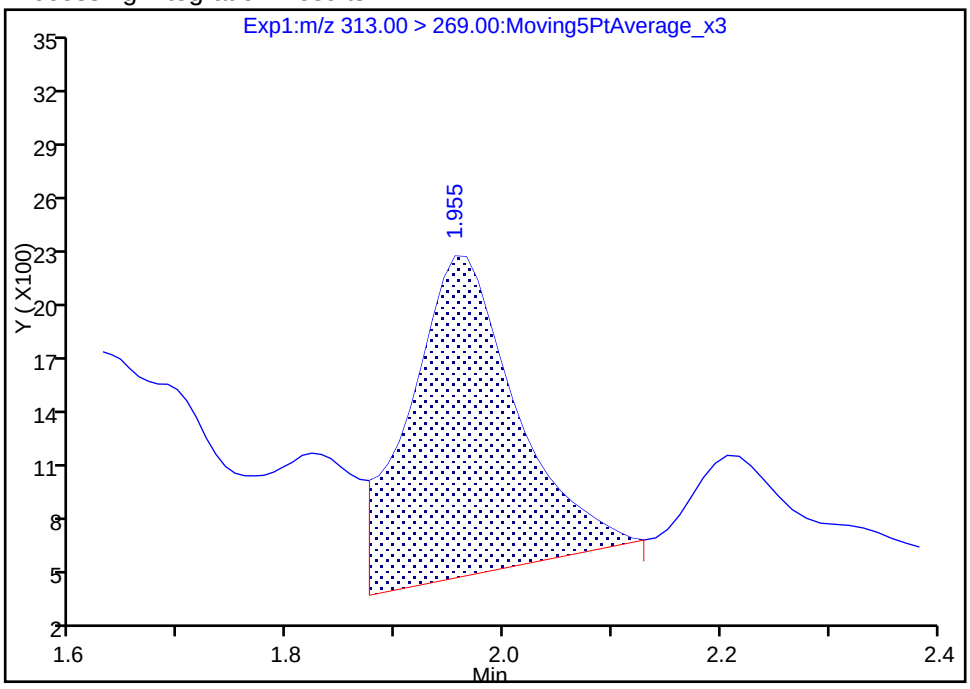
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_028.d				
Injection Date:	23-Dec-2017 01:08:14	Instrument ID:	A8_N		
Lims ID:	320-34425-A-15-A	Lab Sample ID:	320-34425-15		
Client ID:	FM-32-070-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

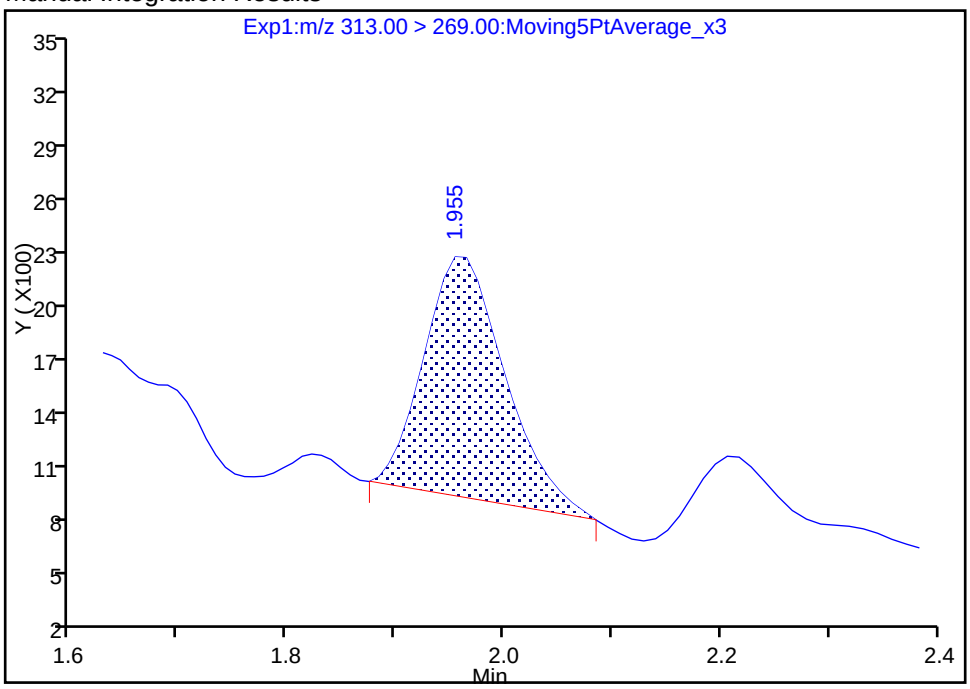
Processing Integration Results

RT: 1.95
Area: 11999
Amount: 0.006372
Amount Units: ng/ml



Manual Integration Results

RT: 1.95
Area: 6814
Amount: 0.003618
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:55:28
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

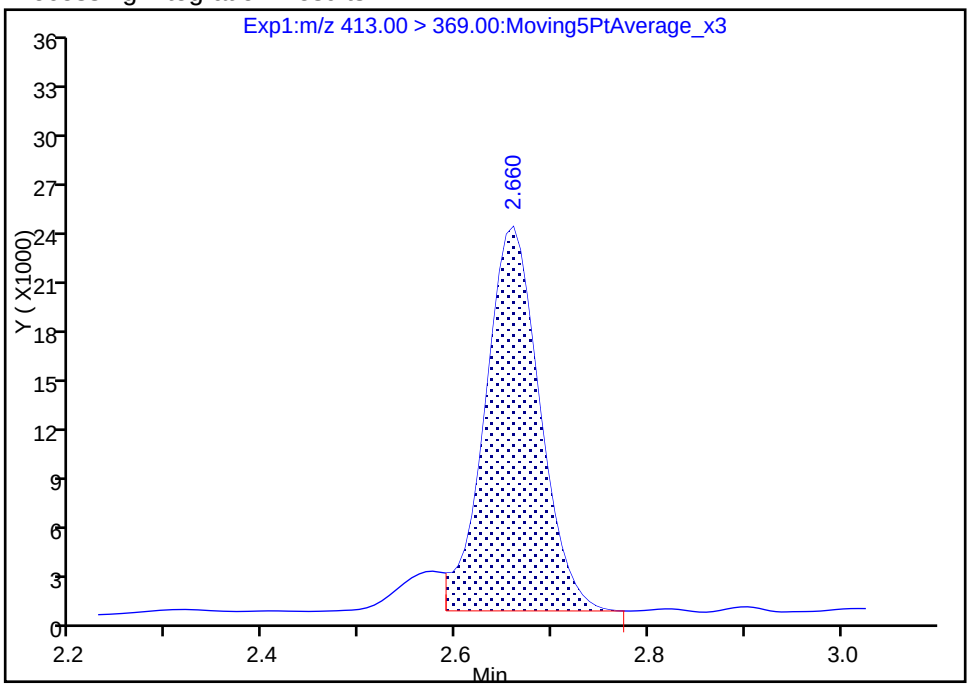
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_028.d				
Injection Date:	23-Dec-2017 01:08:14	Instrument ID:	A8_N		
Lims ID:	320-34425-A-15-A	Lab Sample ID:	320-34425-15		
Client ID:	FM-32-070-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

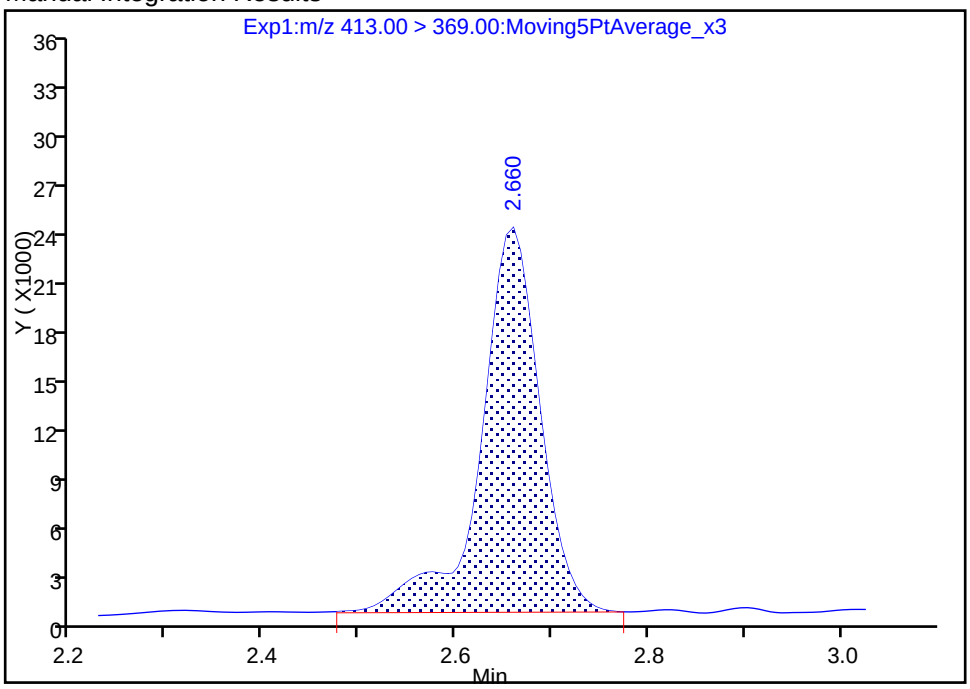
Processing Integration Results

RT: 2.66
Area: 92552
Amount: 0.046772
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 101127
Amount: 0.051106
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:55:58
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

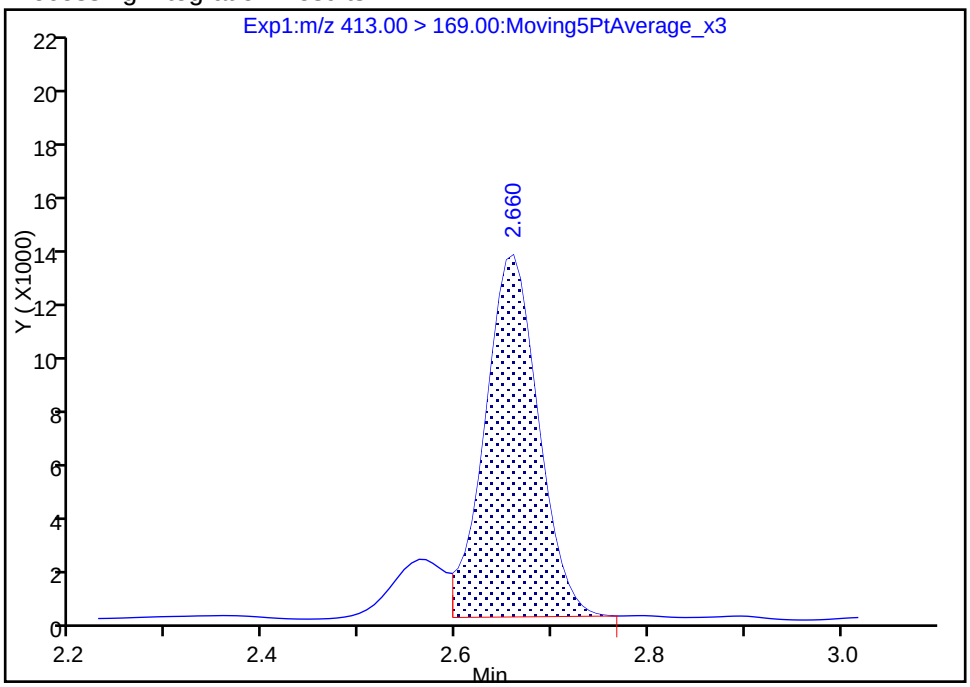
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_028.d				
Injection Date:	23-Dec-2017 01:08:14	Instrument ID:	A8_N		
Lims ID:	320-34425-A-15-A	Lab Sample ID:	320-34425-15		
Client ID:	FM-32-070-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	22	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

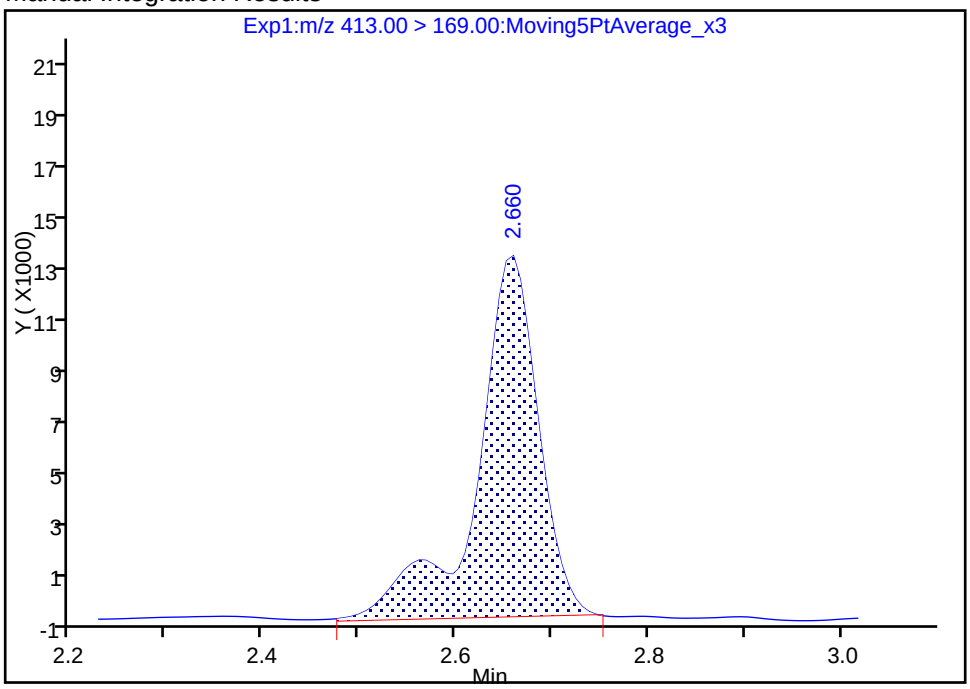
Processing Integration Results

RT: 2.66
Area: 50170
Amount: 0.046772
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 58200
Amount: 0.051106
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:56:05

Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-060-944-171213 | Lab Sample ID: 320-34425-16

Matrix: Water | Lab File ID: 2017.12.22LLB_029.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 08:30

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 256.6(mL) | Date Analyzed: 12/23/2017 01:16

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.07	J	1.95	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.55	J	1.95	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	1.03	J	1.95	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.92	J	1.95	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	1.72	J	1.95	0.83
375-95-1	Perfluorononanoic acid (PFNA)	0.86	J	1.95	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.30	U	1.95	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.07	U	1.95	1.07
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.95	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.27	U	1.95	1.27
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.95	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.41	J	1.95	0.19
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.23	B	1.95	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.95	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	4.64		1.95	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.95	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.95	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.02	U	19.5	3.02
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.85	U	19.5	1.85
27619-97-2	6:2FTS	1.95	U	19.5	1.95
39108-34-4	8:2FTS	1.95	U	19.5	1.95

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-060-944-171213 | Lab Sample ID: 320-34425-16

Matrix: Water | Lab File ID: 2017.12.22LLB_029.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 08:30

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 256.6(mL) | Date Analyzed: 12/23/2017 01:16

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	99		25-150
STL01893	13C5 PFPeA	110		25-150
STL00993	13C2 PFHxA	102		25-150
STL01892	13C4-PFHpA	105		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	102		25-150
STL00996	13C2 PFDA	101		25-150
STL00997	13C2 PFUnA	95		25-150
STL00998	13C2 PFDoA	93		25-150
STL02116	13C2-PFTeDA	117		25-150
STL02337	13C3-PFBS	100		25-150
STL00994	18O2 PFHxS	104		25-150
STL00991	13C4 PFOS	100		25-150
STL01056	13C8 FOSA	94		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	87		25-150
STL02279	M2-6:2FTS	41		25-150
STL02280	M2-8:2FTS	77		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_029.d
Lims ID: 320-34425-A-16-A
Client ID: FM-32-060-944-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 01:16:04 ALS Bottle#: 23 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-16-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:19 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:58:22

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	6869779	2.48		99.4	19365	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	69135	0.0275			17.2	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4539737	2.74		110	64861	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.672	1.670	0.002	0.995	28824	0.0142			24.1	M
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.645	81912	2.32		99.8	2322	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	28215	0.0106			65.8	
298.90 > 99.00	1.716	1.707	0.009	1.000	12578		2.24(1.25-3.74)		57.1	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.739	4499470	2.55		102	35967	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.965	1.956	0.009	1.000	47691	0.0265			79.3	M
313.00 > 119.00	1.965	1.956	0.009	1.000	4643		10.27(5.03-15.10)		77.9	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.862	4294112	2.63		105	33222	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.306	2.291	0.015	1.006	42199	0.0235			63.7	M
363.00 > 169.00	2.306	2.291	0.015	1.006	19701		2.14(1.13-3.40)		155	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.319	2.304	0.015	1.000	251004	0.1087			388	
399.00 > 99.00	2.319	2.304	0.015	1.000	79543		3.16(1.50-4.49)		265	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	5075380	2.46		104	54796	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.637	2.642	-0.005	1.000	8288	0.0173			207	
D 12 M2-6:2FTS										
429.00 > 81.00	2.637	2.642	-0.005	0.992	735768	0.9658		40.7	12810	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	4546906	2.42		96.7	40733	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4550960	2.50			41216	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.659	2.656	0.003	1.000	84507	0.0442			127	M
413.00 > 169.00	2.659	2.656	0.003	1.000	50892		1.66(0.84-2.52)		342	M
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.141	3270426	2.40		100	30465	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	172764	0.1191			18.6	
499.00 > 99.00	3.032	3.028	0.004	1.000	40569		4.26(2.31-6.93)		25.7	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.141	3417240	2.56		102	45115	
20 Perfluorononanoic acid										
463.00 > 419.00	3.032	3.029	0.003	1.000	30486	0.0222			135	
463.00 > 169.00	3.040	3.029	0.011	1.003	7119		4.28(1.90-5.69)		132	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.270	4346621	2.34		93.7	26068	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	9593	0.005752			321	
D 26 M2-8:2FTS										
529.00 > 81.00	3.385	3.377	0.008	1.273	788551	1.85		77.4	12729	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2783554	2.53		101	31621	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1206690	2.04		81.6	17824	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.714	3.712	0.002	1.397	1261435	2.18		87.3	7234	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.397	1985126	2.37		94.6	29783	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	2099361	2.32		92.8	35629	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.698	2962075	2.93		117	28473	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:46 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_029.d

Injection Date: 23-Dec-2017 01:16:04 Instrument ID: A8_N

Lims ID: 320-34425-A-16-A Lab Sample ID: 320-34425-16

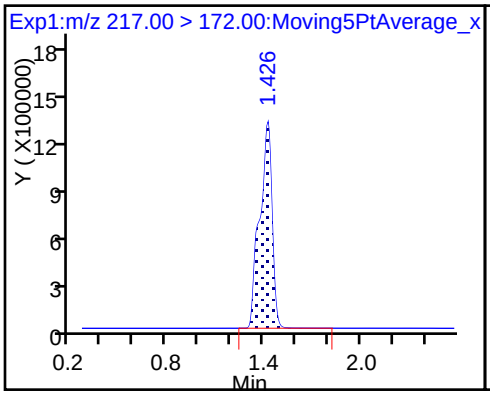
Client ID: FM-32-060-944-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 23 Worklist Smp#: 21

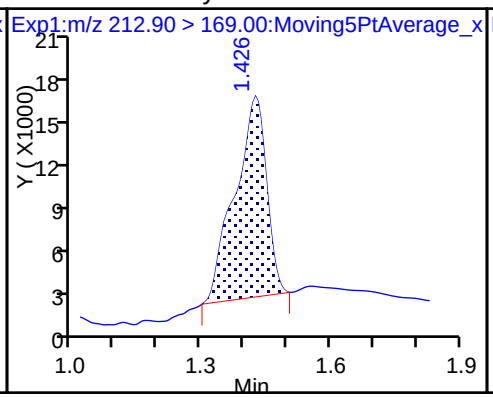
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

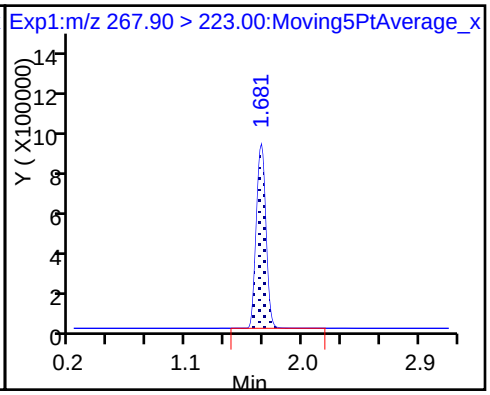
D 1 13C4 PFBA



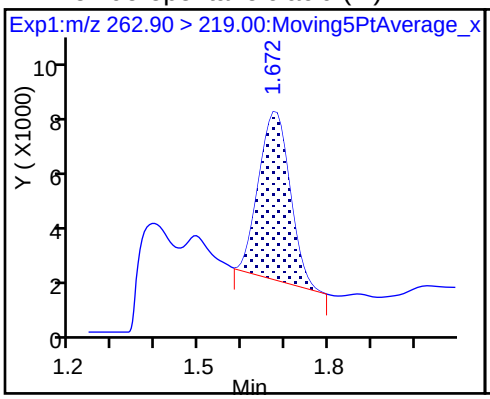
2 Perfluorobutyric acid



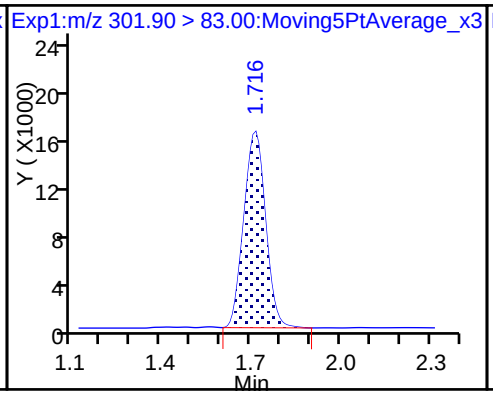
D 3 13C5-PFPeA



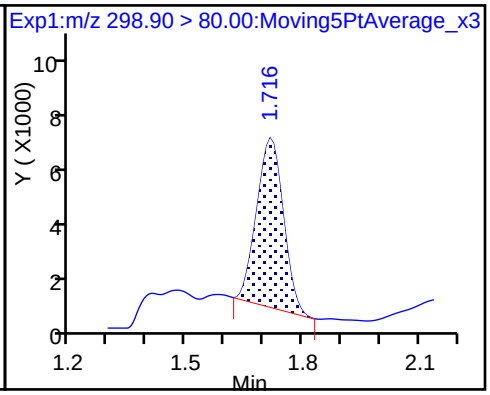
4 Perfluoropentanoic acid (M)



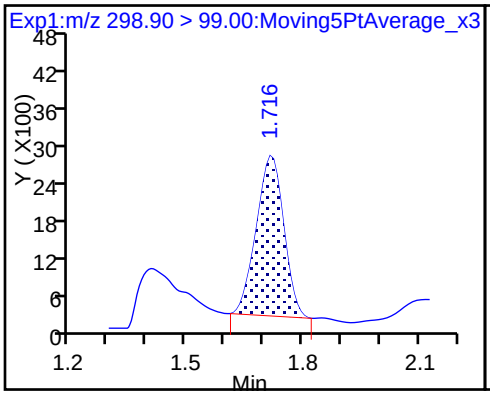
D 47 13C3-PFBS



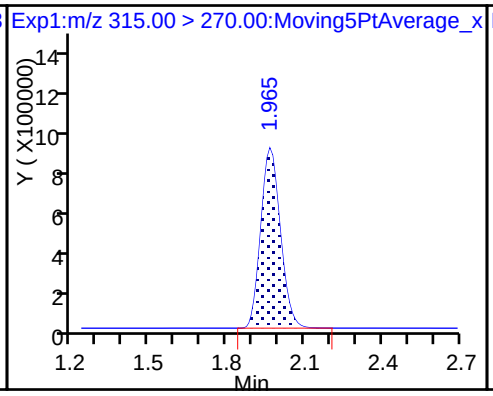
5 Perfluorobutanesulfonic acid



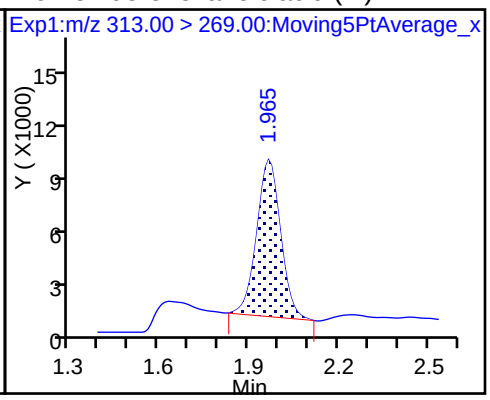
5 Perfluorobutanesulfonic acid



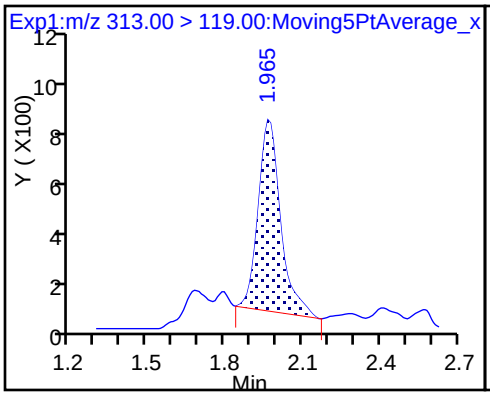
D 7 13C2 PFHxA



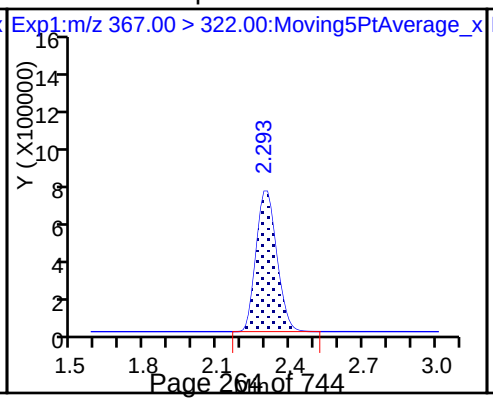
6 Perfluorohexanoic acid (M)



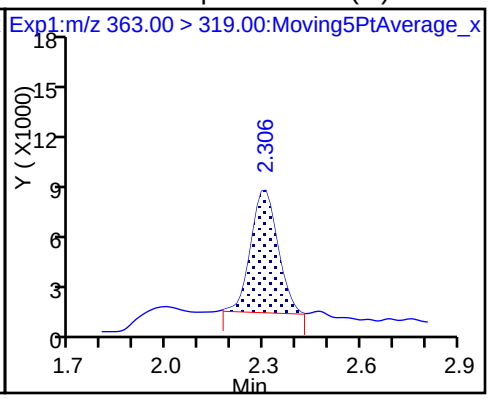
6 Perfluorohexanoic acid



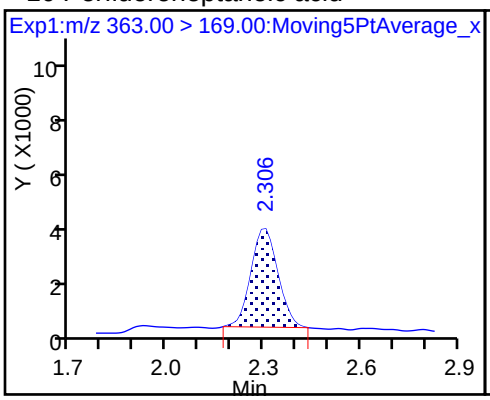
D 9 13C4-PFHpA



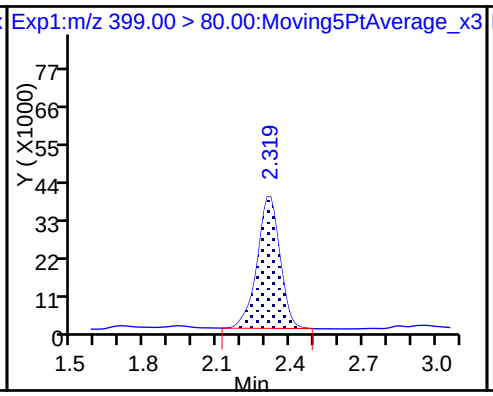
10 Perfluoroheptanoic acid (M)



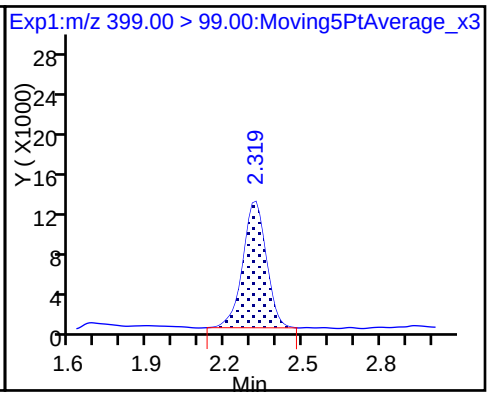
10 Perfluoroheptanoic acid



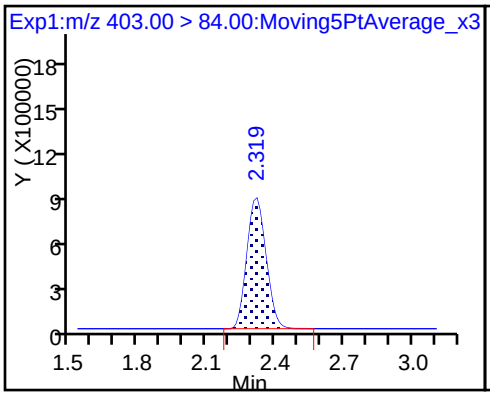
8 Perfluorohexanesulfonic acid



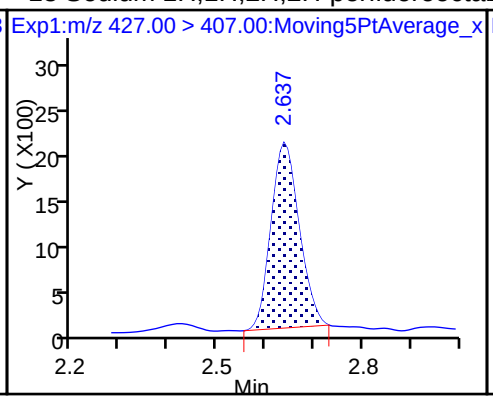
8 Perfluorohexanesulfonic acid



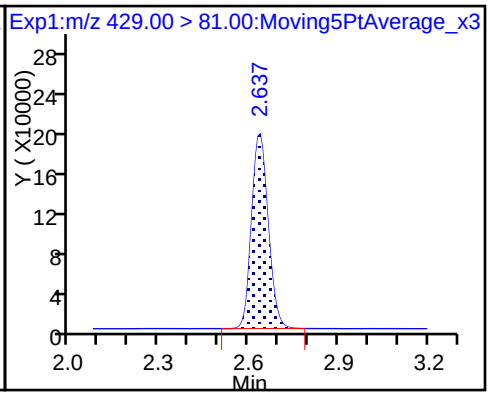
D 11 18O2 PFHxS



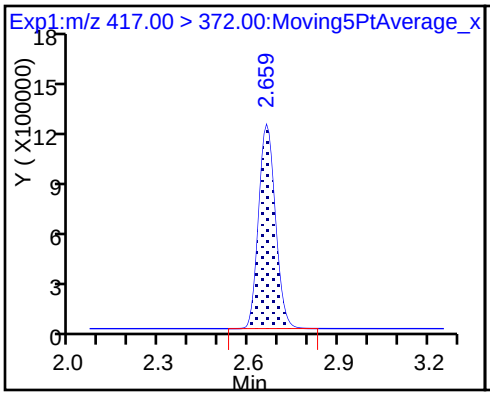
13 Sodium 1H,1H,2H,2H-perfluorooctane



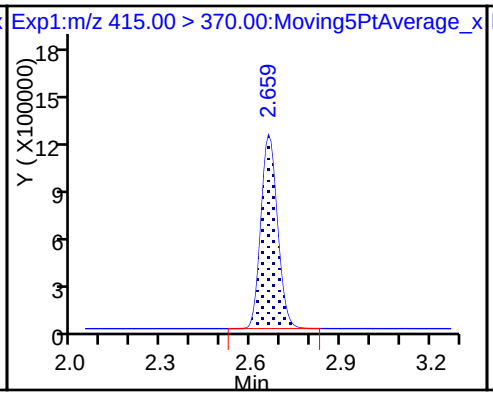
D 12 M2-6:2FTS



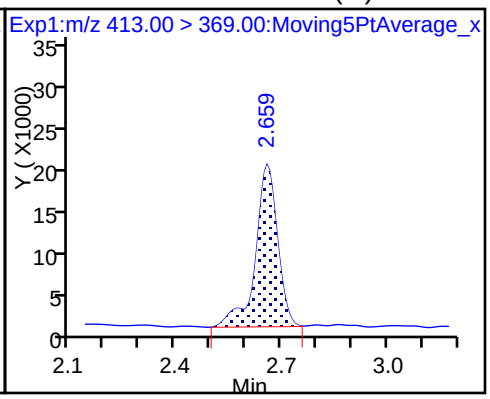
D 14 13C4 PFOA



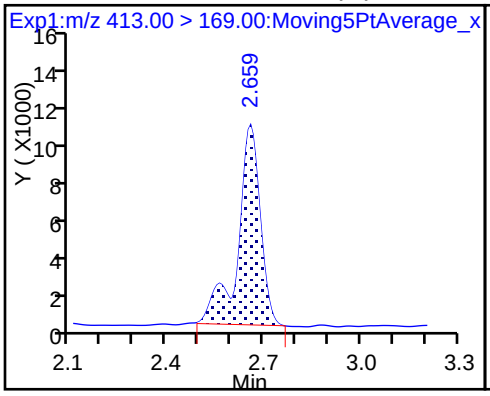
* 62 13C2-PFOA



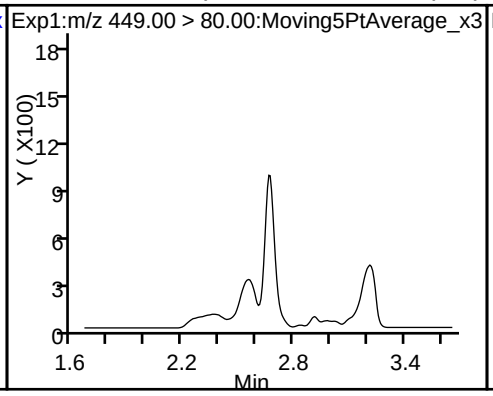
15 Perfluorooctanoic acid (M)



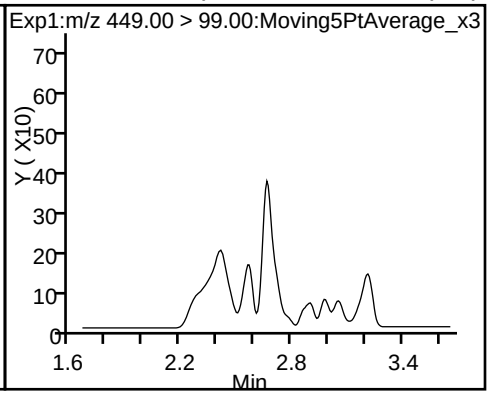
15 Perfluorooctanoic acid (M)



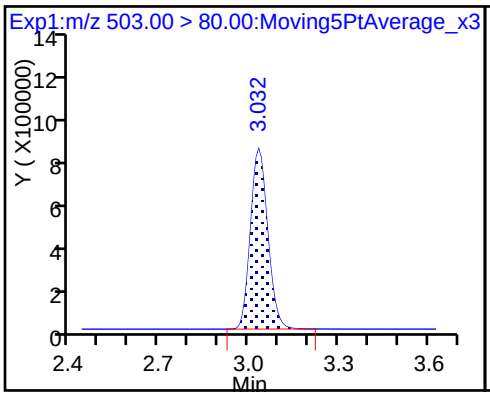
16 Perfluoroheptanesulfonic Acid (ND)



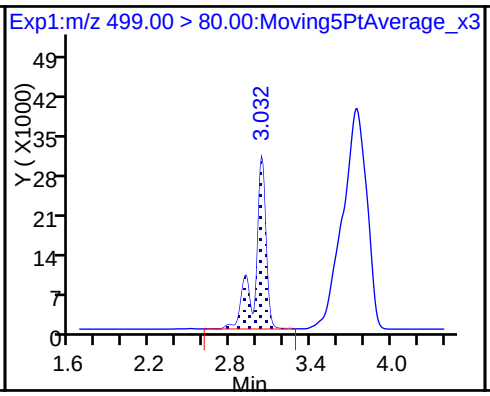
16 Perfluoroheptanesulfonic Acid (ND)



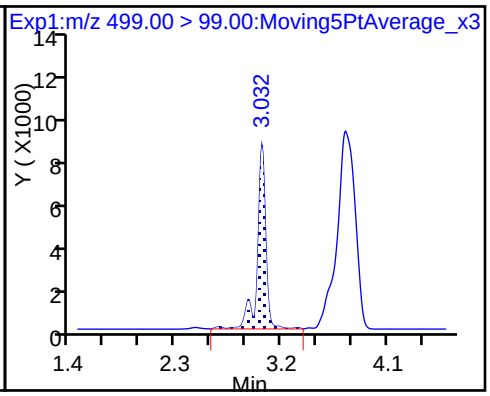
D 18 13C4 PFOS



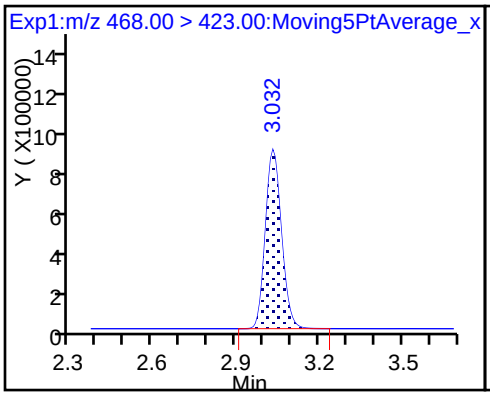
17 Perfluorooctane sulfonic acid



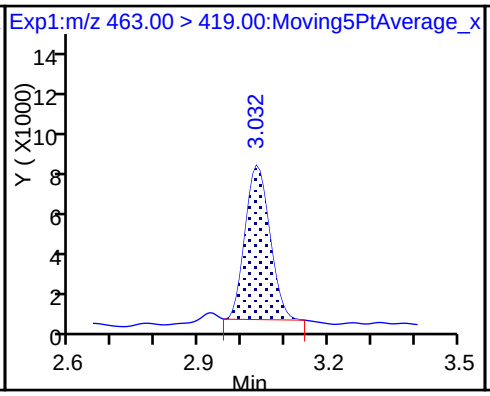
17 Perfluorooctane sulfonic acid



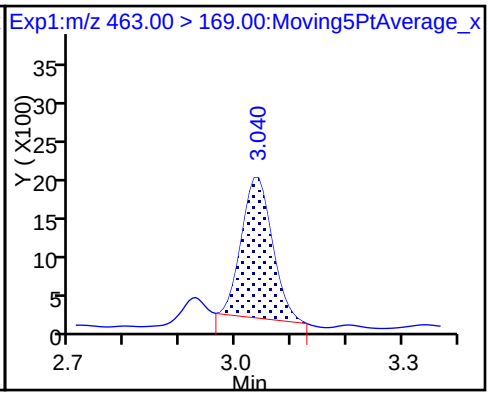
D 19 13C5 PFNA



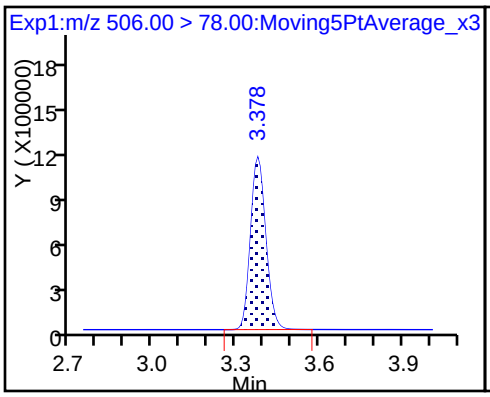
20 Perfluorononanoic acid



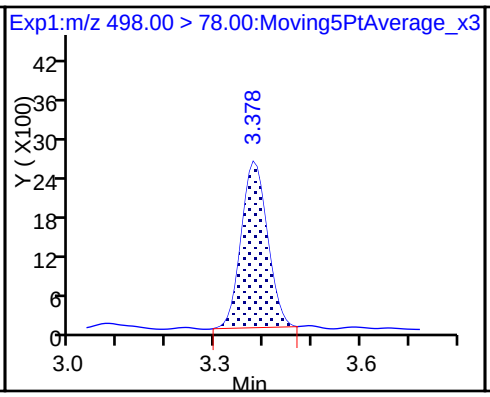
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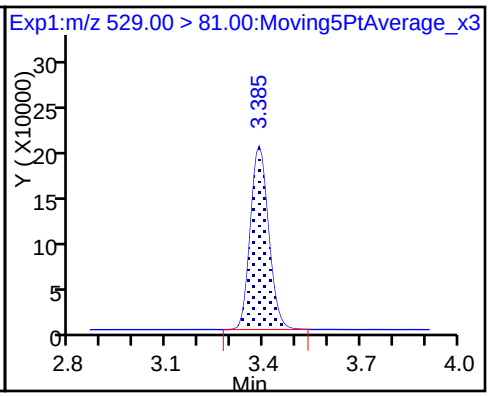
D 21 13C8 FOSA



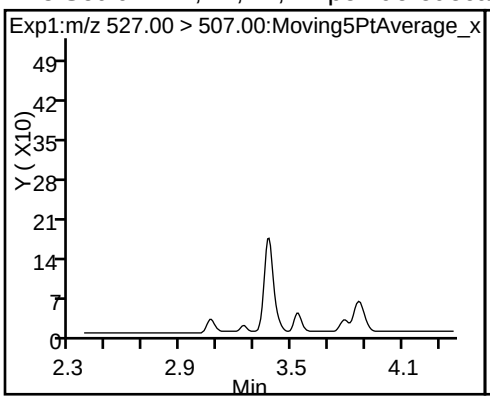
22 Perfluorooctane Sulfonamide



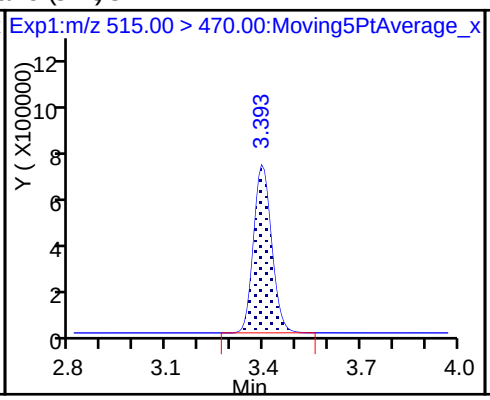
D 26 M2-8:2FTS



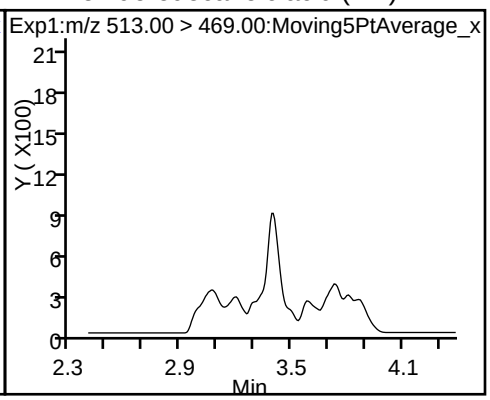
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



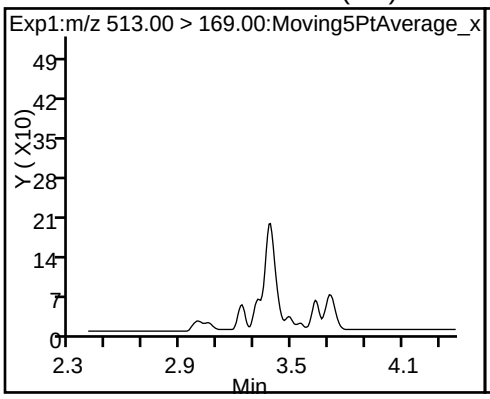
D 13C2 PFDA



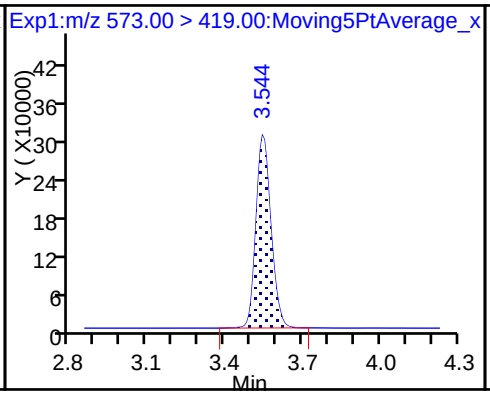
24 Perfluorodecanoic acid (ND)



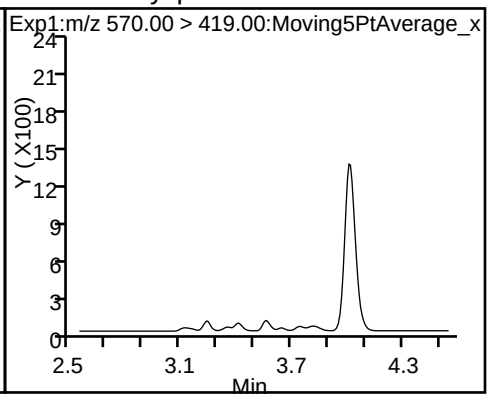
24 Perfluorodecanoic acid (ND)



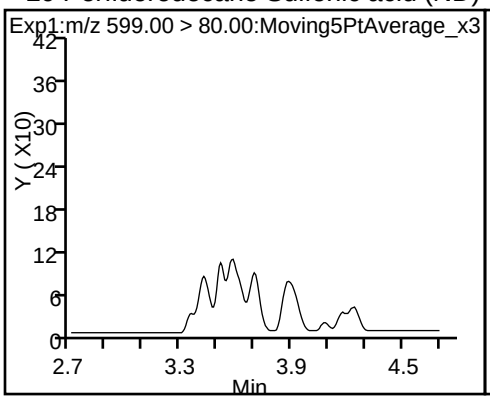
D 27 d3-NMeFOSAA



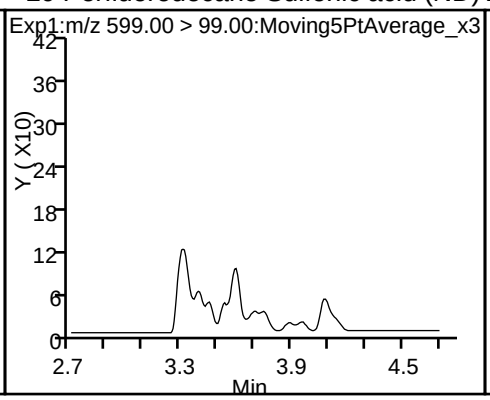
28 N-methyl perfluorooctane sulfonami (ND)



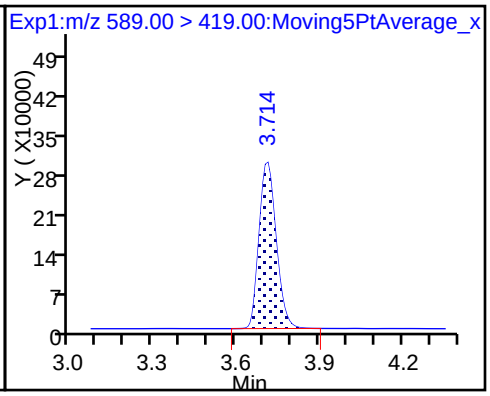
29 Perfluorodecane Sulfonic acid (ND)



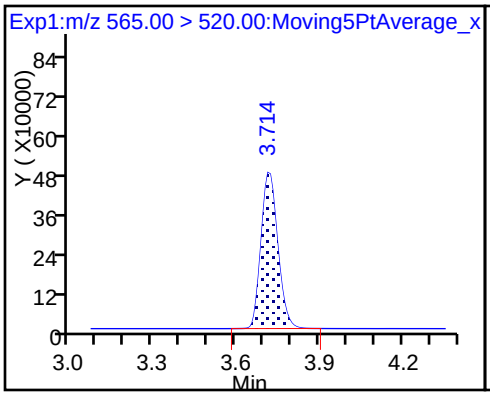
29 Perfluorodecane Sulfonic acid (ND)



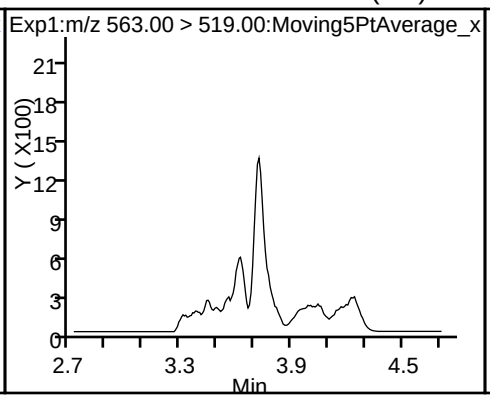
D 32 d5-NEtFOSAA



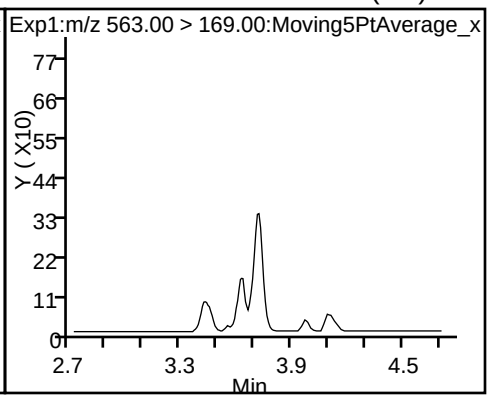
D 30 13C2 PFUnA



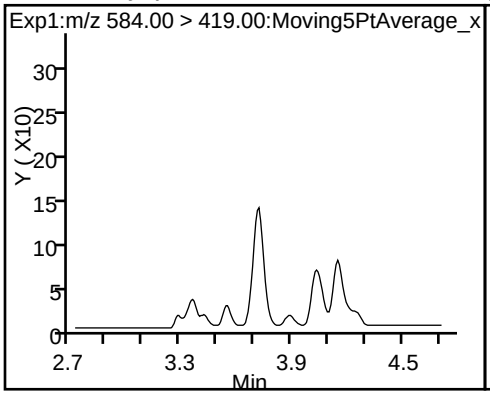
31 Perfluoroundecanoic acid (ND)



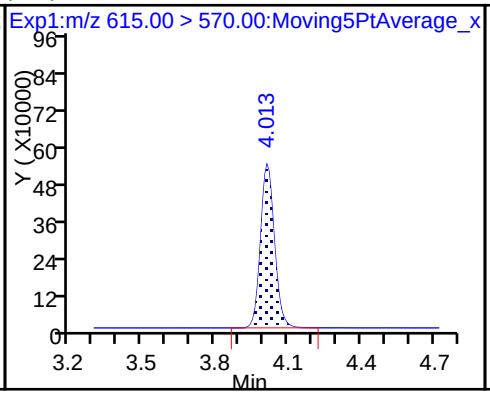
31 Perfluoroundecanoic acid (ND)



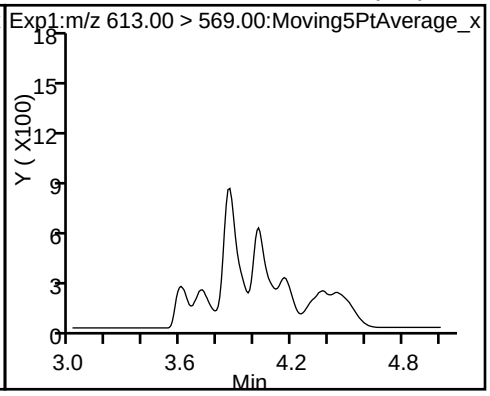
33 N-ethyl perfluorooctane sulfonamid (ND)



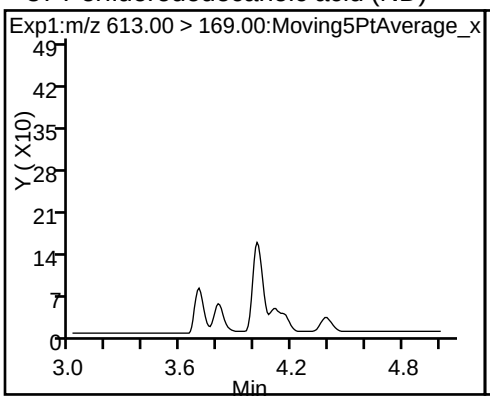
D 36 13C2 PFDoA



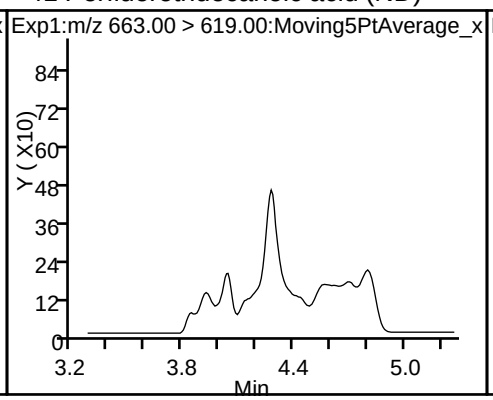
37 Perfluorododecanoic acid (ND)



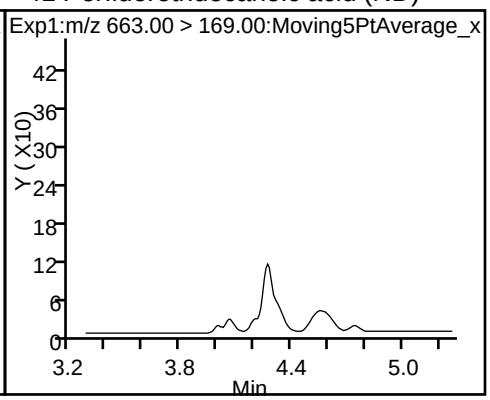
37 Perfluorododecanoic acid (ND)



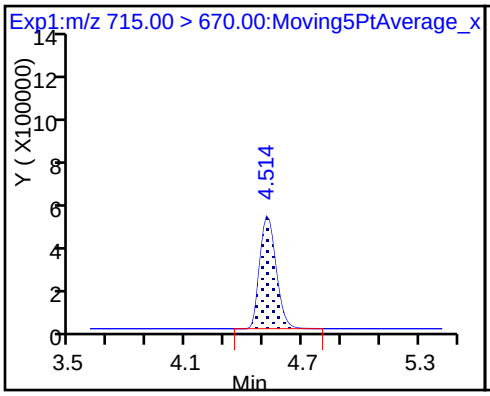
41 Perfluorotridecanoic acid (ND)



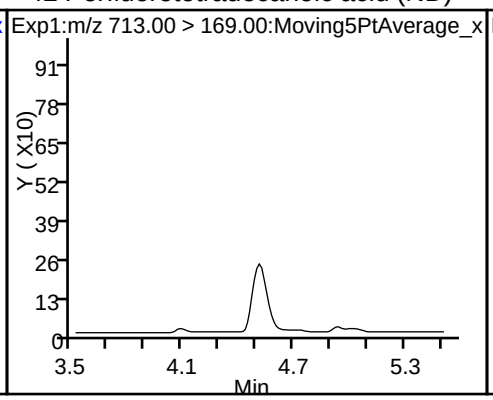
41 Perfluorotridecanoic acid (ND)



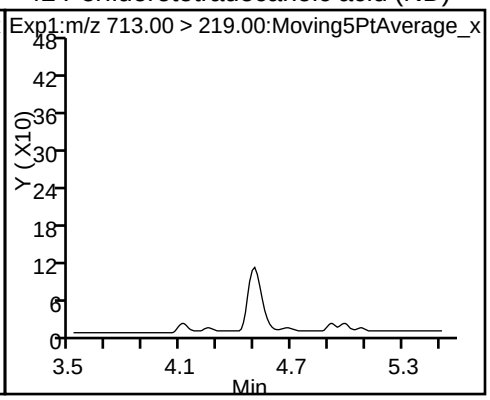
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

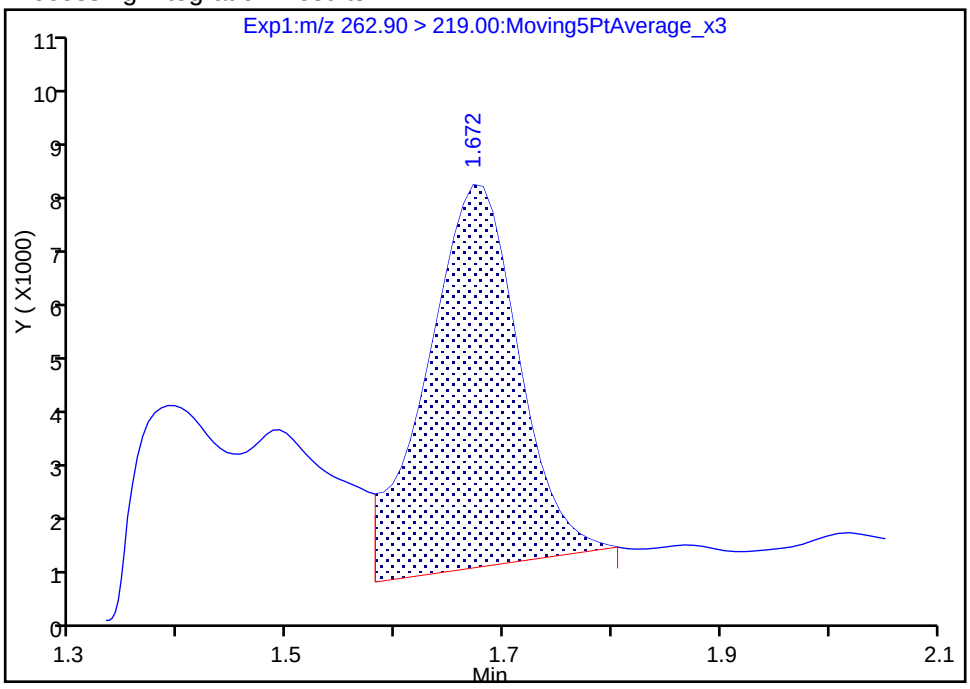
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Injection Date:	23-Dec-2017 01:16:04	Instrument ID:	A8_N		
Lims ID:	320-34425-A-16-A	Lab Sample ID:	320-34425-16		
Client ID:	FM-32-060-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

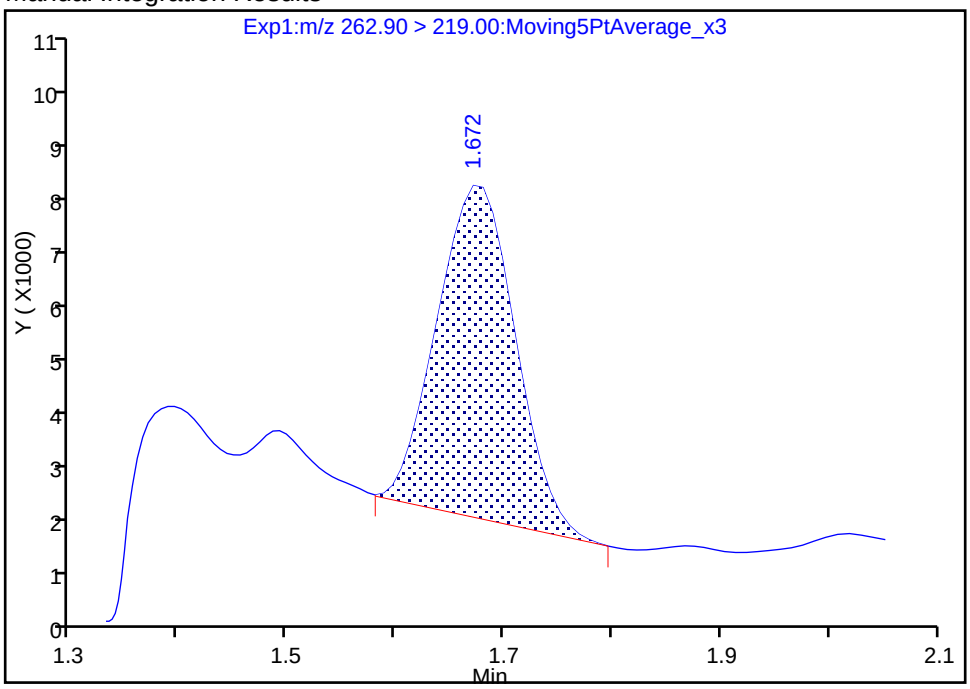
Processing Integration Results

RT: 1.67
Area: 38813
Amount: 0.019148
Amount Units: ng/ml



Manual Integration Results

RT: 1.67
Area: 28824
Amount: 0.014220
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:56:55
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

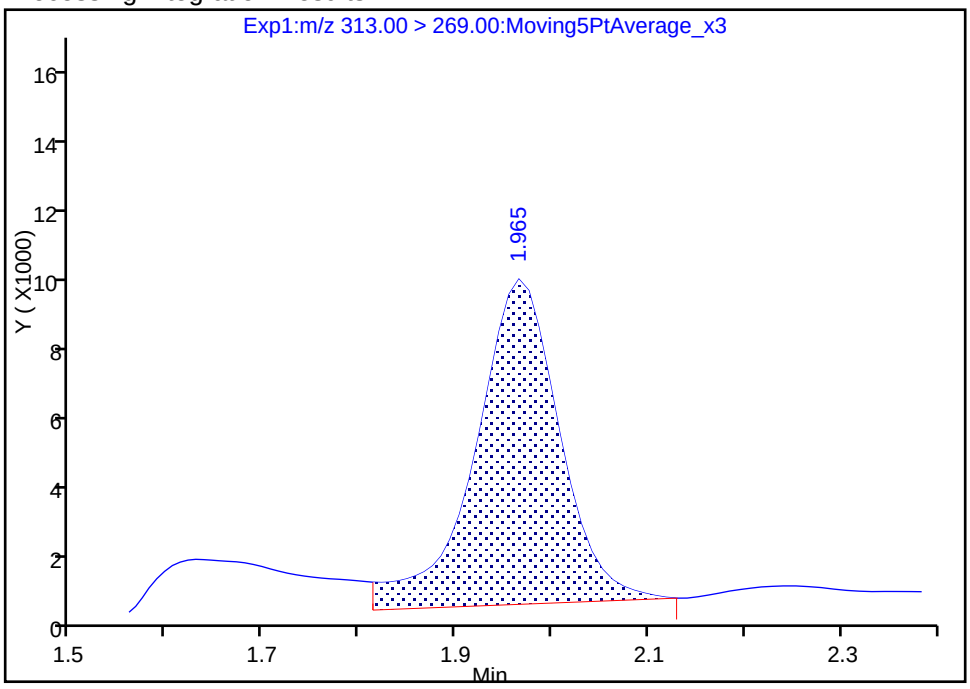
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_029.d				
Injection Date:	23-Dec-2017 01:16:04	Instrument ID:	A8_N		
Lims ID:	320-34425-A-16-A	Lab Sample ID:	320-34425-16		
Client ID:	FM-32-060-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

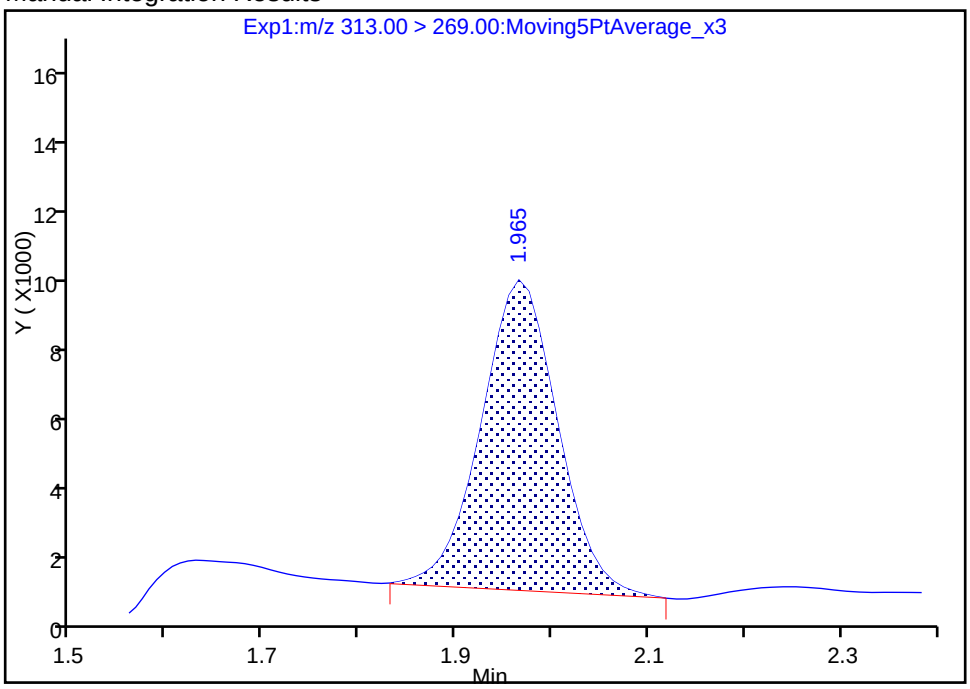
Processing Integration Results

RT: 1.97
Area: 55206
Amount: 0.030637
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 47691
Amount: 0.026467
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:57:07
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

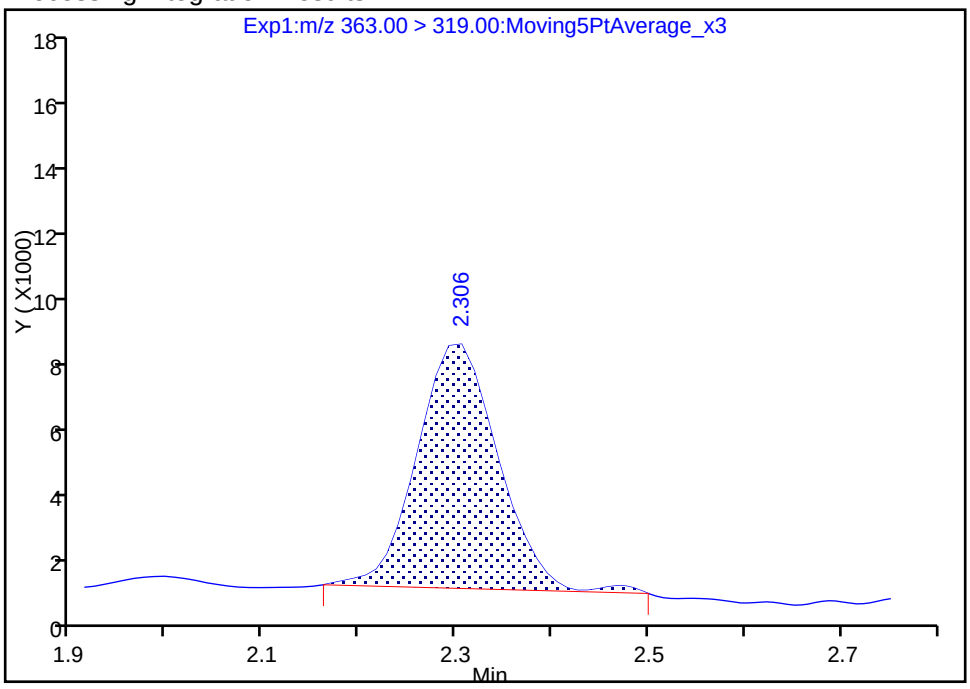
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Injection Date:	23-Dec-2017 01:16:04	Instrument ID:	A8_N		
Lims ID:	320-34425-A-16-A	Lab Sample ID:	320-34425-16		
Client ID:	FM-32-060-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

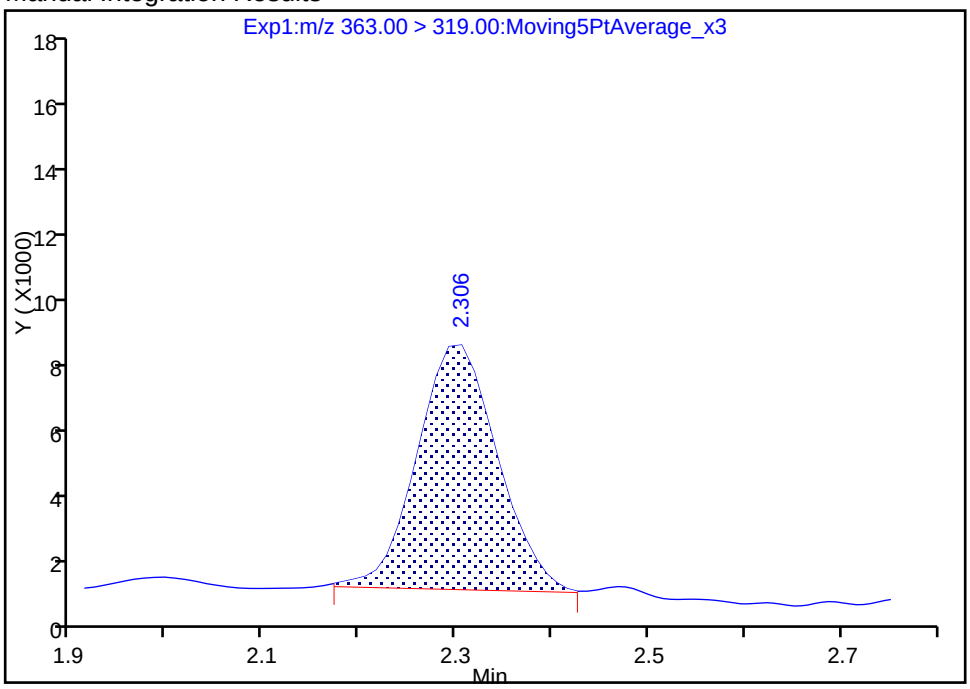
Processing Integration Results

RT: 2.31
Area: 42566
Amount: 0.023690
Amount Units: ng/ml



Manual Integration Results

RT: 2.31
Area: 42199
Amount: 0.023485
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:57:21

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

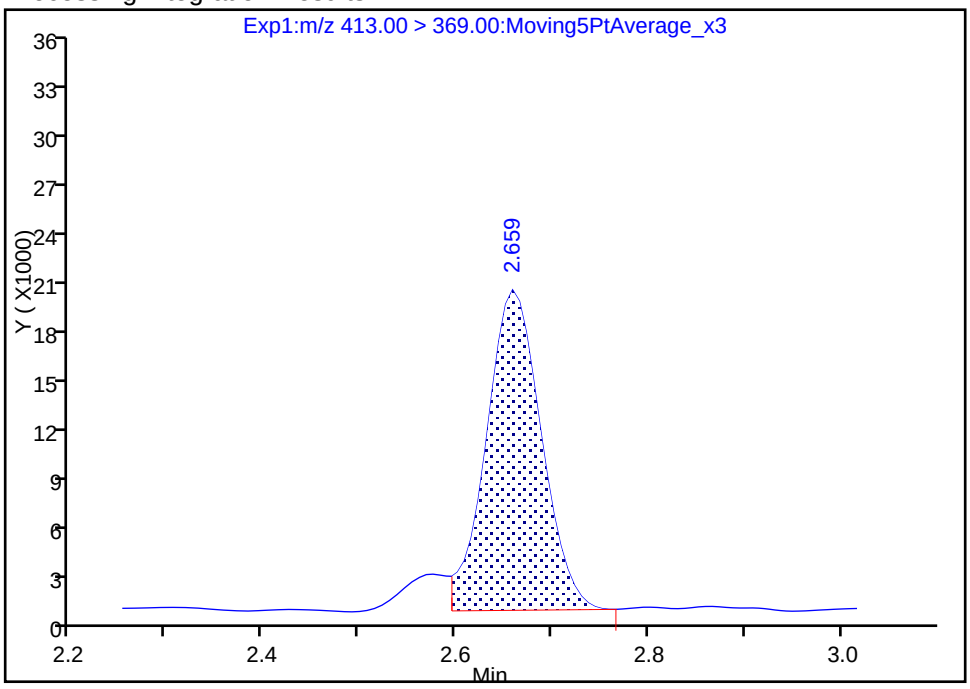
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_029.d				
Injection Date:	23-Dec-2017 01:16:04	Instrument ID:	A8_N		
Lims ID:	320-34425-A-16-A	Lab Sample ID:	320-34425-16		
Client ID:	FM-32-060-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

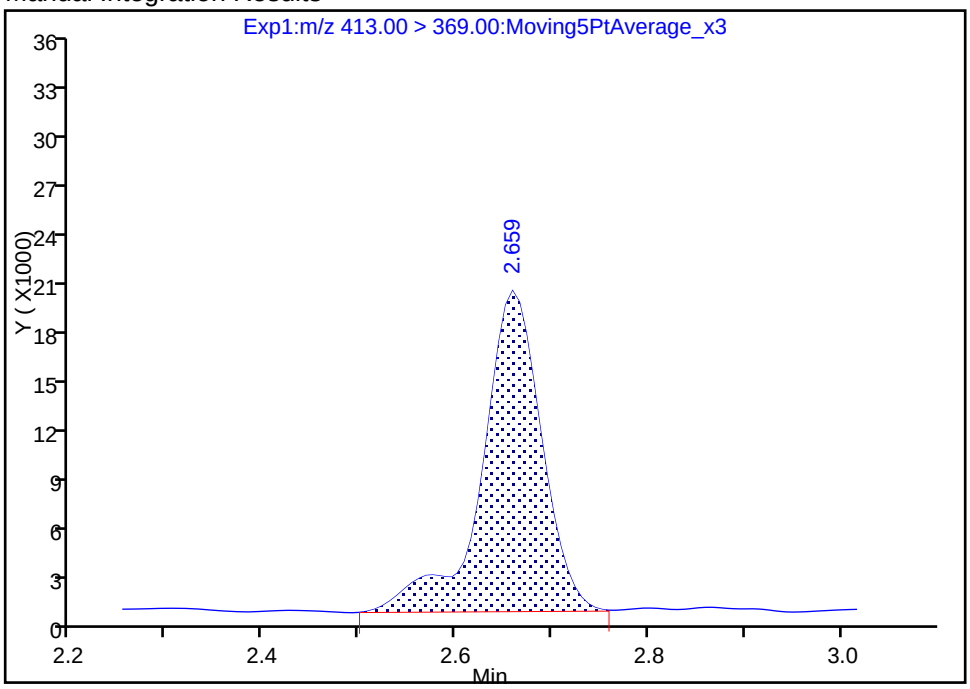
Processing Integration Results

RT: 2.66
Area: 76710
Amount: 0.040107
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 84507
Amount: 0.044183
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:57:42

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

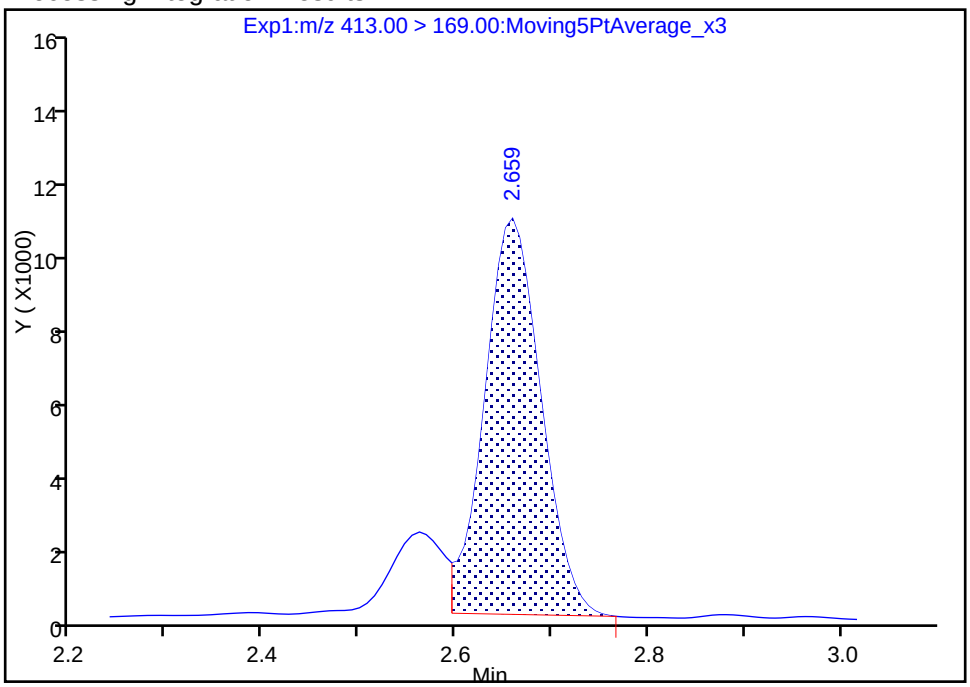
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_029.d				
Injection Date:	23-Dec-2017 01:16:04	Instrument ID:	A8_N		
Lims ID:	320-34425-A-16-A	Lab Sample ID:	320-34425-16		
Client ID:	FM-32-060-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	23	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

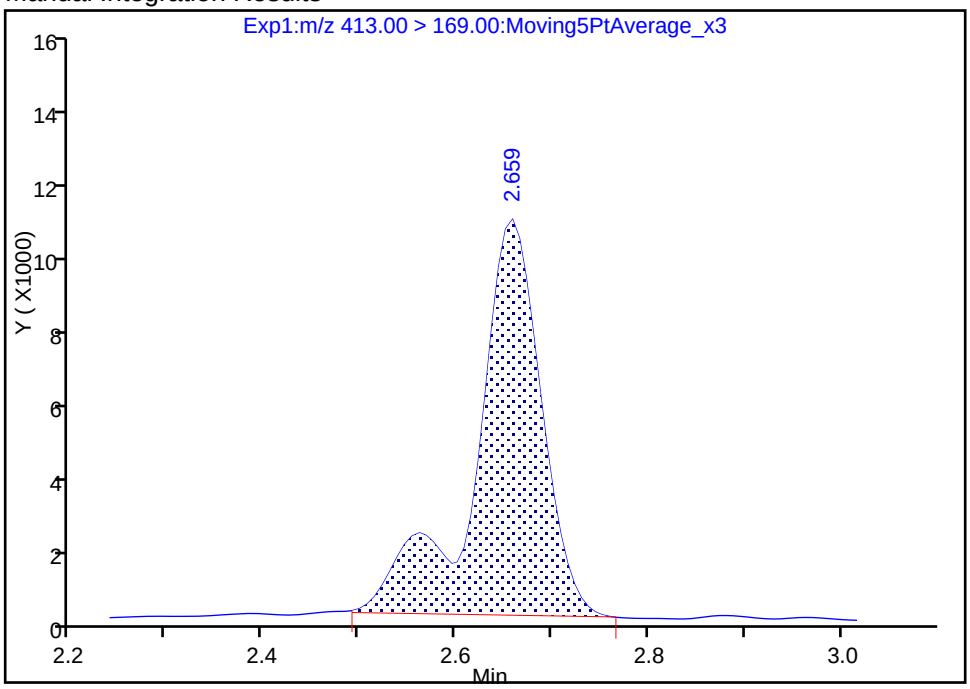
Processing Integration Results

RT: 2.66
Area: 42998
Amount: 0.040107
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 50892
Amount: 0.044183
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:57:47

Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-050-944-171213 | Lab Sample ID: 320-34425-17

Matrix: Water | Lab File ID: 2017.12.22LLB_030.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 07:40

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 254.7(mL) | Date Analyzed: 12/23/2017 01:23

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.14	J	1.96	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.06	J	1.96	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	1.10	J	1.96	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.57	J	1.96	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	1.57	J	1.96	0.83
375-95-1	Perfluorononanoic acid (PFNA)	0.62	J	1.96	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.30	U	1.96	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.08	U	1.96	1.08
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.96	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.28	U	1.96	1.28
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.28	U	1.96	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.32	J	1.96	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.82	B	1.96	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.96	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.87		1.96	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.31	U	1.96	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.34	U	1.96	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.04	U	19.6	3.04
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.86	U	19.6	1.86
27619-97-2	6:2FTS	1.96	U	19.6	1.96
39108-34-4	8:2FTS	1.96	U	19.6	1.96

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-32-050-944-171213 | Lab Sample ID: 320-34425-17

Matrix: Water | Lab File ID: 2017.12.22LLB_030.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 07:40

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 254.7(mL) | Date Analyzed: 12/23/2017 01:23

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	97		25-150
STL01893	13C5 PFPeA	110		25-150
STL00993	13C2 PFHxA	96		25-150
STL01892	13C4-PFHpA	107		25-150
STL00990	13C4 PFOA	101		25-150
STL00995	13C5 PFNA	99		25-150
STL00996	13C2 PFDA	97		25-150
STL00997	13C2 PFUnA	97		25-150
STL00998	13C2 PFDoA	96		25-150
STL02116	13C2-PFTeDA	113		25-150
STL02337	13C3-PFBS	106		25-150
STL00994	18O2 PFHxS	106		25-150
STL00991	13C4 PFOS	99		25-150
STL01056	13C8 FOSA	95		25-150
STL02118	d3-NMeFOSAA	83		25-150
STL02117	d5-NEtFOSAA	90		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	78		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_030.d
Lims ID: 320-34425-A-17-A
Client ID: FM-32-050-944-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 01:23:56 ALS Bottle#: 24 Worklist Smp#: 22
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-17-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:19 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:00:24

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.534	6654809	2.43		97.1	17577	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.004	70957	0.0291			18.8	
D 3 13C5-PFPeA										
267.90 > 223.00	1.671	1.670	0.001	0.628	4526762	2.76		110	38994	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.670	0.009	1.005	54632	0.0270			40.4	
D 47 13C3-PFBS										
301.90 > 83.00	1.715	1.705	0.010	0.645	86350	2.47		106	1961	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.706	1.707	-0.001	0.995	23084	0.008263			42.2	
298.90 > 99.00	1.715	1.707	0.008	1.000	9280		2.49(1.25-3.74)		37.7	
D 7 13C2 PFHxA										
315.00 > 270.00	1.964	1.953	0.011	0.739	4206879	2.40		96.1	36944	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.964	1.956	0.008	1.000	47140	0.0280			63.8	M
313.00 > 119.00	1.964	1.956	0.008	1.000	4731		9.96(5.03-15.10)		75.4	M
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.862	4324267	2.67		107	35356	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.292	2.291	0.001	1.000	26468	0.0146			39.0	M
363.00 > 169.00	2.292	2.291	0.001	1.000	9235		2.87(1.13-3.40)		74.5	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.305	2.304	0.001	0.994	167949	0.0718			243	
399.00 > 99.00	2.318	2.304	0.014	1.000	46577		3.61(1.50-4.49)		138	
D 11 18O2 PFHxS										
403.00 > 84.00	2.318	2.304	0.014	0.872	5136903	2.51		106	55046	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.630	2.642	-0.012	1.000	10151	0.0203			356	
D 12 M2-6:2FTS										
429.00 > 81.00	2.630	2.642	-0.012	0.989	765878	1.01		42.7	10613	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	0.997	4723107	2.53		101	53164	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4509526	2.50			58511	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.659	2.656	0.003	1.003	79518	0.0400			117	M
413.00 > 169.00	2.652	2.656	-0.004	1.000	47149		1.69(0.84-2.52)		305	M
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.140	3209966	2.38		99.4	26634	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	103938	0.0730			9.5	
499.00 > 99.00	3.032	3.028	0.004	1.000	22151		4.69(2.31-6.93)		13.4	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.140	3288072	2.48		99.4	38933	
20 Perfluorononanoic acid										
463.00 > 419.00	3.032	3.029	0.003	1.000	20774	0.0157			71.1	
463.00 > 169.00	3.032	3.029	0.003	1.000	5889		3.53(1.90-5.69)		116	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.270	4383097	2.38		95.4	27244	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	7516	0.004469			259	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.270	791643	1.88		78.4	17080	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2657119	2.43		97.3	32342	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1214363	2.07		82.9	19225	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.712	-0.006	1.394	1288574	2.25		90.0	7274	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.397	2011732	2.42		96.8	21056	
D 36 13C2 PFDoA										
615.00 > 570.00	4.004	4.011	-0.007	1.506	2158443	2.41		96.3	45423	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.698	2826788	2.82		113	25773	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:50 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_030.d

Injection Date: 23-Dec-2017 01:23:56 Instrument ID: A8_N

Lims ID: 320-34425-A-17-A Lab Sample ID: 320-34425-17

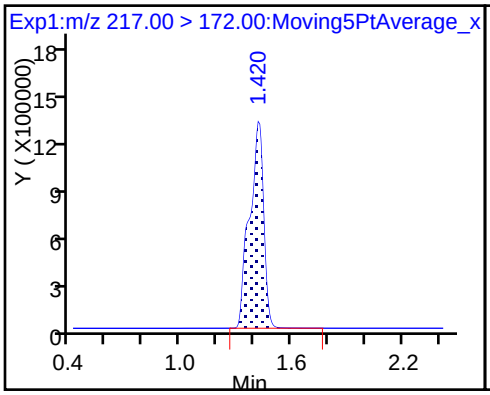
Client ID: FM-32-050-944-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 24 Worklist Smp#: 22

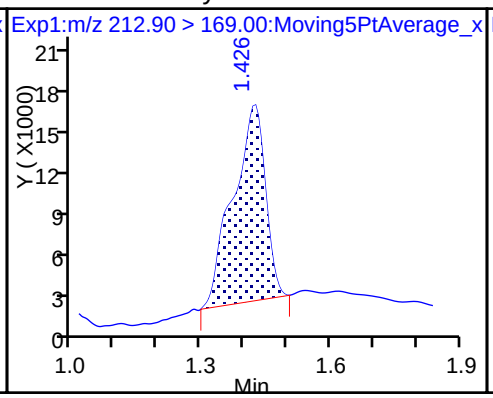
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

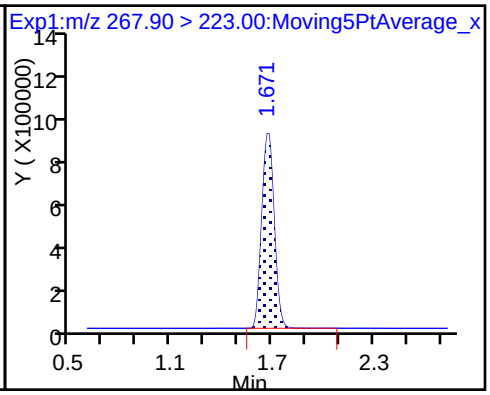
D 1 13C4 PFBA



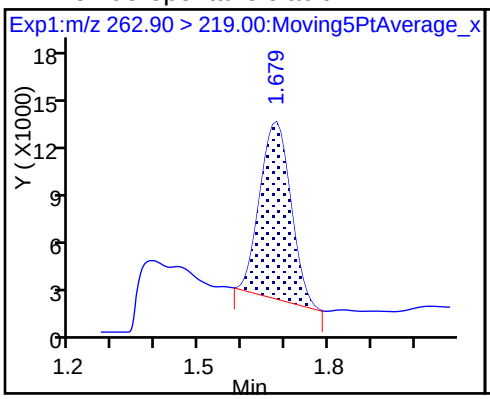
2 Perfluorobutyric acid



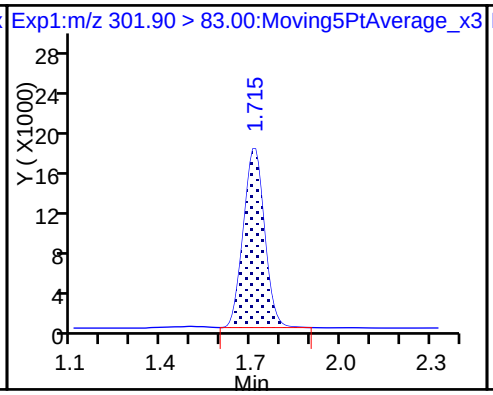
D 3 13C5-PFPeA



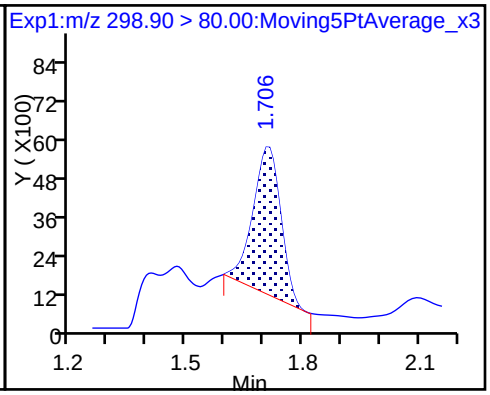
4 Perfluoropentanoic acid



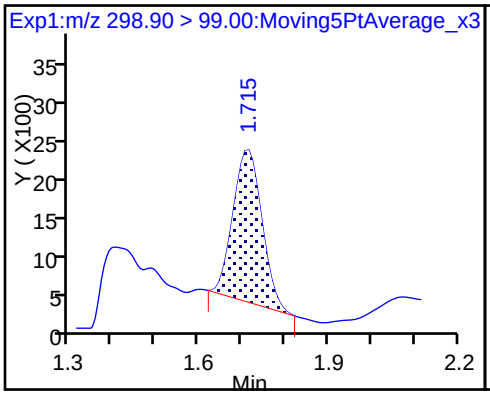
D 47 13C3-PFBS



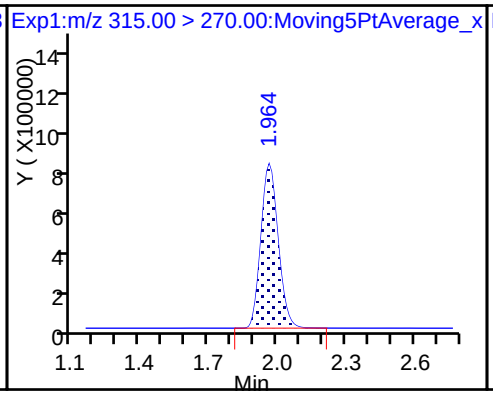
5 Perfluorobutanesulfonic acid



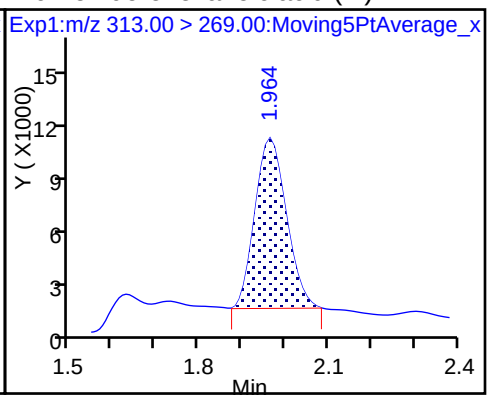
5 Perfluorobutanesulfonic acid



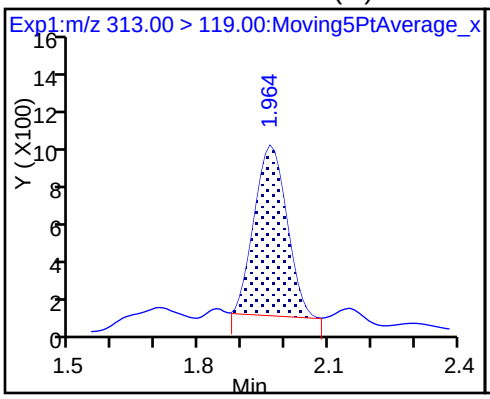
D 7 13C2 PFHxA



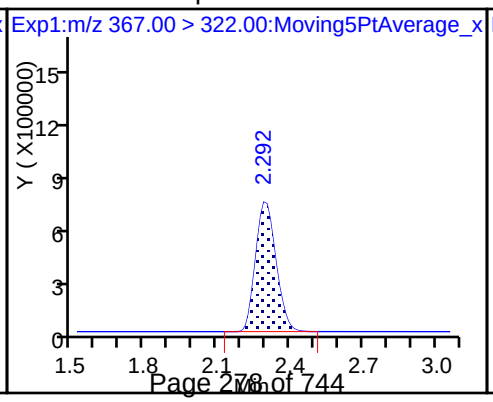
6 Perfluorohexanoic acid (M)



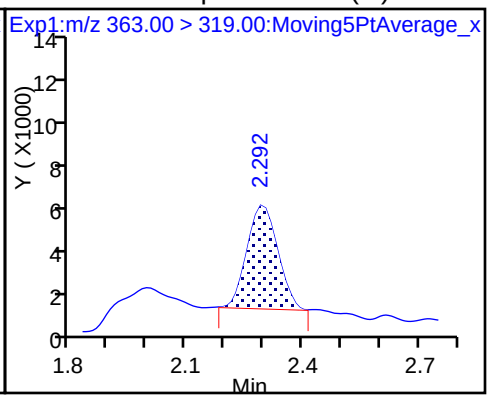
6 Perfluorohexanoic acid (M)



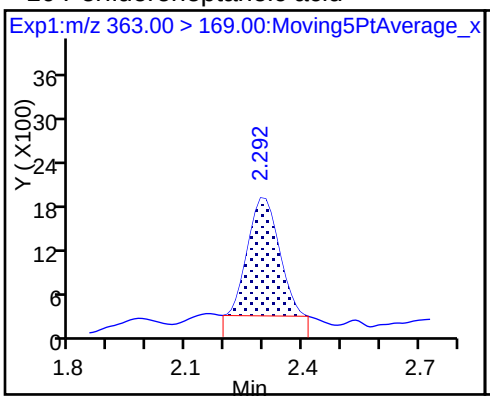
D 9 13C4-PFHpA



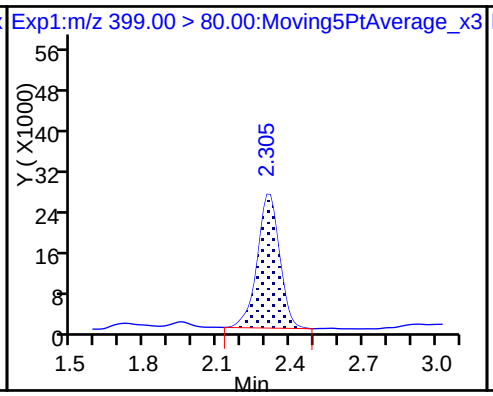
10 Perfluoroheptanoic acid (M)



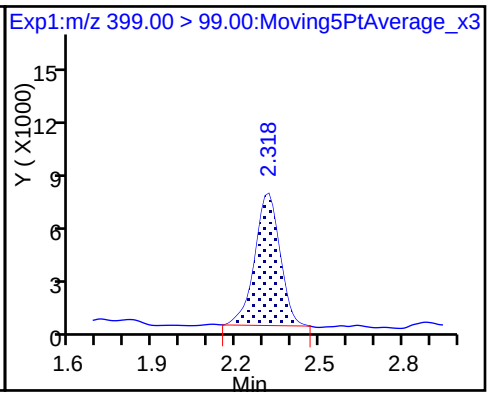
10 Perfluoroheptanoic acid



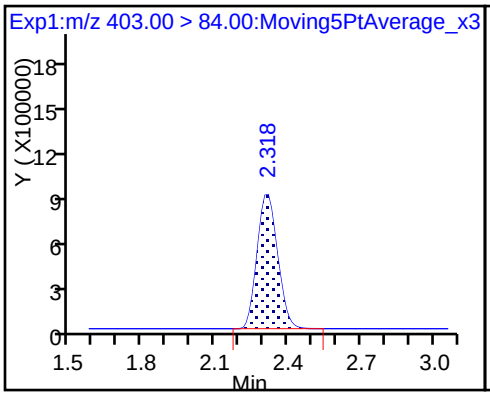
8 Perfluorohexanesulfonic acid



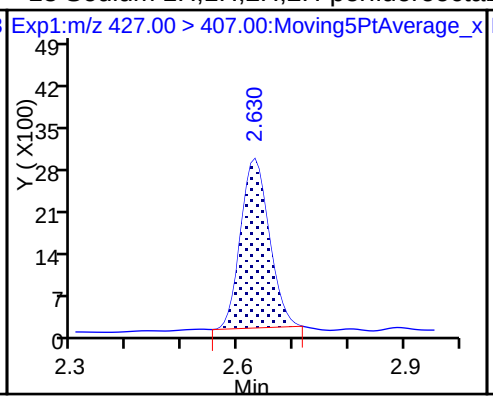
8 Perfluorohexanesulfonic acid



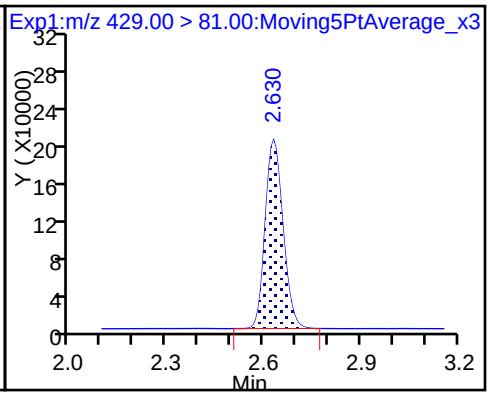
D 11 18O2 PFHxS



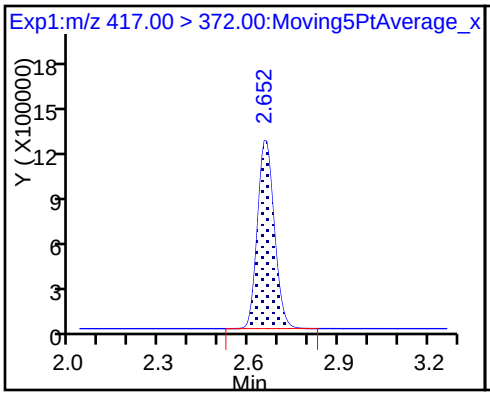
13 Sodium 1H,1H,2H,2H-perfluorooctane



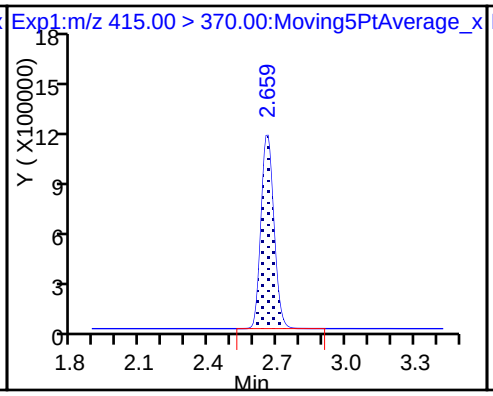
D 12 M2-6:2FTS



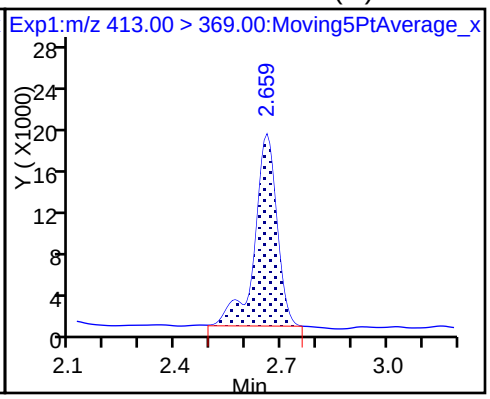
D 14 13C4 PFOA



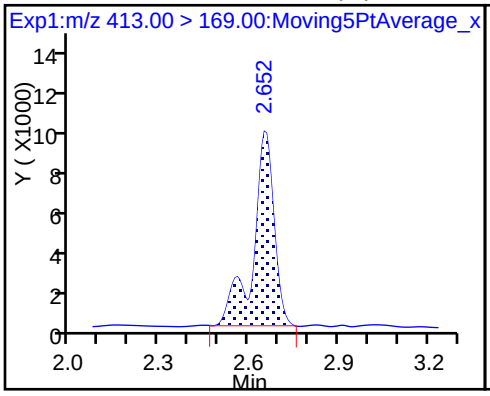
* 62 13C2-PFOA



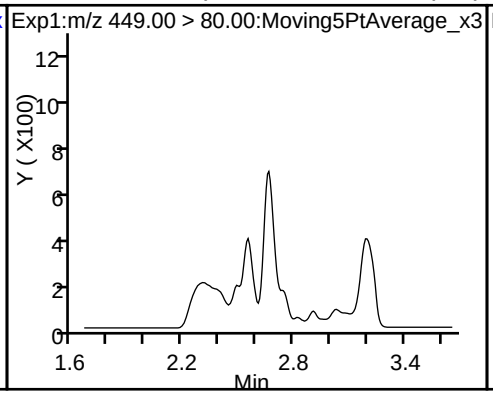
15 Perfluorooctanoic acid (M)



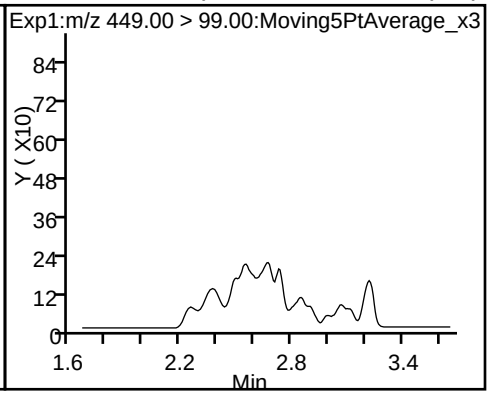
15 Perfluorooctanoic acid (M)



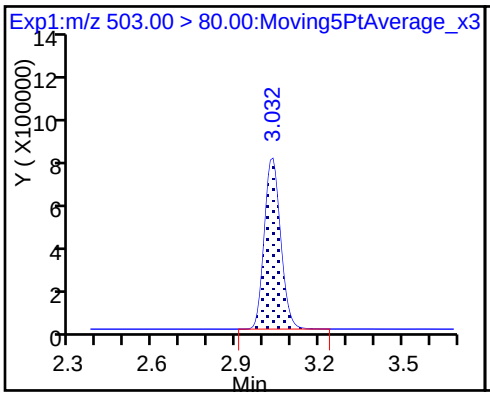
16 Perfluoroheptanesulfonic Acid (ND)



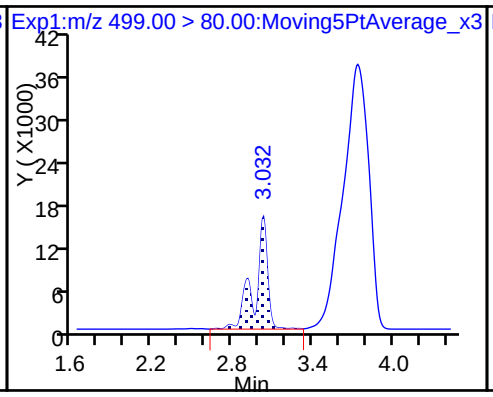
16 Perfluoroheptanesulfonic Acid (ND)



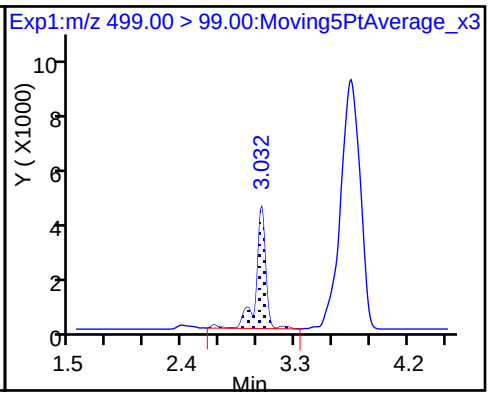
D 18 13C4 PFOS



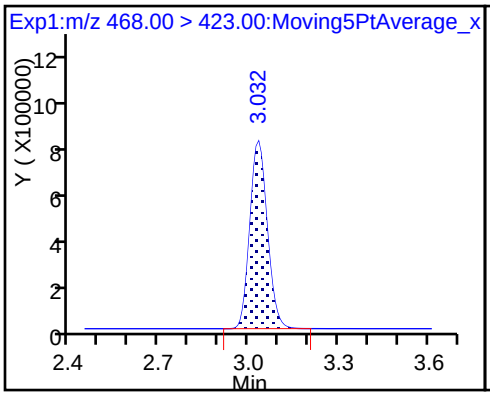
17 Perfluorooctane sulfonic acid



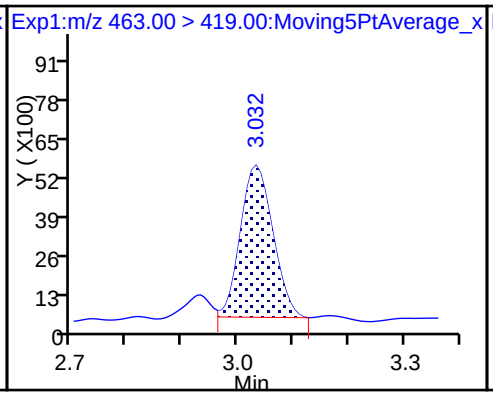
17 Perfluorooctane sulfonic acid



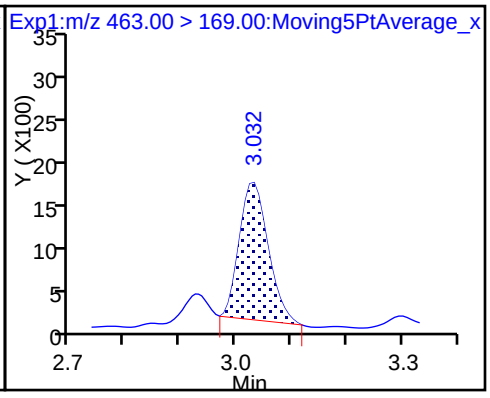
D 19 13C5 PFNA



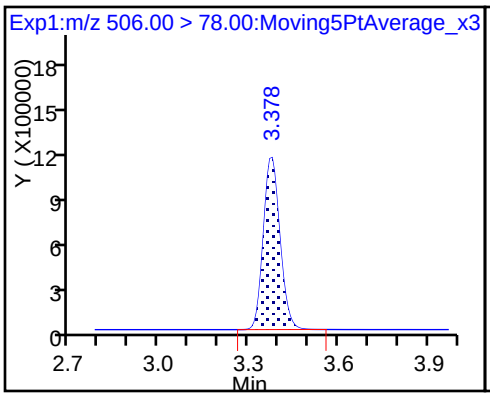
20 Perfluorononanoic acid



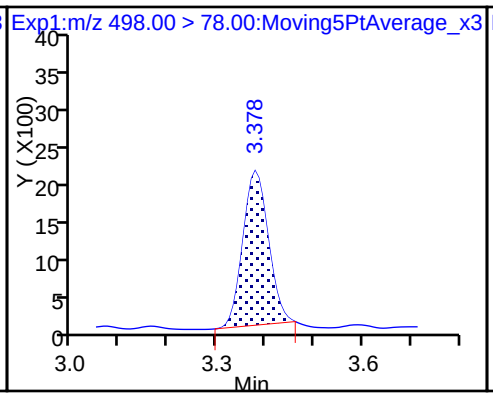
20 Perfluorononanoic acid



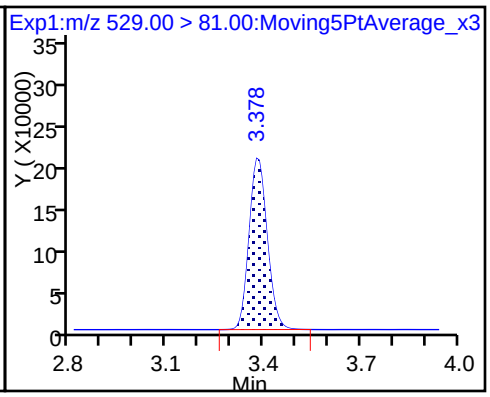
D 21 13C8 FOSA



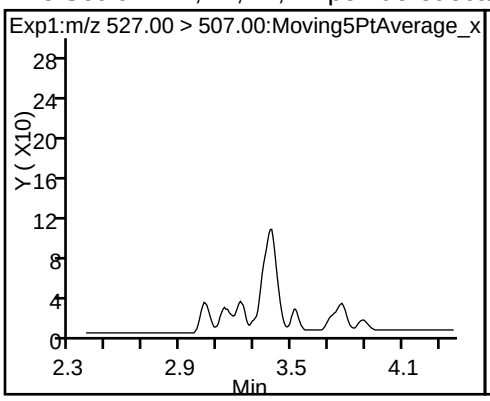
22 Perfluorooctane Sulfonamide



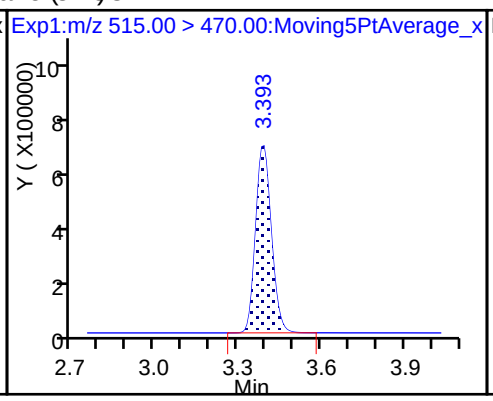
D 26 M2-8:2FTS



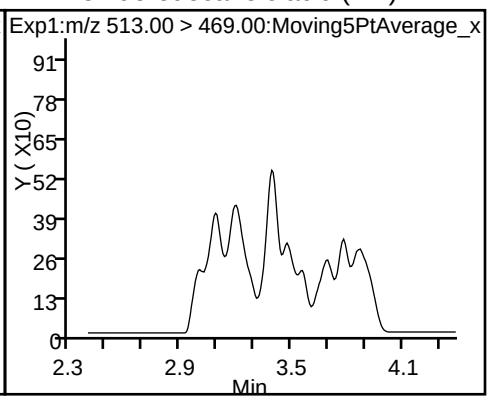
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



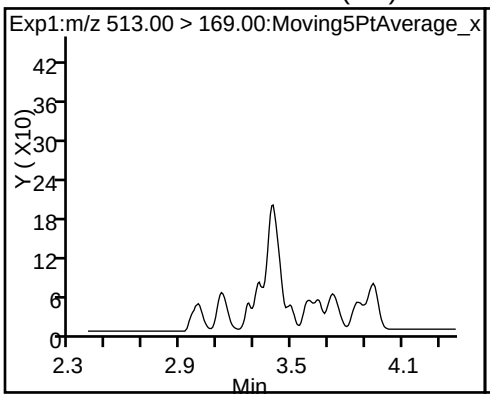
D 23 13C2 PFDA



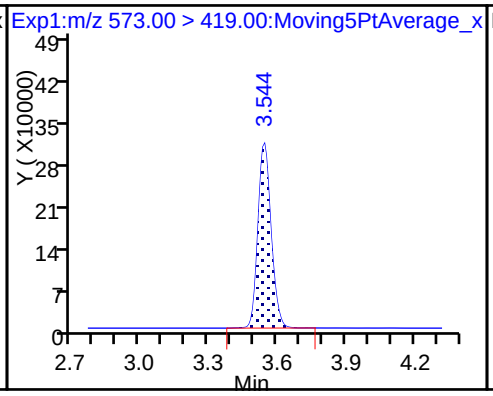
24 Perfluorodecanoic acid (ND)



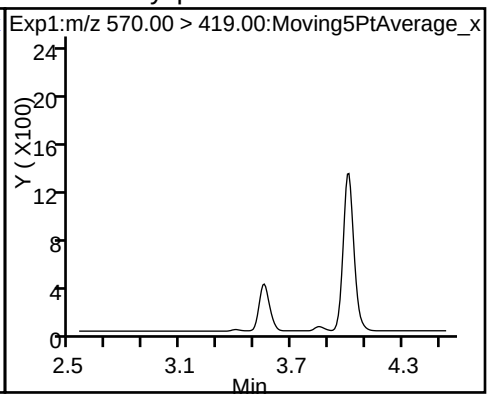
24 Perfluorodecanoic acid (ND)



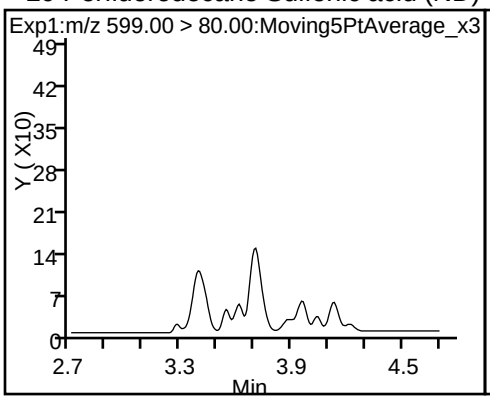
D 27 d3-NMeFOSAA



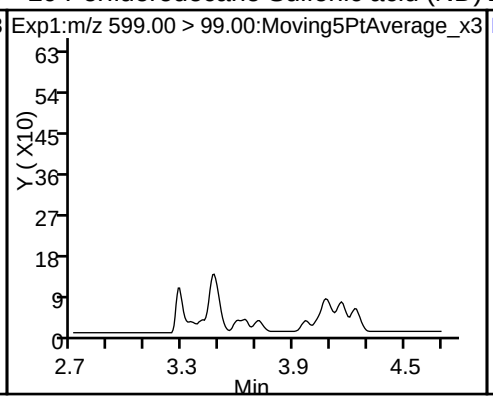
28 N-methyl perfluorooctane sulfonami (ND)



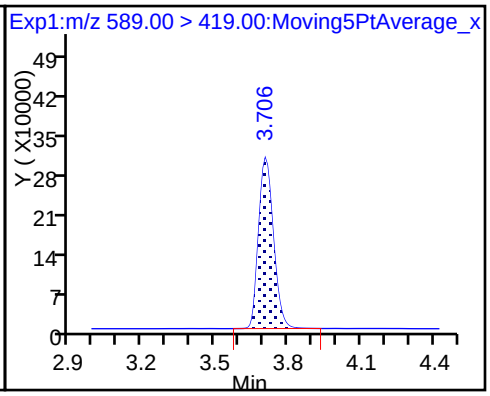
29 Perfluorodecane Sulfonic acid (ND)



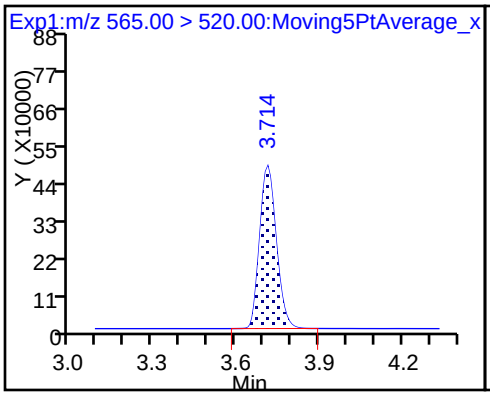
29 Perfluorodecane Sulfonic acid (ND)



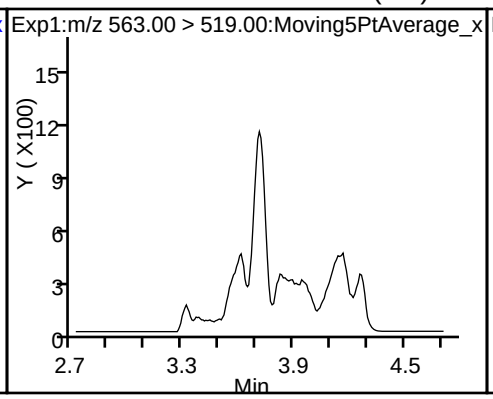
D 32 d5-NEtFOSAA



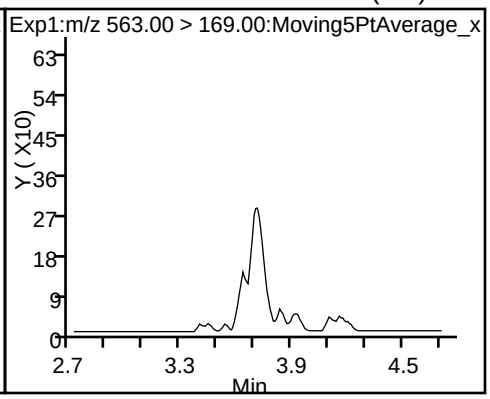
D 30 13C2 PFUnA



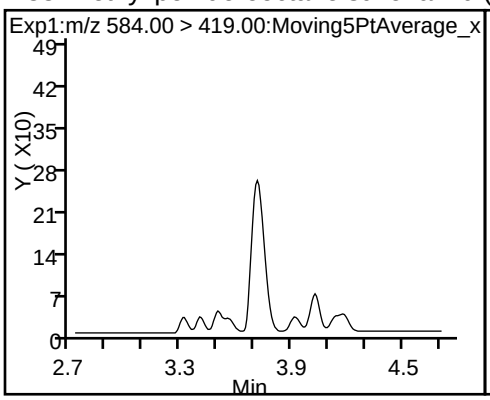
31 Perfluoroundecanoic acid (ND)



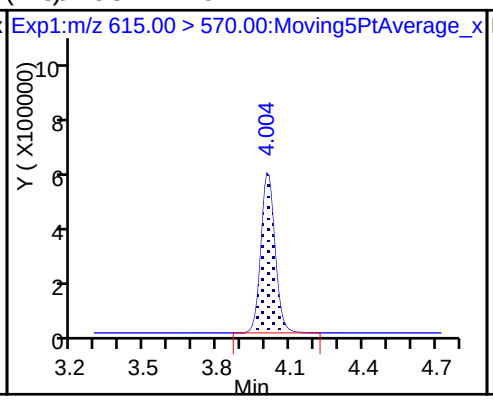
31 Perfluoroundecanoic acid (ND)



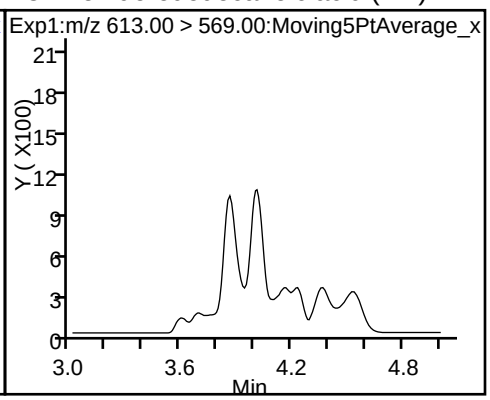
33 N-ethyl perfluorooctane sulfonamid (ND)



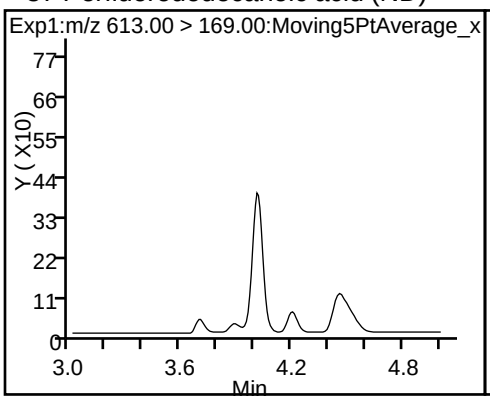
D 36 13C2 PFDoA



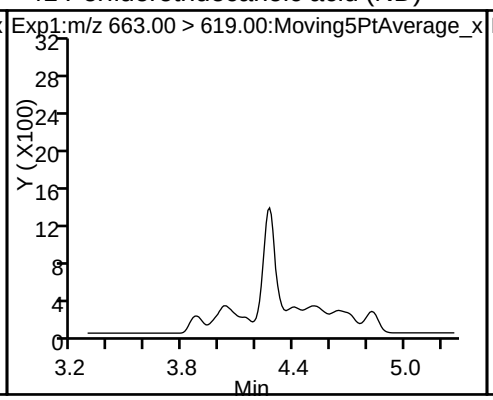
37 Perfluorododecanoic acid (ND)



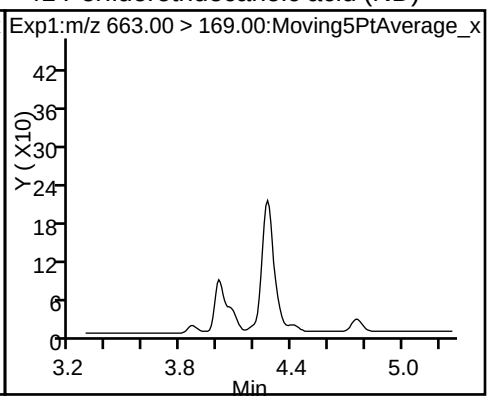
37 Perfluorododecanoic acid (ND)



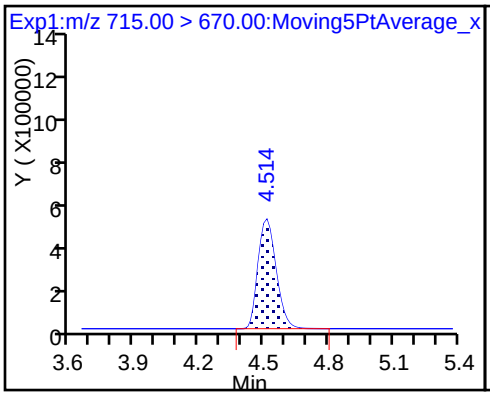
41 Perfluorotridecanoic acid (ND)



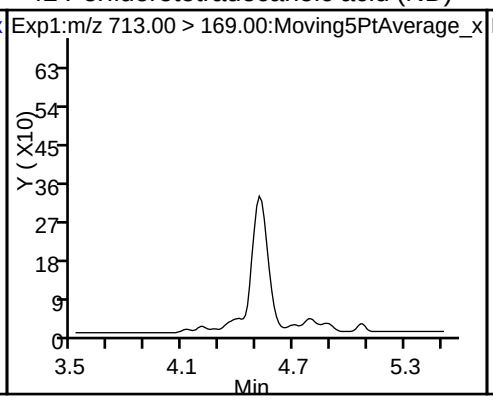
41 Perfluorotridecanoic acid (ND)



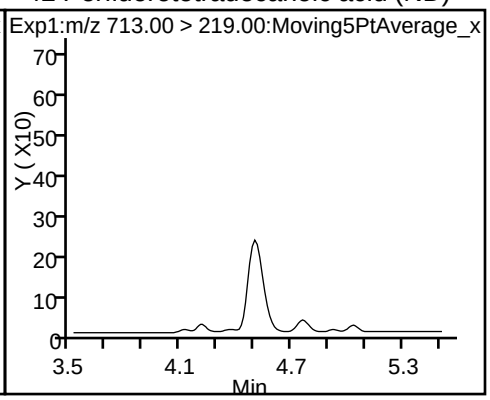
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

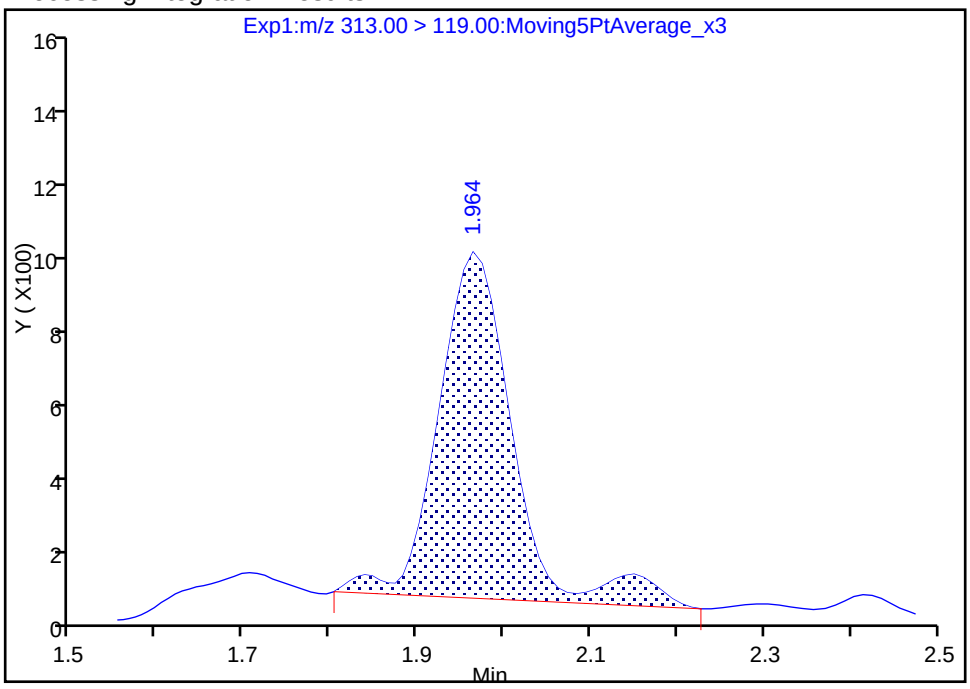
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Injection Date:	23-Dec-2017 01:23:56	Instrument ID:	A8_N		
Lims ID:	320-34425-A-17-A	Lab Sample ID:	320-34425-17		
Client ID:	FM-32-050-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

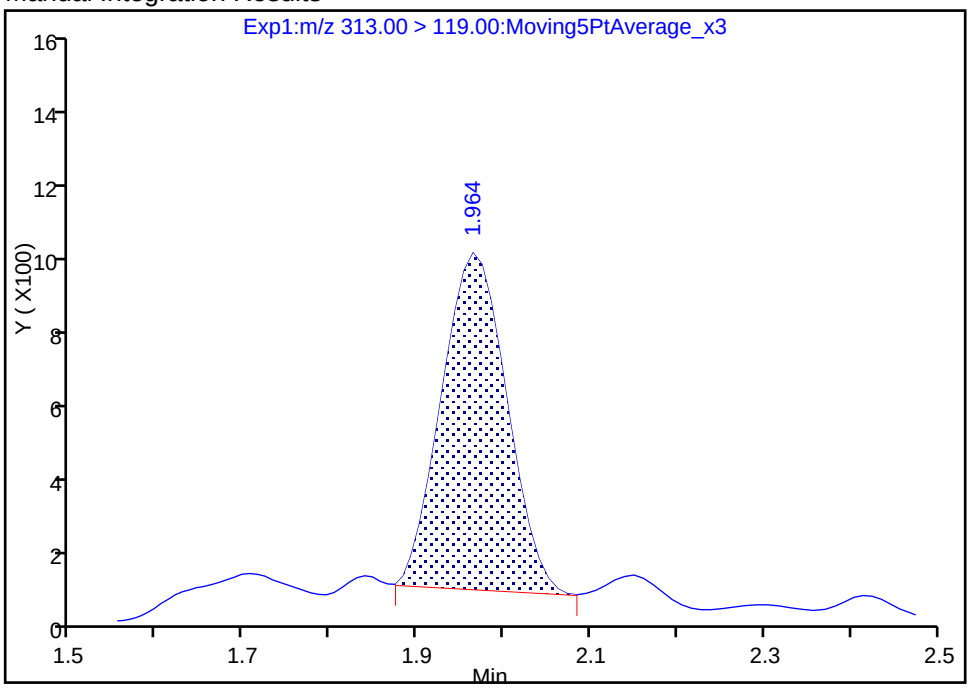
Processing Integration Results

RT: 1.96
Area: 5565
Amount: 0.029419
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 4731
Amount: 0.027980
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:58:48

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

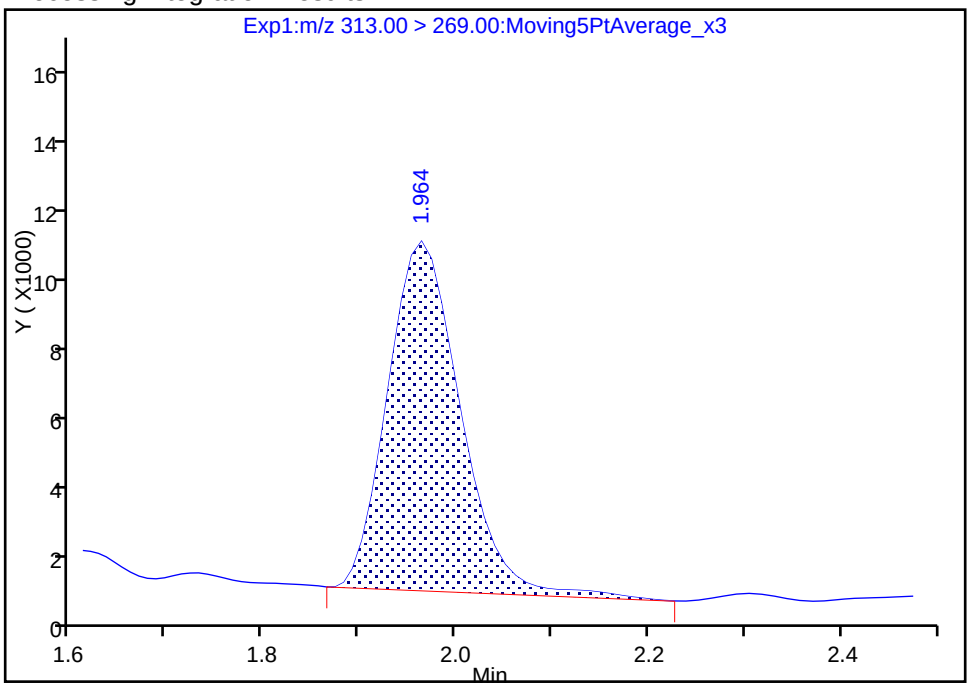
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Lims ID:	320-34425-A-17-A	Lab Sample ID:	320-34425-17		
Client ID:	FM-32-050-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

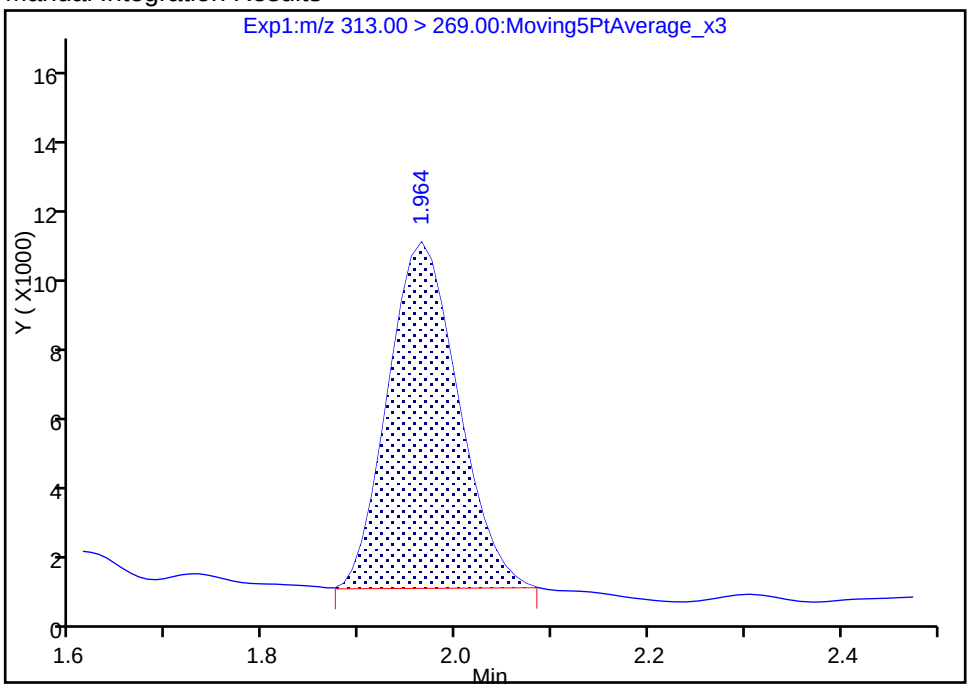
Processing Integration Results

RT: 1.96
Area: 49564
Amount: 0.029419
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 47140
Amount: 0.027980
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:58:55

Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Sacramento

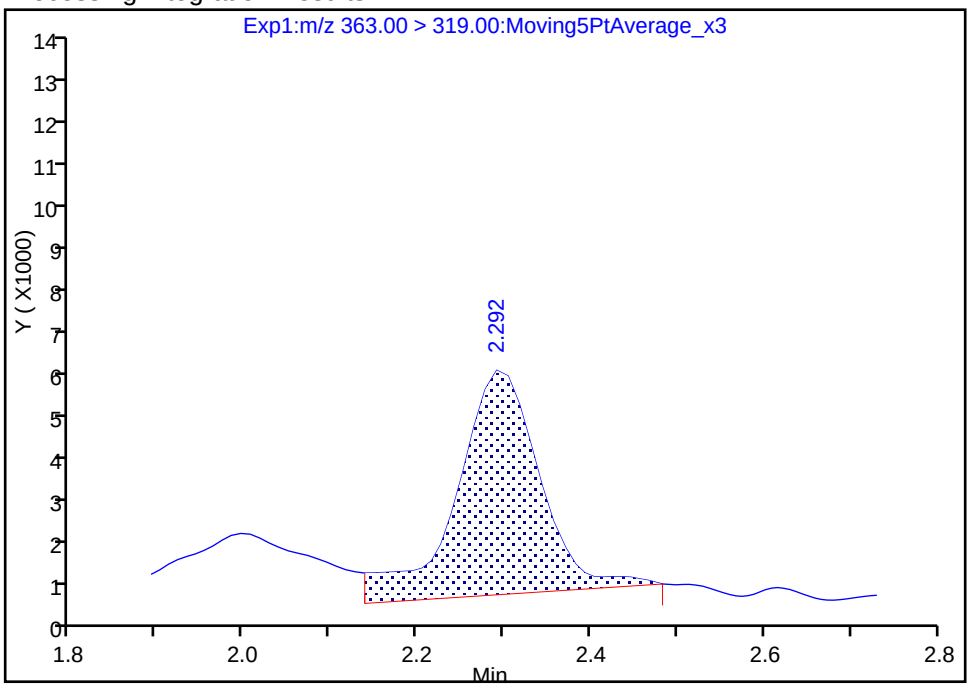
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Lims ID:	320-34425-A-17-A	Lab Sample ID:	320-34425-17		
Client ID:	FM-32-050-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

10 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

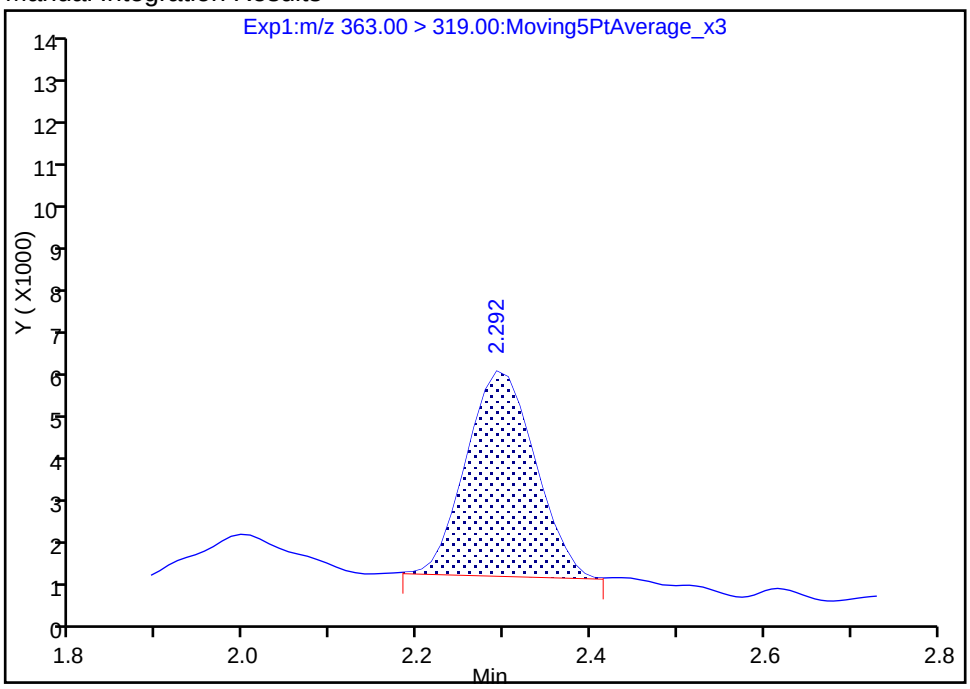
Processing Integration Results

RT: 2.29
Area: 35091
Amount: 0.019393
Amount Units: ng/ml



Manual Integration Results

RT: 2.29
Area: 26468
Amount: 0.014628
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:59:20
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

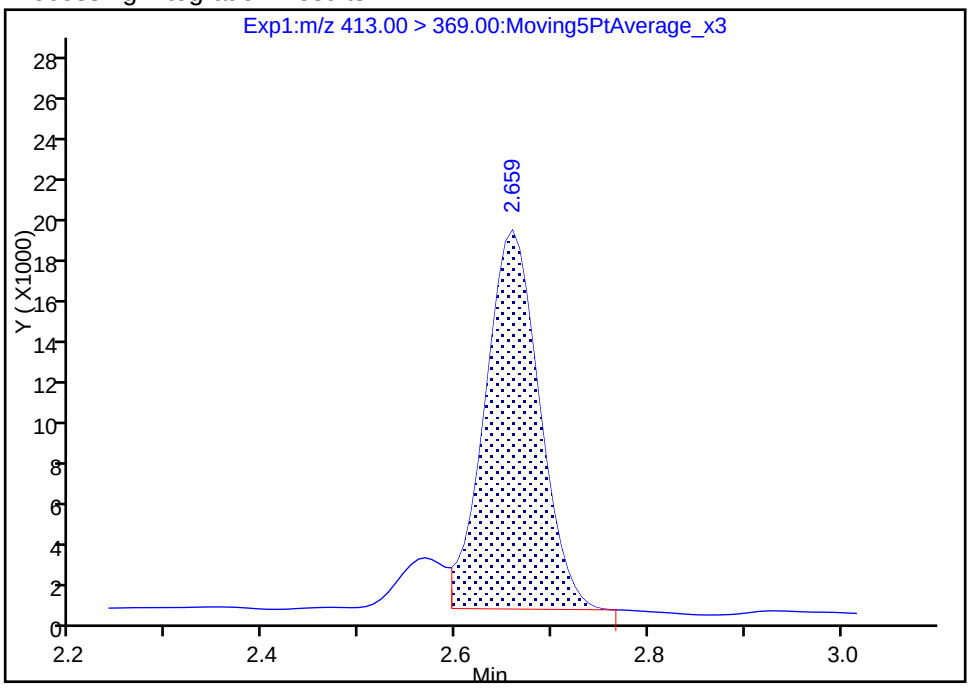
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_030.d				
Injection Date:	23-Dec-2017 01:23:56	Instrument ID:	A8_N		
Lims ID:	320-34425-A-17-A	Lab Sample ID:	320-34425-17		
Client ID:	FM-32-050-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

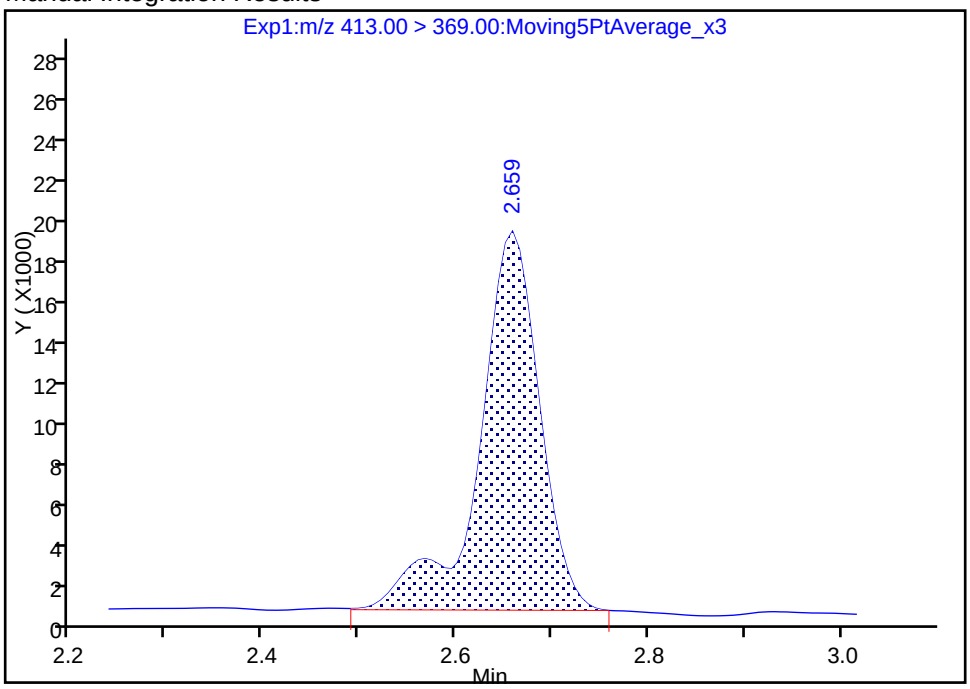
Processing Integration Results

RT: 2.66
Area: 71051
Amount: 0.035762
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 79518
Amount: 0.040024
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:59:37
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

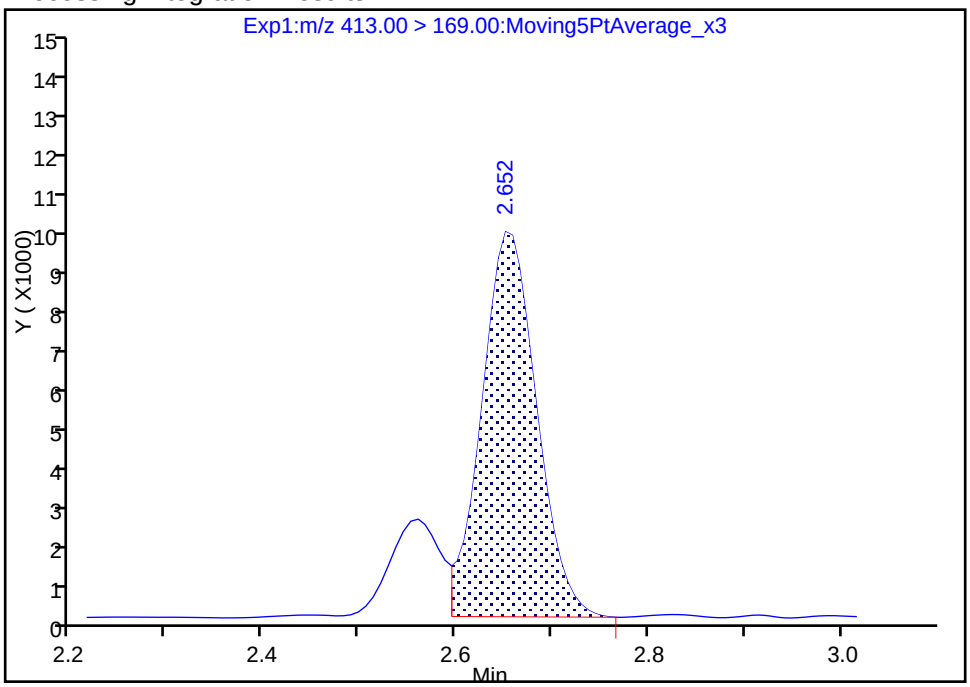
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_030.d				
Injection Date:	23-Dec-2017 01:23:56	Instrument ID:	A8_N		
Lims ID:	320-34425-A-17-A	Lab Sample ID:	320-34425-17		
Client ID:	FM-32-050-944-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	24	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

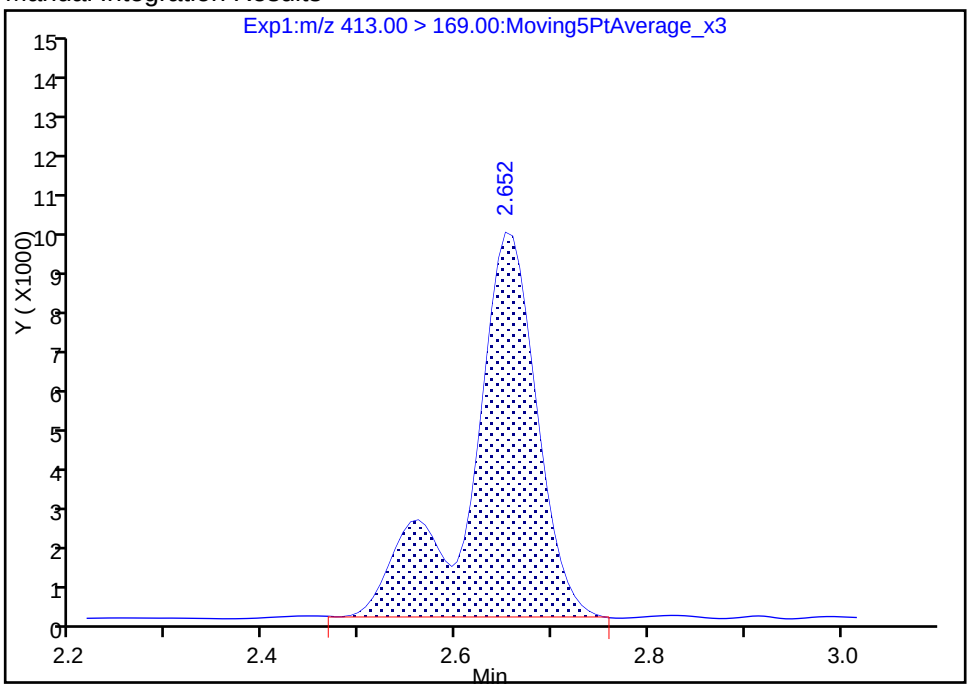
Processing Integration Results

RT: 2.65
Area: 38525
Amount: 0.035762
Amount Units: ng/ml



Manual Integration Results

RT: 2.65
Area: 47149
Amount: 0.040024
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:59:51

Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: Pump Blank PB-816-171211 | Lab Sample ID: 320-34425-18

Matrix: Water | Lab File ID: 2017.12.22LLB_032.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 09:50

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 248.9(mL) | Date Analyzed: 12/23/2017 01:39

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.01	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.01	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.01	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.01	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.01	0.85
375-95-1	Perfluorononanoic acid (PFNA)	1.0	J	2.01	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.01	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.01	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.01	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.31	U	2.01	1.31
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.01	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.01	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.32	J B	2.01	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.01	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.01	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.01	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.01	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.11	U	20.1	3.11
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.91	U	20.1	1.91
27619-97-2	6:2FTS	2.01	U	20.1	2.01
39108-34-4	8:2FTS	2.01	U	20.1	2.01

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: Pump Blank PB-816-171211 | Lab Sample ID: 320-34425-18

Matrix: Water | Lab File ID: 2017.12.22LLB_032.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 09:50

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 248.9(mL) | Date Analyzed: 12/23/2017 01:39

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	103		25-150
STL01893	13C5 PFPeA	101		25-150
STL00993	13C2 PFHxA	101		25-150
STL01892	13C4-PFHpA	105		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	106		25-150
STL00996	13C2 PFDA	98		25-150
STL00997	13C2 PFUnA	101		25-150
STL00998	13C2 PFDoA	96		25-150
STL02116	13C2-PFTeDA	145		25-150
STL02337	13C3-PFBS	96		25-150
STL00994	18O2 PFHxS	100		25-150
STL00991	13C4 PFOS	102		25-150
STL01056	13C8 FOSA	95		25-150
STL02118	d3-NMeFOSAA	88		25-150
STL02117	d5-NEtFOSAA	93		25-150
STL02279	M2-6:2FTS	40		25-150
STL02280	M2-8:2FTS	82		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_032.d
Lims ID: 320-34425-A-18-A
Client ID: Pump Blank PB-816-171211
Sample Type: Client
Inject. Date: 23-Dec-2017 01:39:40 ALS Bottle#: 25 Worklist Smp#: 24
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-18-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:04:51

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7658841	2.58		103	19484	
2 Perfluorobutyric acid										
212.90 > 169.00	1.432	1.419	0.013	1.004	15005	0.005346			2.9	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4487746	2.53		101	32394	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.000	5586	0.002788			6.4	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.645	84581	2.24		96.2	4460	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.739	4782815	2.53		101	47012	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.291	0.015	0.867	4581305	2.61		105	31613	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.319	2.304	0.015	1.000	18828	0.007878			56.2	
399.00 > 99.00	2.319	2.304	0.015	1.000	5225		3.60(1.50-4.49)		26.5	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	5250988	2.37		100	56955	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.642	-0.011	1.000	8768	0.0174			298	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.989	770628	0.9440		39.7	22390	
D 14 13C4 PFOA										
417.00 > 372.00	2.660	2.654	0.006	1.000	4884703	2.42		97.0	59029	
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.656	0.004		4876886	2.50			51833	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.660	2.656	0.004	1.000	12110	0.005894			19.1	
413.00 > 169.00	2.653	2.656	-0.003	0.997	6301		1.92(0.84-2.52)		51.9	
D 18 13C4 PFOS										
503.00 > 80.00	3.034	3.025	0.009	1.141	3549611	2.43		102	34340	
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.028	0.006	1.141	3797318	2.65		106	43580	
20 Perfluorononanoic acid										
463.00 > 419.00	3.034	3.029	0.005	1.000	37941	0.0248			153	
463.00 > 169.00	3.034	3.029	0.005	1.000	7964		4.76(1.90-5.69)		115	
D 21 13C8 FOSA										
506.00 > 78.00	3.380	3.370	0.010	1.271	4725642	2.38		95.1	31544	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.372	0.008	1.000	4243	0.002340			192	
D 26 M2-8:2FTS										
529.00 > 81.00	3.388	3.377	0.011	1.274	891172	1.95		81.6	19119	
D 23 13C2 PFDA										
515.00 > 470.00	3.395	3.389	0.006	1.277	2905162	2.46		98.4	30378	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.547	3.543	0.004	1.334	1399797	2.21		88.3	17045	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.555	3.548	0.007	1.002	1548	0.002575			15.1	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.394	1440552	2.33		93.1	6868	
D 30 13C2 PFUnA										
565.00 > 520.00	3.716	3.717	-0.001	1.397	2264791	2.52		101	27185	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.725	3.720	0.005	1.005	2568	0.004485			93.7	
D 36 13C2 PFDoA										
615.00 > 570.00	4.014	4.011	0.003	1.509	2316179	2.39		95.6	44420	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.697	3939303	3.64		145	35778	

Report Date: 26-Dec-2017 15:10:55 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_032.d

Injection Date: 23-Dec-2017 01:39:40 Instrument ID: A8_N

Lims ID: 320-34425-A-18-A Lab Sample ID: 320-34425-18

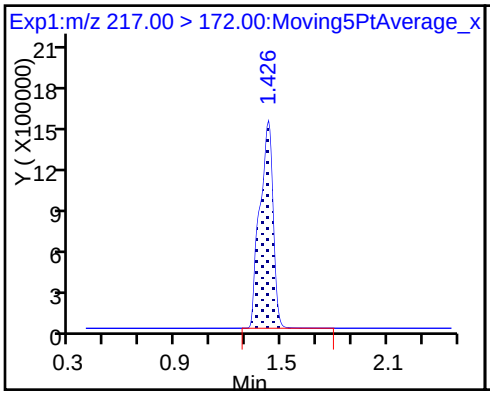
Client ID: Pump Blank PB-816-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 25 Worklist Smp#: 24

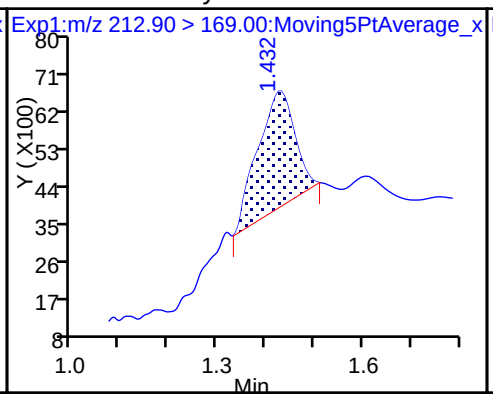
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

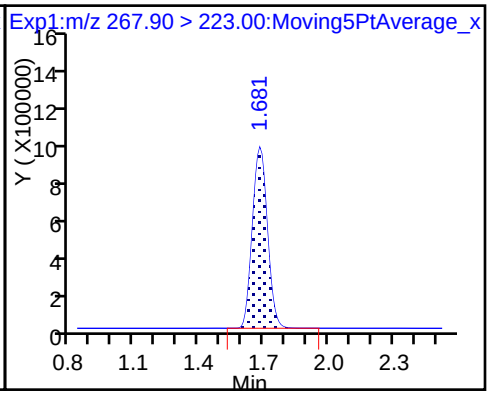
D 1 13C4 PFBA



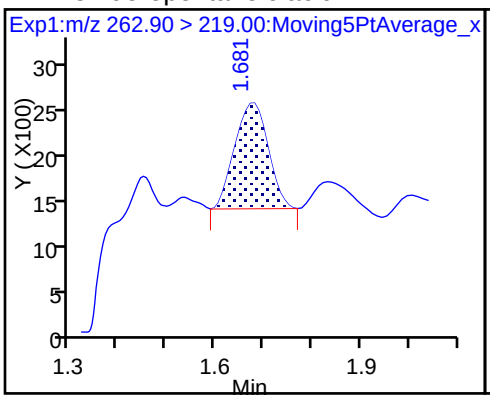
2 Perfluorobutyric acid



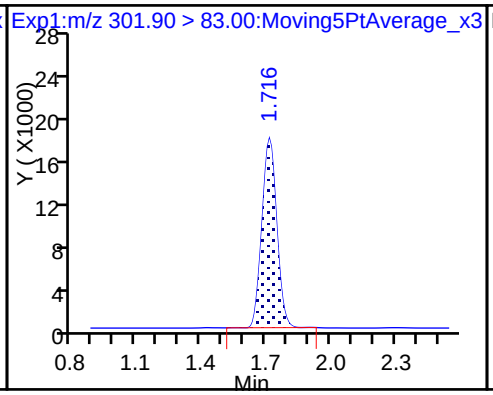
D 3 13C5-PFPeA



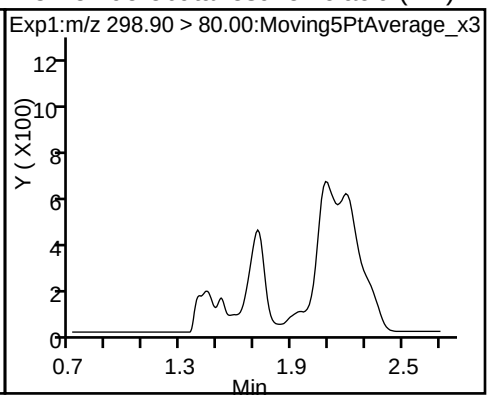
4 Perfluoropentanoic acid



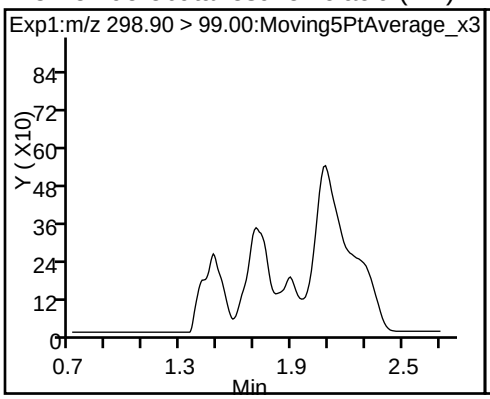
D 47 13C3-PFBS



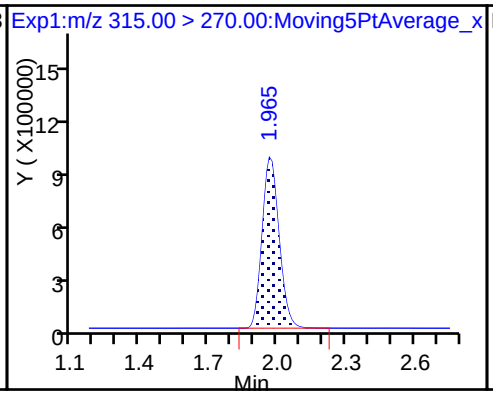
5 Perfluorobutanesulfonic acid (ND)



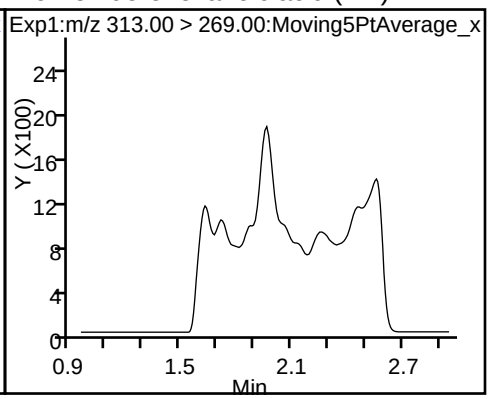
5 Perfluorobutanesulfonic acid (ND)



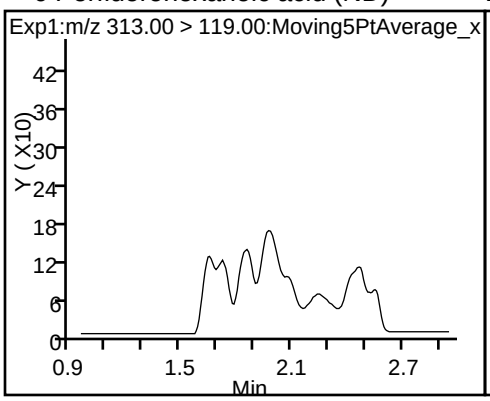
D 7 13C2 PFHxA



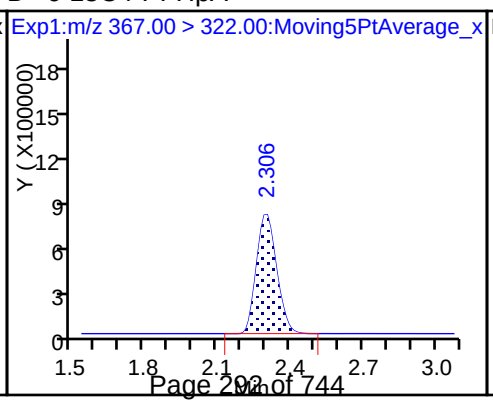
6 Perfluorohexanoic acid (ND)



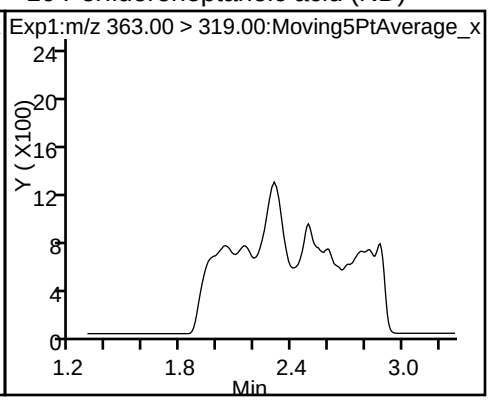
6 Perfluorohexanoic acid (ND)



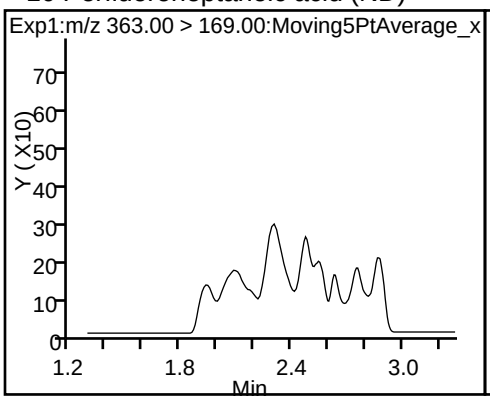
D 9 13C4-PFHpA



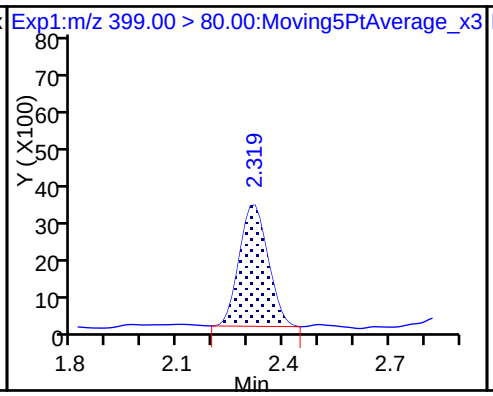
10 Perfluoroheptanoic acid (ND)



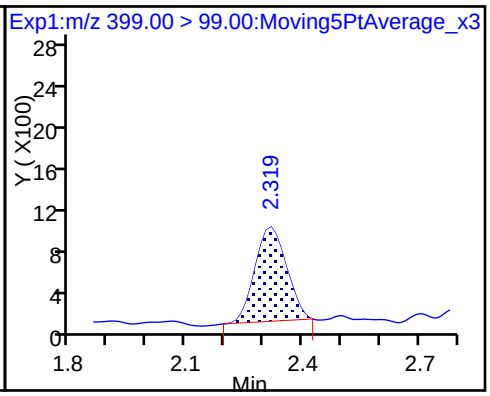
10 Perfluoroheptanoic acid (ND)



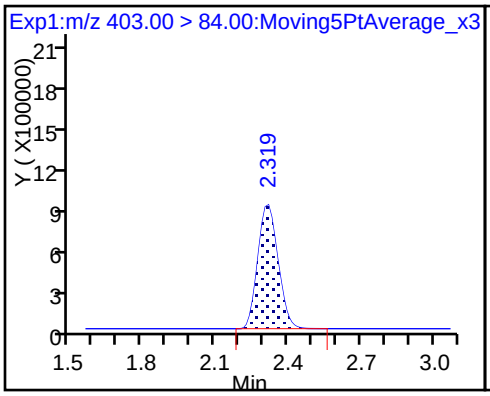
8 Perfluorohexanesulfonic acid



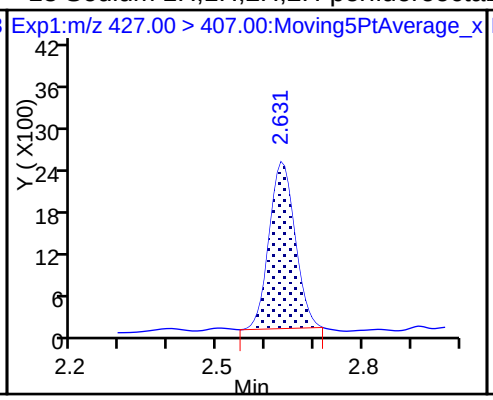
8 Perfluorohexanesulfonic acid



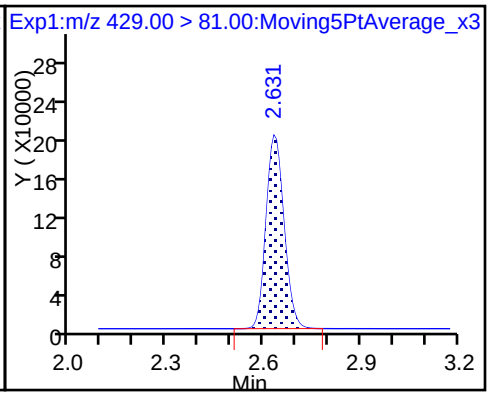
D 11 18O2 PFHxS



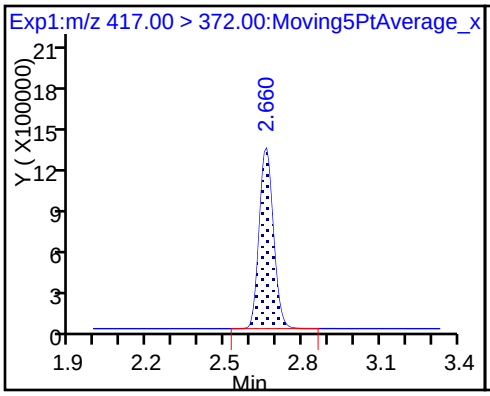
13 Sodium 1H,1H,2H,2H-perfluorooctane



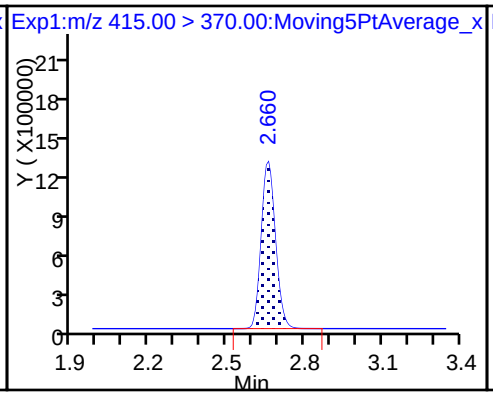
D 12 M2-6:2FTS



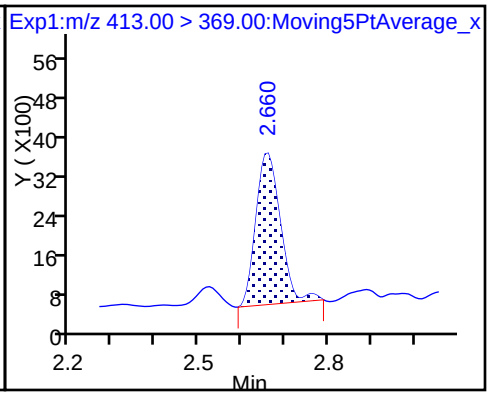
D 14 13C4 PFOA



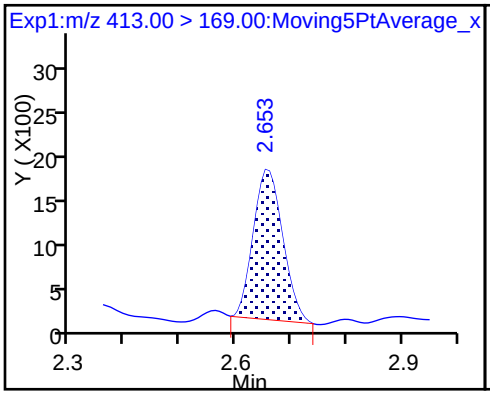
* 62 13C2-PFOA



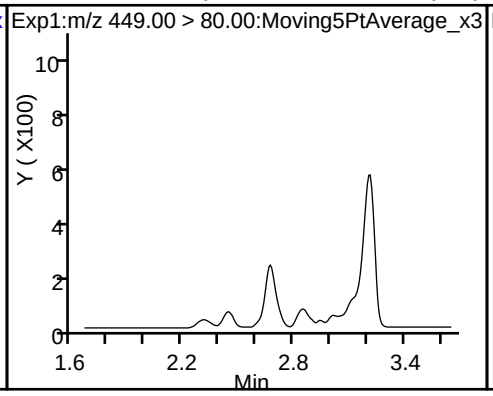
15 Perfluorooctanoic acid



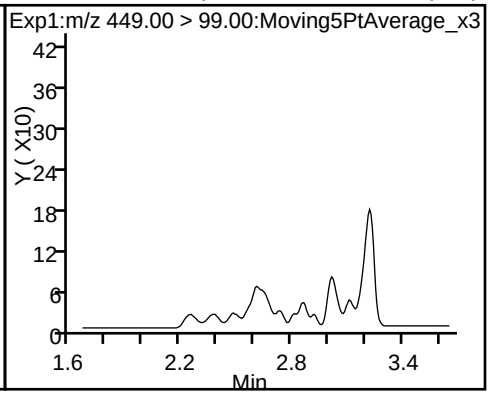
15 Perfluorooctanoic acid



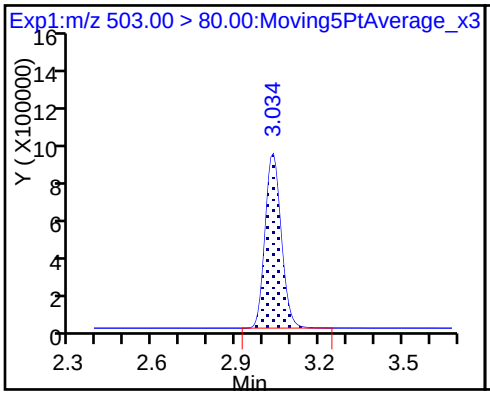
16 Perfluoroheptanesulfonic Acid (ND)



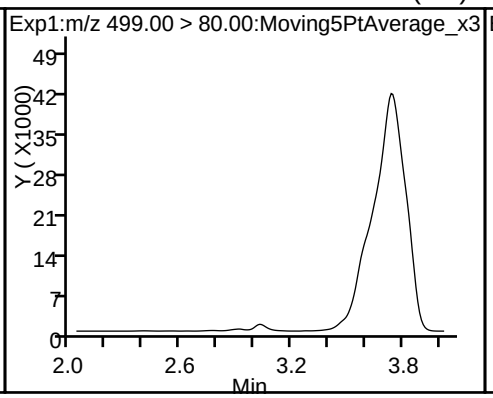
16 Perfluoroheptanesulfonic Acid (ND)



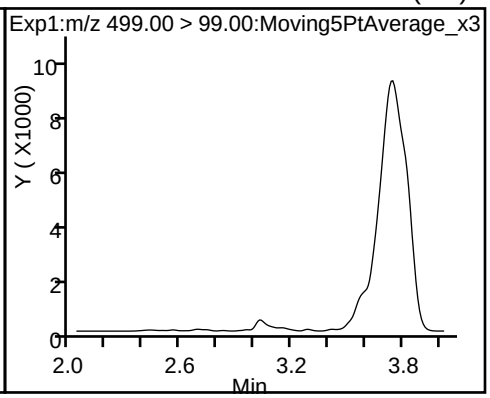
D 18 13C4 PFOS



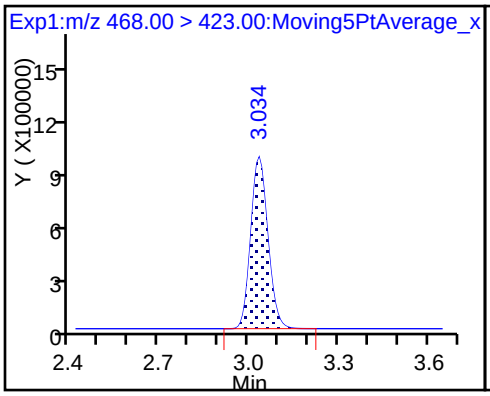
17 Perfluorooctane sulfonic acid (ND)



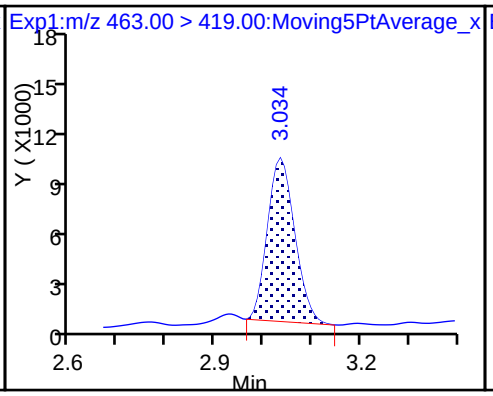
17 Perfluorooctane sulfonic acid (ND)



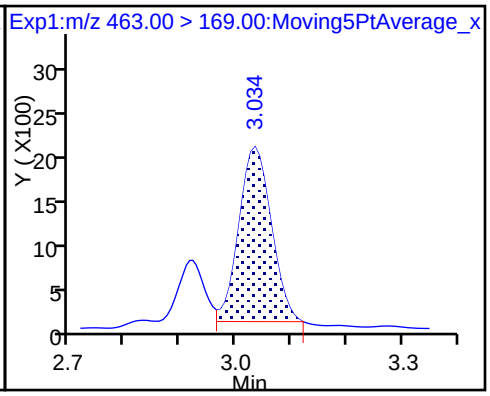
D 19 13C5 PFNA



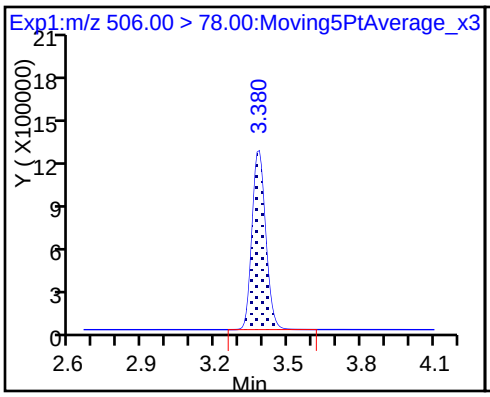
20 Perfluorononanoic acid



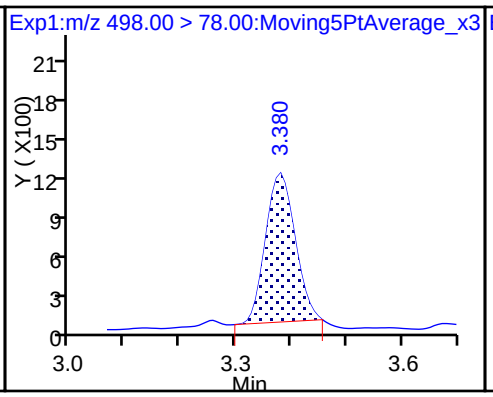
20 Perfluorononanoic acid



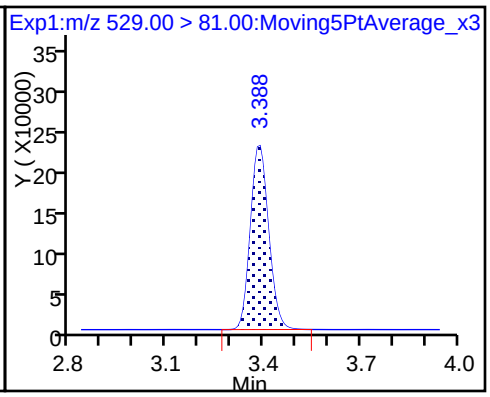
D 21 13C8 FOSA



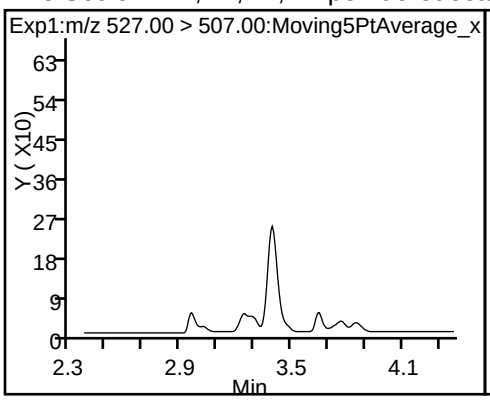
22 Perfluorooctane Sulfonamide



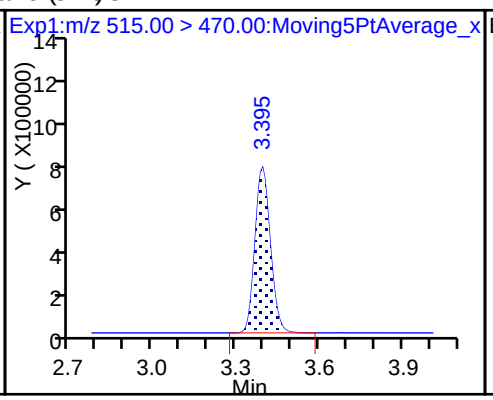
D 26 M2-8:2FTS



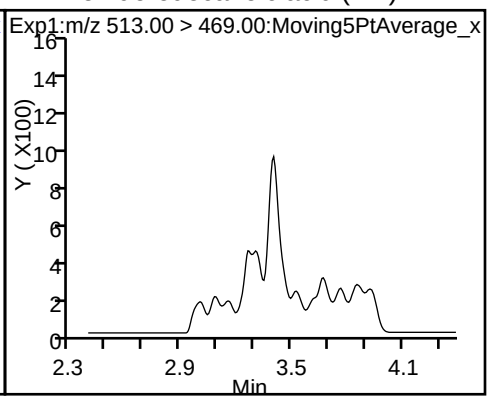
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



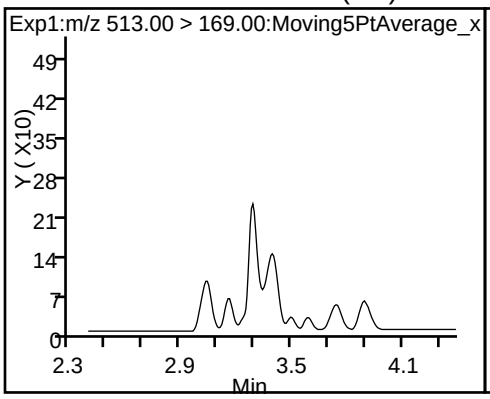
D 23 13C2 PFDA



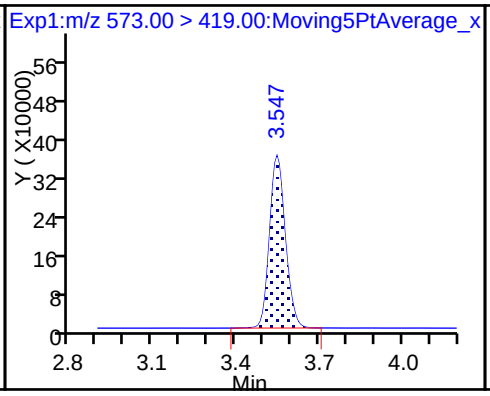
24 Perfluorodecanoic acid (ND)



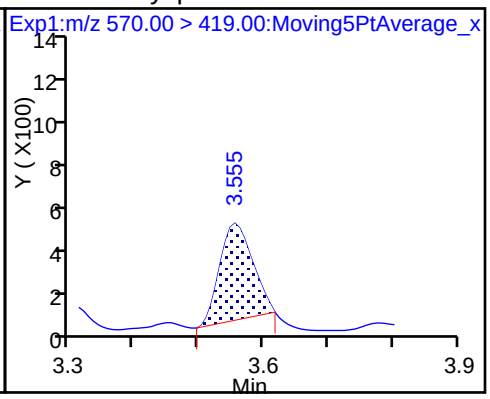
24 Perfluorodecanoic acid (ND)



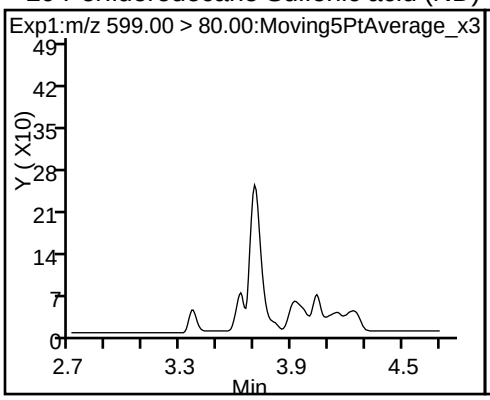
D 27 d3-NMeFOSAA



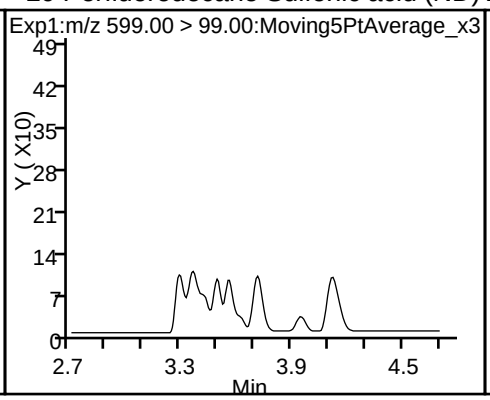
28 N-methyl perfluorooctane sulfonami



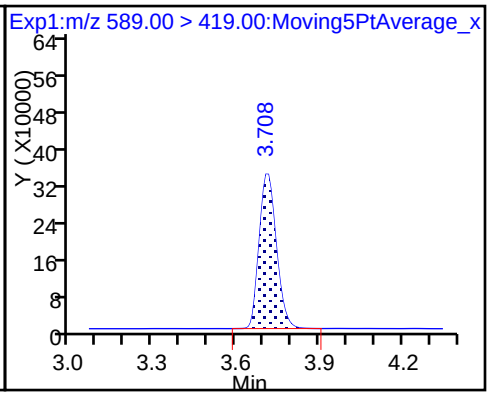
29 Perfluorodecane Sulfonic acid (ND)



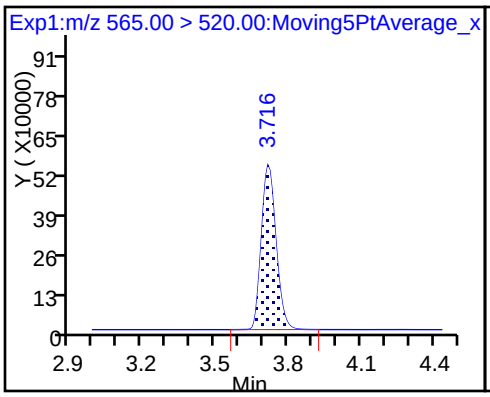
29 Perfluorodecane Sulfonic acid (ND)



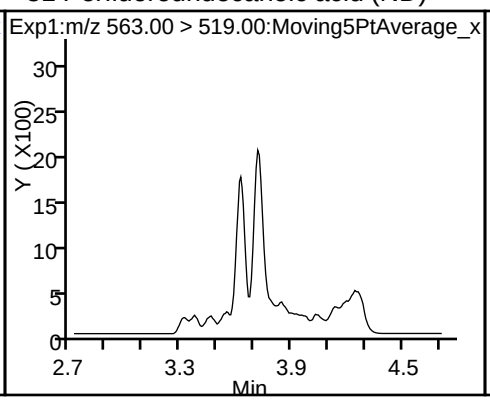
D 32 d5-NEtFOSAA



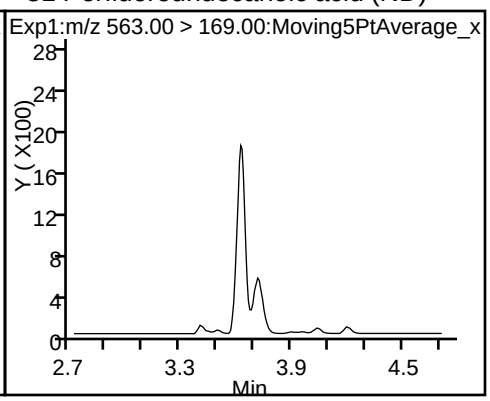
D 30 13C2 PFUnA



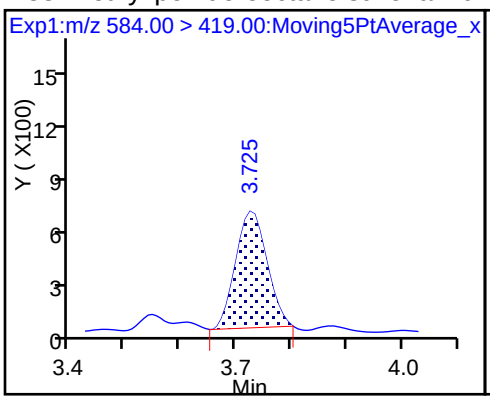
31 Perfluoroundecanoic acid (ND)



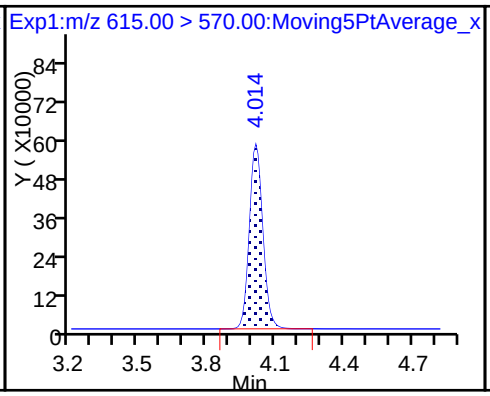
31 Perfluoroundecanoic acid (ND)



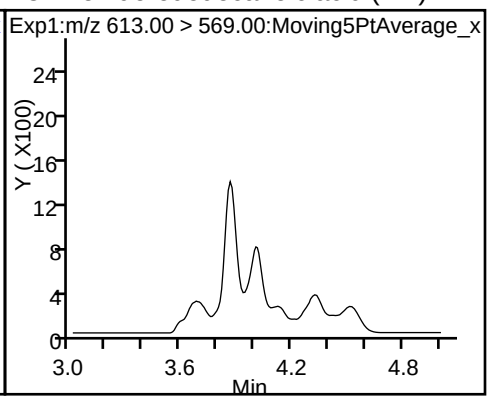
33 N-ethyl perfluorooctane sulfonamid



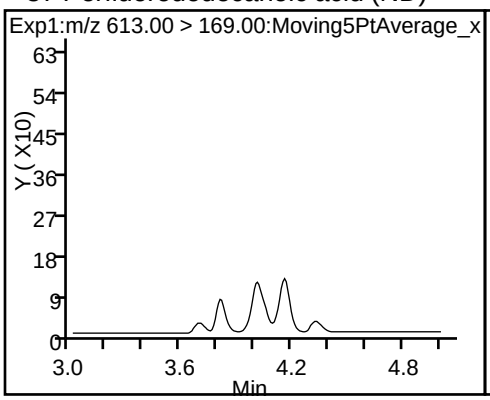
D 36 13C2 PFDoA



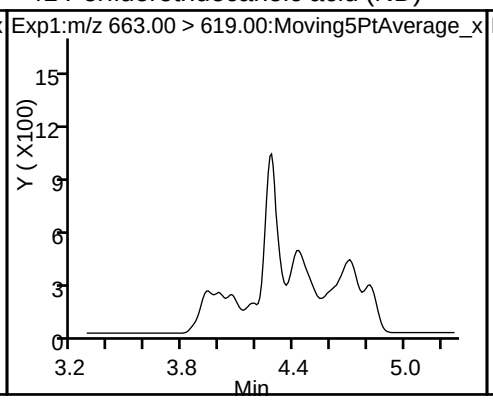
37 Perfluorododecanoic acid (ND)



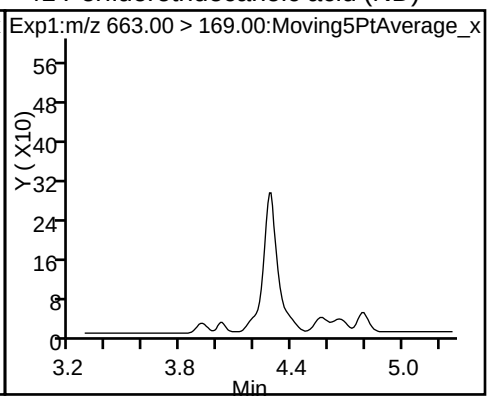
37 Perfluorododecanoic acid (ND)



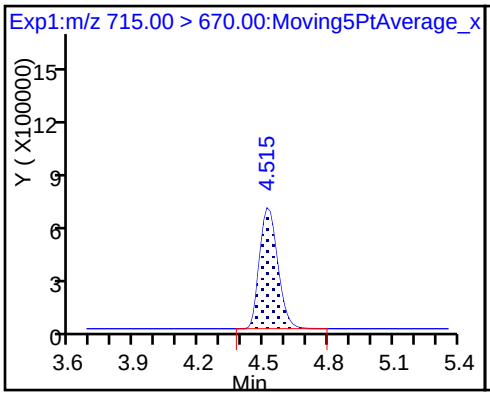
41 Perfluorotridecanoic acid (ND)



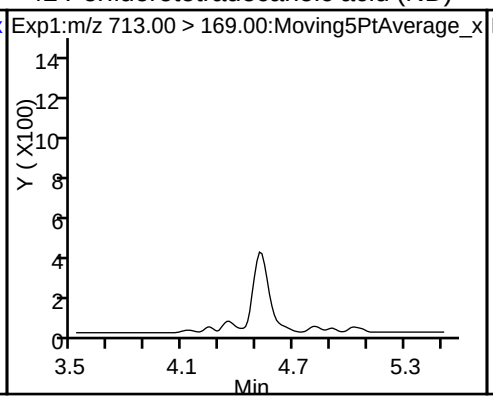
41 Perfluorotridecanoic acid (ND)



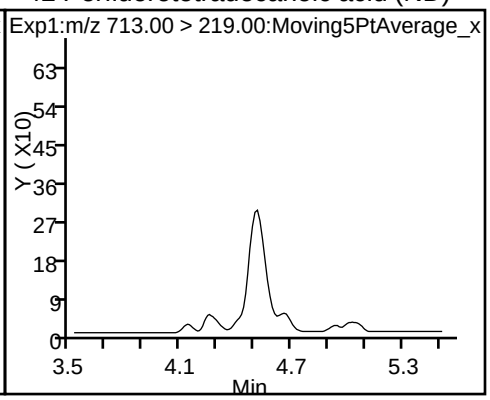
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: Field Blank FB-816-171211 | Lab Sample ID: 320-34425-19

Matrix: Water | Lab File ID: 2017.12.22LLB_033.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 09:50

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 244.2(mL) | Date Analyzed: 12/23/2017 01:47

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.36	U	2.05	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.50	U	2.05	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	0.59	U	2.05	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.26	U	2.05	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	0.87	U	2.05	0.87
375-95-1	Perfluorononanoic acid (PFNA)	0.28	U	2.05	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.05	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.13	U	2.05	1.13
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.05	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.05	1.33
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.05	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.05	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.05	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.05	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.55	U	2.05	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.05	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.05	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.17	U	20.5	3.17
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.95	U	20.5	1.95
27619-97-2	6:2FTS	2.05	U	20.5	2.05
39108-34-4	8:2FTS	2.05	U	20.5	2.05

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: Field Blank FB-816-171211 | Lab Sample ID: 320-34425-19

Matrix: Water | Lab File ID: 2017.12.22LLB_033.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 09:50

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 244.2(mL) | Date Analyzed: 12/23/2017 01:47

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	104		25-150
STL01893	13C5 PFPeA	102		25-150
STL00993	13C2 PFHxA	97		25-150
STL01892	13C4-PFHpA	99		25-150
STL00990	13C4 PFOA	99		25-150
STL00995	13C5 PFNA	110		25-150
STL00996	13C2 PFDA	101		25-150
STL00997	13C2 PFUnA	99		25-150
STL00998	13C2 PFDoA	97		25-150
STL02116	13C2-PFTeDA	147		25-150
STL02337	13C3-PFBS	96		25-150
STL00994	18O2 PFHxS	101		25-150
STL00991	13C4 PFOS	104		25-150
STL01056	13C8 FOSA	93		25-150
STL02118	d3-NMeFOSAA	78		25-150
STL02117	d5-NEtFOSAA	88		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	76		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_033.d
Lims ID: 320-34425-A-19-A
Client ID: Field Blank FB-816-171211
Sample Type: Client
Inject. Date: 23-Dec-2017 01:47:31 ALS Bottle#: 26 Worklist Smp#: 25
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-19-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:05:37

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.419	1.419	0.0	0.535	7418088	2.59		104	20286	
2 Perfluorobutyric acid										
212.90 > 169.00	1.432	1.419	0.013	1.009	15111	0.005558			2.4	
D 3 13C5-PFPeA										
267.90 > 223.00	1.670	1.670	0.0	0.630	4383503	2.56		102	60227	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.670	0.009	1.005	5312	0.002714			6.3	
D 47 13C3-PFBS										
301.90 > 83.00	1.706	1.705	0.001	0.643	81507	2.23		95.9	3408	
D 7 13C2 PFHxA										
315.00 > 270.00	1.964	1.953	0.011	0.741	4443731	2.43		97.2	39419	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.864	4177917	2.47		98.7	32877	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	1.000	16631	0.007183			55.9	
399.00 > 99.00	2.304	2.304	0.0	1.000	4799		3.47(1.50-4.49)		20.4	
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.304	0.0	0.869	5086652	2.38		101	52065	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.630	2.642	-0.012	1.000	8320	0.0161			206	
D 12 M2-6:2FTS										
429.00 > 81.00	2.630	2.642	-0.012	0.992	790215	1.00		42.2	21065	
D 14 13C4 PFOA										
417.00 > 372.00	2.651	2.654	-0.003	1.000	4807057	2.47		98.8	63266	
* 62 13C2-PFOA										
415.00 > 370.00	2.651	2.656	-0.005		4710776	2.50			56716	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.651	2.656	-0.005	1.000	9215	0.004557			15.5	
413.00 > 169.00	2.658	2.656	0.002	1.003	5029		1.83(0.84-2.52)		40.5	
D 18 13C4 PFOS										
503.00 > 80.00	3.024	3.025	-0.001	1.141	3494336	2.48		104	32289	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.144	3809784	2.75		110	50137	
D 21 13C8 FOSA										
506.00 > 78.00	3.377	3.370	0.007	1.274	4465957	2.33		93.0	33233	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.377	3.372	0.005	1.000	4946	0.002887			193	
D 26 M2-8:2FTS										
529.00 > 81.00	3.377	3.377	0.0	1.274	805716	1.83		76.4	18962	
D 23 13C2 PFDA										
515.00 > 470.00	3.392	3.389	0.003	1.280	2882072	2.53		101	30001	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.337	1198439	1.96		78.3	16069	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.713	3.712	0.001	1.400	1311004	2.19		87.7	6590	
D 30 13C2 PFUnA										
565.00 > 520.00	3.713	3.717	-0.004	1.400	2139700	2.46		98.5	24658	
D 36 13C2 PFDoA										
615.00 > 570.00	4.011	4.011	0.0	1.513	2272193	2.43		97.1	26131	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.702	3837002	3.67		147	33317	

Report Date: 26-Dec-2017 15:10:57 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_033.d

Injection Date: 23-Dec-2017 01:47:31 Instrument ID: A8_N

Lims ID: 320-34425-A-19-A Lab Sample ID: 320-34425-19

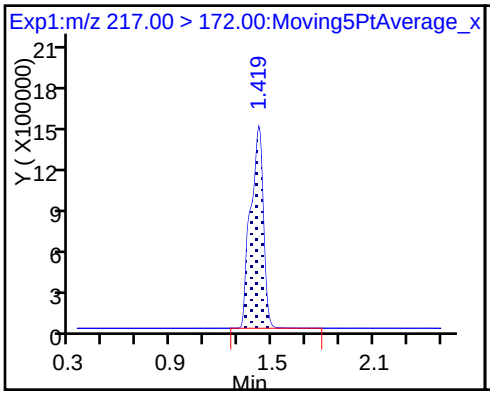
Client ID: Field Blank FB-816-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 26 Worklist Smp#: 25

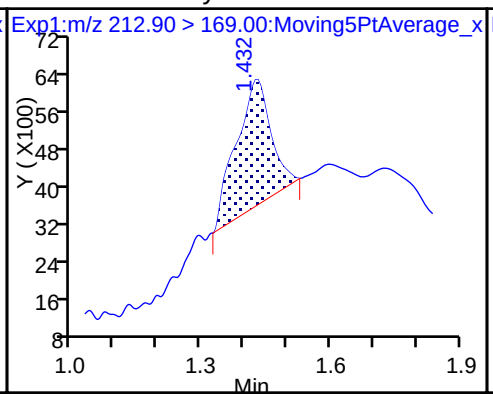
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

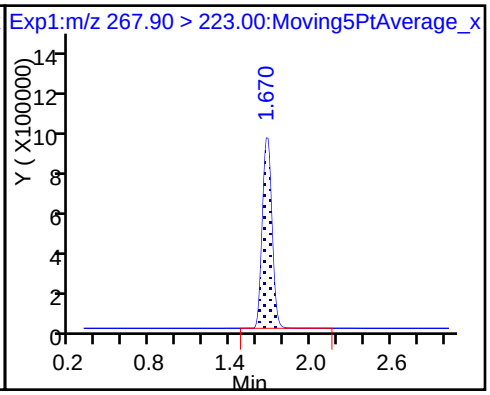
D 1 13C4 PFBA



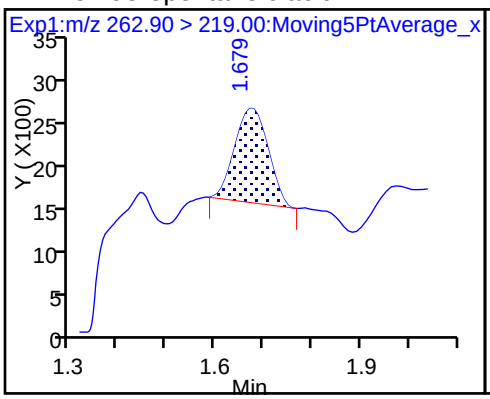
2 Perfluorobutyric acid



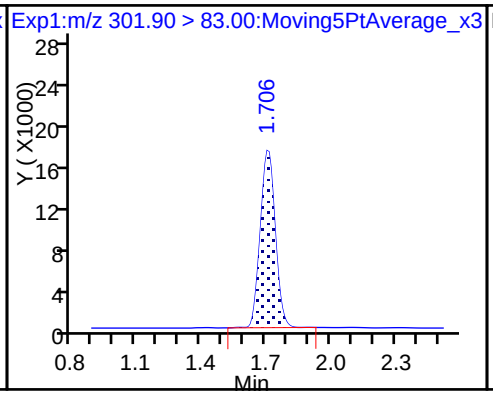
D 3 13C5-PFPeA



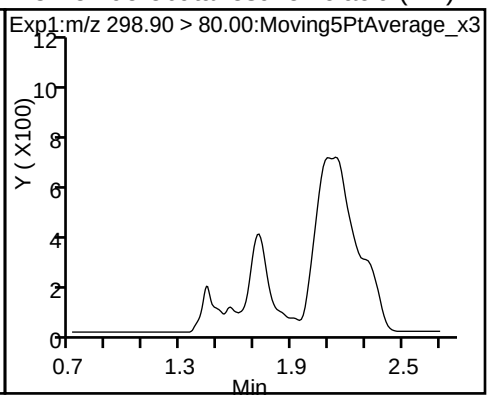
4 Perfluoropentanoic acid



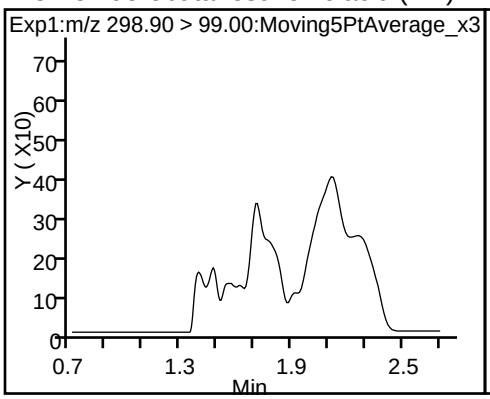
D 47 13C3-PFBS



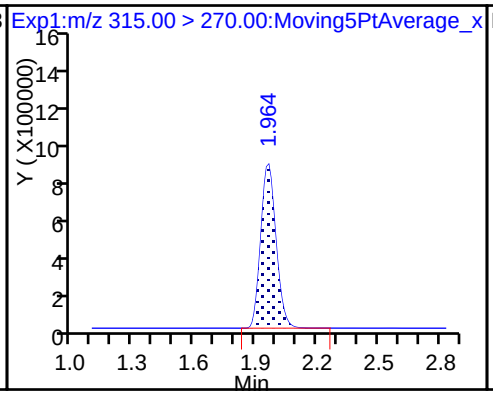
5 Perfluorobutanesulfonic acid (ND)



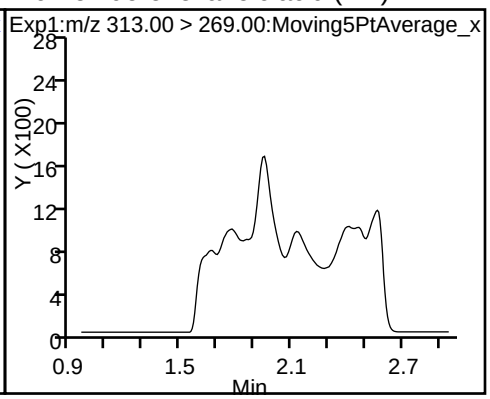
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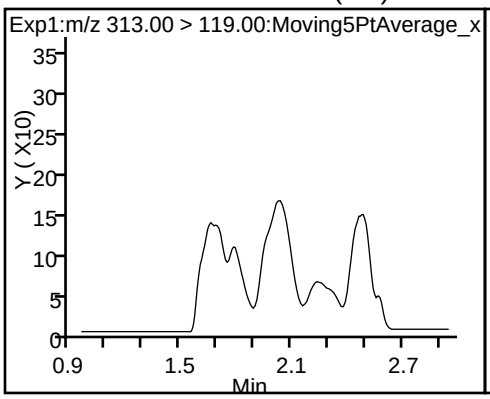
D 7 13C2 PFHxA



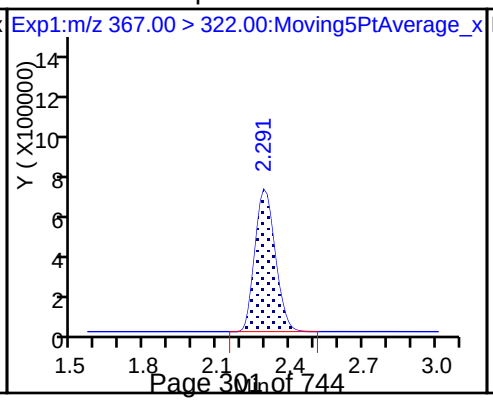
6 Perfluorohexanoic acid (ND)



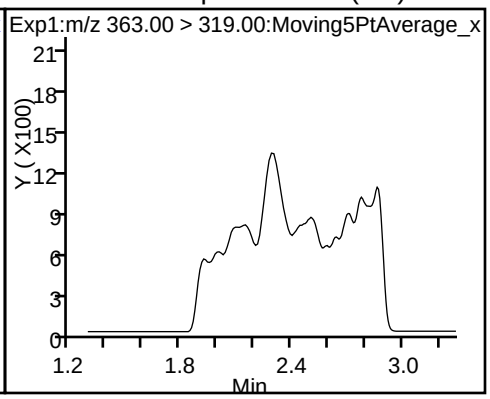
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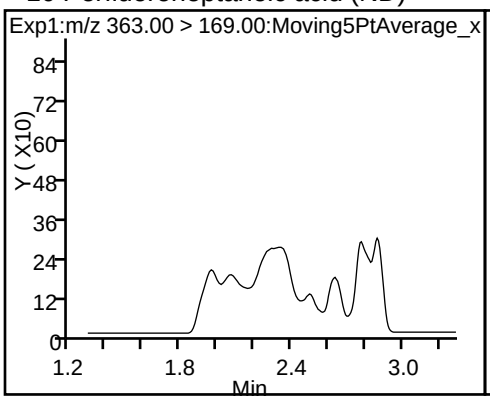
D 9 13C4-PFHpA



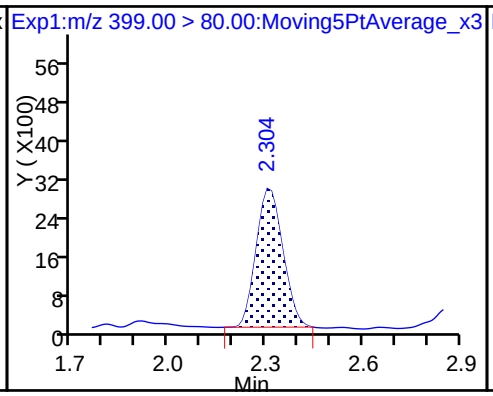
10 Perfluoroheptanoic acid (ND)



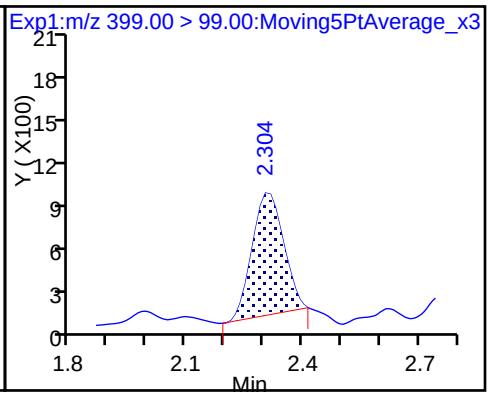
10 Perfluoroheptanoic acid (ND)



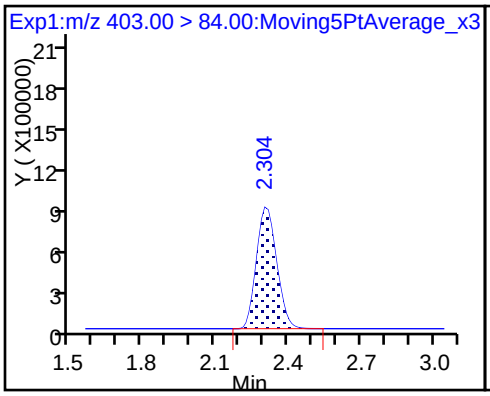
8 Perfluorohexanesulfonic acid



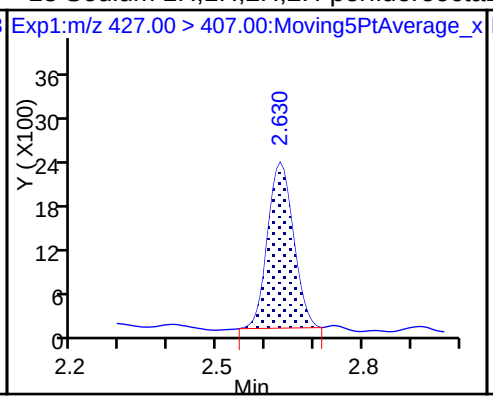
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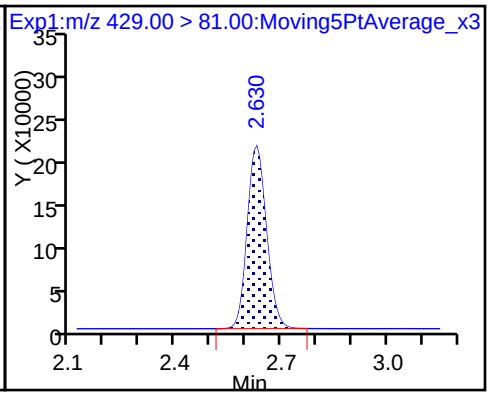
D 11 18O2 PFHxS



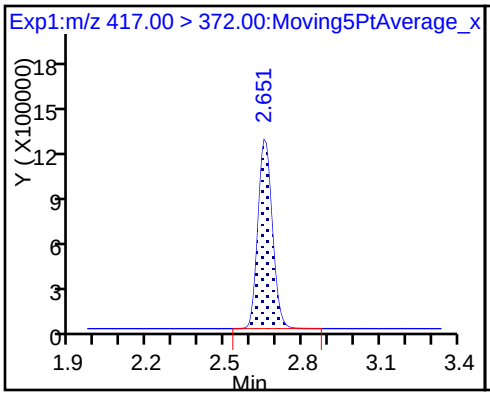
13 Sodium 1H,1H,2H,2H-perfluorooctane



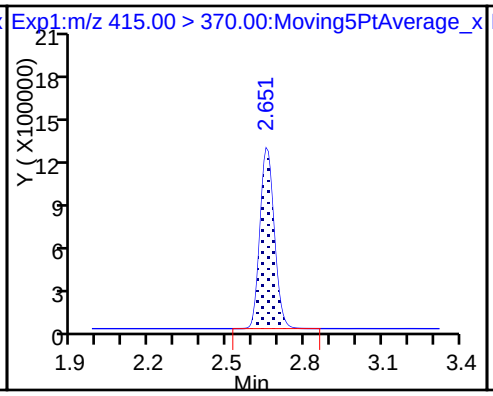
D 12 M2-6:2FTS



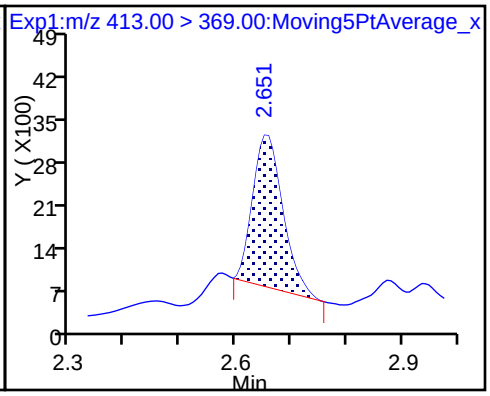
D 14 13C4 PFOA



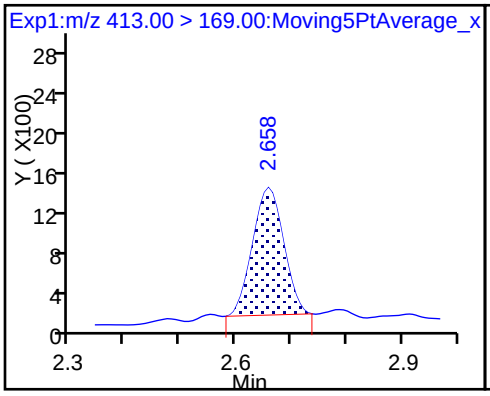
* 62 13C2-PFOA



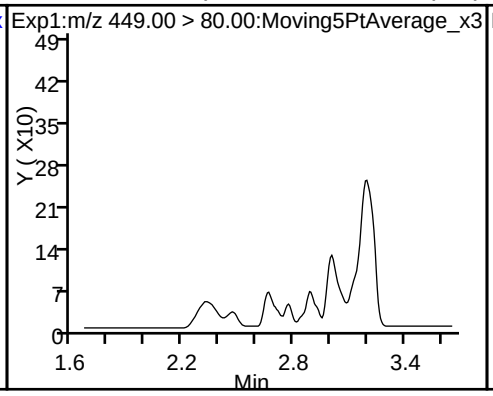
15 Perfluorooctanoic acid



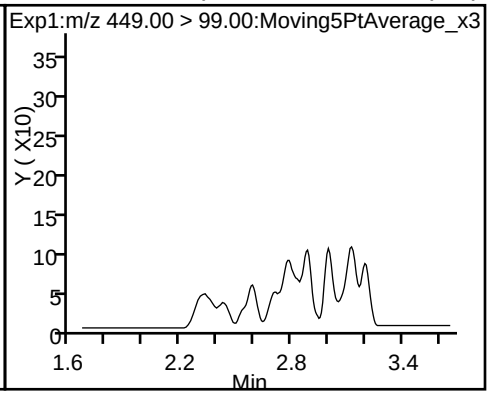
15 Perfluorooctanoic acid



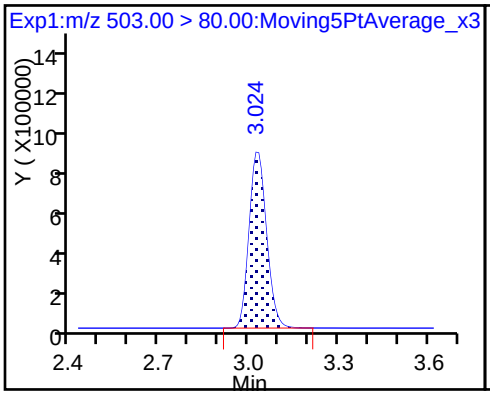
16 Perfluoroheptanesulfonic Acid (ND)



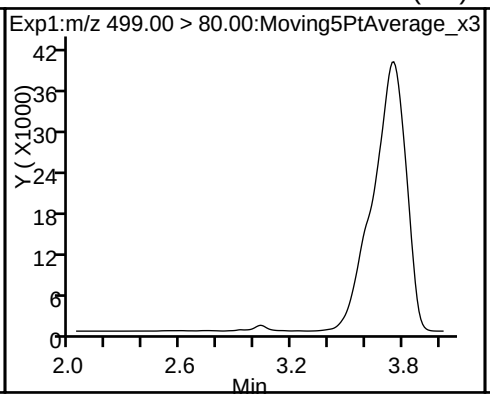
16 Perfluoroheptanesulfonic Acid (ND)



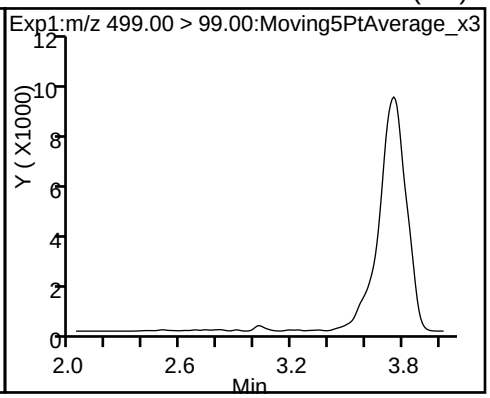
D 18 13C4 PFOS



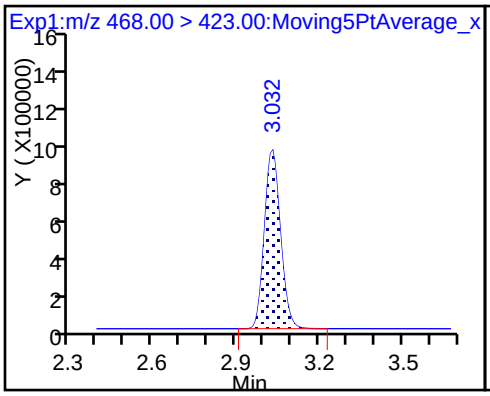
17 Perfluorooctane sulfonic acid (ND)



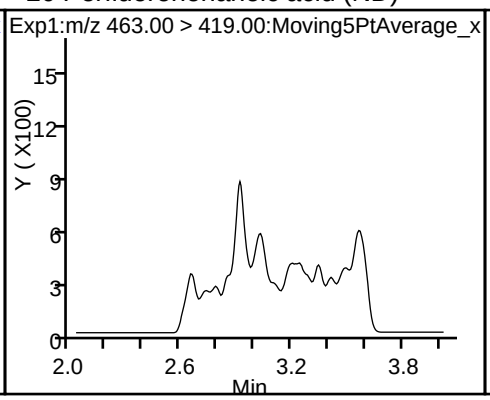
17 Perfluorooctane sulfonic acid (ND)



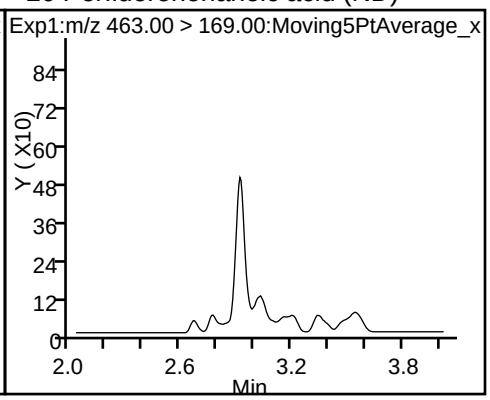
D 19 13C5 PFNA



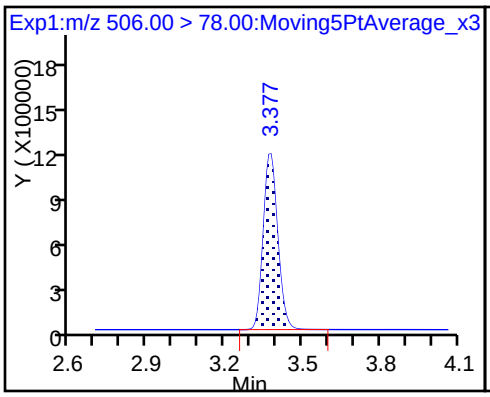
20 Perfluorononanoic acid (ND)



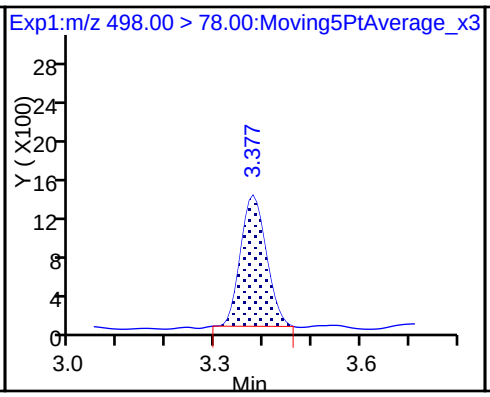
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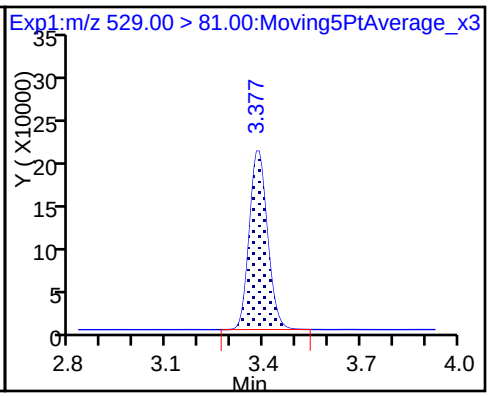
D 21 13C8 FOSA



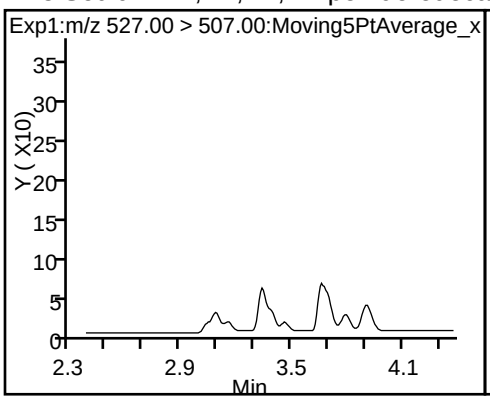
22 Perfluorooctane Sulfonamide



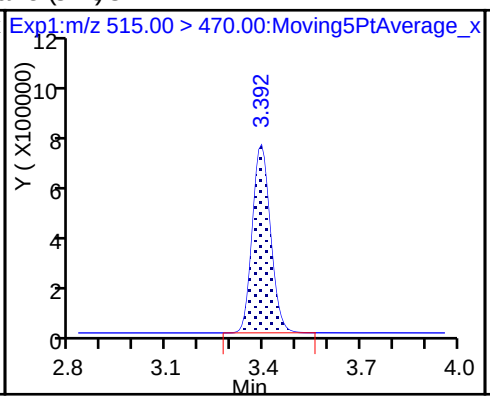
D 26 M2-8:2FTS



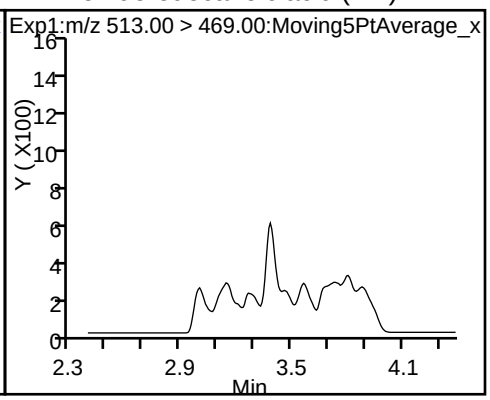
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



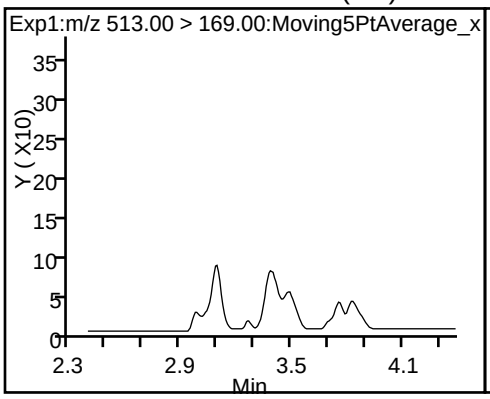
D 13C2 PFDA



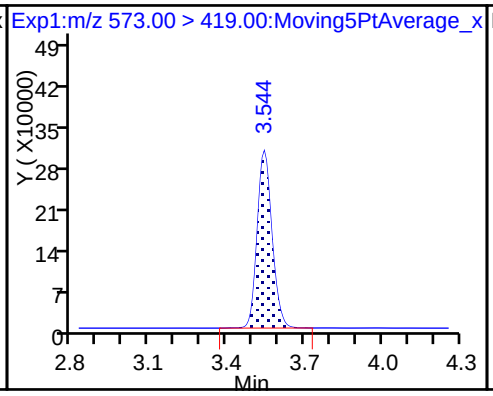
24 Perfluorodecanoic acid (ND)



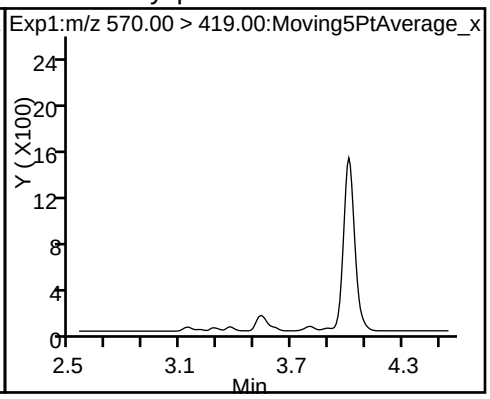
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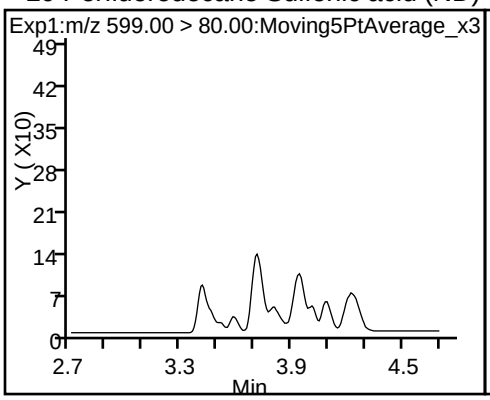
D 27 d3-NMeFOSAA



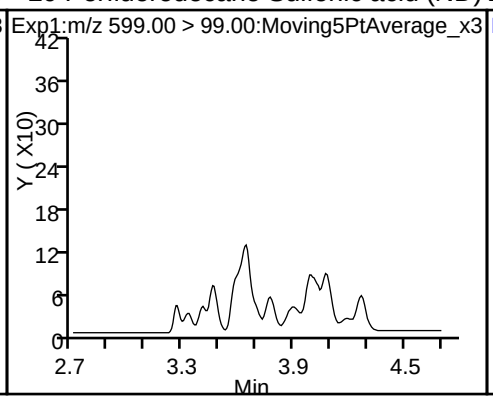
28 N-methyl perfluorooctane sulfonami (ND)



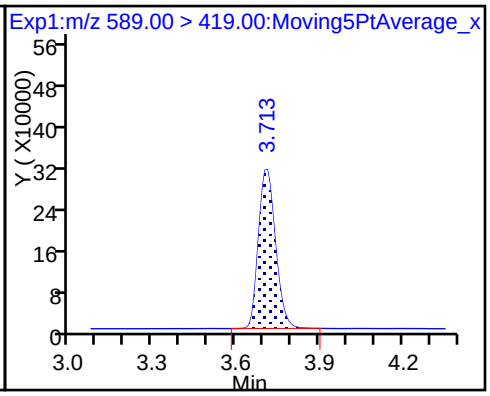
29 Perfluorodecane Sulfonic acid (ND)



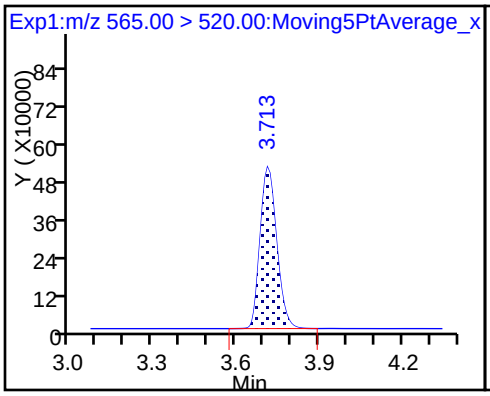
29 Perfluorodecane Sulfonic acid (ND)



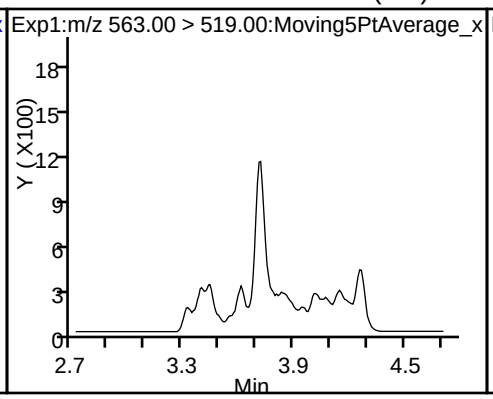
D 32 d5-NEtFOSAA



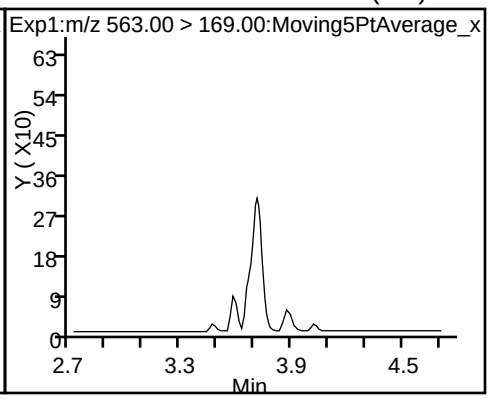
D 30 13C2 PFUnA



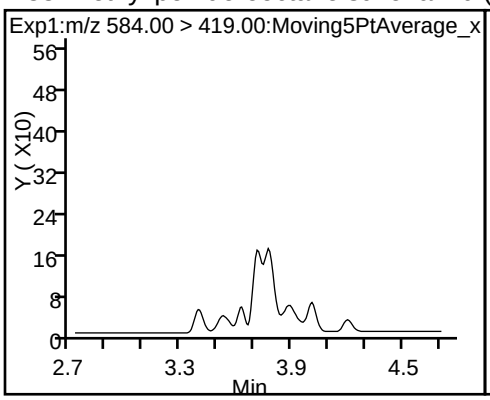
31 Perfluoroundecanoic acid (ND)



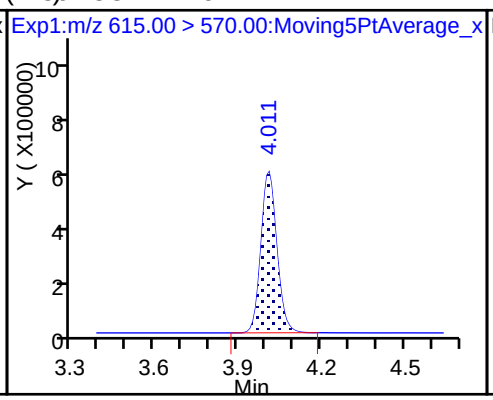
31 Perfluoroundecanoic acid (ND)



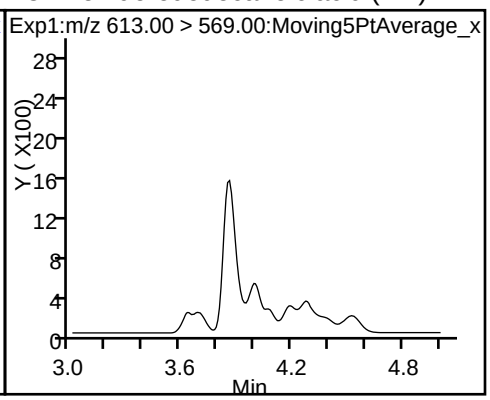
33 N-ethyl perfluorooctane sulfonamid (ND)



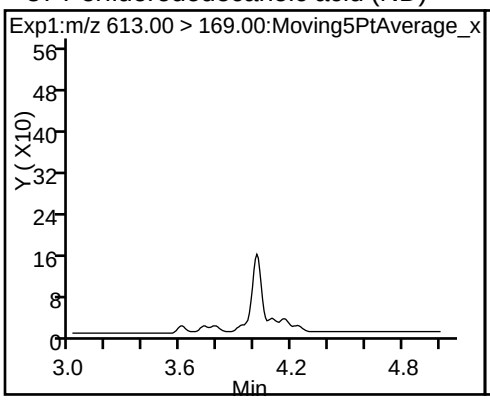
D 36 13C2 PFDoA



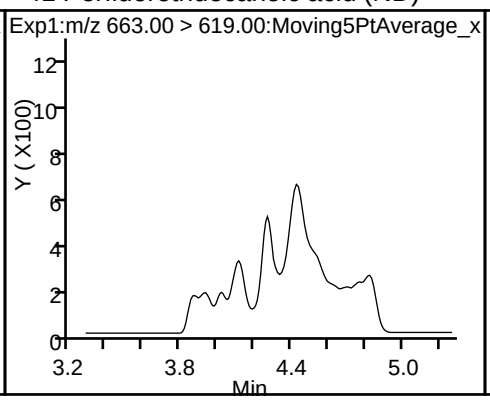
37 Perfluorododecanoic acid (ND)



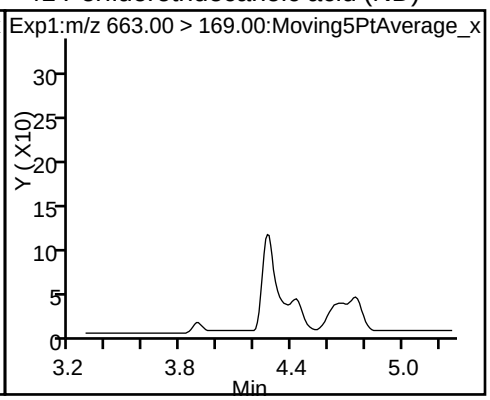
37 Perfluorododecanoic acid (ND)



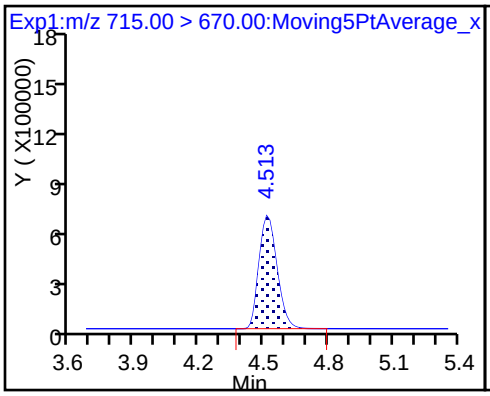
41 Perfluorotridecanoic acid (ND)



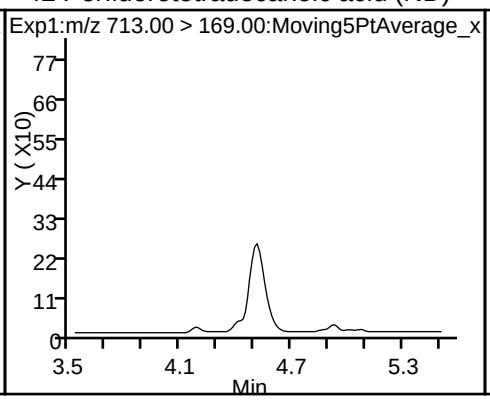
41 Perfluorotridecanoic acid (ND)



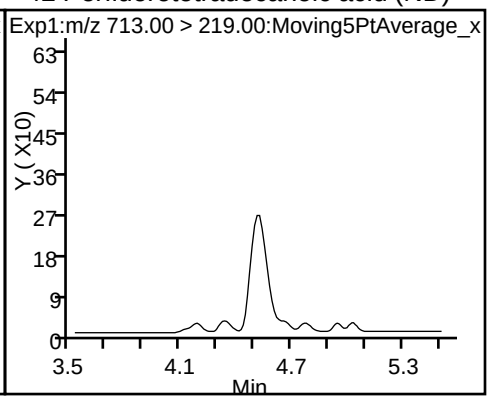
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-30-(85-90) -090-816-171213 Lab Sample ID: 320-34425-21

Matrix: Water Lab File ID: 2017.12.22LLB_034.d

Analysis Method: 537 (modified) Date Collected: 12/13/2017 11:32

Extraction Method: 3535 Date Extracted: 12/22/2017 07:51

Sample wt/vol: 241.3(mL) Date Analyzed: 12/23/2017 01:55

Con. Extract Vol.: 10.0(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.85	J	2.07	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.07		2.07	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	2.20		2.07	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.77	J	2.07	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	1.85	J	2.07	0.88
375-95-1	Perfluorononanoic acid (PFNA)	2.50		2.07	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.07	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.14	U	2.07	1.14
307-55-1	Perfluorododecanoic acid (PFDoA)	0.57	U	2.07	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.35	U	2.07	1.35
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.07	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.60	J	2.07	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	11.7	B	2.07	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.47	J	2.07	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	57.5		2.07	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.07	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.07	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.21	U	20.7	3.21
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.97	U	20.7	1.97
27619-97-2	6:2FTS	2.07	U	20.7	2.07
39108-34-4	8:2FTS	2.07	U	20.7	2.07

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-30-(85-90) -090-816-171213 | Lab Sample ID: 320-34425-21

Matrix: Water | Lab File ID: 2017.12.22LLB_034.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 11:32

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 241.3(mL) | Date Analyzed: 12/23/2017 01:55

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	110		25-150
STL01893	13C5 PFPeA	108		25-150
STL00993	13C2 PFHxA	108		25-150
STL01892	13C4-PFHpA	112		25-150
STL00990	13C4 PFOA	99		25-150
STL00995	13C5 PFNA	108		25-150
STL00996	13C2 PFDA	103		25-150
STL00997	13C2 PFUnA	104		25-150
STL00998	13C2 PFDoA	104		25-150
STL02116	13C2-PFTeDA	123		25-150
STL02337	13C3-PFBS	112		25-150
STL00994	18O2 PFHxS	110		25-150
STL00991	13C4 PFOS	104		25-150
STL01056	13C8 FOSA	102		25-150
STL02118	d3-NMeFOSAA	88		25-150
STL02117	d5-NEtFOSAA	97		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	83		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_034.d
Lims ID: 320-34425-A-21-A
Client ID: FM-30-(85-90)-090-816-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 01:55:23 ALS Bottle#: 27 Worklist Smp#: 26
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-21-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:09:12

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7248649	2.74		110	18227	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	54542	0.0205			12.0	
D 3 13C5-PFPeA										
267.90 > 223.00	1.679	1.670	0.009	0.632	4269533	2.70		108	29322	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.670	0.009	1.000	95224	0.0500			125	
D 47 13C3-PFBS										
301.90 > 83.00	1.715	1.705	0.010	0.645	87768	2.60		112	4562	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.715	1.707	0.008	1.000	41266	0.0145			246	
298.90 > 99.00	1.715	1.707	0.008	1.000	16599		2.49(1.25-3.74)		131	
D 7 13C2 PFHxA										
315.00 > 270.00	1.964	1.953	0.011	0.739	4578487	2.71		108	39115	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.964	1.956	0.008	1.000	97202	0.0530			188	M
313.00 > 119.00	1.974	1.956	0.018	1.005	9508		10.22(5.03-15.10)		172	
D 9 13C4-PFHpA										
367.00 > 322.00	2.304	2.291	0.013	0.867	4384151	2.80		112	42163	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.304	2.291	0.013	1.000	34197	0.0186			62.4	
363.00 > 169.00	2.304	2.291	0.013	1.000	13343		2.56(1.13-3.40)		104	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.317	2.304	0.013	1.000	664225	0.2833			1759	
399.00 > 99.00	2.317	2.304	0.013	1.000	211133		3.15(1.50-4.49)		981	
D 11 18O2 PFHxS										
403.00 > 84.00	2.317	2.304	0.013	0.872	5151249	2.61		110	44902	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.637	2.642	-0.005	1.000	15110	0.0312			339	
D 12 M2-6:2FTS										
429.00 > 81.00	2.637	2.642	-0.005	0.992	741402	1.02		42.8	16121	
D 14 13C4 PFOA										
417.00 > 372.00	2.658	2.654	0.004	1.000	4472484	2.49		99.5	49179	
* 62 13C2-PFOA										
415.00 > 370.00	2.658	2.656	0.002		4352951	2.50			42278	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.658	2.656	0.002	1.000	84070	0.0447			148	
413.00 > 169.00	2.658	2.656	0.002	1.000	45885		1.83(0.84-2.52)		333	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.665	2.662	0.003	1.000	20083	0.0113			147	
449.00 > 99.00	2.665	2.662	0.003	1.000	5720		3.51(1.94-5.82)		125	
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.141	3249403	2.49		104	34233	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	2001362	1.39			223	
499.00 > 99.00	3.032	3.028	0.004	1.000	462259		4.33(2.31-6.93)		328	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.141	3435489	2.69		108	40931	
20 Perfluorononanoic acid										
463.00 > 419.00	3.032	3.029	0.003	1.000	83305	0.0602			328	
463.00 > 169.00	3.032	3.029	0.003	1.000	19823		4.20(1.90-5.69)		343	
D 21 13C8 FOSA										
506.00 > 78.00	3.377	3.370	0.007	1.271	4537286	2.56		102	34080	
22 Perfluorooctane Sulfonamide										M
498.00 > 78.00	3.377	3.372	0.005	1.000	8230	0.004728			283	M
D 26 M2-8:2FTS										
529.00 > 81.00	3.385	3.377	0.008	1.273	812349	2.00		83.3	17733	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2725762	2.59		103	33933	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1249833	2.21		88.4	18538	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.714	3.712	0.002	1.397	1336115	2.42		96.7	7514	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.397	2094941	2.61		104	38408	
D 36 13C2 PFDoA										
615.00 > 570.00	4.012	4.011	0.001	1.509	2243277	2.59		104	37958	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.698	2967113	3.07		123	25489	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:10:58 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_034.d

Injection Date: 23-Dec-2017 01:55:23 Instrument ID: A8_N

Lims ID: 320-34425-A-21-A Lab Sample ID: 320-34425-21

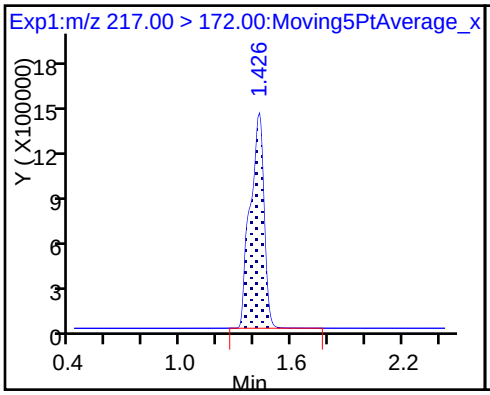
Client ID: FM-30-(85-90)-090-816-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 27 Worklist Smp#: 26

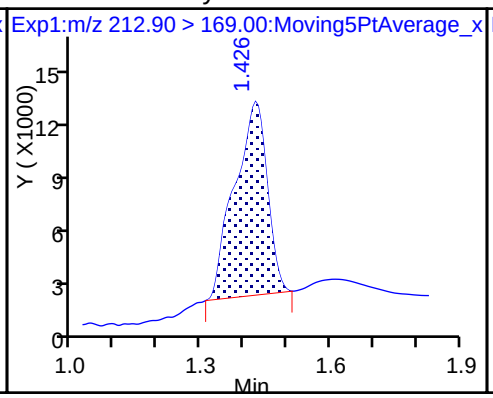
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

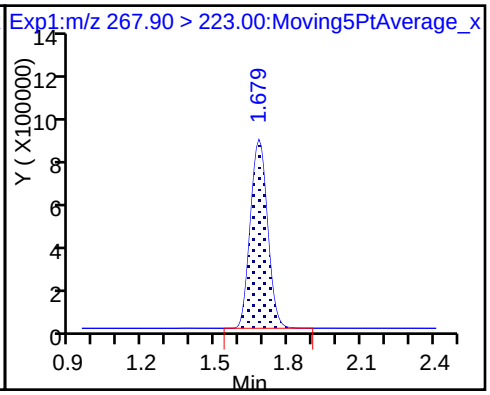
D 1 13C4 PFBA



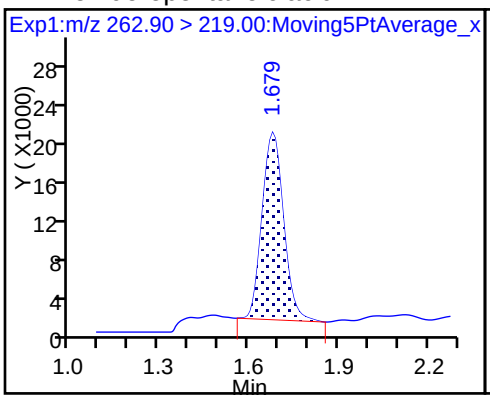
2 Perfluorobutyric acid



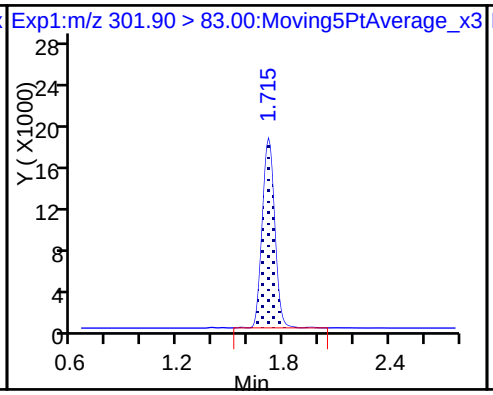
D 3 13C5-PFPeA



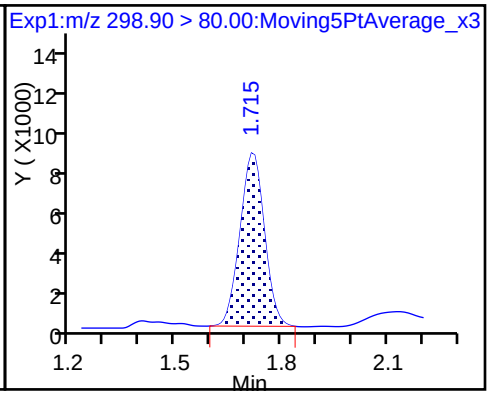
4 Perfluoropentanoic acid



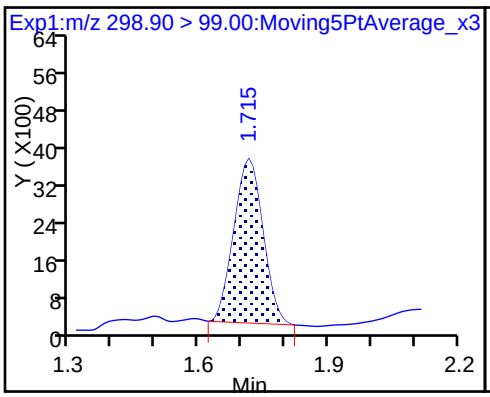
D 47 13C3-PFBS



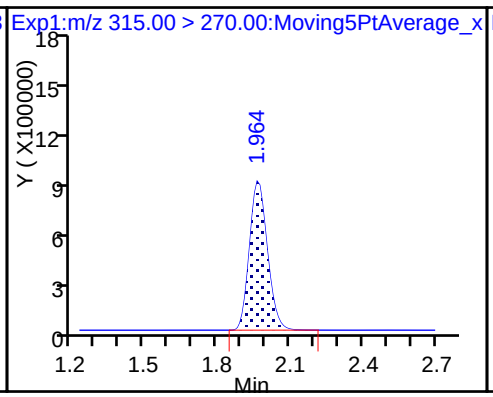
5 Perfluorobutanesulfonic acid



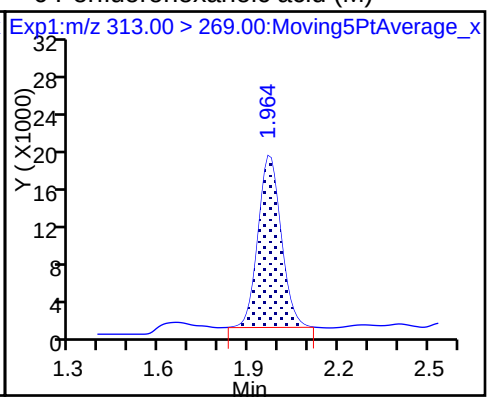
5 Perfluorobutanesulfonic acid



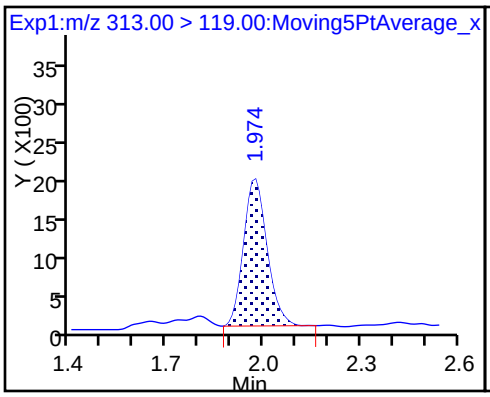
D 7 13C2 PFHxA



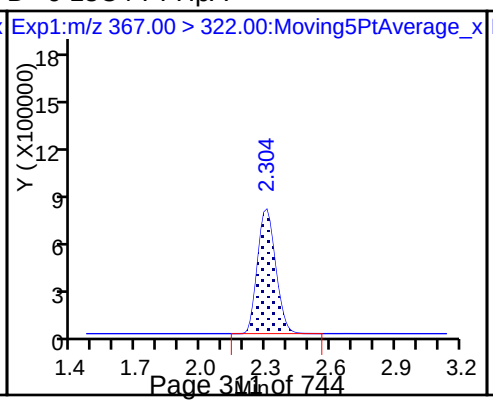
6 Perfluorohexanoic acid (M)



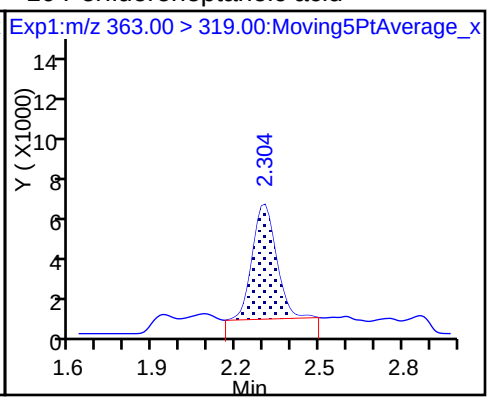
6 Perfluorohexanoic acid



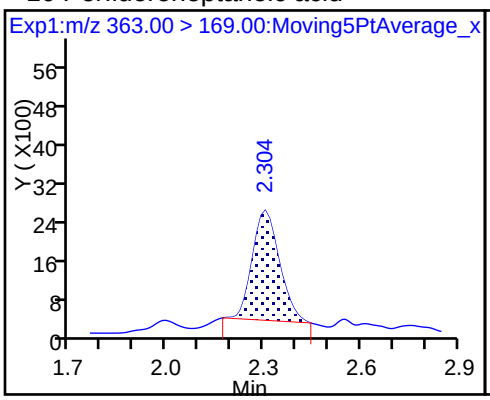
D 9 13C4-PFHpA



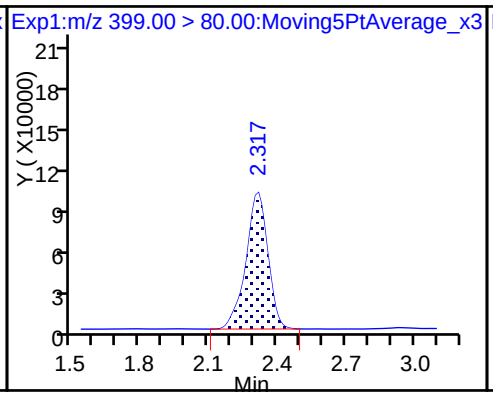
10 Perfluoroheptanoic acid



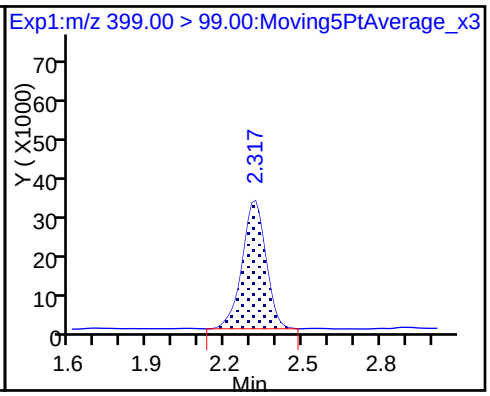
10 Perfluoroheptanoic acid



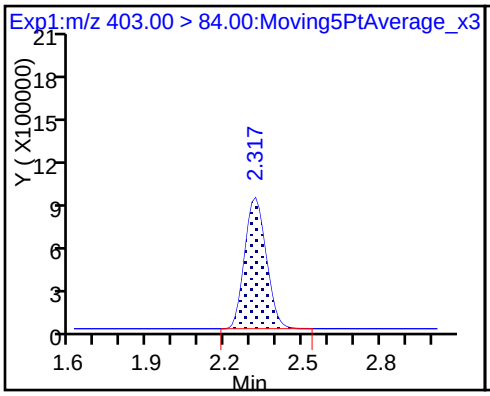
8 Perfluorohexanesulfonic acid



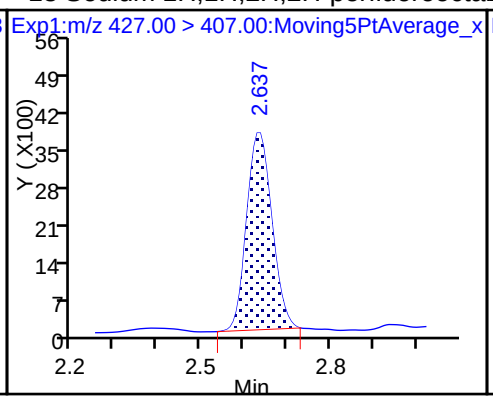
8 Perfluorohexanesulfonic acid



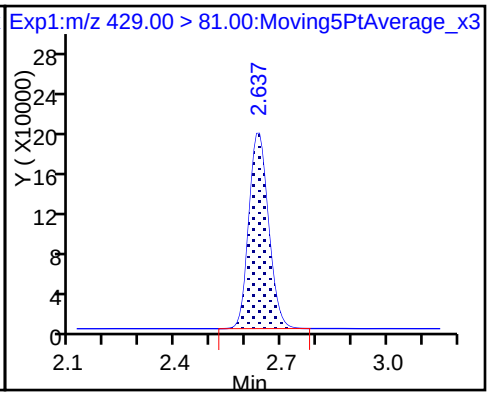
D 11 18O2 PFHxS



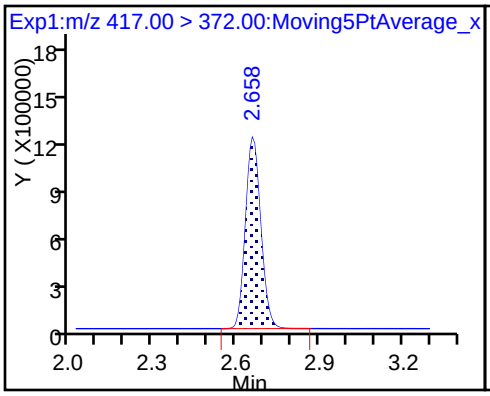
13 Sodium 1H,1H,2H,2H-perfluorooctane



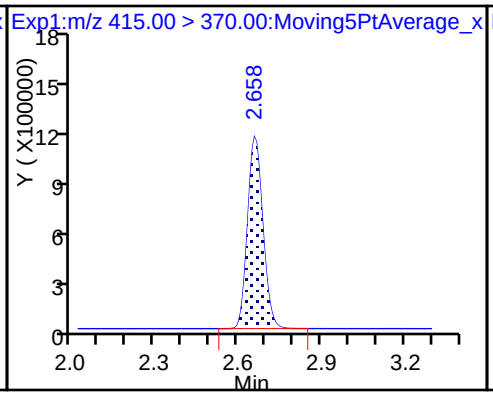
D 12 M2-6:2FTS



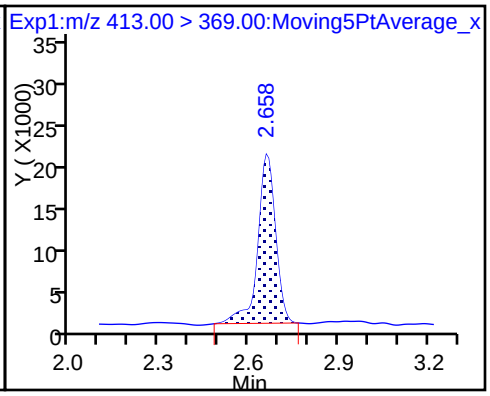
D 14 13C4 PFOA



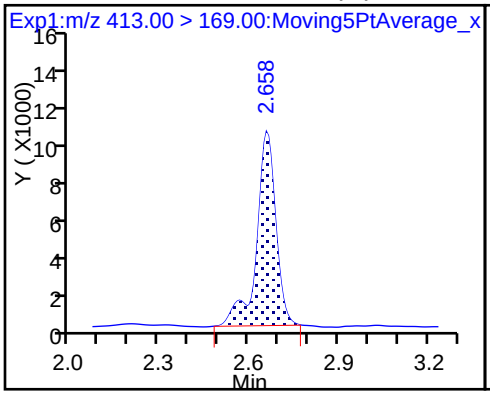
* 62 13C2-PFOA



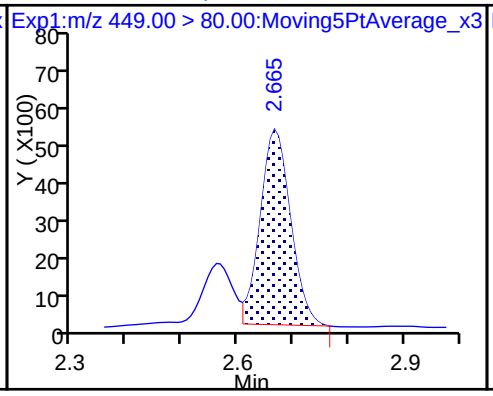
15 Perfluorooctanoic acid



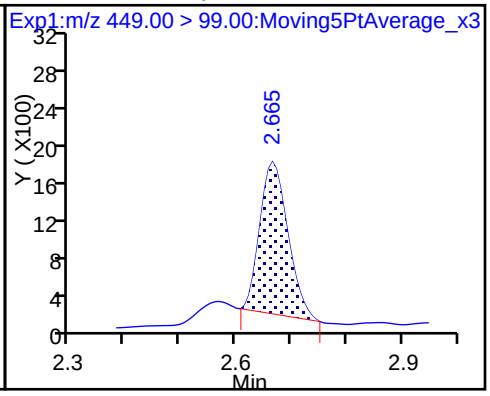
15 Perfluorooctanoic acid (M)



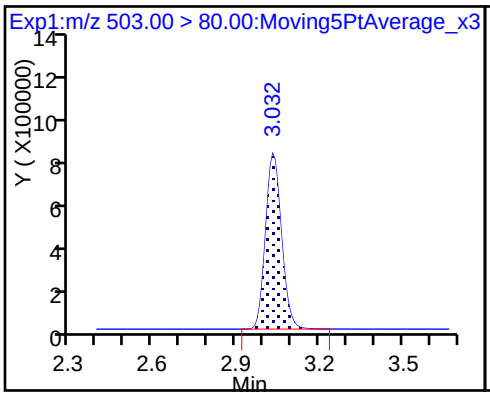
16 Perfluoroheptanesulfonic Acid



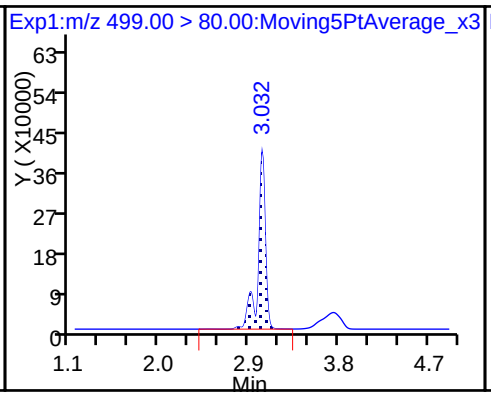
16 Perfluoroheptanesulfonic Acid



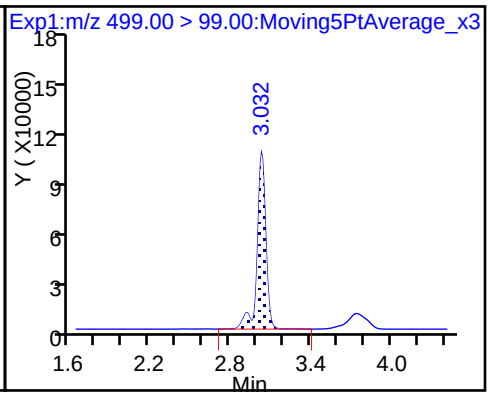
D 18 13C4 PFOS



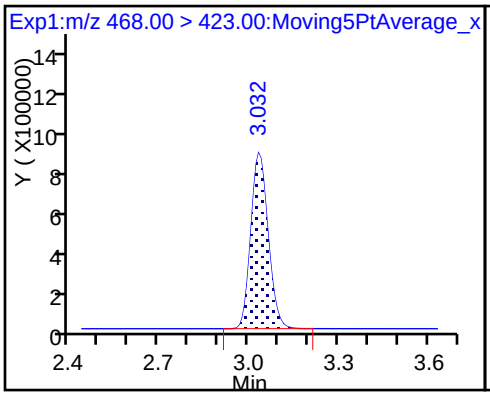
17 Perfluorooctane sulfonic acid



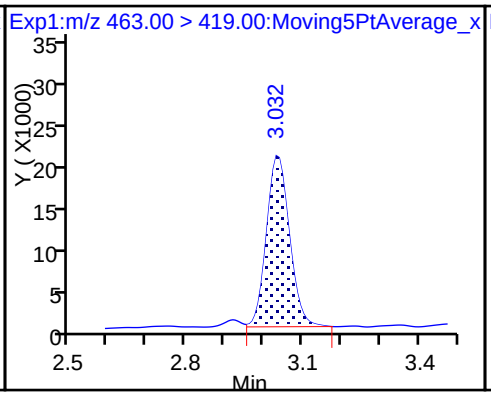
17 Perfluorooctane sulfonic acid



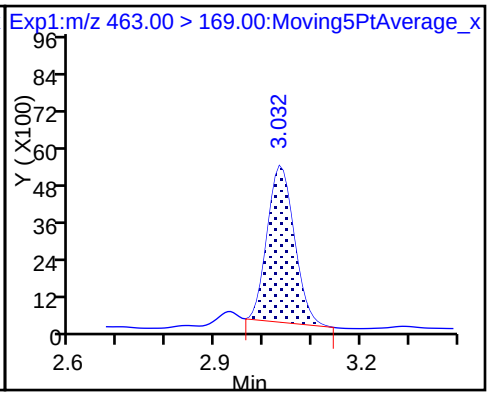
D 19 13C5 PFNA



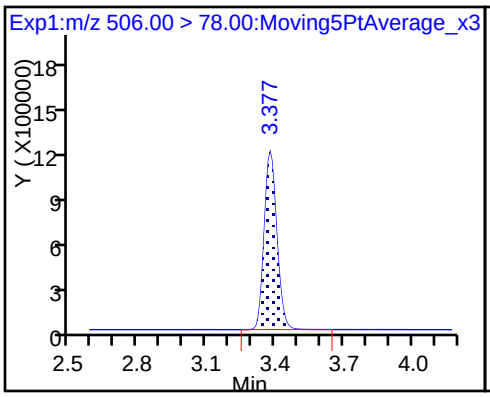
20 Perfluorononanoic acid



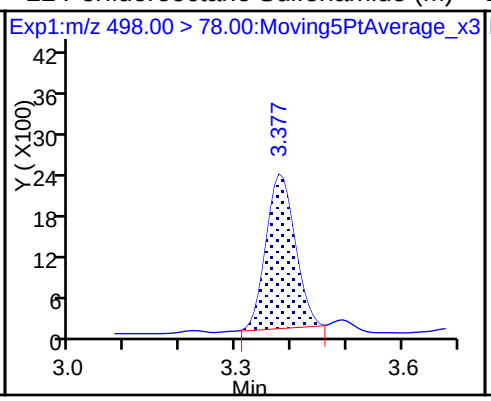
20 Perfluorononanoic acid



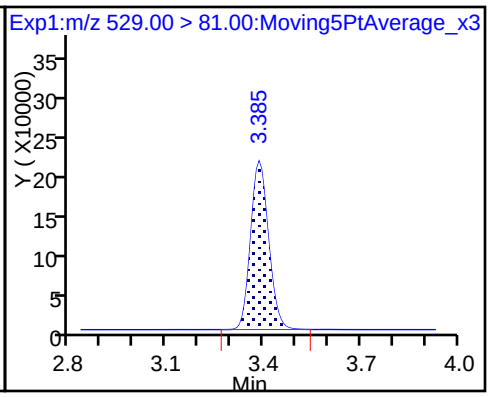
D 21 13C8 FOSA



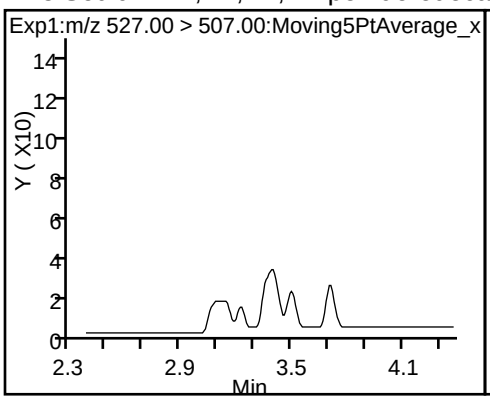
22 Perfluorooctane Sulfonamide (M)



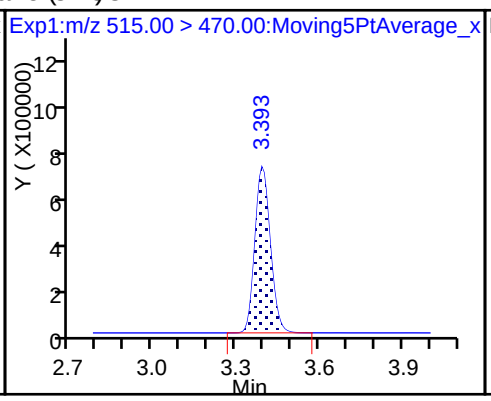
D 26 M2-8:2FTS



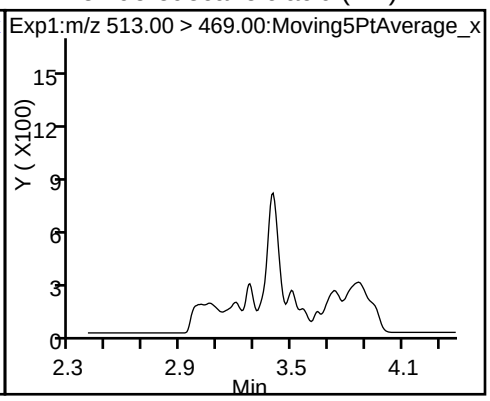
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



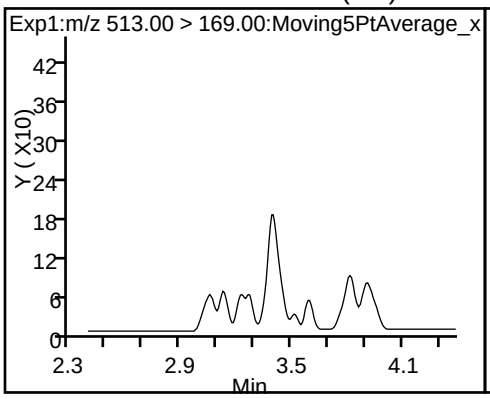
D 23 13C2 PFDA



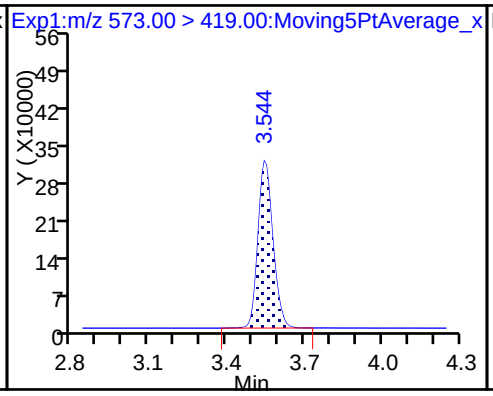
24 Perfluorodecanoic acid (ND)



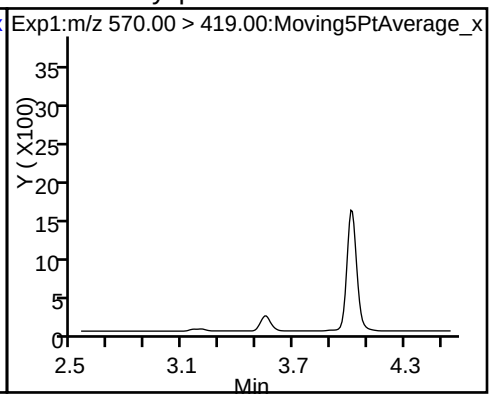
24 Perfluorodecanoic acid (ND)



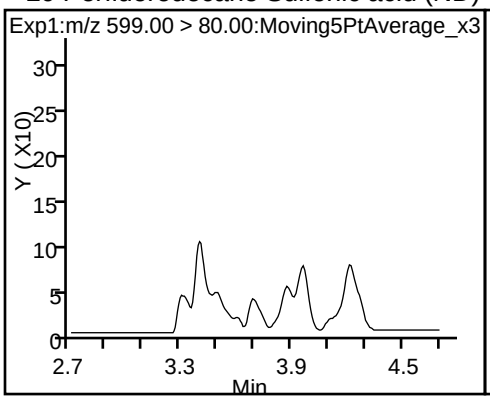
D 27 d3-NMeFOSAA



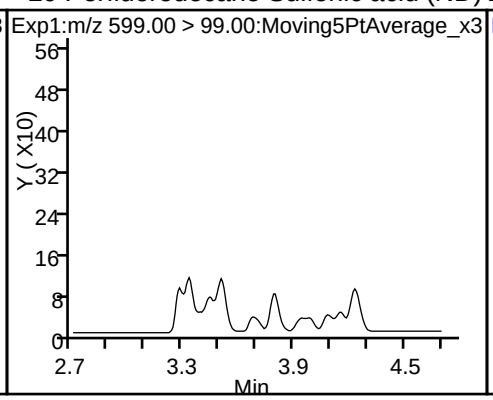
28 N-methyl perfluorooctane sulfonami (ND)



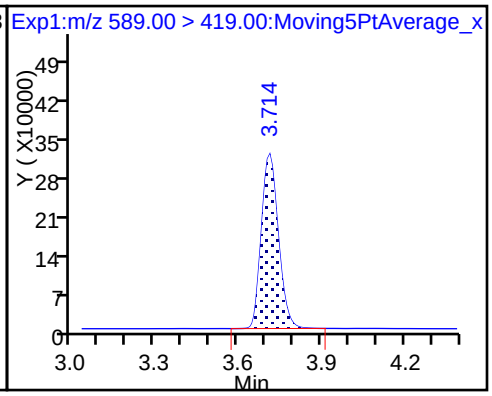
29 Perfluorodecane Sulfonic acid (ND)



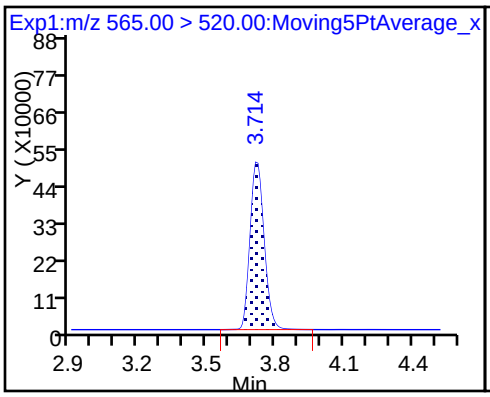
29 Perfluorodecane Sulfonic acid (ND)



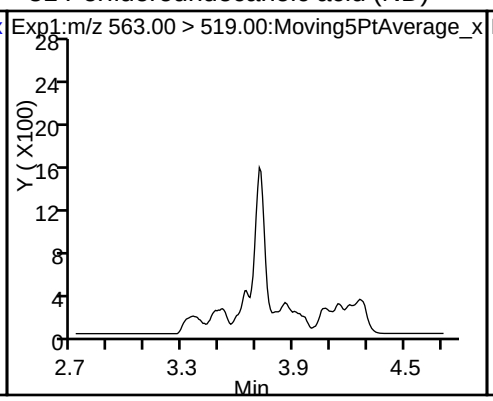
D 32 d5-NEtFOSAA



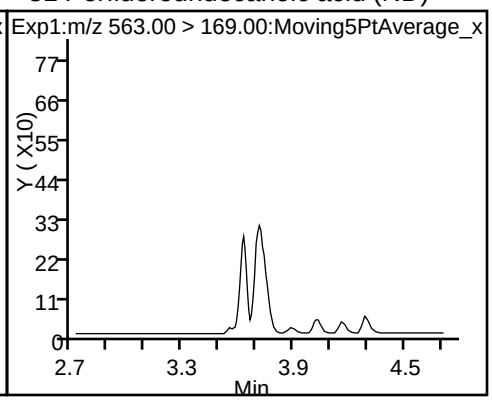
D 30 13C2 PFUnA



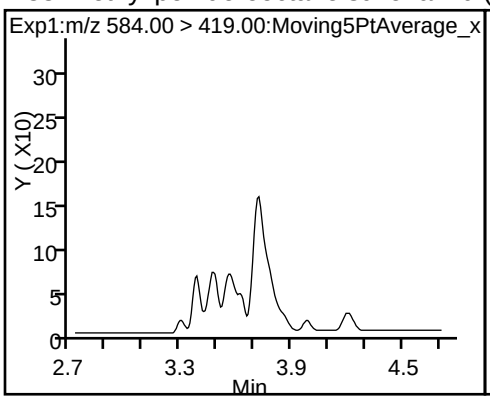
31 Perfluoroundecanoic acid (ND)



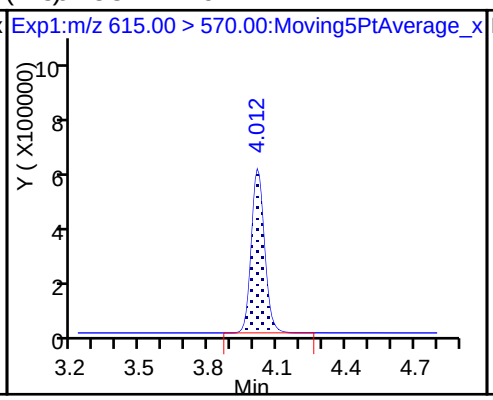
31 Perfluoroundecanoic acid (ND)



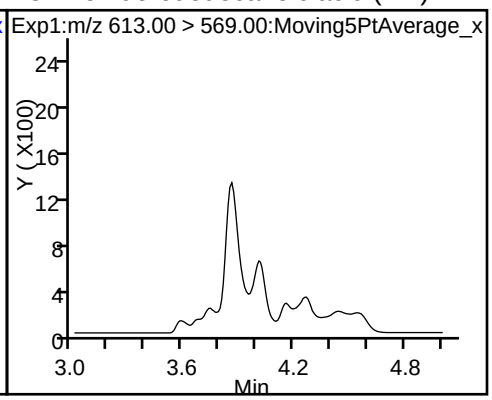
33 N-ethyl perfluorooctane sulfonamid (ND)



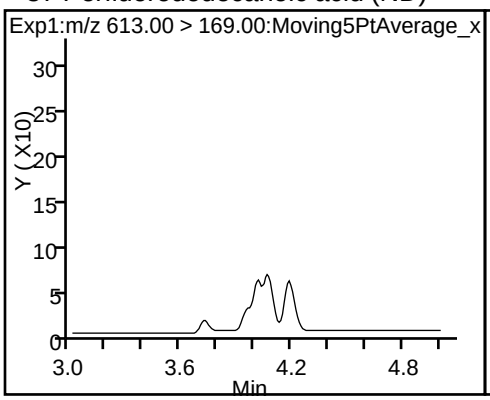
D 36 13C2 PFDoA



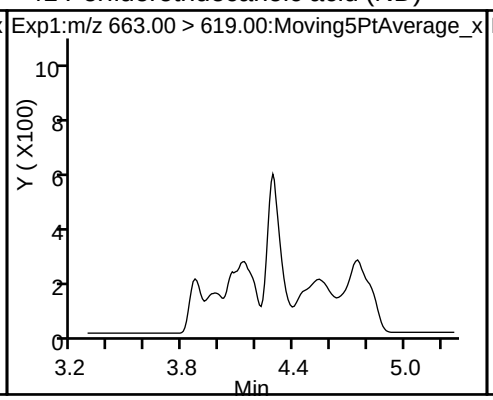
37 Perfluorododecanoic acid (ND)



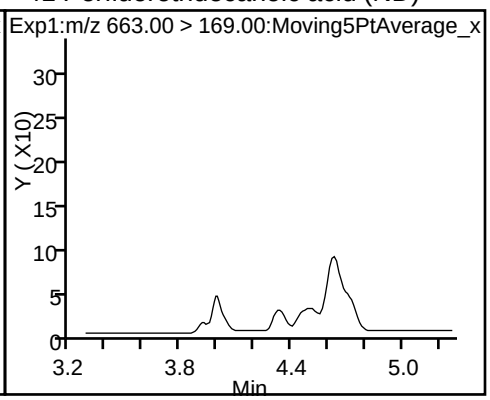
37 Perfluorododecanoic acid (ND)



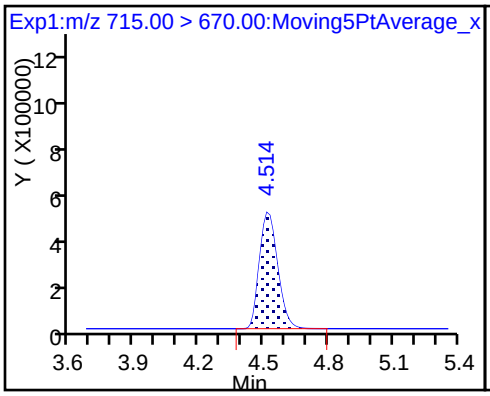
41 Perfluorotridecanoic acid (ND)



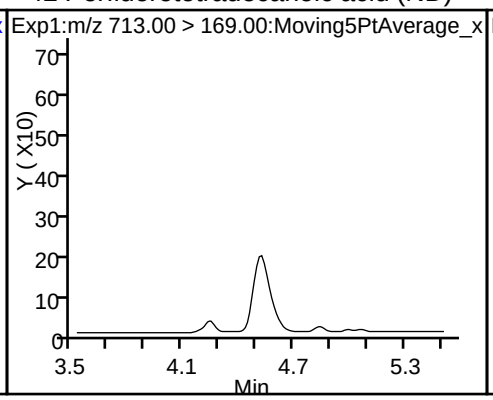
41 Perfluorotridecanoic acid (ND)



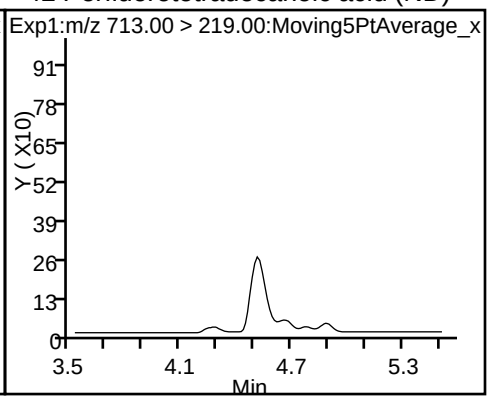
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

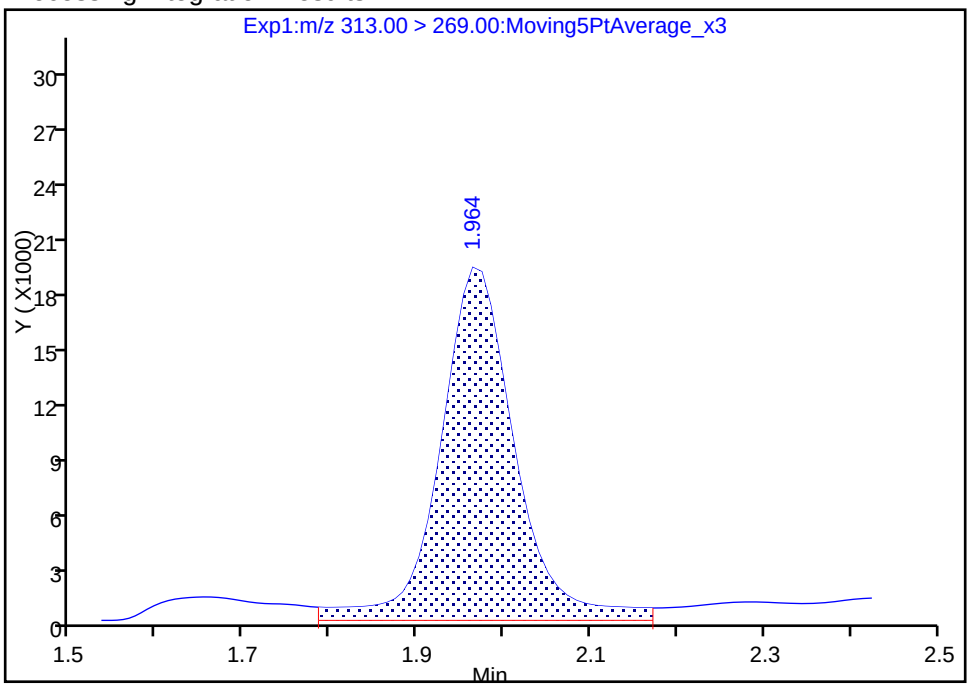
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_034.d				
Injection Date:	23-Dec-2017 01:55:23	Instrument ID:	A8_N		
Lims ID:	320-34425-A-21-A	Lab Sample ID:	320-34425-21		
Client ID:	FM-30-(85-90)-090-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

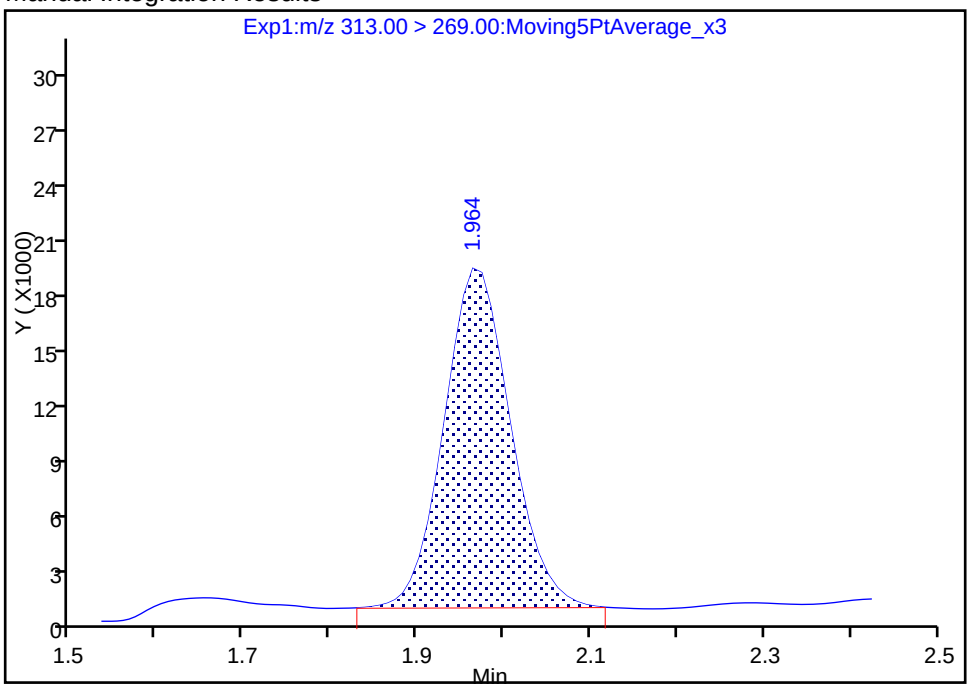
Processing Integration Results

RT: 1.96
Area: 113635
Amount: 0.061975
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 97202
Amount: 0.053012
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:08:01
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

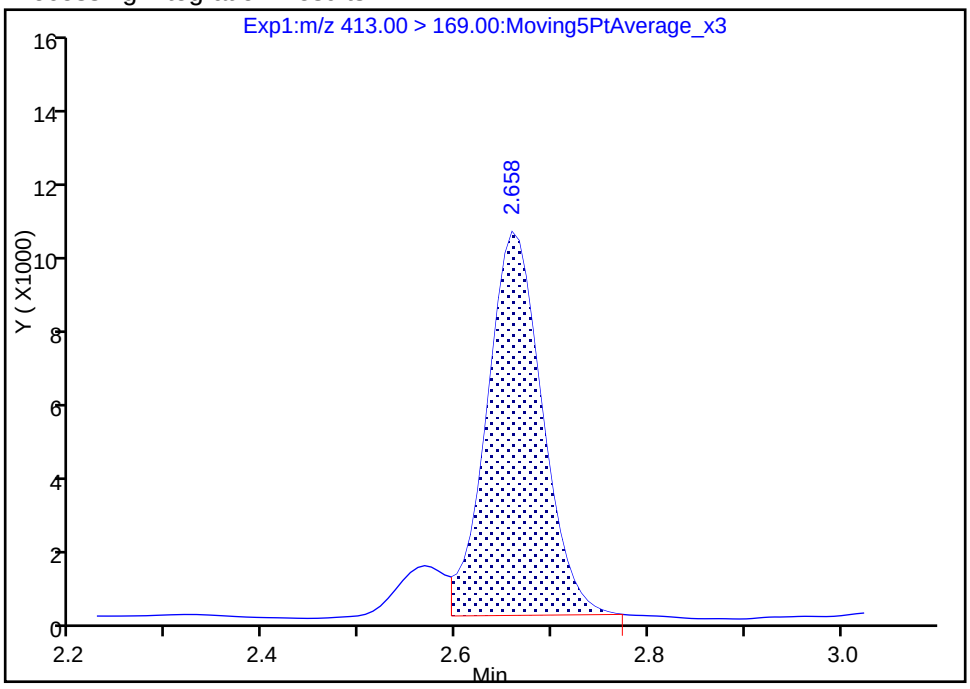
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Injection Date:	23-Dec-2017 01:55:23	Instrument ID:	A8_N		
Lims ID:	320-34425-A-21-A	Lab Sample ID:	320-34425-21		
Client ID:	FM-30-(85-90)-090-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

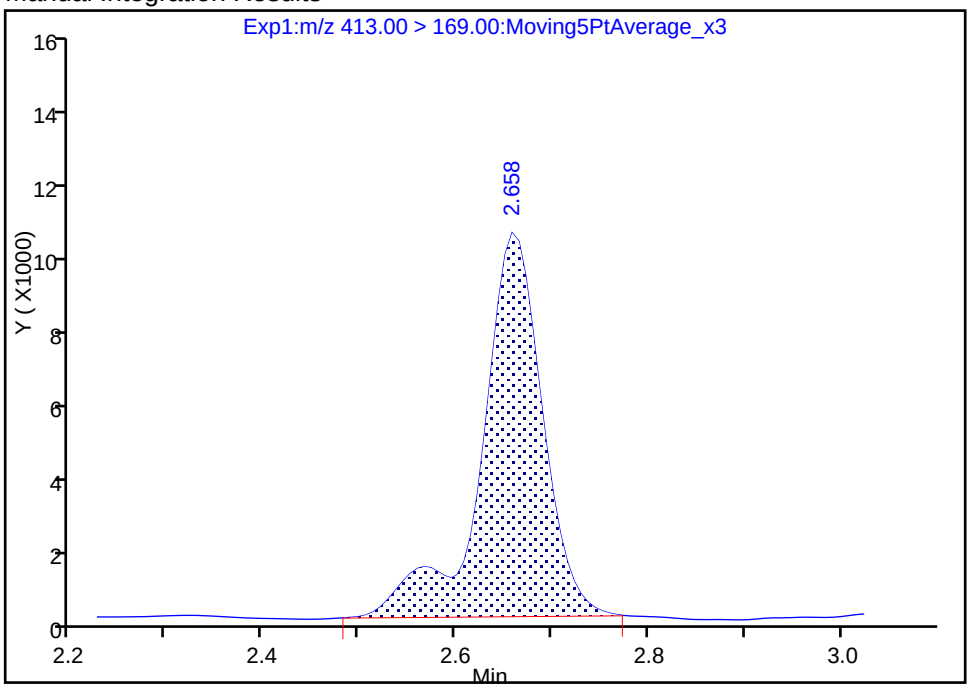
Processing Integration Results

RT: 2.66
Area: 41012
Amount: 0.044686
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 45885
Amount: 0.044686
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:06:07
Audit Action: Manually Integrated Audit Reason: Isomers

TestAmerica Sacramento

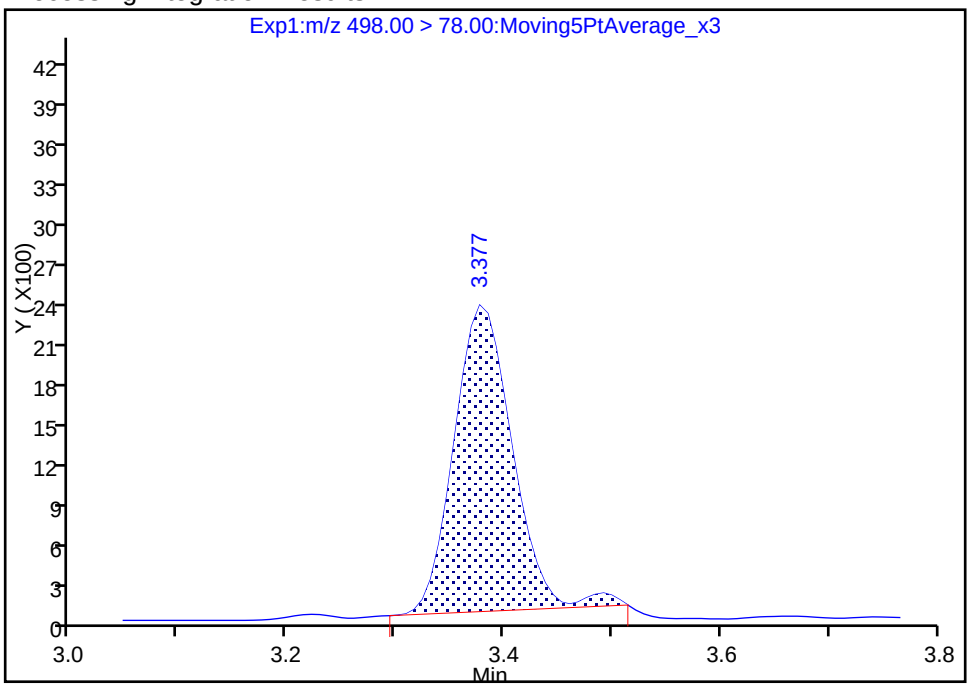
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_034.d				
Injection Date:	23-Dec-2017 01:55:23	Instrument ID:	A8_N		
Lims ID:	320-34425-A-21-A	Lab Sample ID:	320-34425-21		
Client ID:	FM-30-(85-90)-090-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	27	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

22 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

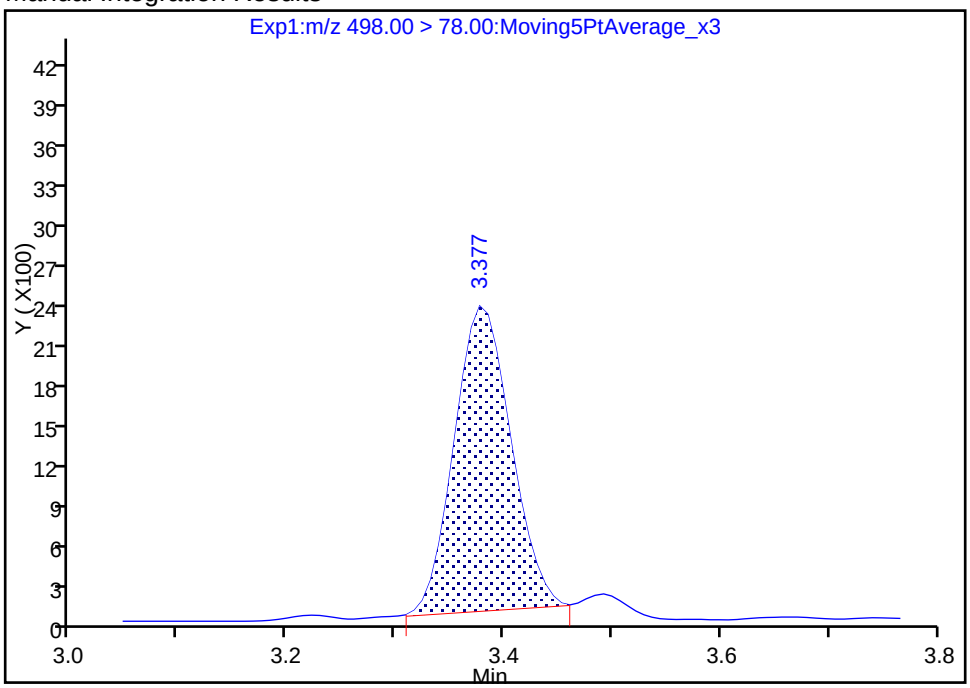
Processing Integration Results

RT: 3.38
Area: 8514
Amount: 0.004891
Amount Units: ng/ml



Manual Integration Results

RT: 3.38
Area: 8230
Amount: 0.004728
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:07:44
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-30-(75-80) -080-816-171213 | Lab Sample ID: 320-34425-22

Matrix: Water | Lab File ID: 2017.12.22LLB_039.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 12:25

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 244.8(mL) | Date Analyzed: 12/23/2017 02:34

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.36	J	2.04	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.50	U	2.04	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	0.59	U	2.04	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.26	U	2.04	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	0.87	U	2.04	0.87
375-95-1	Perfluorononanoic acid (PFNA)	0.28	U	2.04	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.04	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.12	U	2.04	1.12
307-55-1	Perfluorododecanoic acid (PFDoA)	0.56	U	2.04	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.33	U	2.04	1.33
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.04	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.04	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.60	J B	2.04	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.04	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	4.97		2.04	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.04	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.36	U	2.04	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.17	U	20.4	3.17
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.94	U	20.4	1.94
27619-97-2	6:2FTS	2.04	U	20.4	2.04
39108-34-4	8:2FTS	2.04	U	20.4	2.04

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-30-(75-80) -080-816-171213 | Lab Sample ID: 320-34425-22

Matrix: Water | Lab File ID: 2017.12.22LLB_039.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 12:25

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 244.8(mL) | Date Analyzed: 12/23/2017 02:34

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	104		25-150
STL01893	13C5 PFPeA	100		25-150
STL00993	13C2 PFHxA	98		25-150
STL01892	13C4-PFHpA	103		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	102		25-150
STL00996	13C2 PFDA	97		25-150
STL00997	13C2 PFUnA	93		25-150
STL00998	13C2 PFDoA	92		25-150
STL02116	13C2-PFTeDA	112		25-150
STL02337	13C3-PFBS	105		25-150
STL00994	18O2 PFHxS	102		25-150
STL00991	13C4 PFOS	101		25-150
STL01056	13C8 FOSA	95		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	85		25-150
STL02279	M2-6:2FTS	40		25-150
STL02280	M2-8:2FTS	73		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_039.d
Lims ID: 320-34425-A-22-A
Client ID: FM-30-(75-80)-080-816-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 02:34:28 ALS Bottle#: 30 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-22-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:41:41

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.430	1.419	0.011	0.537	7316670	2.59		104	17731	
2 Perfluorobutyric acid										
212.90 > 169.00	1.430	1.419	0.011	1.000	23482	0.008757			5.0	
D 3 13C5-PFPeA										
267.90 > 223.00	1.685	1.670	0.015	0.633	4237189	2.51		100	38023	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.685	1.670	0.015	1.000	17943	0.009484			23.0	
D 47 13C3-PFBS										
301.90 > 83.00	1.721	1.705	0.016	0.647	87821	2.44		105	3668	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.721	1.707	0.014	1.000	8251	0.002904			52.3	
298.90 > 99.00	1.721	1.707	0.014	1.000	2900		2.85(1.25-3.74)		28.7	
D 7 13C2 PFHxA										
315.00 > 270.00	1.970	1.953	0.017	0.740	4423982	2.45		98.0	45576	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.970	1.956	0.014	1.000	17704	0.0100			33.9	M
313.00 > 119.00	1.970	1.956	0.014	1.000	2235		7.92(5.03-15.10)		46.2	M
D 9 13C4-PFHpA										
367.00 > 322.00	2.300	2.291	0.009	0.864	4292881	2.57		103	33867	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.313	2.304	0.009	1.000	90478	0.0392			283	
399.00 > 99.00	2.313	2.304	0.009	1.000	25097		3.61(1.50-4.49)		95.4	
D 11 18O2 PFHxS										
403.00 > 84.00	2.313	2.304	0.009	0.869	5077301	2.41		102	35419	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.640	2.642	-0.002	1.003	6875	0.0144			174	
D 12 M2-6:2FTS										
429.00 > 81.00	2.633	2.642	-0.009	0.989	731771	0.9403		39.6	14833	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFOA										
417.00 > 372.00	2.662	2.654	0.008	1.000	4651961	2.42		96.9	45803	
* 62 13C2-PFOA										
415.00 > 370.00	2.662	2.656	0.006		4649004	2.50			49202	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.662	2.656	0.006	1.000	15568	0.007956			27.3	
413.00 > 169.00	2.662	2.656	0.006	1.000	10183		1.53(0.84-2.52)		89.5	
D 18 13C4 PFOS										
503.00 > 80.00	3.029	3.025	0.004	1.138	3371755	2.42		101	40293	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.029	3.028	0.001	1.000	181904	0.1216			20.0	
499.00 > 99.00	3.036	3.028	0.008	1.003	49789		3.65(2.31-6.93)		36.6	
D 19 13C5 PFNA										
468.00 > 423.00	3.036	3.028	0.008	1.141	3483994	2.55		102	39268	
20 Perfluorononanoic acid										
463.00 > 419.00	3.036	3.029	0.007	1.000	9179	0.006546			40.6	
463.00 > 169.00	3.029	3.029	0.0	0.997	2296		4.00(1.90-5.69)		58.6	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.269	4487849	2.37		94.7	33767	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	8219	0.004773			250	
D 26 M2-8:2FTS										
529.00 > 81.00	3.385	3.377	0.008	1.272	759471	1.75		72.9	24397	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.275	2738984	2.43		97.3	30759	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.332	1239789	2.05		82.1	18682	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.544	3.548	-0.004	1.000	1867	0.003507			18.4	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.712	-0.006	1.392	1259245	2.13		85.4	5528	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.395	2001738	2.34		93.4	26683	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.723	3.720	0.003	1.005	1402	0.002801			52.3	
D 36 13C2 PFDoA										
615.00 > 570.00	4.012	4.011	0.001	1.507	2129818	2.30		92.2	33532	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.696	2900396	2.81		112	26378	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:32 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_039.d

Injection Date: 23-Dec-2017 02:34:28 Instrument ID: A8_N

Lims ID: 320-34425-A-22-A Lab Sample ID: 320-34425-22

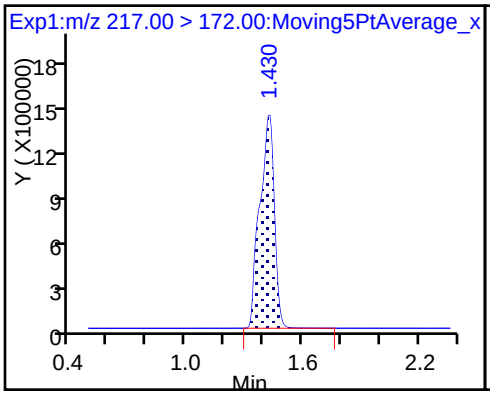
Client ID: FM-30-(75-80)-080-816-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 30 Worklist Smp#: 4

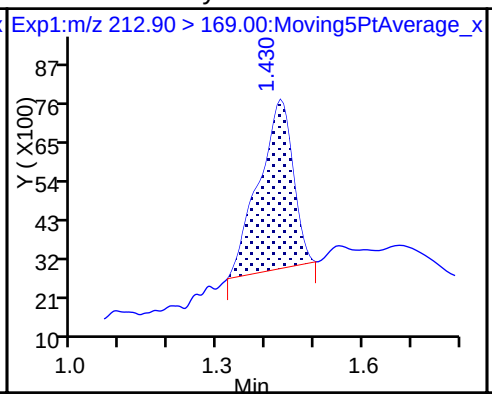
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

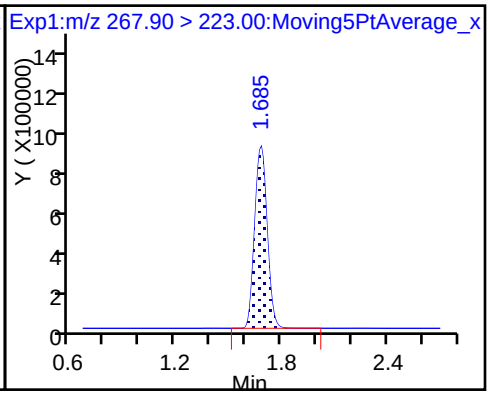
D 1 13C4 PFBA



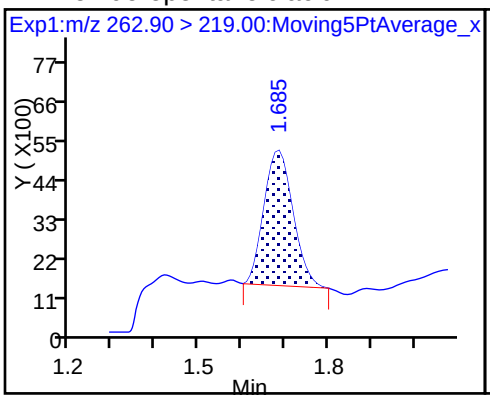
2 Perfluorobutyric acid



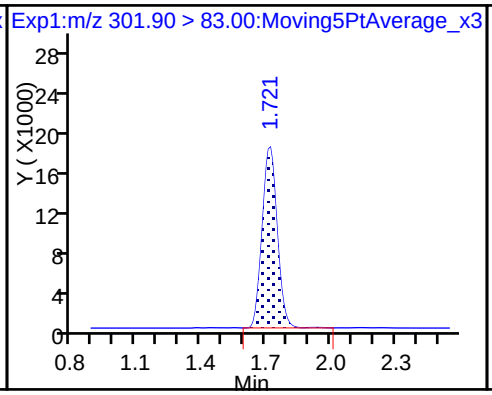
D 3 13C5-PFPeA



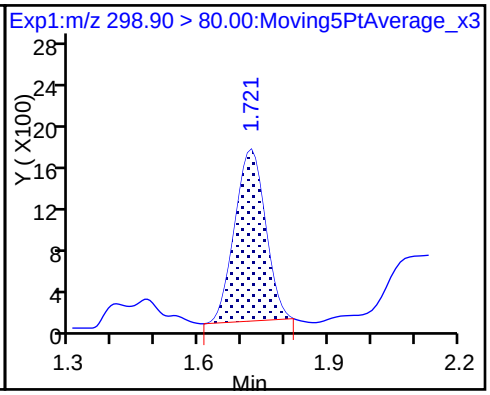
4 Perfluoropentanoic acid



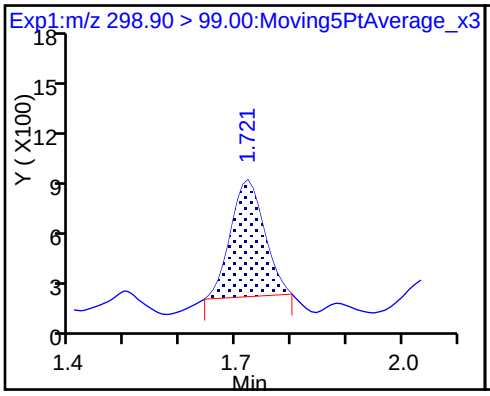
D 47 13C3-PFBS



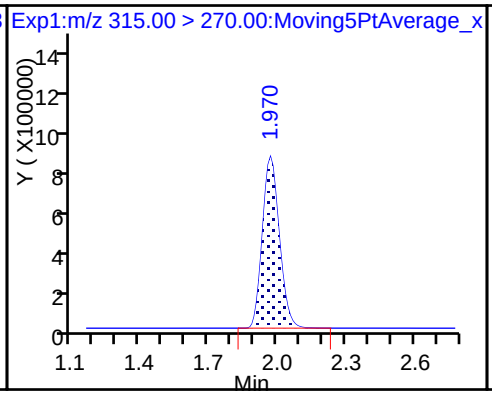
5 Perfluorobutanesulfonic acid



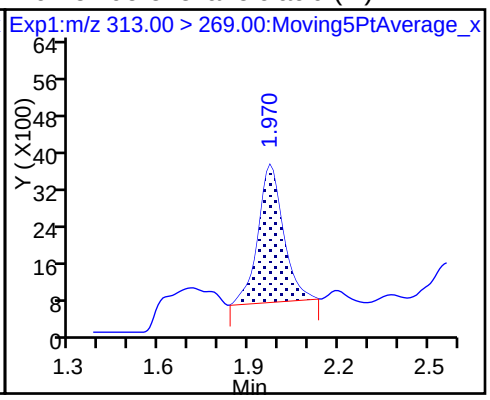
5 Perfluorobutanesulfonic acid



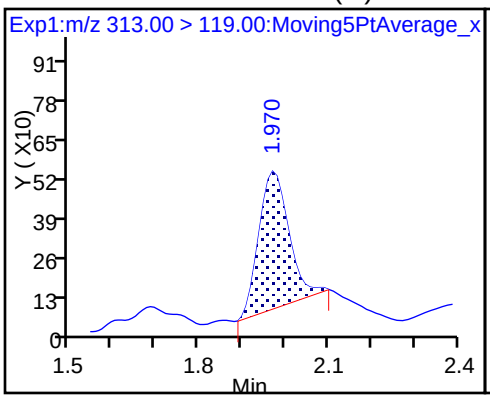
D 7 13C2 PFHxA



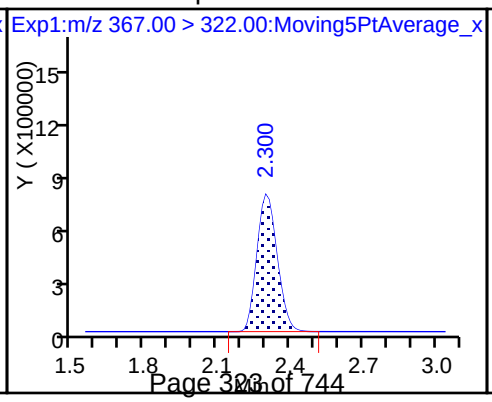
6 Perfluorohexanoic acid (M)



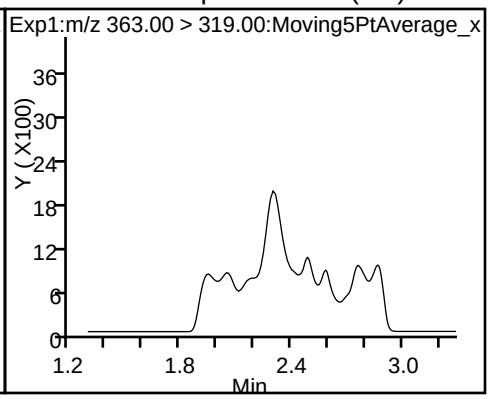
6 Perfluorohexanoic acid (M)



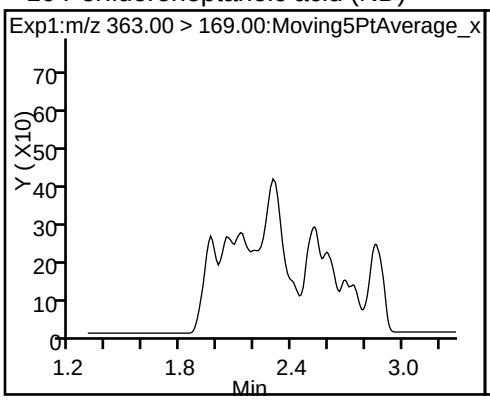
D 9 13C4-PFHpA



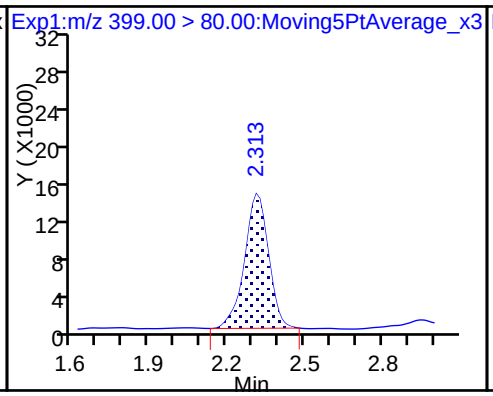
10 Perfluoroheptanoic acid (ND)



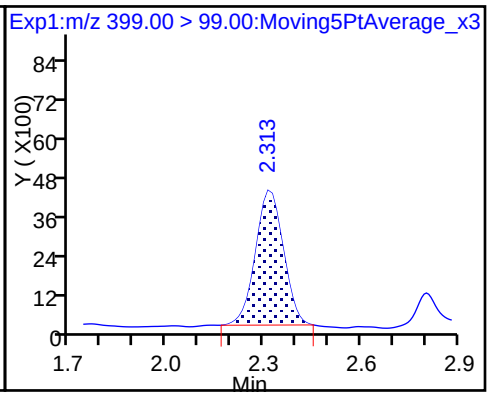
10 Perfluoroheptanoic acid (ND)



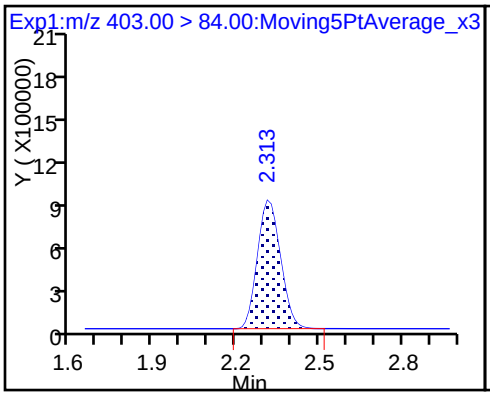
8 Perfluorohexanesulfonic acid



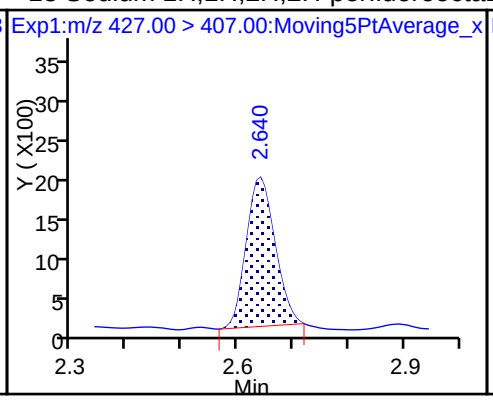
8 Perfluorohexanesulfonic acid



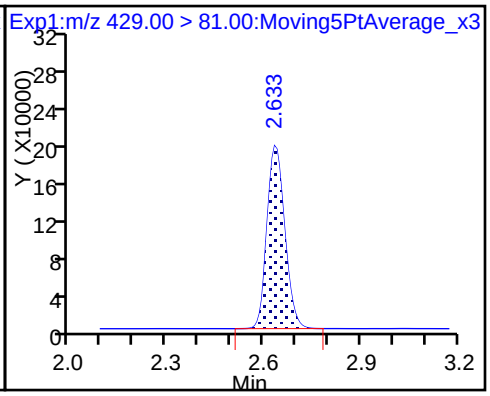
D 11 18O2 PFHxS



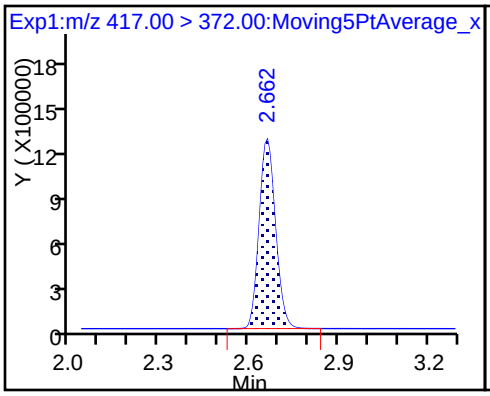
13 Sodium 1H,1H,2H,2H-perfluorooctane



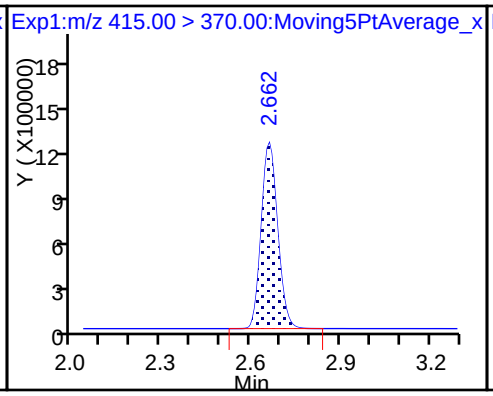
D 12 M2-6:2FTS



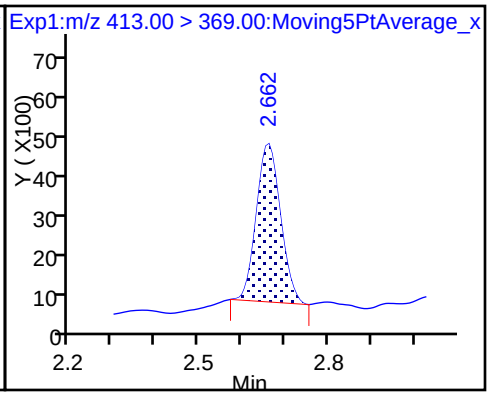
D 14 13C4 PFOA



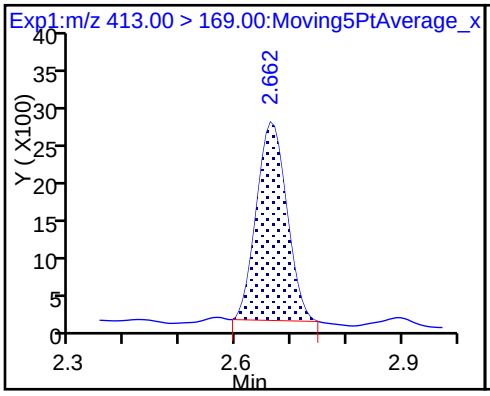
* 62 13C2-PFOA



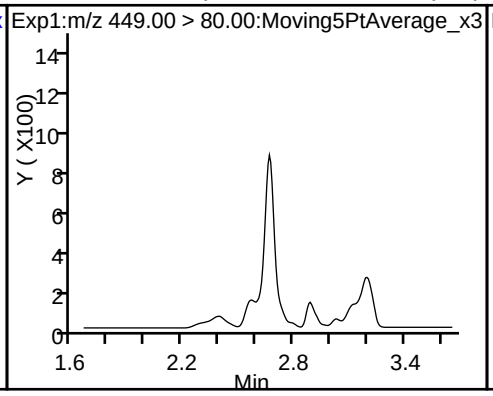
15 Perfluorooctanoic acid



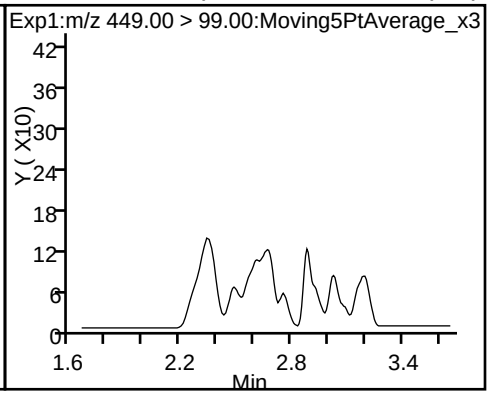
15 Perfluorooctanoic acid



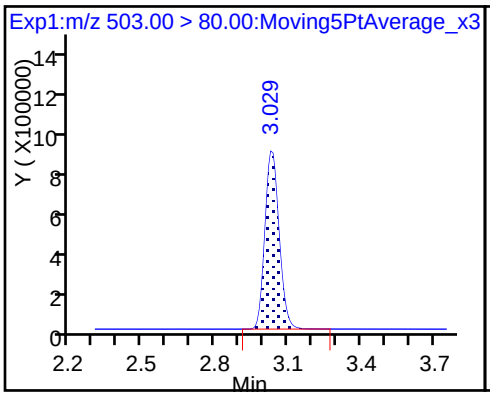
16 Perfluoroheptanesulfonic Acid (ND)



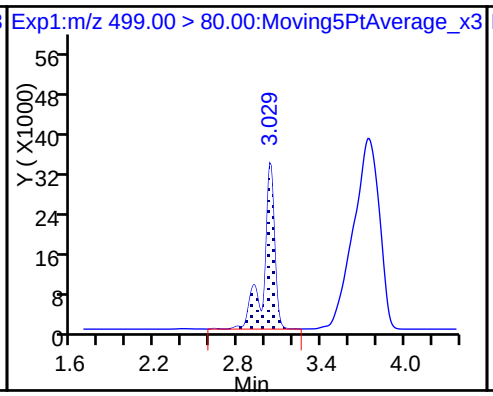
16 Perfluoroheptanesulfonic Acid (ND)



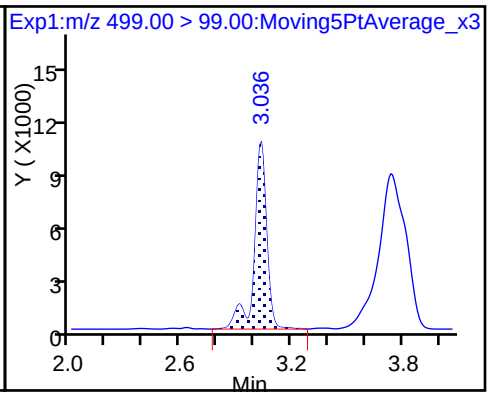
D 18 13C4 PFOS



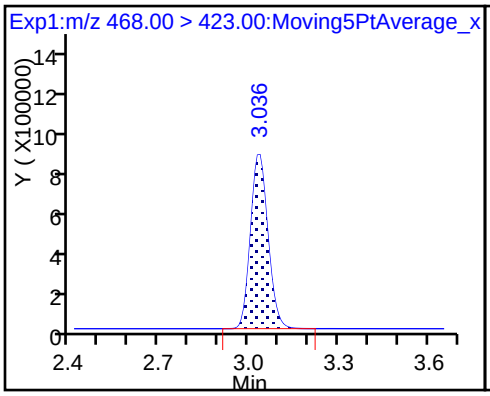
17 Perfluorooctane sulfonic acid



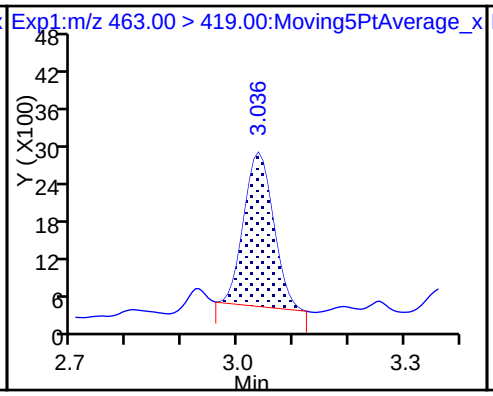
17 Perfluorooctane sulfonic acid



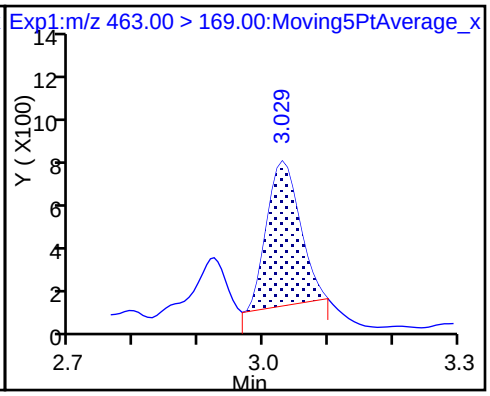
D 19 13C5 PFNA



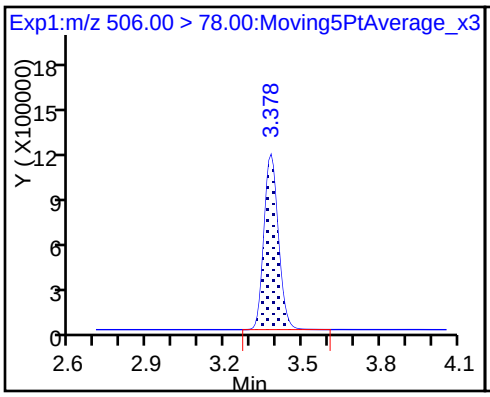
20 Perfluorononanoic acid



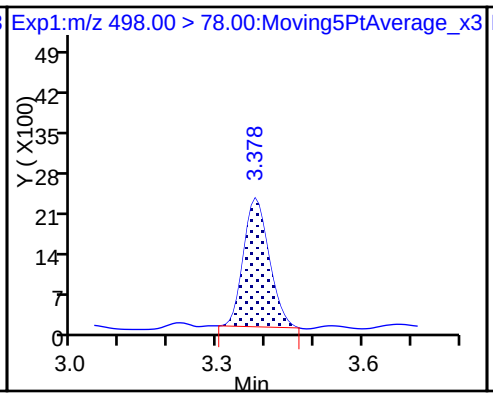
20 Perfluorononanoic acid



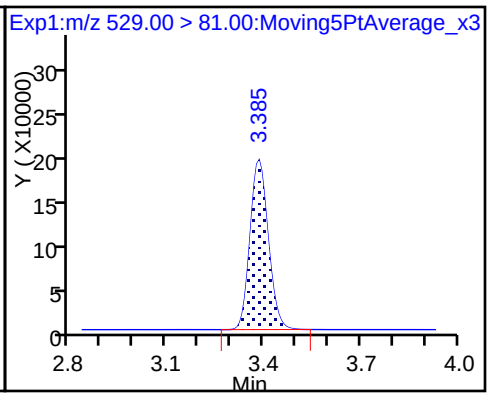
D 21 13C8 FOSA



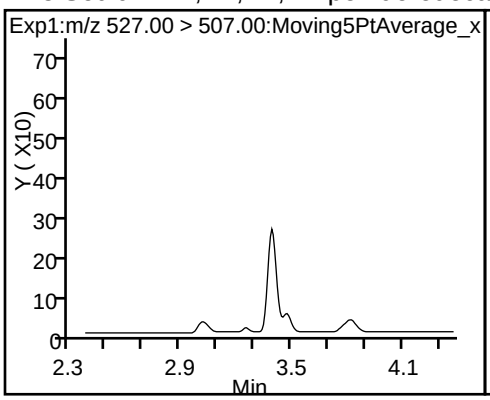
22 Perfluorooctane Sulfonamide



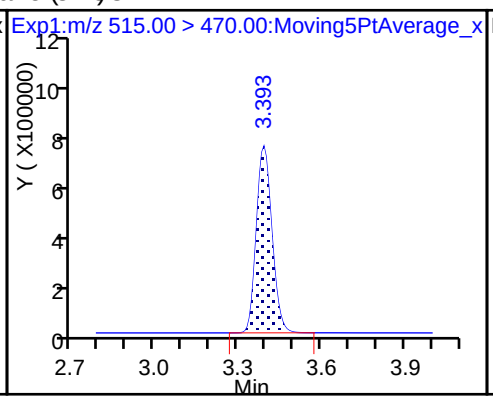
D 26 M2-8:2FTS



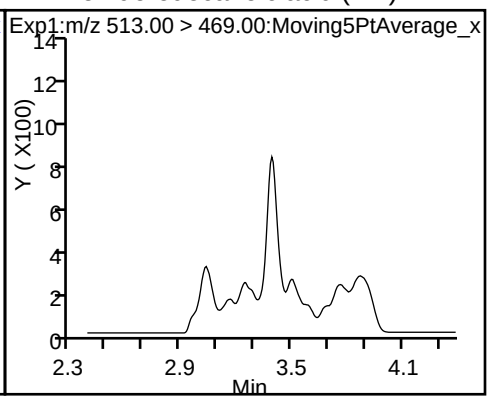
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



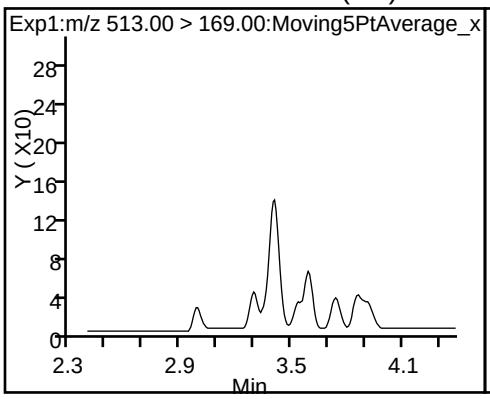
D 23 13C2 PFDA



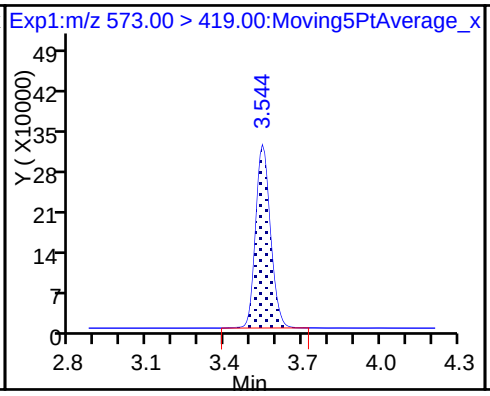
24 Perfluorodecanoic acid (ND)



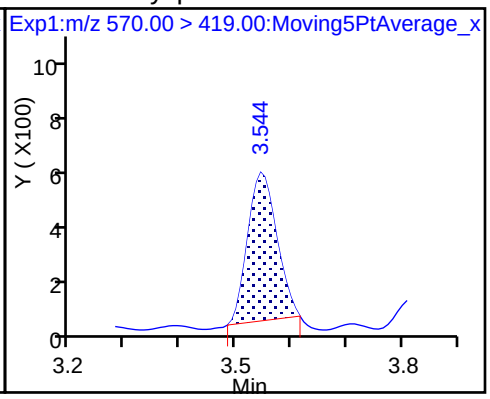
24 Perfluorodecanoic acid (ND)



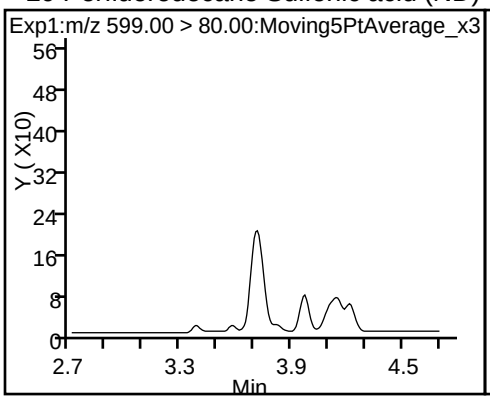
D 27 d3-NMeFOSAA



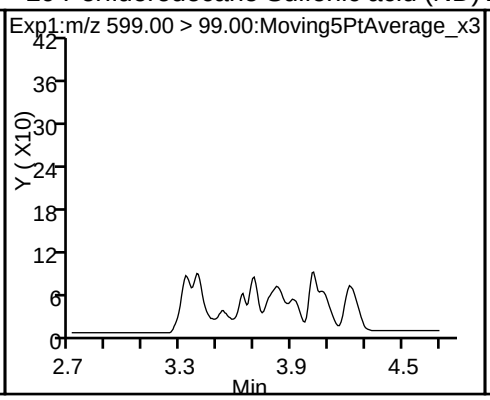
28 N-methyl perfluorooctane sulfonami



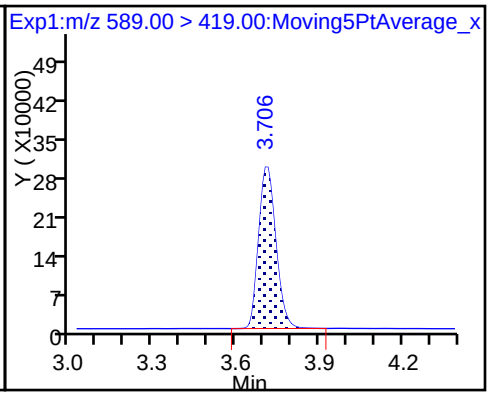
29 Perfluorodecane Sulfonic acid (ND)



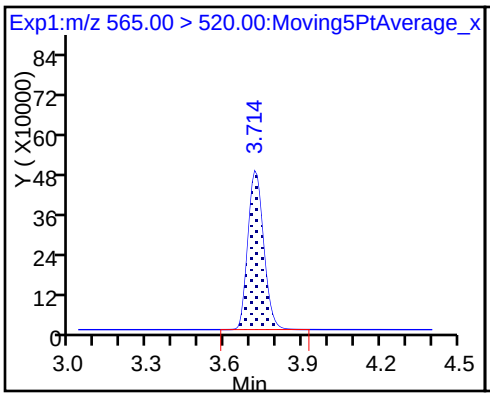
29 Perfluorodecane Sulfonic acid (ND)



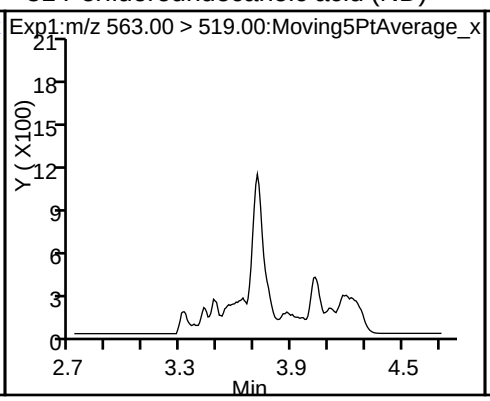
D 32 d5-NEtFOSAA



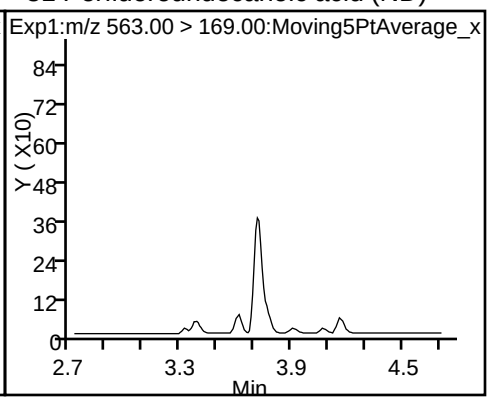
D 30 13C2 PFUnA



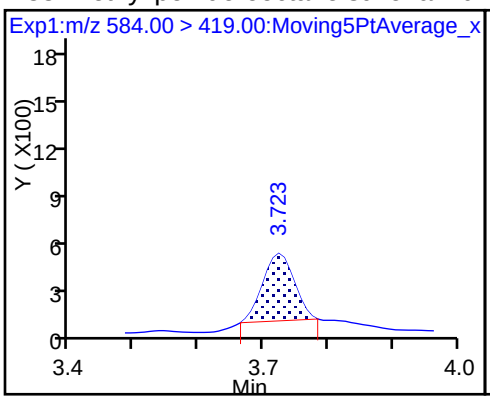
31 Perfluoroundecanoic acid (ND)



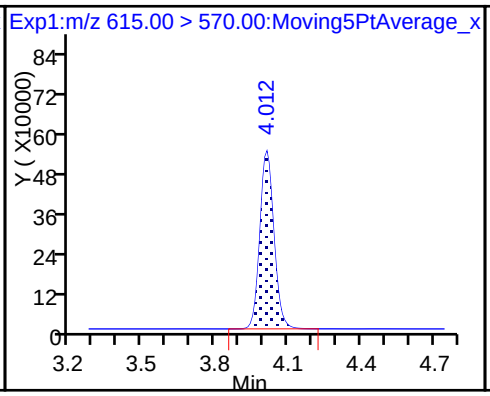
31 Perfluoroundecanoic acid (ND)



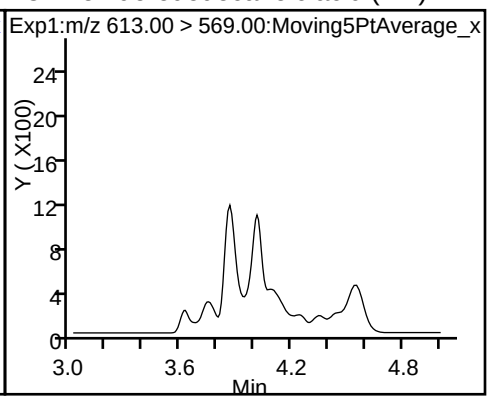
33 N-ethyl perfluorooctane sulfonamid



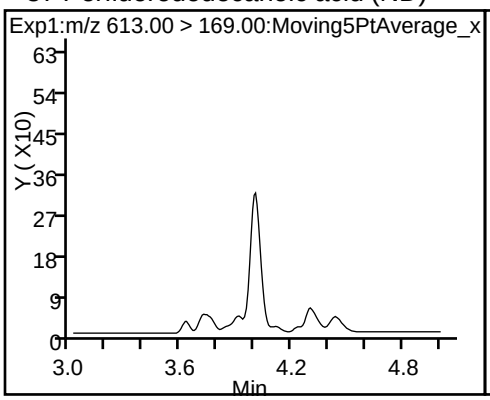
D 36 13C2 PFDoA



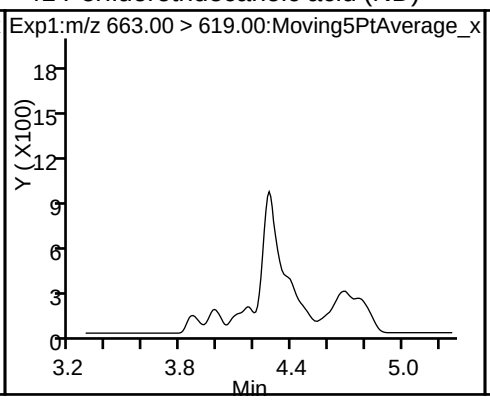
37 Perfluorododecanoic acid (ND)



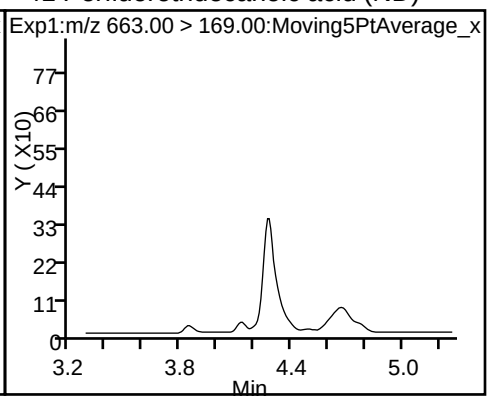
37 Perfluorododecanoic acid (ND)



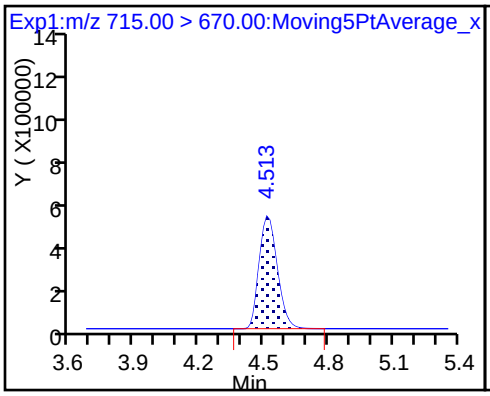
41 Perfluorotridecanoic acid (ND)



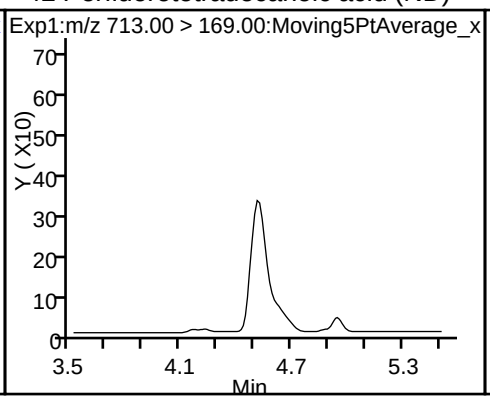
41 Perfluorotridecanoic acid (ND)



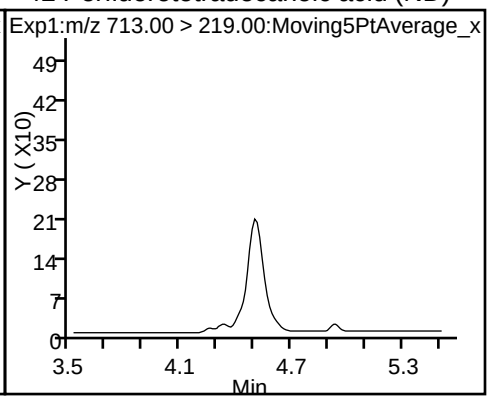
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

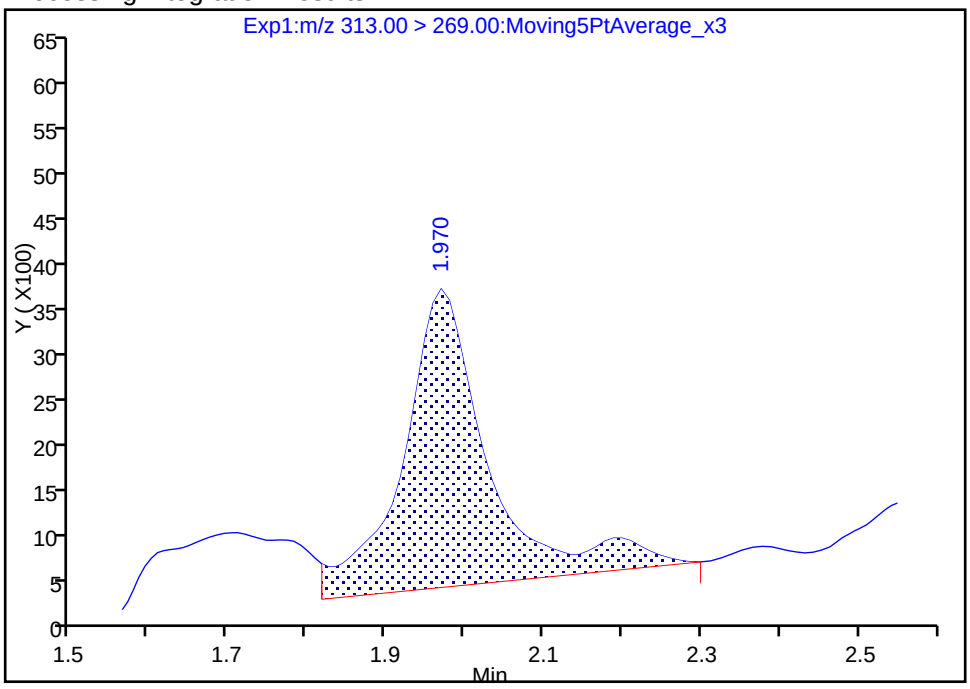
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_039.d				
Injection Date:	23-Dec-2017 02:34:28	Instrument ID:	A8_N		
Lims ID:	320-34425-A-22-A	Lab Sample ID:	320-34425-22		
Client ID:	FM-30-(75-80)-080-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	30	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

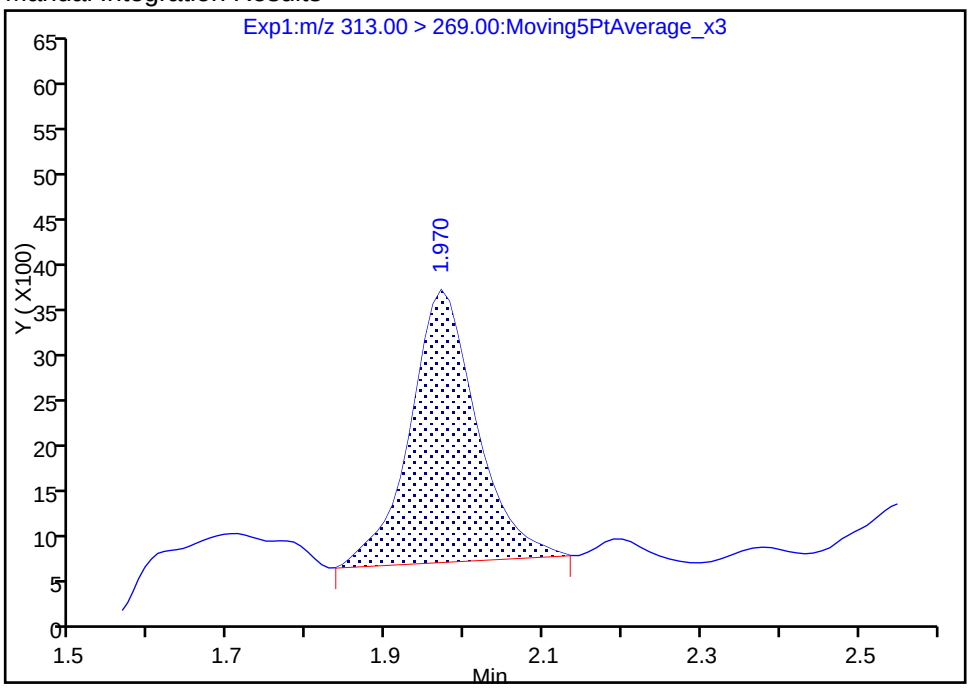
Processing Integration Results

RT: 1.97
Area: 25042
Amount: 0.014134
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 17704
Amount: 0.009993
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:40:36
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

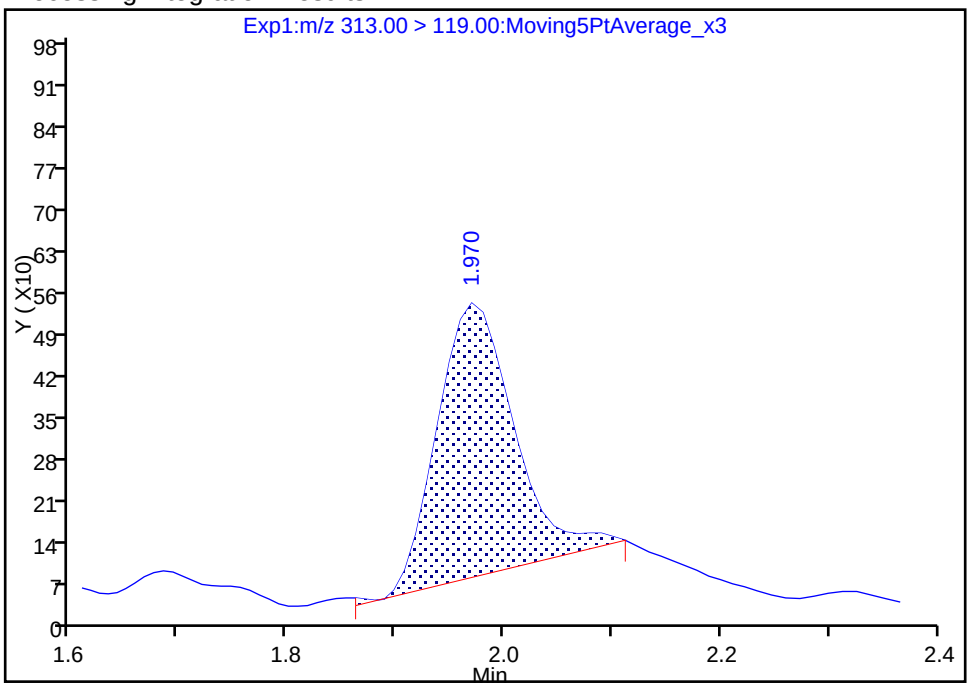
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_039.d				
Injection Date:	23-Dec-2017 02:34:28	Instrument ID:	A8_N		
Lims ID:	320-34425-A-22-A	Lab Sample ID:	320-34425-22		
Client ID:	FM-30-(75-80)-080-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	30	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

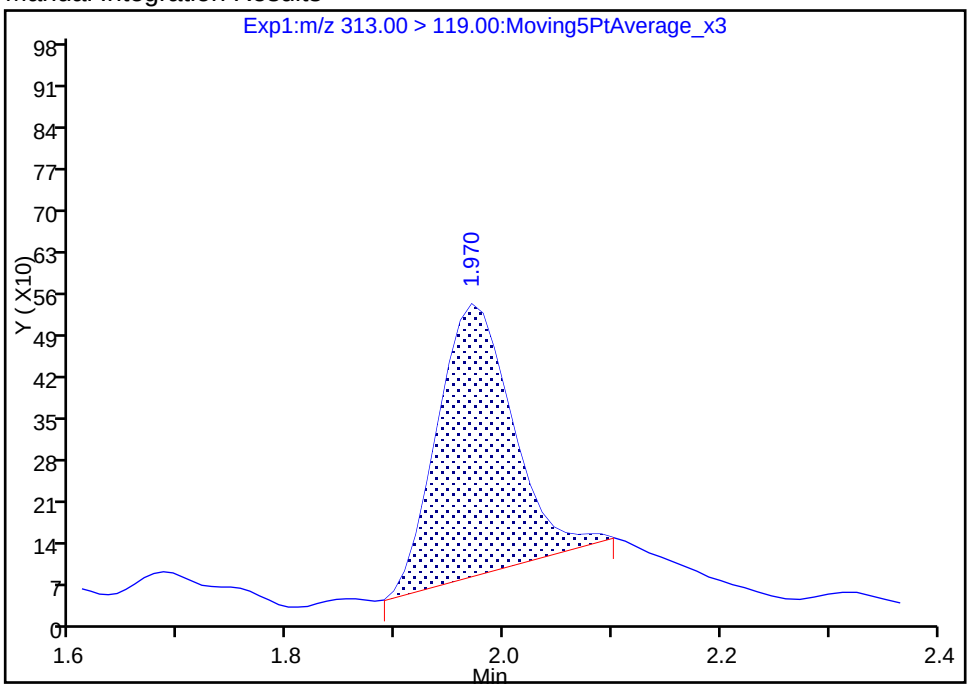
Processing Integration Results

RT: 1.97
Area: 2297
Amount: 0.014134
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 2235
Amount: 0.009993
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:40:48
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-30-(65-70) -070-816-171213 | Lab Sample ID: 320-34425-23

Matrix: Water | Lab File ID: 2017.12.22LLB_040.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 13:08

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 238.7(mL) | Date Analyzed: 12/23/2017 02:42

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	14.9		2.09	0.37
2706-90-3	Perfluoropentanoic acid (PFPeA)	57.0		2.09	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	64.4		2.09	0.61
375-85-9	Perfluoroheptanoic acid (PFHpA)	27.8		2.09	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	55.9		2.09	0.89
375-95-1	Perfluorononanoic acid (PFNA)	51.7		2.09	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.96	J	2.09	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.15	U	2.09	1.15
307-55-1	Perfluorododecanoic acid (PFDoA)	0.58	U	2.09	0.58
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.36	U	2.09	1.36
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.09	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	10.6		2.09	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	261	B	2.09	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	12.8		2.09	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	755		2.09	0.57
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.09	0.34
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.37	U	2.09	0.37
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.25	U	20.9	3.25
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.99	U	20.9	1.99
27619-97-2	6:2FTS	67.3		20.9	2.09
39108-34-4	8:2FTS	5.07	J	20.9	2.09

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-30-(65-70) -070-816-171213 Lab Sample ID: 320-34425-23

Matrix: Water Lab File ID: 2017.12.22LLB_040.d

Analysis Method: 537 (modified) Date Collected: 12/13/2017 13:08

Extraction Method: 3535 Date Extracted: 12/22/2017 07:57

Sample wt/vol: 238.7(mL) Date Analyzed: 12/23/2017 02:42

Con. Extract Vol.: 10.0(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	110		25-150
STL01893	13C5 PFPeA	112		25-150
STL00993	13C2 PFHxA	108		25-150
STL01892	13C4-PFHpA	107		25-150
STL00990	13C4 PFOA	105		25-150
STL00995	13C5 PFNA	103		25-150
STL00996	13C2 PFDA	107		25-150
STL00997	13C2 PFUnA	103		25-150
STL00998	13C2 PFDoA	101		25-150
STL02116	13C2-PFTeDA	124		25-150
STL02337	13C3-PFBS	111		25-150
STL00994	18O2 PFHxS	106		25-150
STL00991	13C4 PFOS	100		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	88		25-150
STL02117	d5-NEtFOSAA	97		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	82		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_040.d
Lims ID: 320-34425-A-23-A
Client ID: FM-30-(65-70)-070-816-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 02:42:20 ALS Bottle#: 31 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-23-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:46:05

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7105525	2.74		110	18010	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	929153	0.3568			191	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4343901	2.80		112	30253	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.000	2640967	1.36			1584	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.645	85616	2.58		111	2511	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	702575	0.2536			1390	
298.90 > 99.00	1.716	1.707	0.009	1.000	296228		2.37(1.25-3.74)		1581	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4477281	2.70		108	37719	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.966	1.956	0.010	1.000	2754901	1.54			4546	
313.00 > 119.00	1.966	1.956	0.010	1.000	241386		11.41(5.03-15.10)		3893	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.291	0.015	0.867	4120093	2.68		107	30714	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.291	0.015	1.000	1143177	0.6631			1741	
363.00 > 169.00	2.306	2.291	0.015	1.000	459151		2.49(1.13-3.40)		3865	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.319	2.304	0.015	1.000	13829113	6.24			19369	
399.00 > 99.00	2.319	2.304	0.015	1.000	4806717		2.88(1.50-4.49)		9202	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	4872043	2.51		106	56475	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.637	2.642	-0.005	1.000	750591	1.61			15252	
D 12 M2-6:2FTS										
429.00 > 81.00	2.637	2.642	-0.005	0.992	716300	1.00		42.2	13359	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	4625222	2.62		105	43193	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4270372	2.50			50453	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.659	2.656	0.003	1.000	2595563	1.33			3934	M
413.00 > 169.00	2.659	2.656	0.003	1.000	1511642		1.72(0.84-2.52)		7757	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.666	2.662	0.004	1.000	512014	0.3045			192	
449.00 > 99.00	2.666	2.662	0.004	1.000	156629		3.27(1.94-5.82)		386	
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.140	3069135	2.40		100	26332	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	24520573	18.0			2072	
499.00 > 99.00	3.032	3.028	0.004	1.000	5706786		4.30(2.31-6.93)		3339	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.140	3236451	2.58		103	34761	
20 Perfluorononanoic acid										
463.00 > 419.00	3.040	3.029	0.011	1.003	1607603	1.23			1199	
463.00 > 169.00	3.032	3.029	0.003	1.000	404623		3.97(1.90-5.69)		468	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.270	4177403	2.40		96.0	20592	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	8152	0.005086			33.7	
D 26 M2-8:2FTS										
529.00 > 81.00	3.385	3.377	0.008	1.273	785401	1.97		82.1	16874	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.385	3.377	0.008	1.000	48231	0.1210			2507	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2762967	2.67		107	37942	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.393	3.390	0.003	1.000	24464	0.0229			109	
513.00 > 169.00	3.393	3.390	0.003	1.000	5388		4.54(2.36-7.09)		74.0	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1225180	2.21		88.3	16485	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.714	3.712	0.002	1.397	1312624	2.42		96.9	6699	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.397	2021235	2.57		103	25502	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.723	3.718	0.005	1.002	18261	0.0247			59.1	
563.00 > 169.00	3.714	3.718	-0.004	1.000	3695		4.94(0.00-0.00)		17.5	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.723	3.720	0.003	1.002	2842	0.005448			135	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	2146706	2.53		101	33969	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.698	2942745	3.10		124	25306	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:34 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_040.d

Injection Date: 23-Dec-2017 02:42:20 Instrument ID: A8_N

Lims ID: 320-34425-A-23-A Lab Sample ID: 320-34425-23

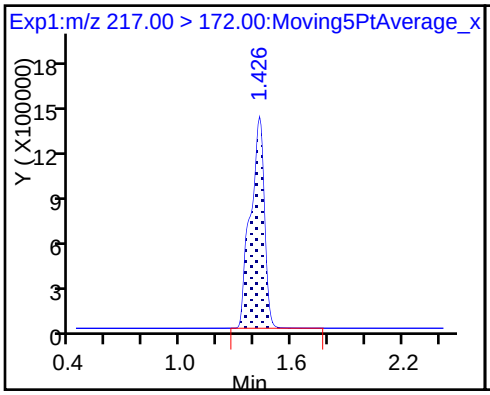
Client ID: FM-30-(65-70)-070-816-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 31 Worklist Smp#: 5

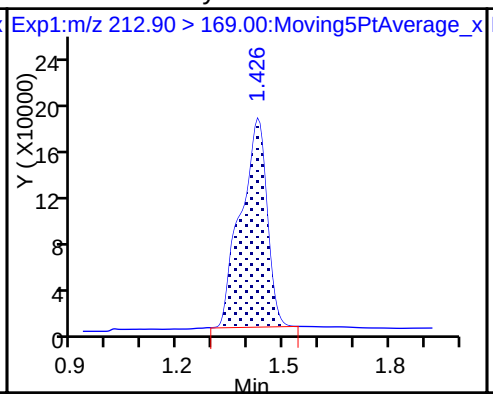
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

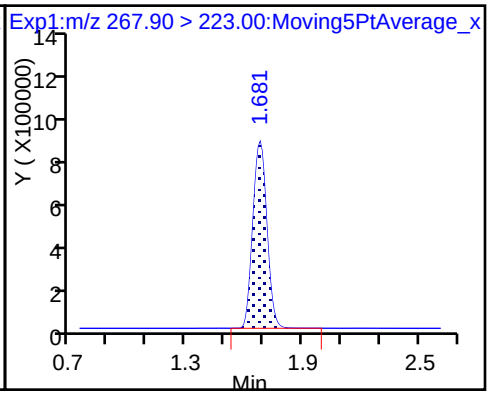
D 1 13C4 PFBA



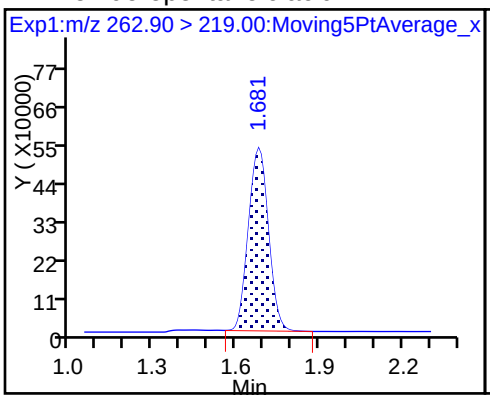
2 Perfluorobutyric acid



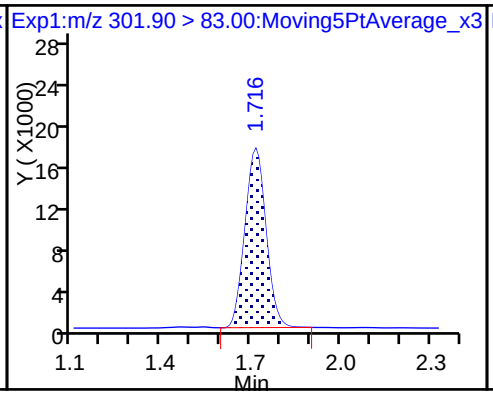
D 3 13C5-PFPeA



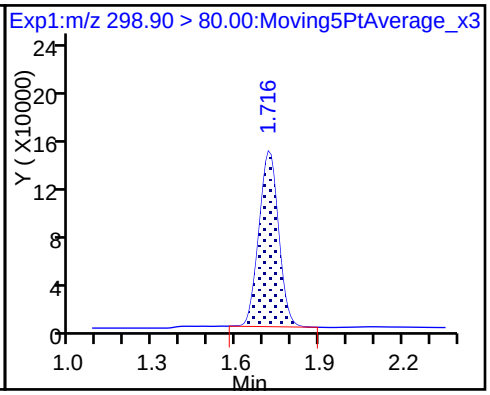
4 Perfluoropentanoic acid



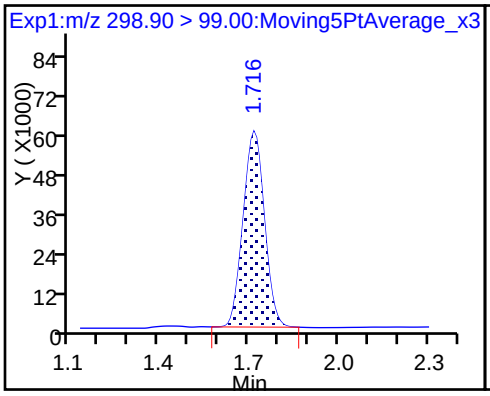
D 47 13C3-PFBS



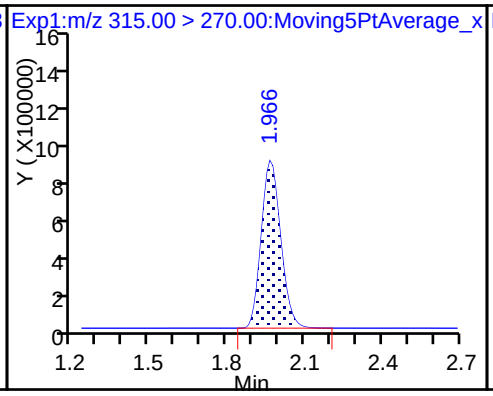
5 Perfluorobutanesulfonic acid



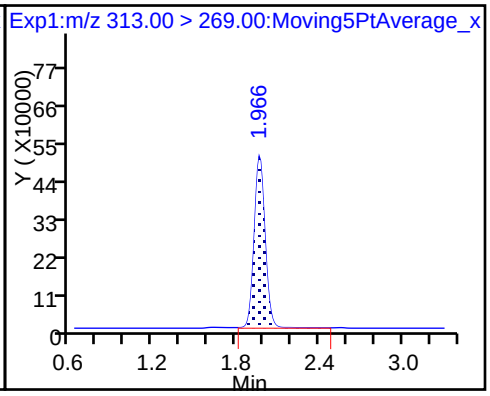
5 Perfluorobutanesulfonic acid



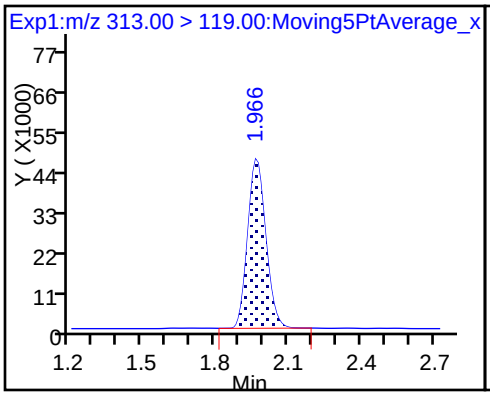
D 7 13C2 PFHxA



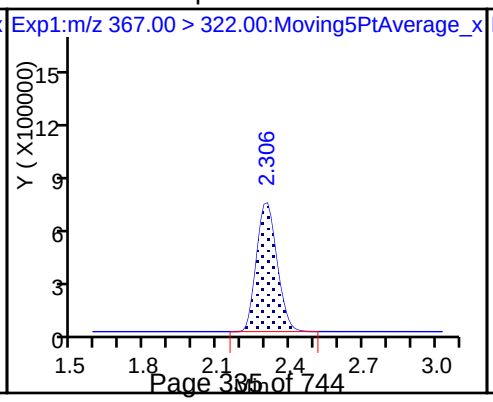
6 Perfluorohexanoic acid



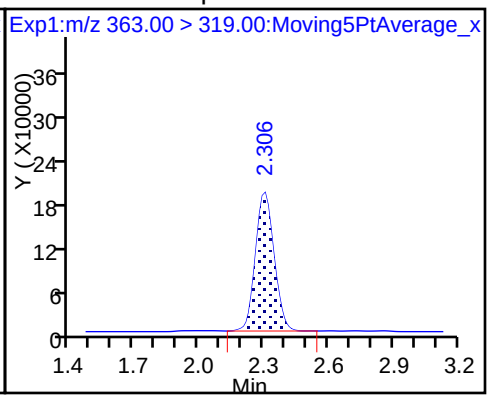
6 Perfluorohexanoic acid



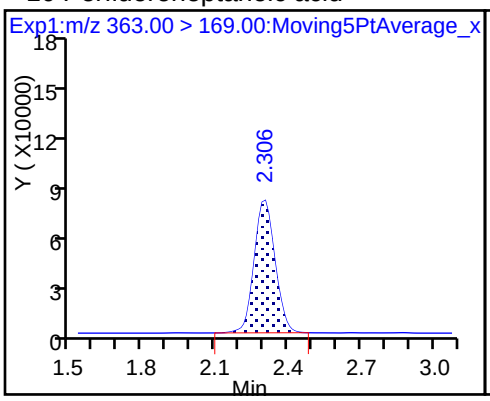
D 9 13C4-PFHpA



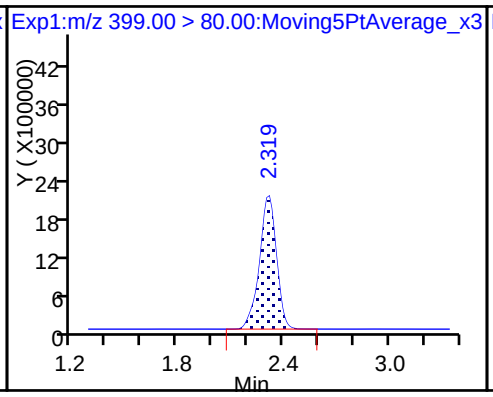
10 Perfluoroheptanoic acid



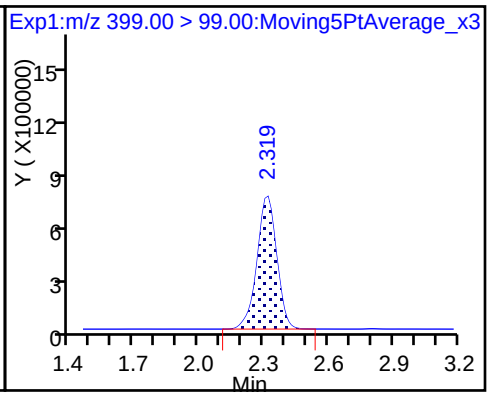
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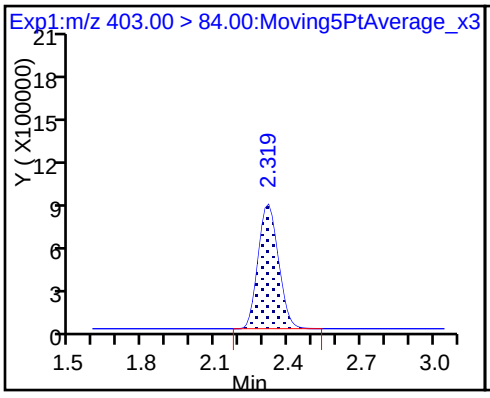
8 Perfluorohexanesulfonic acid



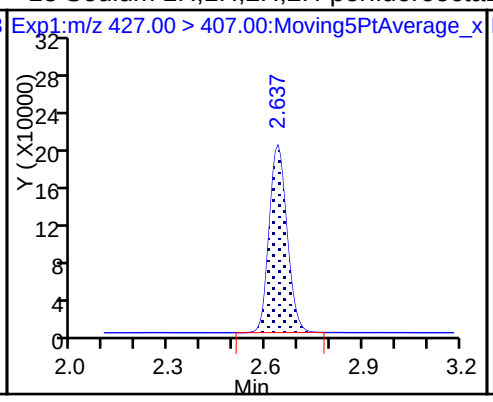
8 Perfluorohexanesulfonic acid



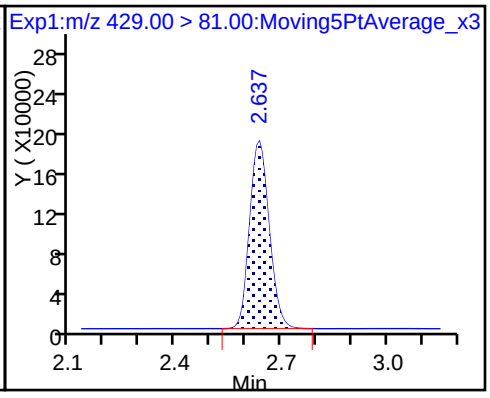
D 11 18O2 PFHxS



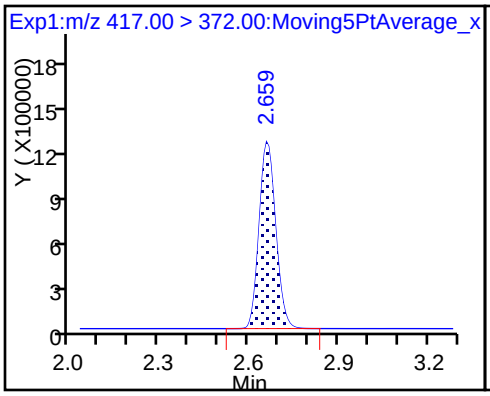
13 Sodium 1H,1H,2H,2H-perfluorooctane



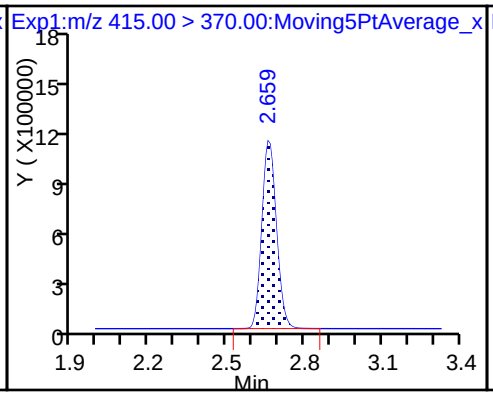
D 12 M2-6:2FTS



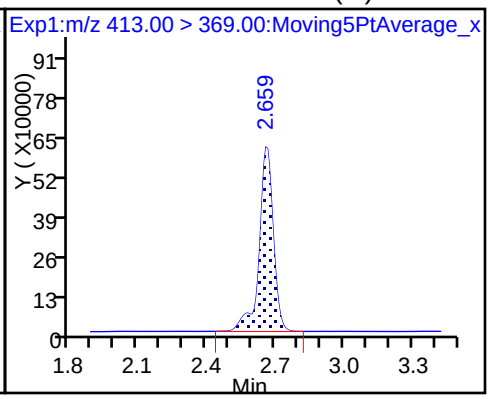
D 14 13C4 PFOA



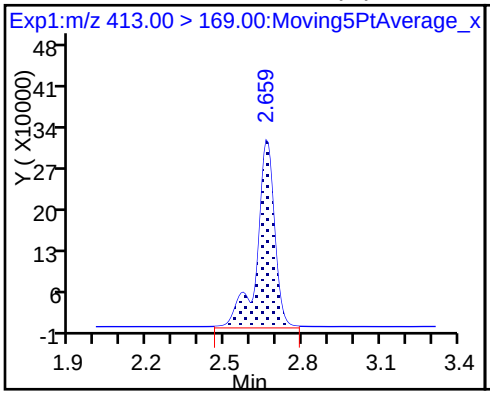
* 62 13C2-PFOA



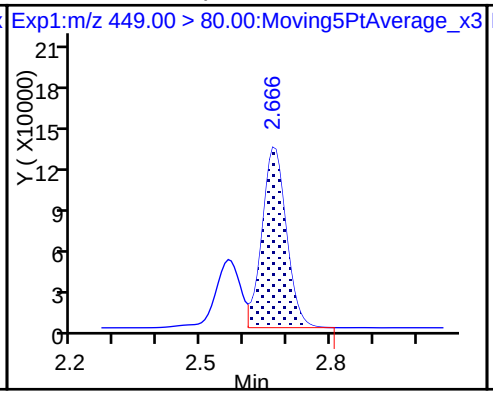
15 Perfluorooctanoic acid (M)



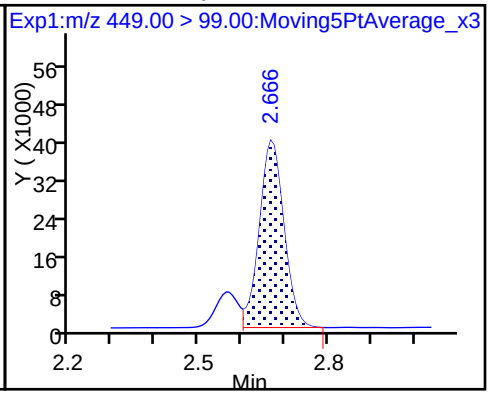
15 Perfluorooctanoic acid (M)



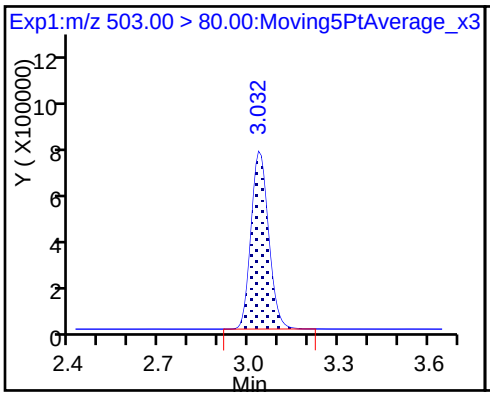
16 Perfluoroheptanesulfonic Acid



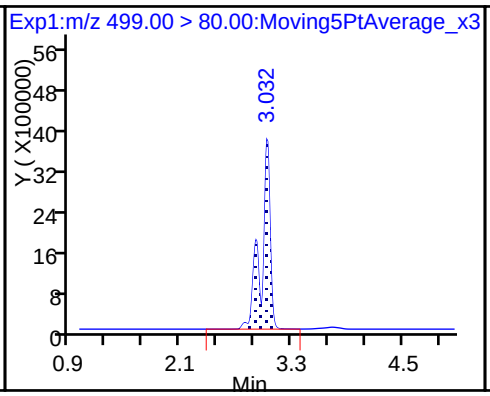
16 Perfluoroheptanesulfonic Acid



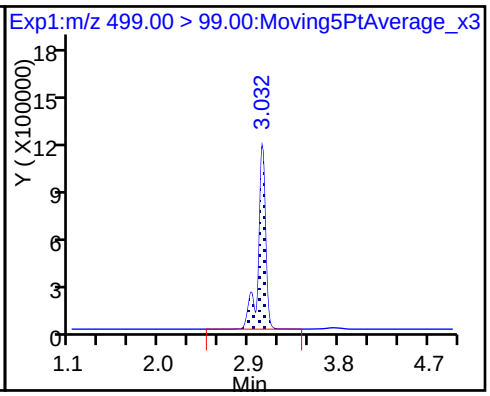
D 18 13C4 PFOS



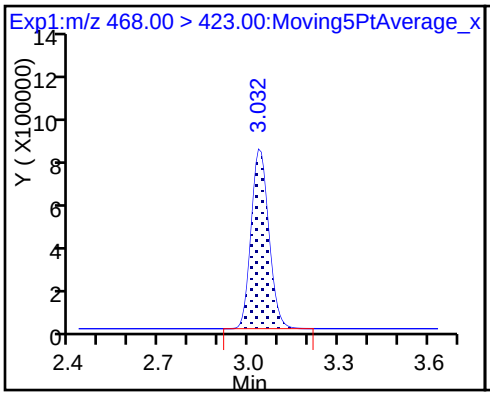
17 Perfluorooctane sulfonic acid



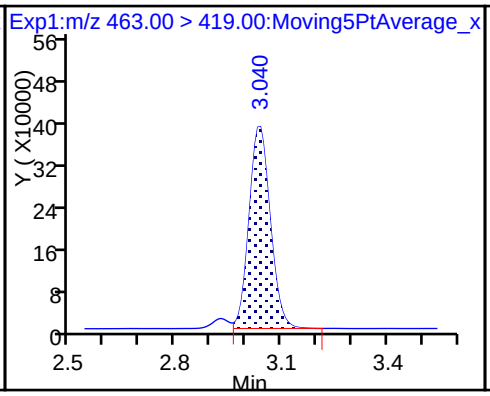
17 Perfluorooctane sulfonic acid



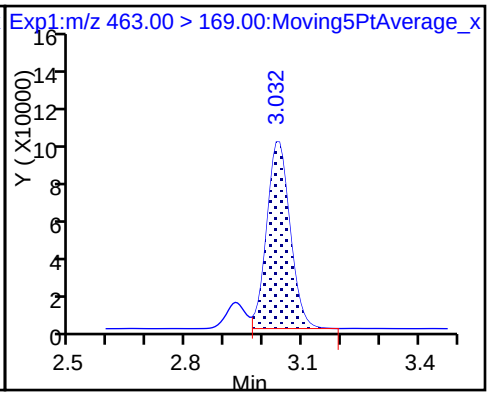
D 19 13C5 PFNA



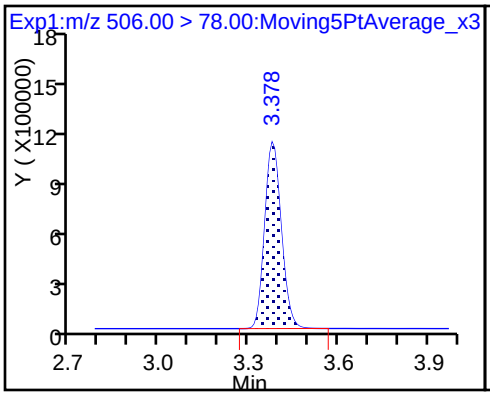
20 Perfluorononanoic acid



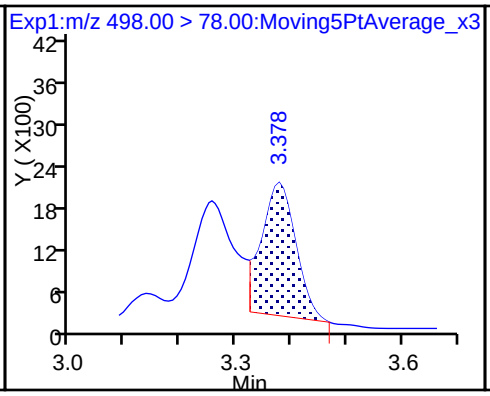
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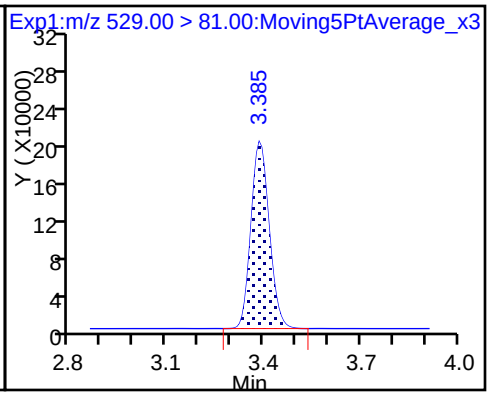
D 21 13C8 FOSA



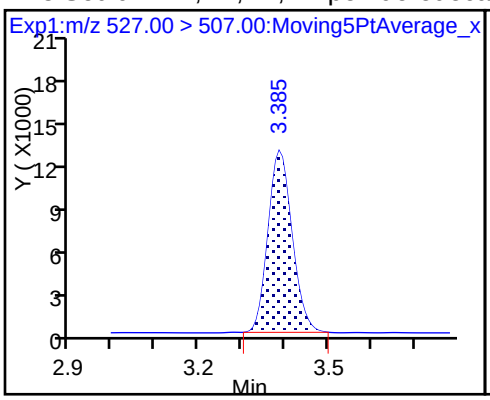
22 Perfluorooctane Sulfonamide



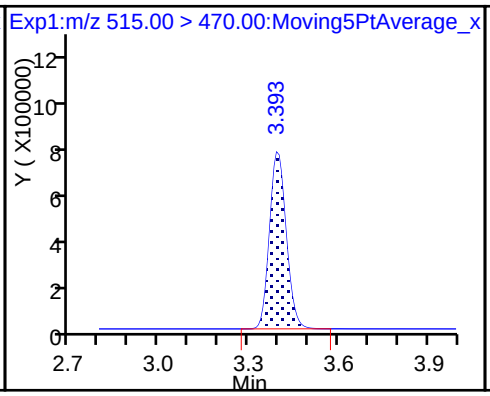
D 26 M2-8:2FTS



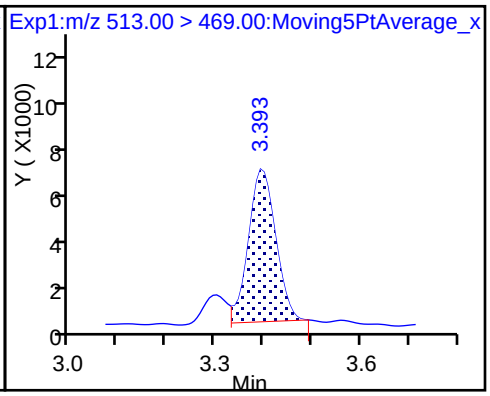
25 Sodium 1H,1H,2H,2H-perfluorodecane



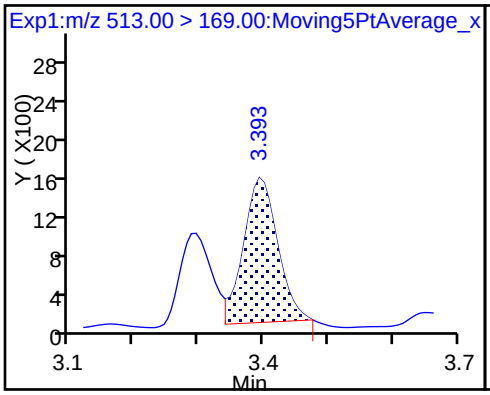
D 23 13C2 PFDA



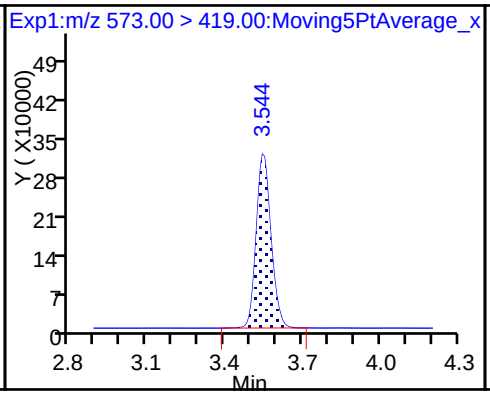
24 Perfluorodecanoic acid



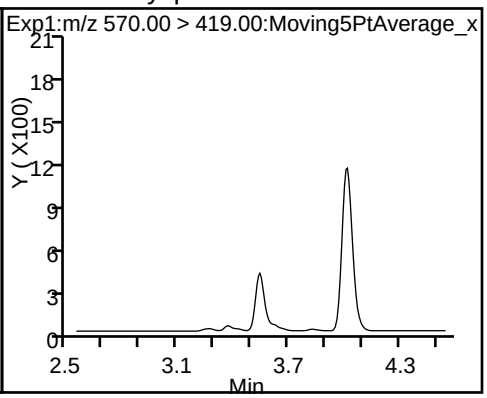
24 Perfluorodecanoic acid



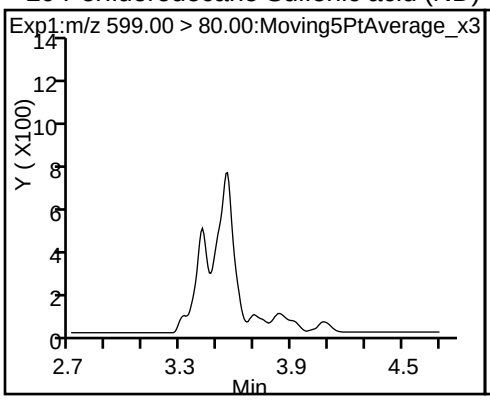
D 27 d3-NMeFOSAA



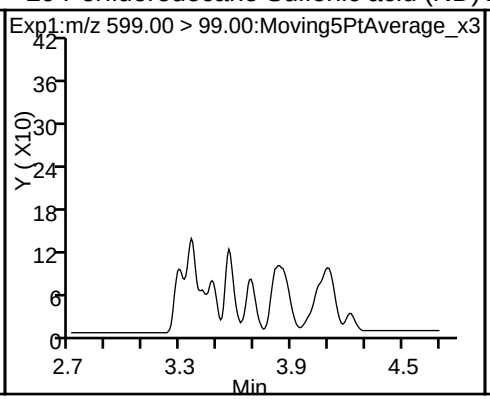
28 N-methyl perfluorooctane sulfonami (ND)



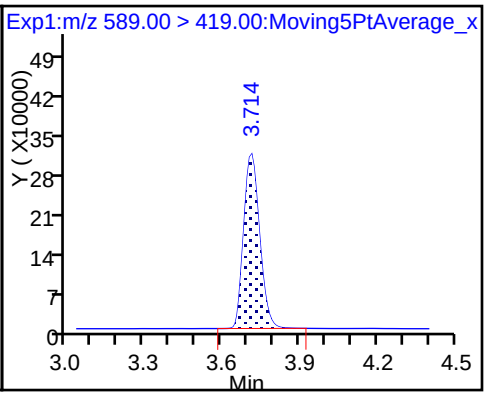
29 Perfluorodecane Sulfonic acid (ND)



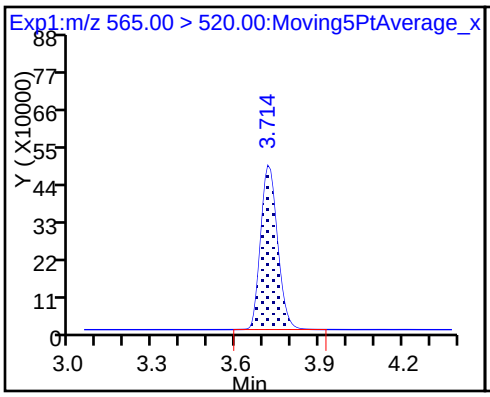
29 Perfluorodecane Sulfonic acid (ND)



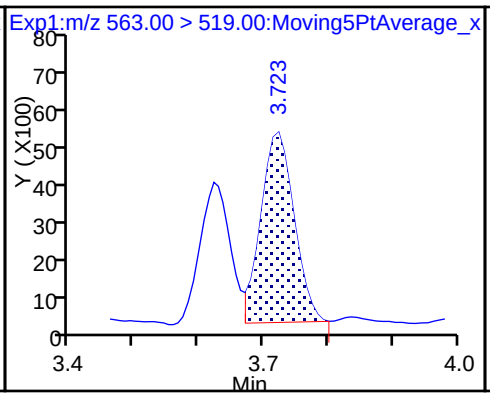
D 32 d5-NEtFOSAA



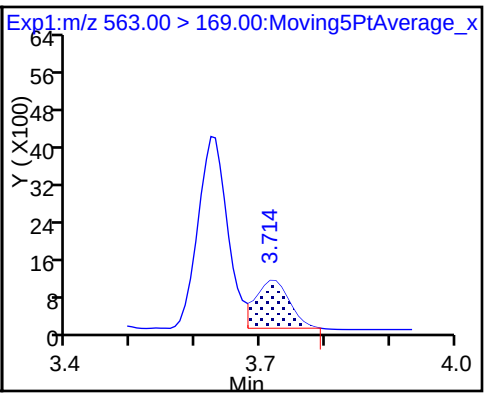
D 30 13C2 PFUnA



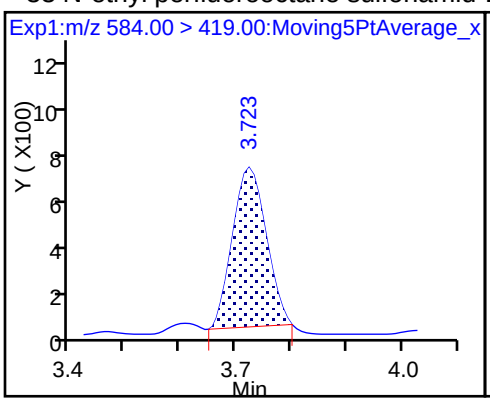
31 Perfluoroundecanoic acid



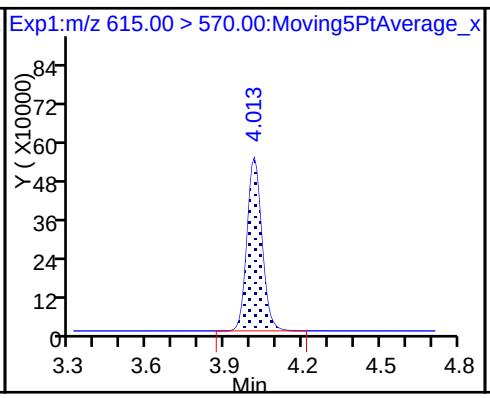
31 Perfluoroundecanoic acid



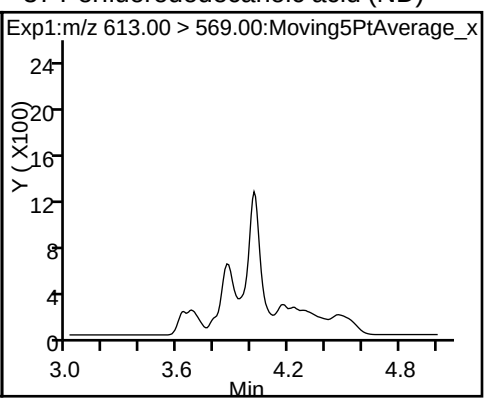
33 N-ethyl perfluorooctane sulfonamid



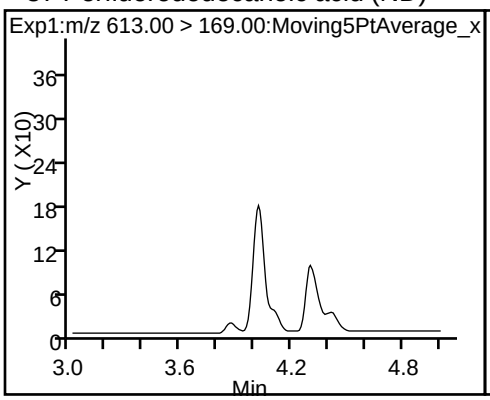
D 36 13C2 PFDoA



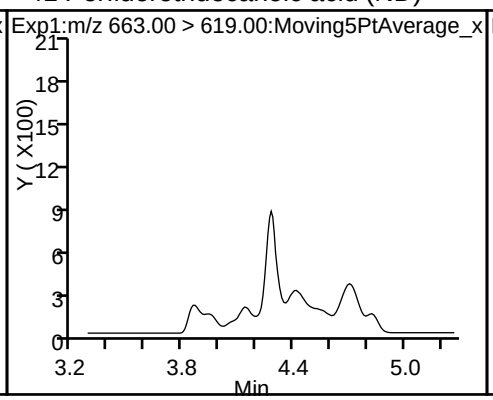
37 Perfluorododecanoic acid (ND)



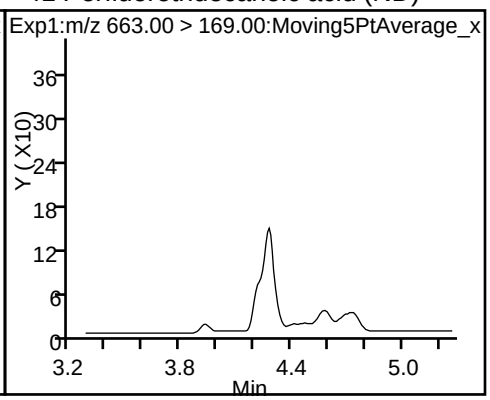
37 Perfluorododecanoic acid (ND)



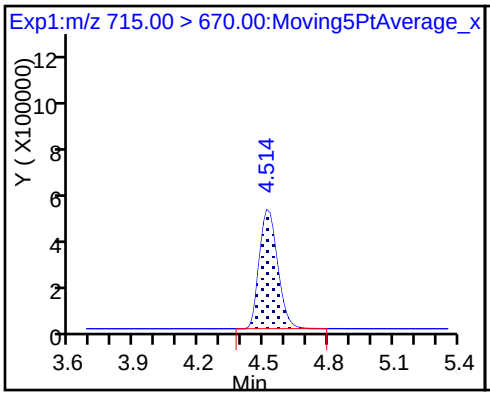
41 Perfluorotridecanoic acid (ND)



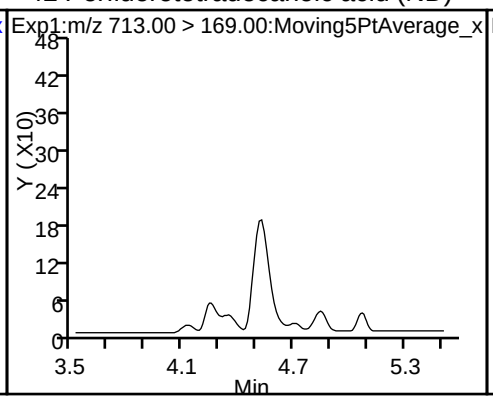
41 Perfluorotridecanoic acid (ND)



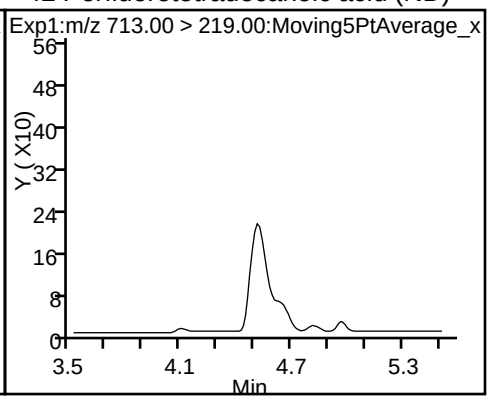
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

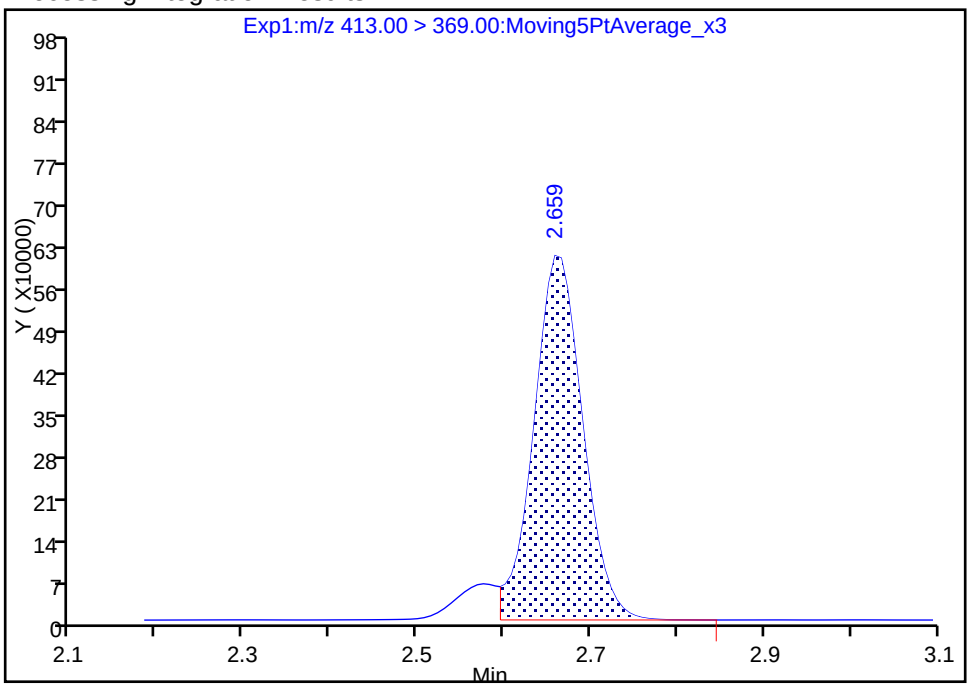
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_040.d				
Injection Date:	23-Dec-2017 02:42:20	Instrument ID:	A8_N		
Lims ID:	320-34425-A-23-A	Lab Sample ID:	320-34425-23		
Client ID:	FM-30-(65-70)-070-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	31	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

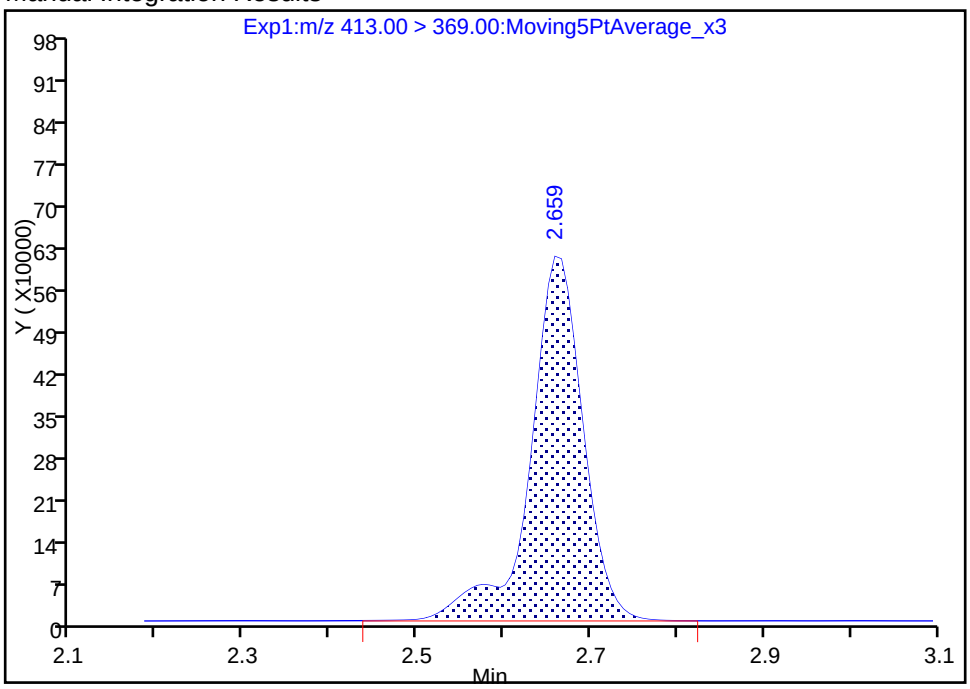
Processing Integration Results

RT: 2.66
Area: 2385210
Amount: 1.225951
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 2595563
Amount: 1.334069
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:45:15
Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

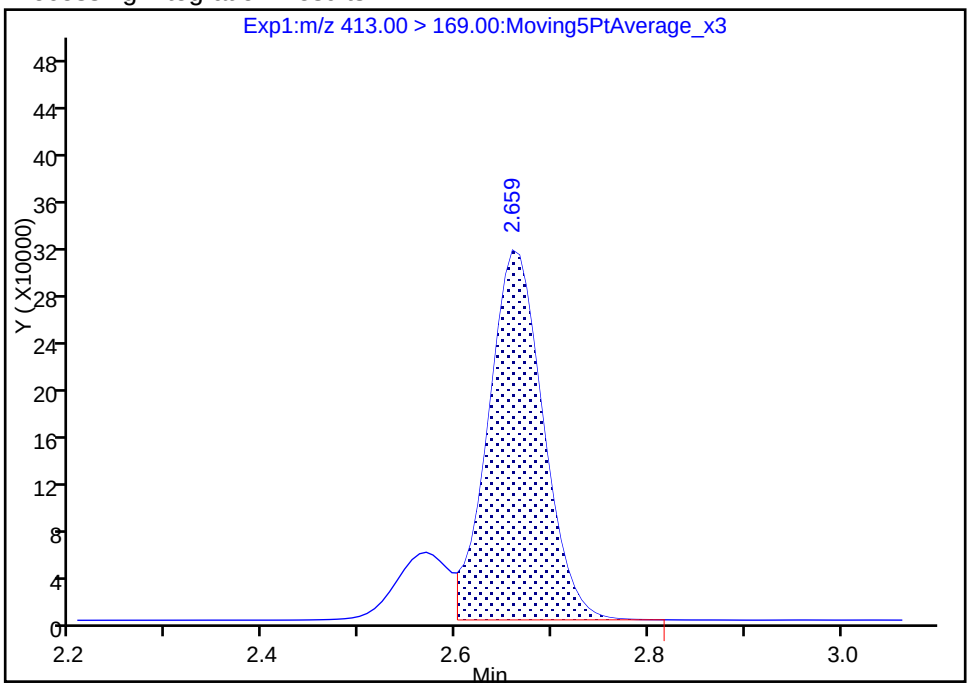
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_040.d				
Injection Date:	23-Dec-2017 02:42:20	Instrument ID:	A8_N		
Lims ID:	320-34425-A-23-A	Lab Sample ID:	320-34425-23		
Client ID:	FM-30-(65-70)-070-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	31	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

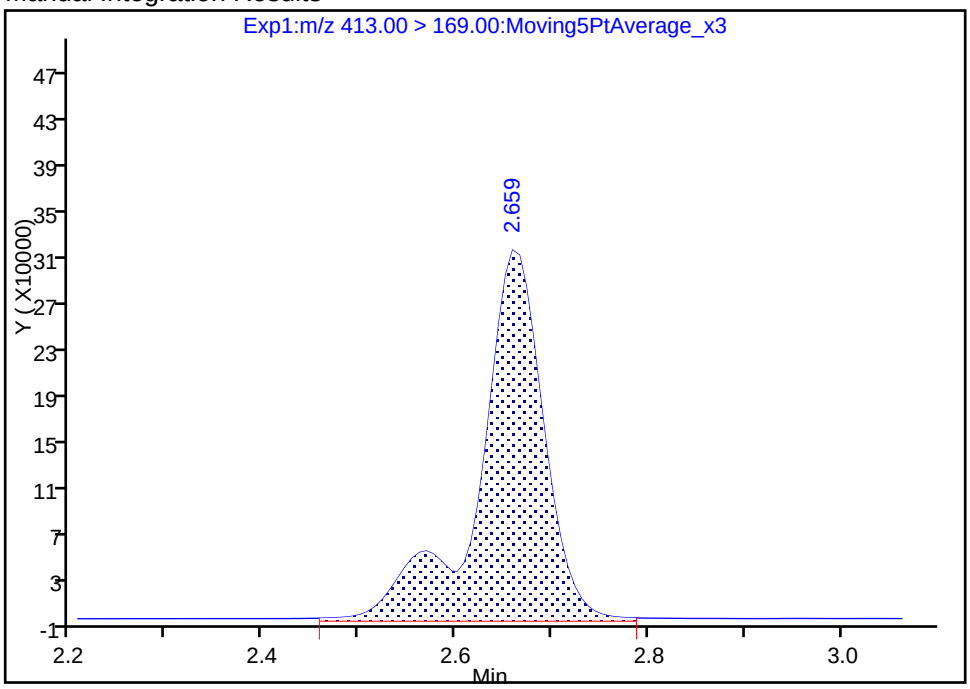
Processing Integration Results

RT: 2.66
Area: 1242716
Amount: 1.225951
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 1511642
Amount: 1.334069
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:45:20

Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: Field Blank FB-816-171213 | Lab Sample ID: 320-34425-24

Matrix: Water | Lab File ID: 2017.12.22LLB_041.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 09:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 248.5(mL) | Date Analyzed: 12/23/2017 02:50

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.01	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.01	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.01	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.01	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.86	U	2.01	0.86
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.01	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.01	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.11	U	2.01	1.11
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.01	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.31	U	2.01	1.31
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.01	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.01	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.39	J B	2.01	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.01	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.01	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.01	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.01	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.12	U	20.1	3.12
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.91	U	20.1	1.91
27619-97-2	6:2FTS	2.01	U	20.1	2.01
39108-34-4	8:2FTS	2.01	U	20.1	2.01

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Client Sample ID: Field Blank FB-816-171213 Lab Sample ID: 320-34425-24

Matrix: Water Lab File ID: 2017.12.22LLB_041.d

Analysis Method: 537 (modified) Date Collected: 12/13/2017 09:00

Extraction Method: 3535 Date Extracted: 12/22/2017 07:57

Sample wt/vol: 248.5(mL) Date Analyzed: 12/23/2017 02:50

Con. Extract Vol.: 10.0(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	103		25-150
STL01893	13C5 PFPeA	101		25-150
STL00993	13C2 PFHxA	98		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	93		25-150
STL00995	13C5 PFNA	110		25-150
STL00996	13C2 PFDA	100		25-150
STL00997	13C2 PFUnA	102		25-150
STL00998	13C2 PFDoA	94		25-150
STL02116	13C2-PFTeDA	134		25-150
STL02337	13C3-PFBS	100		25-150
STL00994	18O2 PFHxS	103		25-150
STL00991	13C4 PFOS	105		25-150
STL01056	13C8 FOSA	94		25-150
STL02118	d3-NMeFOSAA	85		25-150
STL02117	d5-NEtFOSAA	93		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	78		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_041.d
Lims ID: 320-34425-A-24-A
Client ID: Field Blank FB-816-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 02:50:13 ALS Bottle#: 32 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-24-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:48:09

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.424	1.419	0.005	0.535	7257290	2.57		103	18553	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.424	1.419	0.005	1.000	19155	0.007202			4.0	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.676	1.670	0.006	0.630	4260856	2.53		101	36928	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.676	1.670	0.006	1.000	7006	0.003683			6.9	M
D 47 13C3-PFBS										
301.90 > 83.00	1.712	1.705	0.007	0.643	83377	2.32		99.7	3434	
D 7 13C2 PFHxA										
315.00 > 270.00	1.970	1.953	0.017	0.740	4425055	2.46		98.3	38720	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.960	1.956	0.004	0.995	2946	0.001662			5.8	M
313.00 > 119.00	1.970	1.956	0.014	1.000	359		8.21(5.03-15.10)		8.2	M
D 9 13C4-PFHpA										
367.00 > 322.00	2.299	2.291	0.008	0.864	4314827	2.59		104	35681	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.312	2.304	0.008	1.000	22277	0.009570			81.3	
399.00 > 99.00	2.312	2.304	0.008	1.000	6203		3.59(1.50-4.49)		8.0	
D 11 18O2 PFHxS										
403.00 > 84.00	2.312	2.304	0.008	0.869	5114522	2.43		103	49364	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.633	2.642	-0.009	1.000	8106	0.0161			215	
D 12 M2-6:2FTS										
429.00 > 81.00	2.633	2.642	-0.009	0.989	773329	1.00		41.9	15868	
D 14 13C4 PFOA										
417.00 > 372.00	2.662	2.654	0.008	1.000	4461090	2.33		93.1	48442	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 62 13C2-PFOA										
415.00 > 370.00	2.662	2.656	0.006		4637791	2.50			52627	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.662	2.656	0.006	1.000	11418	0.006085			19.3	
413.00 > 169.00	2.654	2.656	-0.002	0.997	5299		2.15(0.84-2.52)		44.5	
D 18 13C4 PFOS										
503.00 > 80.00	3.036	3.025	0.011	1.141	3477528	2.50		105	34679	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.036	3.028	0.008	1.000	17426	0.0113			1.6	
499.00 > 99.00	3.036	3.028	0.008	1.000	4187		4.16(2.31-6.93)		2.5	
D 19 13C5 PFNA										
468.00 > 423.00	3.036	3.028	0.008	1.141	3760524	2.76		110	52101	
D 21 13C8 FOSA										
506.00 > 78.00	3.381	3.370	0.011	1.270	4459752	2.36		94.4	29622	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.381	3.372	0.009	1.000	3697	0.002161			170	
D 26 M2-8:2FTS										
529.00 > 81.00	3.389	3.377	0.012	1.273	814088	1.88		78.4	18974	
D 23 13C2 PFDA										
515.00 > 470.00	3.396	3.389	0.007	1.276	2811389	2.50		100	26966	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.548	3.543	0.005	1.333	1277770	2.12		84.8	13142	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.717	3.712	0.005	1.397	1368077	2.32		93.0	6784	
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.397	2188529	2.56		102	29220	
D 36 13C2 PFDoA										
615.00 > 570.00	4.015	4.011	0.004	1.509	2175170	2.36		94.4	42181	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.697	3459635	3.36		134	31498	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:36 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_041.d

Injection Date: 23-Dec-2017 02:50:13 Instrument ID: A8_N

Lims ID: 320-34425-A-24-A Lab Sample ID: 320-34425-24

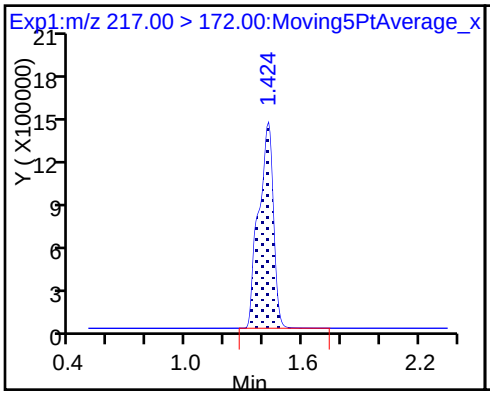
Client ID: Field Blank FB-816-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 32 Worklist Smp#: 6

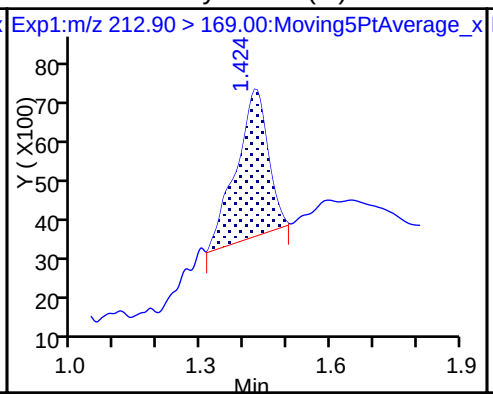
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

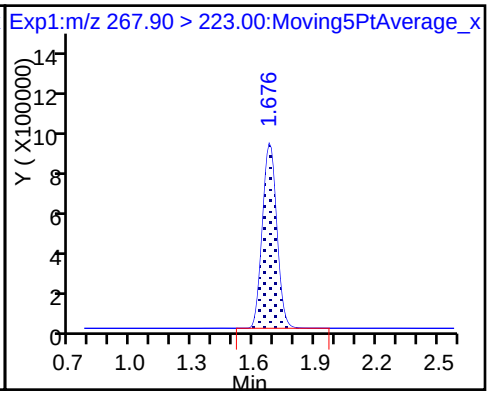
D 1 13C4 PFBA



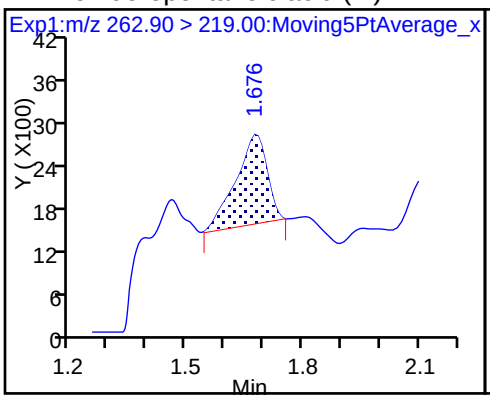
2 Perfluorobutyric acid (M)



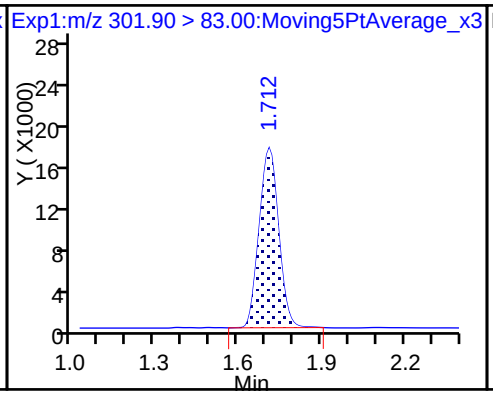
D 3 13C5-PFPeA



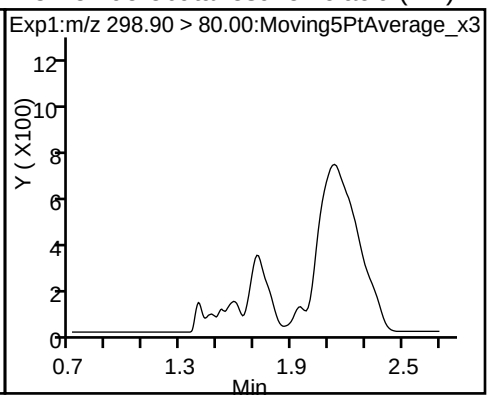
4 Perfluoropentanoic acid (M)



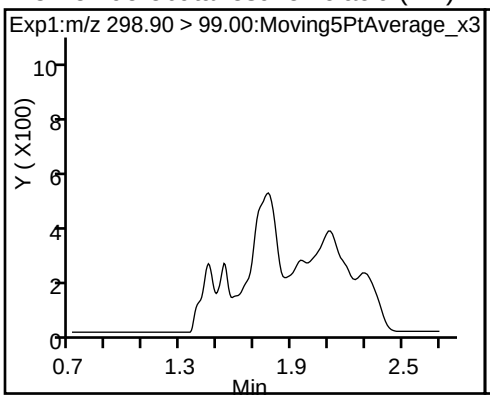
D 47 13C3-PFBS



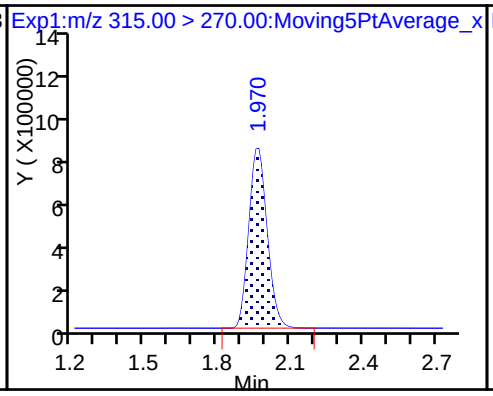
5 Perfluorobutanesulfonic acid (ND)



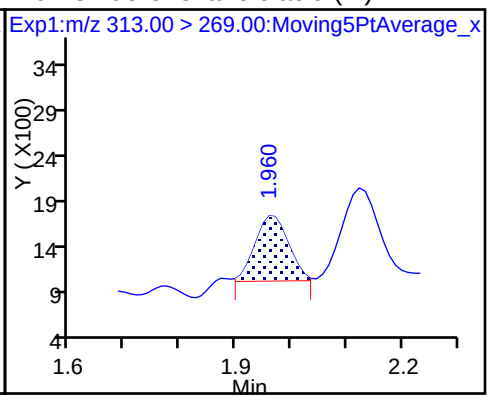
5 Perfluorobutanesulfonic acid (ND)



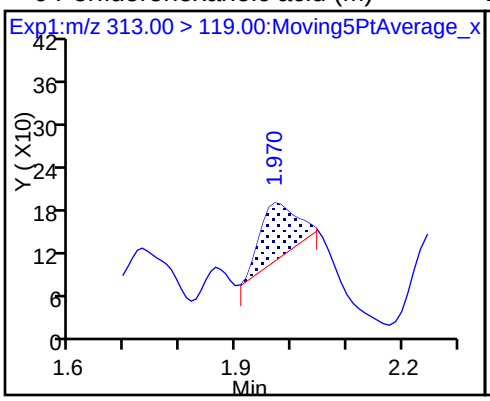
D 7 13C2 PFHxA



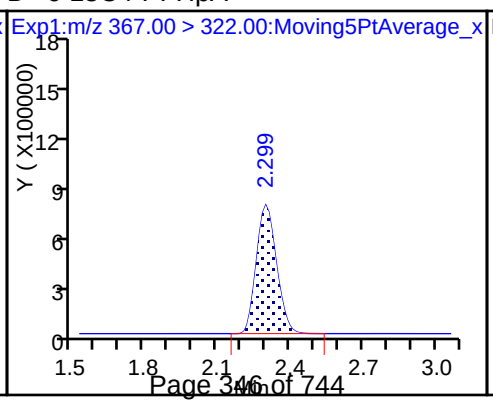
6 Perfluorohexanoic acid (M)



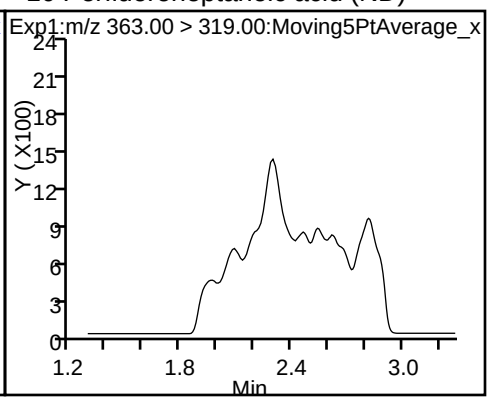
6 Perfluorohexanoic acid (M)



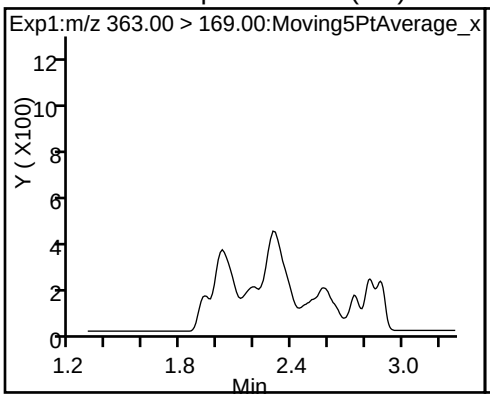
D 9 13C4-PFHpA



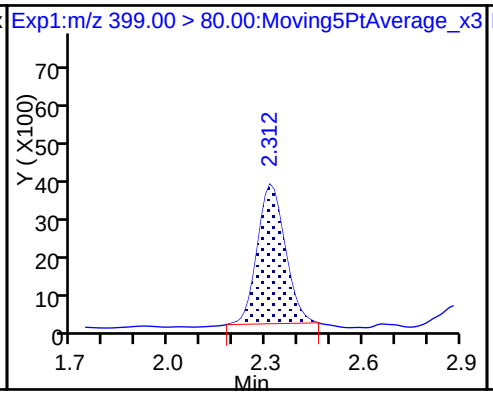
10 Perfluoroheptanoic acid (ND)



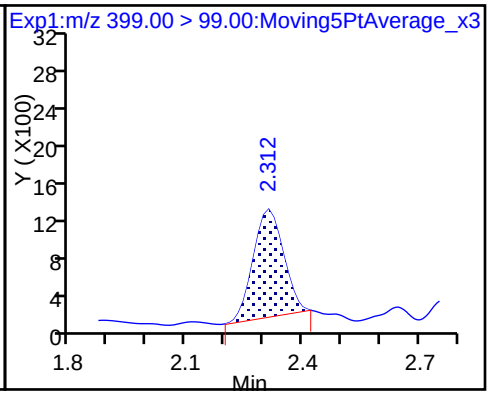
10 Perfluoroheptanoic acid (ND)



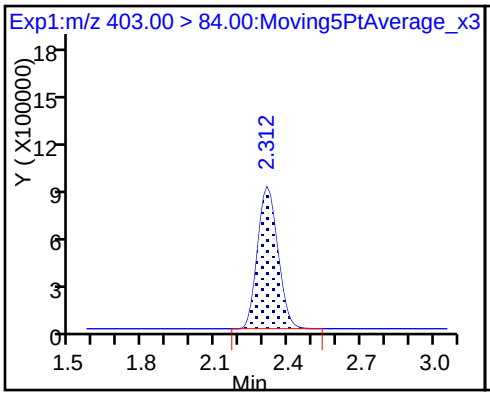
8 Perfluorohexanesulfonic acid



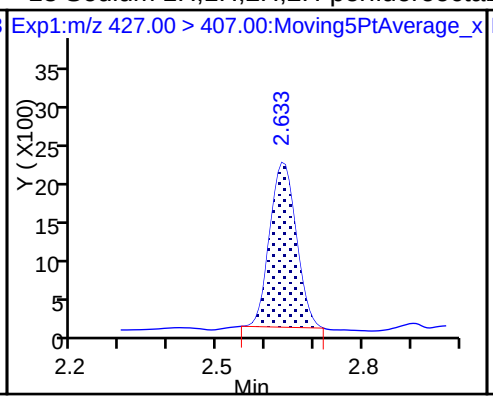
8 Perfluorohexanesulfonic acid



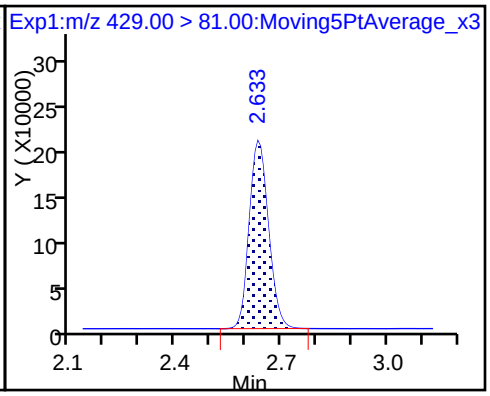
D 11 18O2 PFHxS



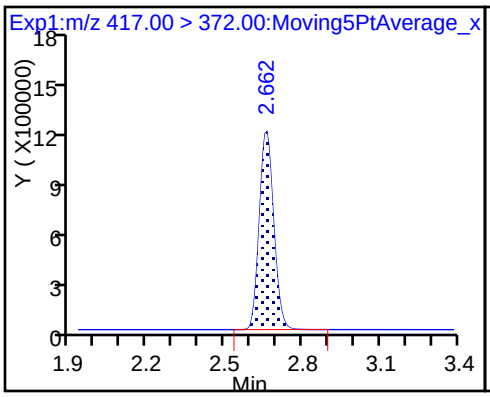
13 Sodium 1H,1H,2H,2H-perfluorooctane



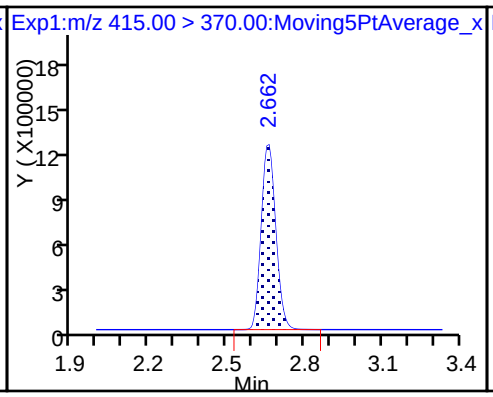
D 12 M2-6:2FTS



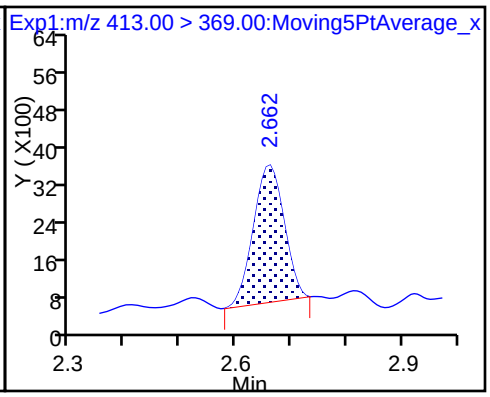
D 14 13C4 PFOA



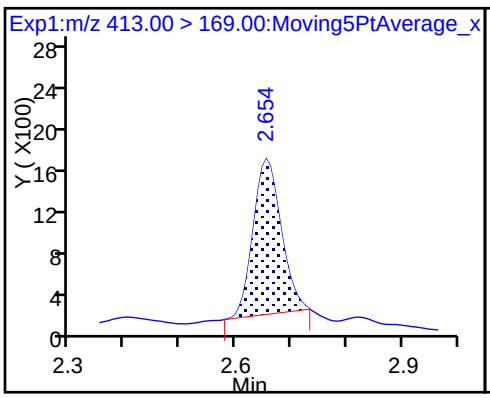
* 62 13C2-PFOA



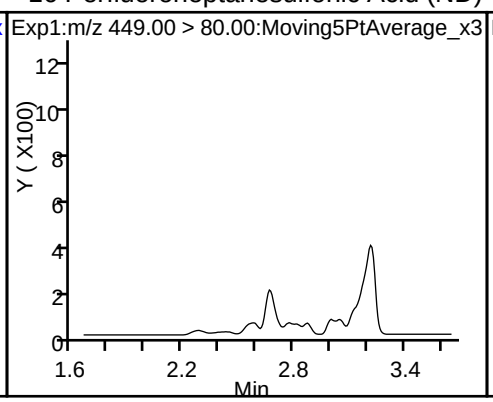
15 Perfluorooctanoic acid



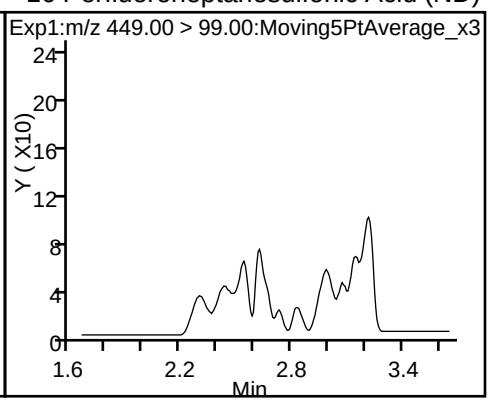
15 Perfluorooctanoic acid



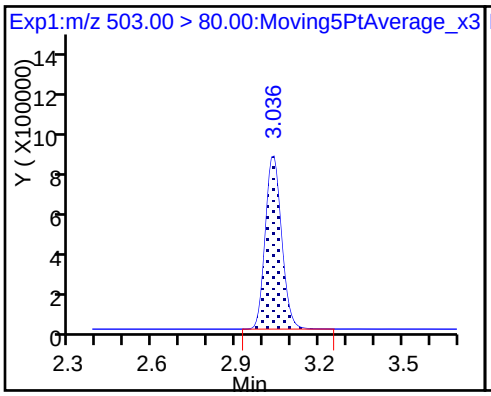
16 Perfluoroheptanesulfonic Acid (ND)



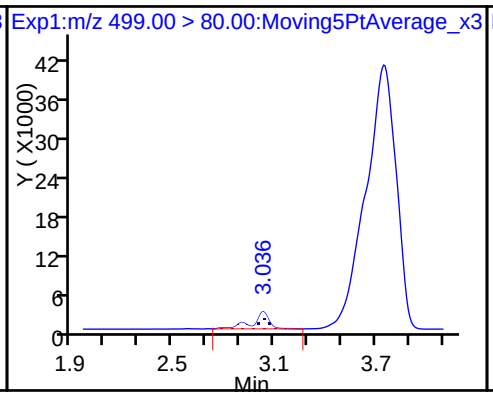
16 Perfluoroheptanesulfonic Acid (ND)



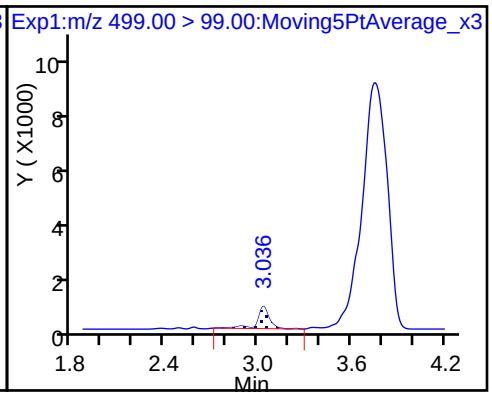
D 18 13C4 PFOS



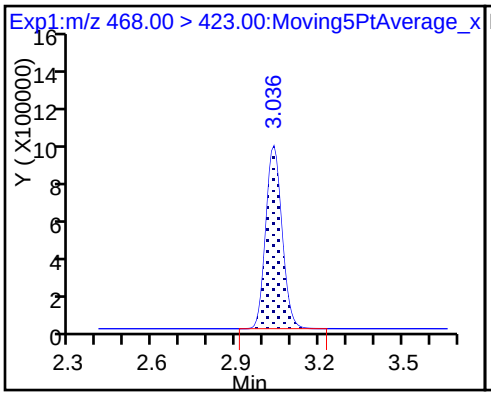
17 Perfluorooctane sulfonic acid



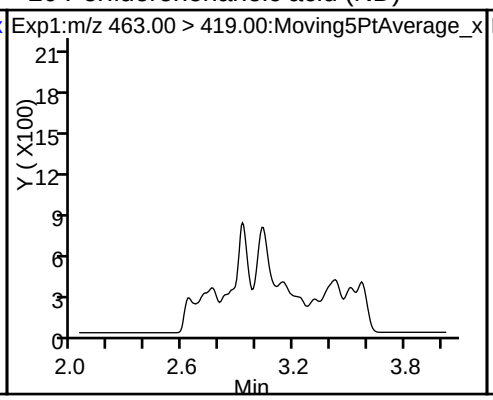
17 Perfluorooctane sulfonic acid



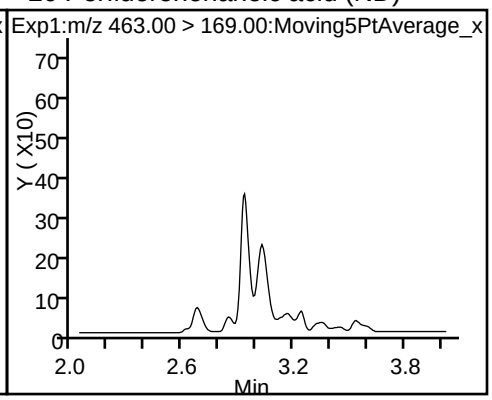
D 19 13C5 PFNA



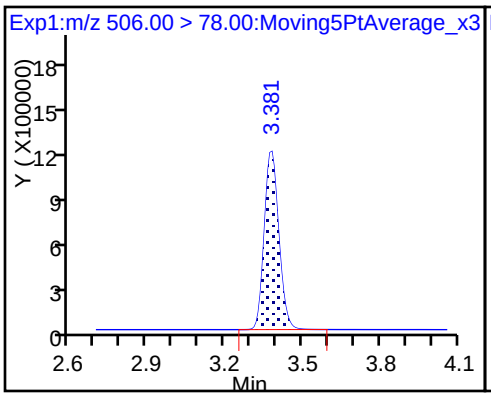
20 Perfluorononanoic acid (ND)



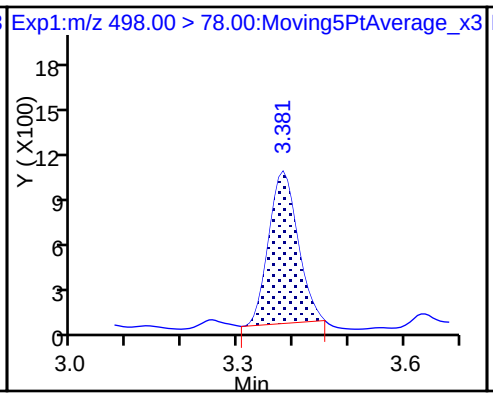
20 Perfluorononanoic acid (ND)



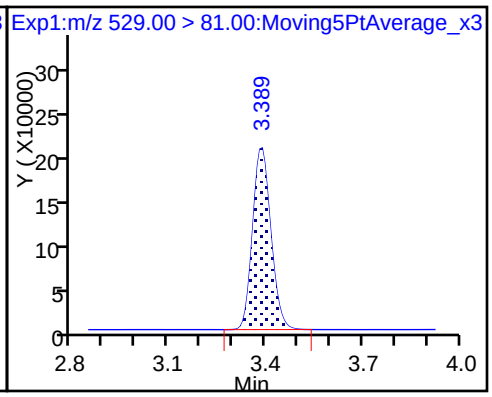
D 21 13C8 FOSA



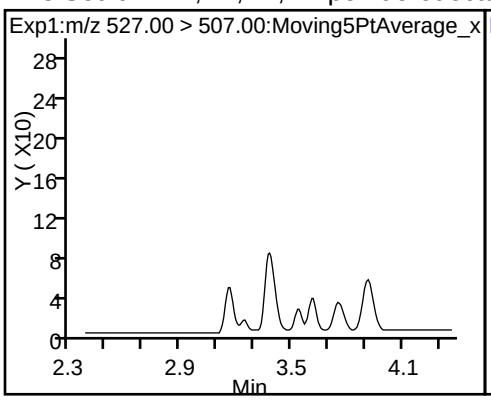
22 Perfluorooctane Sulfonamide



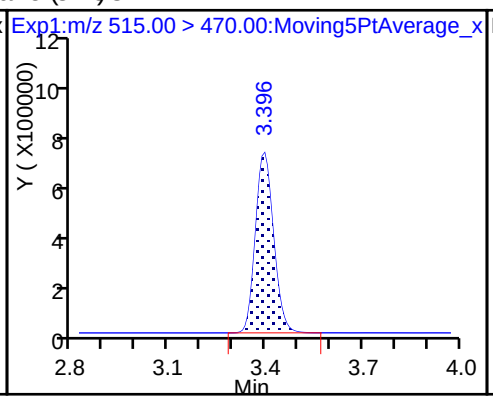
D 26 M2-8:2FTS



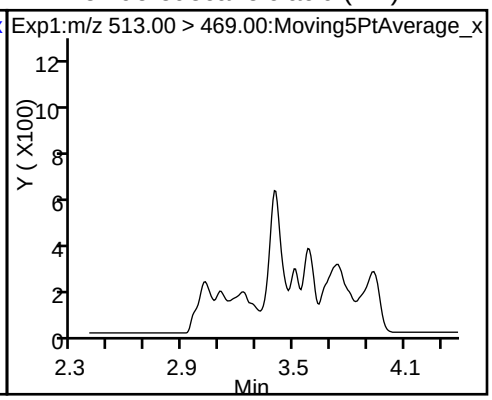
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



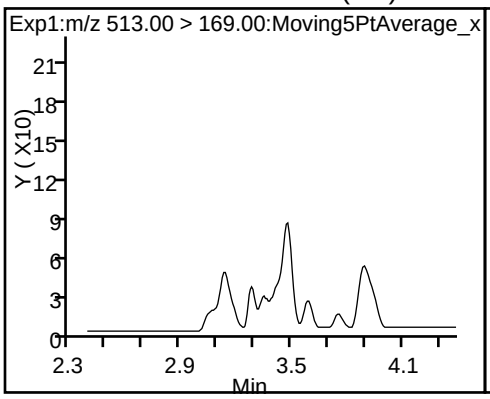
D 23 13C2 PFDA



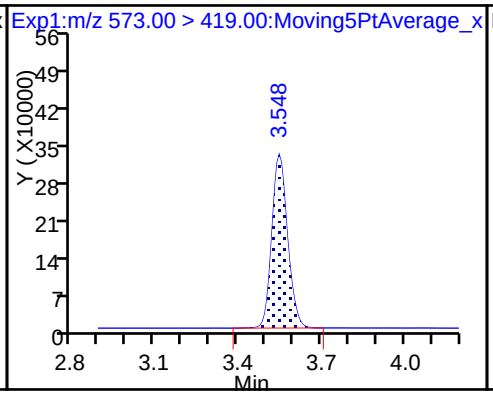
24 Perfluorodecanoic acid (ND)



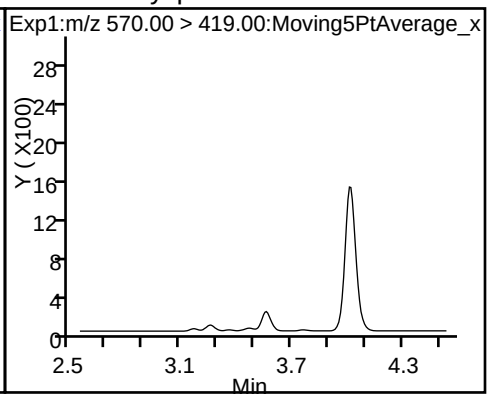
24 Perfluorodecanoic acid (ND)



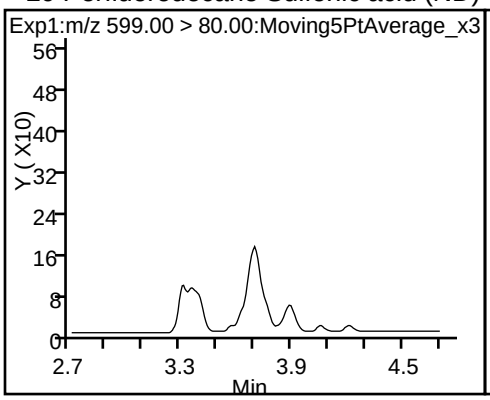
D 27 d3-NMeFOSAA



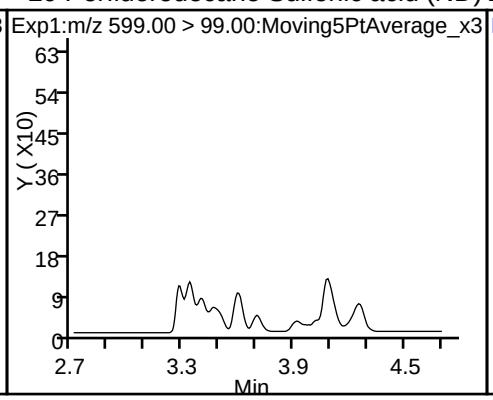
28 N-methyl perfluorooctane sulfonami (ND)



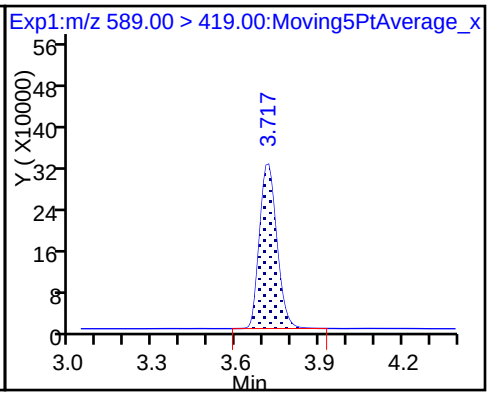
29 Perfluorodecane Sulfonic acid (ND)



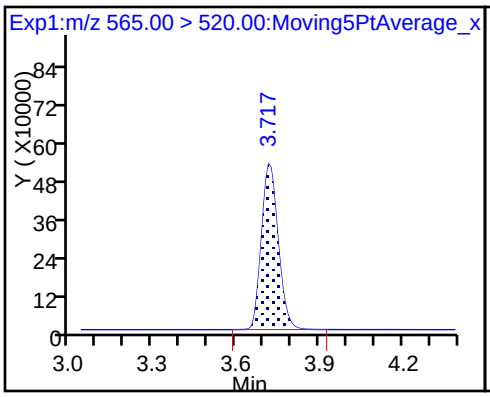
29 Perfluorodecane Sulfonic acid (ND)



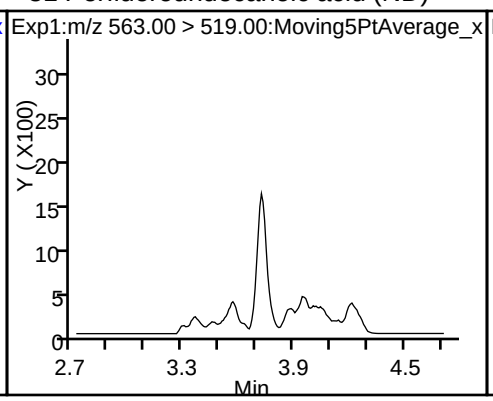
D 32 d5-NEtFOSAA



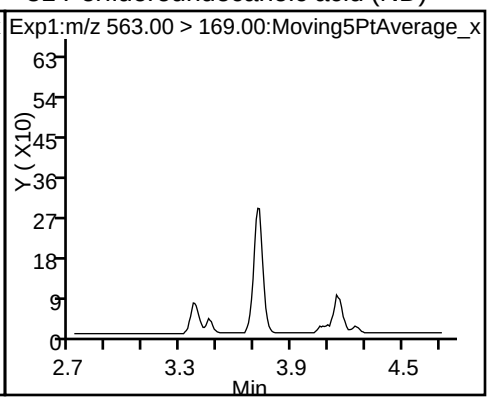
D 30 13C2 PFUnA



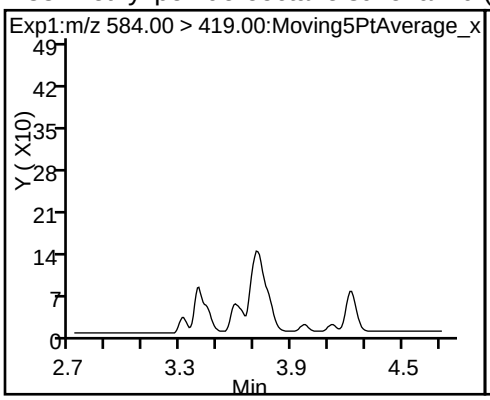
31 Perfluoroundecanoic acid (ND)



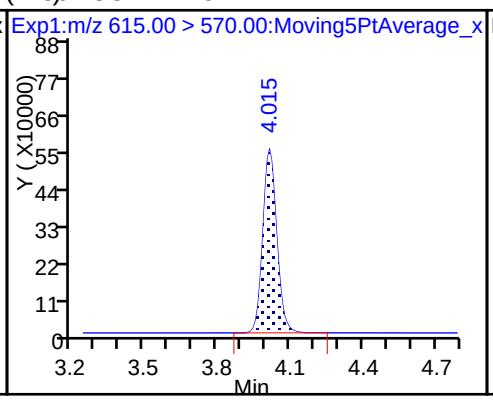
31 Perfluoroundecanoic acid (ND)



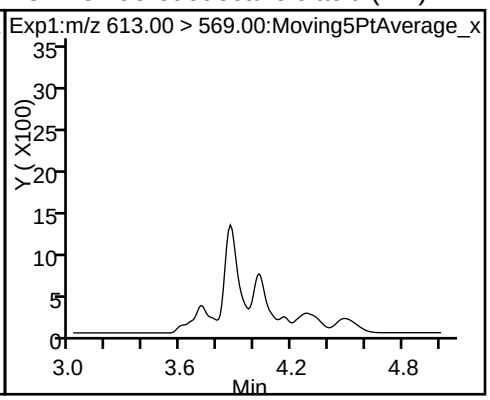
33 N-ethyl perfluorooctane sulfonamid (ND)



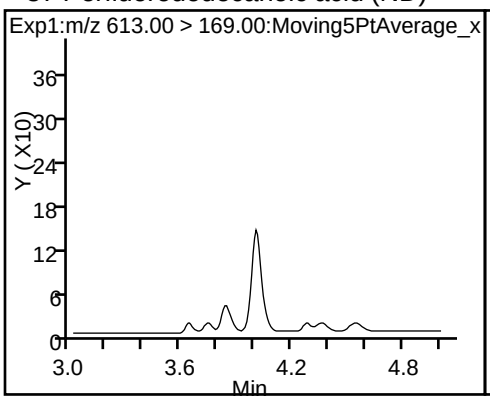
D 36 13C2 PFDoA



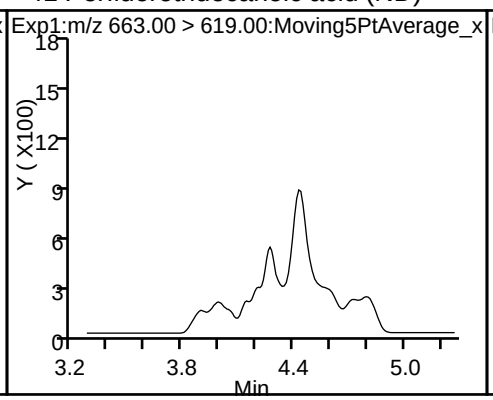
37 Perfluorododecanoic acid (ND)



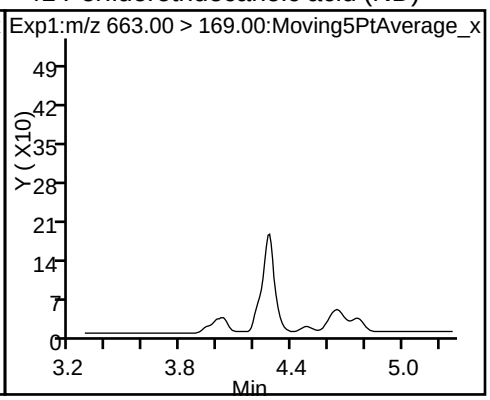
37 Perfluorododecanoic acid (ND)



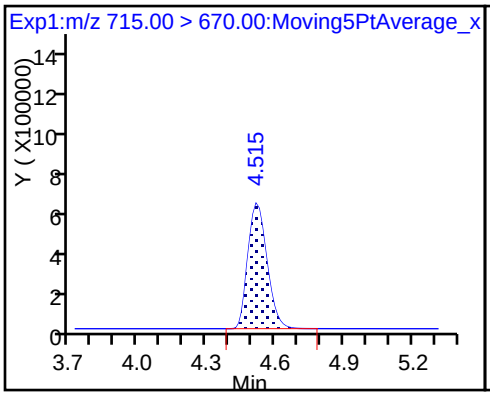
41 Perfluorotridecanoic acid (ND)



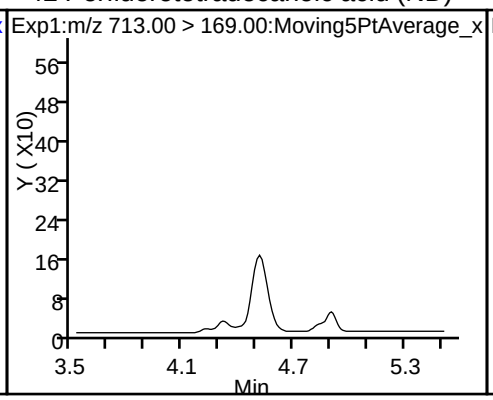
41 Perfluorotridecanoic acid (ND)



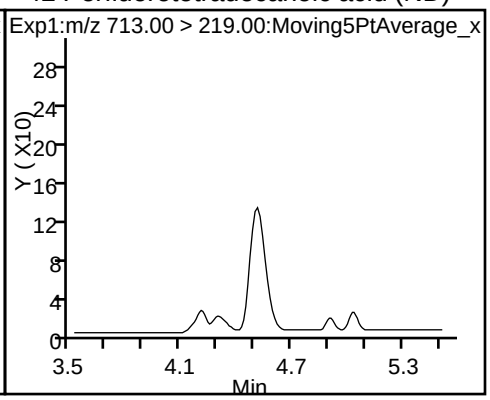
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



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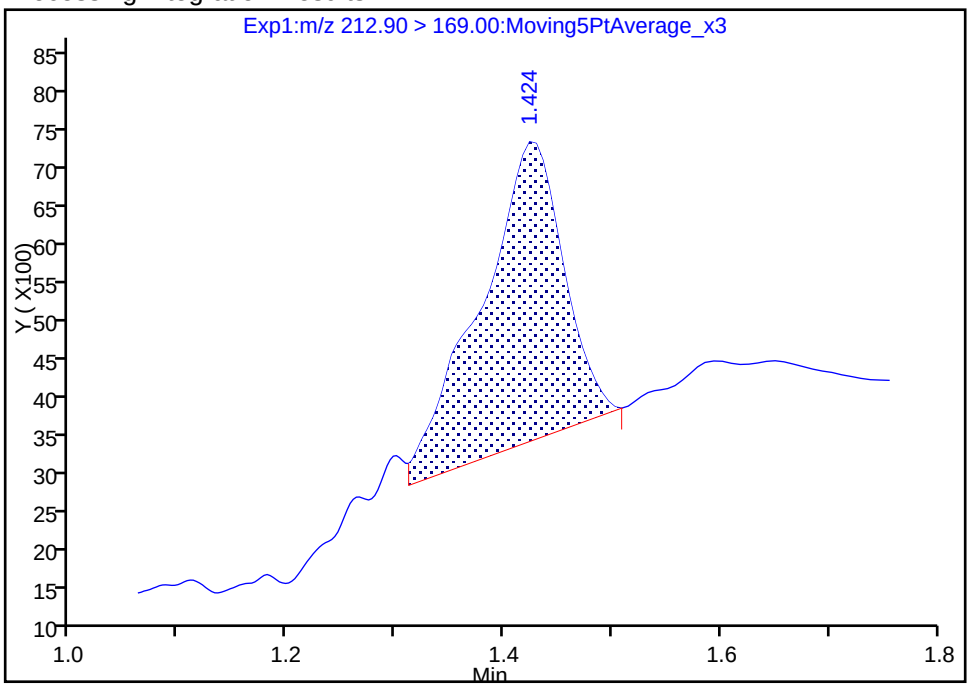
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Injection Date:	23-Dec-2017 02:50:13	Instrument ID:	A8_N		
Lims ID:	320-34425-A-24-A	Lab Sample ID:	320-34425-24		
Client ID:	Field Blank FB-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

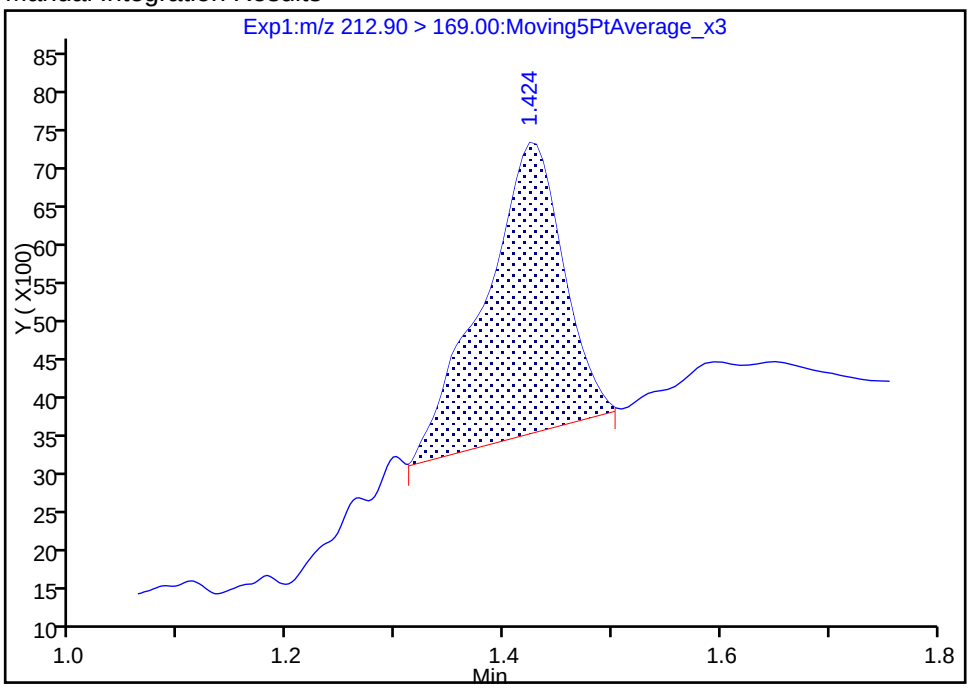
Processing Integration Results

RT: 1.42
Area: 20677
Amount: 0.007774
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 19155
Amount: 0.007202
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:46:37
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

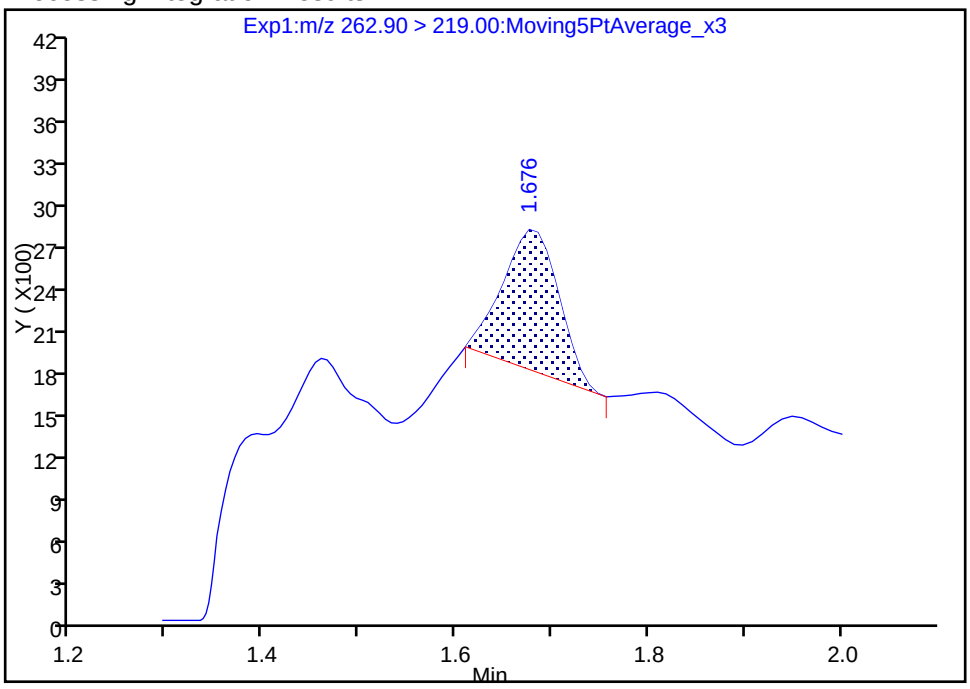
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Lims ID:	320-34425-A-24-A	Lab Sample ID:	320-34425-24		
Client ID:	Field Blank FB-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

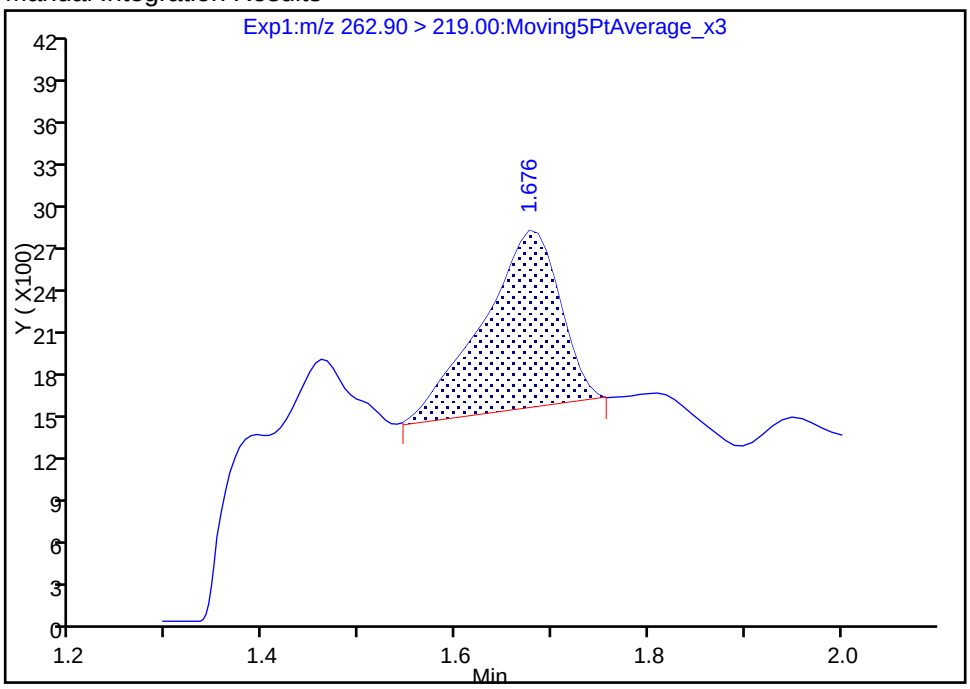
Processing Integration Results

RT: 1.68
Area: 4004
Amount: 0.002105
Amount Units: ng/ml



Manual Integration Results

RT: 1.68
Area: 7006
Amount: 0.003683
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:46:52

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

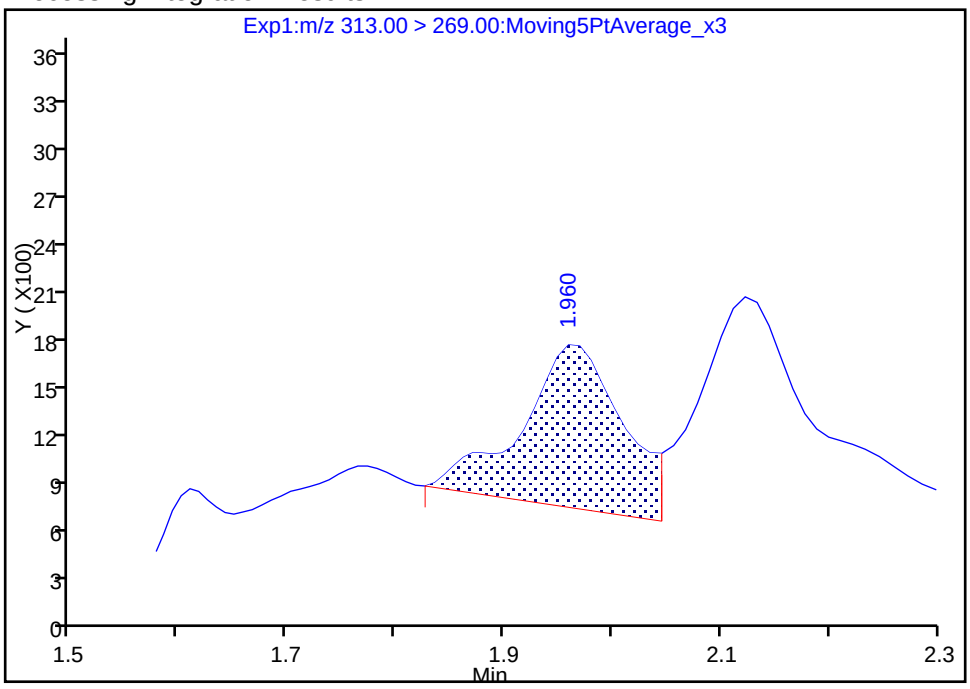
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Lims ID:	320-34425-A-24-A	Lab Sample ID:	320-34425-24		
Client ID:	Field Blank FB-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

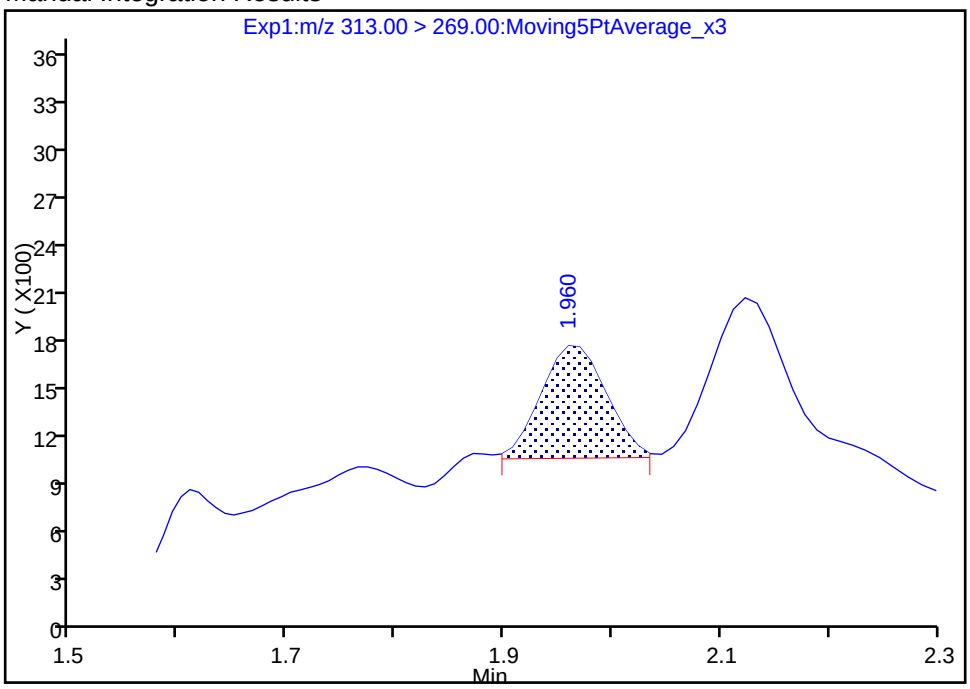
Processing Integration Results

RT: 1.96
Area: 6590
Amount: 0.003719
Amount Units: ng/ml



Manual Integration Results

RT: 1.96
Area: 2946
Amount: 0.001662
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:47:07

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

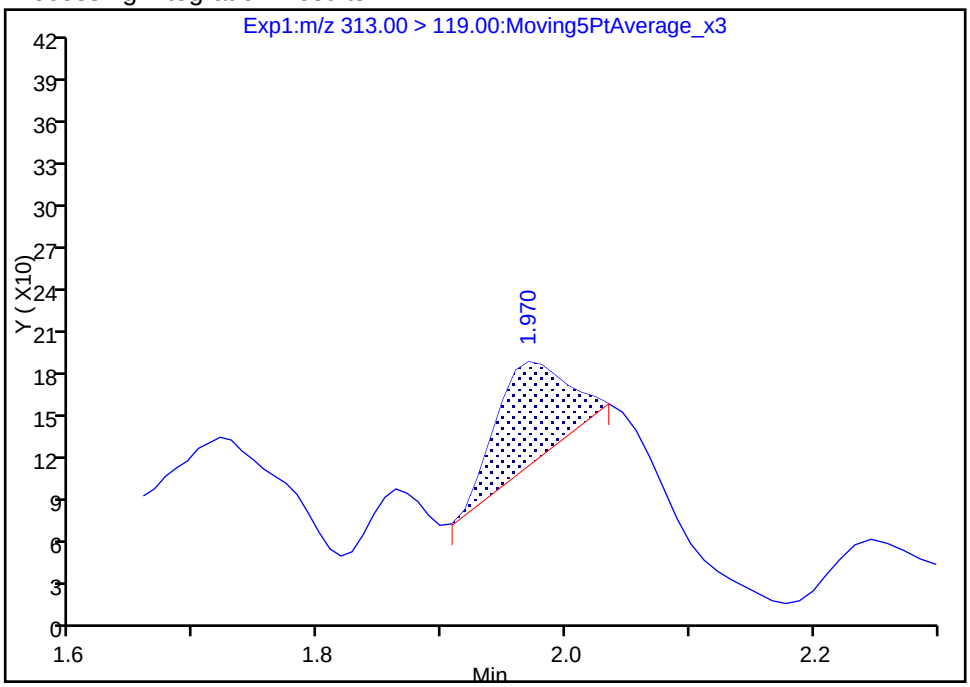
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_041.d				
Injection Date:	23-Dec-2017 02:50:13	Instrument ID:	A8_N		
Lims ID:	320-34425-A-24-A	Lab Sample ID:	320-34425-24		
Client ID:	Field Blank FB-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	32	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

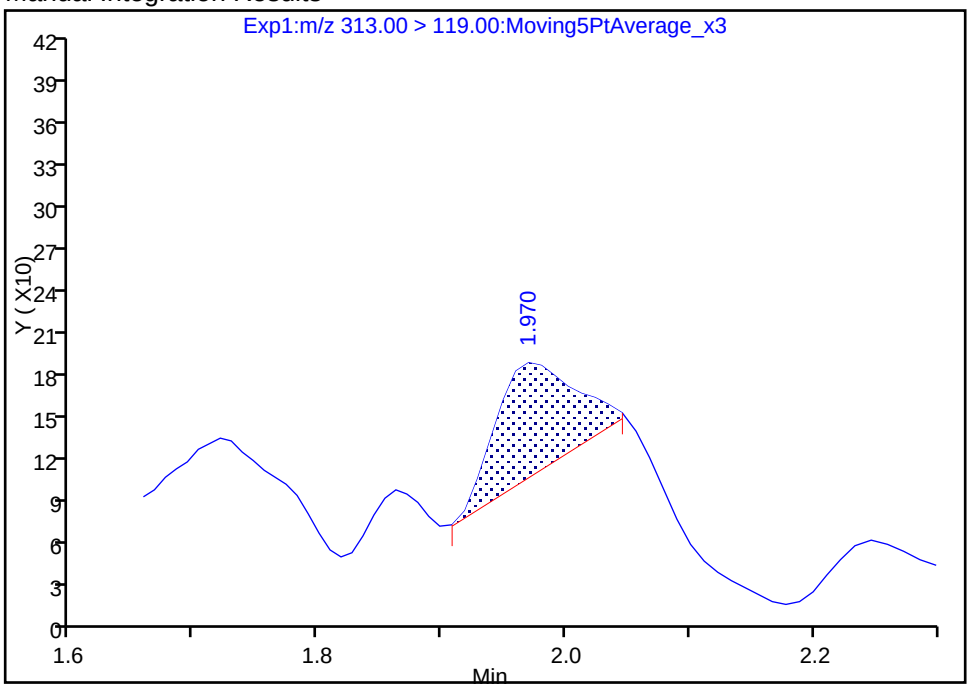
Processing Integration Results

RT: 1.97
Area: 291
Amount: 0.003719
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 359
Amount: 0.001662
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:47:34
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: Pump Blank PB-816-171213 | Lab Sample ID: 320-34425-25

Matrix: Water | Lab File ID: 2017.12.22LLB_042.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 09:03

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 237.6(mL) | Date Analyzed: 12/23/2017 02:58

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.37	U	2.10	0.37
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.52	U	2.10	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	0.61	U	2.10	0.61
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.26	U	2.10	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	0.89	U	2.10	0.89
375-95-1	Perfluorononanoic acid (PFNA)	0.28	U	2.10	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.33	U	2.10	0.33
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.16	U	2.10	1.16
307-55-1	Perfluorododecanoic acid (PFDoA)	0.58	U	2.10	0.58
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.37	U	2.10	1.37
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.10	0.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.21	U	2.10	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	2.10	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.10	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.57	U	2.10	0.57
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.10	0.34
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.37	U	2.10	0.37
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.26	U	21.0	3.26
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.00	U	21.0	2.00
27619-97-2	6:2FTS	2.10	U	21.0	2.10
39108-34-4	8:2FTS	2.10	U	21.0	2.10

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: Pump Blank PB-816-171213 | Lab Sample ID: 320-34425-25

Matrix: Water | Lab File ID: 2017.12.22LLB_042.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 09:03

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 237.6(mL) | Date Analyzed: 12/23/2017 02:58

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	108		25-150
STL01893	13C5 PFPeA	106		25-150
STL00993	13C2 PFHxA	102		25-150
STL01892	13C4-PFHpA	106		25-150
STL00990	13C4 PFOA	104		25-150
STL00995	13C5 PFNA	116		25-150
STL00996	13C2 PFDA	105		25-150
STL00997	13C2 PFUnA	106		25-150
STL00998	13C2 PFDoA	102		25-150
STL02116	13C2-PFTeDA	138		25-150
STL02337	13C3-PFBS	112		25-150
STL00994	18O2 PFHxS	101		25-150
STL00991	13C4 PFOS	109		25-150
STL01056	13C8 FOSA	99		25-150
STL02118	d3-NMeFOSAA	84		25-150
STL02117	d5-NEtFOSAA	93		25-150
STL02279	M2-6:2FTS	44		25-150
STL02280	M2-8:2FTS	82		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_042.d
Lims ID: 320-34425-A-25-A
Client ID: Pump Blank PB-816-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 02:58:05 ALS Bottle#: 33 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-25-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:49:19

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.418	1.419	-0.001	0.534	7220997	2.70		108	19503	
2 Perfluorobutyric acid										
212.90 > 169.00	1.424	1.419	0.005	1.004	16070	0.006072			3.1	
D 3 13C5-PFPeA										
267.90 > 223.00	1.678	1.670	0.008	0.632	4241360	2.65		106	35615	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.678	1.670	0.008	1.000	6446	0.003404			7.7	
D 47 13C3-PFBS										
301.90 > 83.00	1.713	1.705	0.008	0.645	89071	2.61		112	4620	
D 7 13C2 PFHxA										
315.00 > 270.00	1.961	1.953	0.008	0.738	4363491	2.55		102	40893	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.961	1.956	0.005	1.000	2982	0.001706			6.0	
313.00 > 119.00	1.961	1.956	0.005	1.000	494		6.04(5.03-15.10)		12.4	
D 9 13C4-PFHpA										
367.00 > 322.00	2.288	2.291	-0.003	0.862	4193333	2.65		106	28762	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.315	2.304	0.011	1.000	14784	0.006792			55.1	
399.00 > 99.00	2.301	2.304	-0.003	0.994	5912		2.50(1.50-4.49)		7.3	
D 11 18O2 PFHxS										
403.00 > 84.00	2.315	2.304	0.011	0.872	4782294	2.39		101	63401	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.627	2.642	-0.015	1.000	7495	0.0151			207	
D 12 M2-6:2FTS										
429.00 > 81.00	2.627	2.642	-0.015	0.989	762262	1.03		43.5	18392	
D 14 13C4 PFOA										
417.00 > 372.00	2.655	2.654	0.001	1.000	4735558	2.60		104	44605	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 62 13C2-PFOA										
415.00 > 370.00	2.655	2.656	-0.001		4407280	2.50			52270	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.655	2.656	-0.001	1.000	8682	0.004358			14.2	
413.00 > 169.00	2.655	2.656	-0.001	1.000	4613		1.88(0.84-2.52)		35.8	
D 18 13C4 PFOS										
503.00 > 80.00	3.030	3.025	0.005	1.141	3445500	2.61		109	39055	
D 19 13C5 PFNA										
468.00 > 423.00	3.030	3.028	0.002	1.141	3753830	2.90		116	46846	
20 Perfluorononanoic acid										R
463.00 > 419.00	2.918	3.029	-0.111	0.963	1477	0.000978			8.9	R
463.00 > 169.00	2.924	3.029	-0.105	0.965	1135		1.30(1.90-5.69)		58.6	
D 21 13C8 FOSA										
506.00 > 78.00	3.368	3.370	-0.002	1.268	4425528	2.46		98.5	26795	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.376	3.372	0.004	1.002	6521	0.003840			206	
D 26 M2-8:2FTS										
529.00 > 81.00	3.376	3.377	-0.001	1.271	810836	1.97		82.1	16147	
D 23 13C2 PFDA										
515.00 > 470.00	3.391	3.389	0.002	1.277	2791758	2.62		105	37697	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.542	3.543	-0.001	1.334	1207076	2.11		84.3	17130	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.703	3.712	-0.009	1.394	1299404	2.32		92.9	8074	
D 30 13C2 PFUnA										
565.00 > 520.00	3.711	3.717	-0.006	1.398	2150861	2.65		106	27449	
31 Perfluoroundecanoic acid										M
563.00 > 519.00	3.711	3.718	-0.007	1.000	4929	0.006254			38.1	M
563.00 > 169.00	3.711	3.718	-0.007	1.000	1846		2.67(0.00-0.00)		94.6	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.011	-0.001	1.510	2231738	2.55		102	35115	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.518	4.518	0.0	1.702	3381446	3.45		138	36469	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:38 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_042.d

Injection Date: 23-Dec-2017 02:58:05 Instrument ID: A8_N

Lims ID: 320-34425-A-25-A Lab Sample ID: 320-34425-25

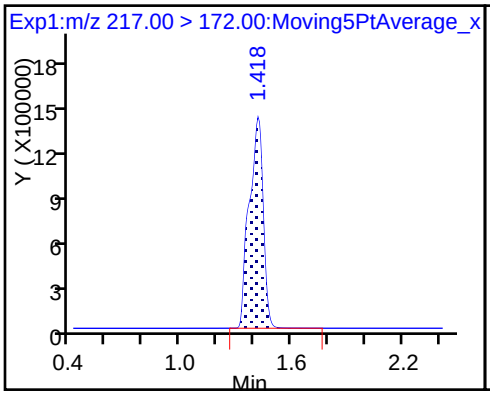
Client ID: Pump Blank PB-816-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 33 Worklist Smp#: 7

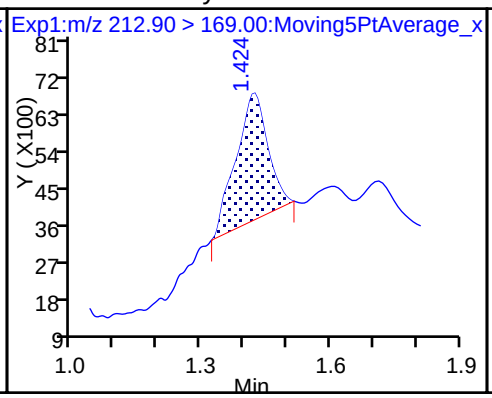
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

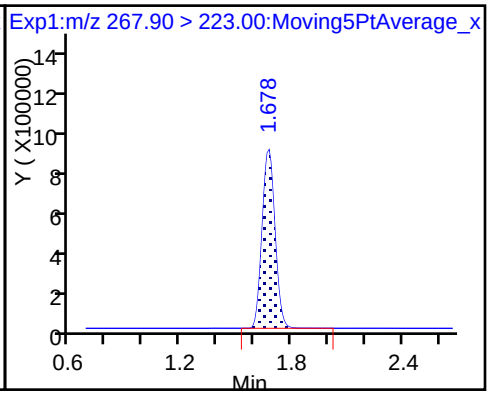
D 1 13C4 PFBA



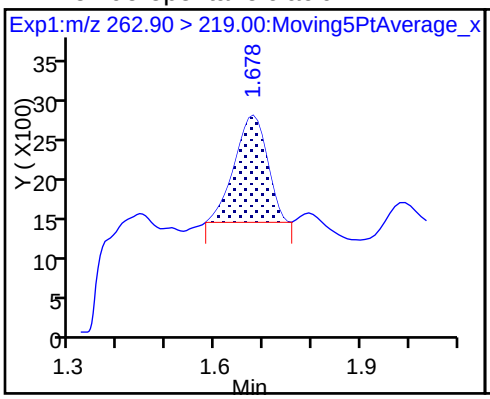
2 Perfluorobutyric acid



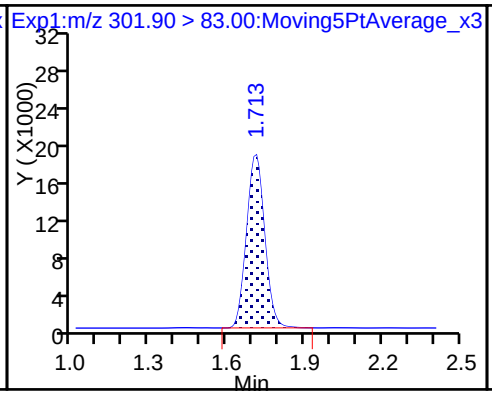
D 3 13C5-PFPeA



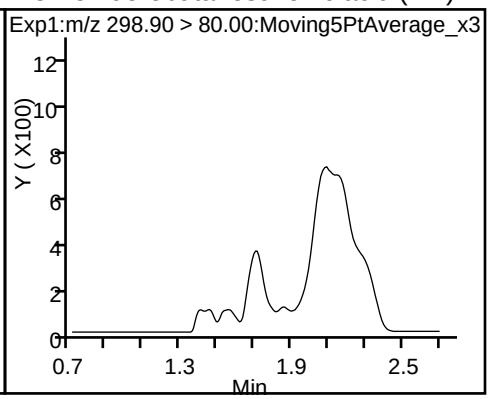
4 Perfluoropentanoic acid



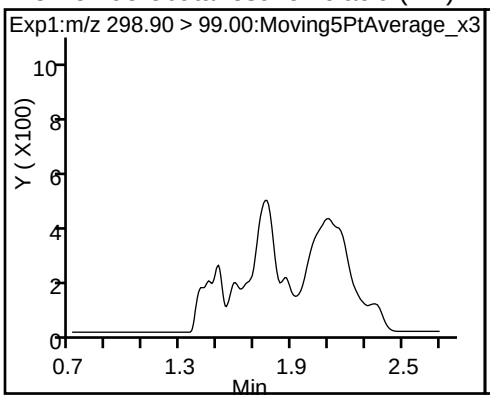
D 47 13C3-PFBS



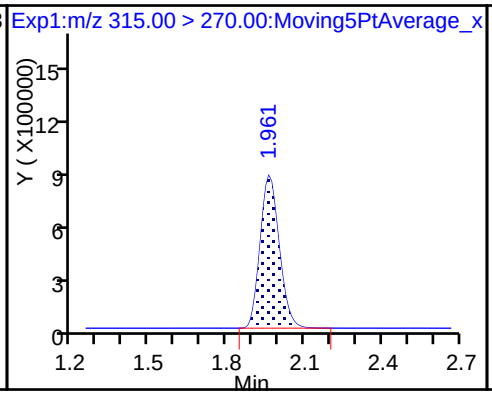
5 Perfluorobutanesulfonic acid (ND)



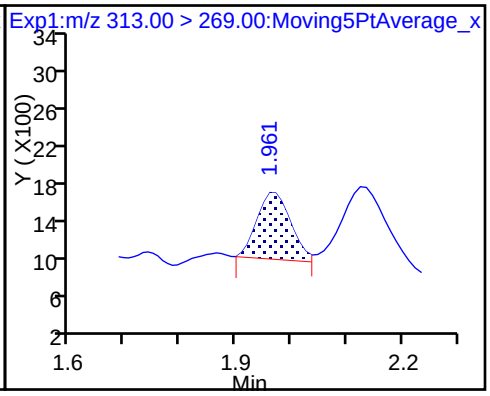
5 Perfluorobutanesulfonic acid (ND)



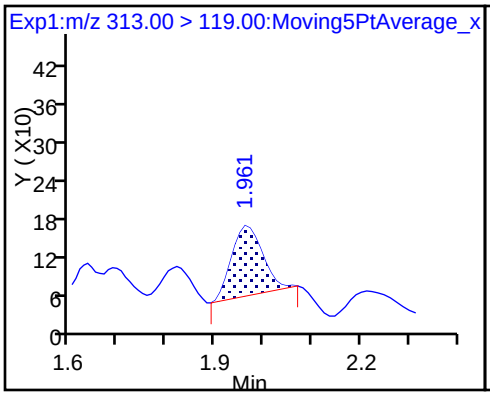
D 7 13C2 PFHxA



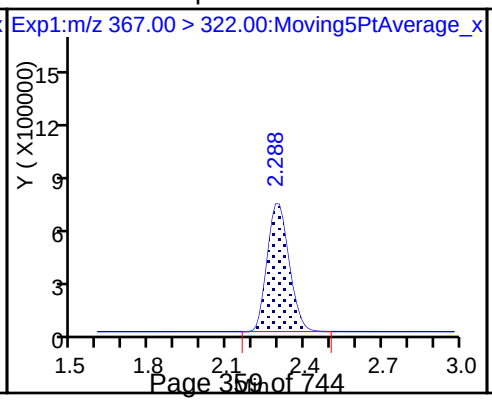
6 Perfluorohexanoic acid



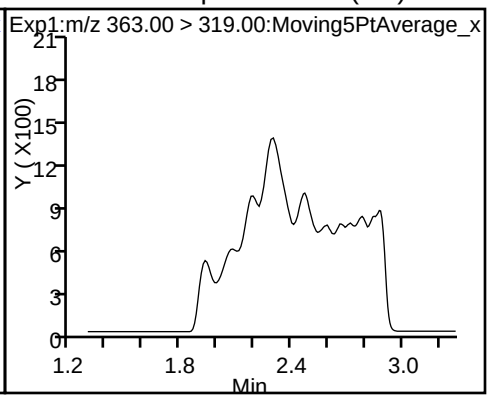
6 Perfluorohexanoic acid



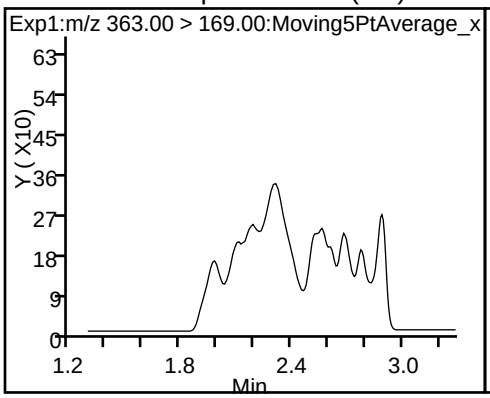
D 9 13C4-PFHpA



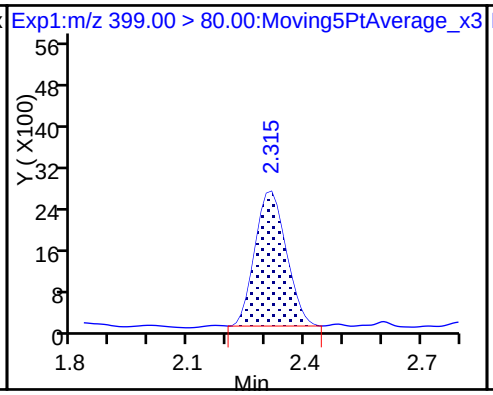
10 Perfluoroheptanoic acid (ND)



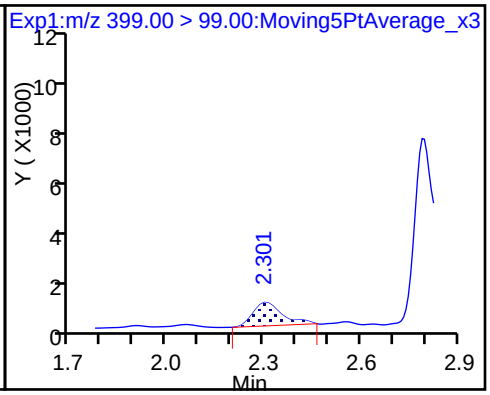
10 Perfluoroheptanoic acid (ND)



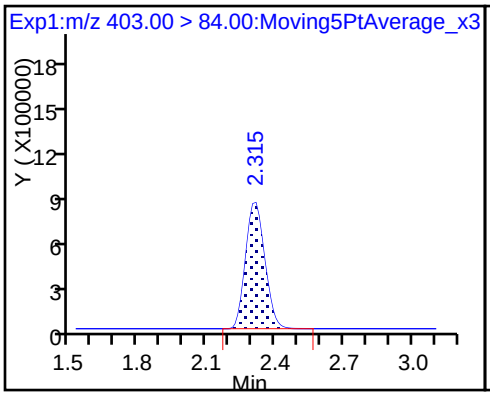
8 Perfluorohexanesulfonic acid



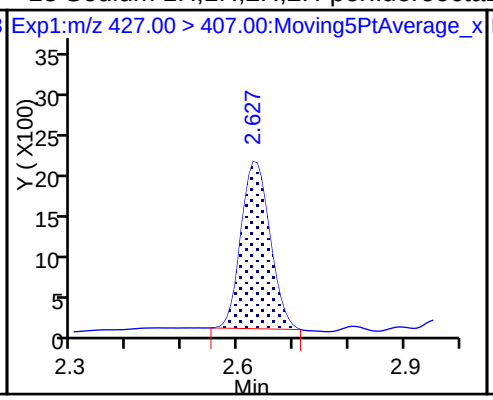
8 Perfluorohexanesulfonic acid



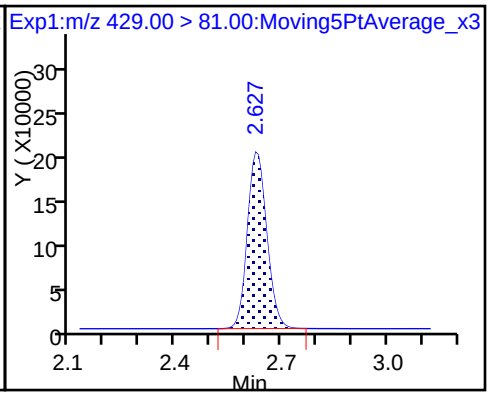
D 11 18O2 PFHxS



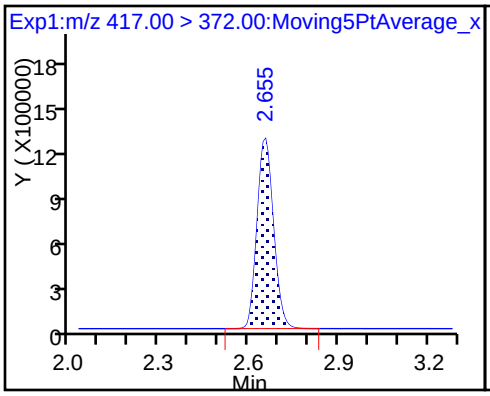
13 Sodium 1H,1H,2H,2H-perfluorooctane



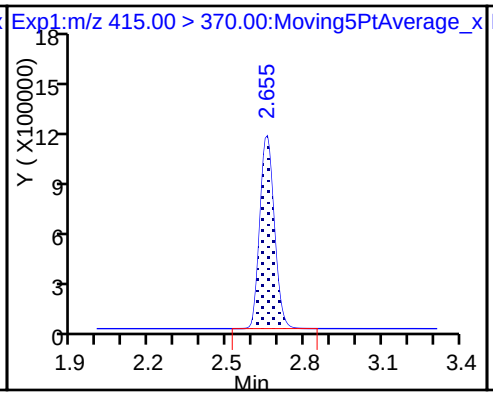
D 12 M2-6:2FTS



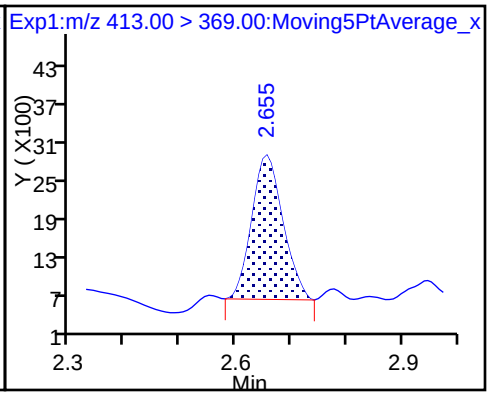
D 14 13C4 PFOA



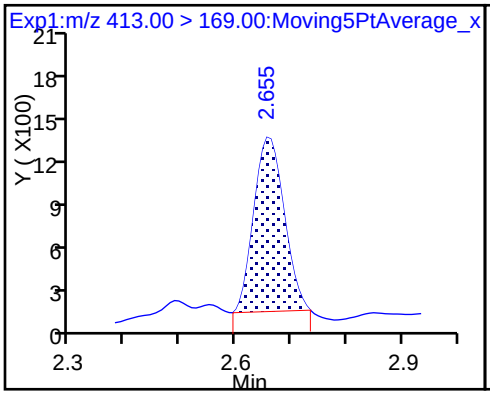
* 62 13C2-PFOA



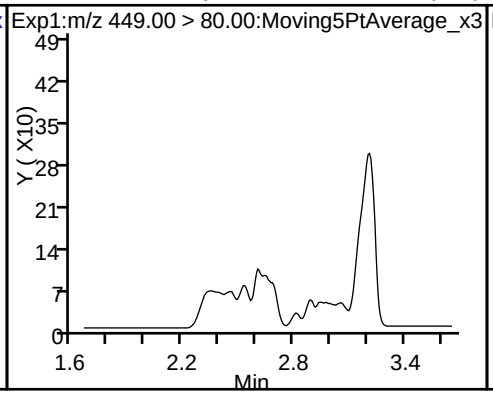
15 Perfluorooctanoic acid



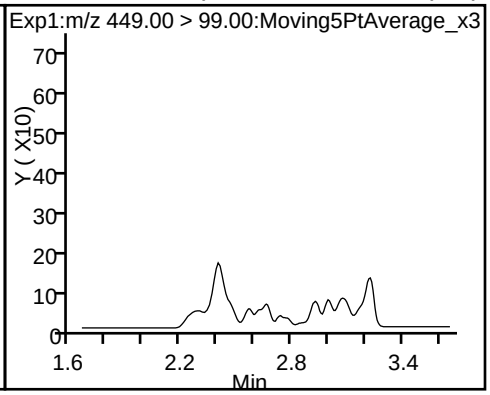
15 Perfluorooctanoic acid



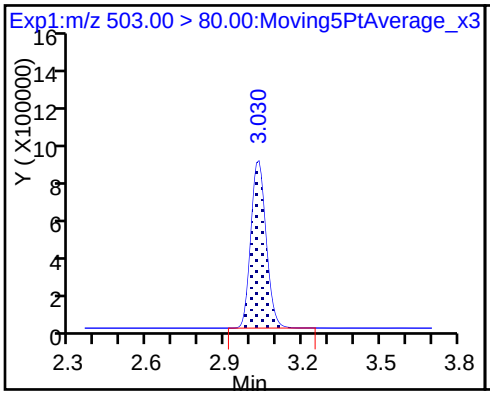
16 Perfluoroheptanesulfonic Acid (ND)



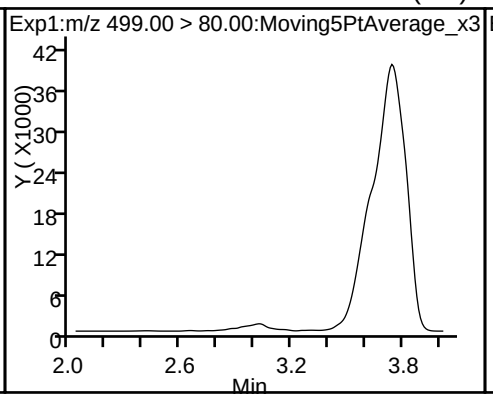
16 Perfluoroheptanesulfonic Acid (ND)



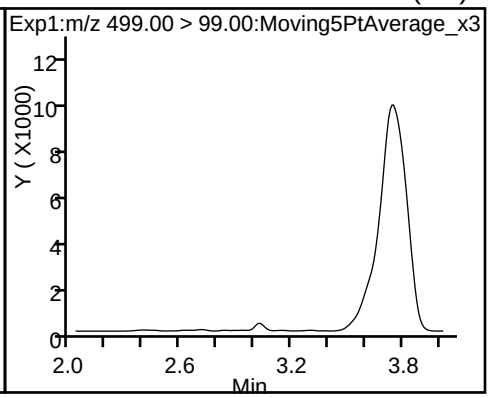
D 18 13C4 PFOS



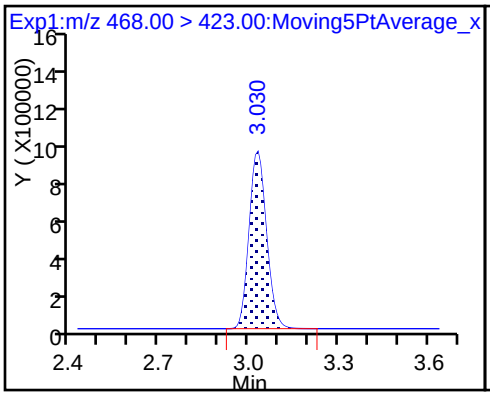
17 Perfluorooctane sulfonic acid (ND)



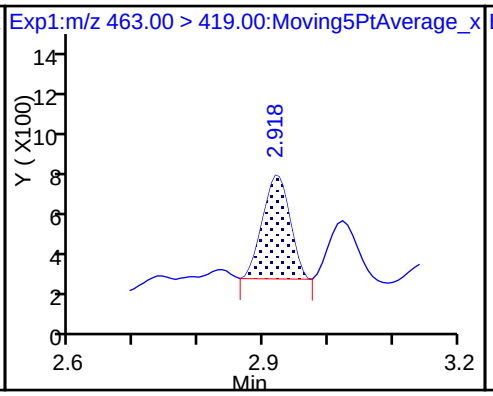
17 Perfluorooctane sulfonic acid (ND)



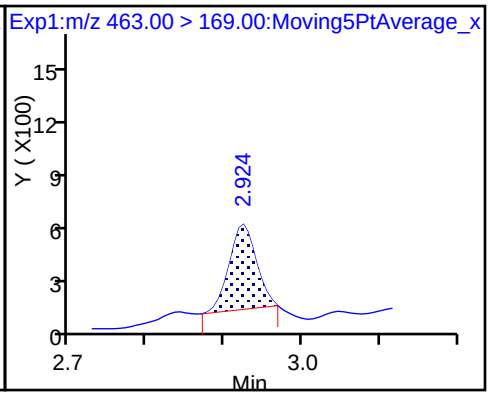
D 19 13C5 PFNA



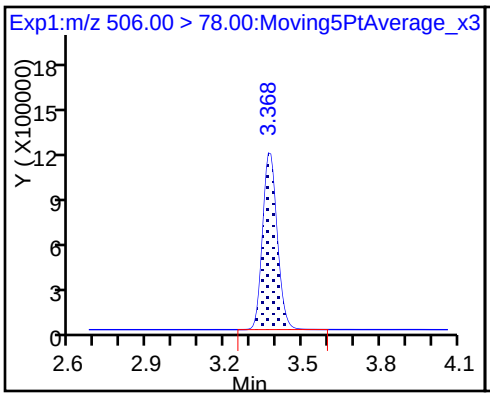
20 Perfluorononanoic acid



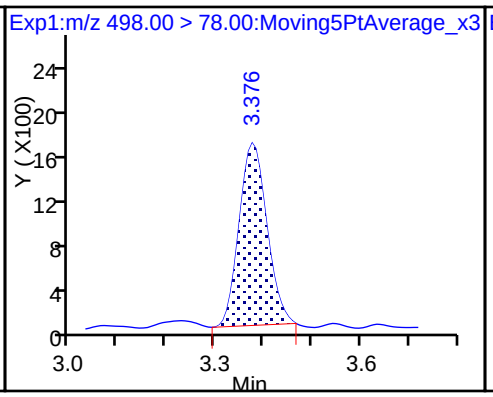
20 Perfluorononanoic acid



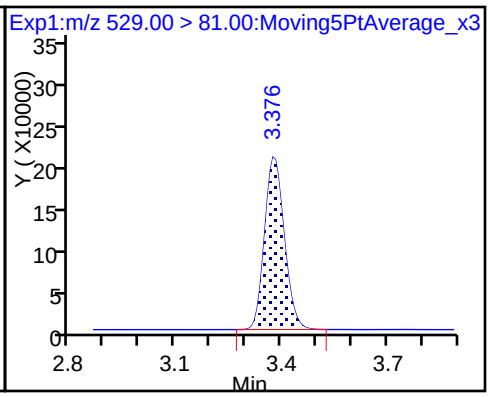
D 21 13C8 FOSA



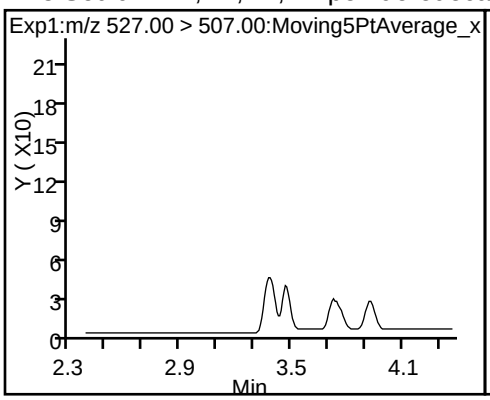
22 Perfluorooctane Sulfonamide



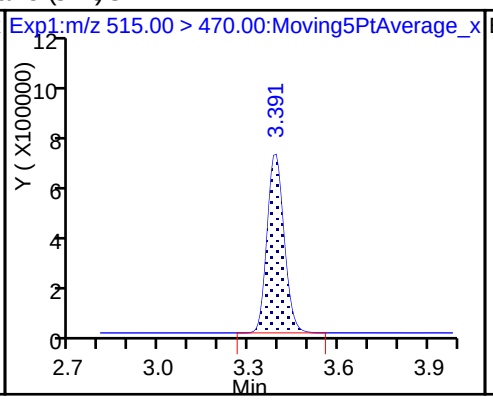
D 26 M2-8:2FTS



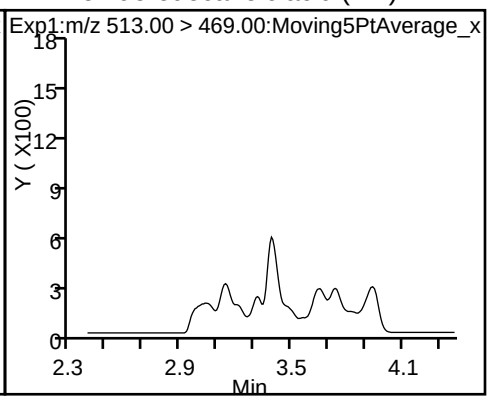
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate



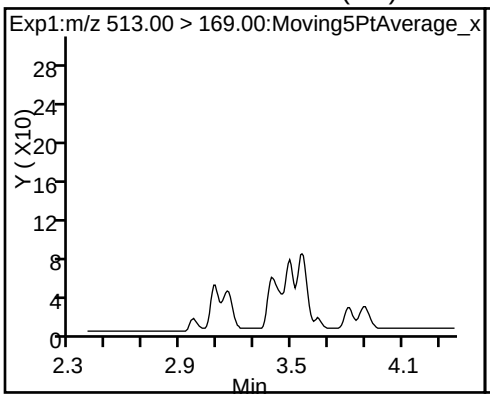
D 23 13C2 PFDA



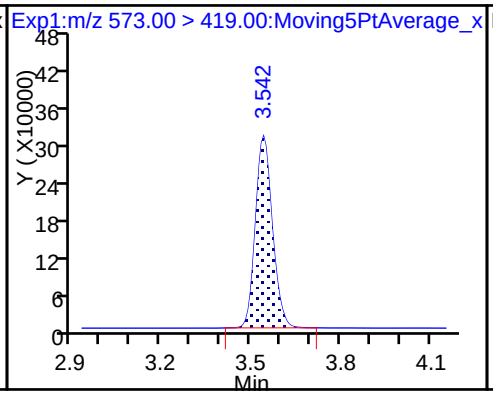
24 Perfluorodecanoic acid (ND)



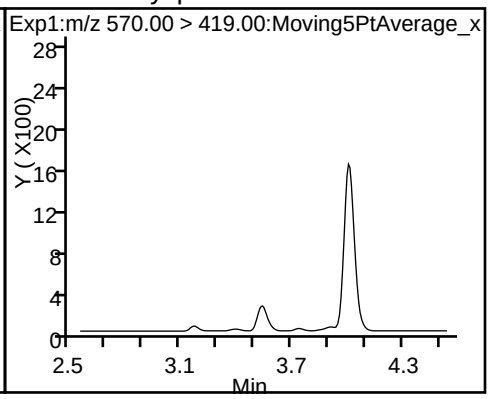
24 Perfluorodecanoic acid (ND)



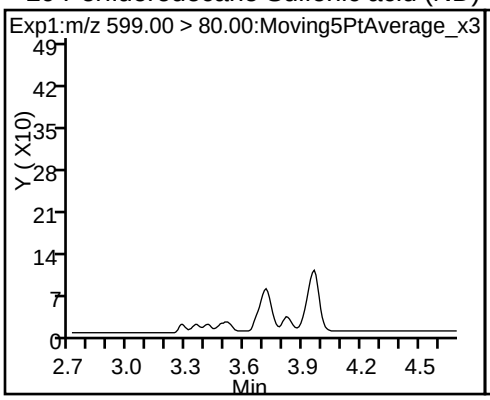
D 27 d3-NMeFOSAA



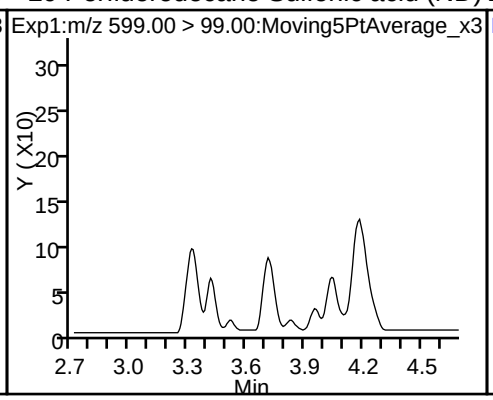
28 N-methyl perfluorooctane sulfonami (ND)



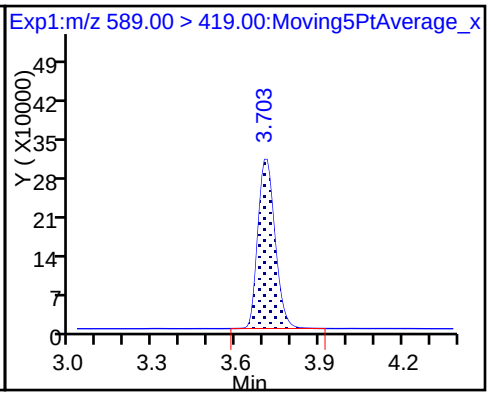
29 Perfluorodecane Sulfonic acid (ND)



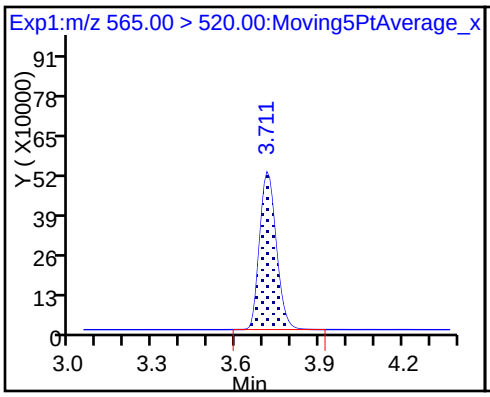
29 Perfluorodecane Sulfonic acid (ND)



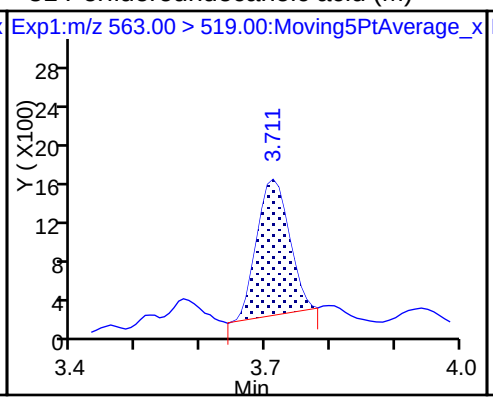
D 32 d5-NEtFOSAA



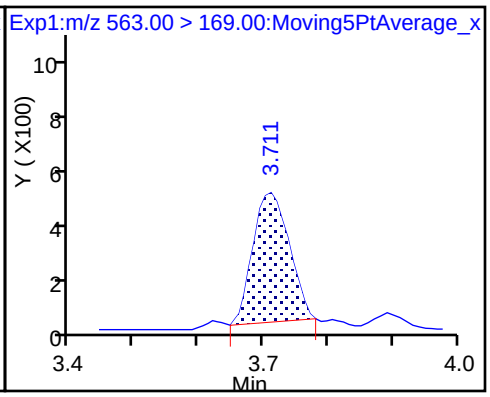
D 30 13C2 PFUnA



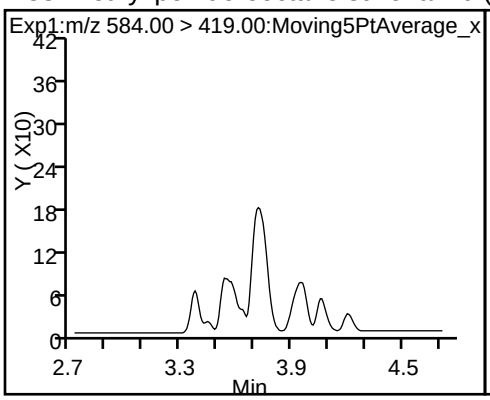
31 Perfluoroundecanoic acid (M)



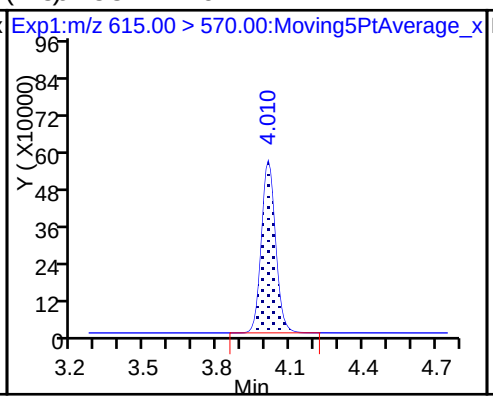
31 Perfluoroundecanoic acid



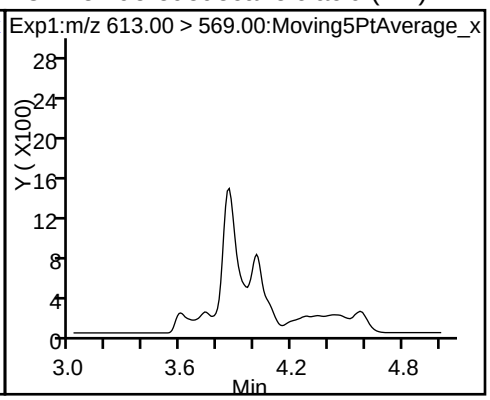
33 N-ethyl perfluorooctane sulfonamid (ND)



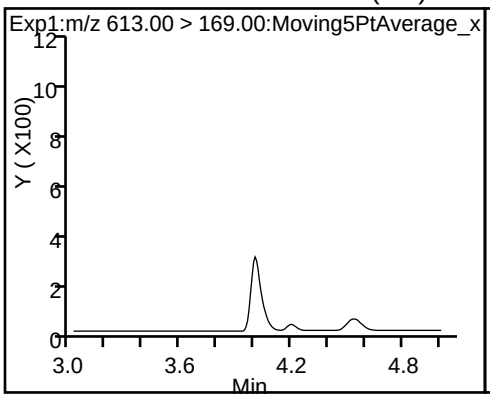
D 36 13C2 PFDoA



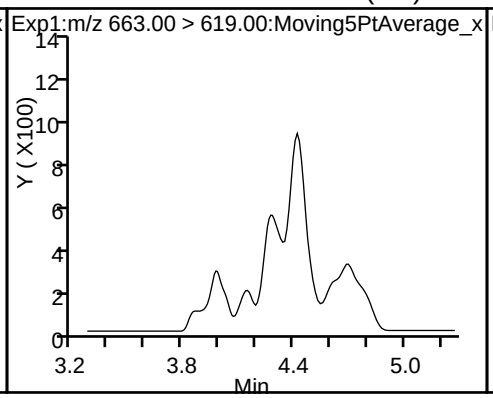
37 Perfluorododecanoic acid (ND)



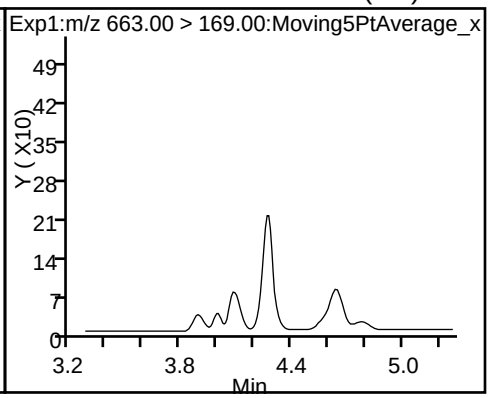
37 Perfluorododecanoic acid (ND)



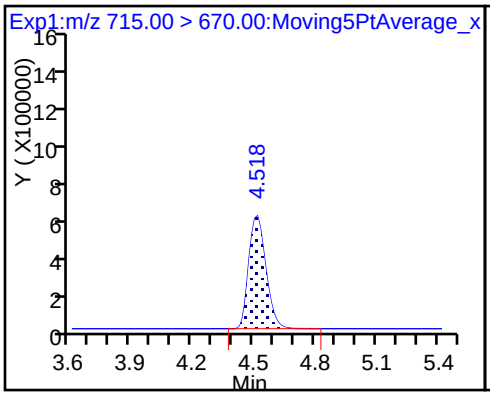
41 Perfluorotridecanoic acid (ND)



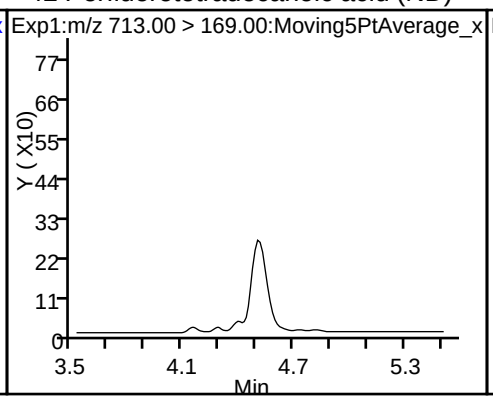
41 Perfluorotridecanoic acid (ND)



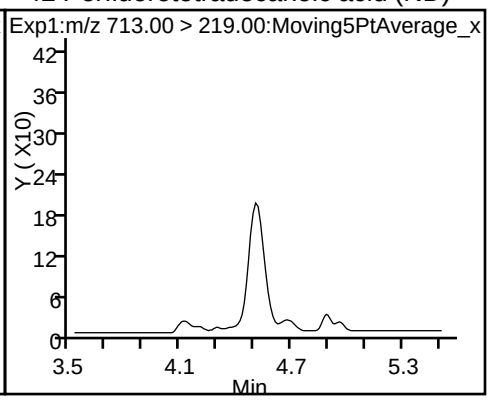
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

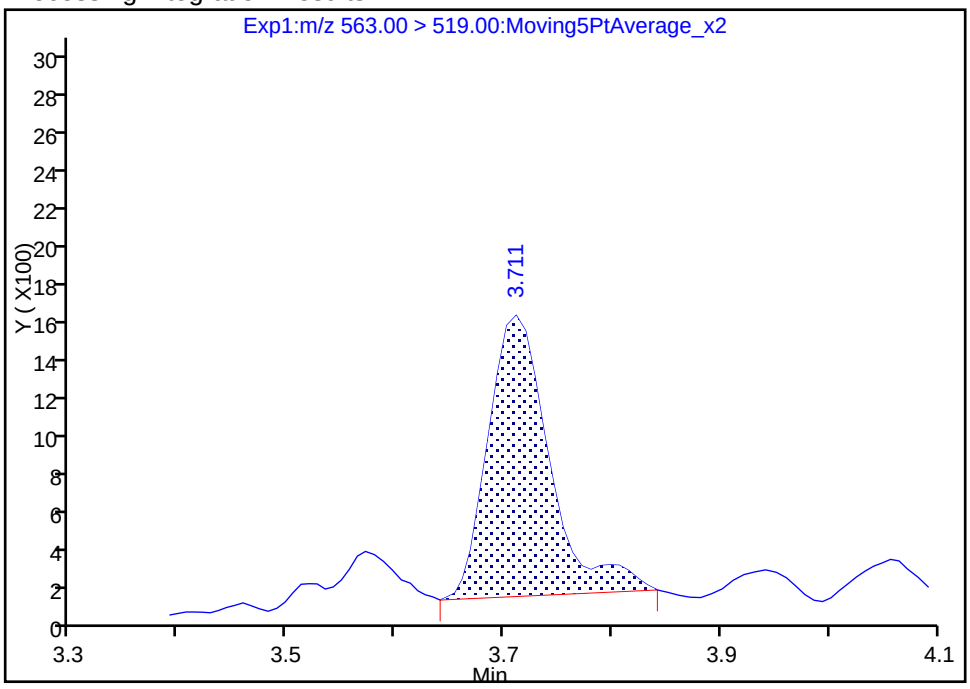
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_042.d				
Injection Date:	23-Dec-2017 02:58:05	Instrument ID:	A8_N		
Lims ID:	320-34425-A-25-A	Lab Sample ID:	320-34425-25		
Client ID:	Pump Blank PB-816-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	33	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

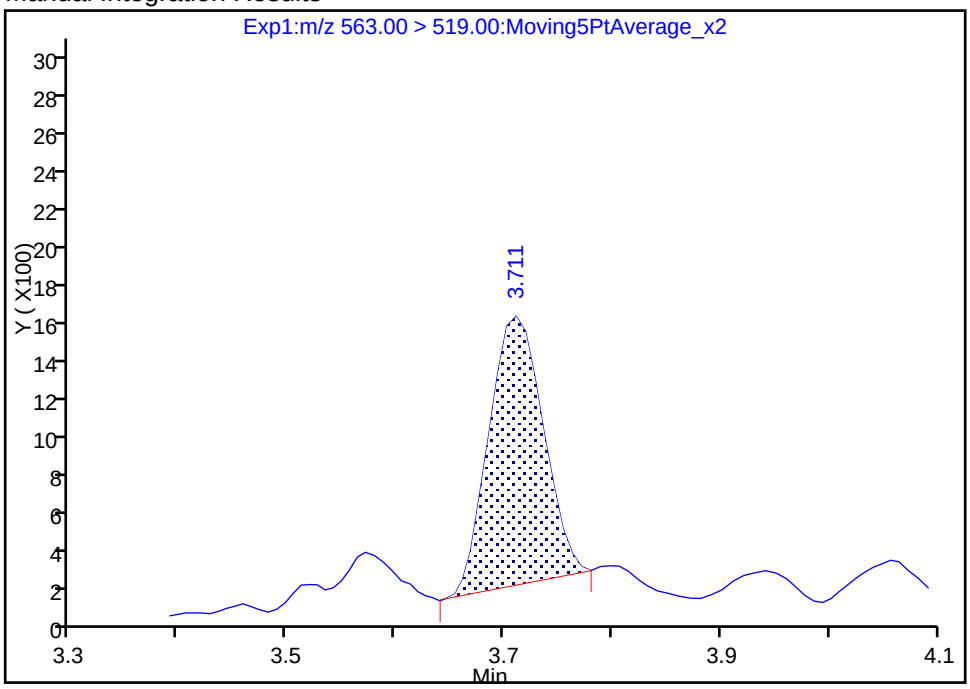
Processing Integration Results

RT: 3.71
Area: 5824
Amount: 0.007390
Amount Units: ng/ml



Manual Integration Results

RT: 3.71
Area: 4929
Amount: 0.006254
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:48:49
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-030-816-171212 | Lab Sample ID: 320-34425-26

Matrix: Water | Lab File ID: 2017.12.22LLB_043.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 10:35

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 237.7(mL) | Date Analyzed: 12/23/2017 03:05

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	6.33		2.10	0.37
2706-90-3	Perfluoropentanoic acid (PFPeA)	13.8		2.10	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	10.8		2.10	0.61
375-85-9	Perfluoroheptanoic acid (PFHpA)	5.43		2.10	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	10.0		2.10	0.89
375-95-1	Perfluorononanoic acid (PFNA)	2.93		2.10	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.33	U	2.10	0.33
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.16	U	2.10	1.16
307-55-1	Perfluorododecanoic acid (PFDoA)	0.58	U	2.10	0.58
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.37	U	2.10	1.37
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.10	0.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.25		2.10	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	6.52	B	2.10	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.23	J	2.10	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	18.4		2.10	0.57
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.10	0.34
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.37	U	2.10	0.37
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.26	U	21.0	3.26
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.00	U	21.0	2.00
27619-97-2	6:2FTS	2.10	U	21.0	2.10
39108-34-4	8:2FTS	2.10	U	21.0	2.10

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-030-816-171212 | Lab Sample ID: 320-34425-26

Matrix: Water | Lab File ID: 2017.12.22LLB_043.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 10:35

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 237.7(mL) | Date Analyzed: 12/23/2017 03:05

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	91		25-150
STL01893	13C5 PFPeA	109		25-150
STL00993	13C2 PFHxA	103		25-150
STL01892	13C4-PFHpA	108		25-150
STL00990	13C4 PFOA	102		25-150
STL00995	13C5 PFNA	102		25-150
STL00996	13C2 PFDA	103		25-150
STL00997	13C2 PFUnA	97		25-150
STL00998	13C2 PFDoA	95		25-150
STL02116	13C2-PFTeDA	114		25-150
STL02337	13C3-PFBS	98		25-150
STL00994	18O2 PFHxS	109		25-150
STL00991	13C4 PFOS	101		25-150
STL01056	13C8 FOSA	94		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	83		25-150
STL02279	M2-6:2FTS	44		25-150
STL02280	M2-8:2FTS	81		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_043.d
Lims ID: 320-34425-A-26-A
Client ID: FM-26-030-816-171212
Sample Type: Client
Inject. Date: 23-Dec-2017 03:05:54 ALS Bottle#: 34 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-26-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:51:43

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	6206234	2.27		91.0	15658	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	342173	0.1504			72.1	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4467040	2.73		109	25981	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.000	652198	0.3270			265	
D 47 13C3-PFBS										
301.90 > 83.00	1.717	1.705	0.011	0.645	79728	2.29		98.4	1270	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.717	1.707	0.009	1.000	138203	0.0536			93.4	M
298.90 > 99.00	1.717	1.707	0.009	1.000	64702		2.14(1.25-3.74)		144	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4506567	2.58		103	35211	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.966	1.956	0.010	1.000	462367	0.2562			423	M
313.00 > 119.00	1.966	1.956	0.010	1.000	41988		11.01(5.03-15.10)		623	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.862	4365081	2.70		108	34001	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.291	0.015	1.006	235955	0.1292			314	
363.00 > 169.00	2.293	2.291	0.002	1.000	90706		2.60(1.13-3.40)		640	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.319	2.304	0.015	1.000	369745	0.1550			444	
399.00 > 99.00	2.319	2.304	0.015	1.000	112625		3.28(1.50-4.49)		277	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	5241737	2.57		109	45578	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.642	-0.004	1.000	13616	0.0264			404	
D 12 M2-6:2FTS										
429.00 > 81.00	2.638	2.642	-0.004	0.992	790225	1.05		44.3	10883	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	4725823	2.55		102	49778	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4490802	2.50			44106	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.659	2.656	0.003	1.000	473114	0.2380			704	M
413.00 > 169.00	2.659	2.656	0.003	1.000	256334		1.85(0.84-2.52)		2006	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.667	2.662	0.005	1.000	9890	0.005533			68.9	
449.00 > 99.00	2.659	2.662	-0.003	0.997	3122		3.17(1.94-5.82)		38.5	
D 18 13C4 PFOS										
503.00 > 80.00	3.033	3.025	0.008	1.140	3262390	2.43		101	26541	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.033	3.028	0.005	1.000	632756	0.4373			67.8	
499.00 > 99.00	3.033	3.028	0.005	1.000	138489		4.57(2.31-6.93)		89.6	
D 19 13C5 PFNA										
468.00 > 423.00	3.033	3.028	0.005	1.140	3359902	2.55		102	33546	
20 Perfluorononanoic acid										
463.00 > 419.00	3.033	3.029	0.004	1.000	94073	0.0696			336	
463.00 > 169.00	3.033	3.029	0.004	1.000	21973		4.28(1.90-5.69)		255	
D 21 13C8 FOSA										
506.00 > 78.00	3.379	3.370	0.009	1.271	4304490	2.35		94.1	20421	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.379	3.372	0.007	1.000	6775	0.004102			234	
D 26 M2-8:2FTS										
529.00 > 81.00	3.387	3.377	0.010	1.274	811850	1.93		80.7	14076	
D 23 13C2 PFDA										
515.00 > 470.00	3.394	3.389	0.005	1.276	2793569	2.57		103	34444	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.546	3.543	0.003	1.333	1189627	2.04		81.5	18836	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.716	3.712	0.004	1.397	1183559	2.08		83.1	5898	
D 30 13C2 PFUnA										
565.00 > 520.00	3.716	3.717	-0.001	1.397	2005725	2.42		96.9	39817	
31 Perfluoroundecanoic acid										M
563.00 > 519.00	3.725	3.718	0.007	1.002	6253	0.008508			48.0	
563.00 > 169.00	3.725	3.718	0.007	1.002	1208		5.18(0.00-0.00)		53.6	M
D 36 13C2 PFDoA										
615.00 > 570.00	4.014	4.011	0.003	1.509	2127484	2.38		95.3	48800	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.698	2832734	2.84		114	20185	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:39 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_043.d

Injection Date: 23-Dec-2017 03:05:54 Instrument ID: A8_N

Lims ID: 320-34425-A-26-A Lab Sample ID: 320-34425-26

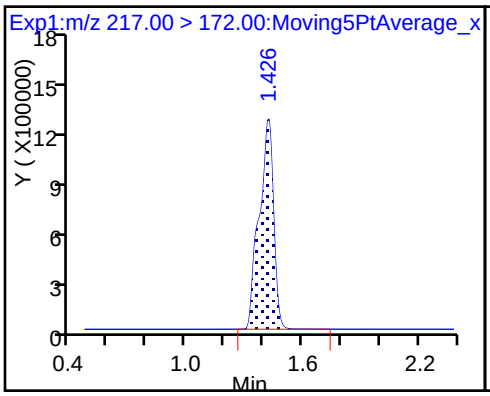
Client ID: FM-26-030-816-171212

Operator ID: SACINSTLCMS01 ALS Bottle#: 34 Worklist Smp#: 8

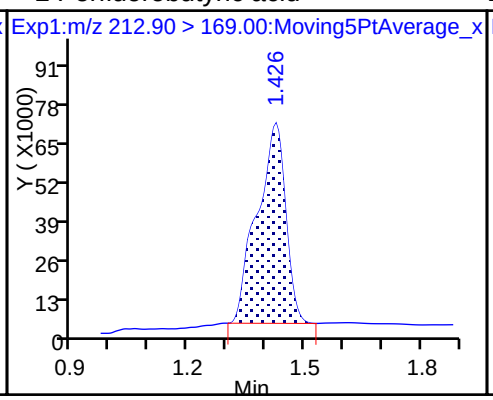
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

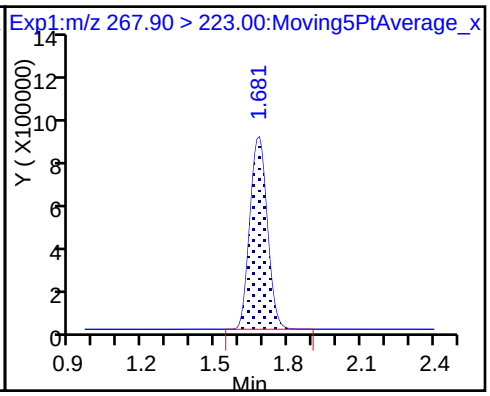
D 1 13C4 PFBA



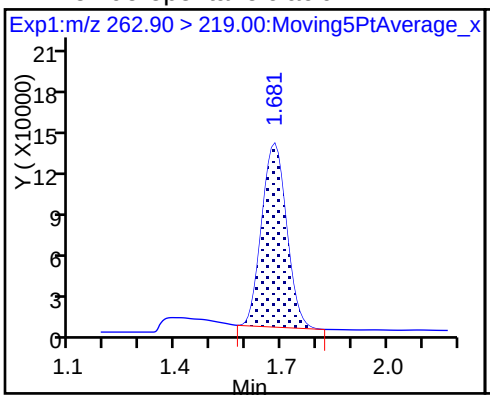
2 Perfluorobutyric acid



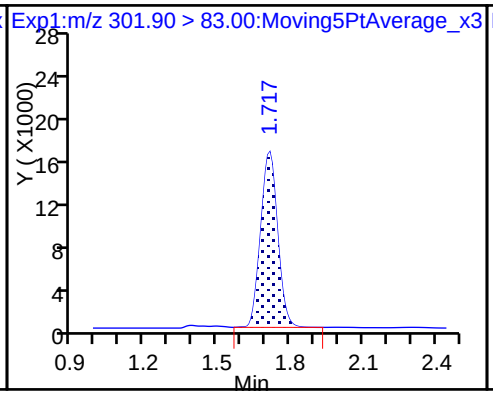
D 3 13C5-PFPeA



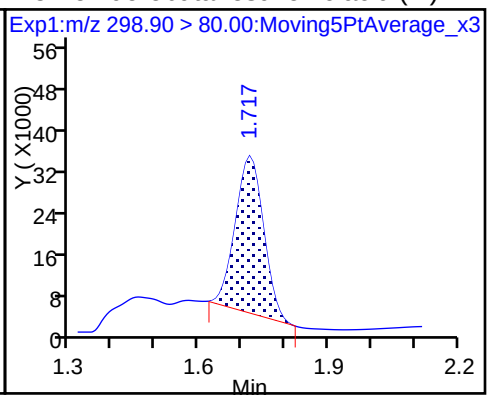
4 Perfluoropentanoic acid



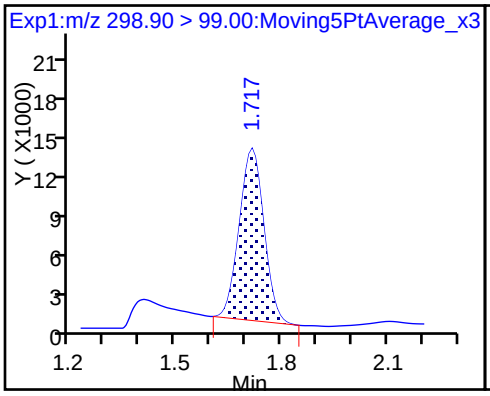
D 47 13C3-PFBS



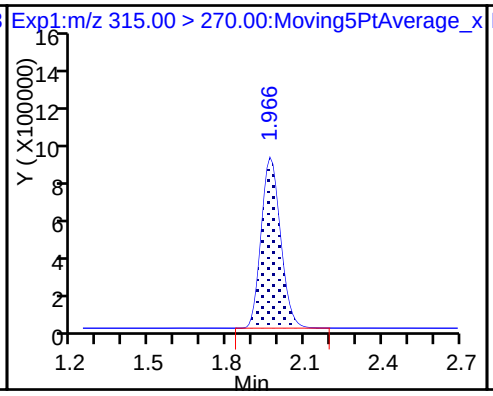
5 Perfluorobutanesulfonic acid (M)



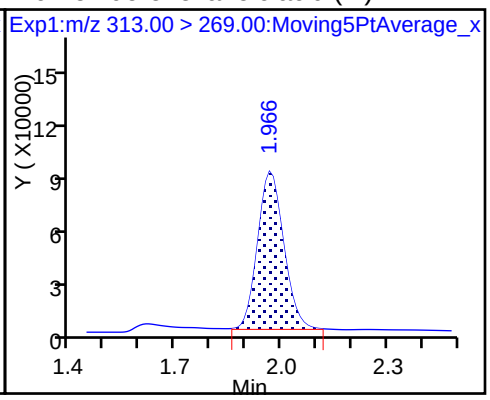
5 Perfluorobutanesulfonic acid



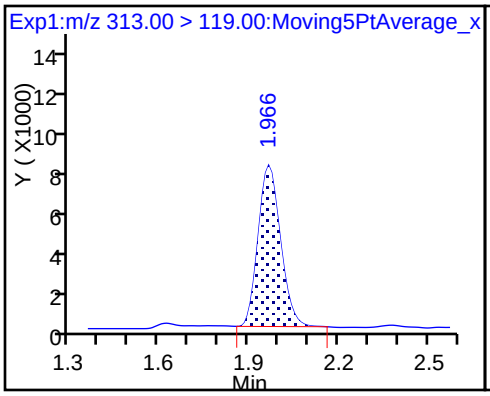
D 7 13C2 PFHxA



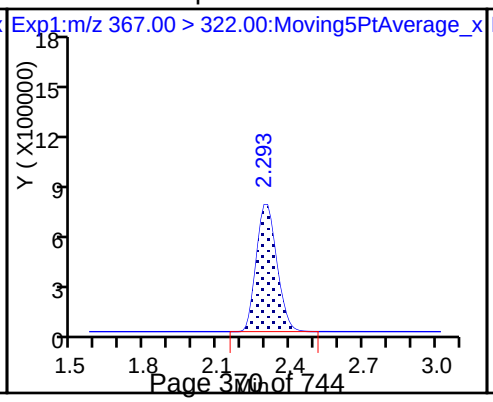
6 Perfluorohexanoic acid (M)



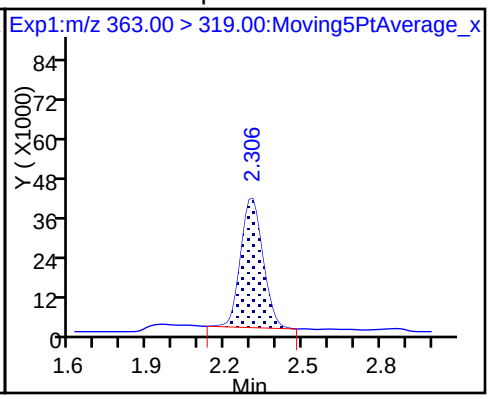
6 Perfluorohexanoic acid



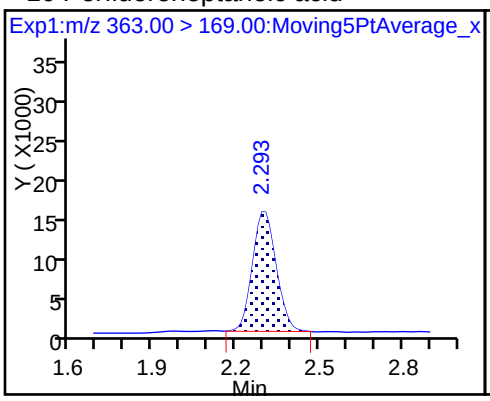
D 9 13C4-PFHpA



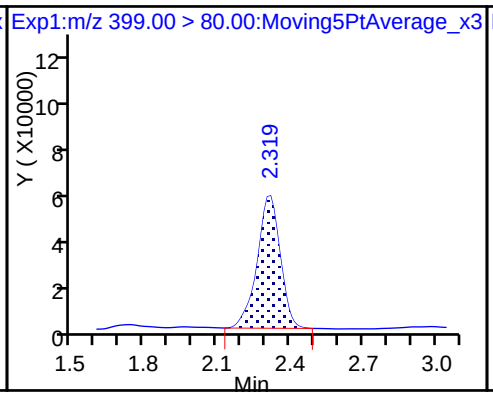
10 Perfluoroheptanoic acid



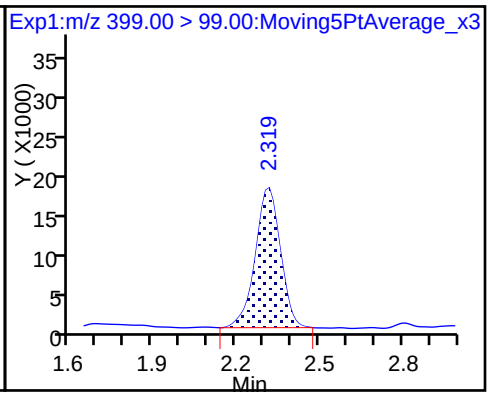
10 Perfluoroheptanoic acid



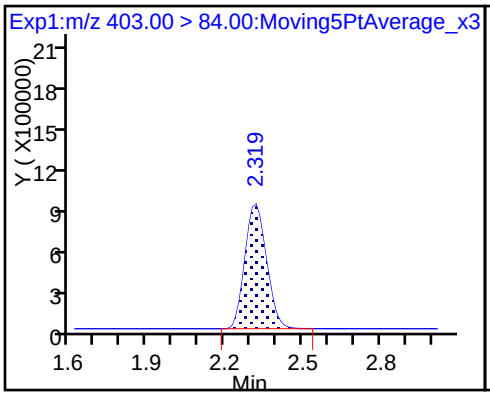
8 Perfluorohexanesulfonic acid



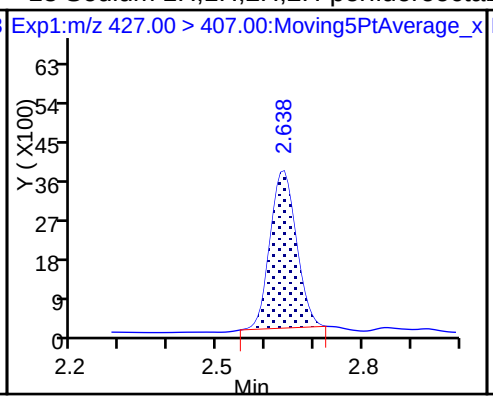
8 Perfluorohexanesulfonic acid



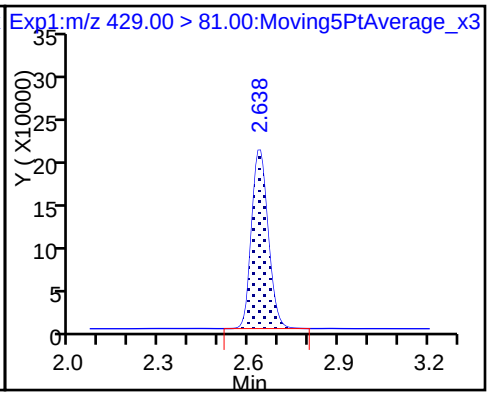
D 11 18O2 PFHxS



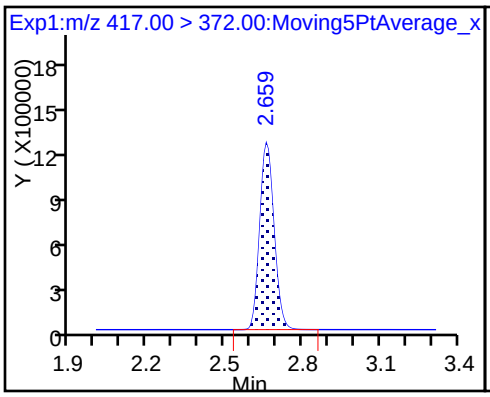
13 Sodium 1H,1H,2H,2H-perfluorooctane



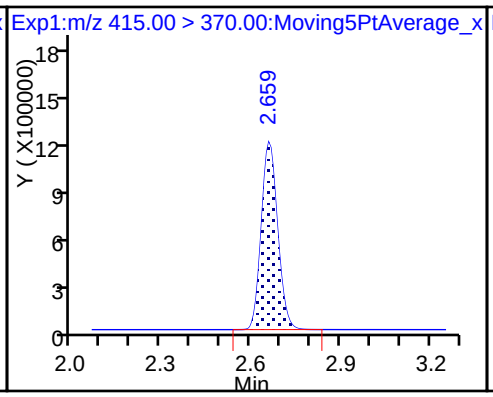
D 12 M2-6:2FTS



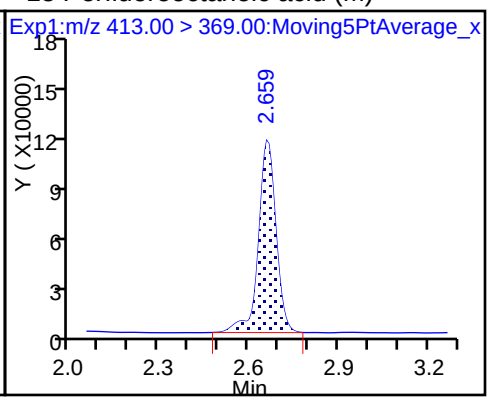
D 14 13C4 PFOA



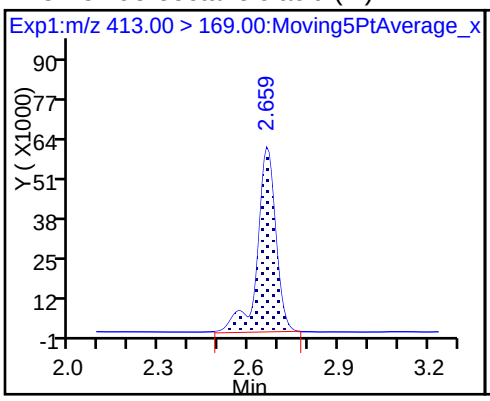
* 62 13C2-PFOA



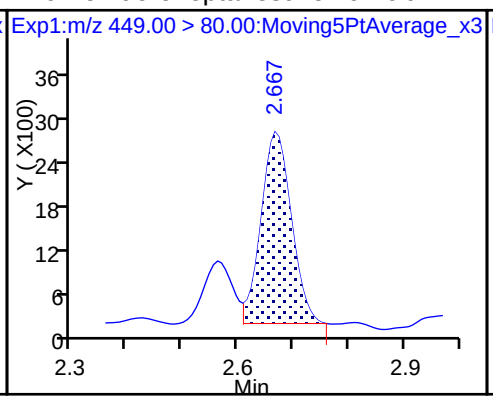
15 Perfluorooctanoic acid (M)



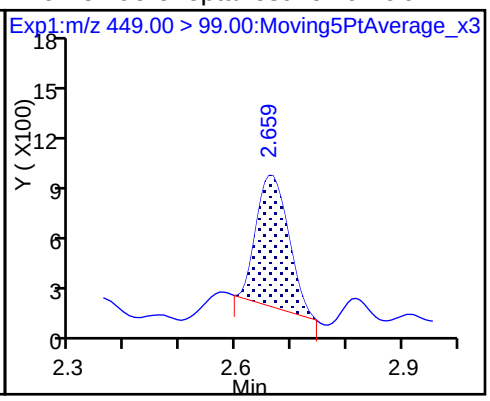
15 Perfluorooctanoic acid (M)



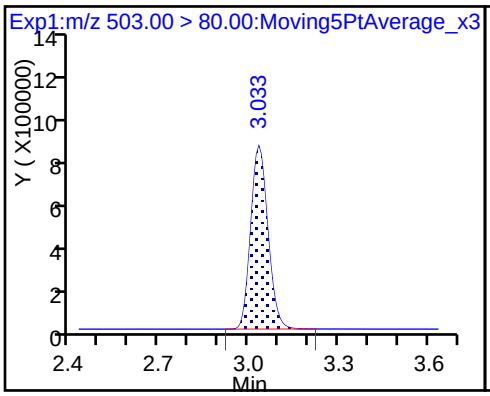
16 Perfluoroheptanesulfonic Acid



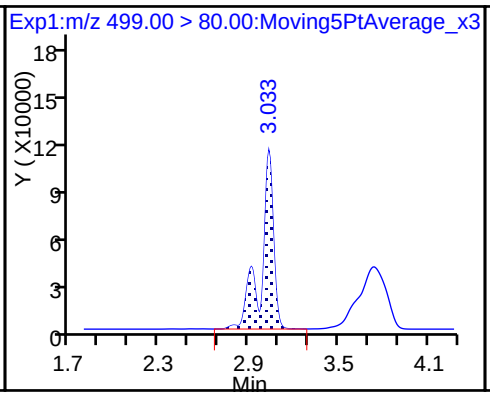
16 Perfluoroheptanesulfonic Acid



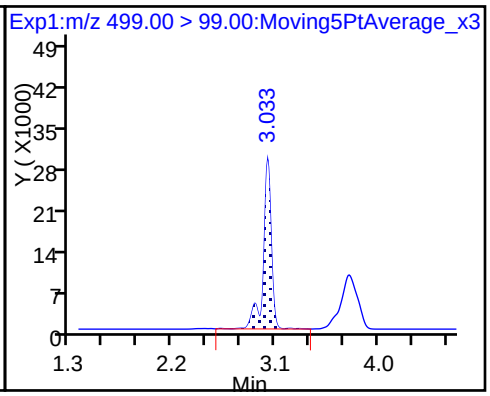
D 18 13C4 PFOS



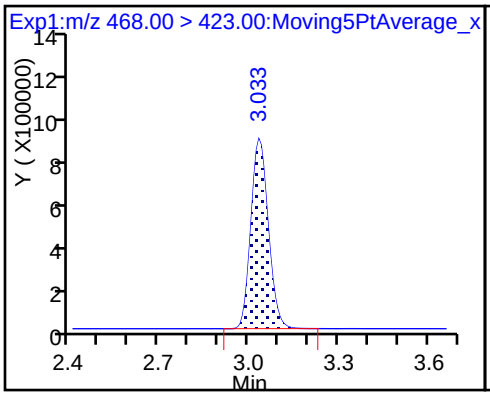
17 Perfluorooctane sulfonic acid



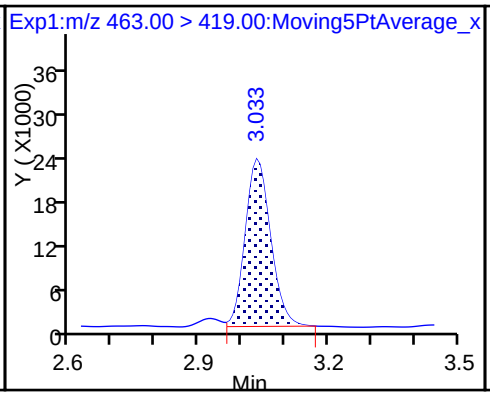
17 Perfluorooctane sulfonic acid



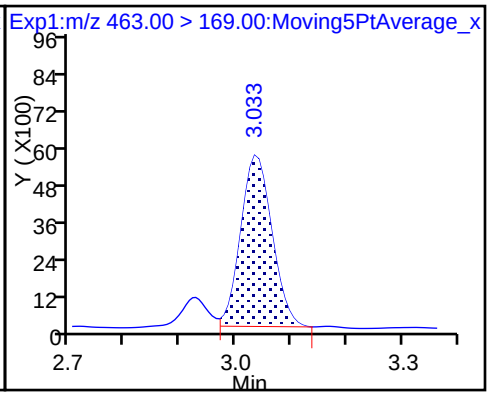
D 19 13C5 PFNA



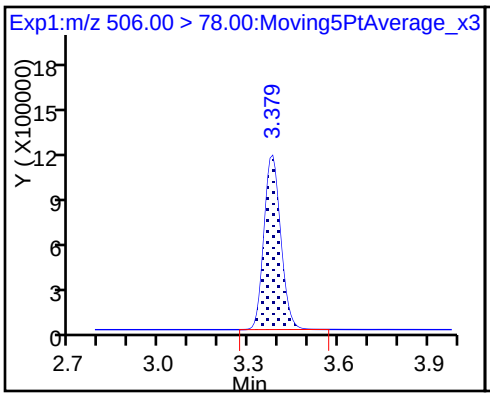
20 Perfluorononanoic acid



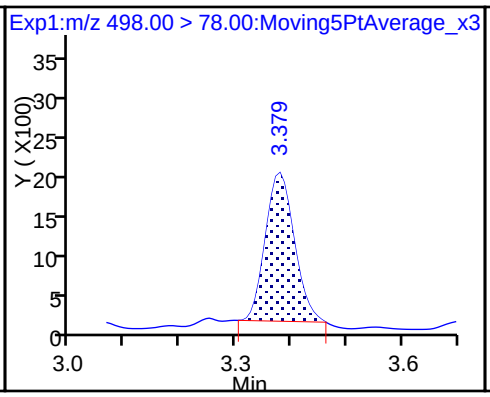
20 Perfluorononanoic acid



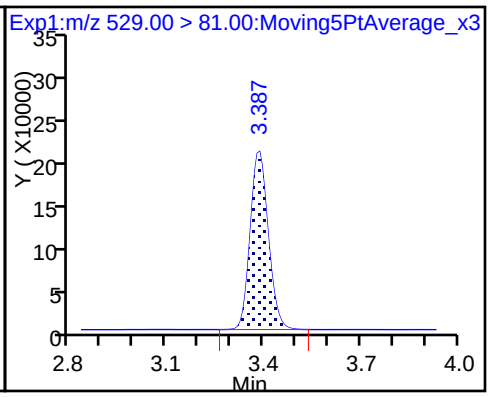
D 21 13C8 FOSA



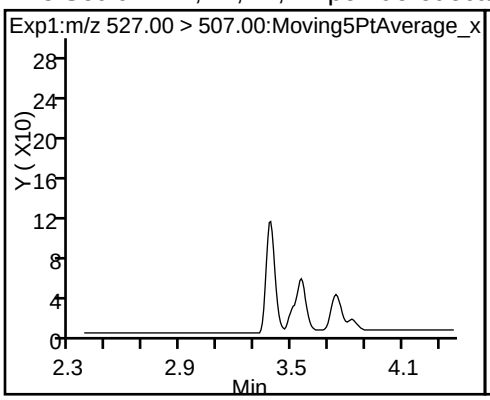
22 Perfluorooctane Sulfonamide



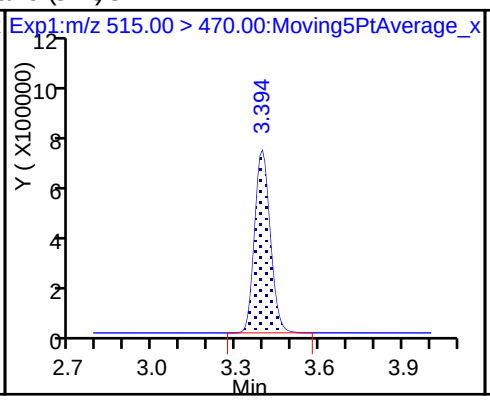
D 26 M2-8:2FTS



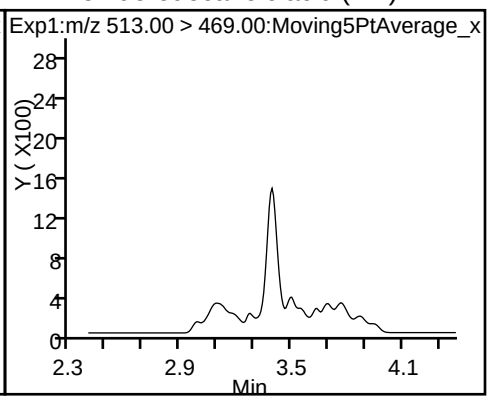
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



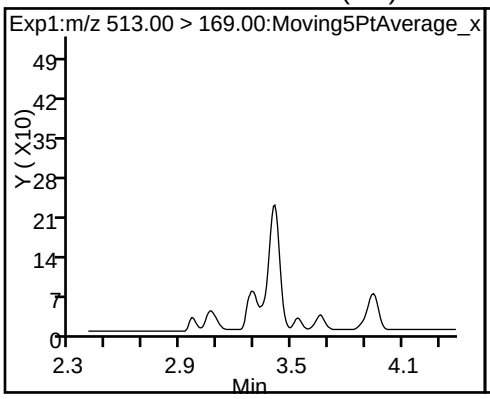
D 13C2 PFDA



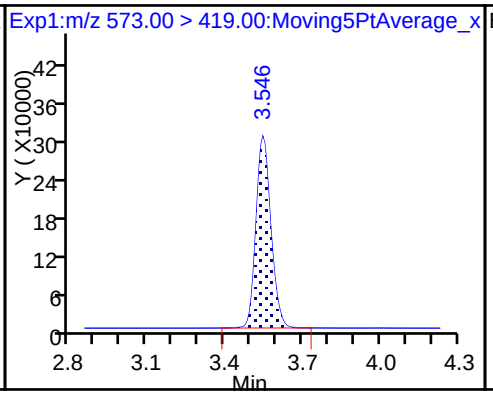
24 Perfluorodecanoic acid (ND)



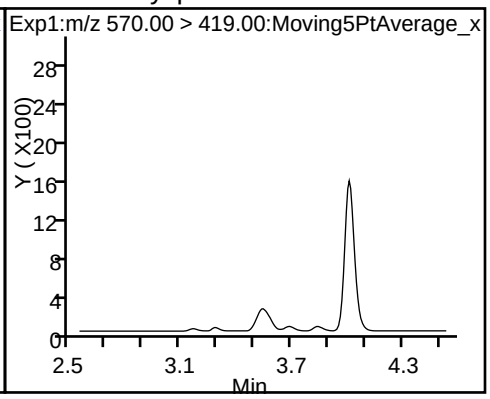
24 Perfluorodecanoic acid (ND)



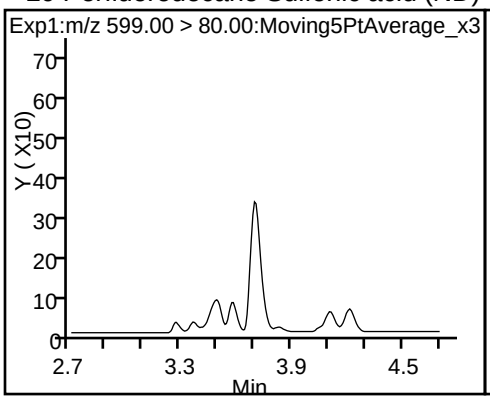
D 27 d3-NMeFOSAA



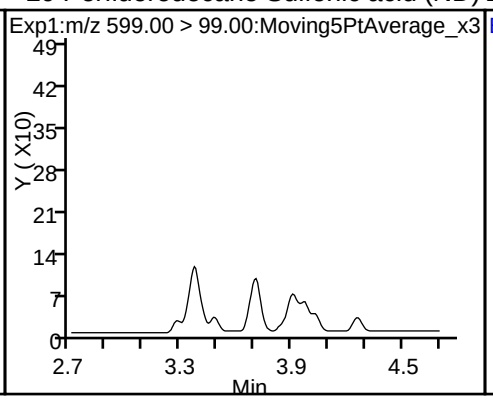
28 N-methyl perfluorooctane sulfonami (ND)



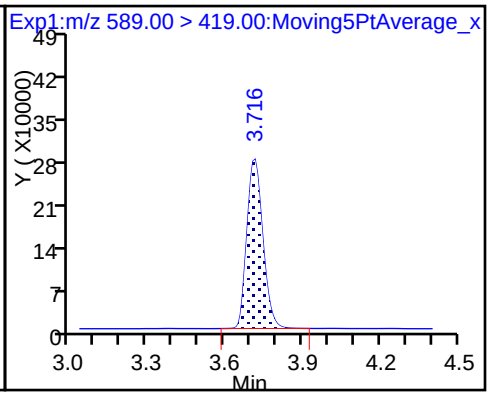
29 Perfluorodecane Sulfonic acid (ND)



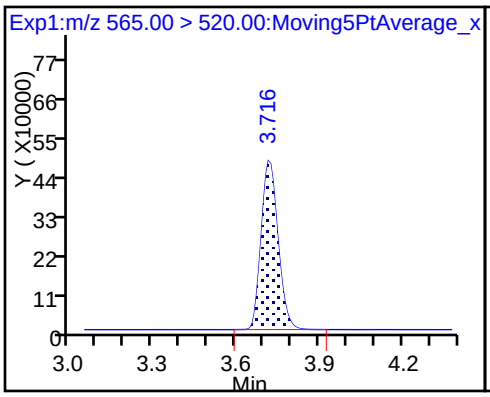
29 Perfluorodecane Sulfonic acid (ND)



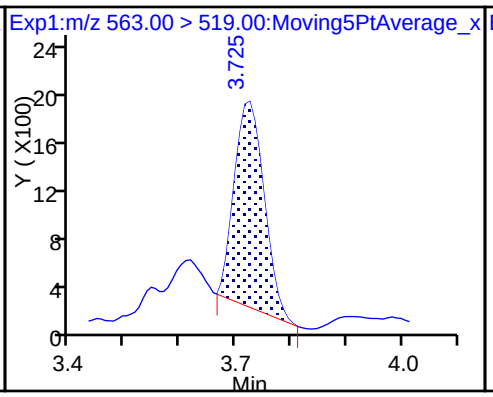
D 32 d5-NEtFOSAA



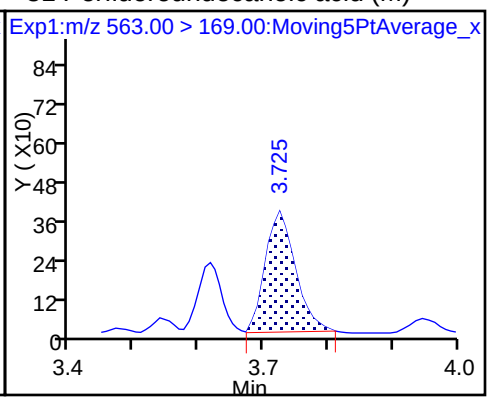
D 30 13C2 PFUnA



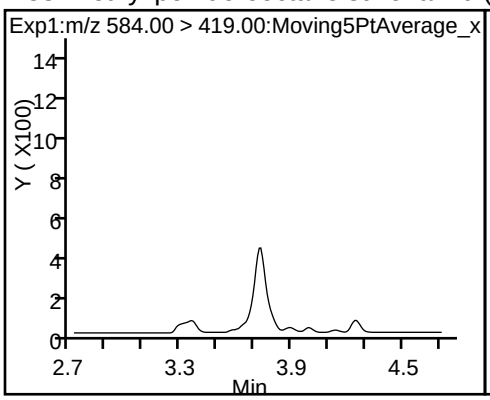
31 Perfluoroundecanoic acid



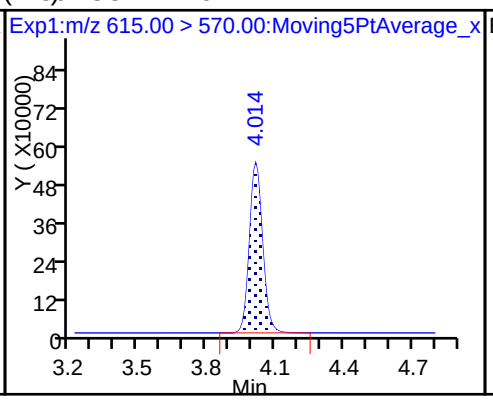
31 Perfluoroundecanoic acid (M)



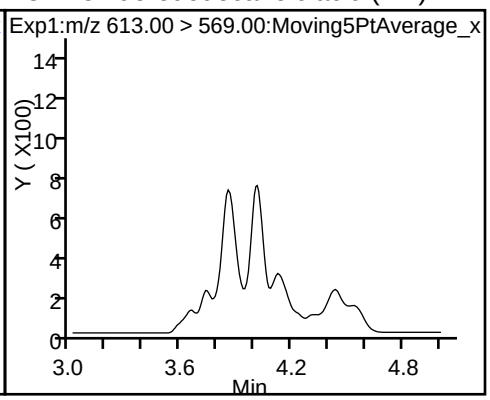
33 N-ethyl perfluorooctane sulfonamid (ND)



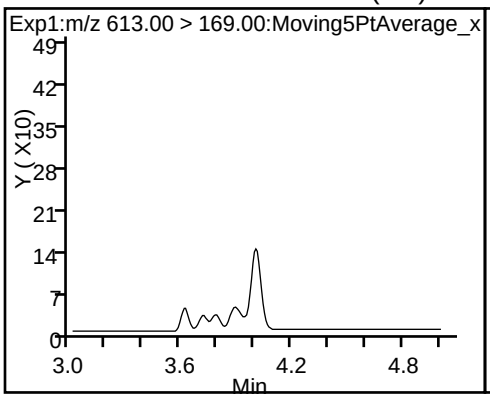
D 36 13C2 PFDoA



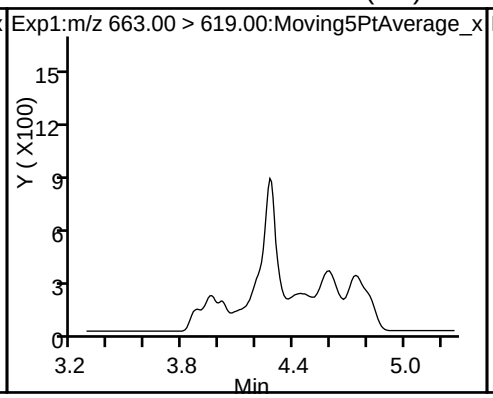
37 Perfluorododecanoic acid (ND)



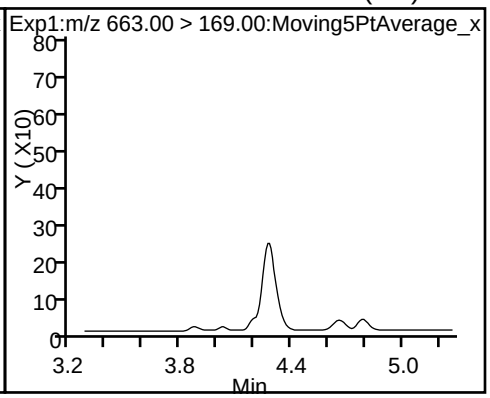
37 Perfluorododecanoic acid (ND)



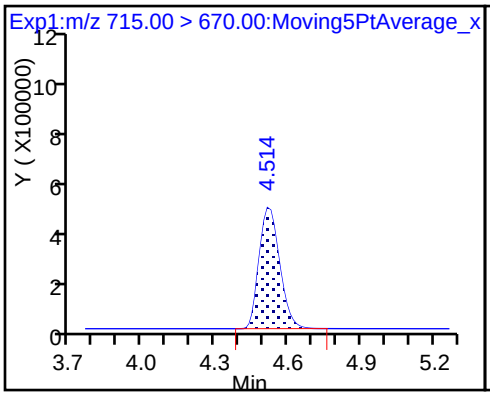
41 Perfluorotridecanoic acid (ND)



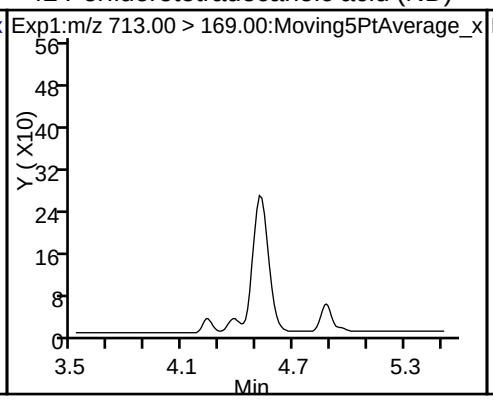
41 Perfluorotridecanoic acid (ND)



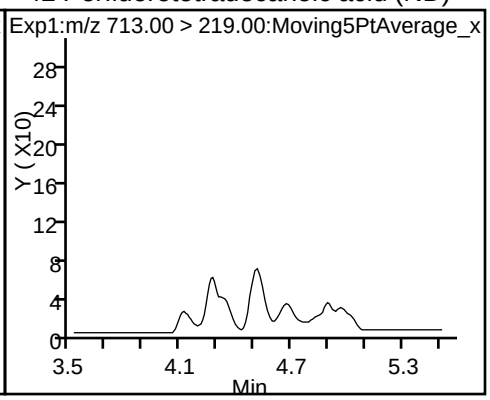
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

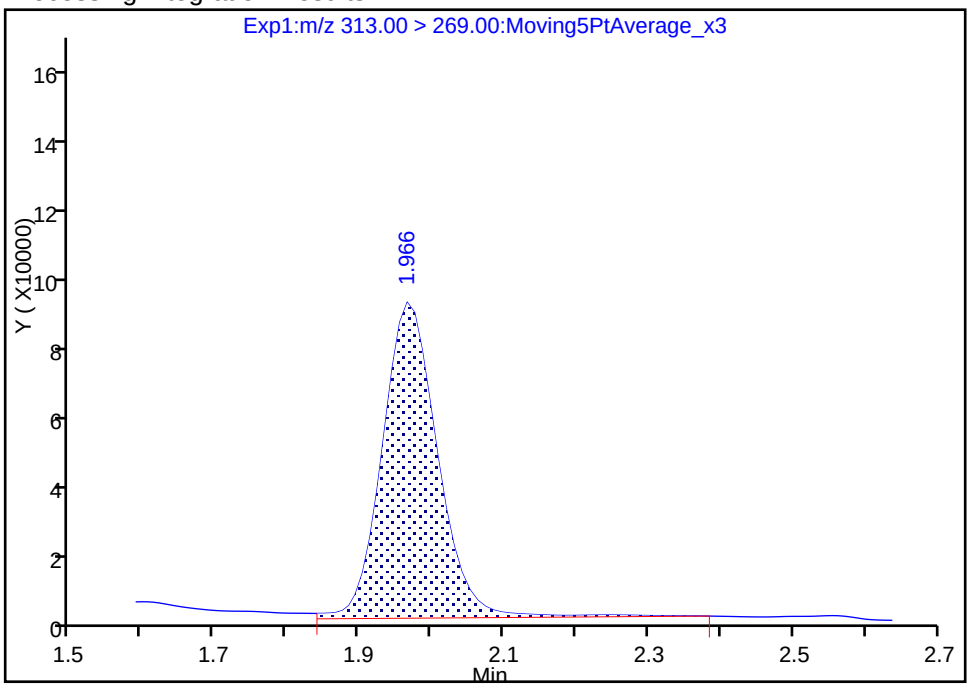
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_043.d				
Injection Date:	23-Dec-2017 03:05:54	Instrument ID:	A8_N		
Lims ID:	320-34425-A-26-A	Lab Sample ID:	320-34425-26		
Client ID:	FM-26-030-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

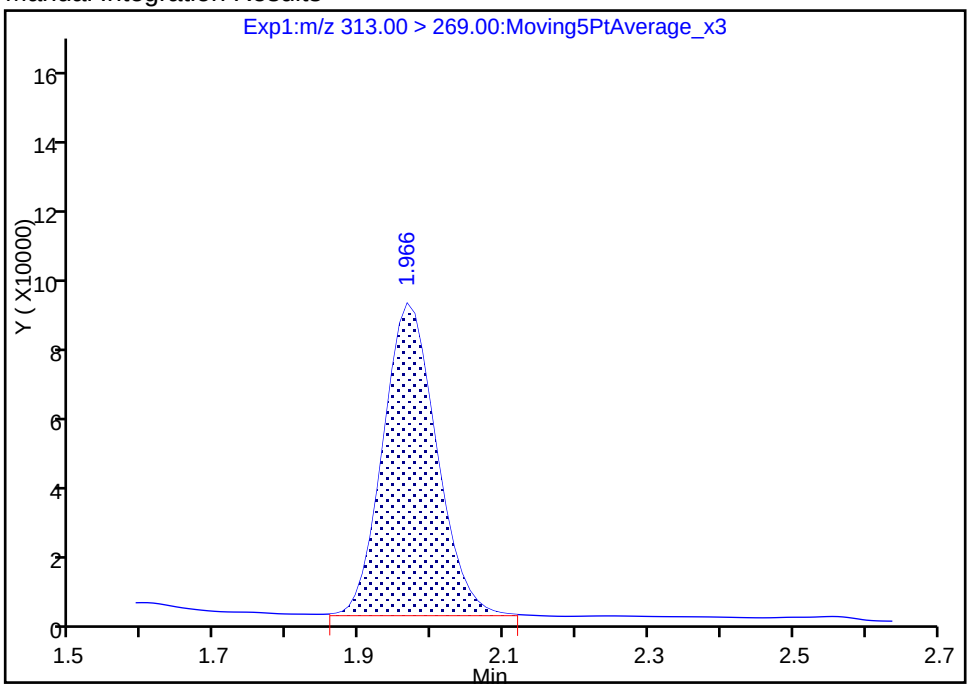
Processing Integration Results

RT: 1.97
Area: 485417
Amount: 0.268963
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 462367
Amount: 0.256191
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:49:53
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

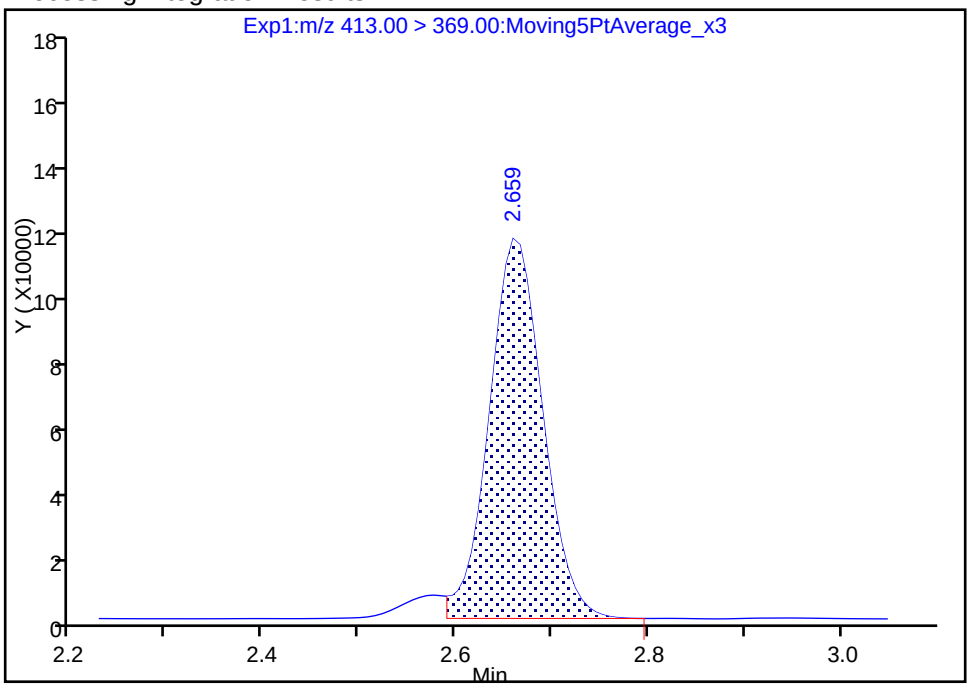
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_043.d				
Injection Date:	23-Dec-2017 03:05:54	Instrument ID:	A8_N		
Lims ID:	320-34425-A-26-A	Lab Sample ID:	320-34425-26		
Client ID:	FM-26-030-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

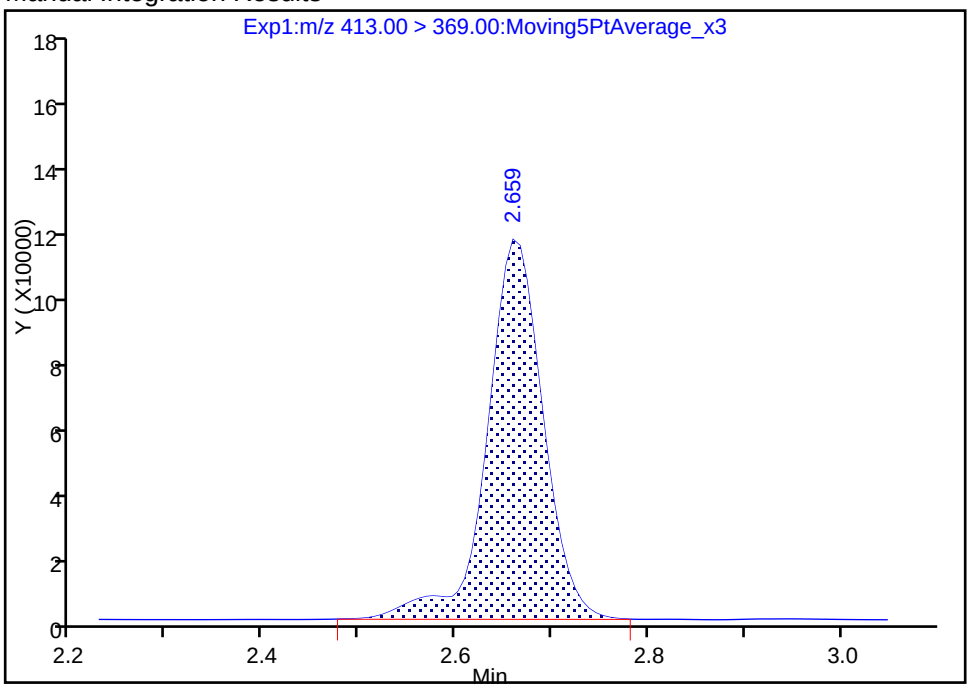
Processing Integration Results

RT: 2.66
Area: 450844
Amount: 0.226792
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 473114
Amount: 0.237995
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:50:28

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

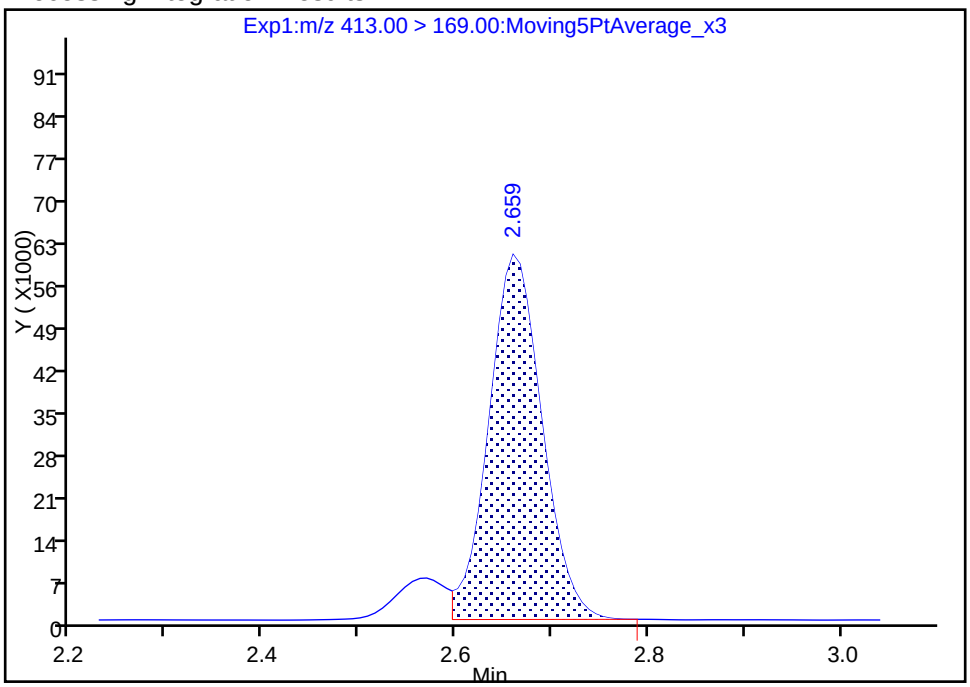
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_043.d				
Injection Date:	23-Dec-2017 03:05:54	Instrument ID:	A8_N		
Lims ID:	320-34425-A-26-A	Lab Sample ID:	320-34425-26		
Client ID:	FM-26-030-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

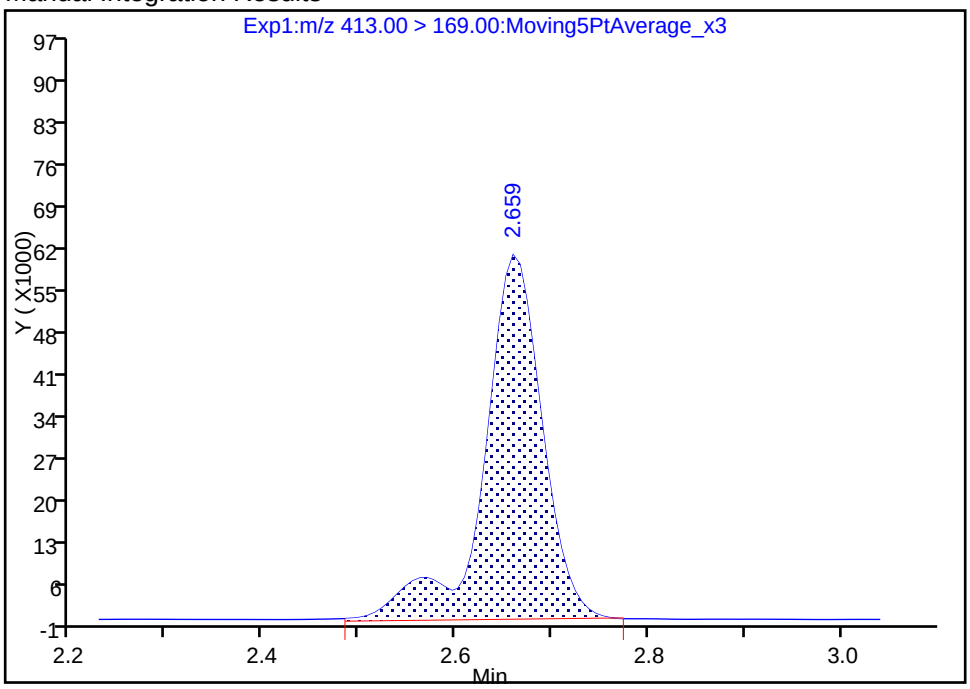
Processing Integration Results

RT: 2.66
Area: 230201
Amount: 0.226792
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 256334
Amount: 0.237995
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:50:52

Audit Action: Manually Integrated Audit Reason: Isomers

TestAmerica Sacramento

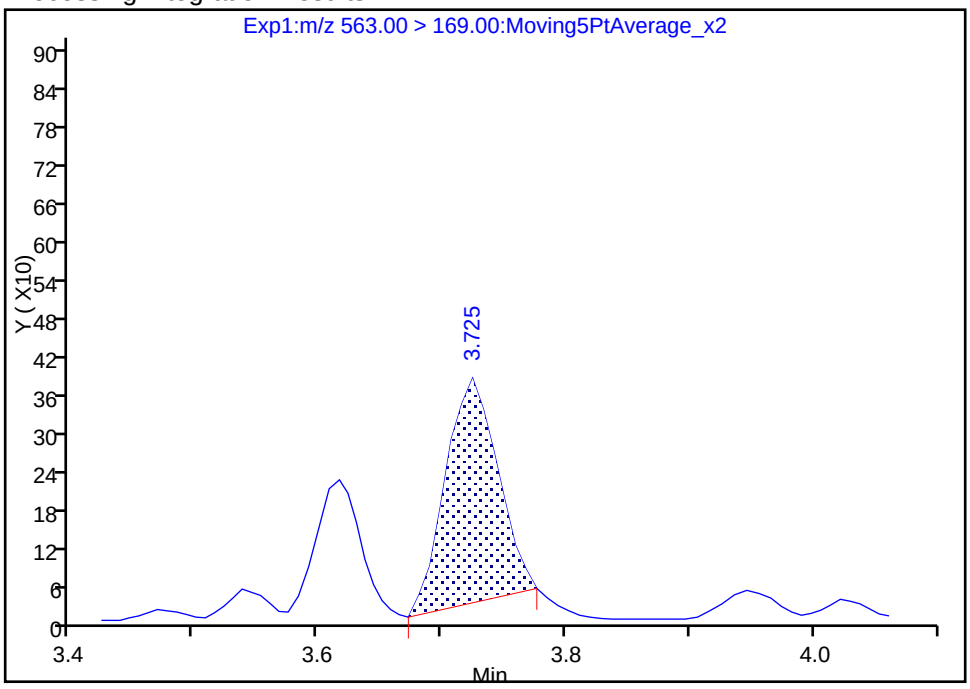
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_043.d				
Injection Date:	23-Dec-2017 03:05:54	Instrument ID:	A8_N		
Lims ID:	320-34425-A-26-A	Lab Sample ID:	320-34425-26		
Client ID:	FM-26-030-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

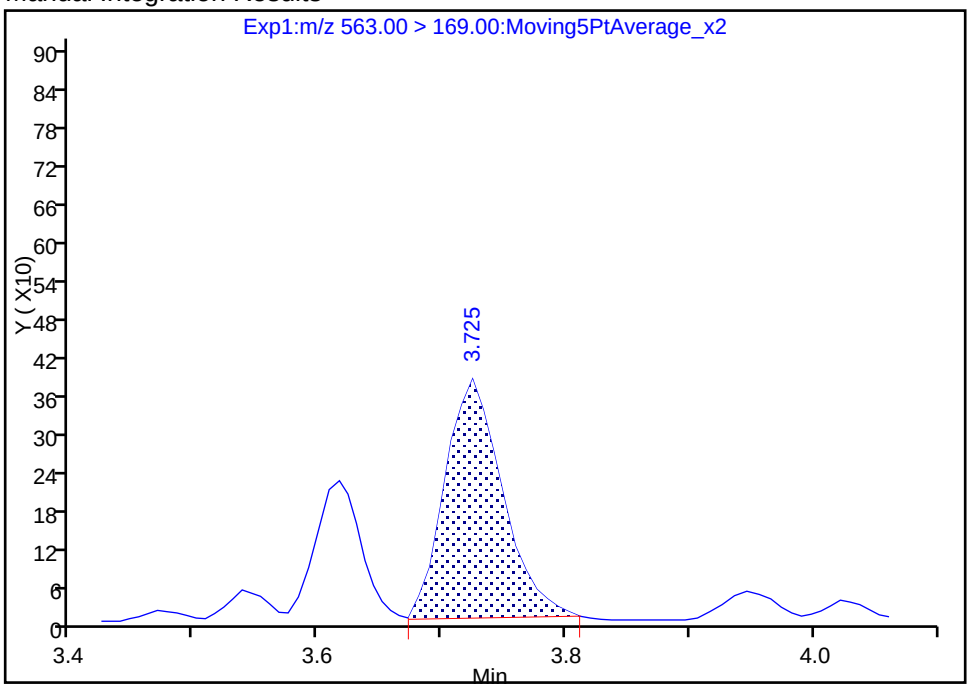
Processing Integration Results

RT: 3.72
Area: 1029
Amount: 0.008508
Amount Units: ng/ml



Manual Integration Results

RT: 3.72
Area: 1208
Amount: 0.008508
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:51:23
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

TestAmerica Sacramento

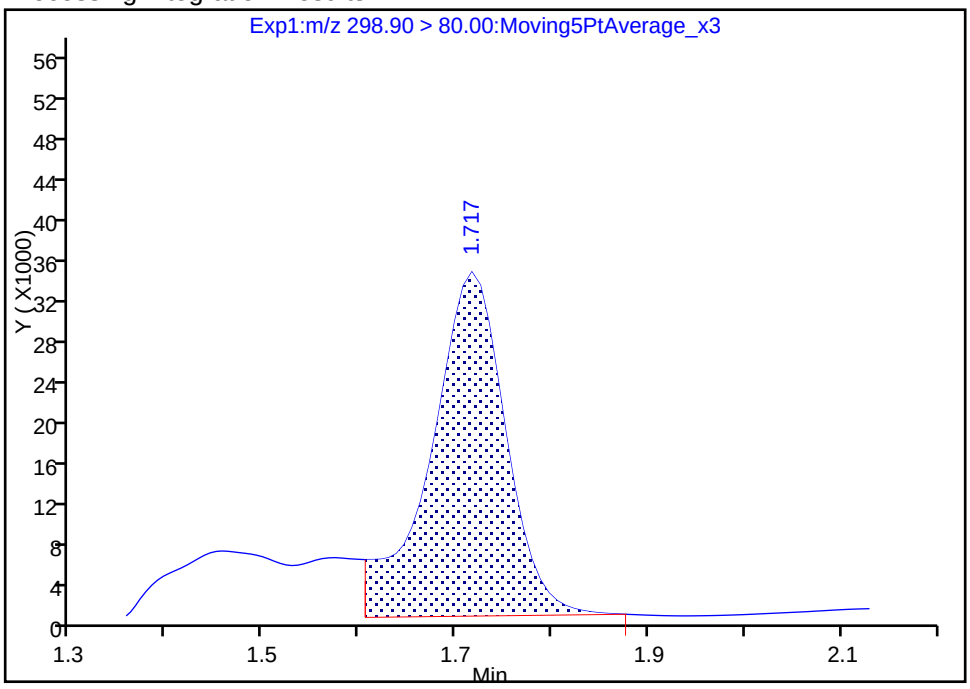
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_043.d				
Injection Date:	23-Dec-2017 03:05:54	Instrument ID:	A8_N		
Lims ID:	320-34425-A-26-A	Lab Sample ID:	320-34425-26		
Client ID:	FM-26-030-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	34	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

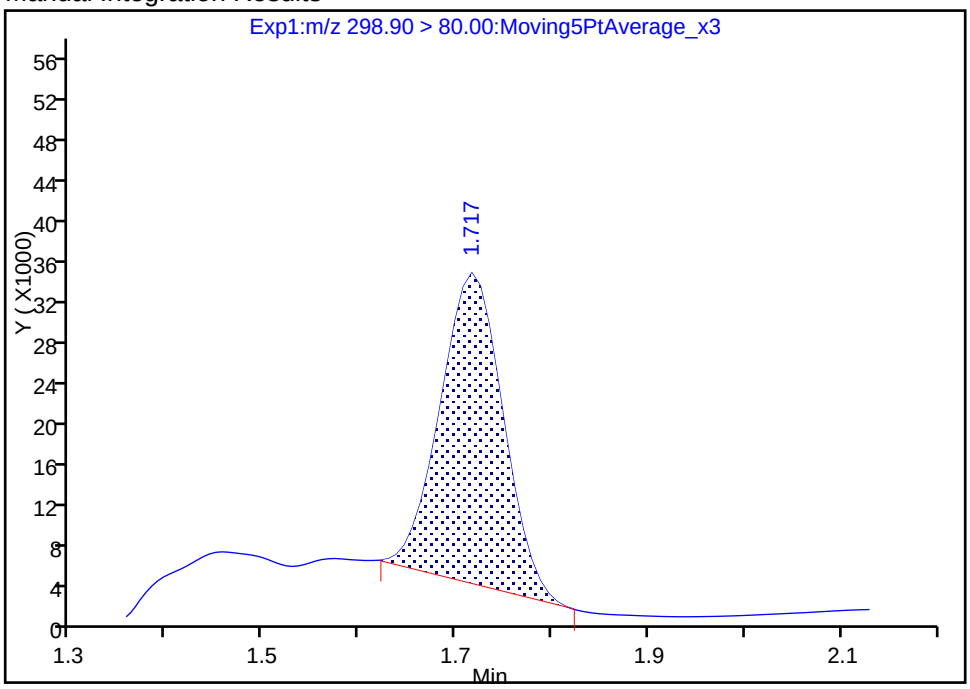
Processing Integration Results

RT: 1.72
Area: 182195
Amount: 0.070632
Amount Units: ng/ml



Manual Integration Results

RT: 1.72
Area: 138203
Amount: 0.053578
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:49:38
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-020-816-171212 | Lab Sample ID: 320-34425-27

Matrix: Water | Lab File ID: 2017.12.22LLB_044.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 11:40

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 250.7(mL) | Date Analyzed: 12/23/2017 03:13

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.08	J	1.99	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.10	J	1.99	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	1.44	J	1.99	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.93	J	1.99	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	1.24	J	1.99	0.85
375-95-1	Perfluorononanoic acid (PFNA)	4.74		1.99	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	1.99	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	1.99	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	1.99	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	1.99	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.99	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.45	J	1.99	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.93	B	1.99	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.45	J	1.99	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	16.9		1.99	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.99	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	1.99	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.09	U	19.9	3.09
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.89	U	19.9	1.89
27619-97-2	6:2FTS	1.99	U	19.9	1.99
39108-34-4	8:2FTS	1.99	U	19.9	1.99

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-26-020-816-171212 | Lab Sample ID: 320-34425-27

Matrix: Water | Lab File ID: 2017.12.22LLB_044.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 11:40

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 250.7(mL) | Date Analyzed: 12/23/2017 03:13

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	86		25-150
STL01893	13C5 PFPeA	106		25-150
STL00993	13C2 PFHxA	105		25-150
STL01892	13C4-PFHpA	110		25-150
STL00990	13C4 PFOA	99		25-150
STL00995	13C5 PFNA	99		25-150
STL00996	13C2 PFDA	104		25-150
STL00997	13C2 PFUnA	103		25-150
STL00998	13C2 PFDoA	96		25-150
STL02116	13C2-PFTeDA	121		25-150
STL02337	13C3-PFBS	103		25-150
STL00994	18O2 PFHxS	101		25-150
STL00991	13C4 PFOS	101		25-150
STL01056	13C8 FOSA	95		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	84		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	77		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_044.d
Lims ID: 320-34425-A-27-A
Client ID: FM-26-020-816-171212
Sample Type: Client
Inject. Date: 23-Dec-2017 03:13:43 ALS Bottle#: 35 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-27-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:54:19

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.534	5823298	2.14		85.7	15583	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.004	57751	0.0271			12.3	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.628	4325958	2.66		106	56517	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.670	0.002	1.000	53507	0.0277			21.1	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.645	83228	2.40		103	1681	
5 Perfluorobutanesulfonic acid										M
298.90 > 80.00	1.716	1.707	0.009	1.000	98160	0.0365			70.9	M
298.90 > 99.00	1.716	1.707	0.009	1.000	47683		2.06(1.25-3.74)		103	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.739	4565130	2.63		105	40012	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.965	1.956	0.009	1.000	65891	0.0360			63.2	M
313.00 > 119.00	1.965	1.956	0.009	1.000	6313		10.44(5.03-15.10)		73.9	M
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.862	4408281	2.74		110	37940	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	43022	0.0233			49.3	
363.00 > 169.00	2.293	2.291	0.002	1.000	14767		2.91(1.13-3.40)		103	
8 Perfluorohexanesulfonic acid										M
399.00 > 80.00	2.306	2.304	0.002	1.000	216732	0.0986			271	M
399.00 > 99.00	2.306	2.304	0.002	1.000	73026		2.97(1.50-4.49)		165	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.867	4827194	2.38		101	51522	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.642	-0.011	1.000	11065	0.0226			319	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.989	749408	1.00		42.2	8520	
D 14 13C4 PFOA										
417.00 > 372.00	2.660	2.654	0.006	1.000	4587447	2.48		99.3	45987	
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.656	0.004		4470229	2.50			61096	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.660	2.656	0.004	1.000	59819	0.0310			86.0	M
413.00 > 169.00	2.660	2.656	0.004	1.000	37859		1.58(0.84-2.52)		274	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.667	2.662	0.005	1.000	20100	0.0114			139	
449.00 > 99.00	2.667	2.662	0.005	1.000	7222		2.78(1.94-5.82)		113	
D 18 13C4 PFOS										
503.00 > 80.00	3.034	3.025	0.009	1.141	3217978	2.40		101	25066	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.034	3.028	0.006	1.000	605911	0.4245			46.2	
499.00 > 99.00	3.026	3.028	-0.002	0.997	138873		4.36(2.31-6.93)		80.6	
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.028	0.006	1.141	3238514	2.47		98.7	39832	
20 Perfluorononanoic acid										
463.00 > 419.00	3.034	3.029	0.005	1.000	154787	0.1188			566	
463.00 > 169.00	3.034	3.029	0.005	1.000	38367		4.03(1.90-5.69)		632	
D 21 13C8 FOSA										
506.00 > 78.00	3.373	3.370	0.003	1.268	4341049	2.38		95.3	30011	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.380	3.372	0.008	1.002	4838	0.002905			135	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.377	0.003	1.271	772442	1.85		77.1	19835	
D 23 13C2 PFDA										
515.00 > 470.00	3.395	3.389	0.006	1.277	2818499	2.60		104	40424	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.547	3.543	0.004	1.334	1188672	2.05		81.8	19996	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.707	3.712	-0.005	1.394	1185188	2.09		83.5	5904	
D 30 13C2 PFUnA										
565.00 > 520.00	3.716	3.717	-0.001	1.397	2117437	2.57		103	39167	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.011	-0.005	1.506	2130251	2.40		95.9	27935	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.697	3016300	3.04		121	29033	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:41 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_044.d

Injection Date: 23-Dec-2017 03:13:43 Instrument ID: A8_N

Lims ID: 320-34425-A-27-A Lab Sample ID: 320-34425-27

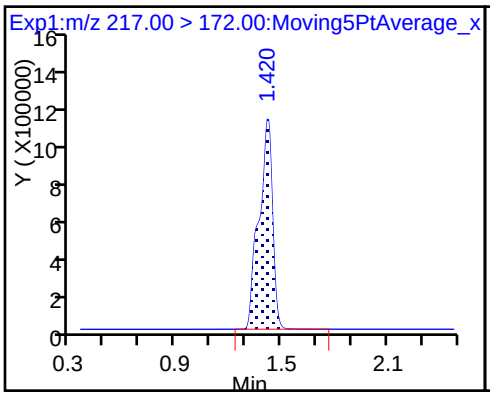
Client ID: FM-26-020-816-171212

Operator ID: SACINSTLCMS01 ALS Bottle#: 35 Worklist Smp#: 9

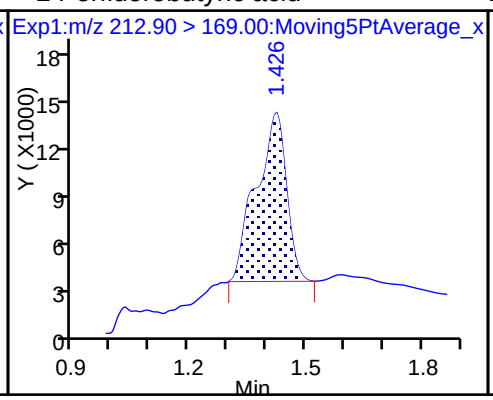
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

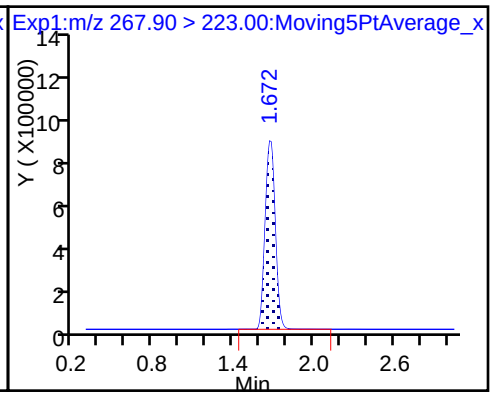
D 1 13C4 PFBA



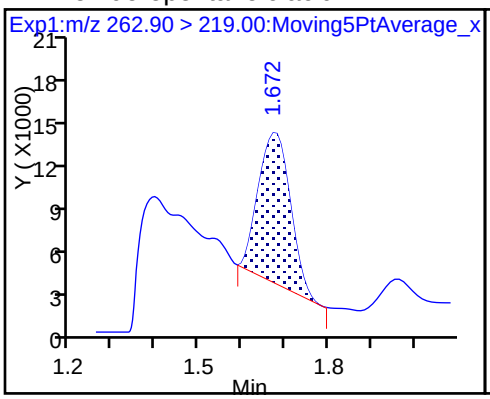
2 Perfluorobutyric acid



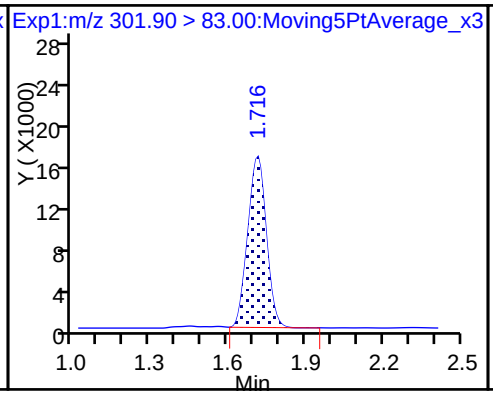
D 3 13C5-PFPeA



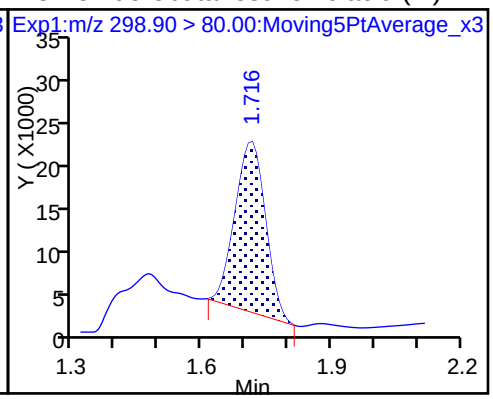
4 Perfluoropentanoic acid



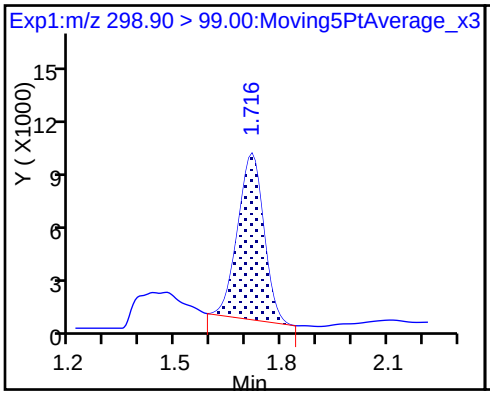
D 47 13C3-PFBS



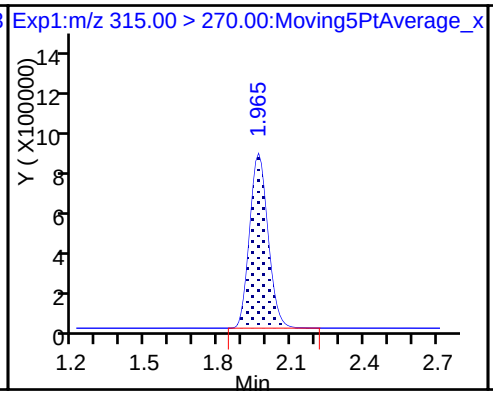
5 Perfluorobutanesulfonic acid (M)



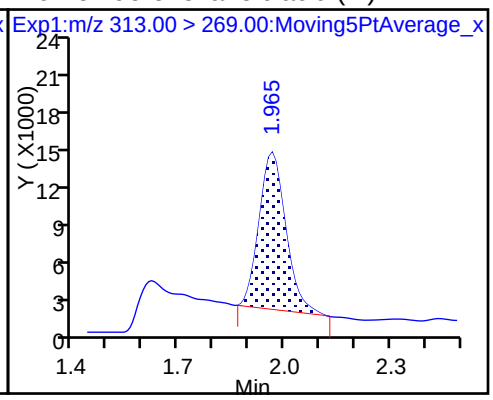
5 Perfluorobutanesulfonic acid



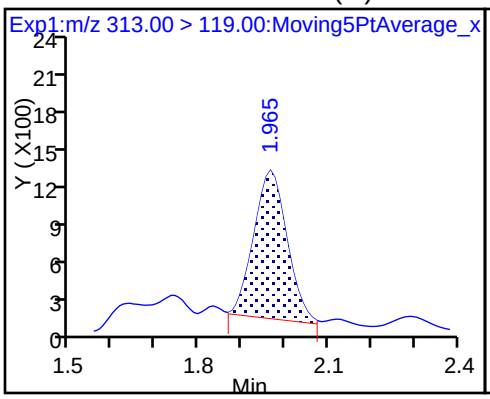
D 7 13C2 PFHxA



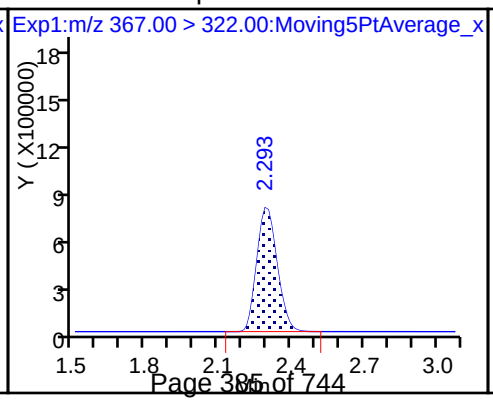
6 Perfluorohexanoic acid (M)



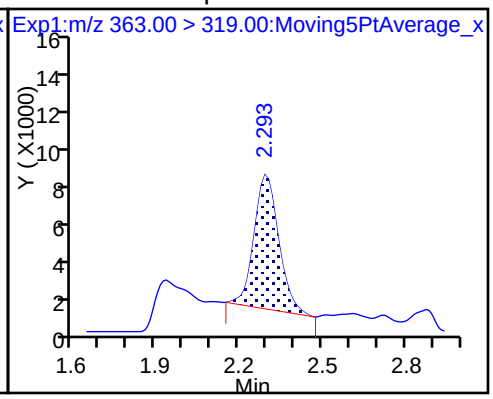
6 Perfluorohexanoic acid (M)



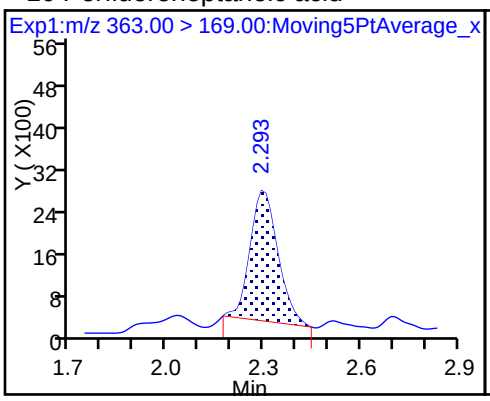
D 9 13C4-PFHpA



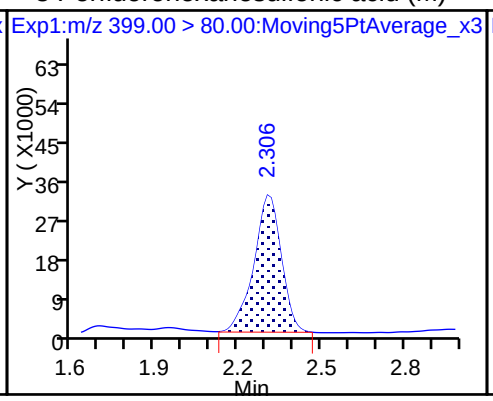
10 Perfluoroheptanoic acid



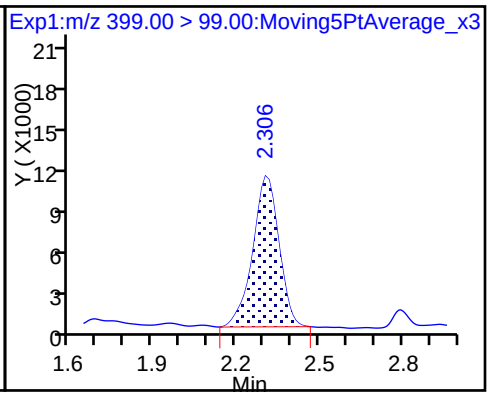
10 Perfluoroheptanoic acid



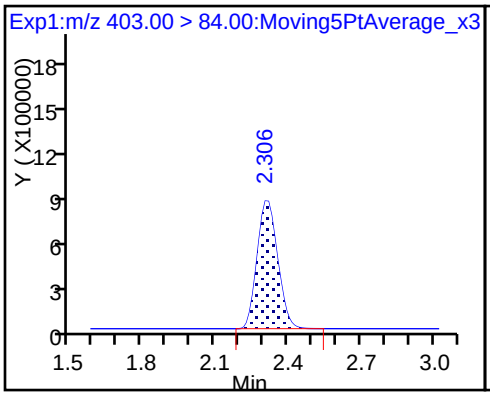
8 Perfluorohexanesulfonic acid (M)



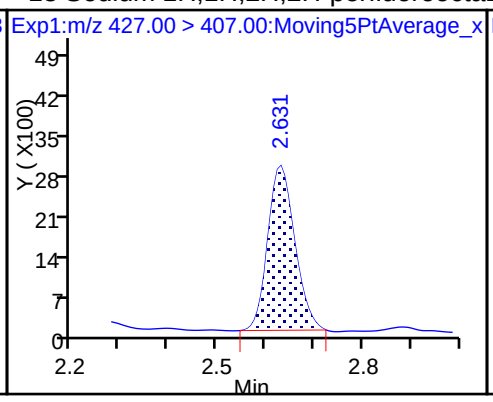
8 Perfluorohexanesulfonic acid



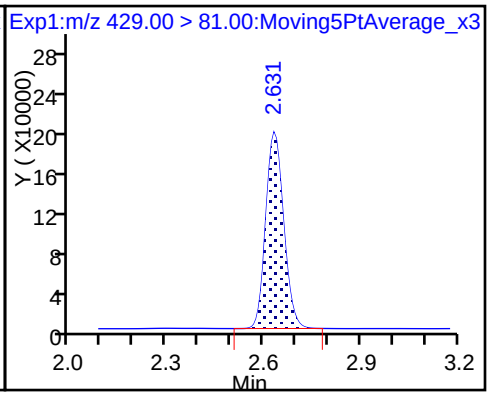
D 11 18O2 PFHxS



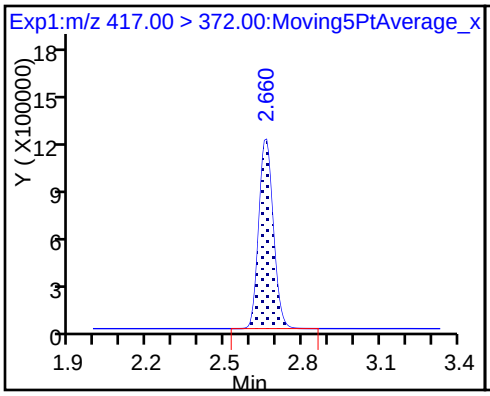
13 Sodium 1H,1H,2H,2H-perfluorooctane



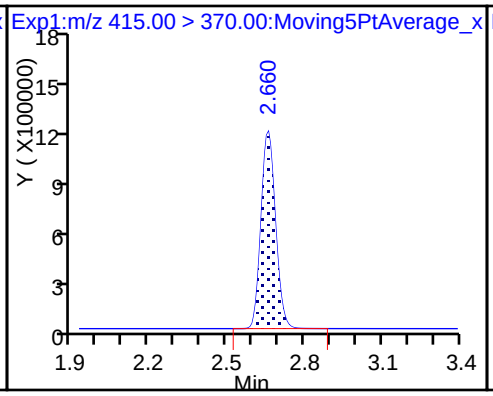
D 12 M2-6:2FTS



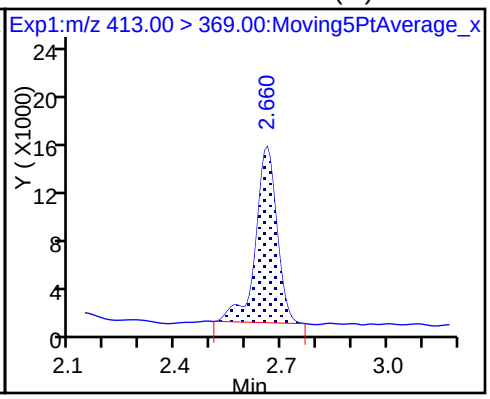
D 14 13C4 PFOA



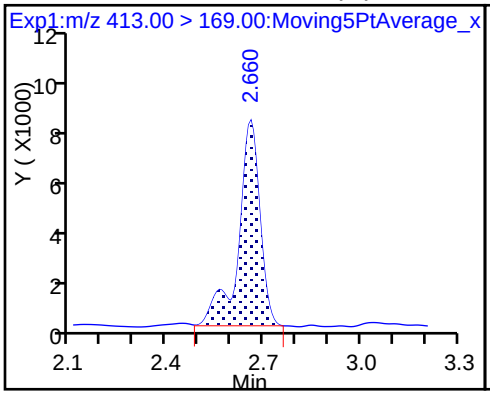
* 62 13C2-PFOA



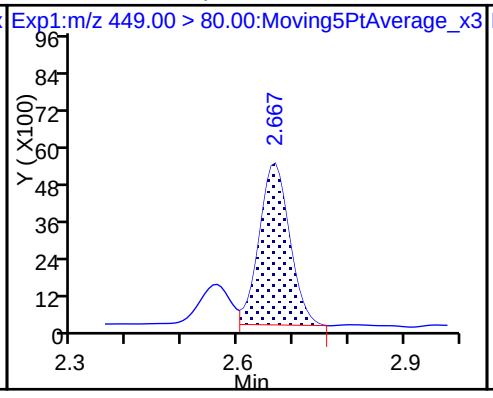
15 Perfluorooctanoic acid (M)



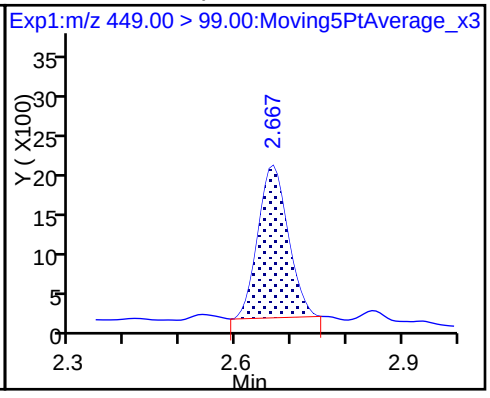
15 Perfluorooctanoic acid (M)



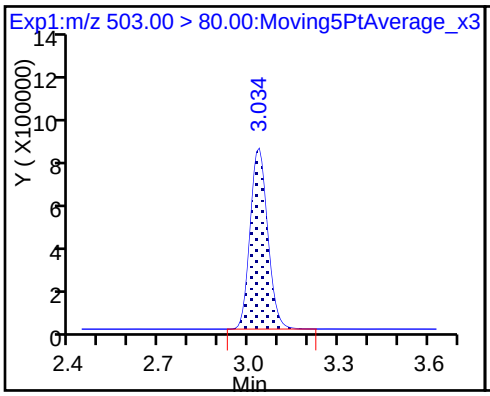
16 Perfluoroheptanesulfonic Acid



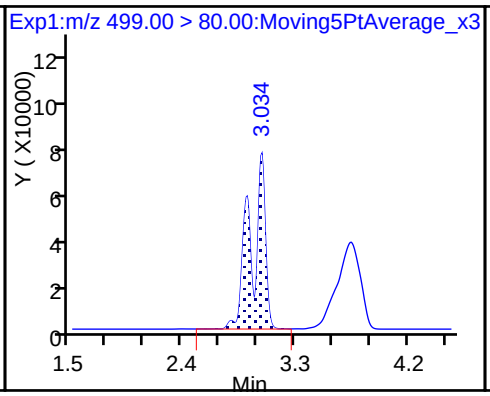
16 Perfluoroheptanesulfonic Acid



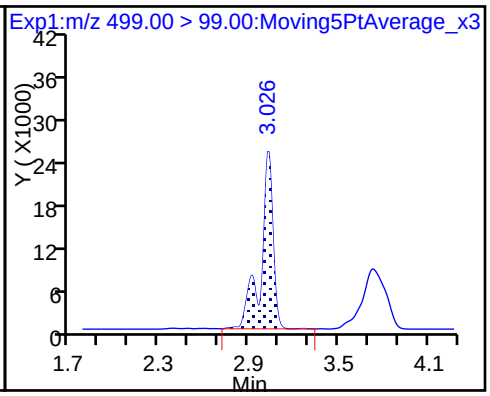
D 18 13C4 PFOS



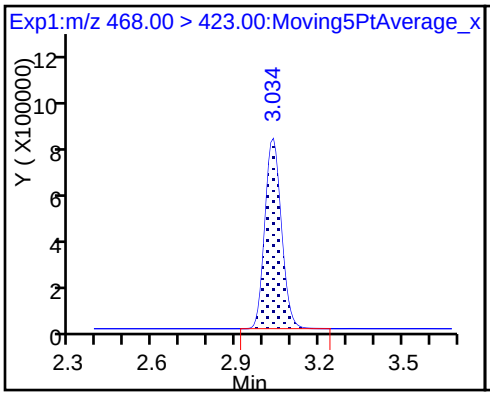
17 Perfluorooctane sulfonic acid



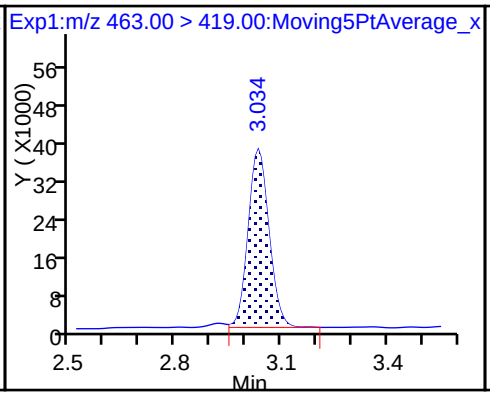
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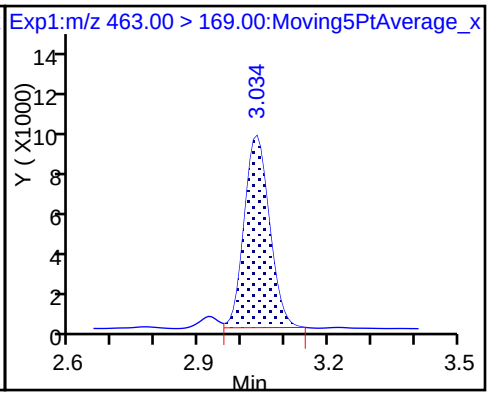
D 19 13C5 PFNA



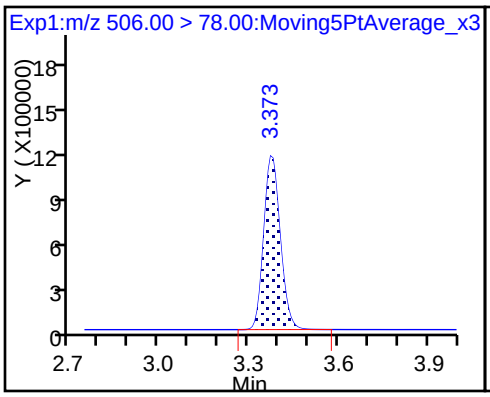
20 Perfluorononanoic acid



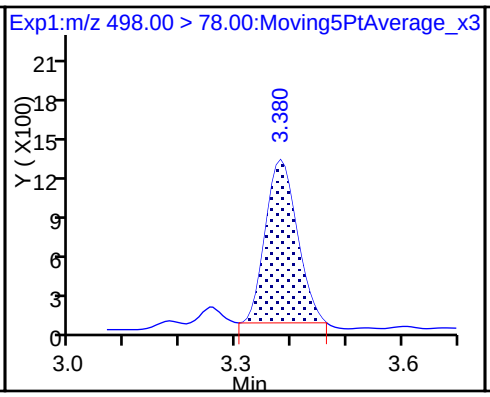
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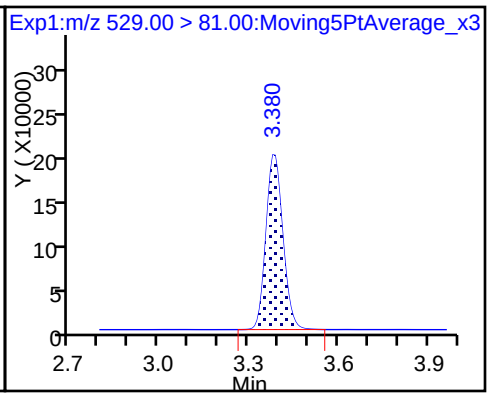
D 21 13C8 FOSA



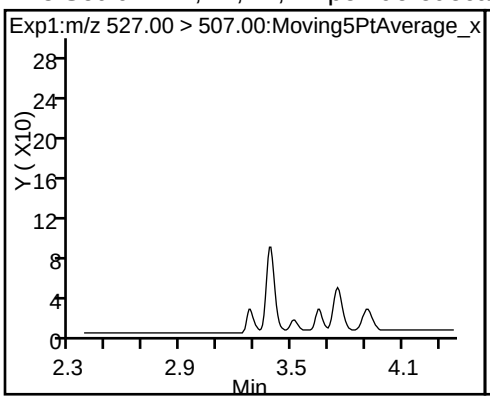
22 Perfluorooctane Sulfonamide



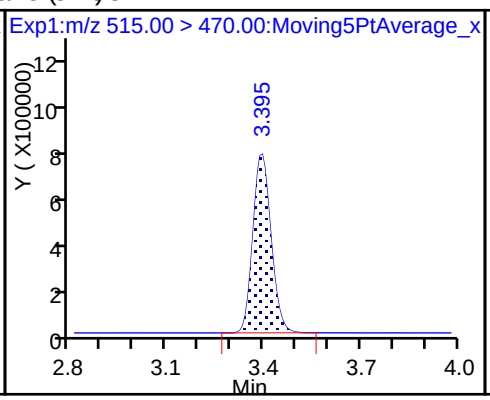
D 26 M2-8:2FTS



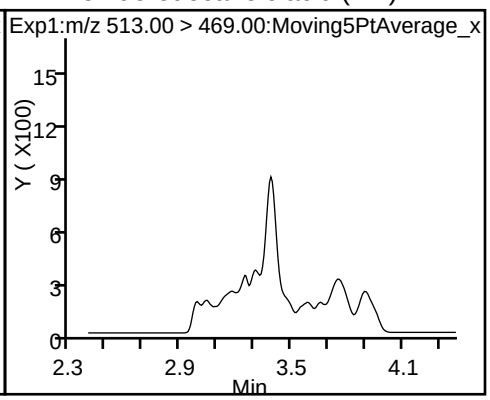
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



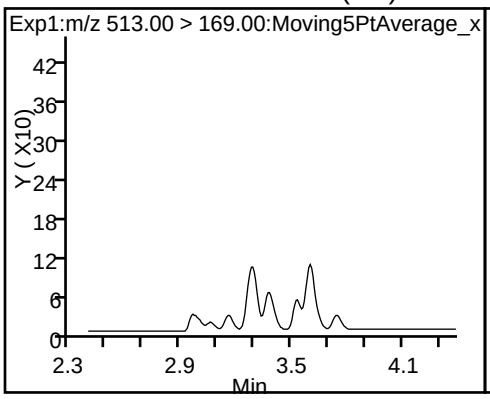
D 23 13C2 PFDA



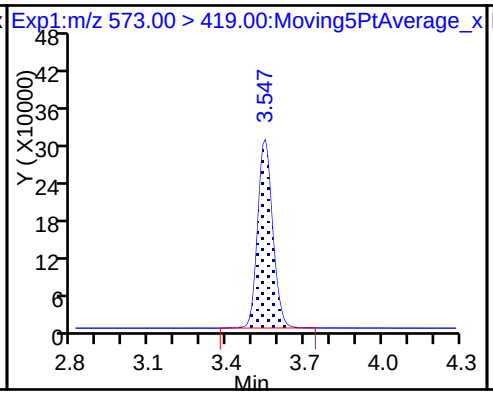
24 Perfluorodecanoic acid (ND)



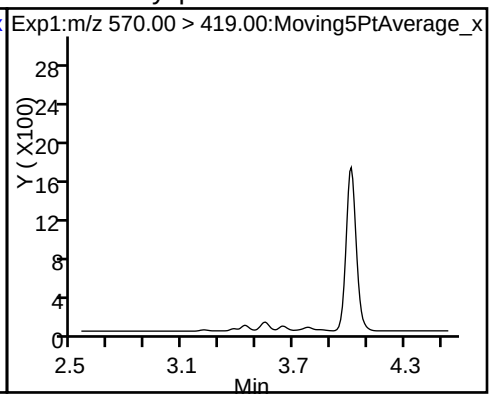
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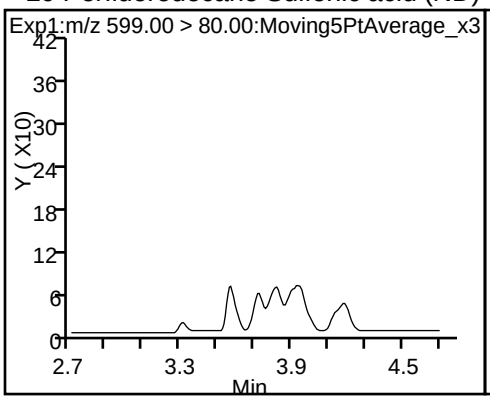
D 27 d3-NMeFOSAA



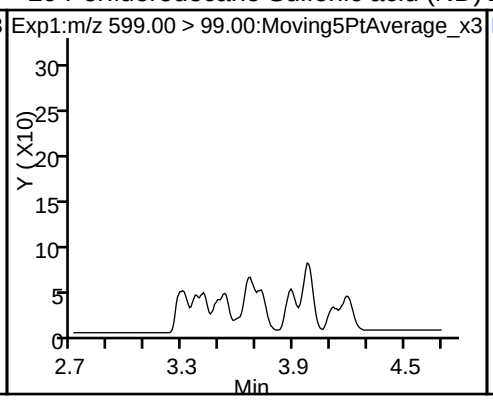
28 N-methyl perfluorooctane sulfonami (ND)



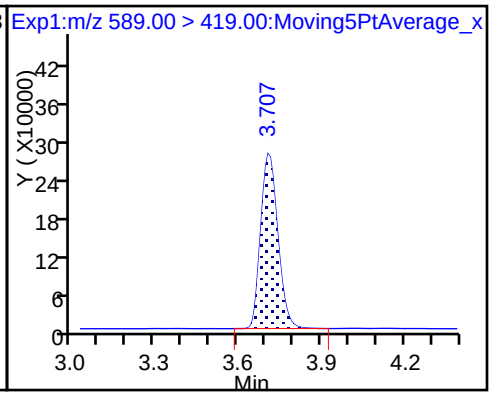
29 Perfluorodecane Sulfonic acid (ND)



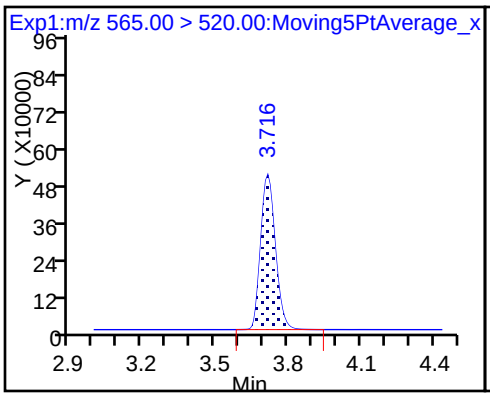
29 Perfluorodecane Sulfonic acid (ND)



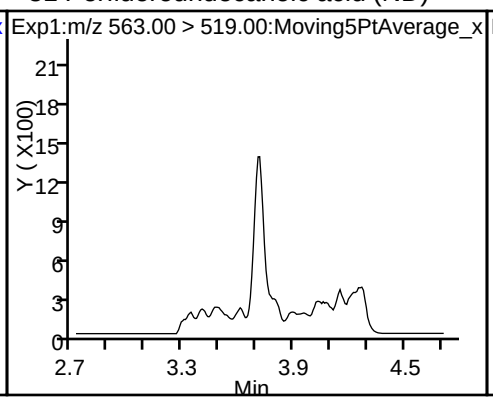
D 32 d5-NEtFOSAA



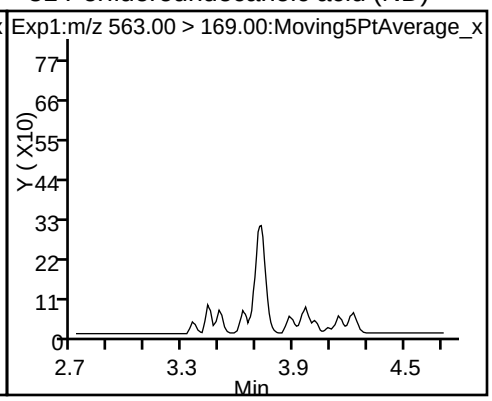
D 30 13C2 PFUnA



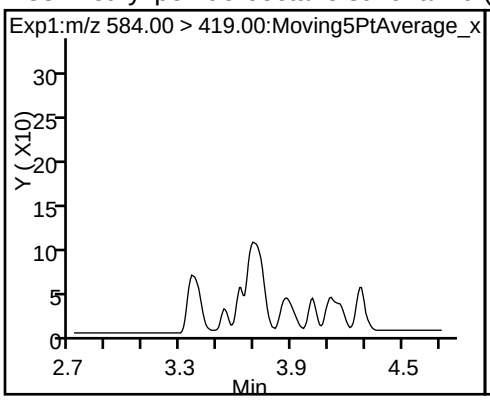
31 Perfluoroundecanoic acid (ND)



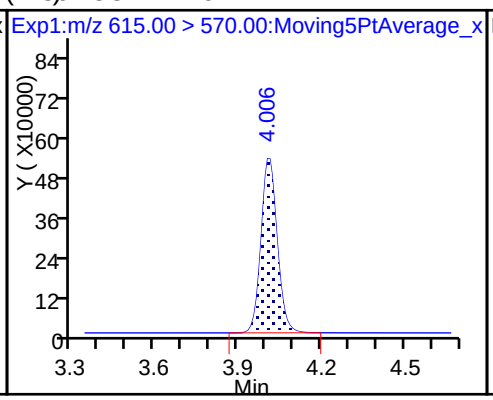
31 Perfluoroundecanoic acid (ND)



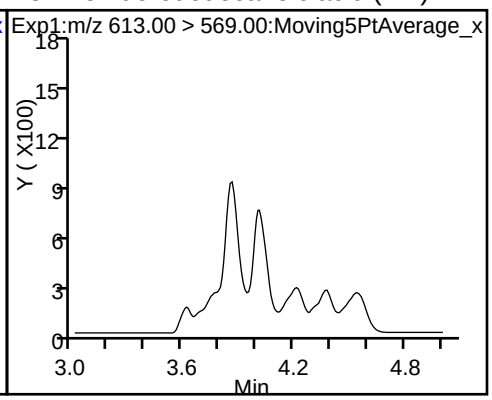
33 N-ethyl perfluorooctane sulfonamid (ND)



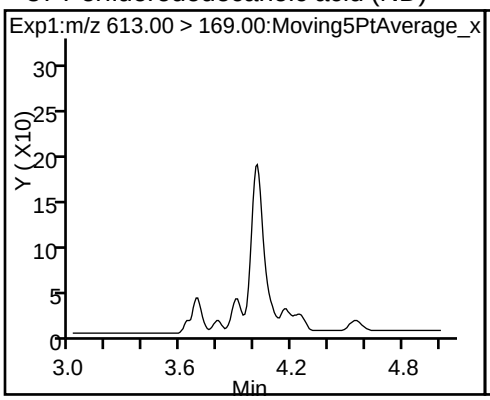
D 36 13C2 PFDoA



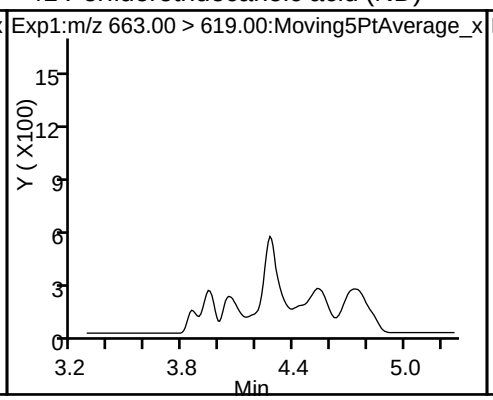
37 Perfluorododecanoic acid (ND)



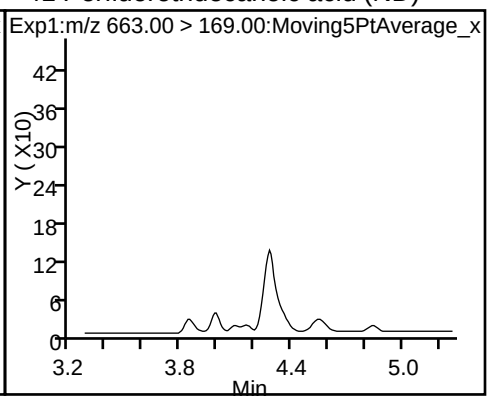
37 Perfluorododecanoic acid (ND)



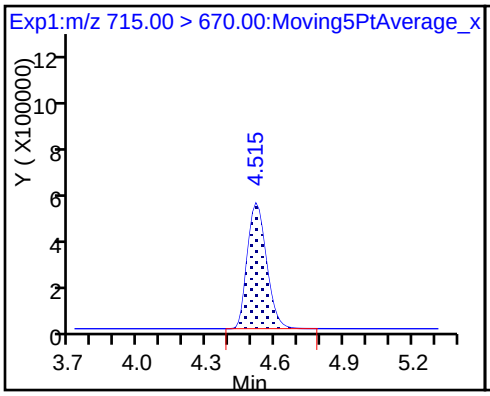
41 Perfluorotridecanoic acid (ND)



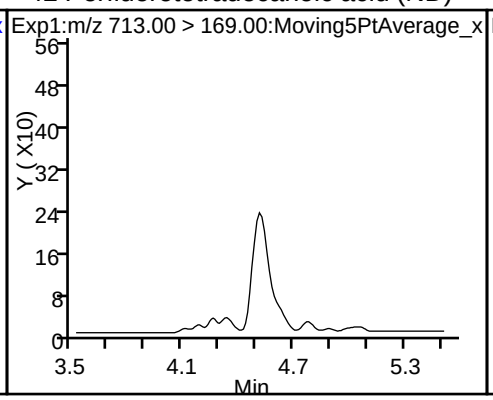
41 Perfluorotridecanoic acid (ND)



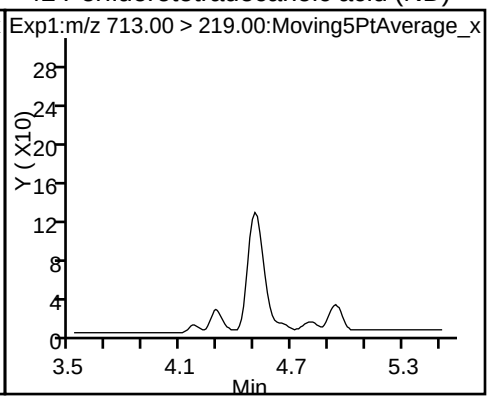
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

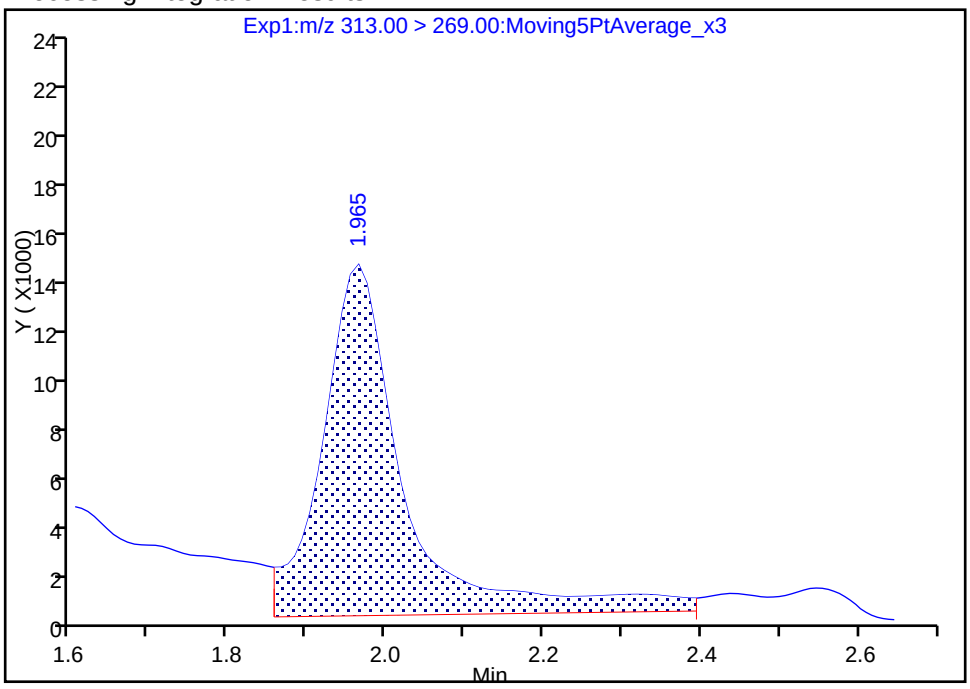
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_044.d				
Injection Date:	23-Dec-2017 03:13:43	Instrument ID:	A8_N		
Lims ID:	320-34425-A-27-A	Lab Sample ID:	320-34425-27		
Client ID:	FM-26-020-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	35	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

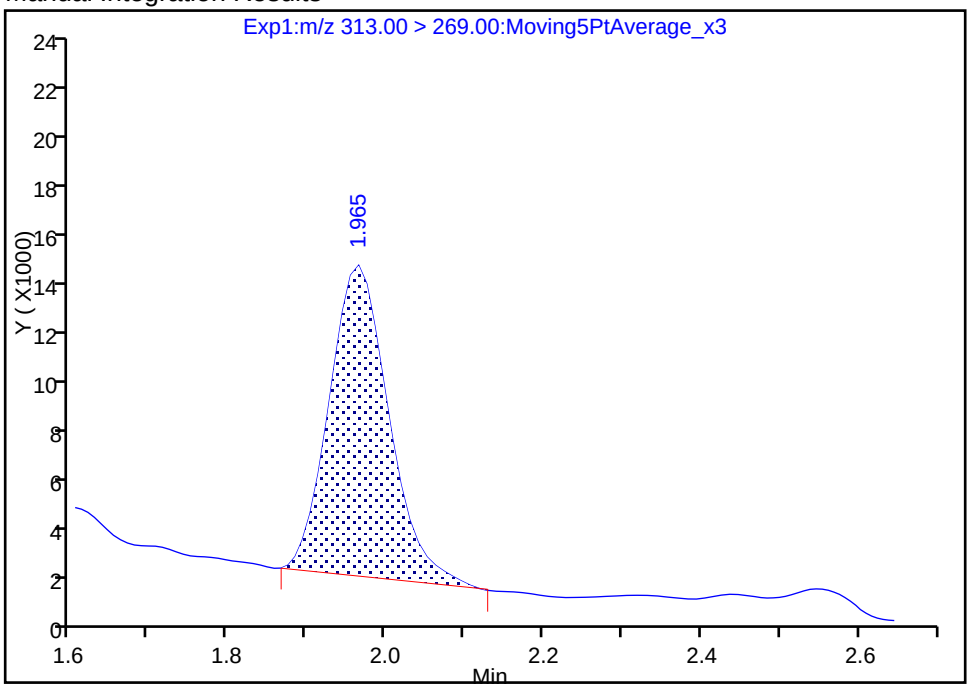
Processing Integration Results

RT: 1.97
Area: 102200
Amount: 0.055901
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 65891
Amount: 0.036041
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:52:34
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

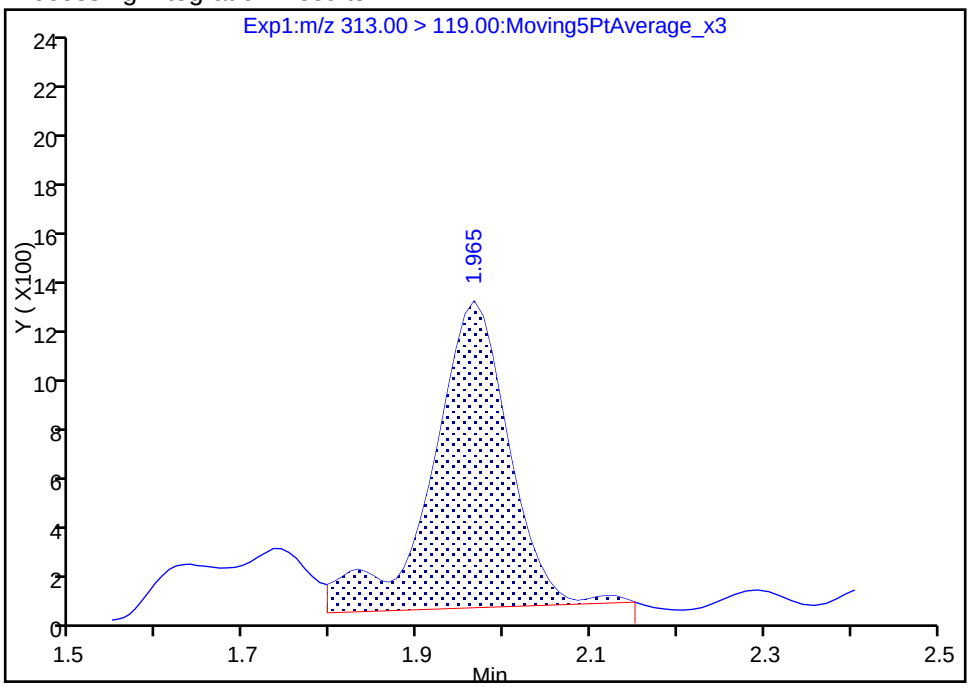
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_044.d				
Injection Date:	23-Dec-2017 03:13:43	Instrument ID:	A8_N		
Lims ID:	320-34425-A-27-A	Lab Sample ID:	320-34425-27		
Client ID:	FM-26-020-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	35	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

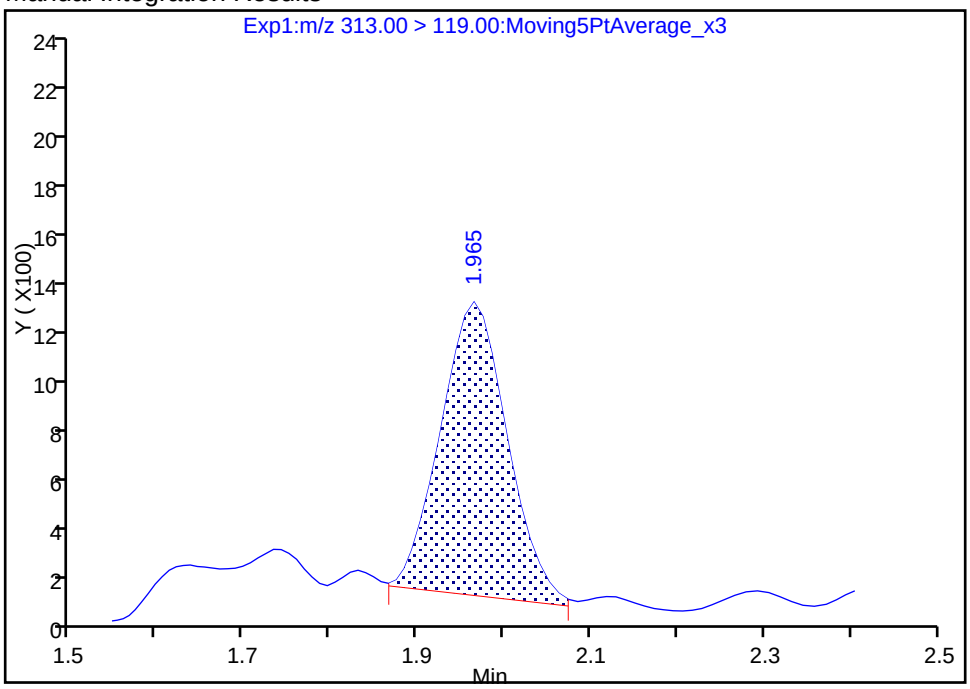
Processing Integration Results

RT: 1.97
Area: 7641
Amount: 0.055901
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 6313
Amount: 0.036041
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:52:40

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

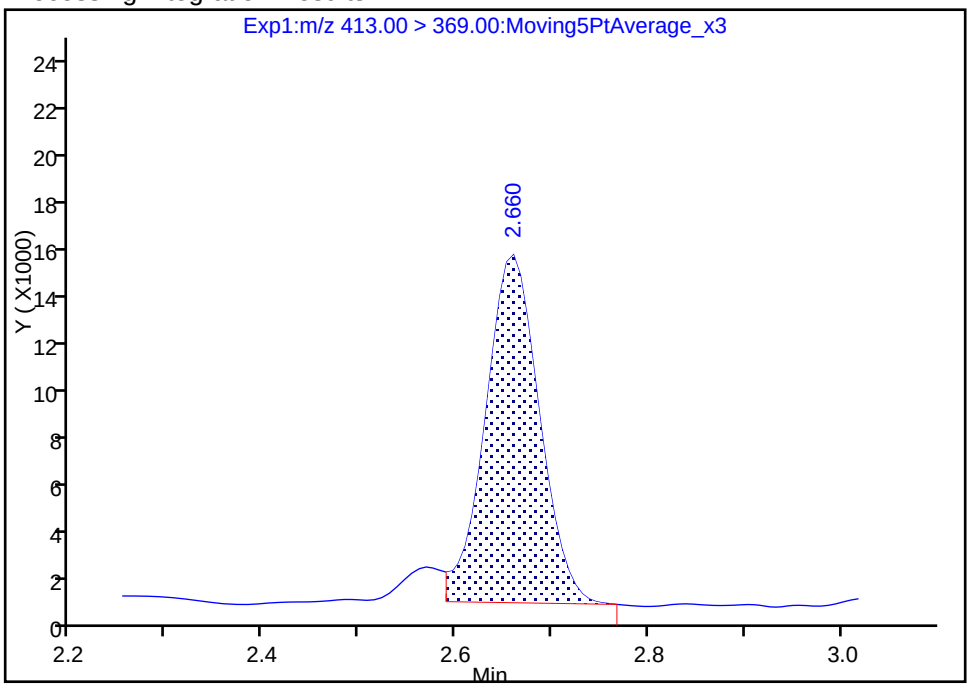
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_044.d				
Injection Date:	23-Dec-2017 03:13:43	Instrument ID:	A8_N		
Lims ID:	320-34425-A-27-A	Lab Sample ID:	320-34425-27		
Client ID:	FM-26-020-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	35	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

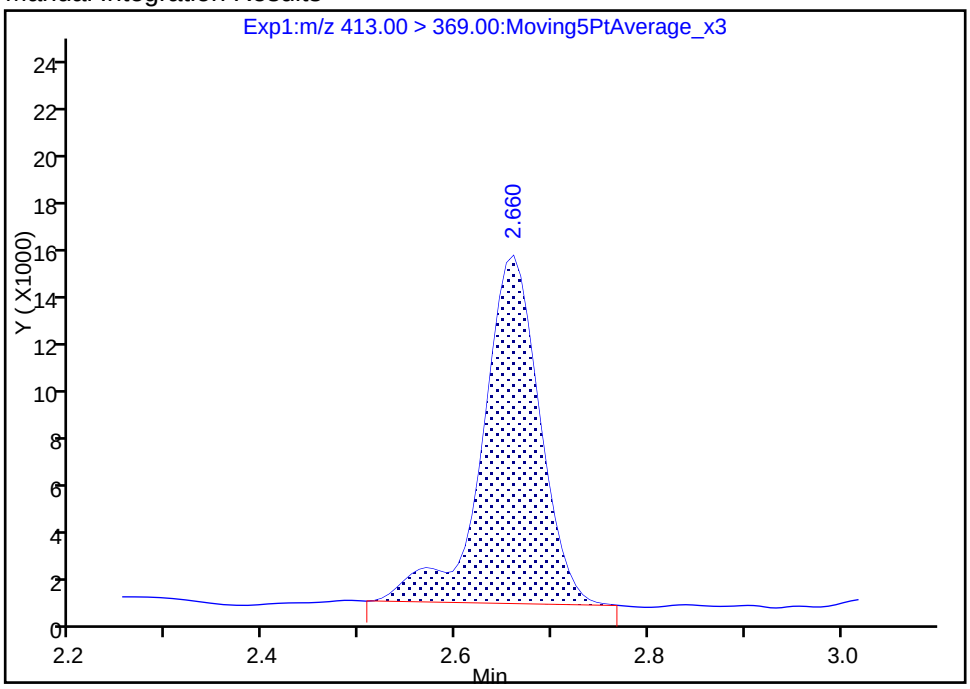
Processing Integration Results

RT: 2.66
Area: 55871
Amount: 0.028953
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 59819
Amount: 0.030999
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:53:26

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

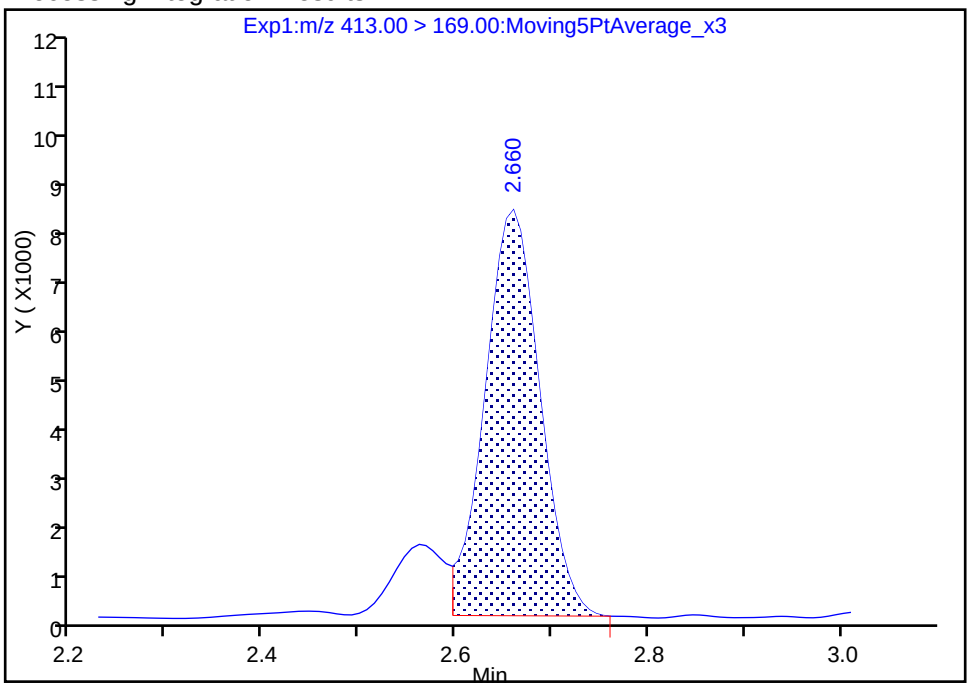
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_044.d				
Injection Date:	23-Dec-2017 03:13:43	Instrument ID:	A8_N		
Lims ID:	320-34425-A-27-A	Lab Sample ID:	320-34425-27		
Client ID:	FM-26-020-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	35	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

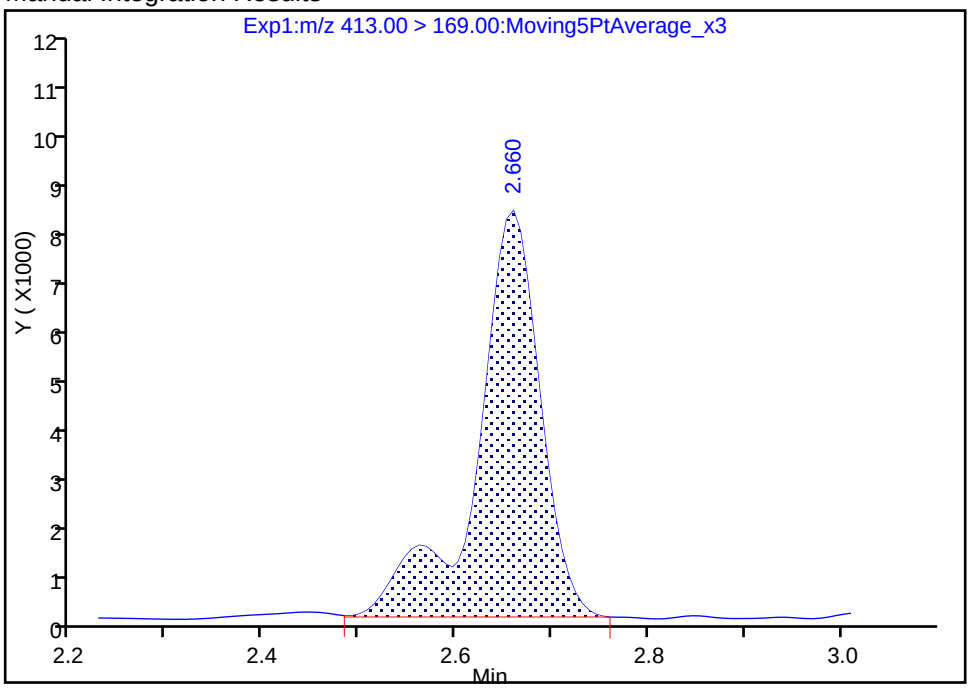
Processing Integration Results

RT: 2.66
Area: 32469
Amount: 0.028953
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 37859
Amount: 0.030999
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:53:33

Audit Action: Manually Integrated Audit Reason: Isomers

TestAmerica Sacramento

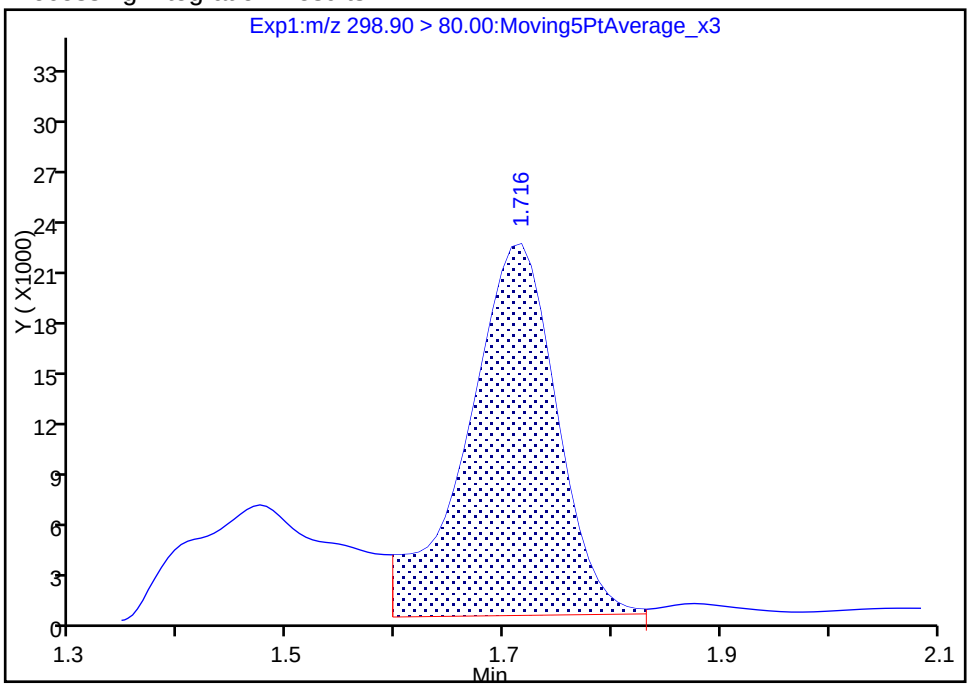
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_044.d				
Injection Date:	23-Dec-2017 03:13:43	Instrument ID:	A8_N		
Lims ID:	320-34425-A-27-A	Lab Sample ID:	320-34425-27		
Client ID:	FM-26-020-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	35	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

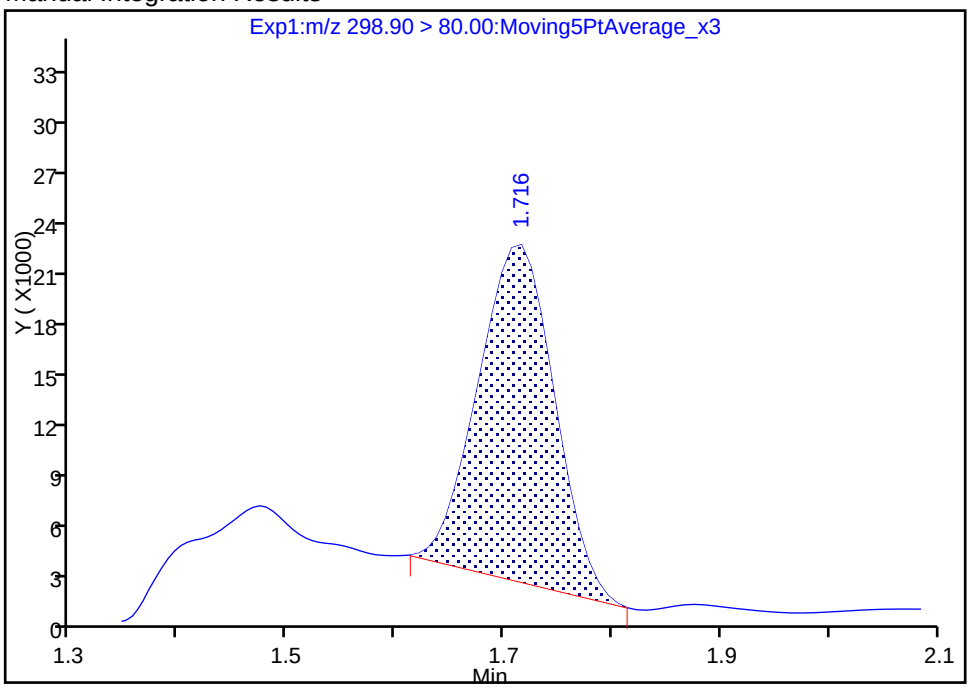
Processing Integration Results

RT: 1.72
Area: 126653
Amount: 0.047035
Amount Units: ng/ml



Manual Integration Results

RT: 1.72
Area: 98160
Amount: 0.036454
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:52:20
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

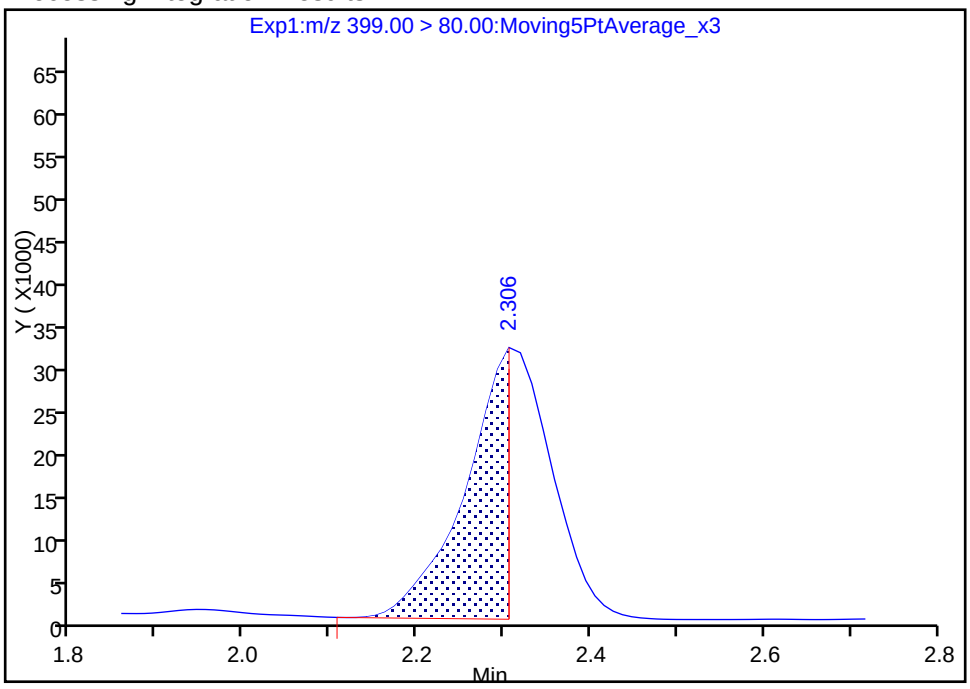
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_044.d				
Injection Date:	23-Dec-2017 03:13:43	Instrument ID:	A8_N		
Lims ID:	320-34425-A-27-A	Lab Sample ID:	320-34425-27		
Client ID:	FM-26-020-816-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	35	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

8 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

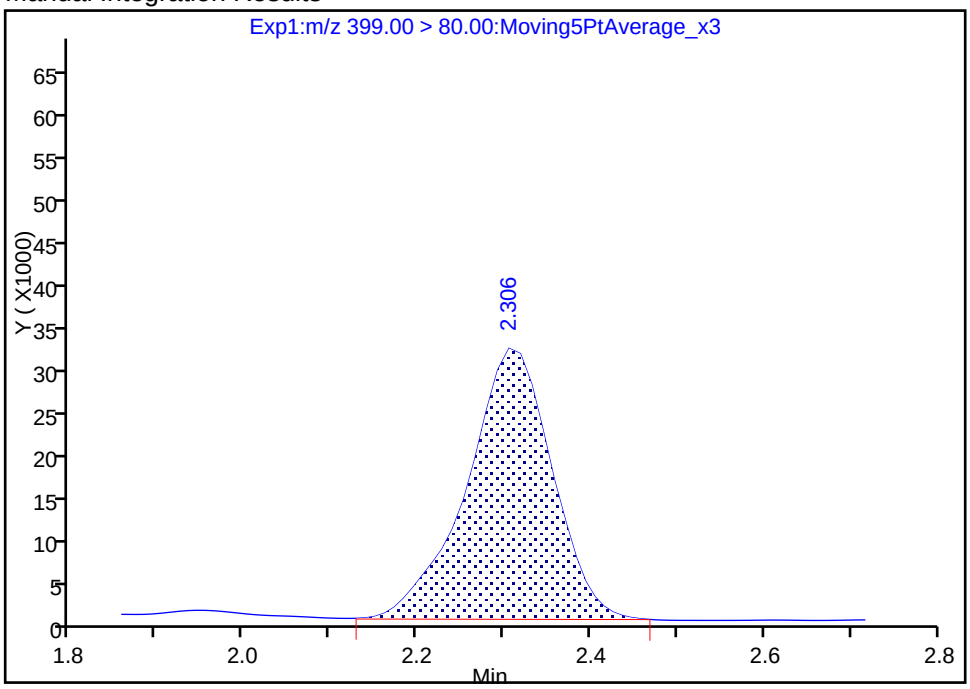
Processing Integration Results

RT: 2.31
Area: 107760
Amount: 0.049046
Amount Units: ng/ml



Manual Integration Results

RT: 2.31
Area: 216732
Amount: 0.098644
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:53:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-090-886-171211 | Lab Sample ID: 320-34425-28

Matrix: Water | Lab File ID: 2017.12.22LLB_045.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 252.5(mL) | Date Analyzed: 12/23/2017 03:21

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	1.98	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	1.98	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.57	U	1.98	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	1.98	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.84	U	1.98	0.84
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	1.98	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	1.98	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.09	U	1.98	1.09
307-55-1	Perfluorododecanoic acid (PFDoA)	0.54	U	1.98	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.29	U	1.98	1.29
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	1.98	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	1.98	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	1.98	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	1.98	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.53	U	1.98	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	1.98	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	1.98	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.07	U	19.8	3.07
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.88	U	19.8	1.88
27619-97-2	6:2FTS	1.98	U	19.8	1.98
39108-34-4	8:2FTS	1.98	U	19.8	1.98

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-090-886-171211 | Lab Sample ID: 320-34425-28

Matrix: Water | Lab File ID: 2017.12.22LLB_045.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 252.5(mL) | Date Analyzed: 12/23/2017 03:21

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	109		25-150
STL01893	13C5 PFPeA	109		25-150
STL00993	13C2 PFHxA	106		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	99		25-150
STL00995	13C5 PFNA	104		25-150
STL00996	13C2 PFDA	105		25-150
STL00997	13C2 PFUnA	102		25-150
STL00998	13C2 PFDoA	100		25-150
STL02116	13C2-PFTeDA	130		25-150
STL02337	13C3-PFBS	107		25-150
STL00994	18O2 PFHxS	103		25-150
STL00991	13C4 PFOS	100		25-150
STL01056	13C8 FOSA	101		25-150
STL02118	d3-NMeFOSAA	87		25-150
STL02117	d5-NEtFOSAA	97		25-150
STL02279	M2-6:2FTS	40		25-150
STL02280	M2-8:2FTS	79		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_045.d
Lims ID: 320-34425-A-28-A
Client ID: FM-34-090-886-171211
Sample Type: Client
Inject. Date: 23-Dec-2017 03:21:33 ALS Bottle#: 36 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-28-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:55:44

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7461058	2.72		109	17998	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	23376	0.008548			4.6	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4459100	2.72		109	30631	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.663	1.670	-0.007	0.989	6538	0.003284			3.6	M
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.646	86919	2.48		107	2292	
D 60 M2-4:2FTS										
329.00 > 81.00	1.955	1.943	0.012	0.735	1012	0.005364		0.0	50.4	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4627507	2.64		106	36194	
6 Perfluorohexanoic acid										M
313.00 > 269.00	1.966	1.956	0.010	1.000	5591	0.003017			4.6	M
313.00 > 119.00	1.966	1.956	0.010	1.000	517		10.81(5.03-15.10)		8.9	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.291	0.015	0.867	4233651	2.61		104	31745	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.319	2.304	0.015	1.000	15554	0.006855			47.7	
399.00 > 99.00	2.319	2.304	0.015	1.000	4811		3.23(1.50-4.49)		14.3	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	4985115	2.44		103	57670	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.642	-0.004	1.000	6015	0.0127			165	
D 12 M2-6:2FTS										
429.00 > 81.00	2.638	2.642	-0.004	0.992	725026	0.9602		40.4	13486	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	4604096	2.47		98.8	44192	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4510791	2.50			51404	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.659	2.656	0.003	1.000	10539	0.005442			13.1	
413.00 > 169.00	2.659	2.656	0.003	1.000	5638		1.87(0.84-2.52)		44.3	
D 18 13C4 PFOS										
503.00 > 80.00	3.033	3.025	0.008	1.141	3225291	2.39		99.9	33455	
D 19 13C5 PFNA										
468.00 > 423.00	3.033	3.028	0.005	1.141	3445664	2.60		104	37196	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.270	4627981	2.52		101	26408	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	12073	0.006799			662	
D 26 M2-8:2FTS										
529.00 > 81.00	3.386	3.377	0.009	1.273	798609	1.89		79.0	17254	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2871911	2.63		105	39814	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1281926	2.19		87.5	23200	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.715	3.712	0.003	1.397	1390214	2.43		97.1	7984	
D 30 13C2 PFUnA										
565.00 > 520.00	3.715	3.717	-0.002	1.397	2113468	2.54		102	24127	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.715	3.718	-0.003	1.000	6020	0.007774			67.3	
563.00 > 169.00	3.715	3.718	-0.003	1.000	1945		3.10(0.00-0.00)		107	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.715	3.720	-0.005	1.000	2394	0.004333			154	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.865	3.862	0.003	1.454	703484	1.34		53.7	2090	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	2237358	2.49		99.8	31120	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.060	4.052	0.008	1.527	500298	0.99		39.8	1361	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.527	4.518	0.009	1.703	3266255	3.26		130	27938	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.940	4.939	0.001	1.858	4465893	2.45		97.9	10884	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.939	0.001	1.000	41103	0.002917			36.7	
813.00 > 169.00	4.940	4.939	0.001	1.000	7621		5.39(2.86-8.58)		261	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:43 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_045.d

Injection Date: 23-Dec-2017 03:21:33 Instrument ID: A8_N

Lims ID: 320-34425-A-28-A Lab Sample ID: 320-34425-28

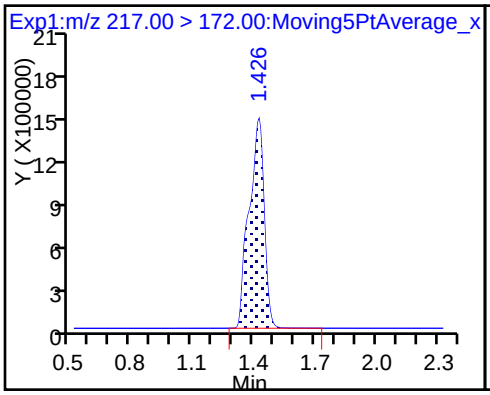
Client ID: FM-34-090-886-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 36 Worklist Smp#: 10

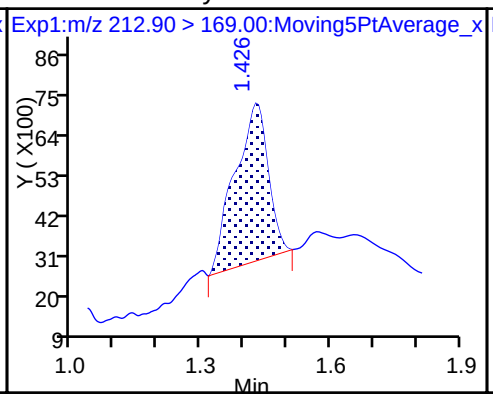
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

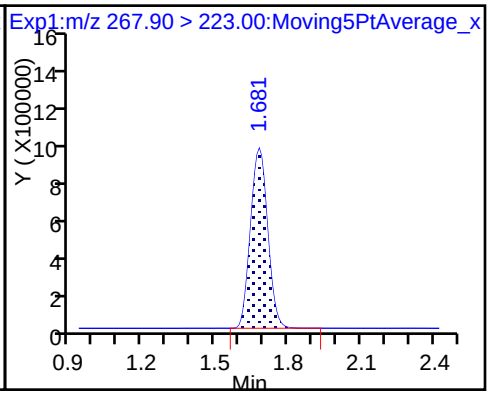
D 1 13C4 PFBA



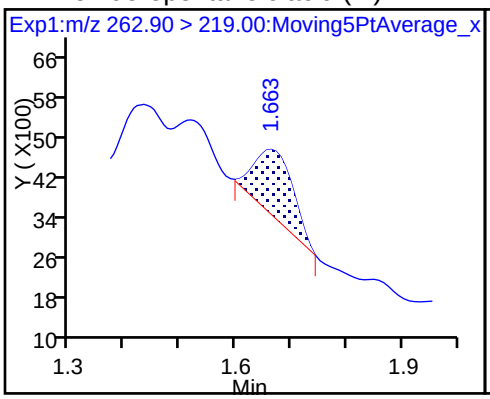
2 Perfluorobutyric acid



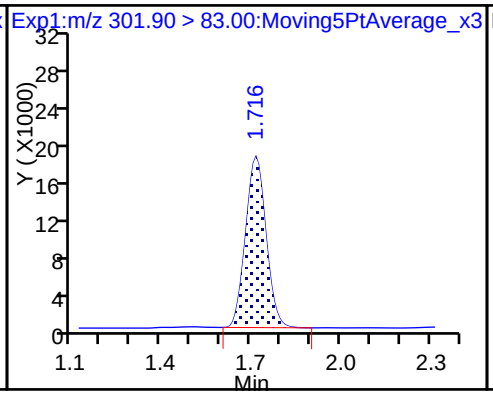
D 3 13C5-PFPeA



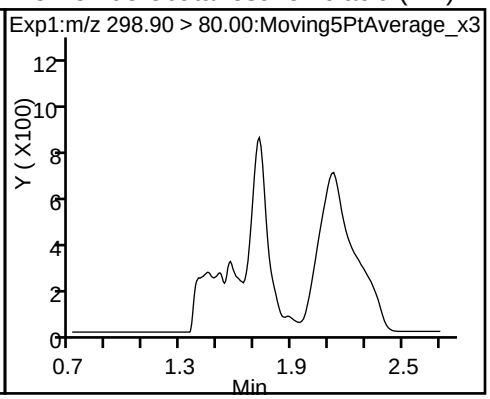
4 Perfluoropentanoic acid (M)



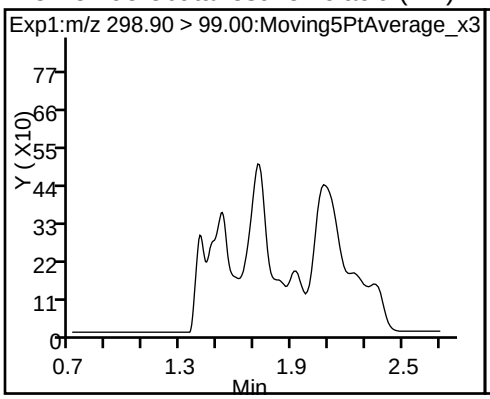
D 47 13C3-PFBS



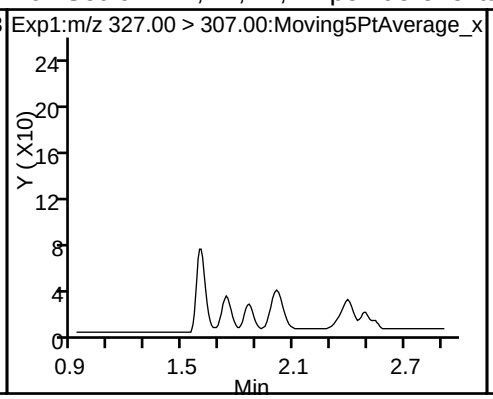
5 Perfluorobutanesulfonic acid (ND)



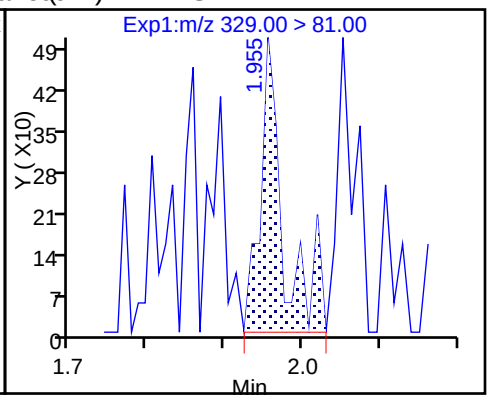
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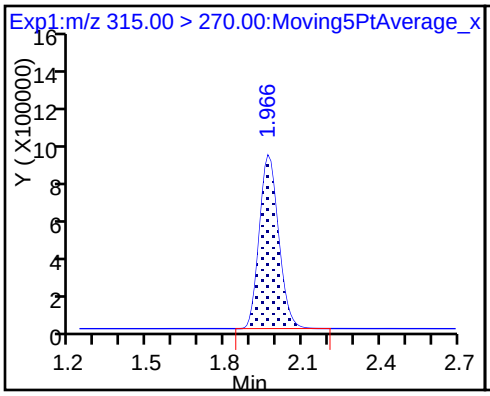
61 Sodium 1H,1H,2H,2H-perfluorohexanesulfonate



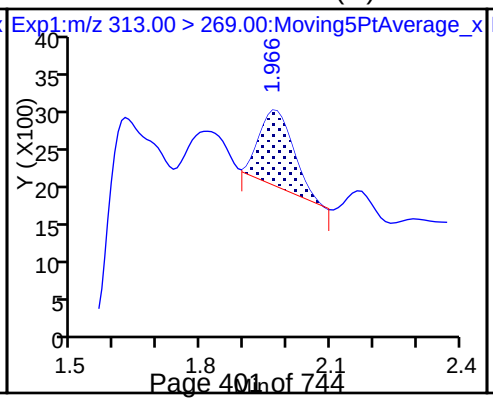
D 6 (ND) 2-4:2FTS



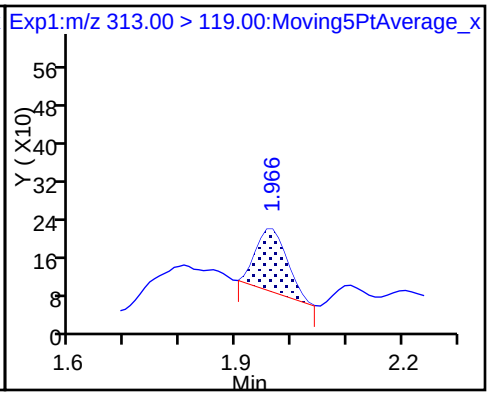
D 7 13C2 PFHxA



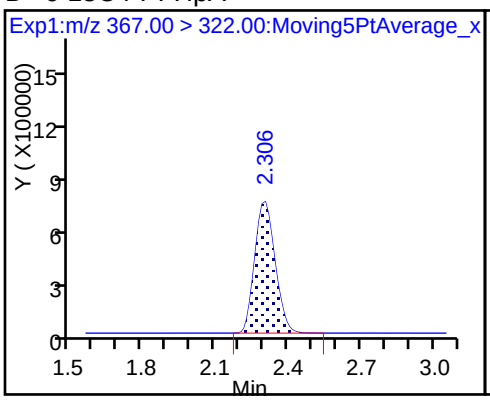
6 Perfluorohexanoic acid (M)



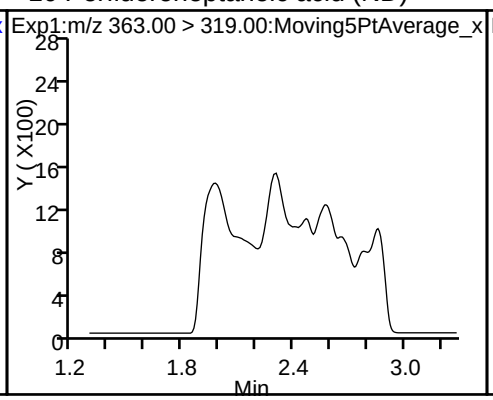
6 Perfluorohexanoic acid



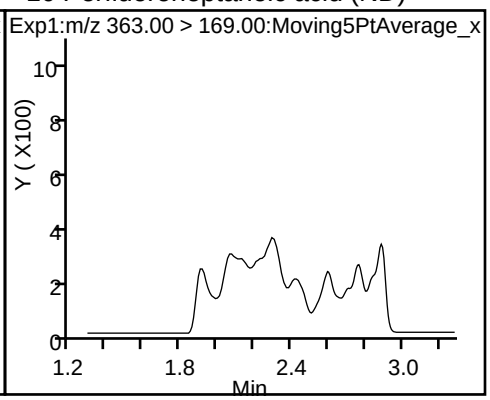
D 9 13C4-PFHpA



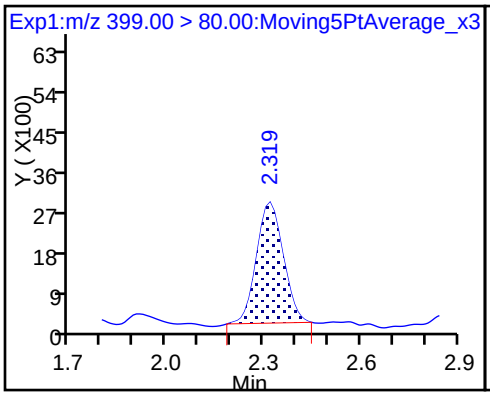
10 Perfluoroheptanoic acid (ND)



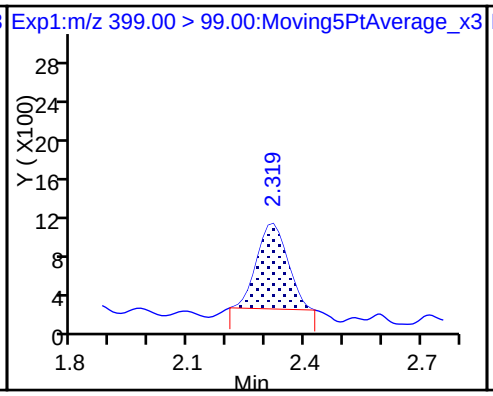
10 Perfluoroheptanoic acid (ND)



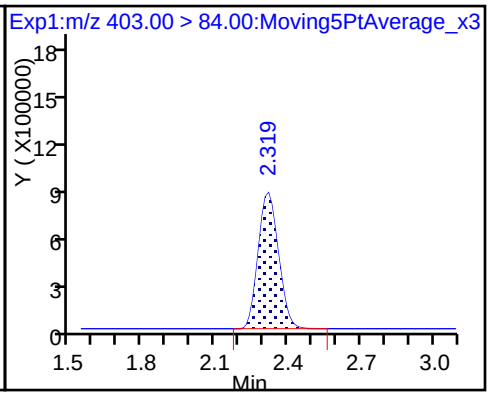
8 Perfluorohexanesulfonic acid



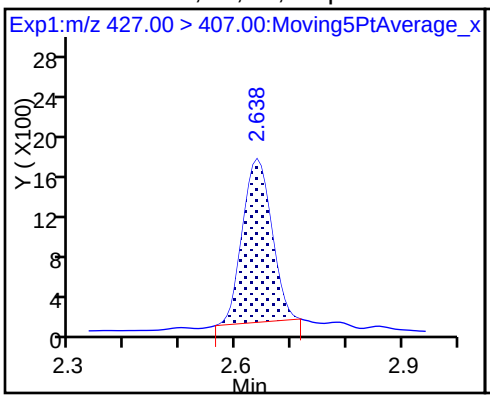
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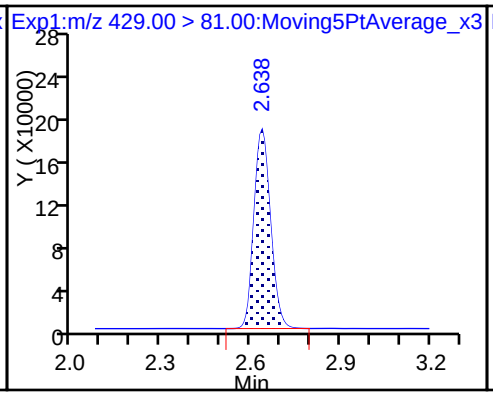
D 11 18O2 PFHxS



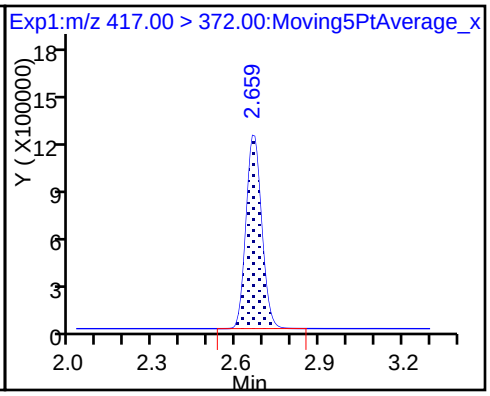
13 Sodium 1H,1H,2H,2H-perfluorooctane



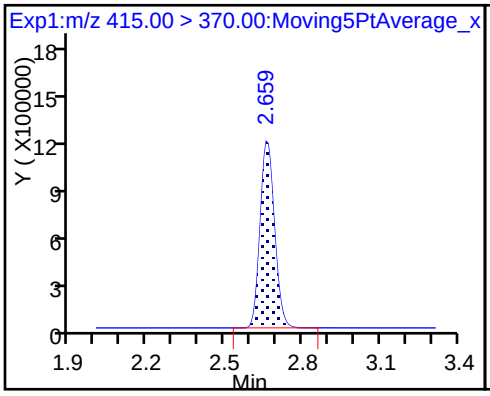
D 12 M2-6:2FTS



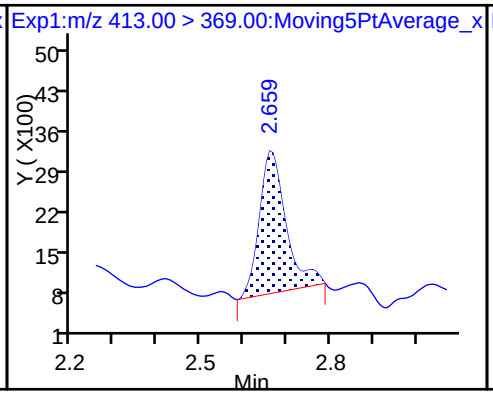
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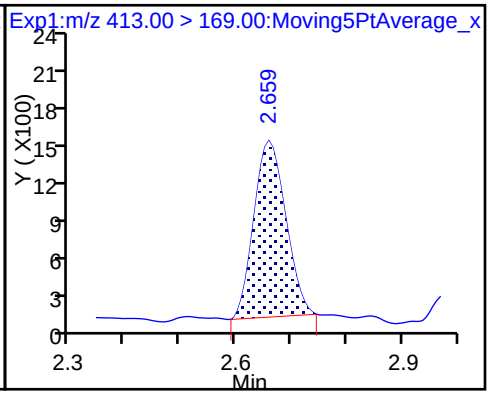
* 62 13C2-PFOA



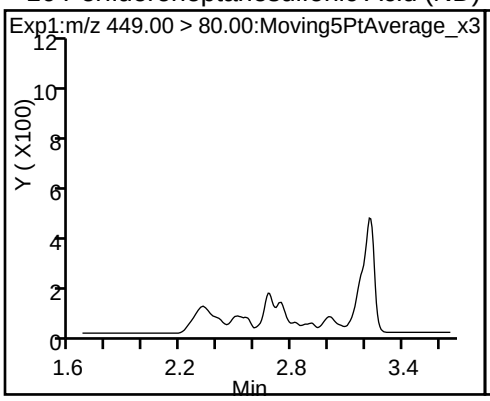
15 Perfluorooctanoic acid



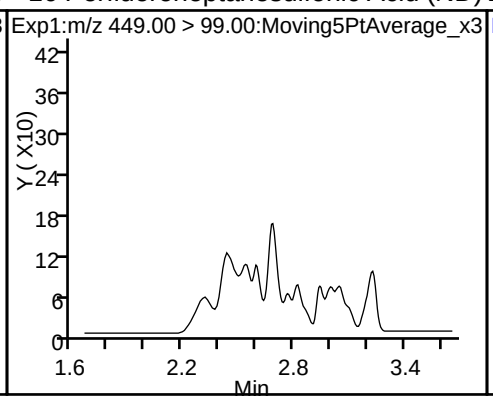
15 Perfluorooctanoic acid



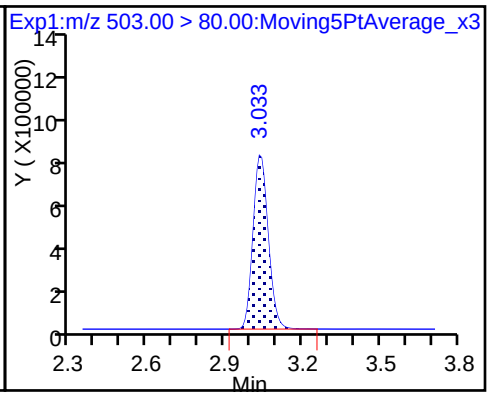
16 Perfluoroheptanesulfonic Acid (ND)



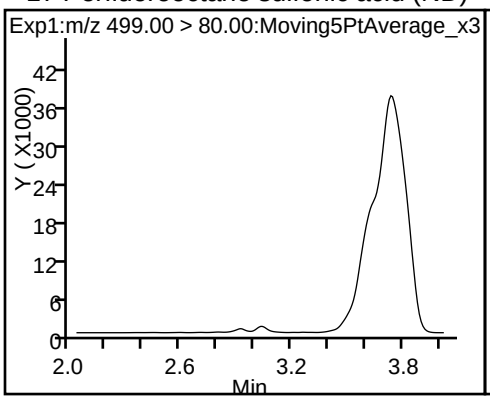
16 Perfluoroheptanesulfonic Acid (ND)



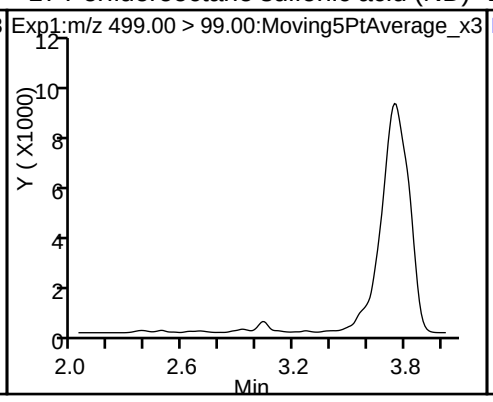
D 18 13C4 PFOS



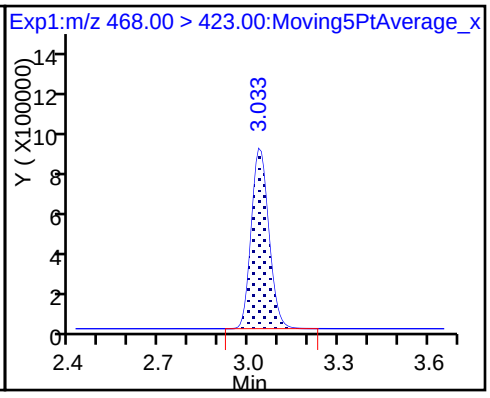
17 Perfluorooctane sulfonic acid (ND)



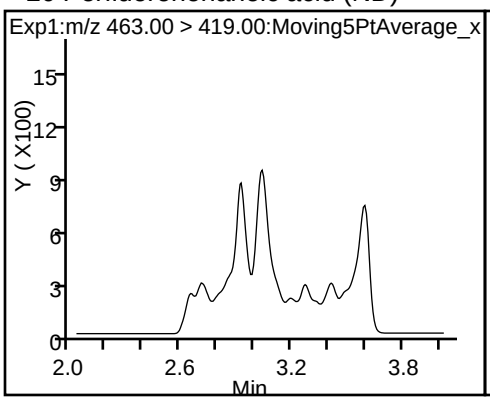
17 Perfluorooctane sulfonic acid (ND)



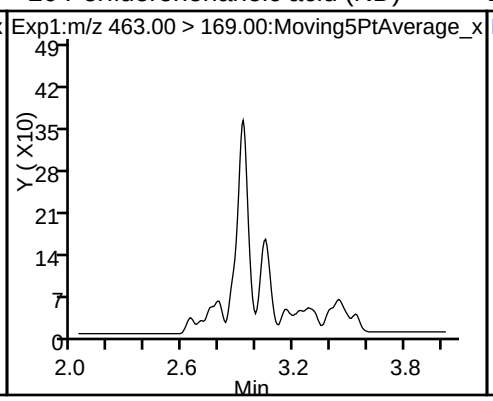
D 19 13C5 PFNA



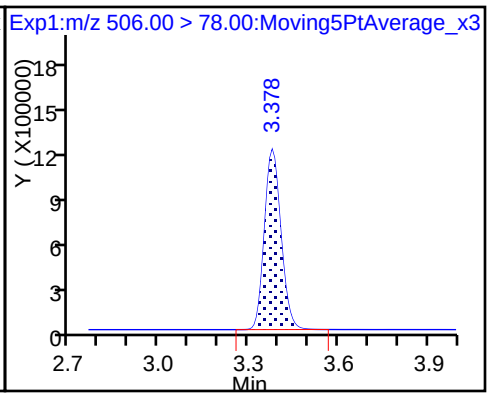
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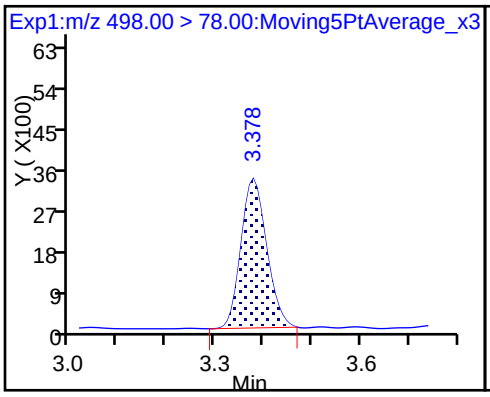
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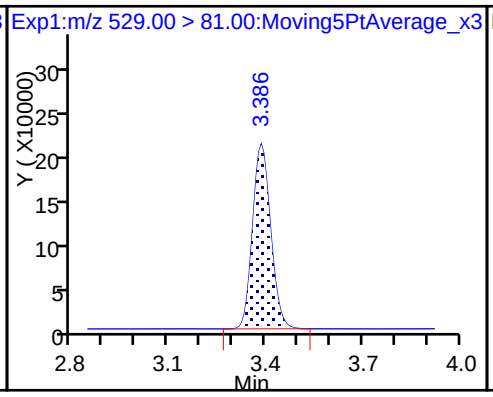
D 21 13C8 FOSA



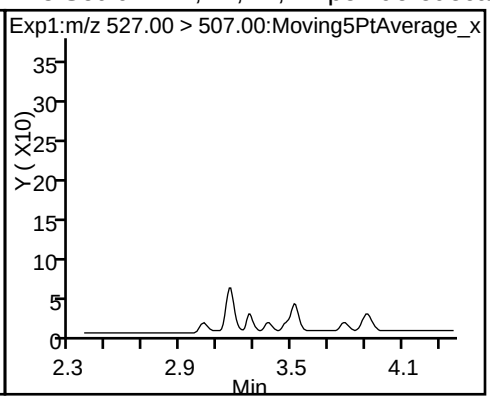
22 Perfluorooctane Sulfonamide



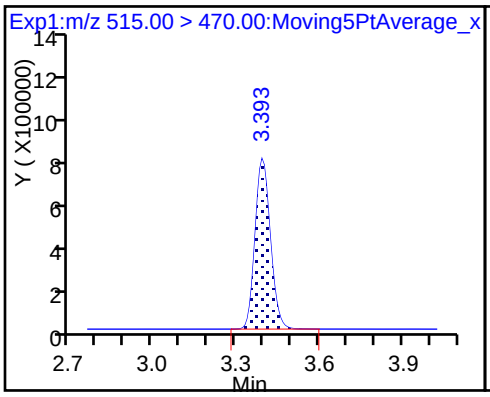
D 26 M2-8:2FTS



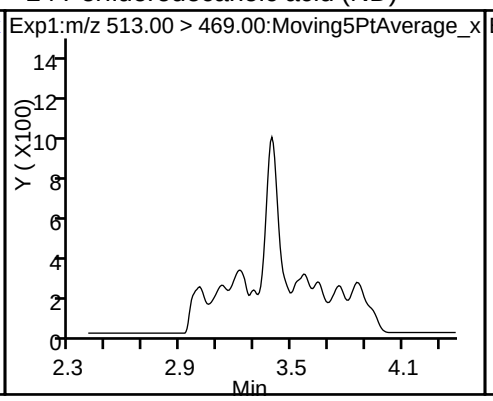
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



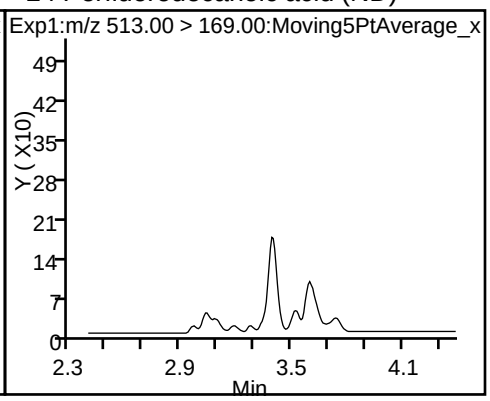
D 23 13C2 PFDA



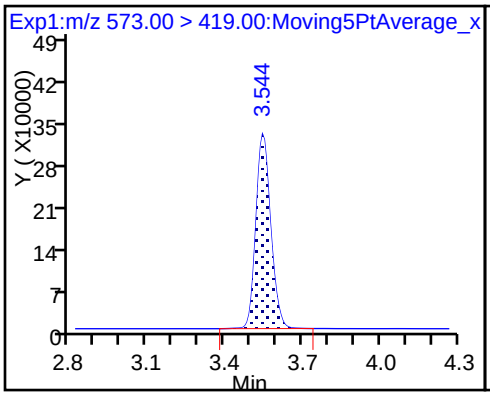
24 Perfluorodecanoic acid (ND)



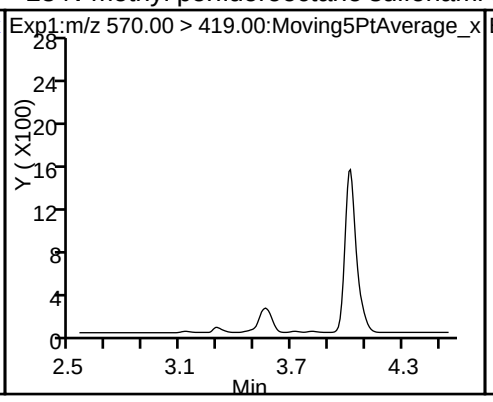
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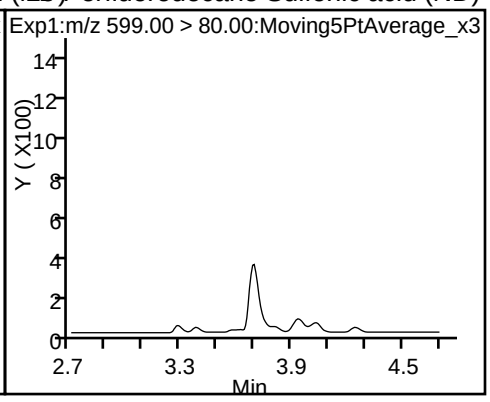
D 27 d3-NMeFOSAA



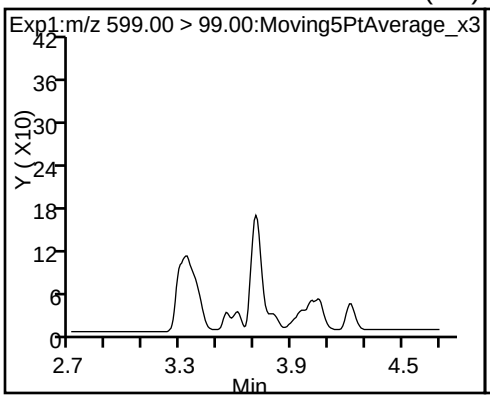
28 N-methyl perfluorooctane sulfonami (ND)



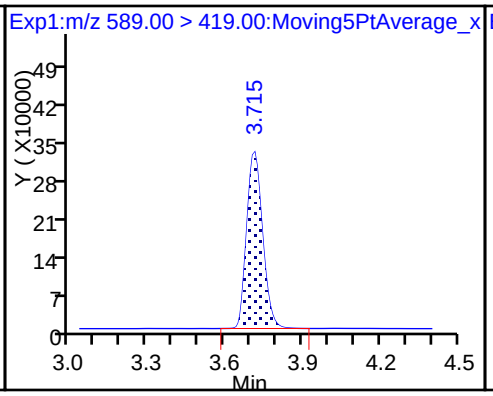
29 Perfluorodecane Sulfonic acid (ND)



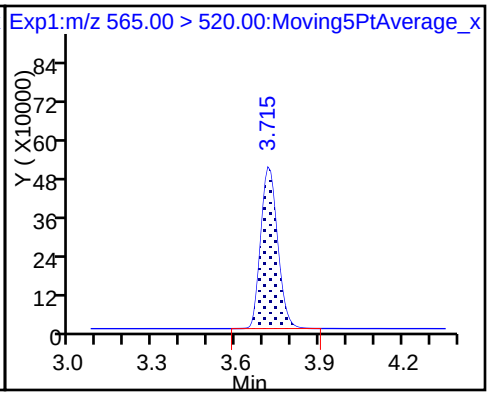
29 Perfluorodecane Sulfonic acid (ND)



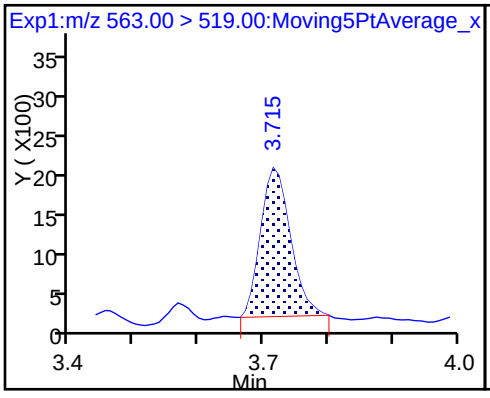
D 32 d5-NEtFOSAA



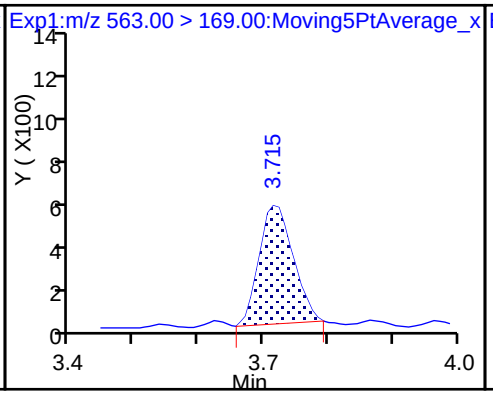
D 30 13C2 PFUnA



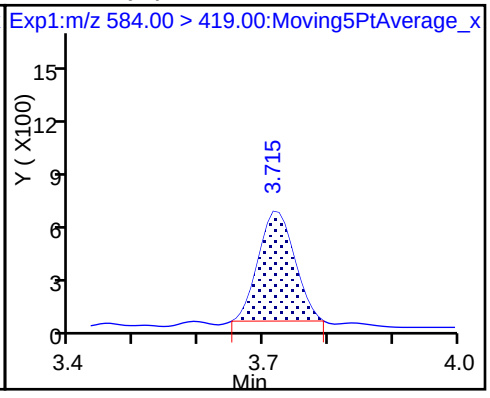
31 Perfluoroundecanoic acid



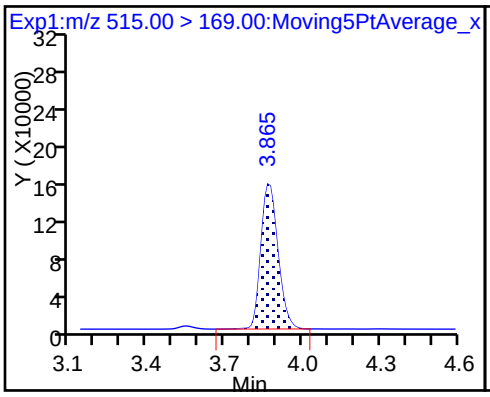
31 Perfluoroundecanoic acid



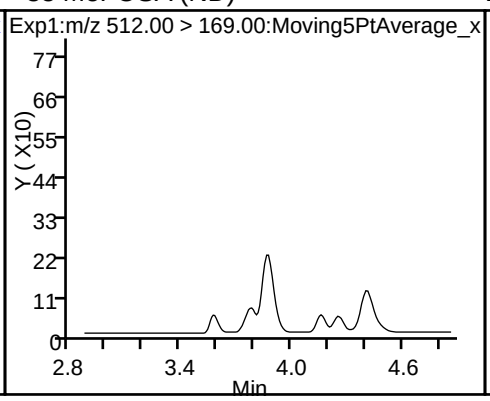
33 N-ethyl perfluorooctane sulfonamid



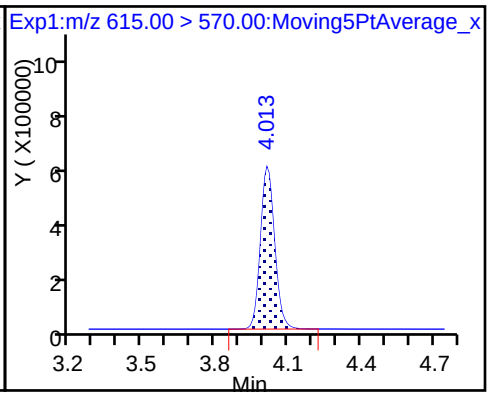
D 34 d-N-MeFOSA-M



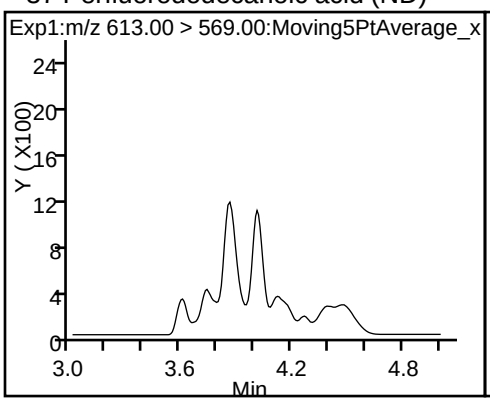
35 MeFOSA (ND)



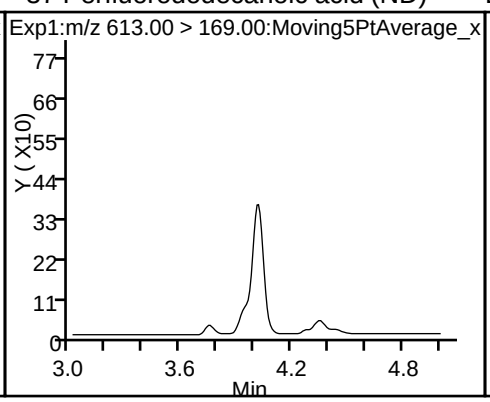
D 36 13C2 PFDoA



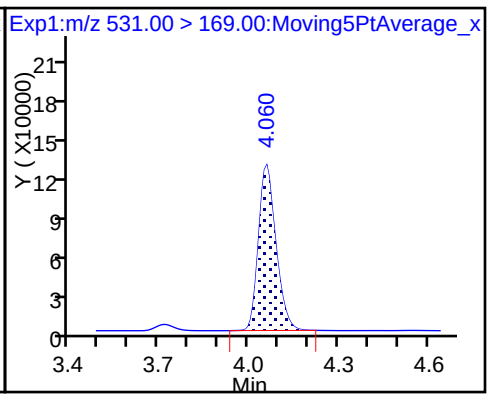
37 Perfluorododecanoic acid (ND)



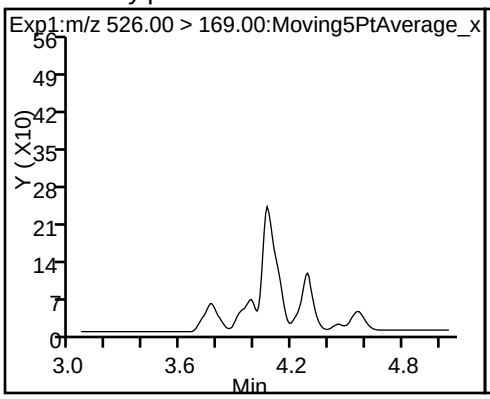
37 Perfluorododecanoic acid (ND)



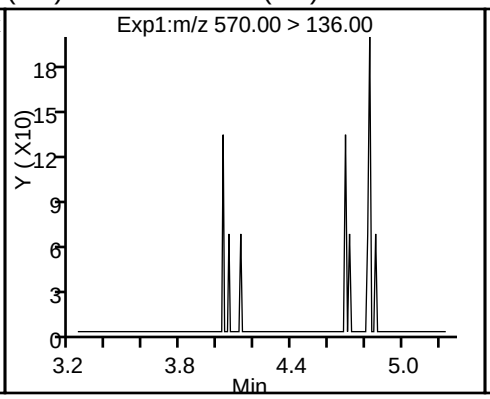
D 38 d-N-EtFOSA-M



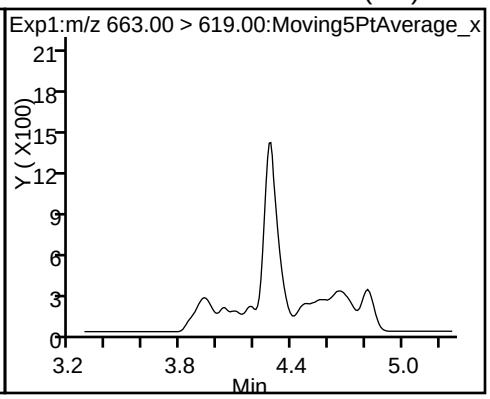
39 N-ethylperfluoro-1-octanesulfonami D (ND)



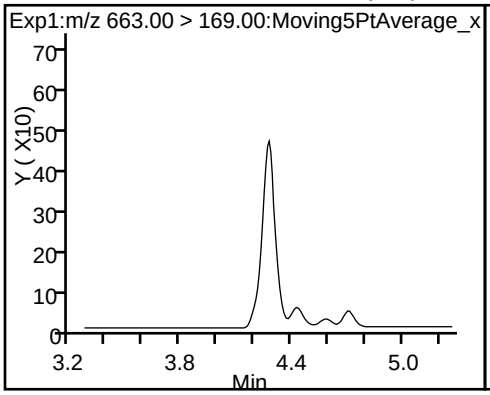
40 d-N-EtFOSE-M (ND)



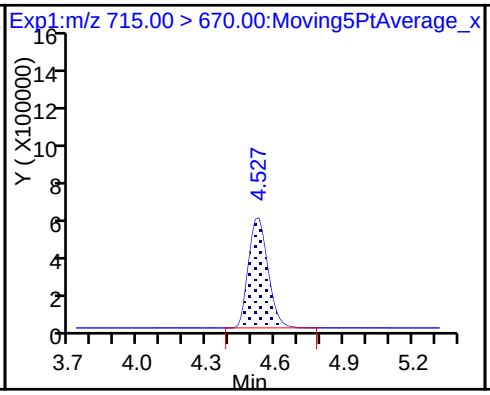
41 Perfluorotridecanoic acid (ND)



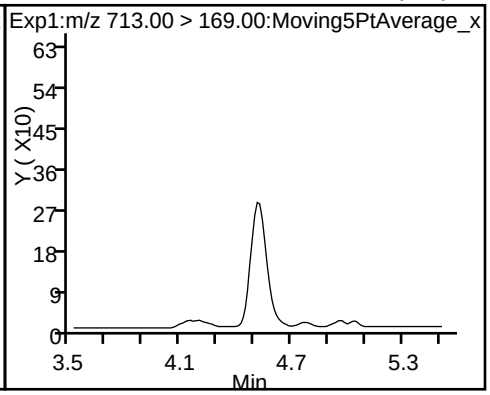
41 Perfluorotridecanoic acid (ND)



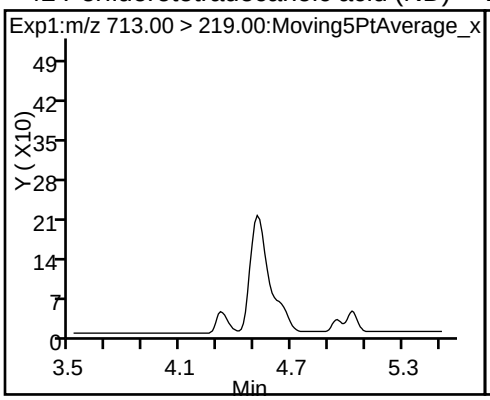
D 43 13C2-PFTeDA



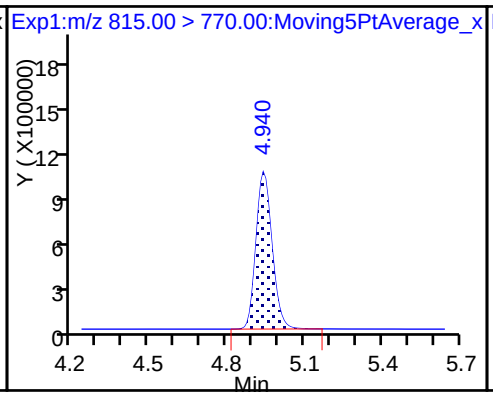
42 Perfluorotetradecanoic acid (ND)



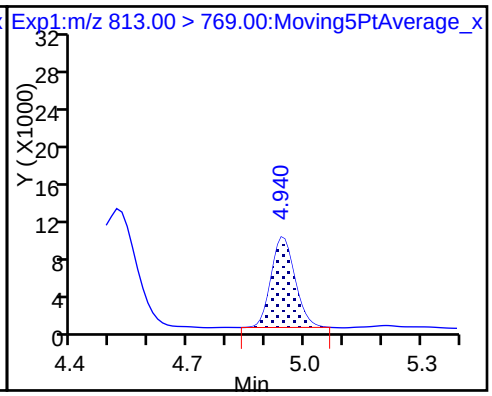
42 Perfluorotetradecanoic acid (ND)



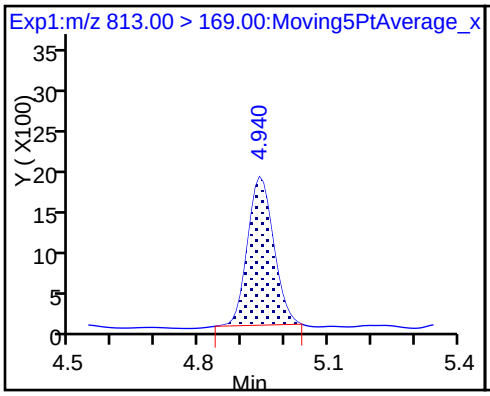
D 44 13C2-PFHxDA



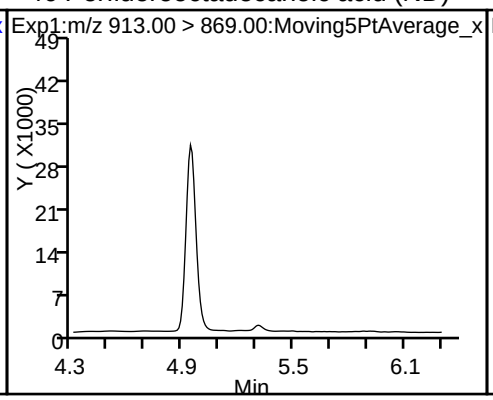
45 Perfluorohexadecanoic acid



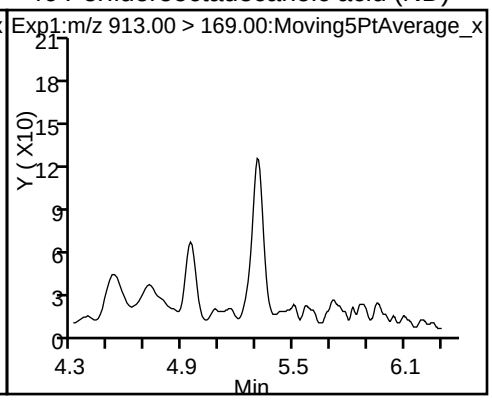
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid (ND)



46 Perfluorooctadecanoic acid (ND)



TestAmerica Sacramento

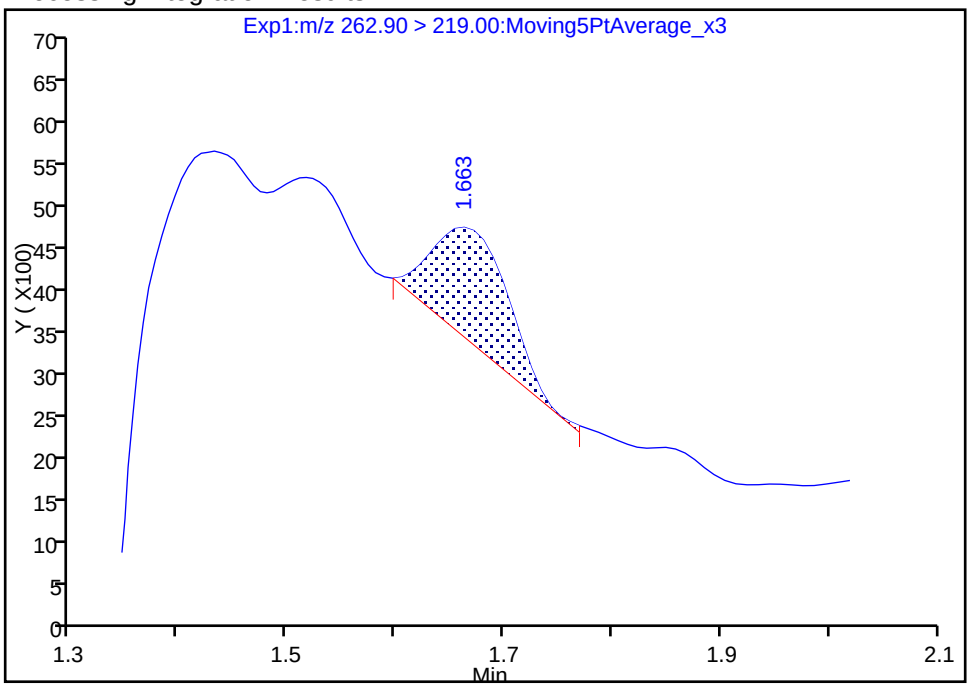
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_045.d				
Injection Date:	23-Dec-2017 03:21:33	Instrument ID:	A8_N		
Lims ID:	320-34425-A-28-A	Lab Sample ID:	320-34425-28		
Client ID:	FM-34-090-886-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	36	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

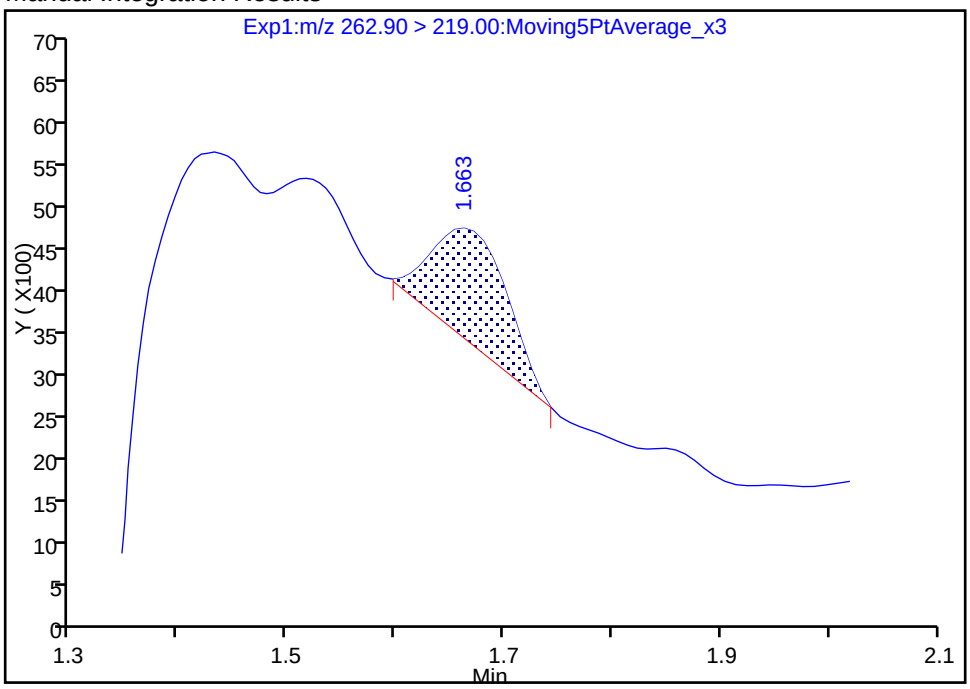
Processing Integration Results

RT: 1.66
Area: 6577
Amount: 0.003303
Amount Units: ng/ml



Manual Integration Results

RT: 1.66
Area: 6538
Amount: 0.003284
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:54:51
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento

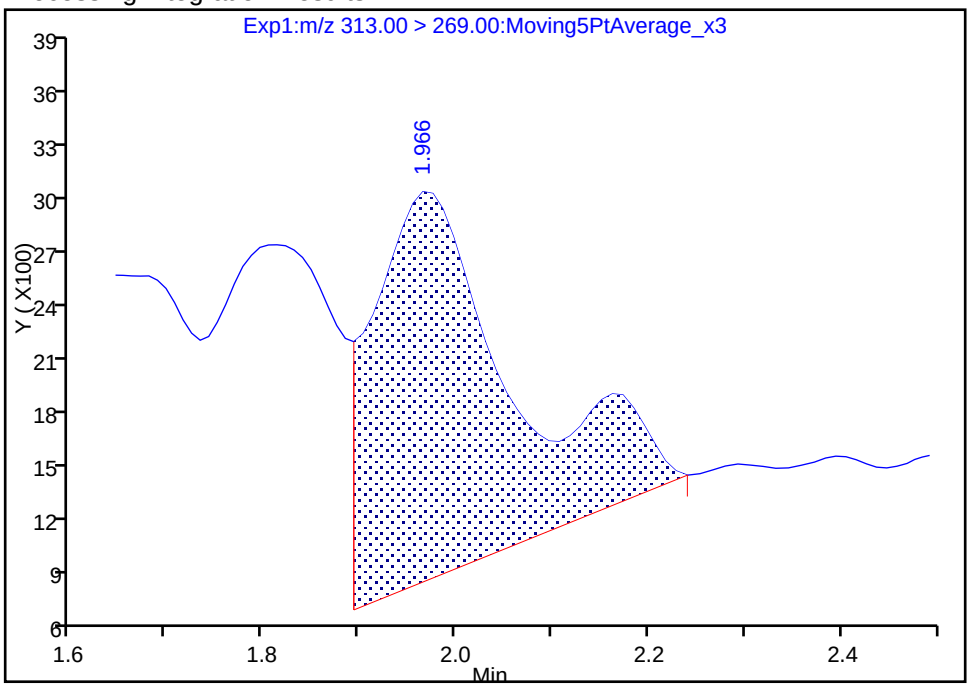
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_045.d				
Injection Date:	23-Dec-2017 03:21:33	Instrument ID:	A8_N		
Lims ID:	320-34425-A-28-A	Lab Sample ID:	320-34425-28		
Client ID:	FM-34-090-886-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	36	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

6 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

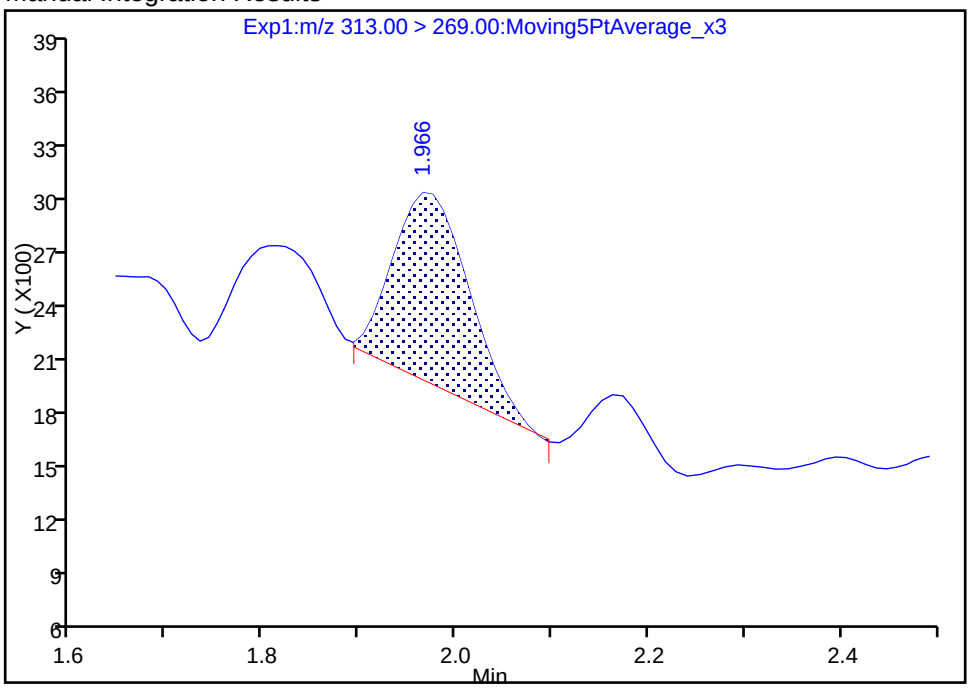
Processing Integration Results

RT: 1.97
Area: 20640
Amount: 0.011137
Amount Units: ng/ml



Manual Integration Results

RT: 1.97
Area: 5591
Amount: 0.003017
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:55:06
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-080-886-171212 | Lab Sample ID: 320-34425-29

Matrix: Water | Lab File ID: 2017.12.22LLB_049.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 09:42

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 226.7(mL) | Date Analyzed: 12/23/2017 03:52

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.39	U	2.21	0.39
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.54	U	2.21	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	0.64	U	2.21	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.28	U	2.21	0.28
335-67-1	Perfluorooctanoic acid (PFOA)	0.94	U	2.21	0.94
375-95-1	Perfluorononanoic acid (PFNA)	0.30	U	2.21	0.30
335-76-2	Perfluorodecanoic acid (PFDA)	0.34	U	2.21	0.34
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.21	U	2.21	1.21
307-55-1	Perfluorododecanoic acid (PFDoA)	0.61	U	2.21	0.61
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.43	U	2.21	1.43
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.32	U	2.21	0.32
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.22	U	2.21	0.22
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.35	J B	2.21	0.19
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.21	U	2.21	0.21
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.60	U	2.21	0.60
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.35	U	2.21	0.35
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.89	J	2.21	0.39
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.42	U	22.1	3.42
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.10	U	22.1	2.10
27619-97-2	6:2FTS	2.21	U	22.1	2.21
39108-34-4	8:2FTS	2.21	U	22.1	2.21

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-080-886-171212 | Lab Sample ID: 320-34425-29

Matrix: Water | Lab File ID: 2017.12.22LLB_049.d

Analysis Method: 537 (modified) | Date Collected: 12/12/2017 09:42

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 226.7(mL) | Date Analyzed: 12/23/2017 03:52

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	107		25-150
STL01893	13C5 PFPeA	111		25-150
STL00993	13C2 PFHxA	103		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	102		25-150
STL00996	13C2 PFDA	101		25-150
STL00997	13C2 PFUnA	93		25-150
STL00998	13C2 PFDoA	96		25-150
STL02116	13C2-PFTeDA	108		25-150
STL02337	13C3-PFBS	108		25-150
STL00994	18O2 PFHxS	107		25-150
STL00991	13C4 PFOS	102		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	81		25-150
STL02117	d5-NEtFOSAA	85		25-150
STL02279	M2-6:2FTS	40		25-150
STL02280	M2-8:2FTS	79		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_049.d
Lims ID: 320-34425-A-29-A
Client ID: FM-34-080-886-171212
Sample Type: Client
Inject. Date: 23-Dec-2017 03:52:48 ALS Bottle#: 39 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-29-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:47 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:59:14

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.536	7453947	2.68		107	17961	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	19072	0.006981			4.0	
D 3 13C5-PFPeA										
267.90 > 223.00	1.670	1.670	0.0	0.630	4607064	2.77		111	35836	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.670	1.670	0.0	1.000	5319	0.002586			3.3	M
D 47 13C3-PFBS										
301.90 > 83.00	1.706	1.705	0.001	0.643	88751	2.50		108	2700	
D 7 13C2 PFHxA										
315.00 > 270.00	1.964	1.953	0.011	0.741	4550807	2.56		103	36008	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.864	4284205	2.61		104	32427	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	1.000	19126	0.008014			59.8	
399.00 > 99.00	2.304	2.304	0.0	1.000	5093		3.76(1.50-4.49)		15.3	
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.304	0.0	0.869	5243196	2.53		107	48147	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.630	2.642	-0.012	1.000	6773	0.0143			185	
D 12 M2-6:2FTS										
429.00 > 81.00	2.630	2.642	-0.012	0.992	727570	0.9508		40.0	17521	
D 14 13C4 PFOA										
417.00 > 372.00	2.651	2.654	-0.003	1.000	4575392	2.42		96.9	52364	
* 62 13C2-PFOA										
415.00 > 370.00	2.651	2.656	-0.005		4571475	2.50			50332	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.659	2.656	0.003	1.003	10804	0.005614			14.3	
413.00 > 169.00	2.651	2.656	-0.005	1.000	6184		1.75(0.84-2.52)		50.2	
D 18 13C4 PFOS										
503.00 > 80.00	3.024	3.025	-0.001	1.141	3324478	2.43		102	32321	
D 19 13C5 PFNA										
468.00 > 423.00	3.024	3.028	-0.004	1.141	3421783	2.55		102	38779	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.271	4460654	2.39		95.7	29205	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.372	-0.002	1.000	34424	0.0201			1002	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.274	807974	1.89		78.9	17477	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.389	-0.004	1.277	2794578	2.52		101	48245	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.537	3.543	-0.006	1.334	1207989	2.03		81.3	21788	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.712	-0.006	1.398	1238397	2.13		85.4	6119	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.401	1962321	2.33		93.1	27411	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.714	3.720	-0.006	1.002	1791	0.003639			83.5	
D 36 13C2 PFDoA										
615.00 > 570.00	4.005	4.011	-0.006	1.510	2175863	2.39		95.8	27216	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.702	2753298	2.71		108	23856	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:52 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_049.d

Injection Date: 23-Dec-2017 03:52:48 Instrument ID: A8_N

Lims ID: 320-34425-A-29-A Lab Sample ID: 320-34425-29

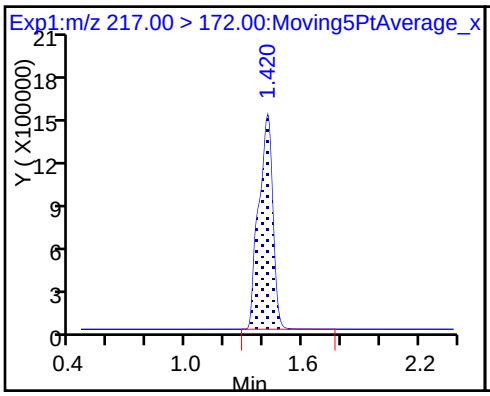
Client ID: FM-34-080-886-171212

Operator ID: SACINSTLCMS01 ALS Bottle#: 39 Worklist Smp#: 14

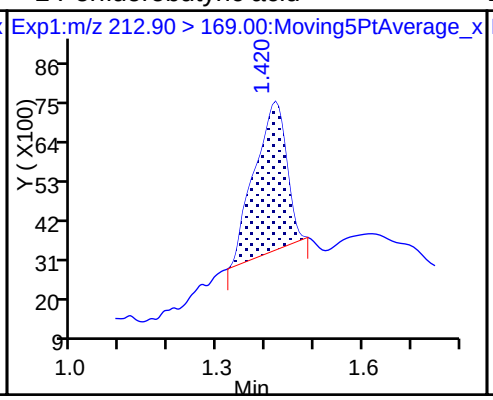
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

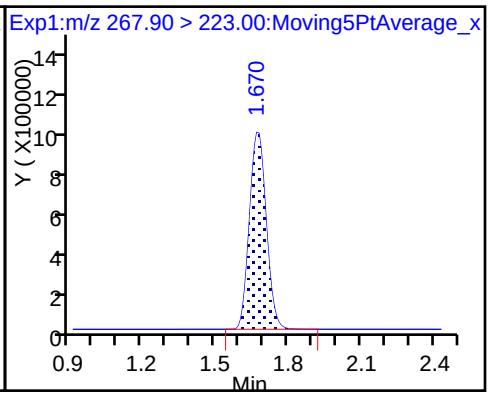
D 1 13C4 PFBA



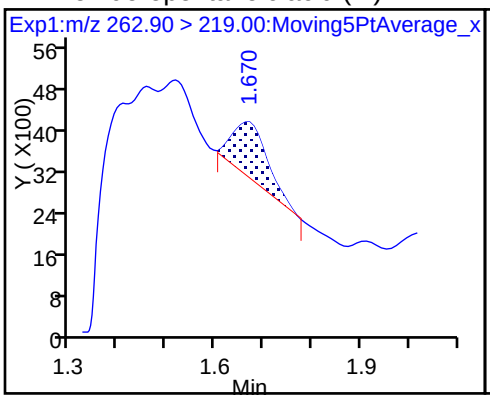
2 Perfluorobutyric acid



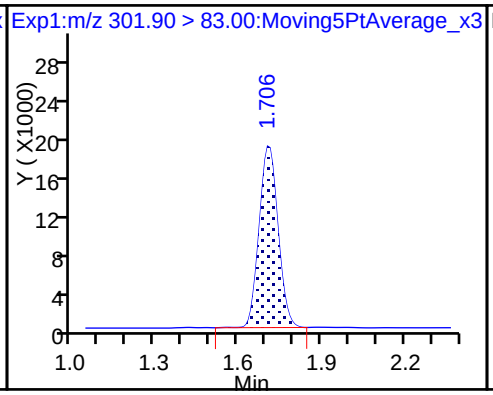
D 3 13C5-PFPeA



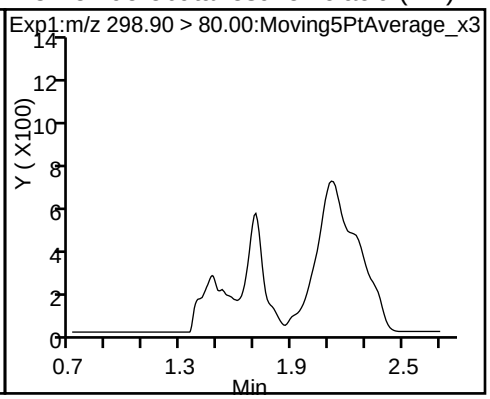
4 Perfluoropentanoic acid (M)



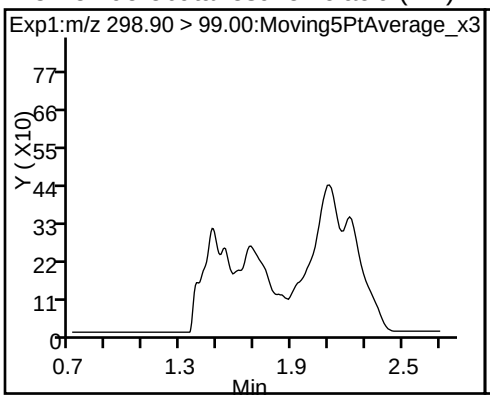
D 47 13C3-PFBS



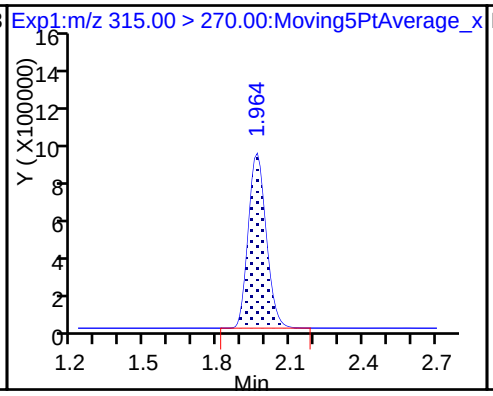
5 Perfluorobutanesulfonic acid (ND)



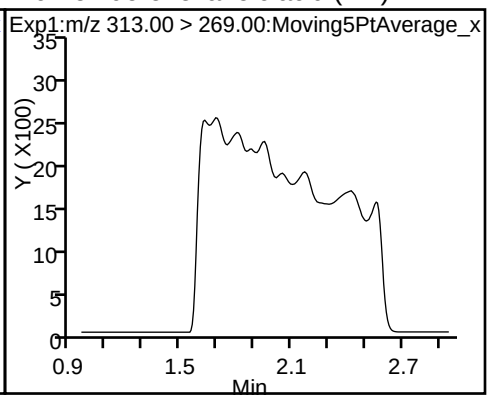
5 Perfluorobutanesulfonic acid (ND)



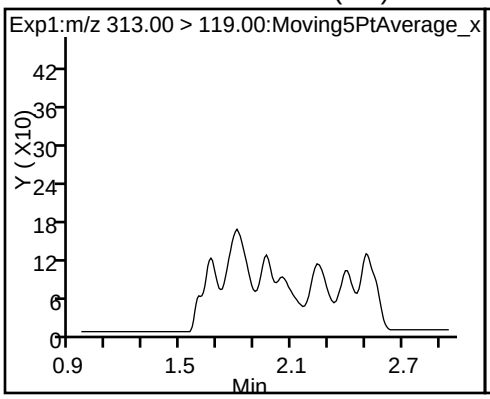
D 7 13C2 PFHxA



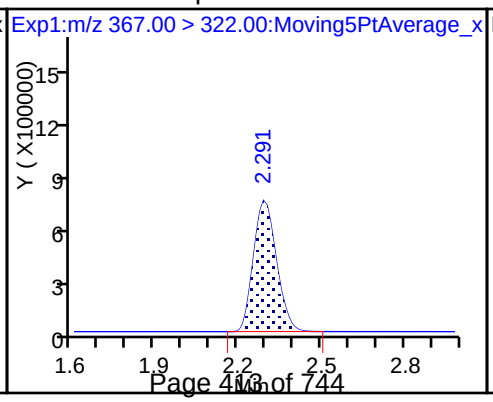
6 Perfluorohexanoic acid (ND)



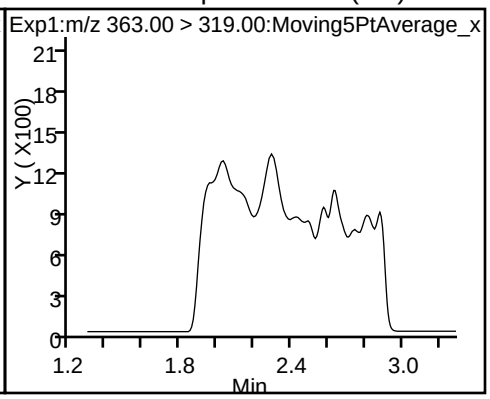
6 Perfluorohexanoic acid (ND)



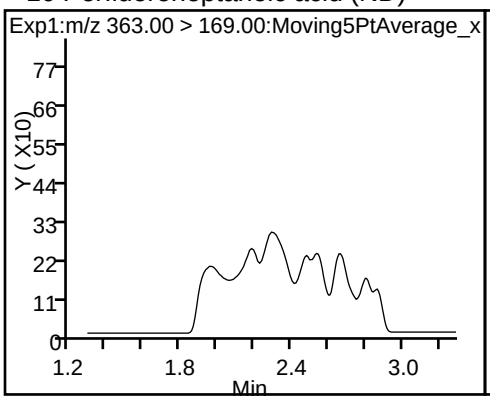
D 9 13C4-PFHpA



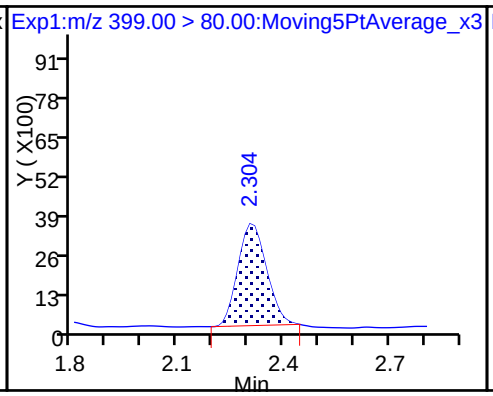
10 Perfluoroheptanoic acid (ND)



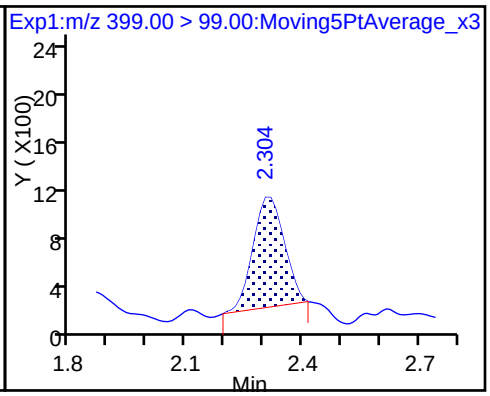
10 Perfluoroheptanoic acid (ND)



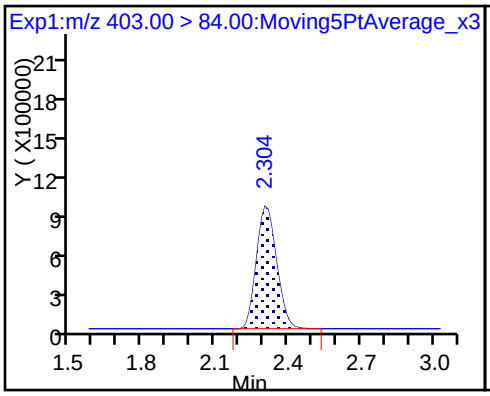
8 Perfluorohexanesulfonic acid



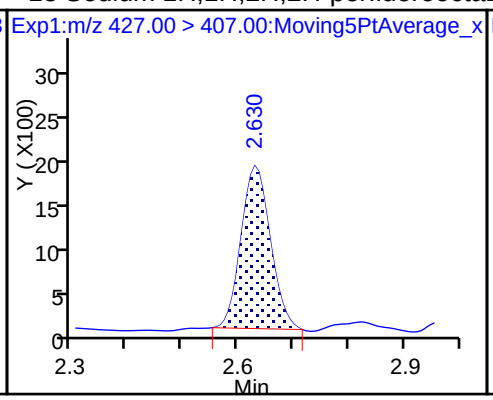
8 Perfluorohexanesulfonic acid



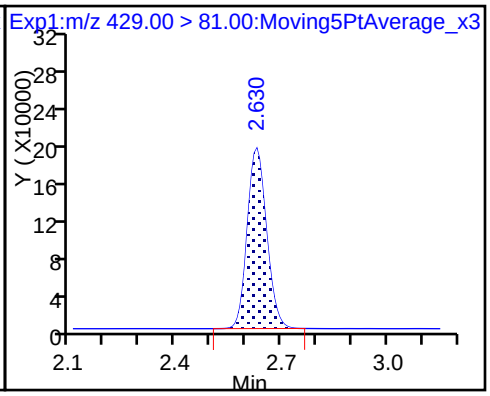
D 11 18O2 PFHxS



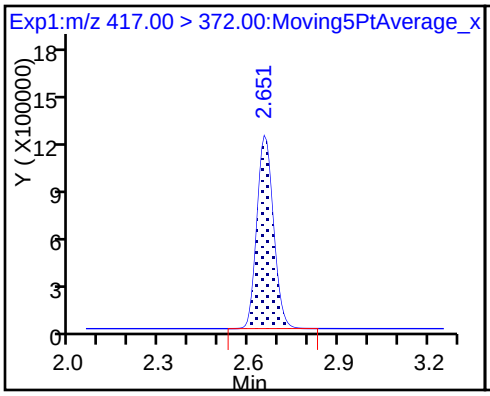
13 Sodium 1H,1H,2H,2H-perfluorooctane



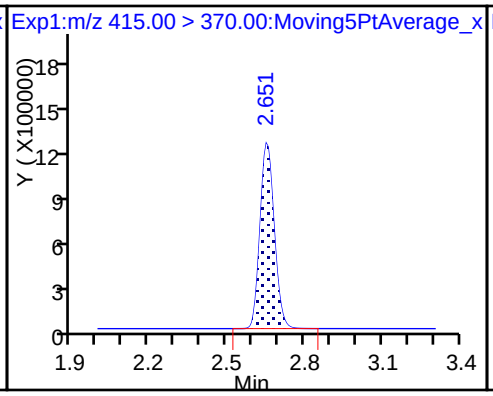
D 12 M2-6:2FTS



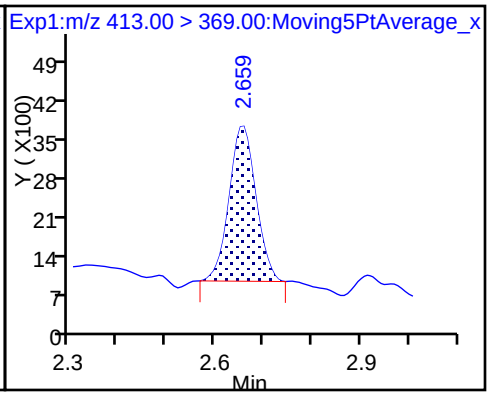
D 14 13C4 PFOA



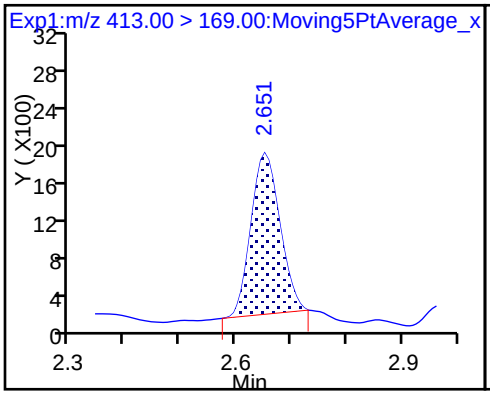
* 62 13C2-PFOA



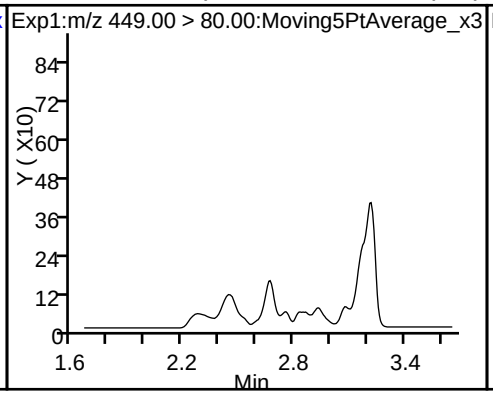
15 Perfluorooctanoic acid



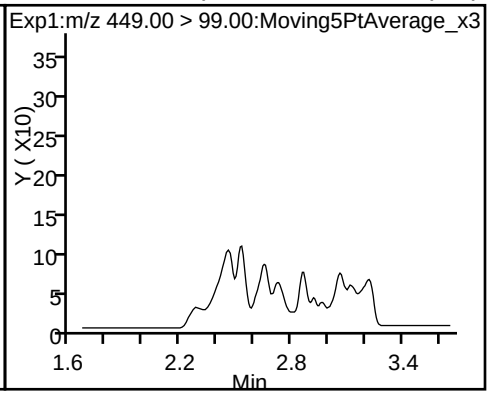
15 Perfluorooctanoic acid



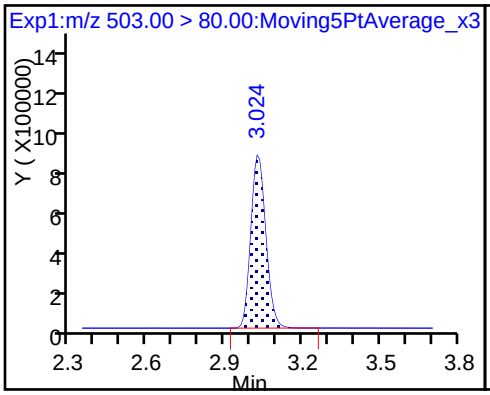
16 Perfluoroheptanesulfonic Acid (ND)



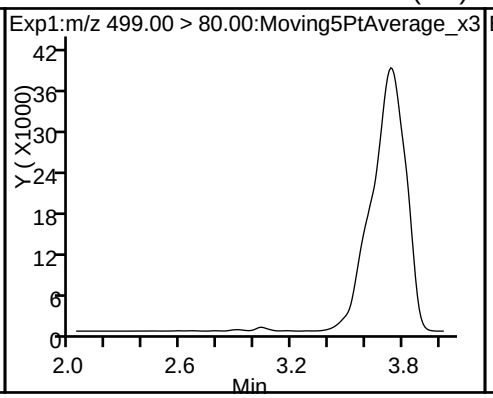
16 Perfluoroheptanesulfonic Acid (ND)



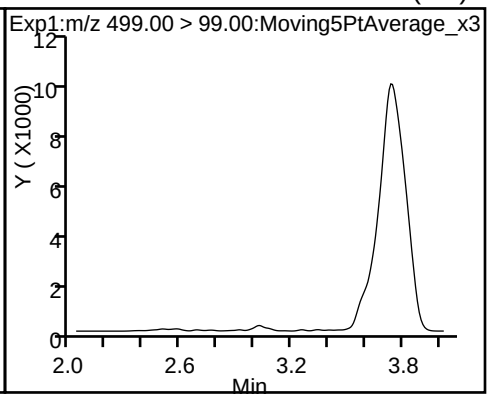
D 18 13C4 PFOS



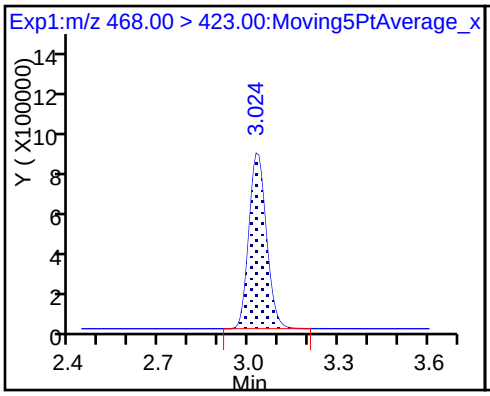
17 Perfluorooctane sulfonic acid (ND)



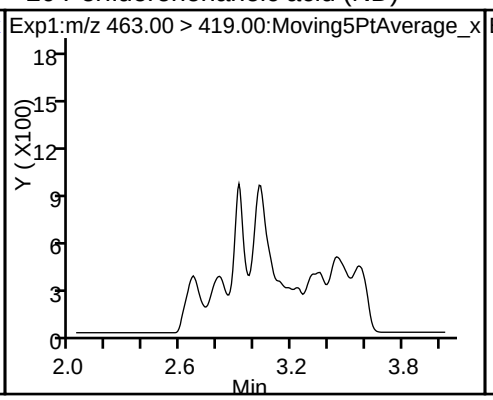
17 Perfluorooctane sulfonic acid (ND)



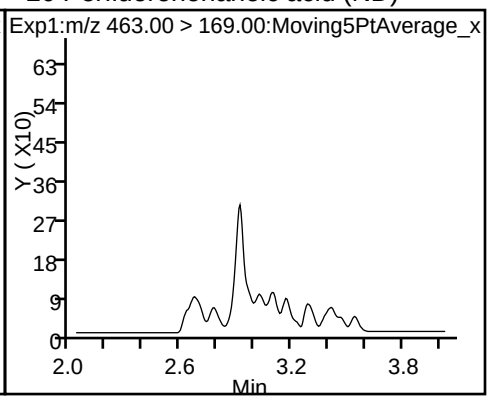
D 19 13C5 PFNA



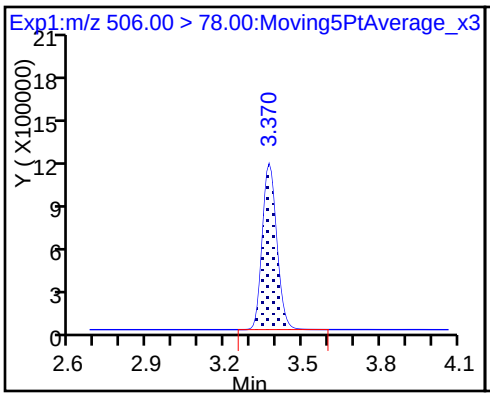
20 Perfluorononanoic acid (ND)



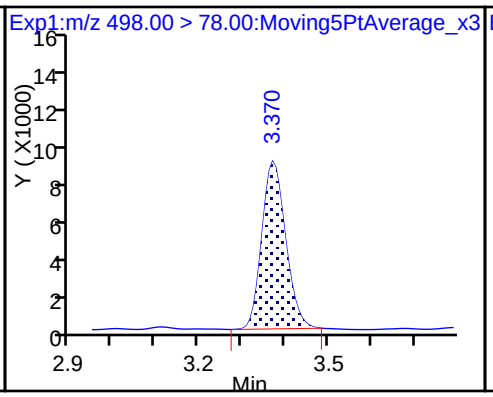
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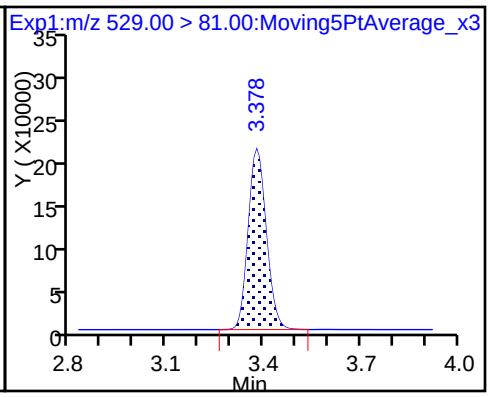
D 21 13C8 FOSA



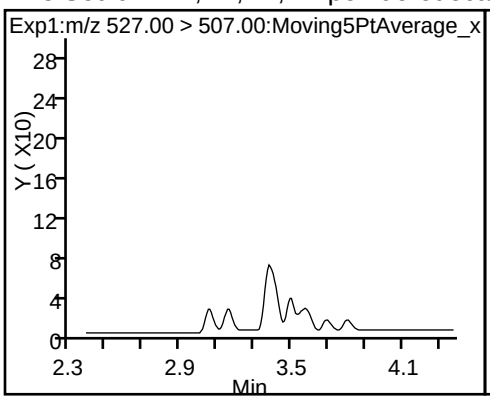
22 Perfluorooctane Sulfonamide



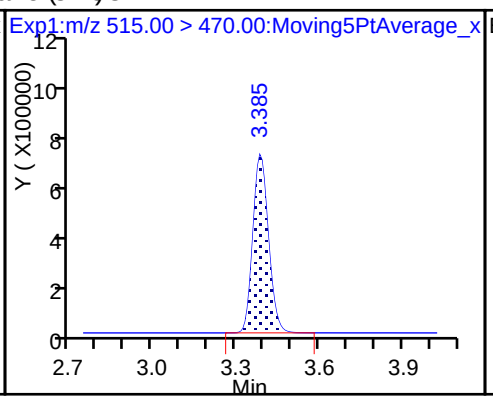
D 26 M2-8:2FTS



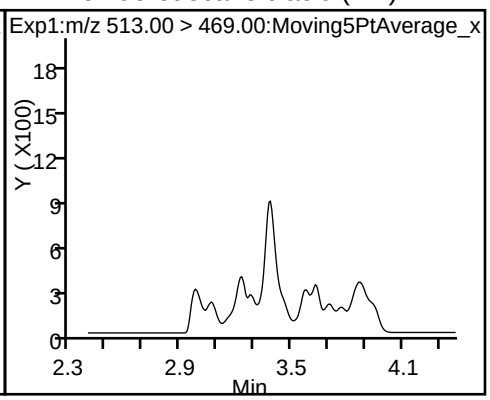
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



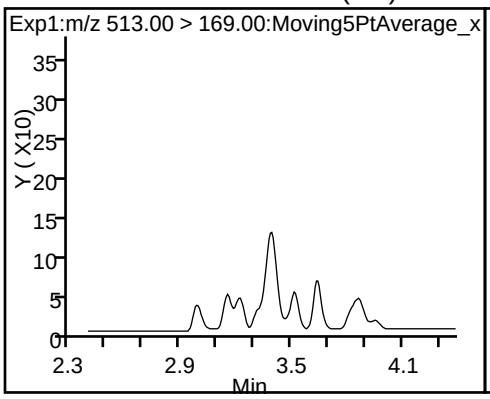
D 23 13C2 PFDA



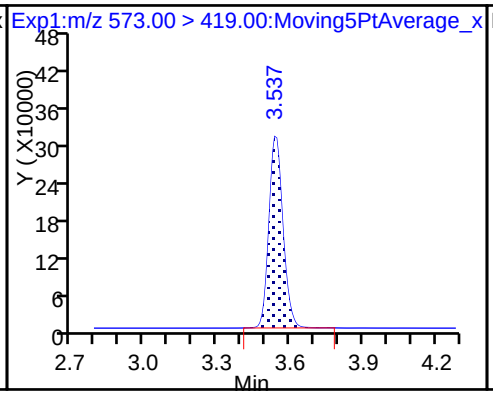
24 Perfluorodecanoic acid (ND)



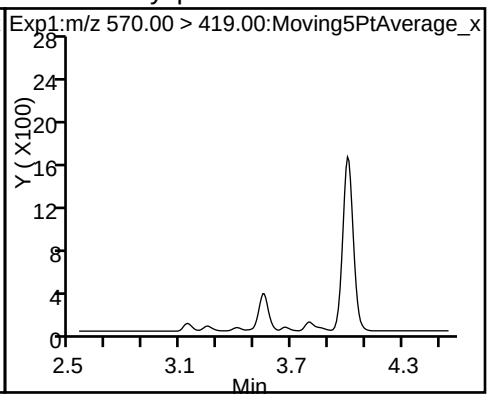
24 Perfluorodecanoic acid (ND)



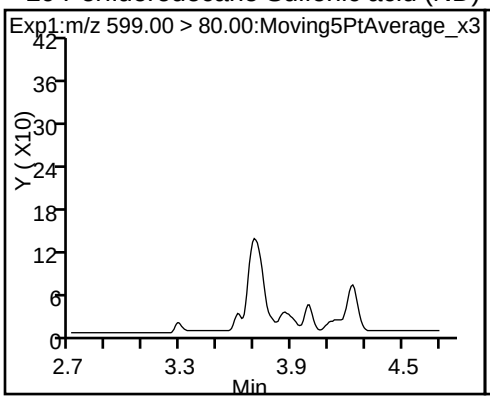
D 27 d3-NMeFOSAA



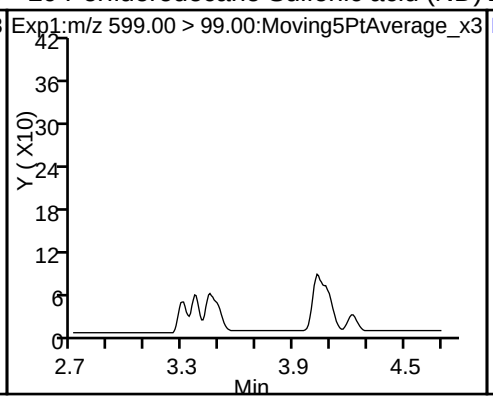
28 N-methyl perfluorooctane sulfonami (ND)



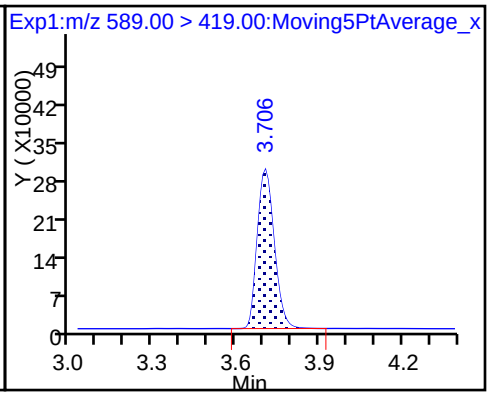
29 Perfluorodecane Sulfonic acid (ND)



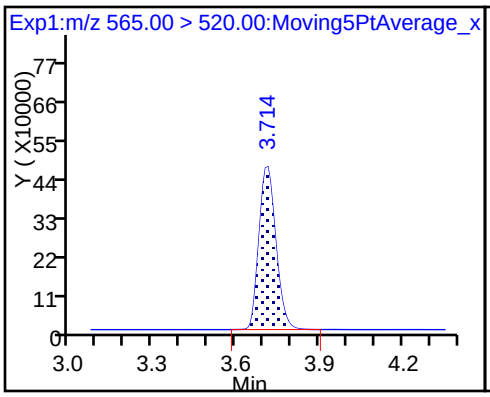
29 Perfluorodecane Sulfonic acid (ND)



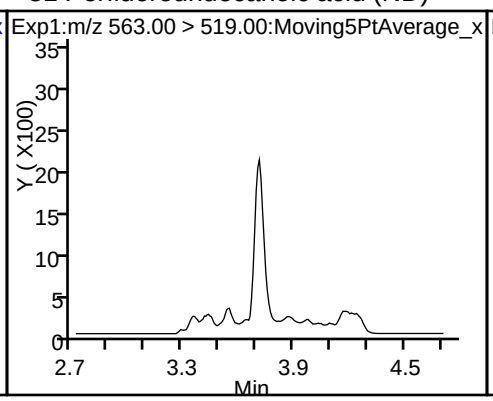
D 32 d5-NEtFOSAA



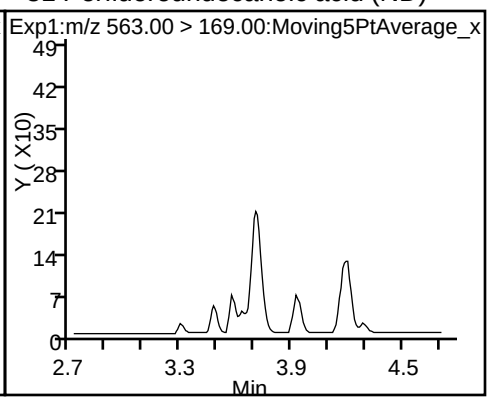
D 30 13C2 PFUnA



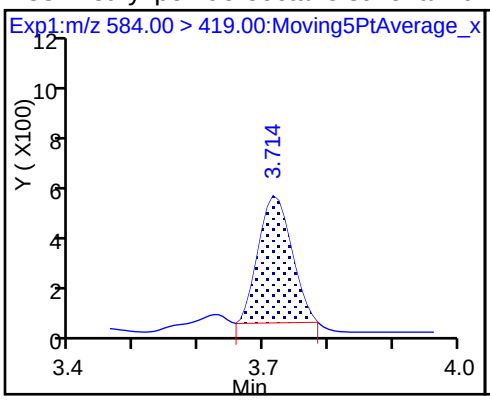
31 Perfluoroundecanoic acid (ND)



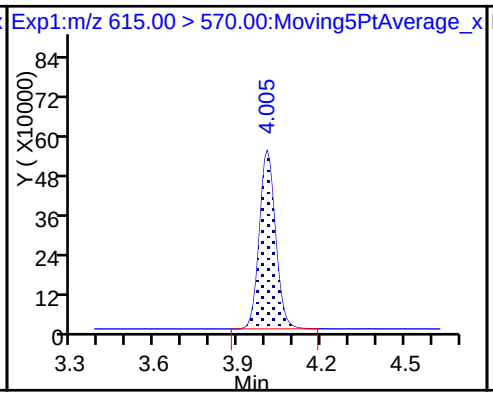
31 Perfluoroundecanoic acid (ND)



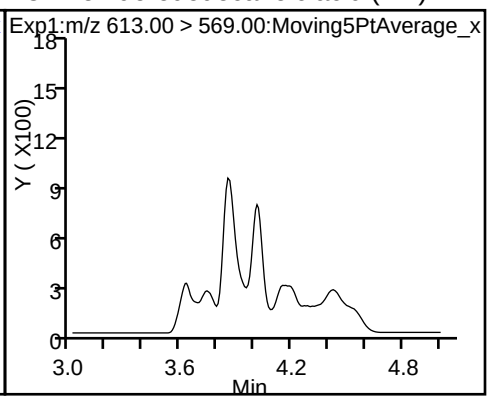
33 N-ethyl perfluorooctane sulfonamid



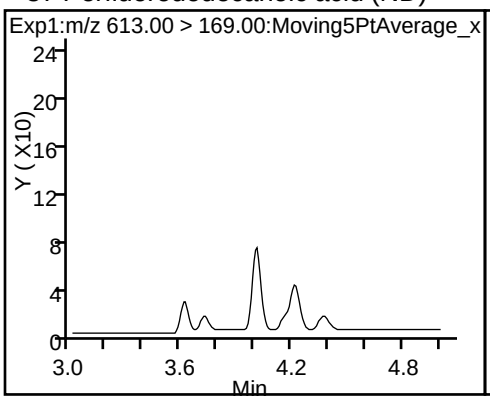
D 36 13C2 PFDoA



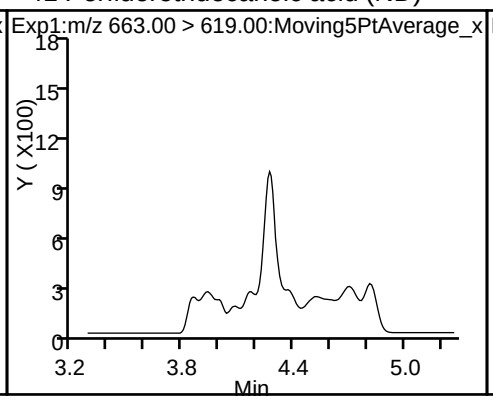
37 Perfluorododecanoic acid (ND)



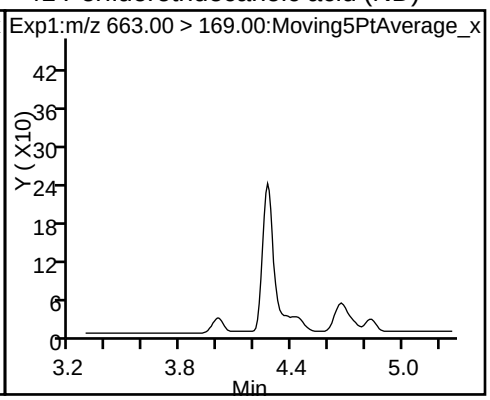
37 Perfluorododecanoic acid (ND)



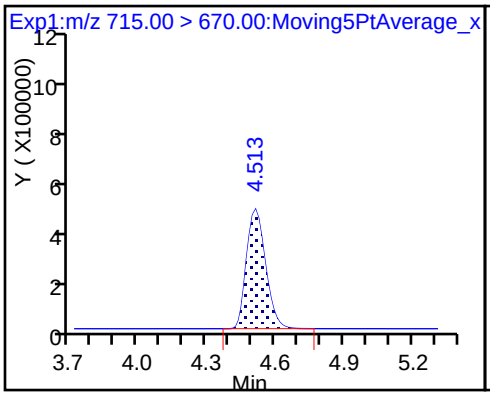
41 Perfluorotridecanoic acid (ND)



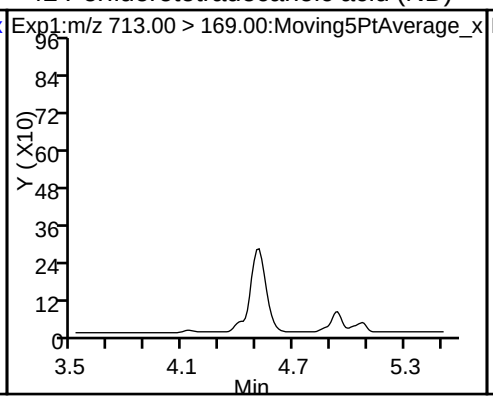
41 Perfluorotridecanoic acid (ND)



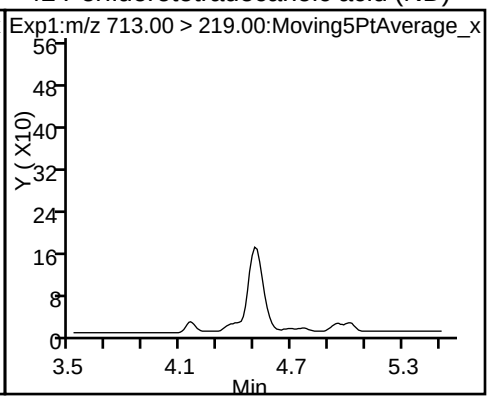
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



TestAmerica Sacramento

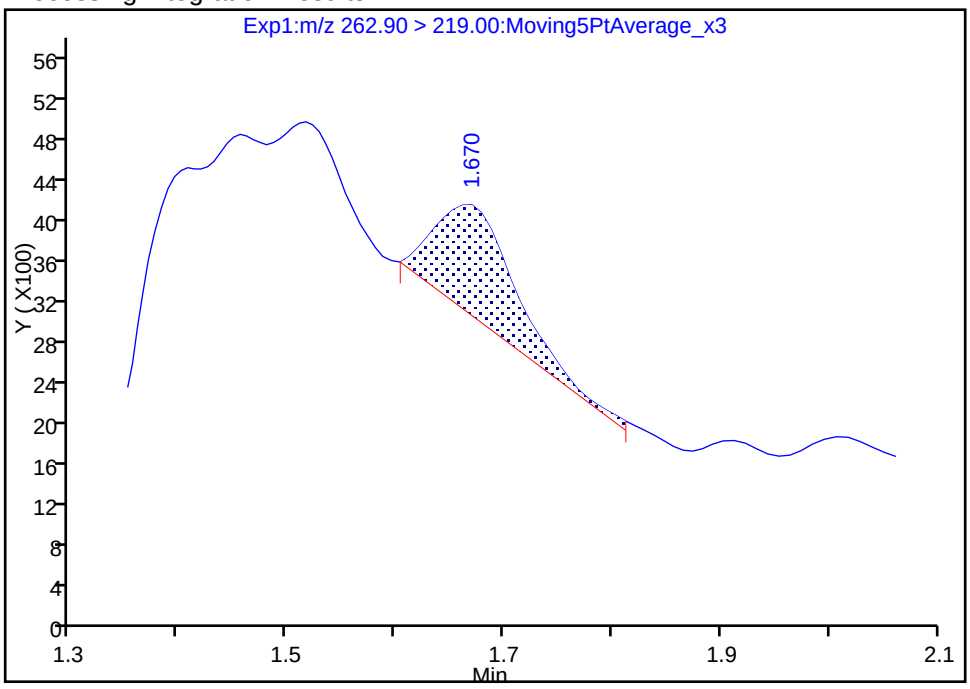
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Lims ID:	320-34425-A-29-A	Lab Sample ID:	320-34425-29		
Client ID:	FM-34-080-886-171212				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	39	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

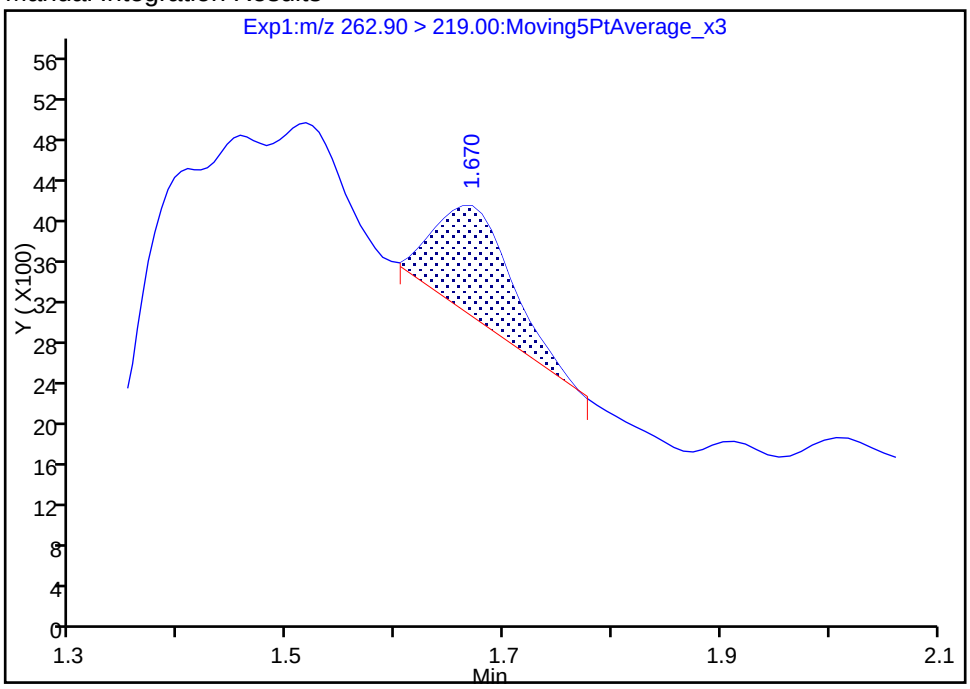
Processing Integration Results

RT: 1.67
Area: 5588
Amount: 0.002717
Amount Units: ng/ml



Manual Integration Results

RT: 1.67
Area: 5319
Amount: 0.002586
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:58:32
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-070-886-171213 | Lab Sample ID: 320-34425-30

Matrix: Water | Lab File ID: 2017.12.22LLB_050.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 09:53

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 228.5(mL) | Date Analyzed: 12/23/2017 04:00

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.38	U	2.19	0.38
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.54	U	2.19	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	0.63	U	2.19	0.63
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.27	U	2.19	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	0.93	U	2.19	0.93
375-95-1	Perfluorononanoic acid (PFNA)	0.30	U	2.19	0.30
335-76-2	Perfluorodecanoic acid (PFDA)	0.34	U	2.19	0.34
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.20	U	2.19	1.20
307-55-1	Perfluorododecanoic acid (PFDoA)	0.60	U	2.19	0.60
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.42	U	2.19	1.42
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.32	U	2.19	0.32
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.22	U	2.19	0.22
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	2.19	0.19
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.21	U	2.19	0.21
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.59	U	2.19	0.59
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.35	U	2.19	0.35
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.59	J	2.19	0.38
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.39	U	21.9	3.39
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.08	U	21.9	2.08
27619-97-2	6:2FTS	2.19	U	21.9	2.19
39108-34-4	8:2FTS	2.19	U	21.9	2.19

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-070-886-171213 | Lab Sample ID: 320-34425-30

Matrix: Water | Lab File ID: 2017.12.22LLB_050.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 09:53

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 228.5(mL) | Date Analyzed: 12/23/2017 04:00

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	105		25-150
STL01893	13C5 PFPeA	105		25-150
STL00993	13C2 PFHxA	97		25-150
STL01892	13C4-PFHpA	100		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	99		25-150
STL00996	13C2 PFDA	98		25-150
STL00997	13C2 PFUnA	95		25-150
STL00998	13C2 PFDoA	93		25-150
STL02116	13C2-PFTeDA	103		25-150
STL02337	13C3-PFBS	102		25-150
STL00994	18O2 PFHxS	104		25-150
STL00991	13C4 PFOS	96		25-150
STL01056	13C8 FOSA	94		25-150
STL02118	d3-NMeFOSAA	81		25-150
STL02117	d5-NEtFOSAA	84		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	75		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_050.d
Lims ID: 320-34425-A-30-A
Client ID: FM-34-070-886-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 04:00:41 ALS Bottle#: 40 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-30-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:47 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 16:01:13

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.419	-0.005	0.533	7476931	2.62		105	20892	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.004	19519	0.007123			4.4	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.630	4475812	2.62		105	33408	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.646	1.670	-0.024	0.985	8437	0.004222			5.0	
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.705	0.002	0.644	86555	2.37		102	2019	
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.953	0.002	0.737	4418508	2.42		96.8	47987	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.865	4244264	2.51		100	32097	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	16641	0.006934			53.9	
399.00 > 99.00	2.306	2.304	0.002	1.000	5559		2.99(1.50-4.49)		14.6	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.870	5272890	2.47		104	48334	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.623	2.642	-0.019	1.000	6553	0.0126			218	
D 12 M2-6:2FTS										
429.00 > 81.00	2.623	2.642	-0.019	0.989	794701	1.01		42.5	17503	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	1.000	4700703	2.42		96.7	51723	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.656	-0.004		4703484	2.50			49062	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.652	2.656	-0.004	1.000	12844	0.006496			18.4	
413.00 > 169.00	2.652	2.656	-0.004	1.000	5634		2.28(0.84-2.52)		48.9	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3231549	2.29		96.0	36987	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.028	-0.003	1.141	3416711	2.47		99.0	35699	
D 21 13C8 FOSA										
506.00 > 78.00	3.371	3.370	0.0	1.271	4506774	2.35		94.0	34739	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.371	3.372	-0.002	1.000	23341	0.0135			622	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.274	785535	1.79		74.6	15669	
D 23 13C2 PFDA										
515.00 > 470.00	3.386	3.389	-0.003	1.277	2782204	2.44		97.7	36364	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.537	3.543	-0.006	1.334	1243123	2.03		81.3	19994	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.712	-0.006	1.397	1255550	2.10		84.1	8291	
D 30 13C2 PFUnA										
565.00 > 520.00	3.715	3.717	-0.002	1.401	2069740	2.39		95.5	30988	
D 36 13C2 PFDoA										
615.00 > 570.00	4.005	4.011	-0.006	1.510	2169848	2.32		92.8	32073	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.702	2700210	2.58		103	24547	

Report Date: 26-Dec-2017 16:04:54 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_050.d

Injection Date: 23-Dec-2017 04:00:41 Instrument ID: A8_N

Lims ID: 320-34425-A-30-A Lab Sample ID: 320-34425-30

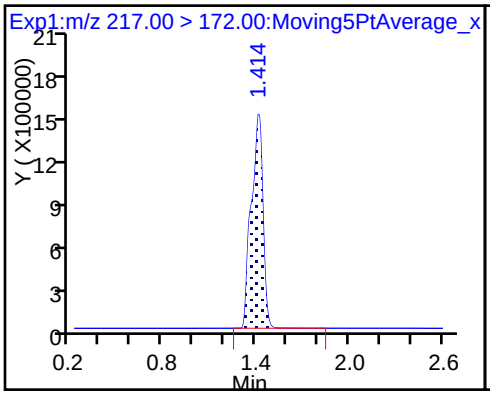
Client ID: FM-34-070-886-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 40 Worklist Smp#: 15

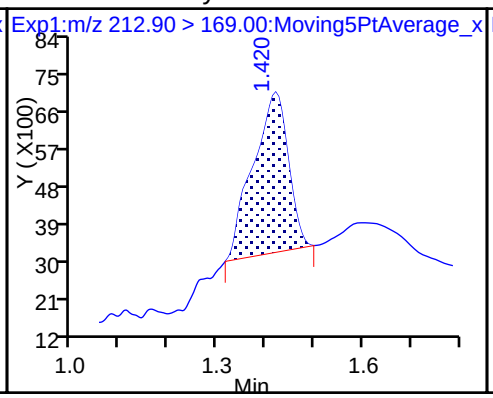
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

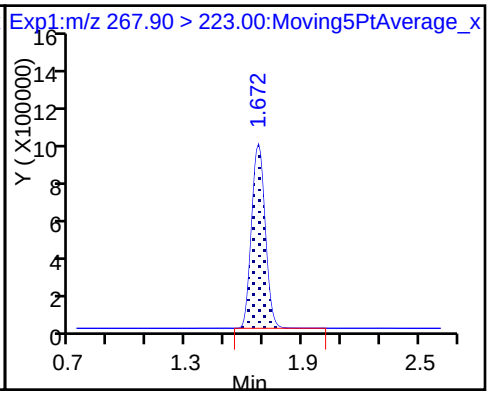
D 1 13C4 PFBA



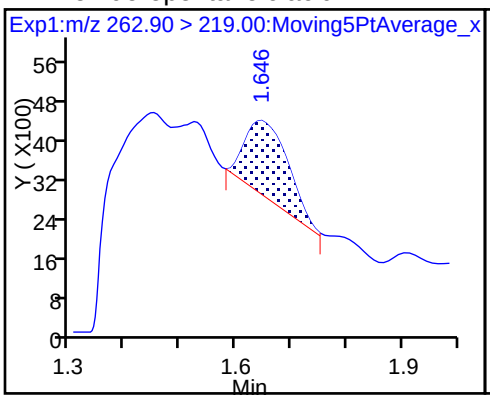
2 Perfluorobutyric acid



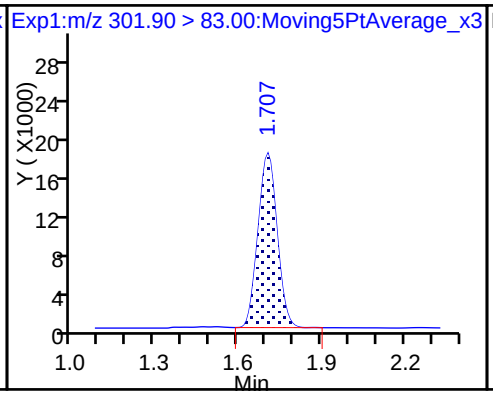
D 3 13C5-PFPeA



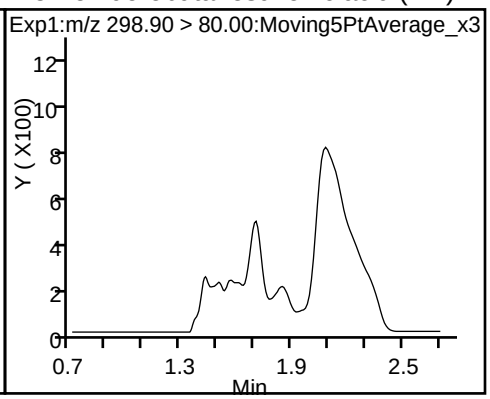
4 Perfluoropentanoic acid



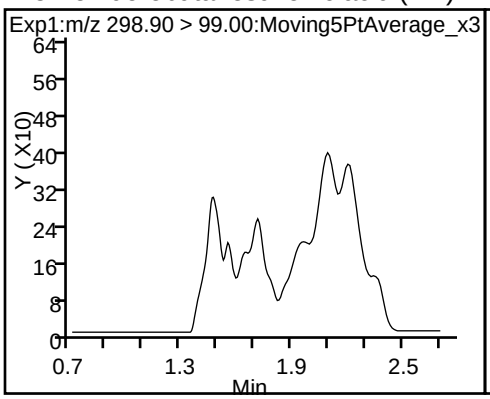
D 47 13C3-PFBS



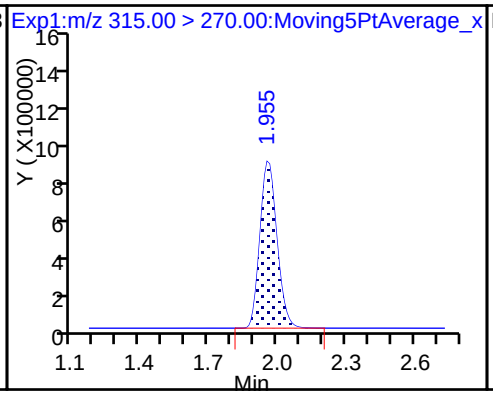
5 Perfluorobutanesulfonic acid (ND)



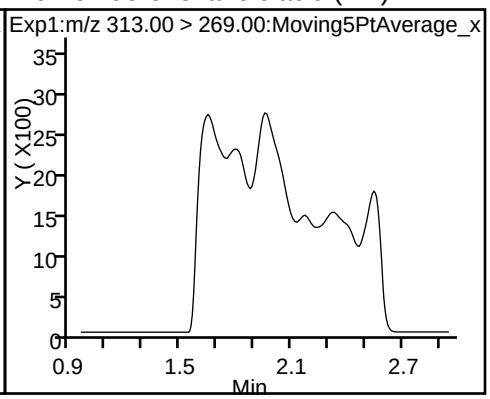
5 Perfluorobutanesulfonic acid (ND)



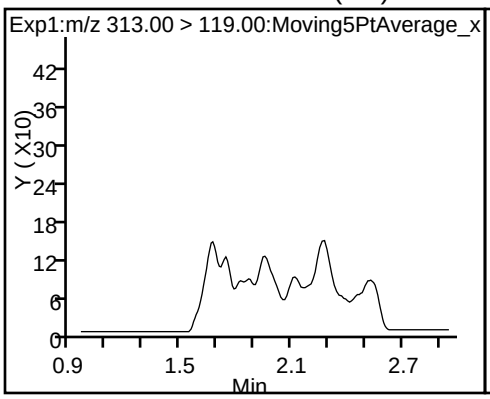
D 7 13C2 PFHxA



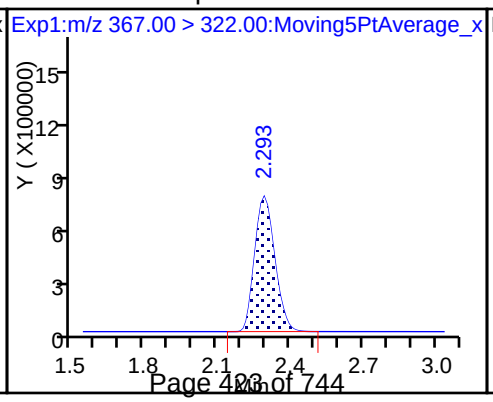
6 Perfluorohexanoic acid (ND)



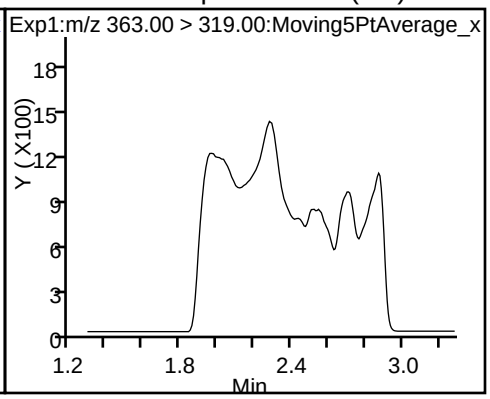
6 Perfluorohexanoic acid (ND)



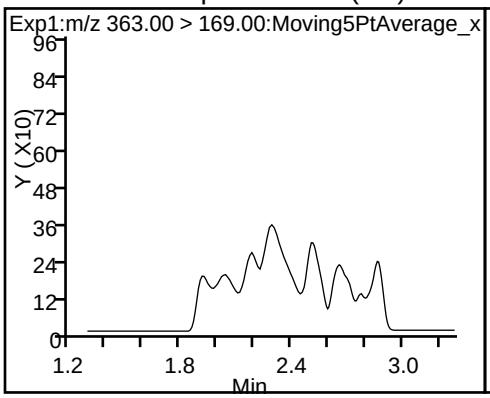
D 9 13C4-PFHpA



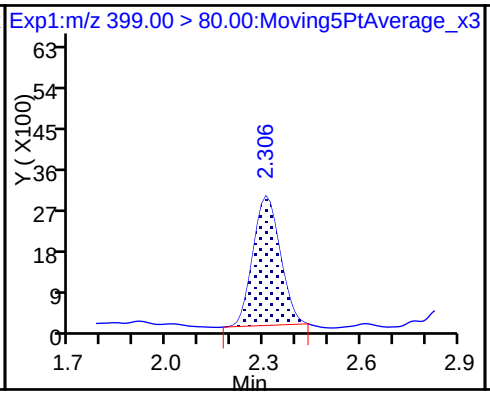
10 Perfluoroheptanoic acid (ND)



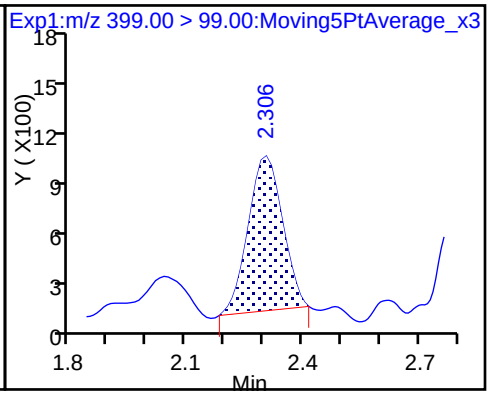
10 Perfluoroheptanoic acid (ND)



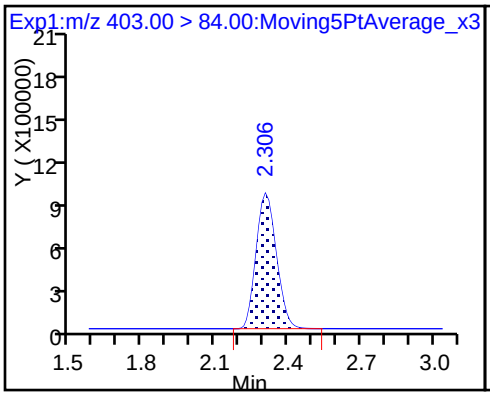
8 Perfluorohexanesulfonic acid



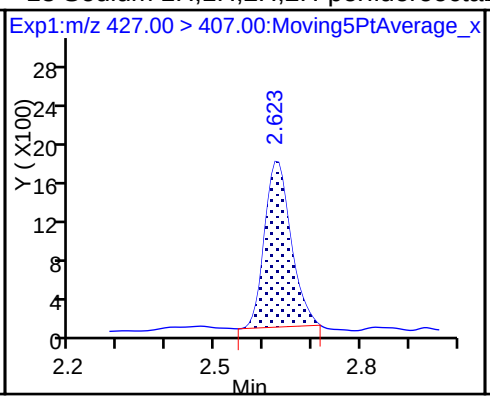
8 Perfluorohexanesulfonic acid



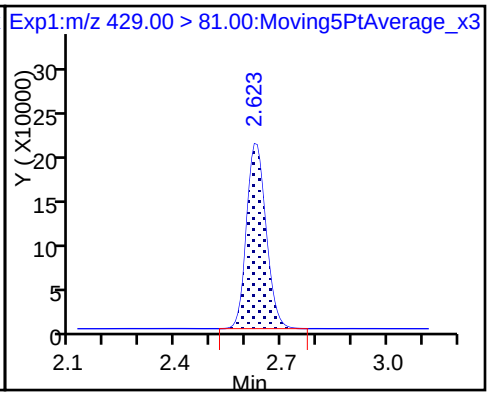
D 11 18O2 PFHxS



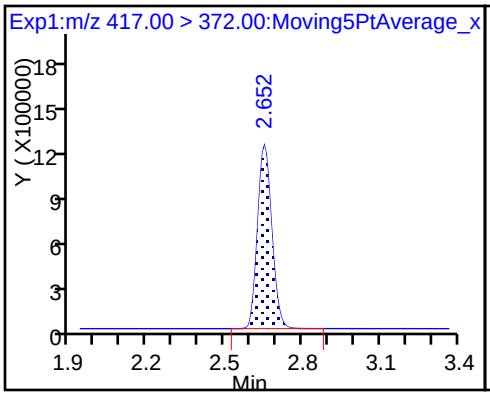
13 Sodium 1H,1H,2H,2H-perfluorooctane



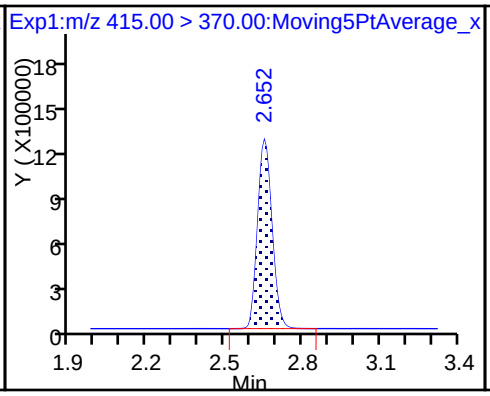
D 12 M2-6:2FTS



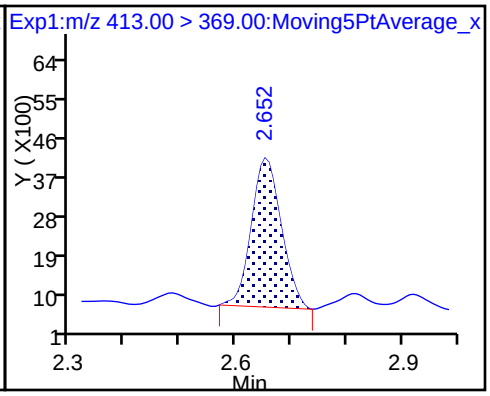
D 14 13C4 PFOA



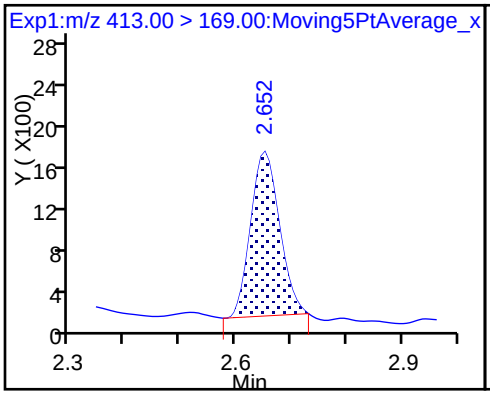
* 62 13C2-PFOA



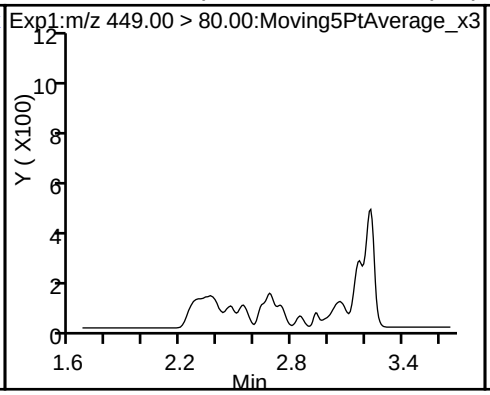
15 Perfluorooctanoic acid



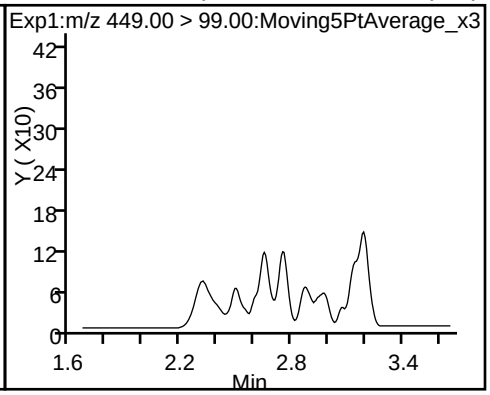
15 Perfluorooctanoic acid



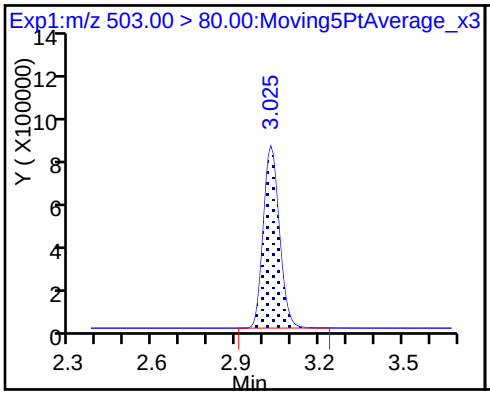
16 Perfluoroheptanesulfonic Acid (ND)



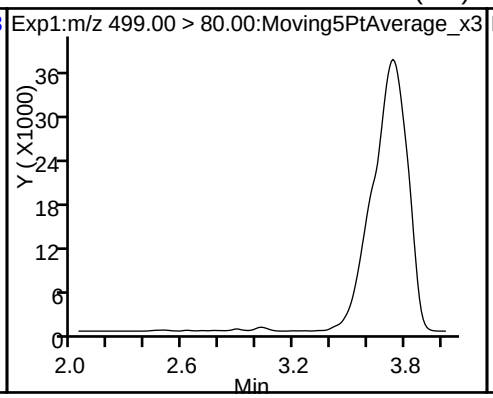
16 Perfluoroheptanesulfonic Acid (ND)



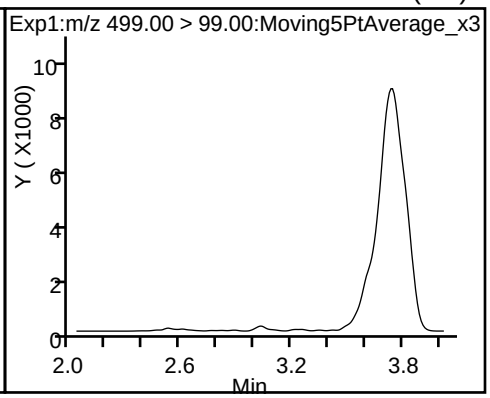
D 18 13C4 PFOS



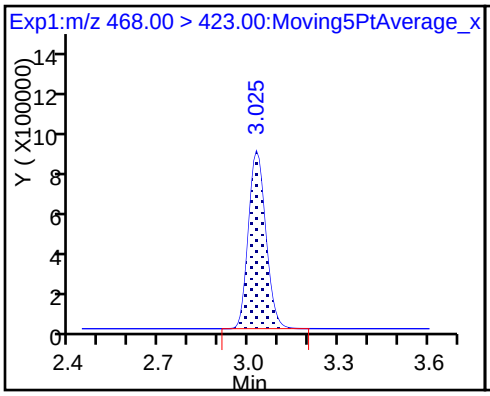
17 Perfluorooctane sulfonic acid (ND)



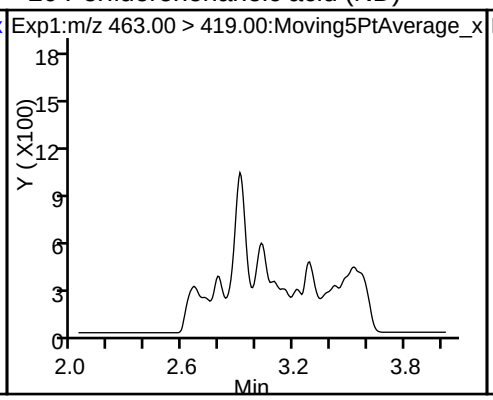
17 Perfluorooctane sulfonic acid (ND)



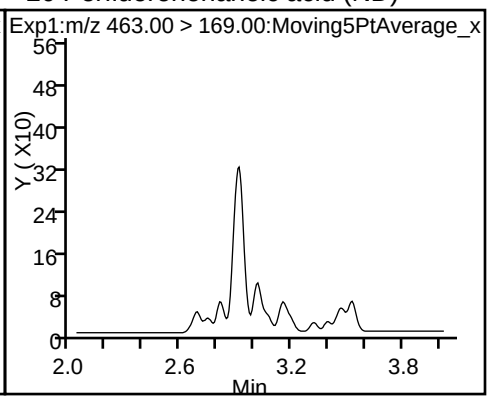
D 19 13C5 PFNA



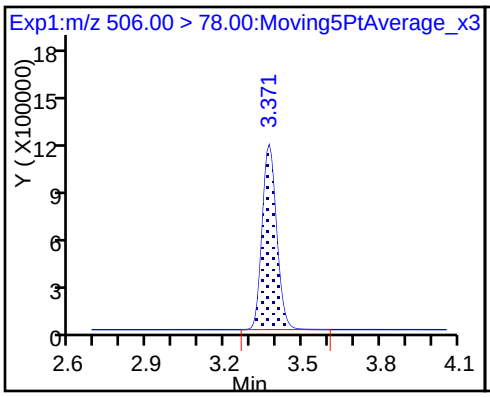
20 Perfluorononanoic acid (ND)



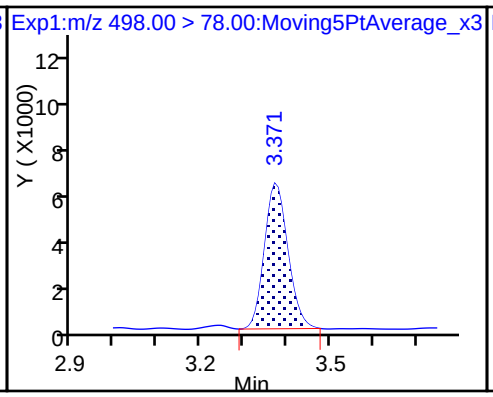
20 Perfluorononanoic acid (ND)



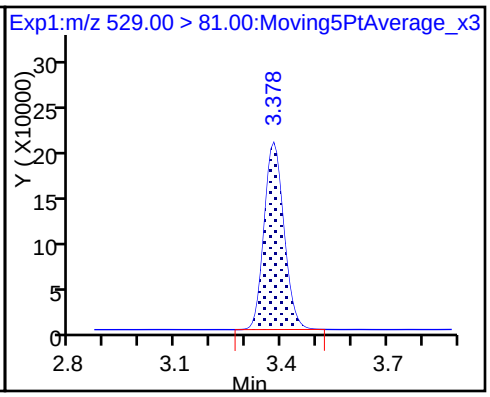
D 21 13C8 FOSA



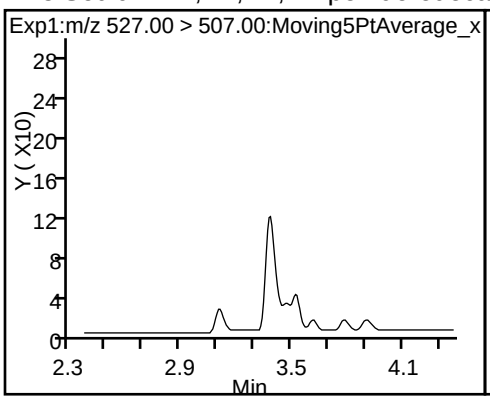
22 Perfluorooctane Sulfonamide



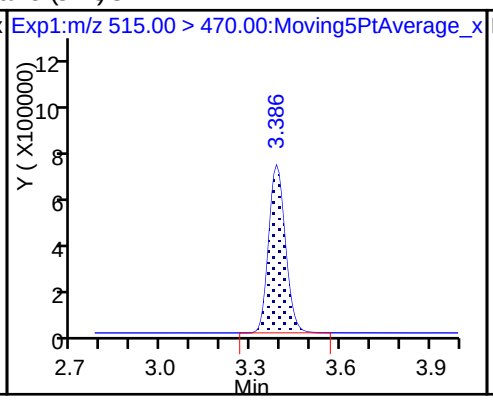
D 26 M2-8:2FTS



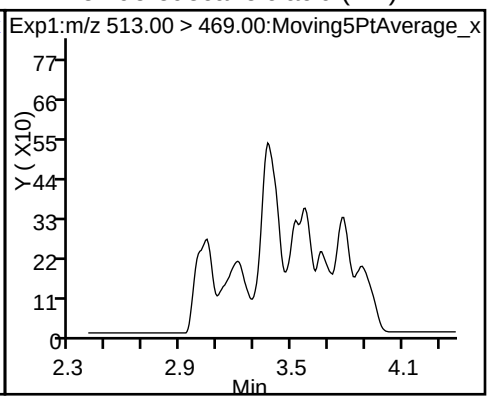
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



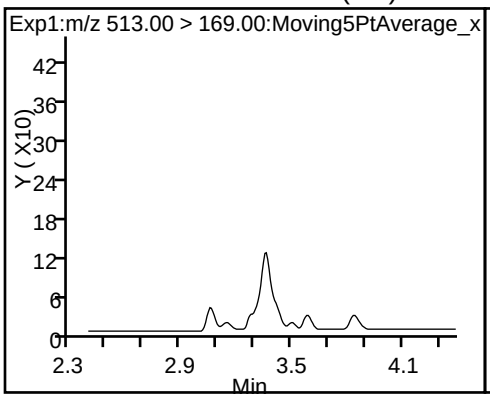
D 13 13C2 PFDA



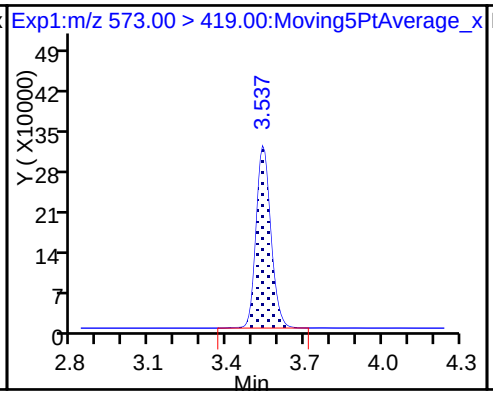
24 Perfluorodecanoic acid (ND)



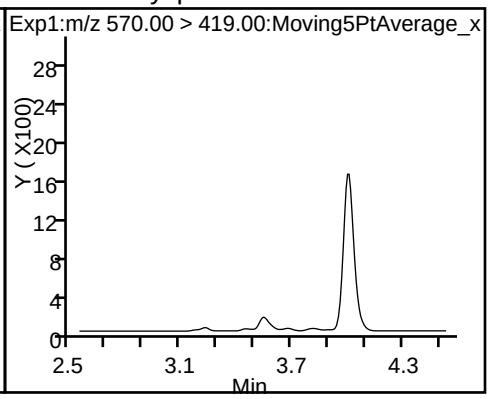
24 Perfluorodecanoic acid (ND)



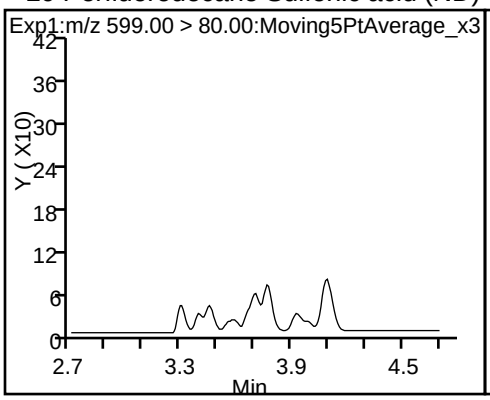
D 27 d3-NMeFOSAA



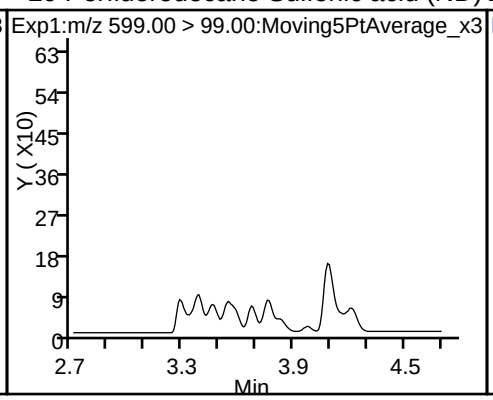
28 N-methyl perfluorooctane sulfonami (ND)



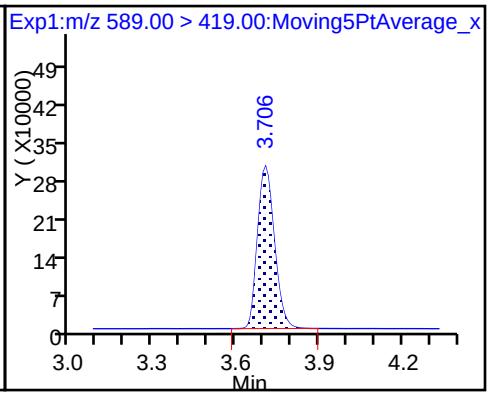
29 Perfluorodecane Sulfonic acid (ND)



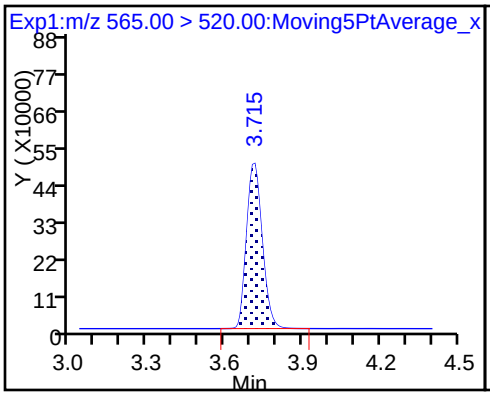
29 Perfluorodecane Sulfonic acid (ND)



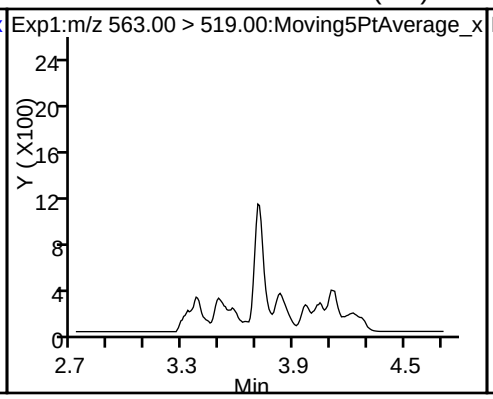
D 32 d5-NEtFOSAA



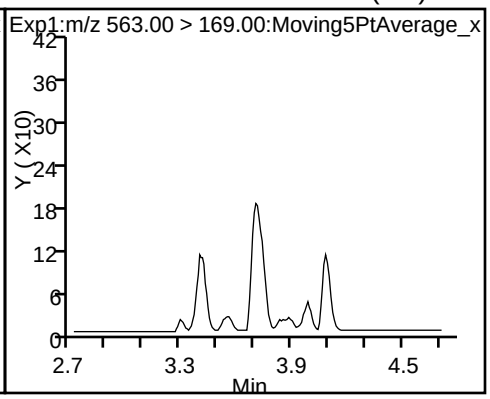
D 30 13C2 PFUnA



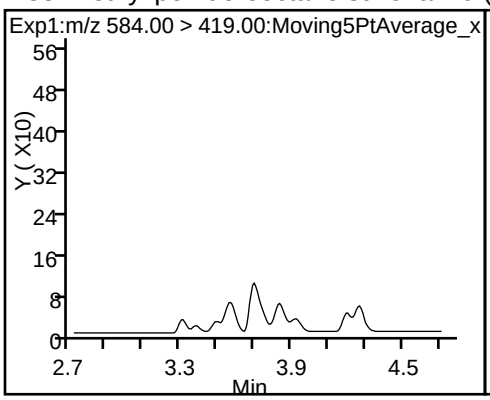
31 Perfluoroundecanoic acid (ND)



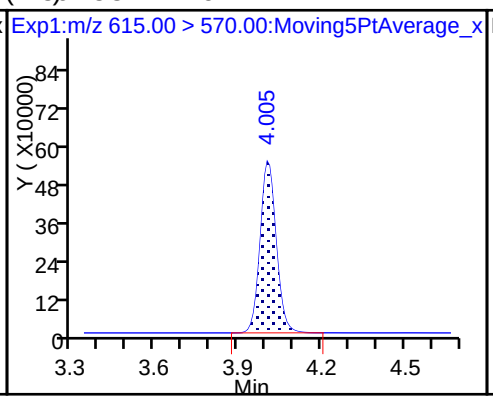
31 Perfluoroundecanoic acid (ND)



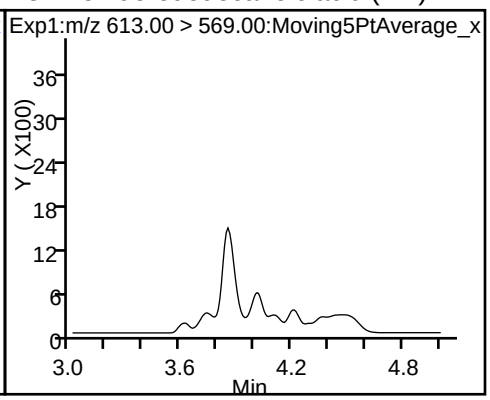
33 N-ethyl perfluorooctane sulfonamid (ND)



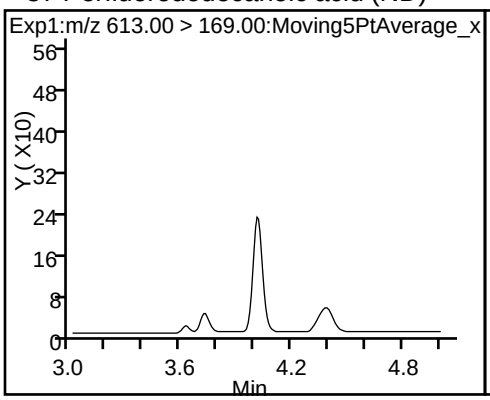
D 36 13C2 PFDoA



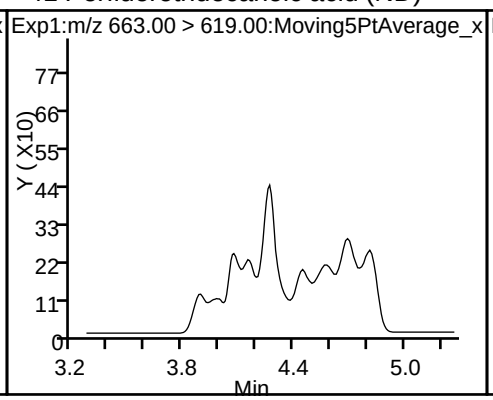
37 Perfluorododecanoic acid (ND)



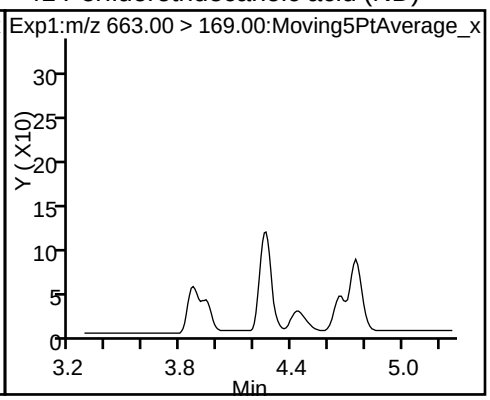
37 Perfluorododecanoic acid (ND)



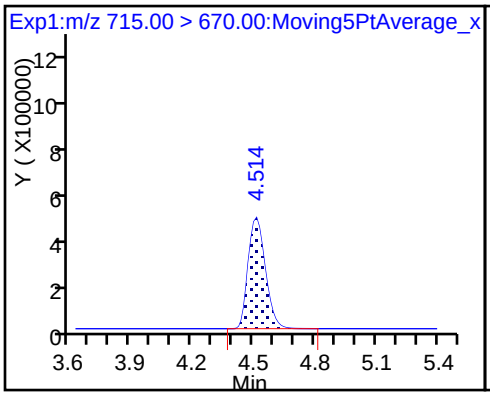
41 Perfluorotridecanoic acid (ND)



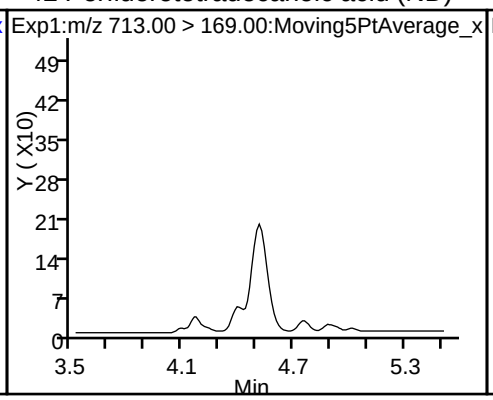
41 Perfluorotridecanoic acid (ND)



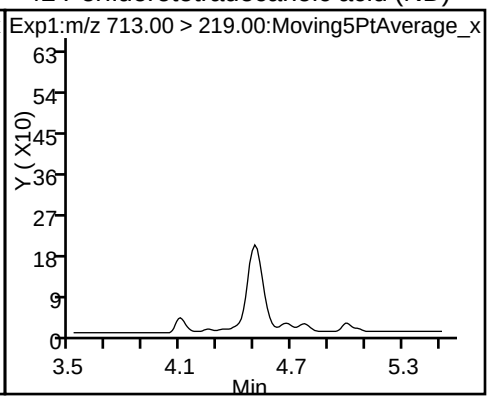
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-060-886-171213 | Lab Sample ID: 320-34425-31

Matrix: Water | Lab File ID: 2017.12.22LLB_051.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 11:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 237.3(mL) | Date Analyzed: 12/23/2017 04:08

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.37	U	2.11	0.37
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.52	U	2.11	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	0.61	U	2.11	0.61
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.26	U	2.11	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	0.90	U	2.11	0.90
375-95-1	Perfluorononanoic acid (PFNA)	0.28	U	2.11	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.33	U	2.11	0.33
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.16	U	2.11	1.16
307-55-1	Perfluorododecanoic acid (PFDoA)	0.58	U	2.11	0.58
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.37	U	2.11	1.37
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.31	U	2.11	0.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.21	U	2.11	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.28	J B	2.11	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.20	U	2.11	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.57	U	2.11	0.57
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.34	U	2.11	0.34
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.60	J	2.11	0.37
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.27	U	21.1	3.27
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2.00	U	21.1	2.00
27619-97-2	6:2FTS	2.11	U	21.1	2.11
39108-34-4	8:2FTS	2.11	U	21.1	2.11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-060-886-171213 | Lab Sample ID: 320-34425-31

Matrix: Water | Lab File ID: 2017.12.22LLB_051.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 11:00

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 237.3(mL) | Date Analyzed: 12/23/2017 04:08

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	105		25-150
STL01893	13C5 PFPeA	105		25-150
STL00993	13C2 PFHxA	99		25-150
STL01892	13C4-PFHpA	102		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	97		25-150
STL00996	13C2 PFDA	97		25-150
STL00997	13C2 PFUnA	94		25-150
STL00998	13C2 PFDoA	97		25-150
STL02116	13C2-PFTeDA	111		25-150
STL02337	13C3-PFBS	99		25-150
STL00994	18O2 PFHxS	103		25-150
STL00991	13C4 PFOS	98		25-150
STL01056	13C8 FOSA	91		25-150
STL02118	d3-NMeFOSAA	84		25-150
STL02117	d5-NEtFOSAA	87		25-150
STL02279	M2-6:2FTS	39		25-150
STL02280	M2-8:2FTS	77		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_051.d
Lims ID: 320-34425-A-31-A
Client ID: FM-34-060-886-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 04:08:34 ALS Bottle#: 41 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-31-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:47 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 16:02:05

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.535	7419755	2.62		105	21881	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	13124	0.004826			2.9	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.630	4458587	2.63		105	33841	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.663	1.670	-0.007	0.995	6500	0.003265			4.5	
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.705	0.002	0.644	83440	2.31		99.2	2543	
D 7 13C2 PFHxA										
315.00 > 270.00	1.965	1.953	0.012	0.741	4488063	2.48		99.1	39981	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.864	4291093	2.56		102	41387	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	15533	0.006634			49.6	
399.00 > 99.00	2.306	2.304	0.002	1.000	3981		3.90(1.50-4.49)		9.1	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.869	5144134	2.43		103	50067	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.642	-0.018	0.997	6461	0.0136			205	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.992	726422	0.9305		39.2	18890	
D 14 13C4 PFOA										
417.00 > 372.00	2.653	2.654	-0.001	1.000	4679339	2.43		97.1	49344	
* 62 13C2-PFOA										
415.00 > 370.00	2.653	2.656	-0.003		4663609	2.50			49612	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.653	2.656	-0.003	1.000	9765	0.004961			13.9	
413.00 > 169.00	2.653	2.656	-0.003	1.000	4506		2.17(0.84-2.52)		33.9	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.141	3256258	2.33		97.6	29324	
D 19 13C5 PFNA										
468.00 > 423.00	3.026	3.028	-0.002	1.141	3335442	2.44		97.5	41837	
D 21 13C8 FOSA										
506.00 > 78.00	3.373	3.370	0.003	1.271	4343270	2.28		91.4	27029	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.373	3.372	0.001	1.000	23869	0.0143			788	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.377	0.003	1.274	806151	1.85		77.2	19073	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.389	-0.001	1.277	2747454	2.43		97.3	31374	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.543	-0.003	1.335	1279779	2.11		84.5	25163	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.398	1294662	2.19		87.5	6706	
D 30 13C2 PFUnA										
565.00 > 520.00	3.708	3.717	-0.009	1.398	2015790	2.34		93.8	20817	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.011	-0.004	1.510	2250406	2.43		97.1	40413	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.702	2881570	2.78		111	27762	

Report Date: 26-Dec-2017 16:04:55 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_051.d

Injection Date: 23-Dec-2017 04:08:34 Instrument ID: A8_N

Lims ID: 320-34425-A-31-A Lab Sample ID: 320-34425-31

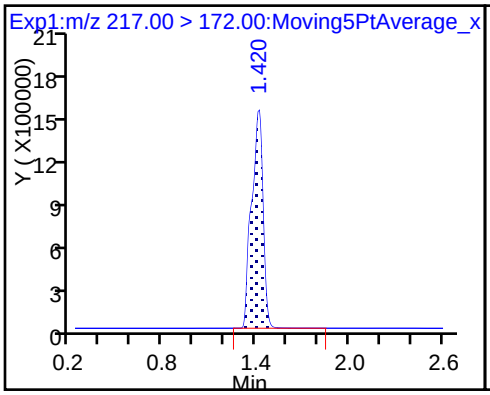
Client ID: FM-34-060-886-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 41 Worklist Smp#: 16

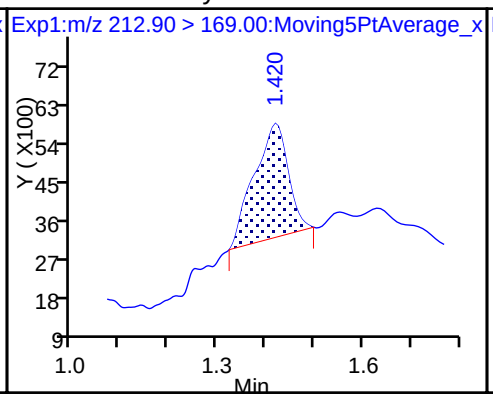
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

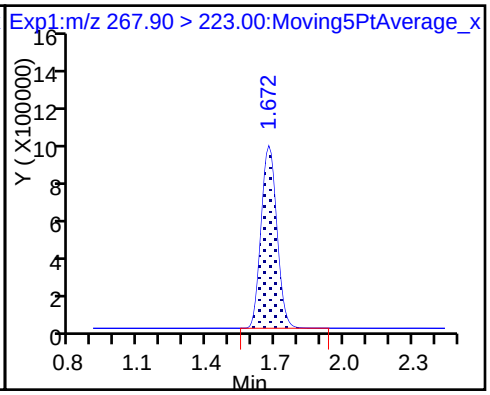
D 1 13C4 PFBA



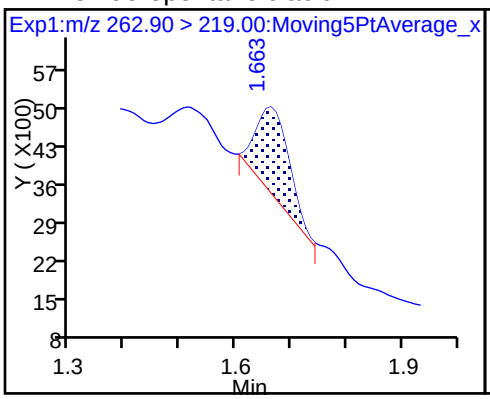
2 Perfluorobutyric acid



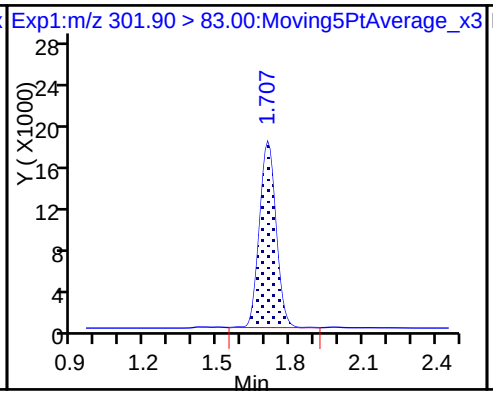
D 3 13C5-PFPeA



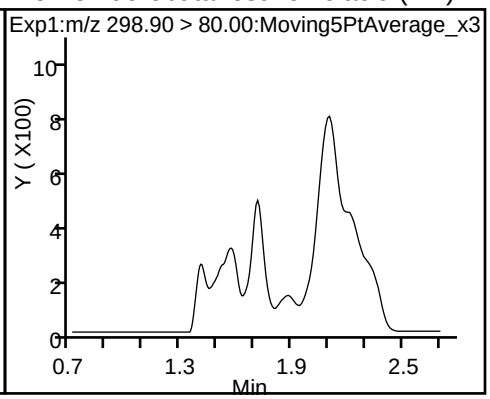
4 Perfluoropentanoic acid



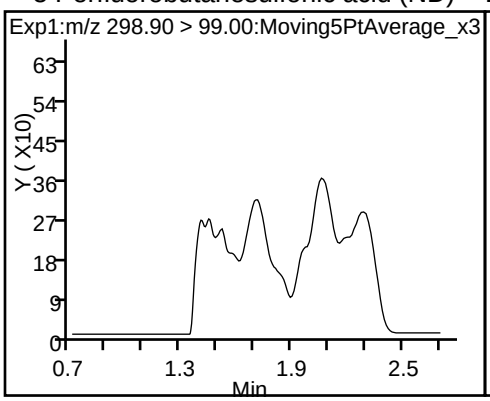
D 47 13C3-PFBS



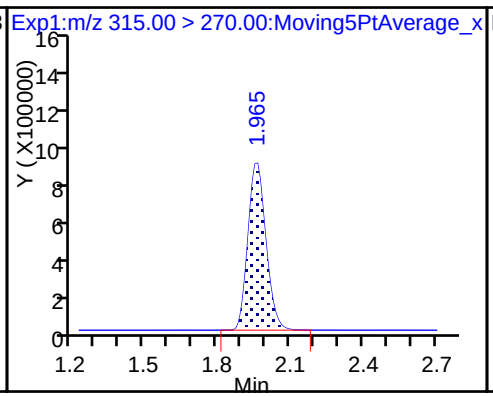
5 Perfluorobutanesulfonic acid (ND)



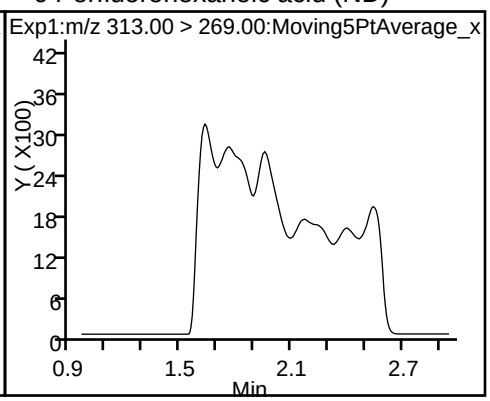
5 Perfluorobutanesulfonic acid (ND)



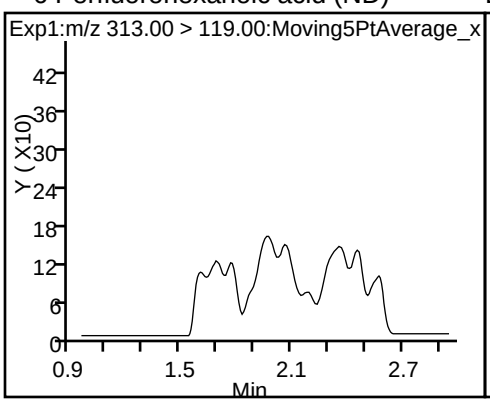
D 7 13C2 PFHxA



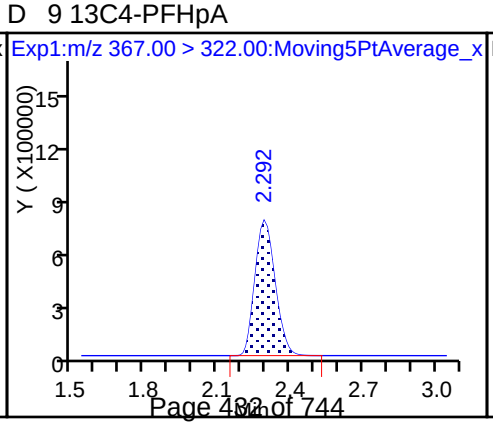
6 Perfluorohexanoic acid (ND)



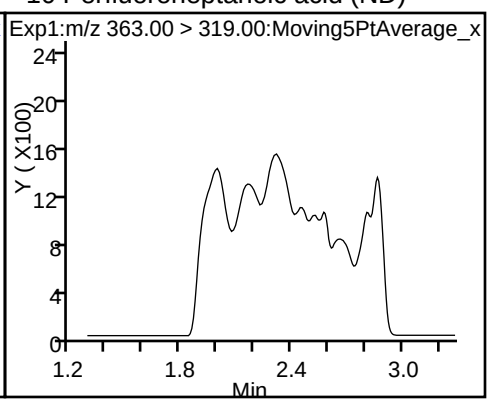
6 Perfluorohexanoic acid (ND)



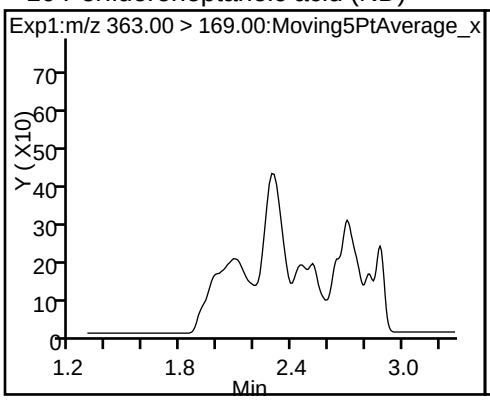
D 9 13C4-PFHpA



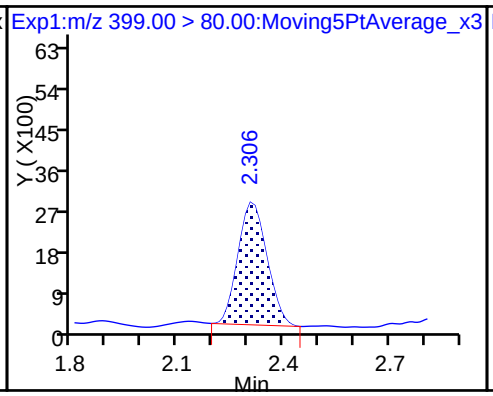
10 Perfluoroheptanoic acid (ND)



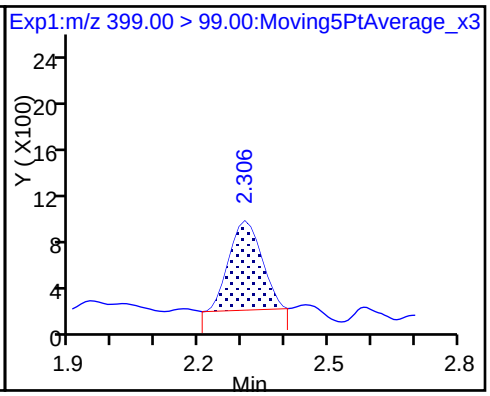
10 Perfluoroheptanoic acid (ND)



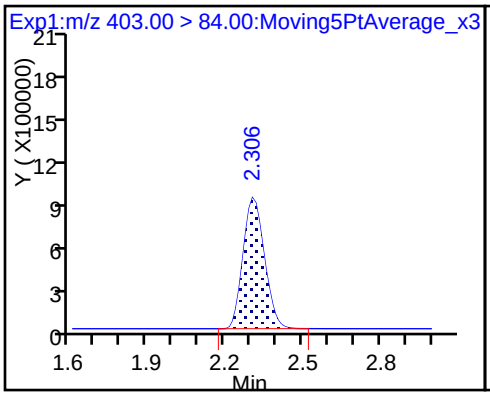
8 Perfluorohexanesulfonic acid



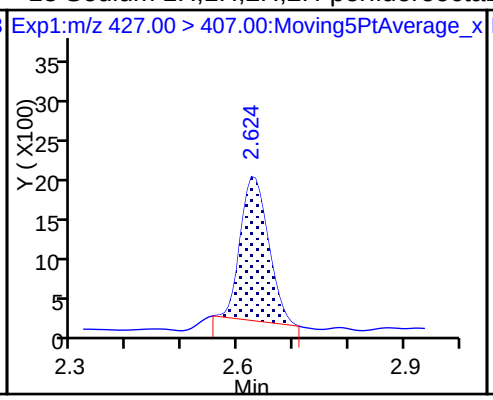
8 Perfluorohexanesulfonic acid



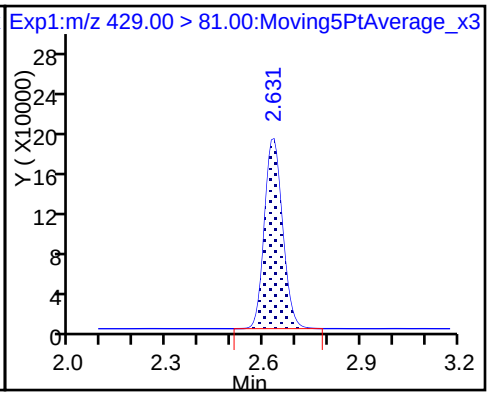
D 11 18O2 PFHxS



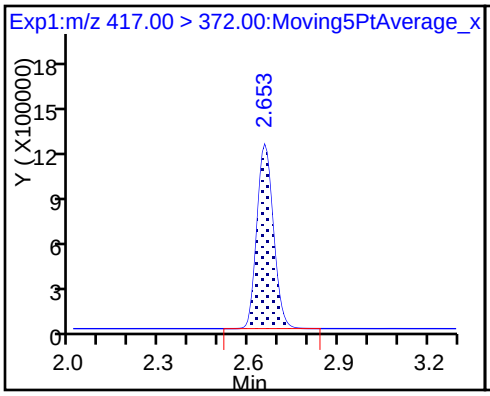
13 Sodium 1H,1H,2H,2H-perfluorooctane



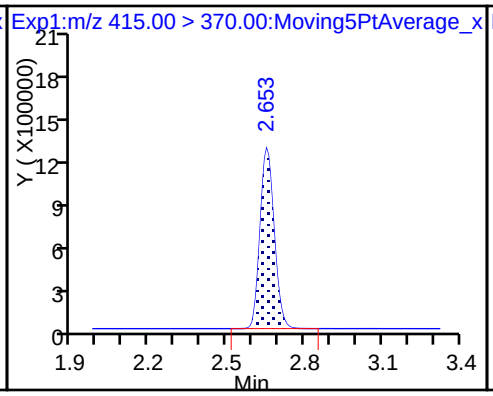
D 12 M2-6:2FTS



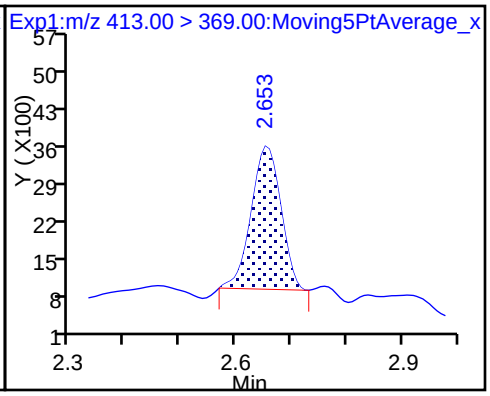
D 14 13C4 PFOA



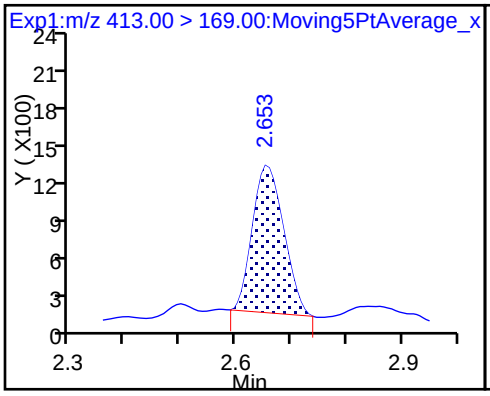
* 62 13C2-PFOA



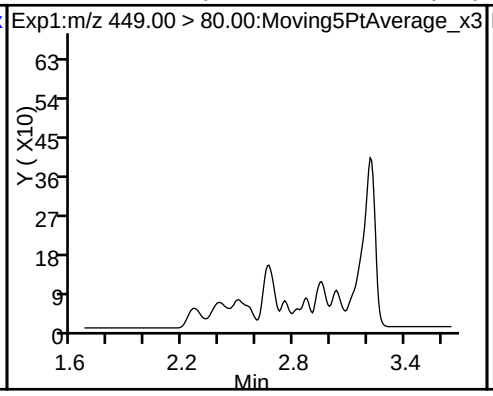
15 Perfluorooctanoic acid



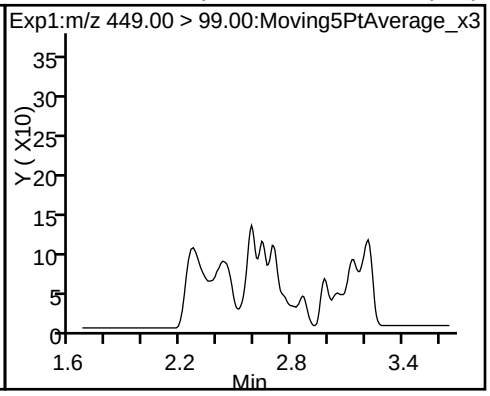
15 Perfluorooctanoic acid



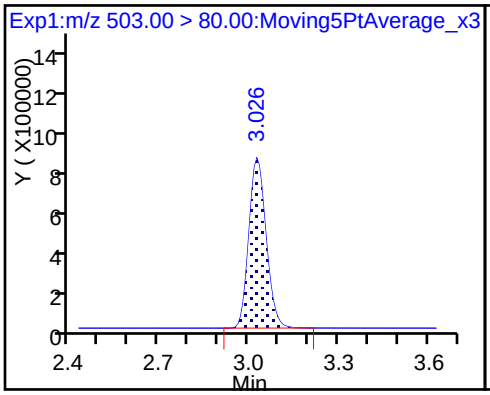
16 Perfluoroheptanesulfonic Acid (ND)



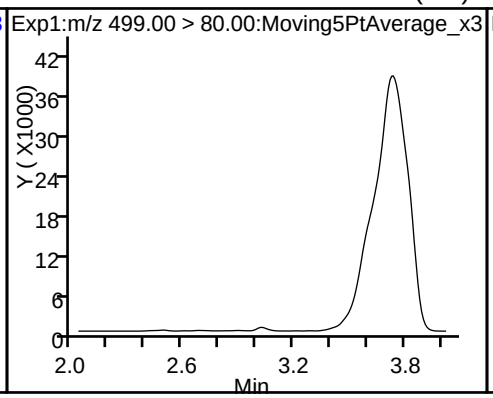
16 Perfluoroheptanesulfonic Acid (ND)



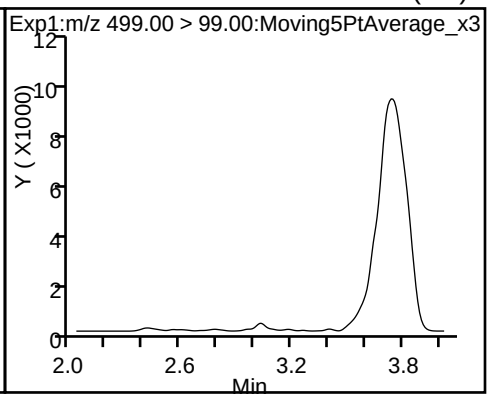
D 18 13C4 PFOS



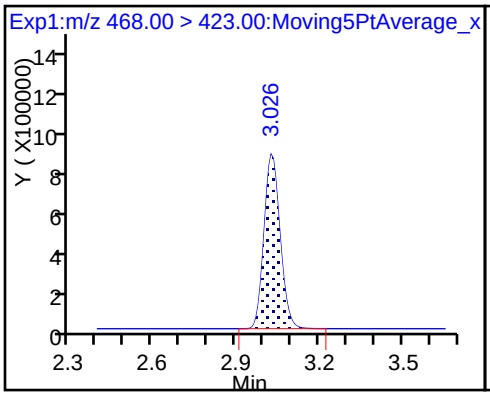
17 Perfluorooctane sulfonic acid (ND)



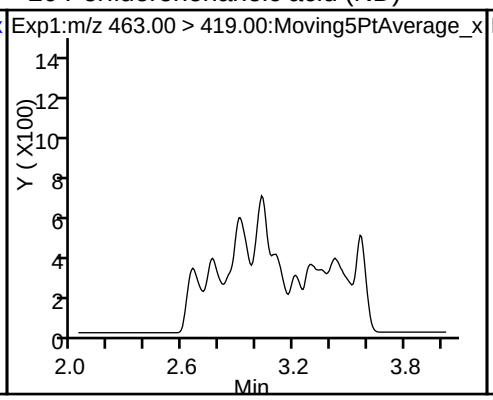
17 Perfluorooctane sulfonic acid (ND)



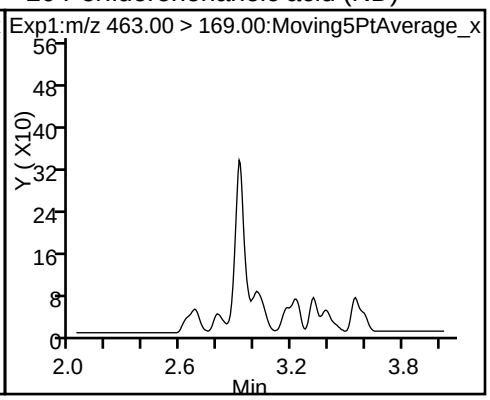
D 19 13C5 PFNA



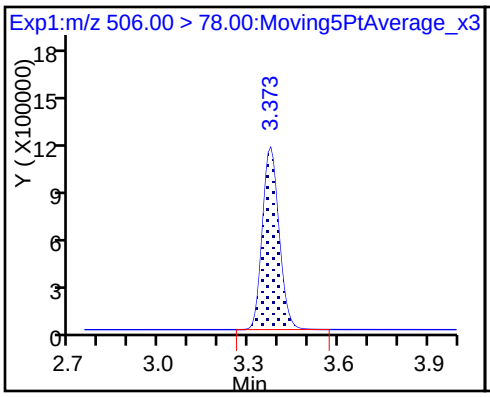
20 Perfluorononanoic acid (ND)



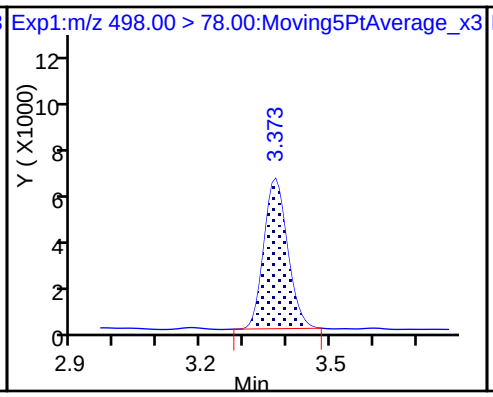
20 Perfluorononanoic acid (ND)



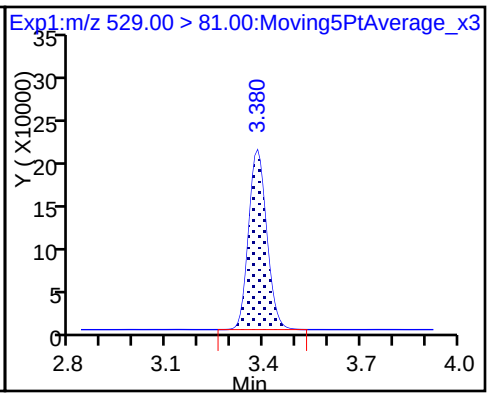
D 21 13C8 FOSA



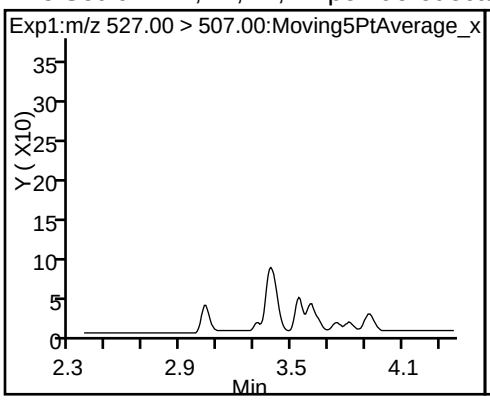
22 Perfluorooctane Sulfonamide



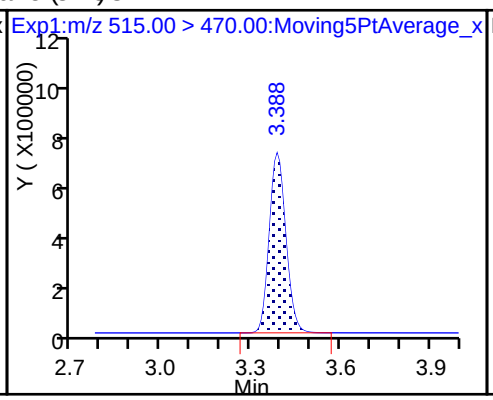
D 26 M2-8:2FTS



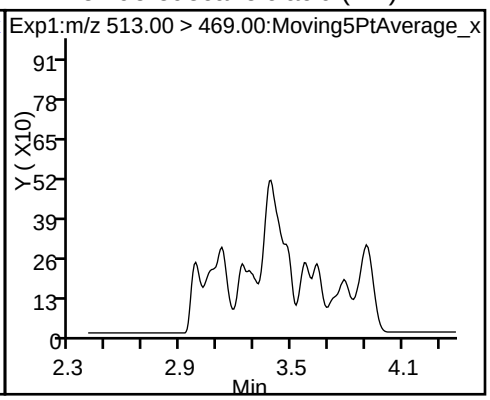
25 Sodium 1H,1H,2H,2H-perfluorodecanesulfonate (ND)



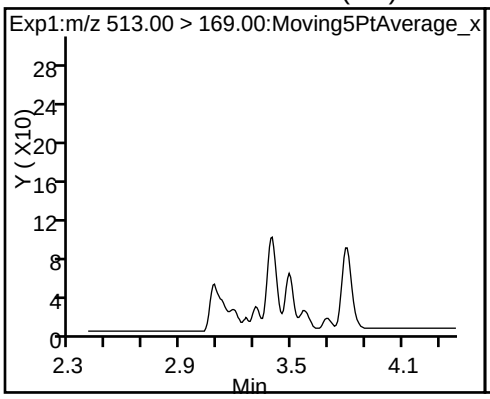
D 13C2 PFDA



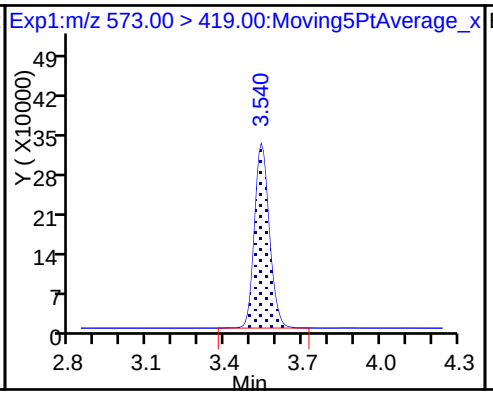
24 Perfluorodecanoic acid (ND)



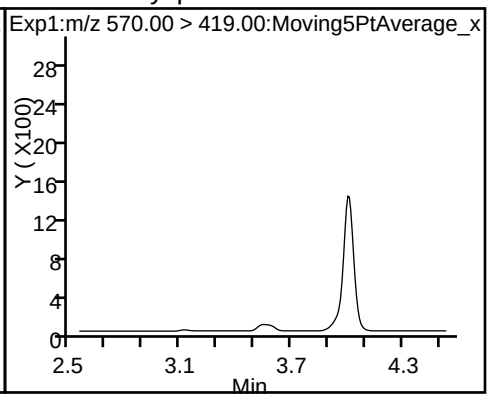
24 Perfluorodecanoic acid (ND)



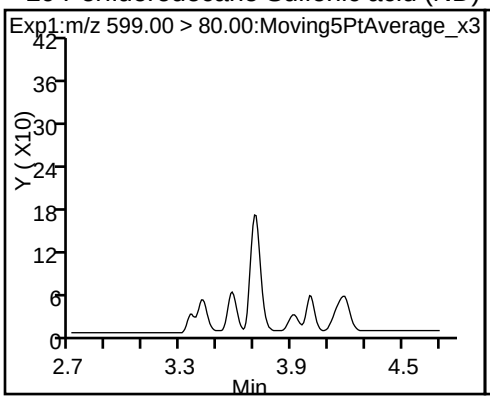
D 27 d3-NMeFOSAA



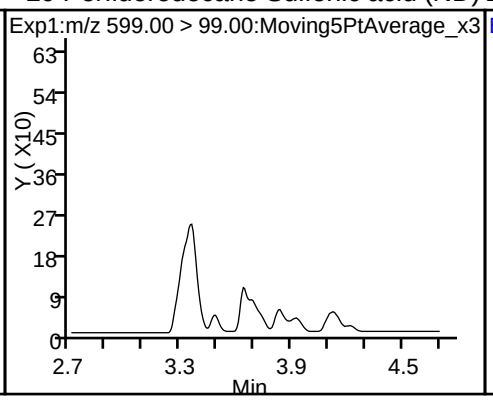
28 N-methyl perfluorooctane sulfonami (ND)



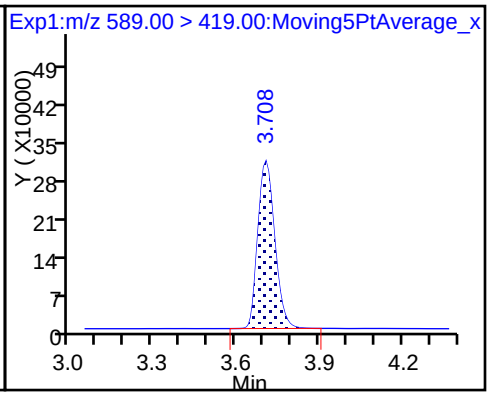
29 Perfluorodecane Sulfonic acid (ND)



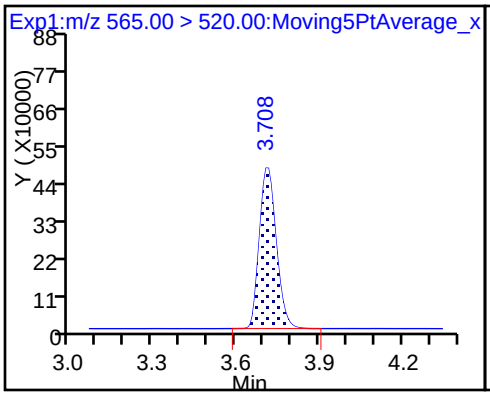
29 Perfluorodecane Sulfonic acid (ND)



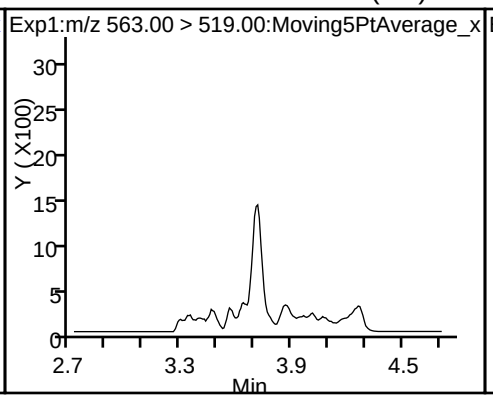
D 32 d5-NEtFOSAA



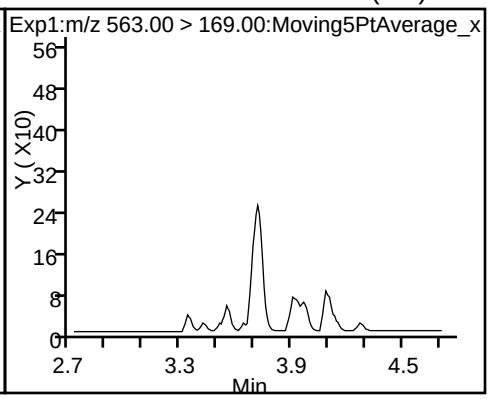
D 30 13C2 PFUnA



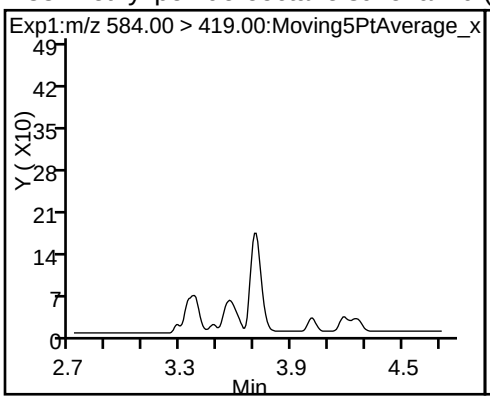
31 Perfluoroundecanoic acid (ND)



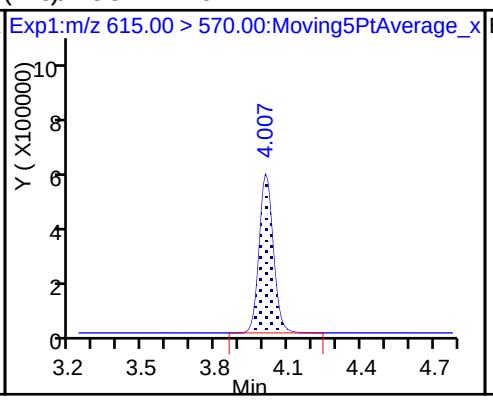
31 Perfluoroundecanoic acid (ND)



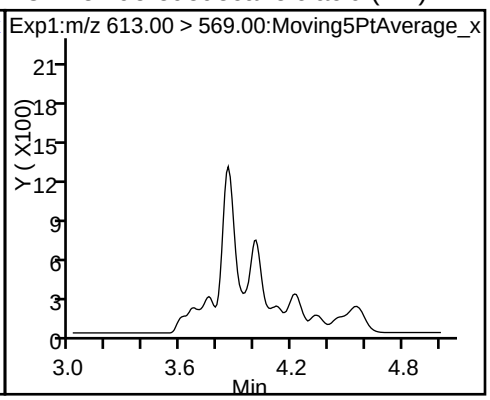
33 N-ethyl perfluorooctane sulfonamid (ND)



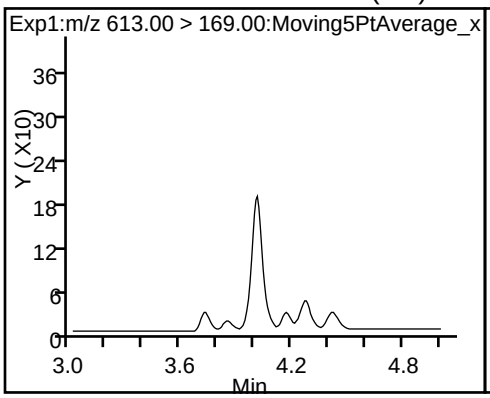
D 36 13C2 PFDoA



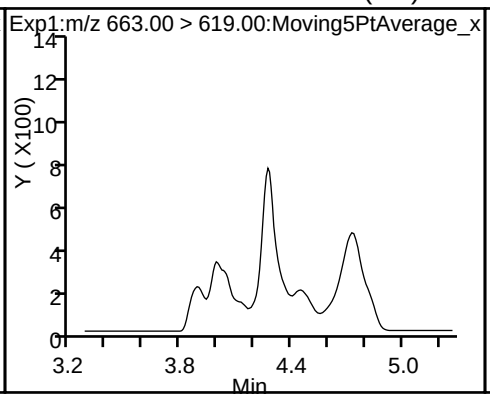
37 Perfluorododecanoic acid (ND)



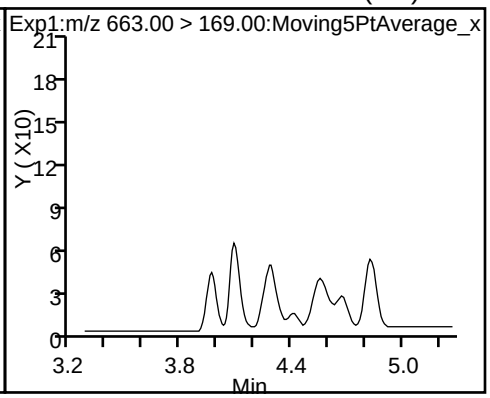
37 Perfluorododecanoic acid (ND)



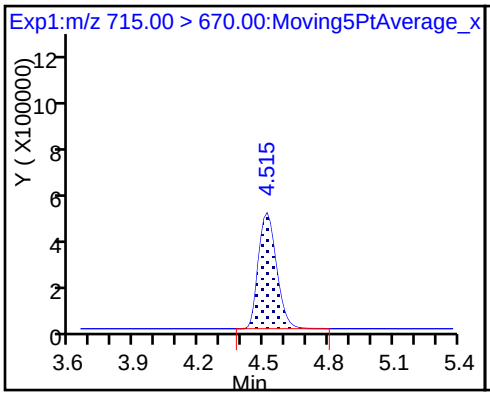
41 Perfluorotridecanoic acid (ND)



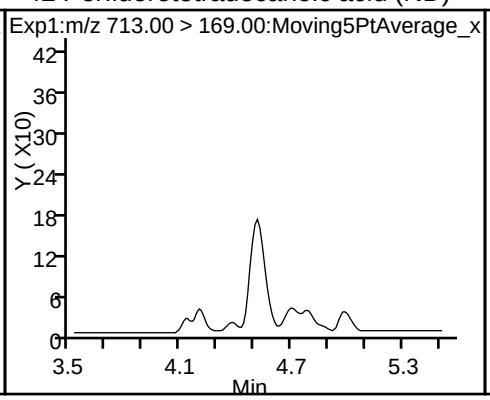
41 Perfluorotridecanoic acid (ND)



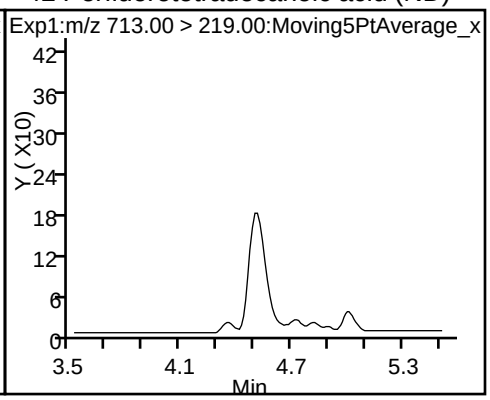
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-050-886-171213 | Lab Sample ID: 320-34425-32

Matrix: Water | Lab File ID: 2017.12.22LLB_052.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 12:39

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 242.9(mL) | Date Analyzed: 12/23/2017 04:16

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.75		2.06	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	5.49		2.06	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	4.91		2.06	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.43		2.06	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	5.63		2.06	0.87
375-95-1	Perfluorononanoic acid (PFNA)	0.28	U	2.06	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	0.32	U	2.06	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.13	U	2.06	1.13
307-55-1	Perfluorododecanoic acid (PFDoA)	0.57	U	2.06	0.57
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.34	U	2.06	1.34
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.30	U	2.06	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.62	J	2.06	0.21
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	11.3	B	2.06	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.46	J	2.06	0.20
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	39.2		2.06	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.33	U	2.06	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.43	J	2.06	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.19	U	20.6	3.19
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.96	U	20.6	1.96
27619-97-2	6:2FTS	2.06	U	20.6	2.06
39108-34-4	8:2FTS	2.06	U	20.6	2.06

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-050-886-171213 | Lab Sample ID: 320-34425-32

Matrix: Water | Lab File ID: 2017.12.22LLB_052.d

Analysis Method: 537 (modified) | Date Collected: 12/13/2017 12:39

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 242.9(mL) | Date Analyzed: 12/23/2017 04:16

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	109		25-150
STL01893	13C5 PFPeA	112		25-150
STL00993	13C2 PFHxA	104		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	99		25-150
STL00995	13C5 PFNA	100		25-150
STL00996	13C2 PFDA	104		25-150
STL00997	13C2 PFUnA	96		25-150
STL00998	13C2 PFDoA	97		25-150
STL02116	13C2-PFTeDA	113		25-150
STL02337	13C3-PFBS	103		25-150
STL00994	18O2 PFHxS	106		25-150
STL00991	13C4 PFOS	102		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	82		25-150
STL02117	d5-NEtFOSAA	88		25-150
STL02279	M2-6:2FTS	44		25-150
STL02280	M2-8:2FTS	76		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_052.d
Lims ID: 320-34425-A-32-A
Client ID: FM-34-050-886-171213
Sample Type: Client
Inject. Date: 23-Dec-2017 04:16:27 ALS Bottle#: 42 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-32-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:47 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 16:04:16

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.534	7807309	2.73		109	26742	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.004	190991	0.0667			49.8	
D 3 13C5-PFPeA										
267.90 > 223.00	1.679	1.670	0.009	0.632	4804148	2.80		112	45446	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.670	0.009	1.000	285853	0.1333			169	
D 47 13C3-PFBS										
301.90 > 83.00	1.715	1.705	0.010	0.645	87389	2.39		103	3064	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.715	1.707	0.008	1.000	111197	0.0393			297	
298.90 > 99.00	1.715	1.707	0.008	1.000	46937		2.37(1.25-3.74)		281	
D 7 13C2 PFHxA										
315.00 > 270.00	1.964	1.953	0.011	0.739	4747186	2.59		104	42499	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.964	1.956	0.008	1.000	226506	0.1191			227	
313.00 > 119.00	1.964	1.956	0.008	1.000	19037		11.90(5.03-15.10)		277	
D 9 13C4-PFHpA										
367.00 > 322.00	2.304	2.291	0.013	0.867	4386785	2.59		104	34457	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.304	2.291	0.013	1.000	152849	0.0833			236	
363.00 > 169.00	2.304	2.291	0.013	1.000	61574		2.48(1.13-3.40)		557	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.318	2.304	0.014	1.000	671963	0.2750			1610	
399.00 > 99.00	2.318	2.304	0.014	1.000	212015		3.17(1.50-4.49)		720	
D 11 18O2 PFHxS										
403.00 > 84.00	2.318	2.304	0.014	0.872	5369420	2.51		106	52171	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.637	2.642	-0.005	1.000	24551	0.0456			698	
D 12 M2-6:2FTS										
429.00 > 81.00	2.637	2.642	-0.005	0.992	825446	1.05		44.1	15775	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.004	1.000	4819782	2.48		99.0	66626	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.002		4711583	2.50			61921	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.659	2.656	0.002	1.000	277363	0.1368			374	
413.00 > 169.00	2.659	2.656	0.002	1.000	152074		1.82(0.84-2.52)		1217	M
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.666	2.662	0.004	1.000	20856	0.0111			139	
449.00 > 99.00	2.666	2.662	0.004	1.000	6802		3.07(1.94-5.82)		163	
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.141	3432778	2.43		102	28837	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	1450800	0.9529			160	
499.00 > 99.00	3.032	3.028	0.004	1.000	331170		4.38(2.31-6.93)		216	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.141	3474623	2.51		100	39617	
20 Perfluorononanoic acid										M
463.00 > 419.00	3.040	3.029	0.011	1.003	3913	0.002798			11.5	
463.00 > 169.00	3.032	3.029	0.003	1.000	1053		3.72(1.90-5.69)		9.8	M
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.270	4631009	2.41		96.5	26975	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	18383	0.0103			287	
D 26 M2-8:2FTS										
529.00 > 81.00	3.385	3.377	0.008	1.273	800451	1.82		75.8	12911	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2957986	2.59		104	38637	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1250579	2.04		81.7	15844	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.714	3.712	0.002	1.397	1316066	2.20		88.0	6188	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.397	2080558	2.40		95.8	29391	
31 Perfluoroundecanoic acid										M
563.00 > 519.00	3.714	3.718	-0.004	1.000	3619	0.004747			32.1	M
563.00 > 169.00	3.723	3.718	0.005	1.002	1880		1.93(0.00-0.00)		133	M
D 36 13C2 PFDoA										
615.00 > 570.00	4.012	4.011	0.001	1.509	2269979	2.42		96.9	40992	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.698	2949933	2.82		113	23181	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:57 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_052.d

Injection Date: 23-Dec-2017 04:16:27 Instrument ID: A8_N

Lims ID: 320-34425-A-32-A Lab Sample ID: 320-34425-32

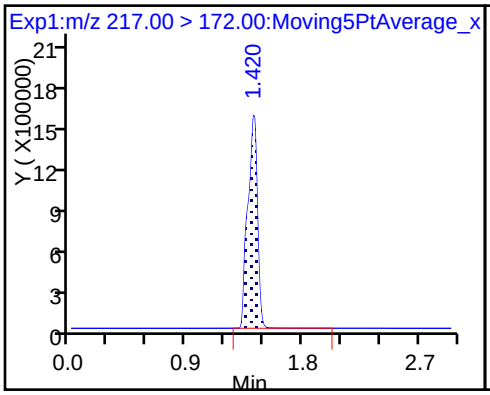
Client ID: FM-34-050-886-171213

Operator ID: SACINSTLCMS01 ALS Bottle#: 42 Worklist Smp#: 17

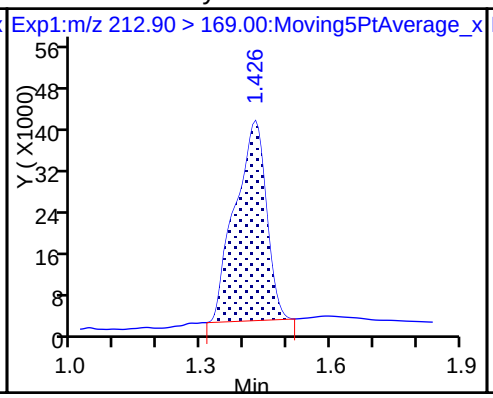
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

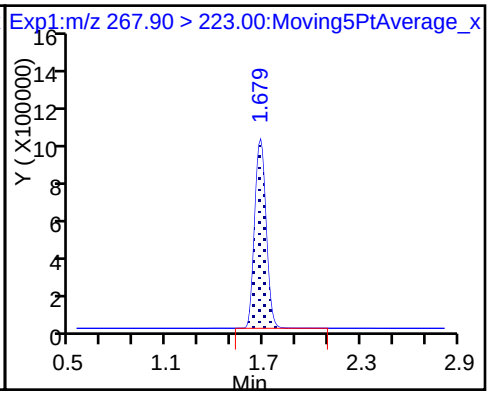
D 1 13C4 PFBA



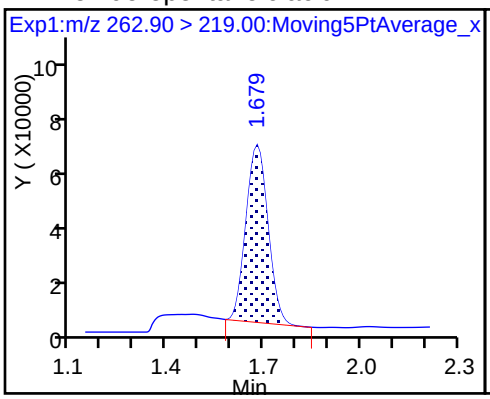
2 Perfluorobutyric acid



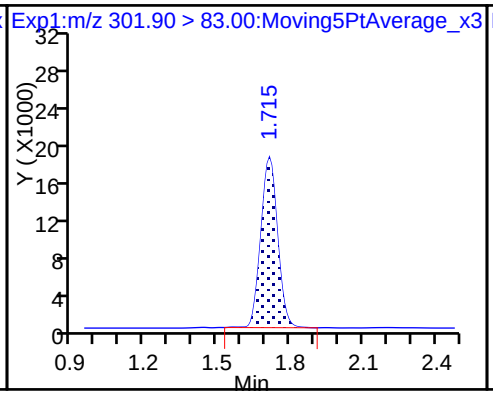
D 3 13C5-PFPeA



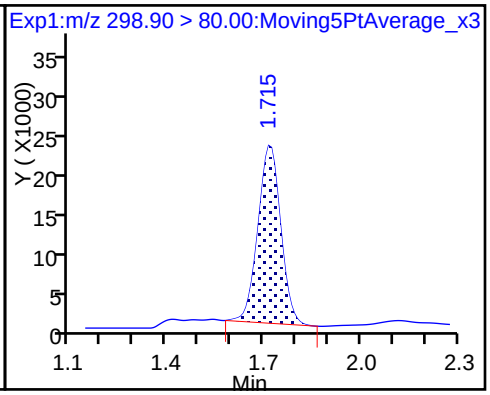
4 Perfluoropentanoic acid



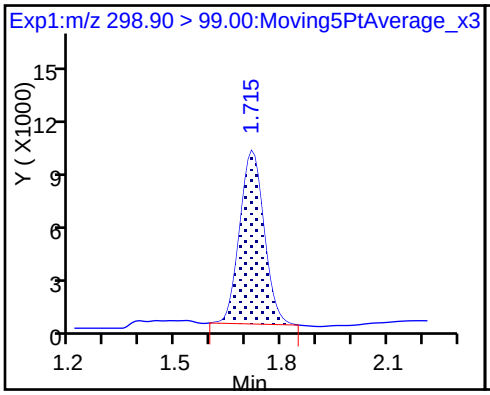
D 47 13C3-PFBS



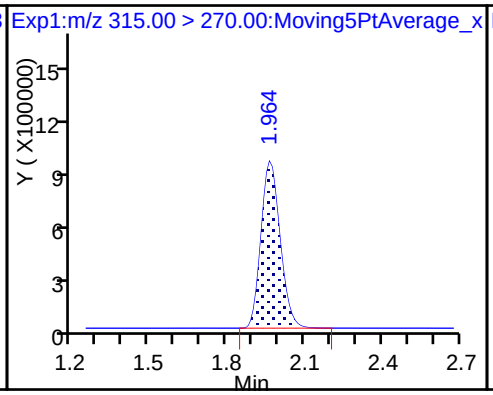
5 Perfluorobutanesulfonic acid



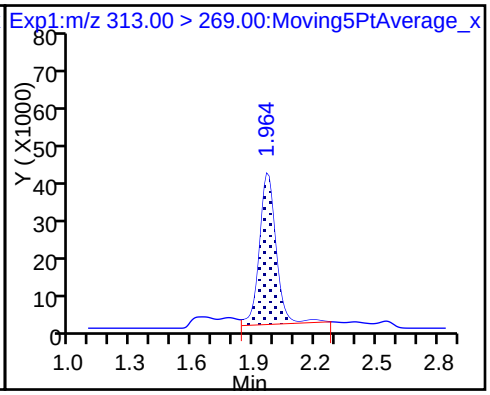
5 Perfluorobutanesulfonic acid



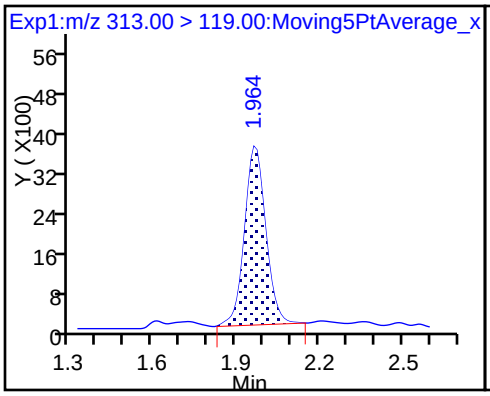
D 7 13C2 PFHxA



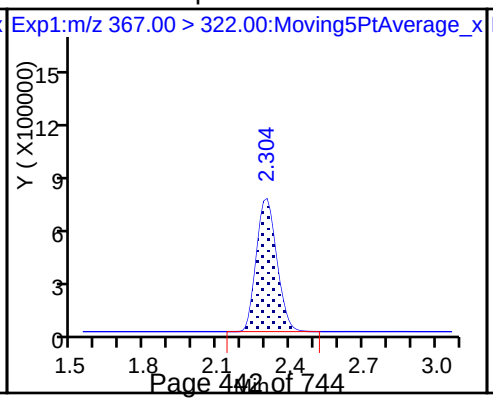
6 Perfluorohexanoic acid



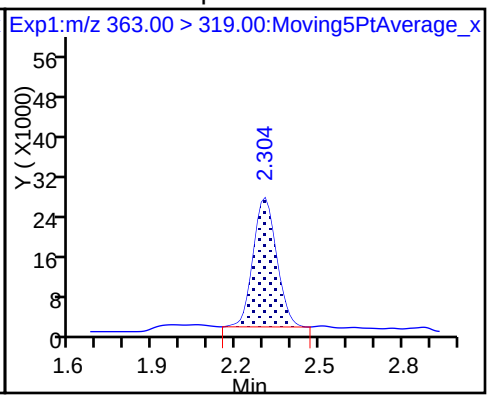
6 Perfluorohexanoic acid



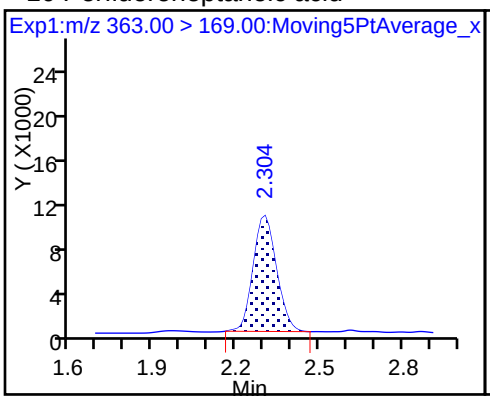
D 9 13C4-PFHpA



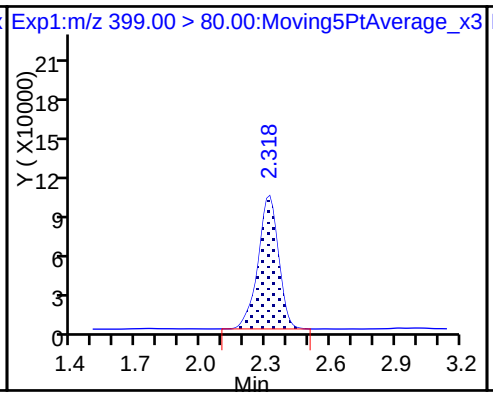
10 Perfluoroheptanoic acid



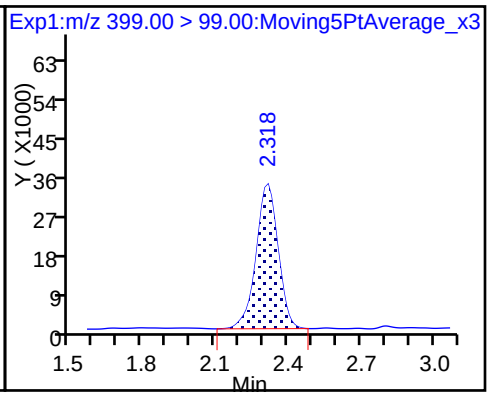
10 Perfluoroheptanoic acid



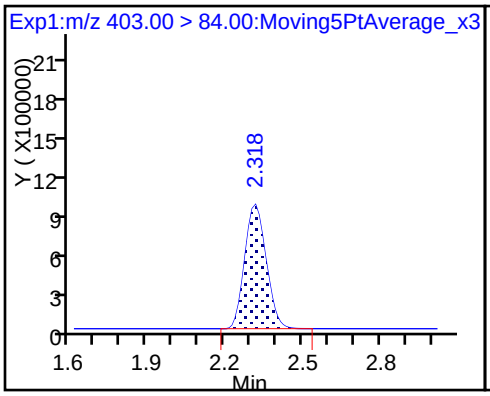
8 Perfluorohexanesulfonic acid



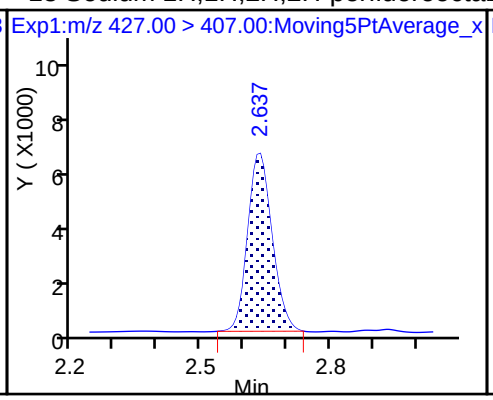
8 Perfluorohexanesulfonic acid



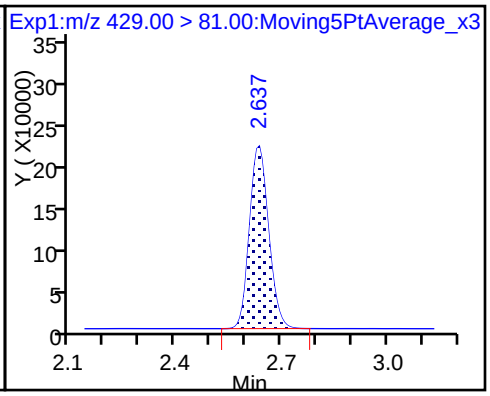
D 11 18O2 PFHxS



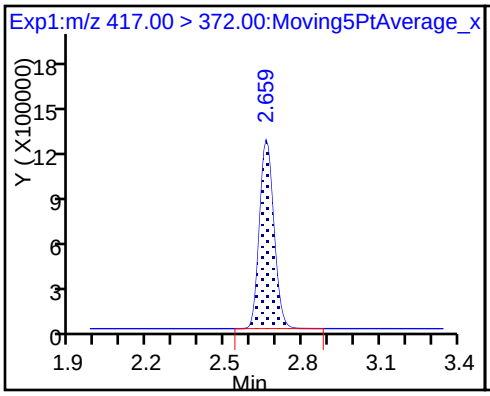
13 Sodium 1H,1H,2H,2H-perfluorooctane



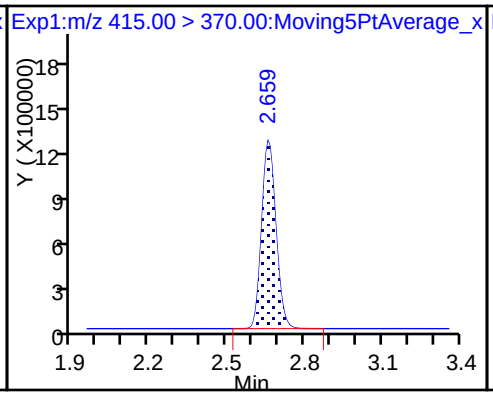
D 12 M2-6:2FTS



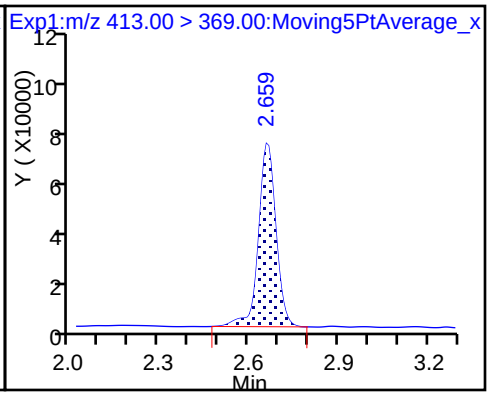
D 14 13C4 PFOA



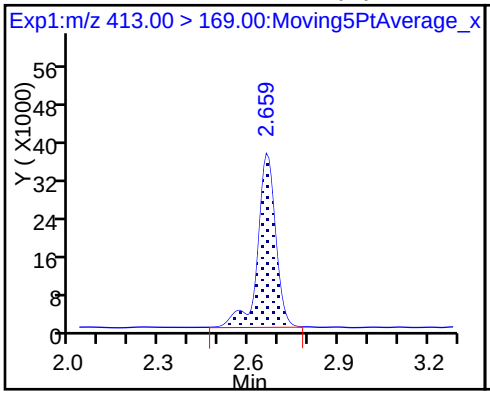
* 62 13C2-PFOA



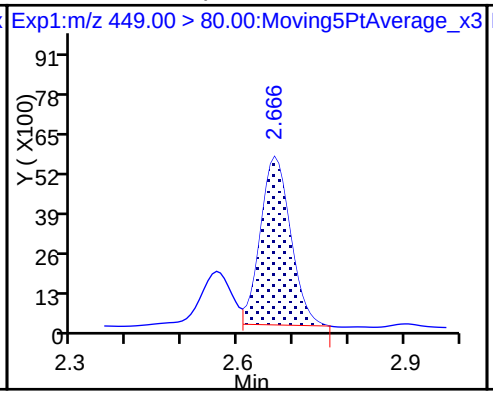
15 Perfluorooctanoic acid



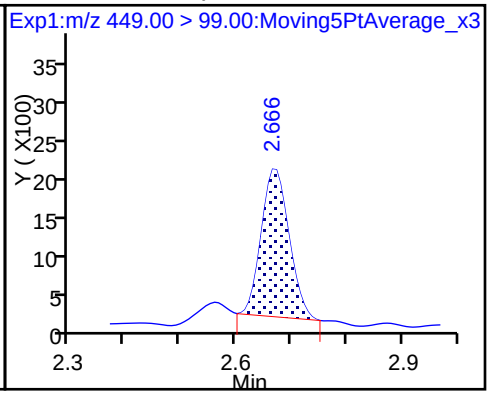
15 Perfluorooctanoic acid (M)



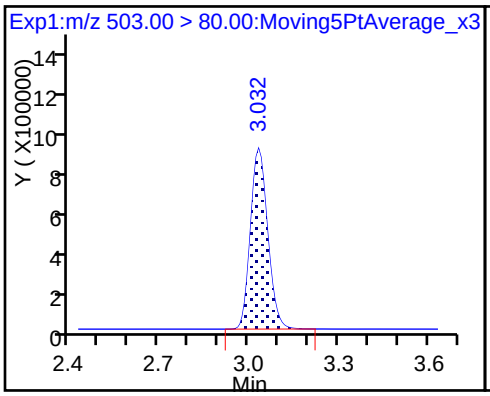
16 Perfluoroheptanesulfonic Acid



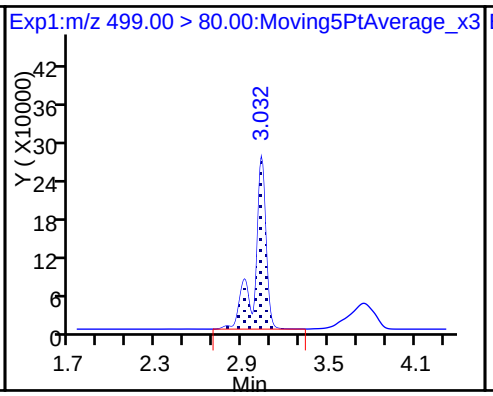
16 Perfluoroheptanesulfonic Acid



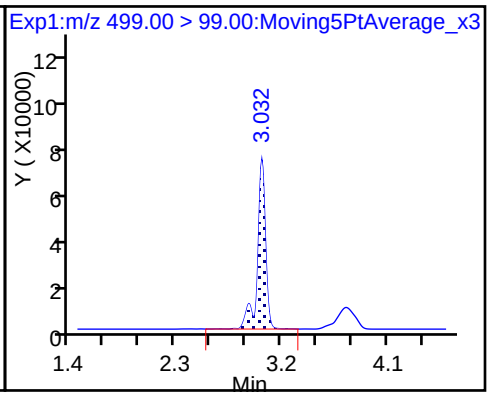
D 18 13C4 PFOS



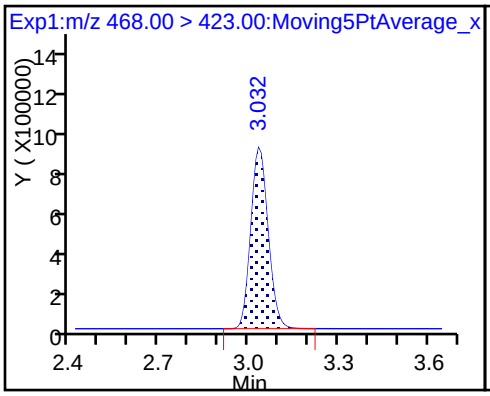
17 Perfluorooctane sulfonic acid



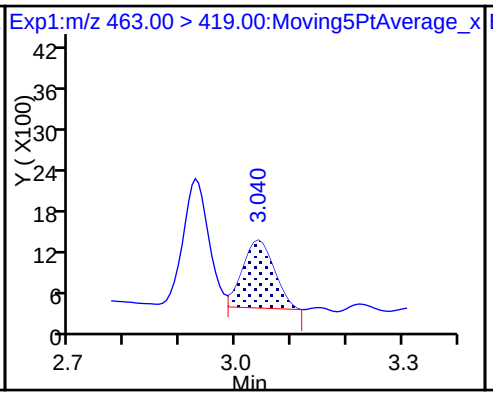
17 Perfluorooctane sulfonic acid



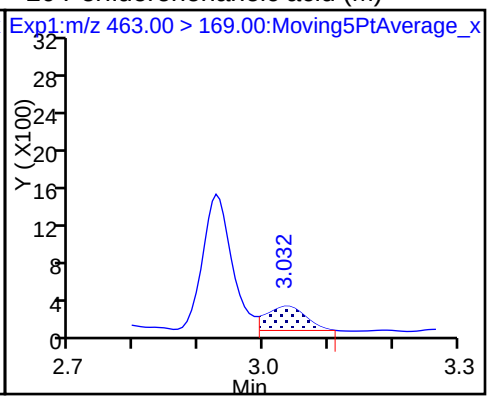
D 19 13C5 PFNA



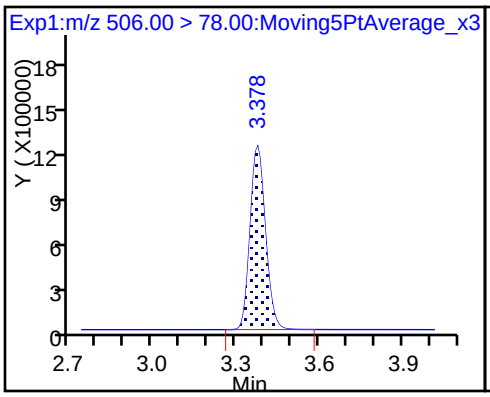
20 Perfluorononanoic acid



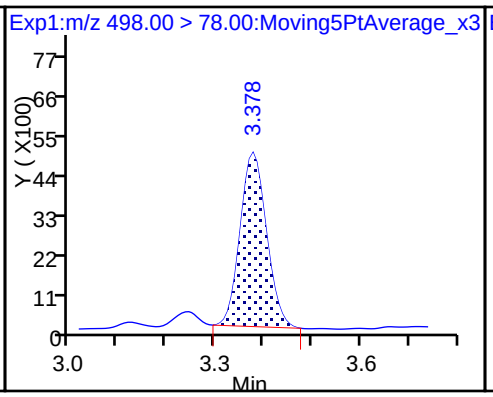
20 Perfluorononanoic acid (M)



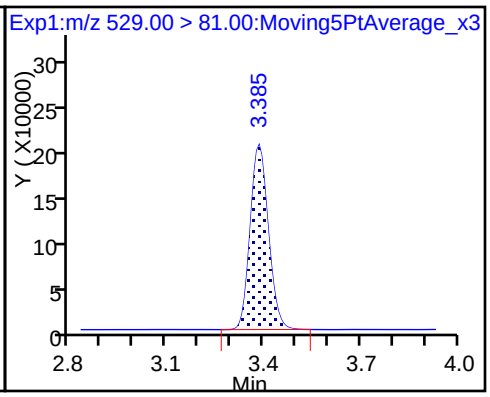
D 21 13C8 FOSA



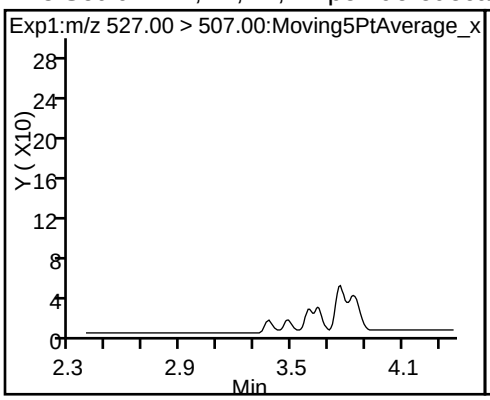
22 Perfluorooctane Sulfonamide



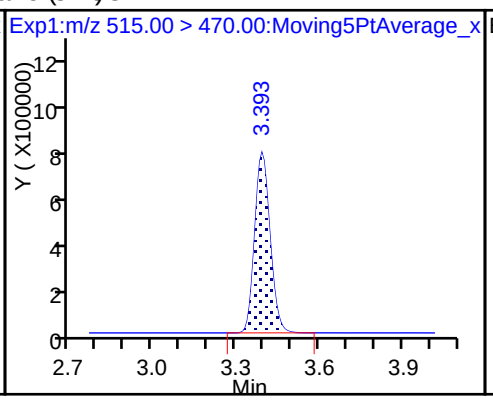
D 26 M2-8:2FTS



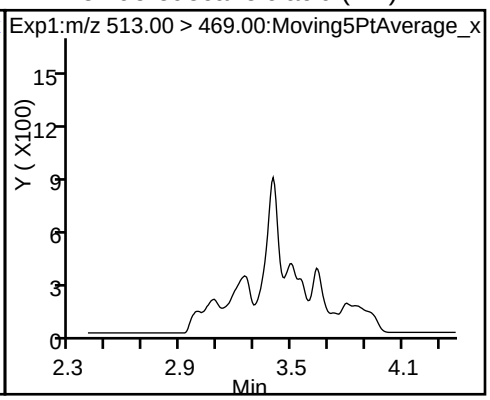
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



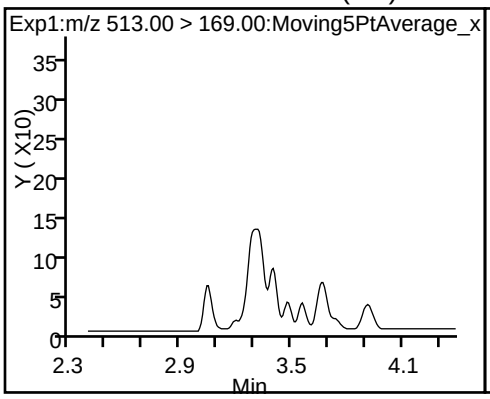
D 23 13C2 PFDA



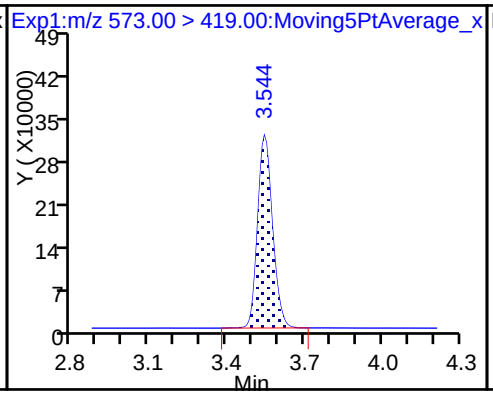
24 Perfluorodecanoic acid (ND)



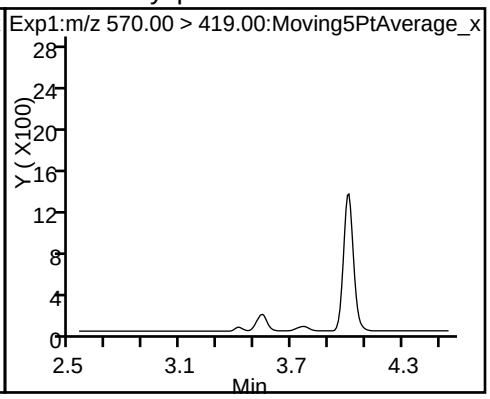
24 Perfluorodecanoic acid (ND)



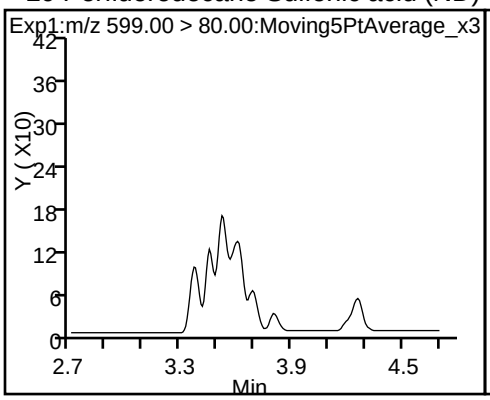
D 27 d3-NMeFOSAA



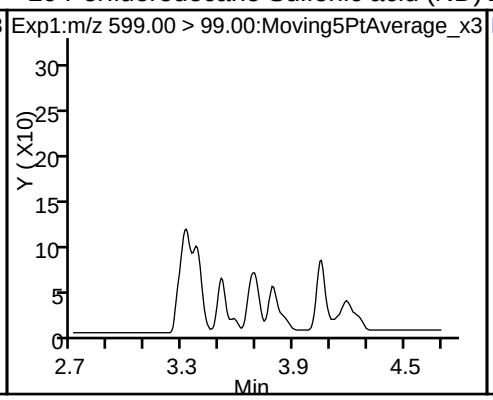
28 N-methyl perfluorooctane sulfonami (ND)



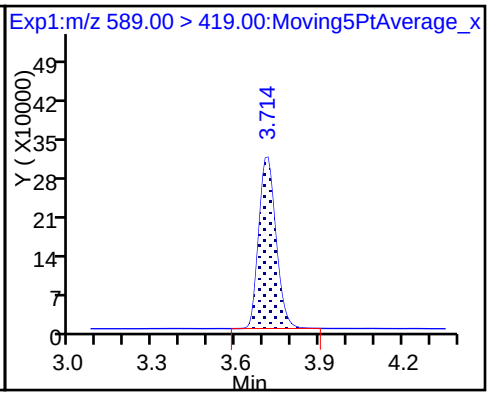
29 Perfluorodecane Sulfonic acid (ND)



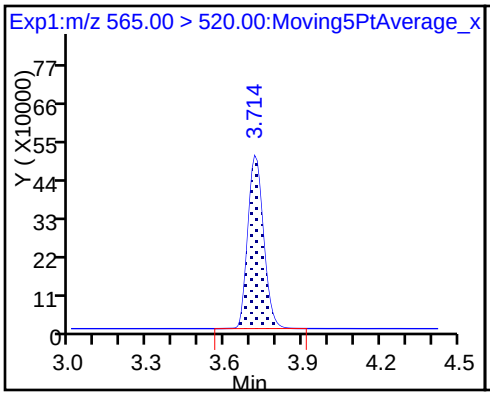
29 Perfluorodecane Sulfonic acid (ND)



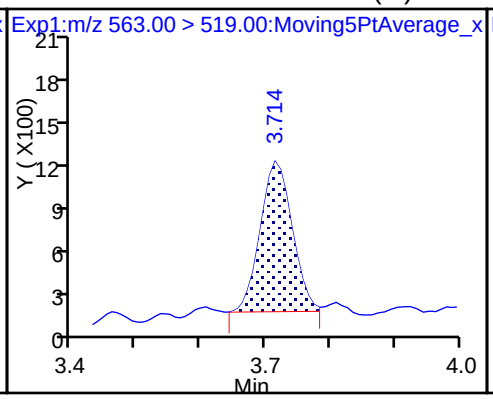
D 32 d5-NEtFOSAA



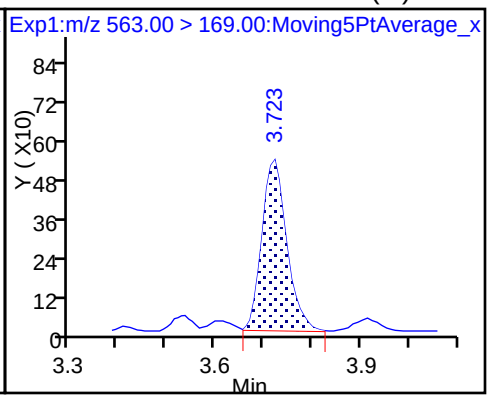
D 30 13C2 PFUnA



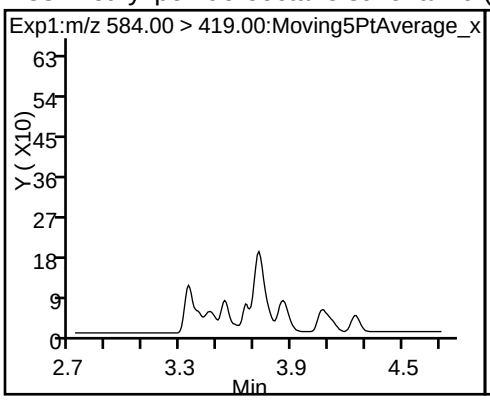
31 Perfluoroundecanoic acid (M)



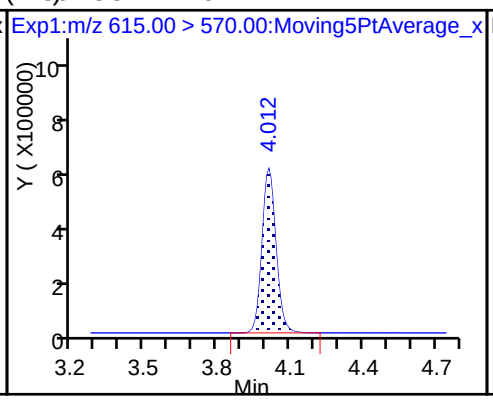
31 Perfluoroundecanoic acid (M)



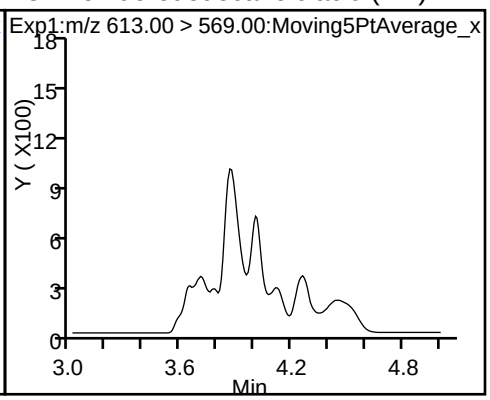
33 N-ethyl perfluorooctane sulfonamid (ND)



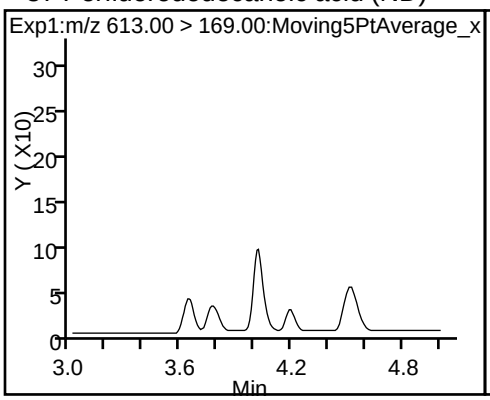
D 36 13C2 PFDoA



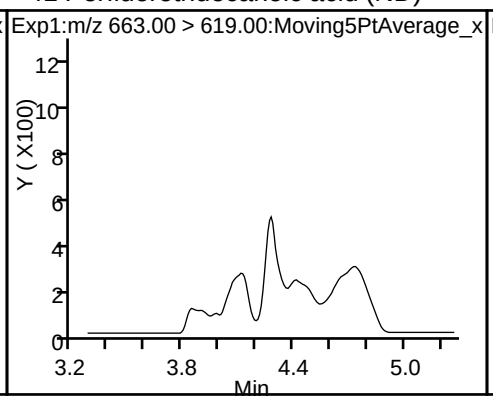
37 Perfluorododecanoic acid (ND)



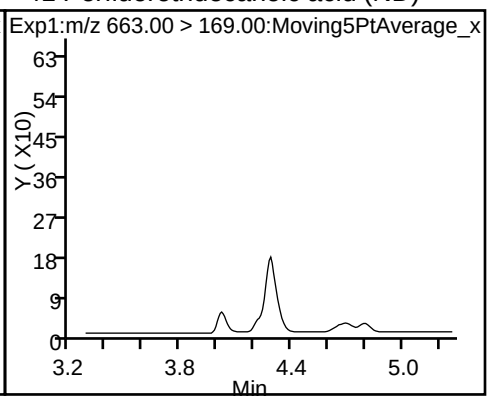
37 Perfluorododecanoic acid (ND)



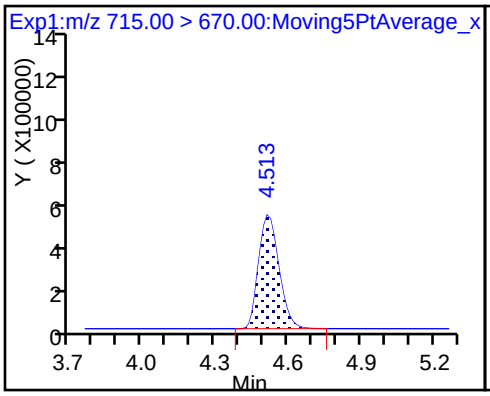
41 Perfluorotridecanoic acid (ND)



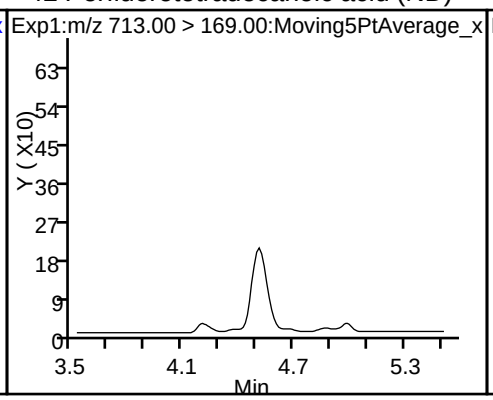
41 Perfluorotridecanoic acid (ND)



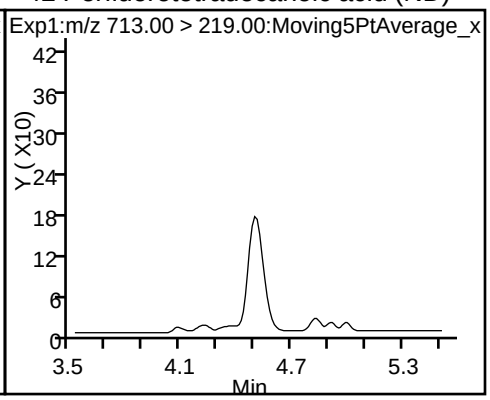
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

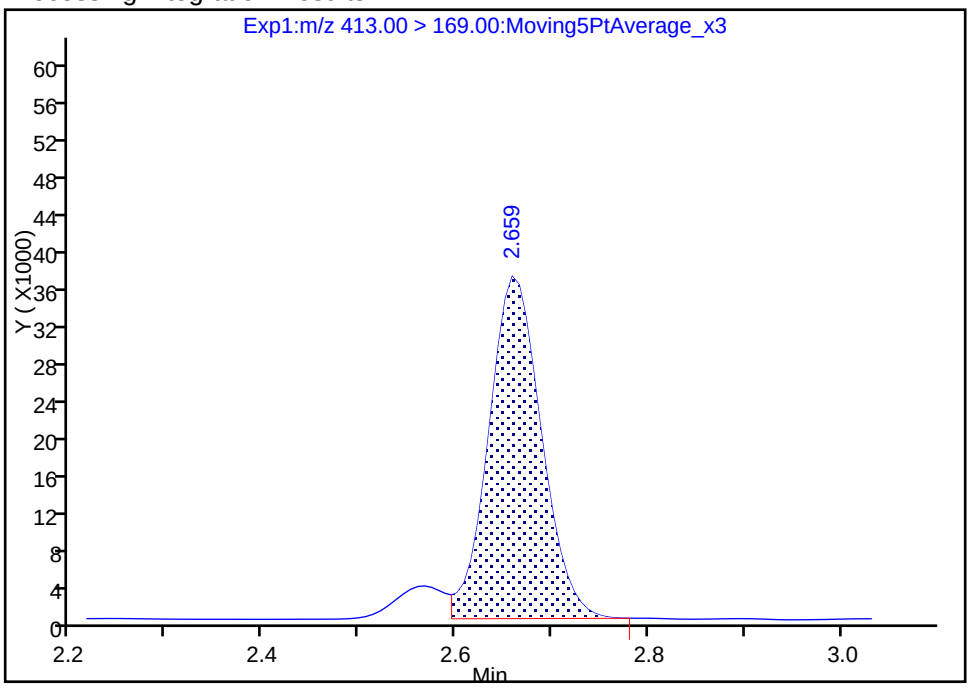
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_052.d				
Injection Date:	23-Dec-2017 04:16:27	Instrument ID:	A8_N		
Lims ID:	320-34425-A-32-A	Lab Sample ID:	320-34425-32		
Client ID:	FM-34-050-886-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	42	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

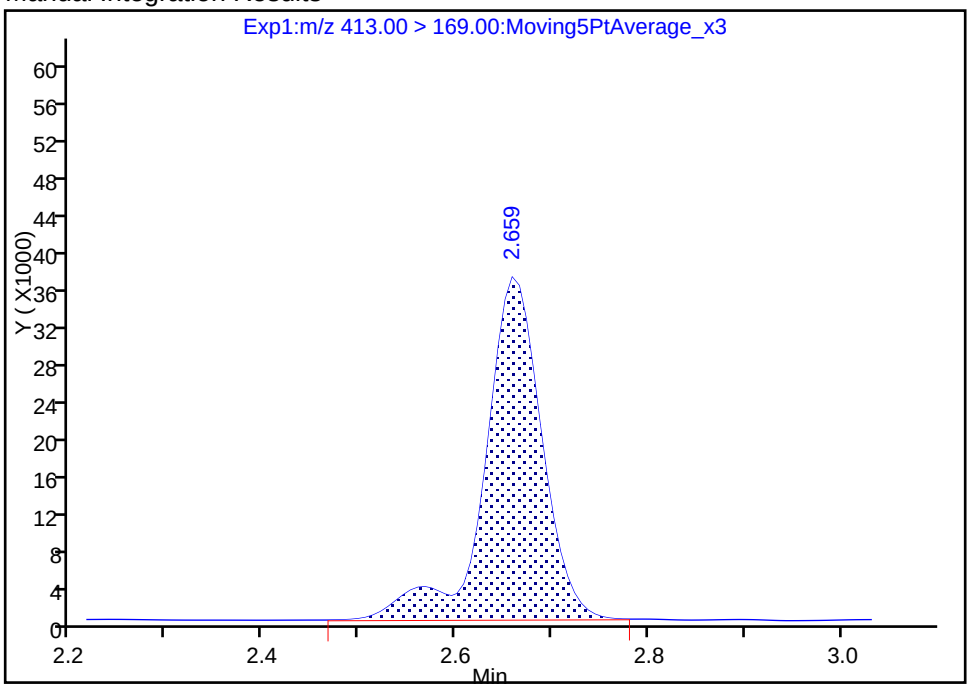
Processing Integration Results

RT: 2.66
Area: 138222
Amount: 0.136804
Amount Units: ng/ml



Manual Integration Results

RT: 2.66
Area: 152074
Amount: 0.136804
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 16:02:32

Audit Action: Manually Integrated Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

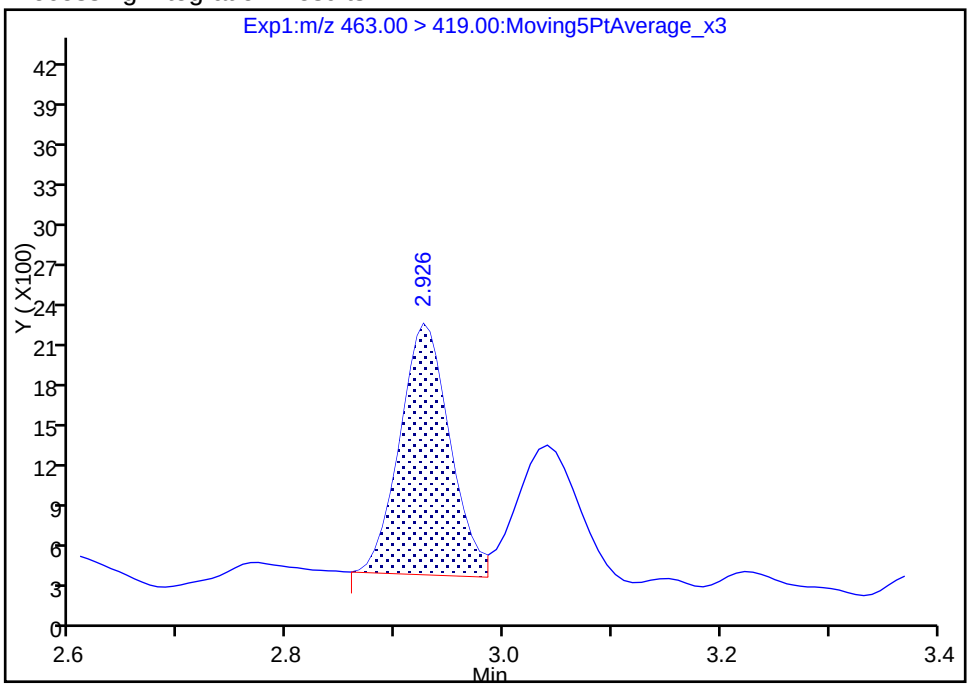
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Injection Date:	23-Dec-2017 04:16:27	Instrument ID:	A8_N		
Lims ID:	320-34425-A-32-A	Lab Sample ID:	320-34425-32		
Client ID:	FM-34-050-886-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	42	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

20 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

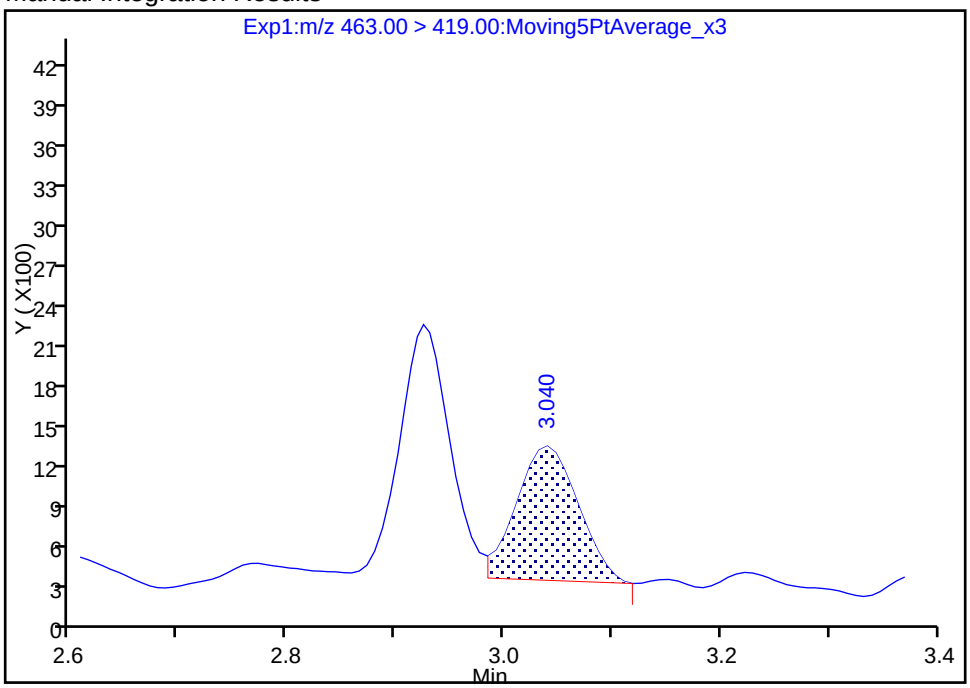
Processing Integration Results

RT: 2.93
Area: 5916
Amount: 0.004230
Amount Units: ng/ml



Manual Integration Results

RT: 3.04
Area: 3913
Amount: 0.002798
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 16:02:49

Audit Action: Assigned Compound ID Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

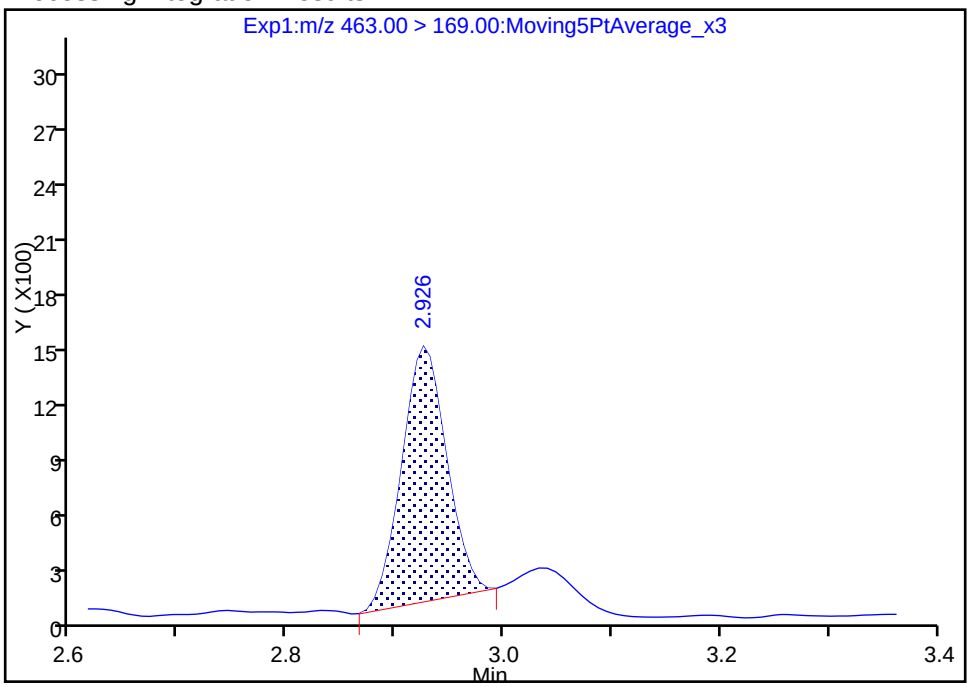
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_052.d				
Injection Date:	23-Dec-2017 04:16:27	Instrument ID:	A8_N		
Lims ID:	320-34425-A-32-A	Lab Sample ID:	320-34425-32		
Client ID:	FM-34-050-886-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	42	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

20 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

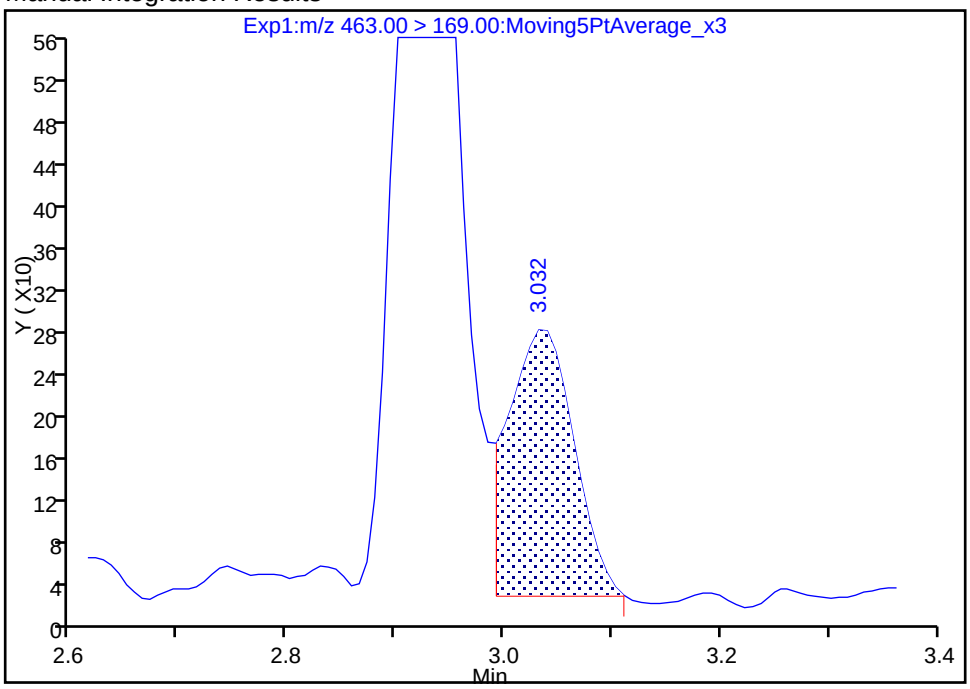
Processing Integration Results

RT: 2.93
Area: 3939
Amount: 0.004230
Amount Units: ng/ml



Manual Integration Results

RT: 3.03
Area: 1053
Amount: 0.002798
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 16:03:00

Audit Action: Manually Integrated Audit Reason: Wrong peak

TestAmerica Sacramento

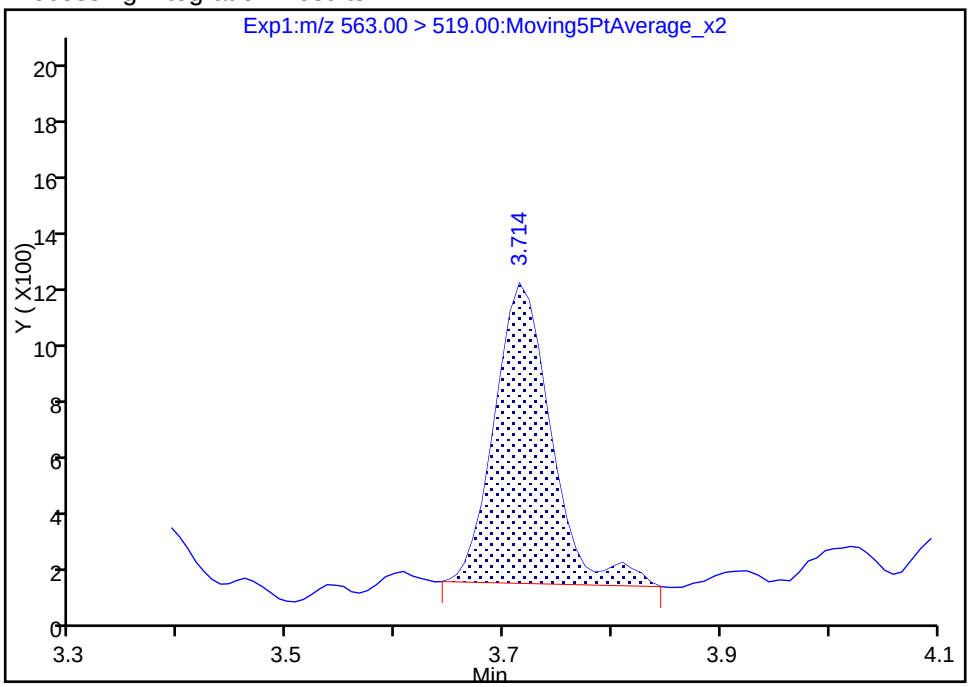
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_052.d				
Injection Date:	23-Dec-2017 04:16:27	Instrument ID:	A8_N		
Lims ID:	320-34425-A-32-A	Lab Sample ID:	320-34425-32		
Client ID:	FM-34-050-886-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	42	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

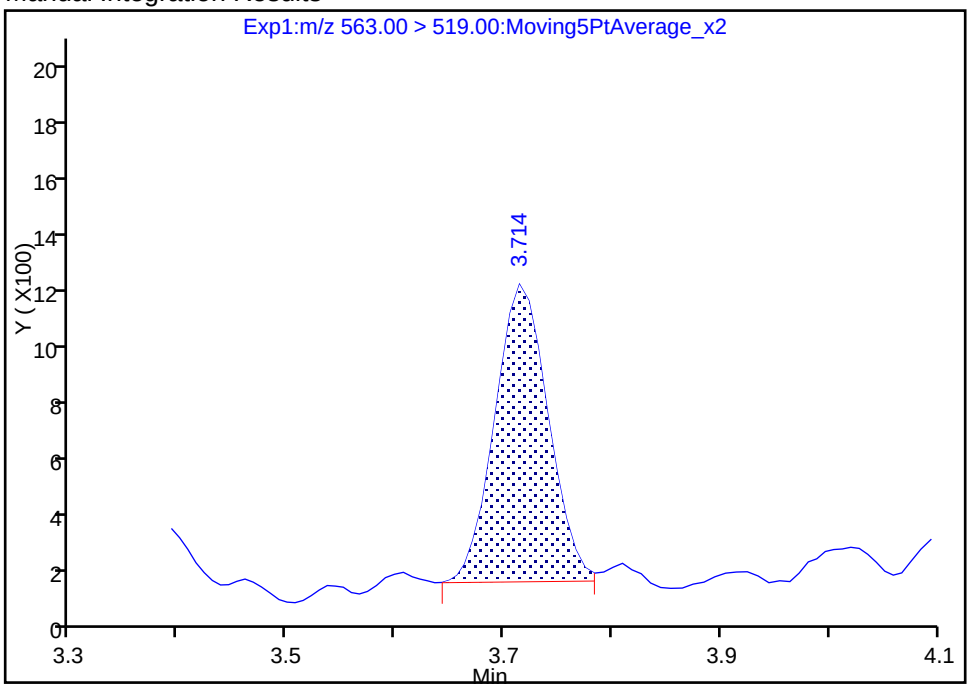
Processing Integration Results

RT: 3.71
Area: 3869
Amount: 0.005075
Amount Units: ng/ml



Manual Integration Results

RT: 3.71
Area: 3619
Amount: 0.004747
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 16:03:31
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

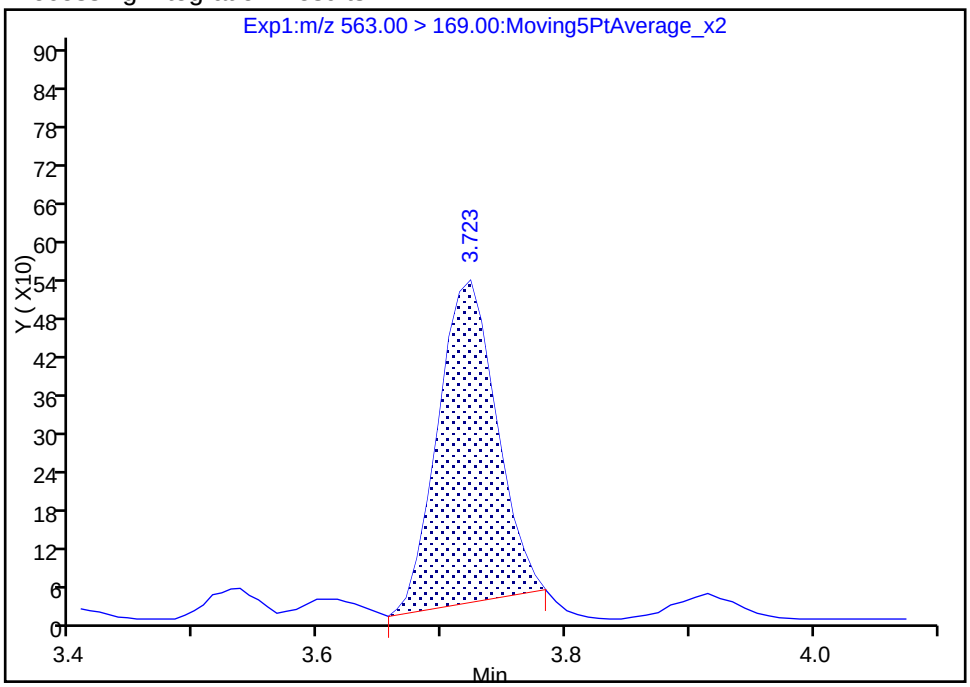
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_052.d				
Injection Date:	23-Dec-2017 04:16:27	Instrument ID:	A8_N		
Lims ID:	320-34425-A-32-A	Lab Sample ID:	320-34425-32		
Client ID:	FM-34-050-886-171213				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	42	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

31 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

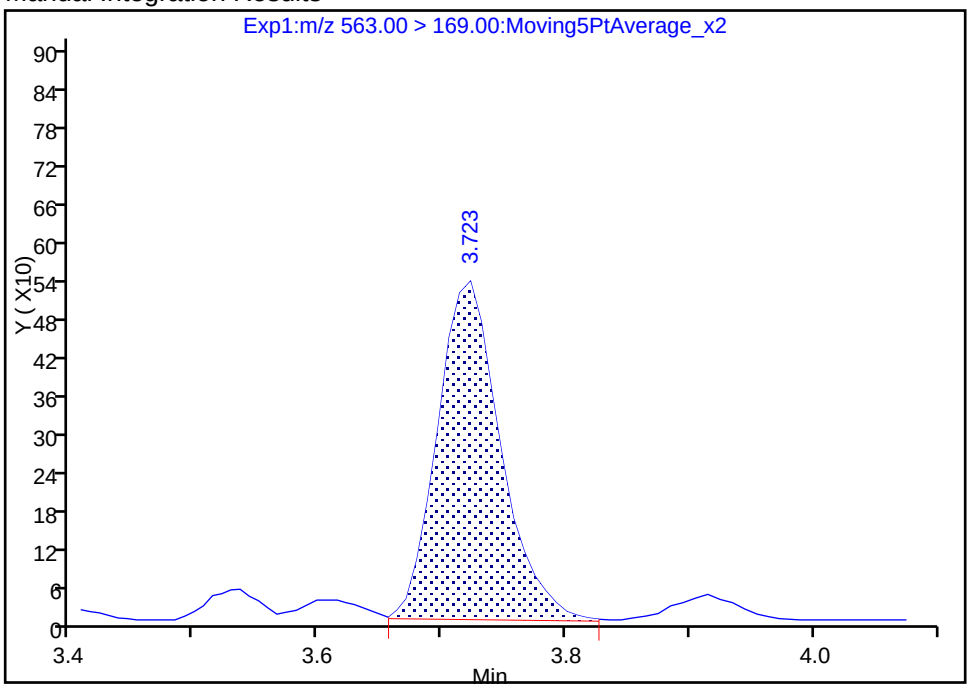
Processing Integration Results

RT: 3.72
Area: 1652
Amount: 0.005075
Amount Units: ng/ml



Manual Integration Results

RT: 3.72
Area: 1880
Amount: 0.004747
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 16:03:47

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1 Analy Batch No.: 201053

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-201053/2	2017.12.21ICALX_002.d
Level 2	IC 320-201053/3	2017.12.21ICALX_003.d
Level 3	IC 320-201053/4	2017.12.21ICALX_004.d
Level 4	IC 320-201053/5	2017.12.21ICALX_005.d
Level 5	IC 320-201053/10	2017.12.21ICALX_010.d
Level 6	IC 320-201053/6	2017.12.21ICALX_006.d
Level 7	IC 320-201053/7	2017.12.21ICALX_007.d
Level 8	IC 320-201053/8	2017.12.21ICALX_008.d
Level 9	IC 320-201053/9	2017.12.21ICALX_009.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Perfluorobutanoic acid (PFBA)	0.9003 0.9467	0.9368 0.9340	0.9437 0.9131	0.9353 0.8203		AveID		0.9163				4.6		35.0			
Perfluoropentanoic acid (PFPeA)	1.2025 1.1603	1.1422 1.1115	1.1255 1.0864	1.1013 1.0002		AveID		1.1162				5.3		35.0			
Perfluorobutanesulfonic acid (PFBS)	73.943 78.032	84.038 74.052	76.255 74.268	78.685 62.503		AveID		75.222				8.2		50.0			
4:2 FTS	0.7014 0.7380	0.8198 0.9102	0.7745 1.0048	0.8058 +++++		AveID		0.8220				12.7		50.0			
Perfluorohexanoic acid (PFHxA)	1.0736 1.0008	1.0442 1.0007	0.9660 0.9779	0.9988 0.9475		AveID		1.0012				4.1		35.0			
Perfluoroheptanoic acid (PFHpA)	1.1965 1.0422	1.0338 1.0219	1.0205 1.0138	1.0747 0.9654		AveID		1.0461				6.5		35.0			
Perfluorohexanesulfonic acid (PFHxS)	1.2485 0.9910	1.1645 1.0861	1.0325 1.0520	1.0635 0.9733		AveID		1.0764				8.5		35.0			
6:2FTS	1.3999 1.5240	1.6502 1.5625	1.5816 1.6661	1.4652 +++++		AveID		1.5499				6.2		35.0			
Perfluorooctanoic acid (PFOA)	1.1593 1.0298	1.1005 1.0237	1.0761 1.0358	1.0635 0.9242		AveID		1.0516				6.5		35.0			
Perfluoroheptanesulfonic Acid (PFHpS)	1.2178 1.3740	1.2977 1.3900	1.3218 1.2844	1.4069 1.1832		AveID		1.3095				6.1		50.0			
Perfluorooctanesulfonic acid (PFOS)	0.9495 1.0782	1.0557 1.0776	1.0718 1.0736	1.1067 1.0674		AveID		1.0601				4.4		35.0			
Perfluorononanoic acid (PFNA)	1.1716 1.0242	0.9948 1.0109	0.9350 1.0132	0.9850 0.9151		AveID		1.0062				7.7		35.0			
Perfluorooctane Sulfonamide (FOSA)	0.9748 0.9762	0.9899 0.9971	1.0267 0.8886	1.0169 0.8033		AveID		0.9592				7.9		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1 Analy Batch No.: 201053

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
8:2FTS	1.2362 1.2396	1.3038 1.1854	1.2189 1.2091	1.1622 1.1697		AveID		1.2156				3.8		35.0			
Perfluorodecanoic acid (PFDA)	0.9253 0.9464	0.9562 1.0412	0.9476 1.0104	1.0059 0.9055		AveID		0.9673				4.8		35.0			
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	1.1808 1.0781	1.0022 1.0612	1.0721 1.0953	1.0639 1.0348		AveID		1.0736				4.8		35.0			
Perfluorodecanesulfonic acid (PFDS)	0.5605 0.6326	0.6633 0.6466	0.6164 0.6053	0.6446 0.5717		AveID		0.6176				5.9		50.0			
Perfluoroundecanoic acid (PFUnA)	1.0770 0.9173	0.8643 0.8919	0.9060 0.9081	0.8984 0.8651		AveID		0.9160				7.4		35.0			
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.1064 0.9180	0.9277 0.9565	1.0752 0.9710	1.0088 0.9851		AveID		0.9936				6.8		35.0			
MeFOSA	0.8423 0.9669	1.0071 0.9949	1.0511 1.0117	0.9945 0.9614		AveID		0.9787				6.3		50.0			
Perfluorododecanoic acid (PFDoA)	1.0766 0.9594	0.9404 1.0076	1.0077 0.9755	1.0438 0.9291		AveID		0.9925				5.1		35.0			
N-EtFOSA-M	1.1151 1.0978	1.0287 1.0464	1.0500 1.0732	1.0685 1.0374		AveID		1.0646				2.8		35.0			
Perfluorotridecanoic Acid (PFTriA)	1.1493 1.1027	1.2560 1.1658	1.2253 1.1435	1.1794 1.0550		AveID		1.1596				5.5		50.0			
Perfluorotetradecanoic acid (PFTeA)	0.2651 0.2557	0.2466 0.2480	0.2777 0.2617	0.2302 0.2767		AveID		0.2577				6.2		50.0			
Perfluoro-n-hexadecanoic acid (PFHxDA)	1.6463 0.9083	1.3211 0.8731	0.9375 0.8489	0.8936 0.7571		L2ID	0.0205	0.8546							0.9960		0.9900
Perfluoro-n-octadecanoic acid (PFODA)	0.9497 1.0637	1.1372 1.1131	1.0660 0.9621	1.0306 0.9127		AveID		1.0294				7.8		50.0			
13C4 PFBA	1.4965 1.4602	1.4201 1.5593	1.4546 1.5264	1.5376 1.7001		Ave		1.5193				5.7		50.0			
13C5 PFPeA	0.9283 0.8707	0.8770 0.9013	0.9113 0.8837	0.9093 0.9948		Ave		0.9096				4.3		50.0			
13C3-PFBS	0.0193 0.0190	0.0173 0.0207	0.0190 0.0191	0.0191 0.0216		Ave		0.0194				6.5		50.0			
M2-4:2FTS					0.1046	Ave		0.1046						50.0			
13C2 PFHxA	0.9787 0.9554	0.9368 0.9708	0.9603 0.9525	0.9799 1.0329		Ave		0.9709				3.0		50.0			
13C4-PFHpA	0.9061 0.8823	0.8553 0.9352	0.8904 0.8854	0.9200 0.9131		Ave		0.8985				2.8		50.0			
18O2 PFHxS	1.1486 1.1349	1.0942 1.1193	1.1336 1.0960	1.1581 1.1888		Ave		1.1342				2.8		50.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1 Analy Batch No.: 201053

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
M2-6:2FTS	0.4830 0.4537	0.3943 0.3765	0.4418 0.3330	0.4471 +++++		Ave		0.4185				12.5		50.0			
13C4 PFOA	1.0534 1.0461	1.0254 1.0470	1.0450 0.9719	1.0585 1.0168		Ave		1.0330				2.7		50.0			
13C4 PFOS	0.7673 0.7304	0.7140 0.7634	0.7459 0.7353	0.7488 0.7846		Ave		0.7487				3.0		50.0			
13C5 PFNA	0.7584 0.7167	0.7106 0.7395	0.7301 0.7111	0.7485 0.7562		Ave		0.7339				2.7		50.0			
13C8 FOSA	1.0547 0.9998	0.9868 1.0250	0.9728 1.0214	1.0052 1.0869		Ave		1.0191				3.6		50.0			
M2-8:2FTS	0.2267 0.2170	0.2261 0.2435	0.2300 0.2292	0.2398 0.2583		Ave		0.2338				5.5		50.0			
13C2 PFDA	0.6241 0.5919	0.5891 0.5998	0.6050 0.5745	0.6154 0.6434		Ave		0.6054				3.6		50.0			
d3-NMeFOSAA	0.3283 0.3112	0.3125 0.3235	0.3123 0.3232	0.3322 0.3559		Ave		0.3249				4.5		50.0			
d5-NEtFOSAA	0.3326 0.3224	0.3177 0.3207	0.3107 0.3049	0.3281 0.3016		Ave		0.3173				3.4		50.0			
13C2 PFUnA	0.4758 0.4342	0.4645 0.4568	0.4774 0.4375	0.4645 0.4767		Ave		0.4609				3.7		50.0			
d-N-MeFOSA-M	0.2857 0.2809	0.2669 0.2960	0.2686 0.2930	0.2793 0.3514		Ave		0.2902				9.2		50.0			
13C2 PFDoA	0.4990 0.4998	0.4740 0.5000	0.4857 0.4834	0.4942 0.5400		Ave		0.4970				4.0		50.0			
d-N-EtFOSA-M	0.2749 0.2665	0.2581 0.2823	0.2637 0.2848	0.2744 0.3254		Ave		0.2788				7.5		50.0			
13C2-PFTeDA	0.5600 0.5351	0.5405 0.5694	0.5542 0.5497	0.5764 0.5578		Ave		0.5554				2.5		50.0			
13C2-PFHxDA	1.1083 0.9487	0.9653 0.9584	1.0328 0.9758	1.0611 1.0380		Ave		1.0110				5.7		50.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1 Analy Batch No.: 201053

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-201053/2	2017.12.21ICALX_002.d
Level 2	IC 320-201053/3	2017.12.21ICALX_003.d
Level 3	IC 320-201053/4	2017.12.21ICALX_004.d
Level 4	IC 320-201053/5	2017.12.21ICALX_005.d
Level 5	IC 320-201053/10	2017.12.21ICALX_010.d
Level 6	IC 320-201053/6	2017.12.21ICALX_006.d
Level 7	IC 320-201053/7	2017.12.21ICALX_007.d
Level 8	IC 320-201053/8	2017.12.21ICALX_008.d
Level 9	IC 320-201053/9	2017.12.21ICALX_009.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorobutanoic acid (PFBA)		AveID	70439 7285711	149609 14649125	750051 27682152	2959580 47047864		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoropentanoic acid (PFPeA)		AveID	58359 5324778	112651 10076106	560389 19070831	2060919 33568726		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorobutanesulfonic acid (PFBS)		AveID	65867 6917510	144831 13621865	700583 24884595	2736616 40269625		0.0221 2.21	0.0442 4.42	0.221 8.84	0.884 17.7	
4:2 FTS		AveID	16542 1648248	33949 3219671	174598 6206525	692506 +++++		0.0234 2.34	0.0467 4.67	0.234 9.34	0.934 +++++	
Perfluorohexanoic acid (PFHxA)		AveID	54930 5039492	110008 9771131	506862 18501936	2014119 33018394		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroheptanoic acid (PFHpA)		AveID	56679 4846589	99436 9612665	496497 17828937	2034903 29737938		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorohexanesulfonic acid (PFHxS)		AveID	68223 5394708	130412 11127318	581986 20840256	2306702 35522645		0.0228 2.28	0.0455 4.55	0.228 9.10	0.910 18.2	
6:2FTS		AveID	33513 3454700	69364 5609893	361912 10445701	1278132 +++++		0.0237 2.37	0.0474 4.74	0.237 9.48	0.948 +++++	
Perfluorooctanoic acid (PFOA)		AveID	63848 5678071	126908 10780791	614438 19995182	2316692 31704557		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoroheptanesulfonic Acid (PFHpS)		AveID	46506 5035921	99194 10159580	512839 17858719	2063948 29818123		0.0238 2.38	0.0476 4.76	0.238 9.52	0.952 19.0	
Perfluorooctanesulfonic acid (PFOS)		AveID	35345 3852088	78661 7678011	405361 14551225	1582639 26220642		0.0232 2.32	0.0464 4.64	0.232 9.28	0.928 18.6	
Perfluorononanoic acid (PFNA)		AveID	46456 3868757	79498 7519039	373010 14310135	1517301 23346321		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorooctane Sulfonamide (FOSA)		AveID	53752 5144163	109865 10279855	545722 18027750	2103527 29455119		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
8:2FTS		AveID	14036 1357996	31765 2781160	146774 5272516	549454 9766222		0.0240 2.40	0.0479 4.79	0.240 9.58	0.958 19.2	

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1 Analy Batch No.: 201053

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorodecanoic acid (PFDA)		AveID	30192 2952794	63350 6280843	313237 11530530	1273852 19652616		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)		AveID	20264 1768335	35218 3453343	182960 7032734	727385 12424122		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorodecanesulfonic acid (PFDS)		AveID	21674 2347758	51344 4785400	242152 8522065	957540 14589155		0.0241 2.41	0.0482 4.82	0.241 9.64	0.964 19.3	
Perfluoroundecanoic acid (PFUnA)		AveID	26791 2099347	45145 4098143	236349 7892336	858830 13914565		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)		AveID	19242 1559830	33144 3085854	182516 5880293	681119 10022668		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
MeFOSA		AveID	12580 1431311	30226 2961869	154270 5888998	571619 11398323		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorododecanoic acid (PFDoA)		AveID	28086 2527004	50136 5067646	267420 9365176	1061502 16925951		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
N-EtFOSA-M		AveID	16025 1541778	29858 2970918	151307 6071711	603432 11387431		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorotridecanoic Acid (PFTriA)		AveID	29984 2904461	66960 5863317	325173 10978736	1199386 19218577		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluorotetradecanoic acid (PFTeA)		AveID	7762 721103	14992 1420222	84101 2857131	273069 5208229		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoro-n-hexadecanoic acid (PFHxDA)		L2ID	95391 4541602	143410 8416392	529034 16452280	1951502 26511774		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
Perfluoro-n-octadecanoic acid (PFODA)		AveID	55027 5318805	123452 10730387	601525 18646888	2250667 31961699		0.0250 2.50	0.0500 5.00	0.250 10.0	1.00 20.0	
13C4 PFBA	13PF OA	Ave	7823763 7696270	7985484 7841844	7947697 7579367	7910765 7169568		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C5 PFPeA	13PF OA	Ave	4853161 4589173	4931418 4532696	4979129 4388357	4678298 4195411		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C3-PFBS	13PF OA	Ave	93713 93263	90654 96761	96655 88125	91473 84726		2.33 2.33	2.33 2.33	2.33 2.33	2.33 2.33	
M2-4:2FTS	13PF OA	Ave					518429					2.34
13C2 PFHxA	13PF OA	Ave	5116525 5035421	5267753 4882103	5246790 4729842	5041504 4355951		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
13C4-PFHpA	13PF OA	Ave	4737172 4650286	4809471 4703159	4865147 4396642	4733493 3850620		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	
18O2 PFHxS	13PF OA	Ave	5680736 5658825	5820783 5325222	5859680 5148564	5636753 4742553		2.37 2.37	2.37 2.37	2.37 2.37	2.37 2.37	
M2-6:2FTS	13PF OA	Ave	2398948 2271698	2106131 1798987	2293081 1570687	2185400 +++++		2.38 2.38	2.38 2.38	2.38 2.38	2.38 +++++	
13C4 PFOA	13PF OA	Ave	5507369 5513652	5766084 5265565	5709764 4825928	5445865 4287955		2.50 2.50	2.50 2.50	2.50 2.50	2.50 2.50	

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1 Analy Batch No.: 201053

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
13C4 PFOS	13PF	Ave	3834788	3838031	3896182	3682923		2.39	2.39	2.39	2.39	
	OA		3680461	3669982	3490587	3163280		2.39	2.39	2.39	2.39	
13C5 PFNA	13PF	Ave	3965069	3995865	3989341	3850882		2.50	2.50	2.50	2.50	
	OA		3777358	3719043	3530948	3189147		2.50	2.50	2.50	2.50	
13C8 FOSA	13PF	Ave	5513920	5549186	5315226	5171390		2.50	2.50	2.50	2.50	
	OA		5269550	5154664	5072077	4583649		2.50	2.50	2.50	2.50	
M2-8:2FTS	13PF	Ave	1135429	1218144	1204160	1181970		2.40	2.40	2.40	2.40	
	OA		1095511	1173108	1090140	1043626		2.40	2.40	2.40	2.40	
13C2 PFDA	13PF	Ave	3263075	3312504	3305746	3165987		2.50	2.50	2.50	2.50	
	OA		3119915	3016260	2852827	2713099		2.50	2.50	2.50	2.50	
d3-NMeFOSAA	13PF	Ave	1716131	1757055	1706528	1709219		2.50	2.50	2.50	2.50	
	OA		1640210	1627104	1605143	1500795		2.50	2.50	2.50	2.50	
d5-NEtFOSAA	13PF	Ave	1739091	1786420	1697550	1687944		2.50	2.50	2.50	2.50	
	OA		1699098	1613051	1513961	1271751		2.50	2.50	2.50	2.50	
13C2 PFUnA	13PF	Ave	2487500	2611796	2608579	2389837		2.50	2.50	2.50	2.50	
	OA		2288504	2297307	2172683	2010505		2.50	2.50	2.50	2.50	
d-N-MeFOSA-M	13PF	Ave	1493599	1500641	1467756	1436923		2.50	2.50	2.50	2.50	
	OA		1480334	1488562	1455164	1481991		2.50	2.50	2.50	2.50	
13C2 PFDoA	13PF	Ave	2608856	2665544	2653771	2542417		2.50	2.50	2.50	2.50	
	OA		2634039	2514667	2400181	2277087		2.50	2.50	2.50	2.50	
d-N-EtFOSA-M	13PF	Ave	1437133	1451263	1440997	1411807		2.50	2.50	2.50	2.50	
	OA		1404385	1419551	1414354	1372131		2.50	2.50	2.50	2.50	
13C2-PFTeDA	13PF	Ave	2927702	3039455	3027973	2965610		2.50	2.50	2.50	2.50	
	OA		2820137	2863496	2729477	2352410		2.50	2.50	2.50	2.50	
13C2-PFHxDA	13PF	Ave	5794363	5427780	5642954	5459382		2.50	2.50	2.50	2.50	
	OA		5000280	4819897	4845252	4377373		2.50	2.50	2.50	2.50	

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution
L2ID = Linear 1/conc^2 IsoDil

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_002.d
Lims ID: IC L1 Full
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Dec-2017 15:05:59 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L1-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:26:55 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:03:30

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutyric acid										
212.90 > 169.00	1.419	1.419	0.0	1.000	70439	0.0246		98.3	26.4	
D 1 13C4 PFBA										
217.00 > 172.00	1.419	1.419	0.0	0.534	7823763	2.46		98.5	26658	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.669	1.670	-0.001	1.000	58359	0.0269		108	32.1	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.669	1.670	-0.001	0.628	4853161	2.55		102	49366	
D 47 13C3-PFBS										
301.90 > 83.00	1.705	1.705	0.0	0.642	93713	2.31		99.4	2845	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.705	1.707	-0.002	1.000	65867	0.0217		98.3	413	
298.90 > 99.00	1.705	1.707	-0.002	1.000	24592		2.68(1.25-3.74)	98.3	266	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.920	1.920	0.0	1.000	16542	0.0199		85.3	994	
D 7 13C2 PFHxA										
315.00 > 270.00	1.951	1.953	-0.002	0.734	5116525	2.52		101	51786	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.961	1.956	0.005	1.005	54930	0.0268		107	129	
313.00 > 119.00	1.951	1.956	-0.005	1.000	5115		10.74(5.03-15.10)	107	113	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.288	2.291	-0.003	1.000	56679	0.0286		114	76.0	
363.00 > 169.00	2.288	2.291	-0.003	1.000	21472		2.64(1.13-3.40)	114	222	
D 9 13C4-PFHpA										
367.00 > 322.00	2.288	2.291	-0.003	0.861	4737172	2.52		101	26325	
D 11 18O2 PFHxS										
403.00 > 84.00	2.302	2.304	-0.002	0.866	5680736	2.40		101	27582	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.302	2.304	-0.002	1.000	68223	0.0264		116	183	
399.00 > 99.00	2.302	2.304	-0.002	1.000	24286		2.81(1.50-4.49)	116	133	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.642	2.642	0.0	1.000	33513	0.0214		90.3	2056	
D 12 M2-6:2FTS										
429.00 > 81.00	2.642	2.642	0.0	0.995	2398948	2.74		115	54165	
D 14 13C4 PFOA										
417.00 > 372.00	2.657	2.654	0.003	1.000	5507369	2.55		102	45131	
* 62 13C2-PFOA										
415.00 > 370.00	2.657	2.656	0.001		5228072	2.50			48085	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.657	2.656	0.001	1.000	63848	0.0276		110	24.2	
413.00 > 169.00	2.657	2.656	0.001	1.000	40055		1.59(0.84-2.52)	110	361	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.664	2.662	0.002	1.000	46506	0.0221		93.0	643	
449.00 > 99.00	2.657	2.662	-0.005	0.997	12142		3.83(1.94-5.82)	93.0	284	
D 18 13C4 PFOS										
503.00 > 80.00	3.023	3.025	-0.002	1.138	3834788	2.45		102	27448	
D 19 13C5 PFNA										
468.00 > 423.00	3.023	3.028	-0.005	1.138	3965069	2.58		103	34859	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.023	3.028	-0.005	1.000	35345	0.0208		89.6	3.8	
499.00 > 99.00	3.023	3.028	-0.005	1.000	10193		3.47(2.31-6.93)	89.6	5.9	
20 Perfluorononanoic acid										R
463.00 > 419.00	3.031	3.029	0.002	1.003	46456	0.0291		116	60.5	R
463.00 > 169.00	3.023	3.029	-0.006	1.000	7274		6.39(1.90-5.69)	116	224	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.269	5513920	2.59		103	30029	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.372	-0.002	1.000	53752	0.0254		102	1205	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.377	3.377	0.0	1.000	14036	0.0244		102	419	
D 26 M2-8:2FTS										
529.00 > 81.00	3.377	3.377	0.0	1.271	1135429	2.32		97.0	16649	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.389	-0.004	1.274	3263075	2.58		103	29744	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.385	3.390	-0.005	1.000	30192	0.0239		95.7	126	
513.00 > 169.00	3.385	3.390	-0.005	1.000	5538		5.45(2.36-7.09)	95.7	250	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.334	1716131	2.53		101	22471	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.544	3.548	-0.004	1.000	20264	0.0275		110	176	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.704	3.703	0.001	1.000	21674	0.0219		90.8	872	
599.00 > 99.00	3.704	3.703	0.001	1.000	8449		2.57(1.39-4.16)	90.8	346	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.713	3.712	0.001	1.398	1739091	2.62		105	9441	
D 30 13C2 PFUnA										
565.00 > 520.00	3.713	3.717	-0.004	1.398	2487500	2.58		103	36619	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.713	3.718	-0.005	1.000	26791	0.0294		118	117	
563.00 > 169.00	3.722	3.718	0.004	1.002	5338		5.02(0.00-0.00)	118	204	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.722	3.720	0.002	1.002	19242	0.0278		111	314	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.863	3.862	0.001	1.454	1493599	2.46		98.4	3543	
35 MeFOSA										
512.00 > 169.00	3.873	3.872	0.001	1.003	12580	0.0215		86.1	348	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.011	4.011	0.0	1.000	28086	0.0271		108	63.6	
613.00 > 169.00	4.011	4.011	0.0	1.000	5995		4.68(2.13-6.40)	108	259	
D 36 13C2 PFDoA										
615.00 > 570.00	4.011	4.011	0.0	1.510	2608856	2.51		100	19779	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.051	4.052	-0.001	1.525	1437133	2.47		98.6	3067	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.059	4.058	0.001	1.002	16025	0.0262		105	563	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.278	4.277	0.001	1.000	29984	0.0248		99.1	68.1	
663.00 > 169.00	4.278	4.277	0.001	1.000	9595		3.12(1.25-3.76)	99.1	308	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.513	4.518	-0.005	1.000	7762	0.0257		103	265	
713.00 > 219.00	4.513	4.518	-0.005	1.000	5305		1.46(0.71-2.13)	103	317	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.699	2927702	2.52		101	16250	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.939	0.001	1.000	95391	0.0242		96.6	49.6	
813.00 > 169.00	4.940	4.939	0.001	1.000	18866		5.06(2.86-8.58)	96.6	491	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.940	4.939	0.001	1.859	5794363	2.74		110	17108	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.303	5.306	-0.003	1.000	55027	0.0231		92.3	12.7	
913.00 > 169.00	5.303	5.306	-0.003	1.000	7184		7.66(0.00-0.00)	92.3	110	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Reagents:

LCPFC_LL1_00002 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:26:57 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_002.d

Injection Date: 21-Dec-2017 15:05:59 Instrument ID: A8_N

Lims ID: IC L1 Full

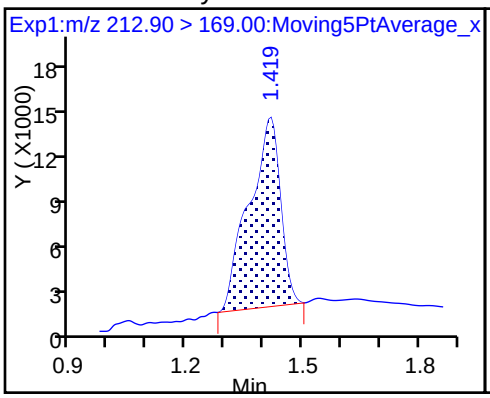
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2

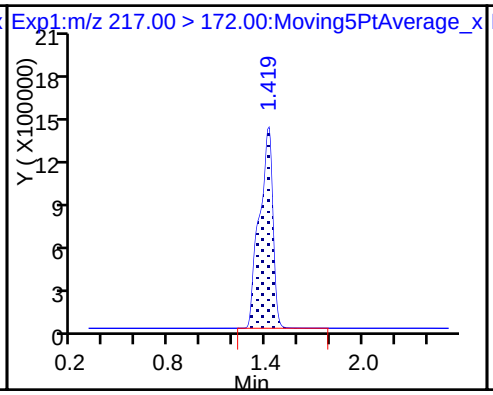
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

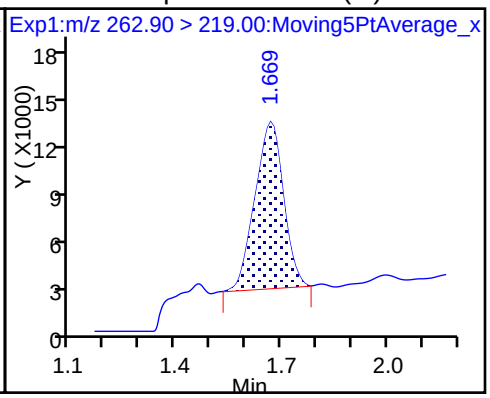
2 Perfluorobutyric acid



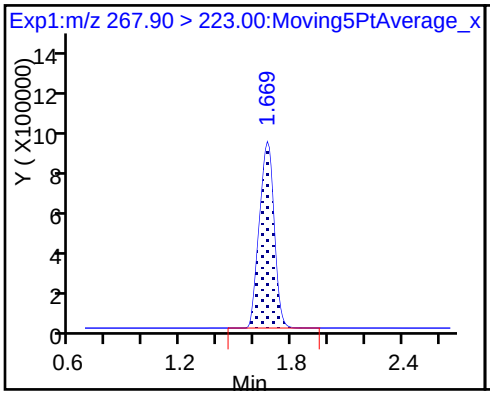
D 1 13C4 PFBA



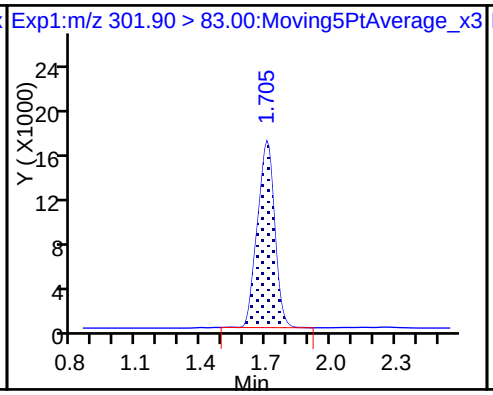
4 Perfluoropentanoic acid (M)



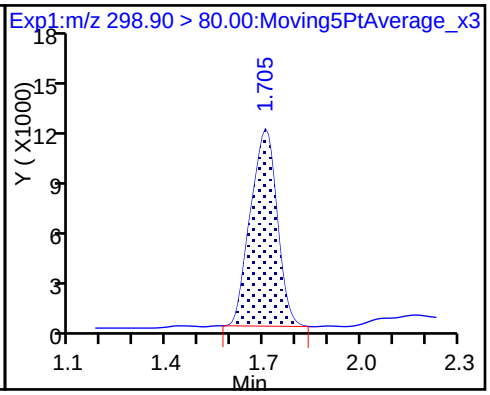
D 3 13C5-PFPeA



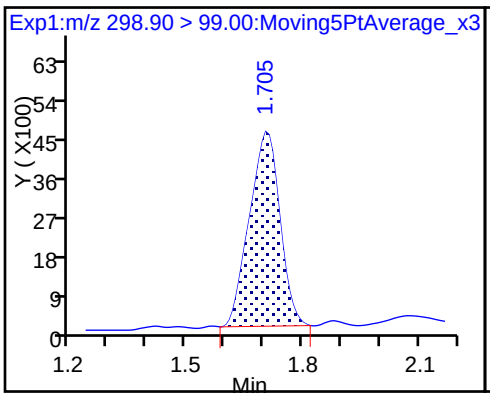
D 47 13C3-PFBS



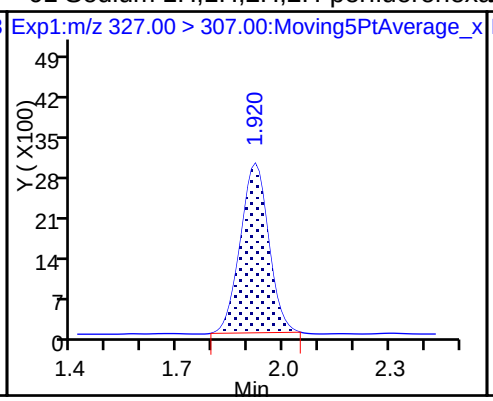
5 Perfluorobutanesulfonic acid



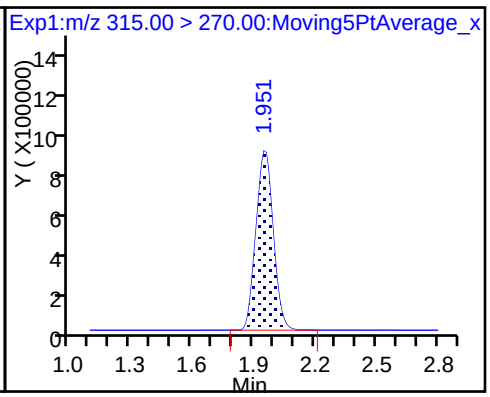
5 Perfluorobutanesulfonic acid



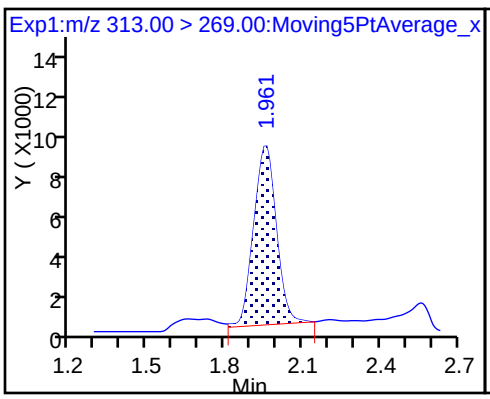
61 Sodium 1H,1H,2H,2H-perfluorohexa



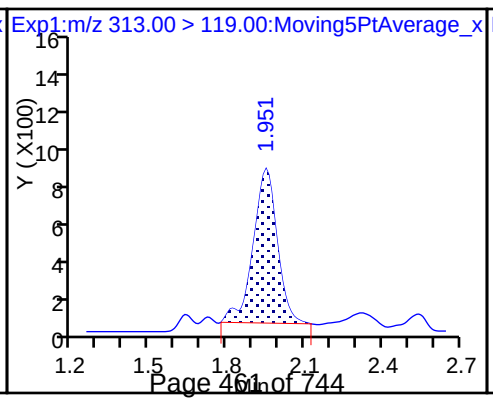
D 7 13C2 PFHxA



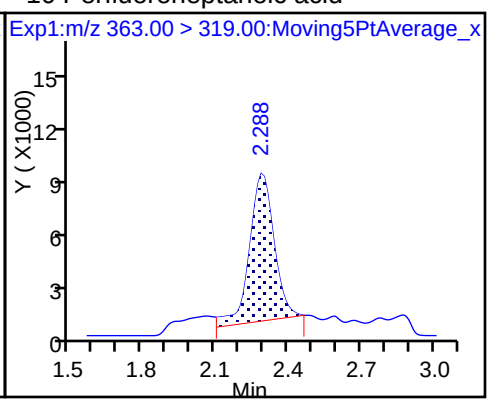
6 Perfluorohexanoic acid



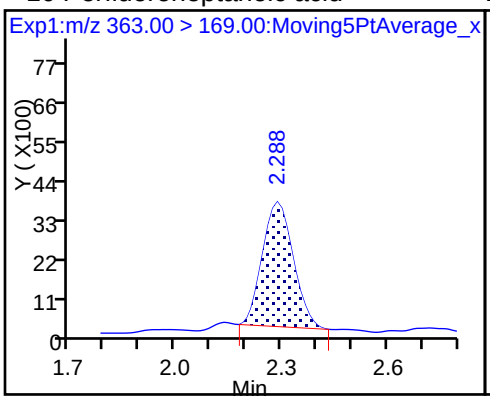
6 Perfluorohexanoic acid



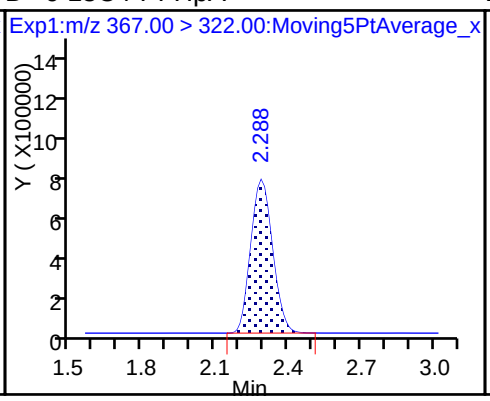
10 Perfluoroheptanoic acid



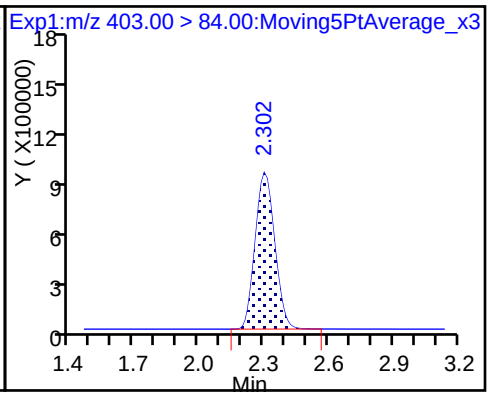
10 Perfluoroheptanoic acid



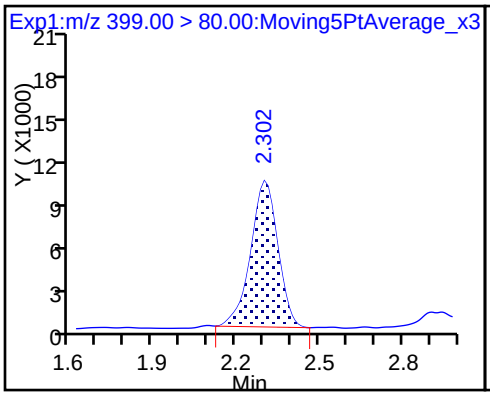
D 9 13C4-PFHpA



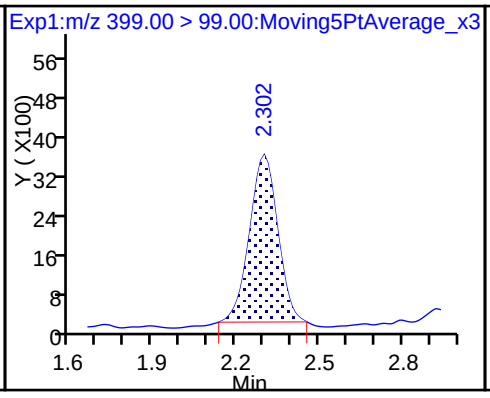
D 11 18O2 PFHxS



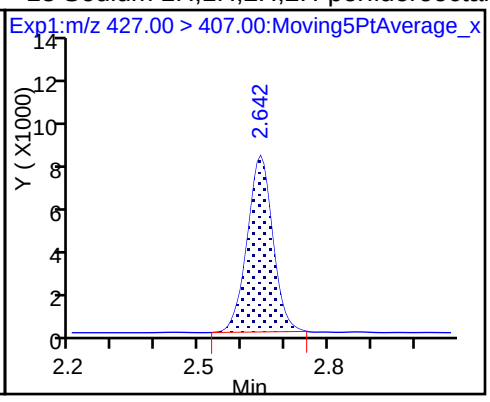
8 Perfluorohexanesulfonic acid



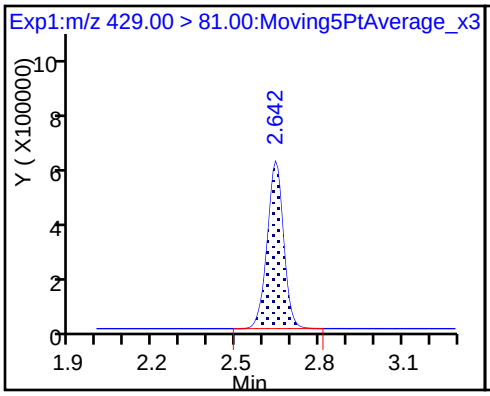
8 Perfluorohexanesulfonic acid



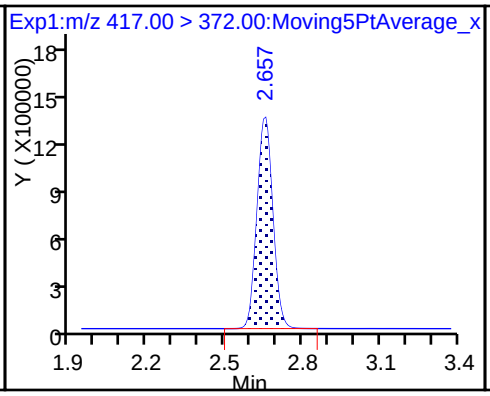
13 Sodium 1H,1H,2H,2H-perfluorooctane



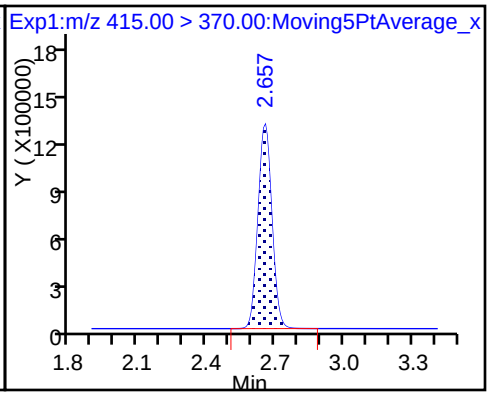
D 12 M2-6:2FTS



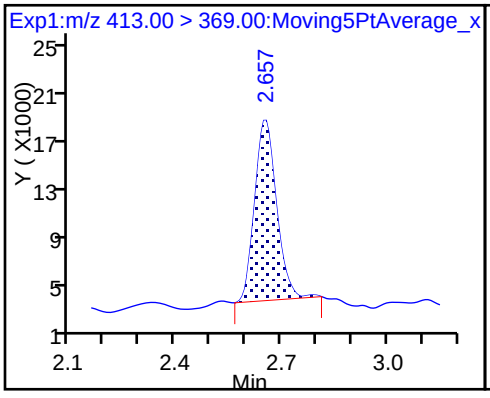
D 14 13C4 PFOA



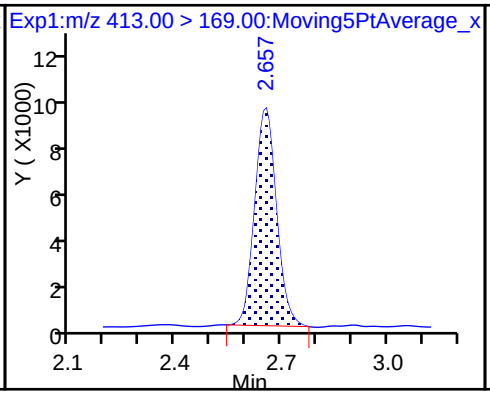
* 62 13C2-PFOA



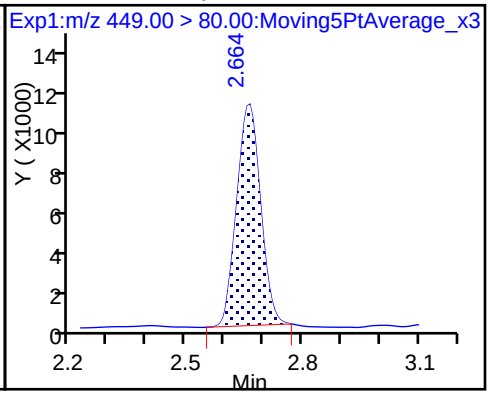
15 Perfluorooctanoic acid



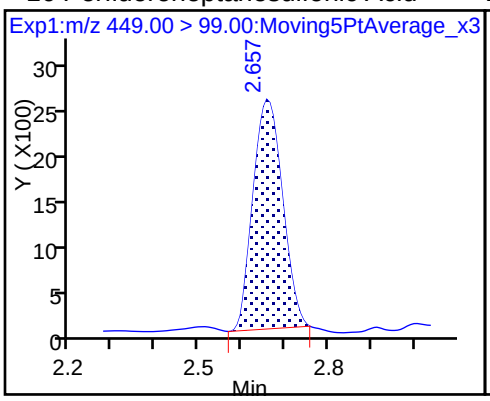
15 Perfluorooctanoic acid



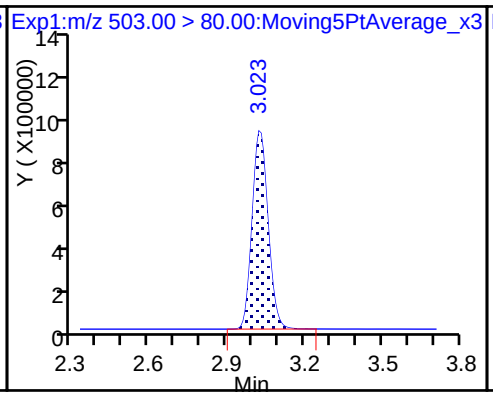
16 Perfluoroheptanesulfonic Acid



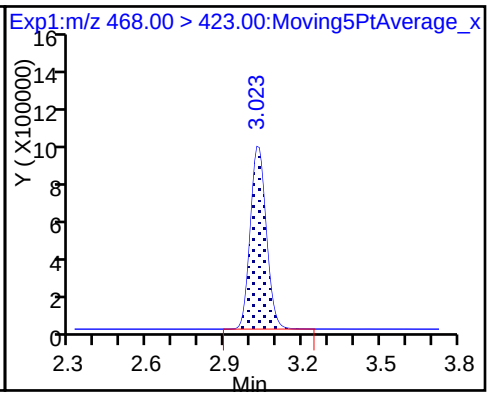
16 Perfluoroheptanesulfonic Acid



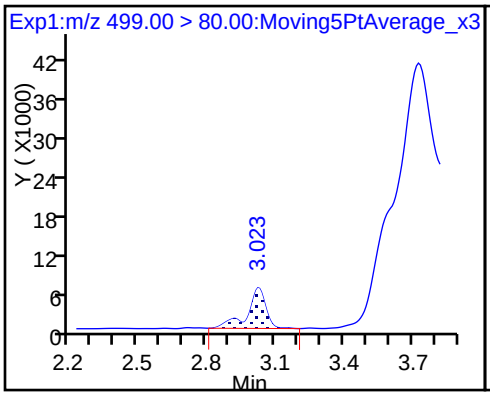
D 18 13C4 PFOS



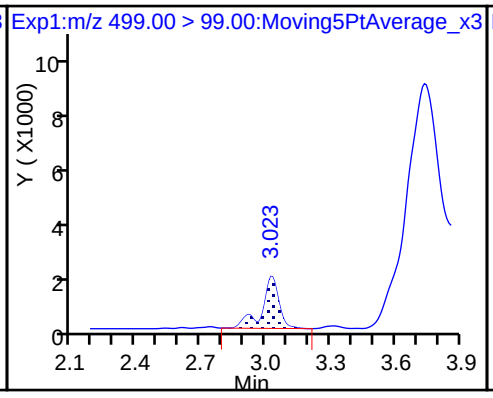
D 19 13C5 PFNA



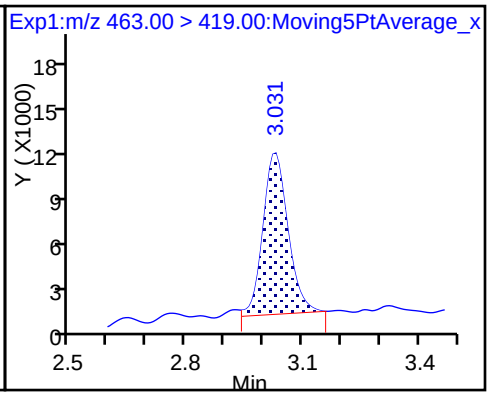
17 Perfluorooctane sulfonic acid



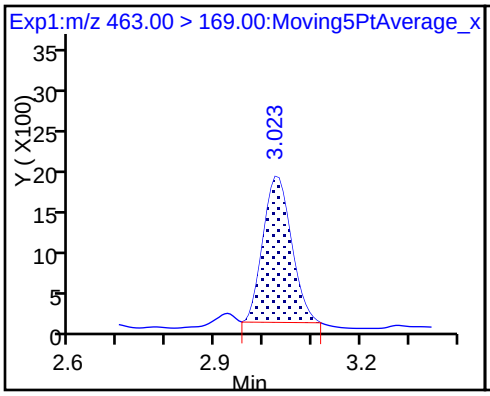
17 Perfluorooctane sulfonic acid



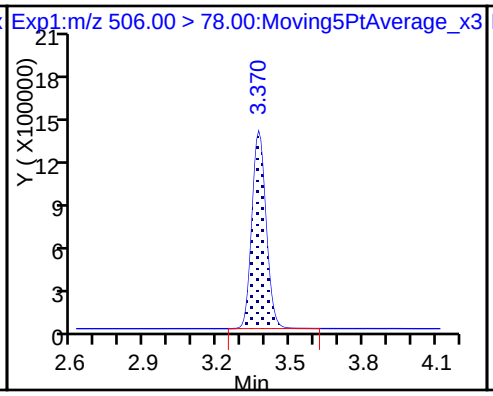
20 Perfluorononanoic acid



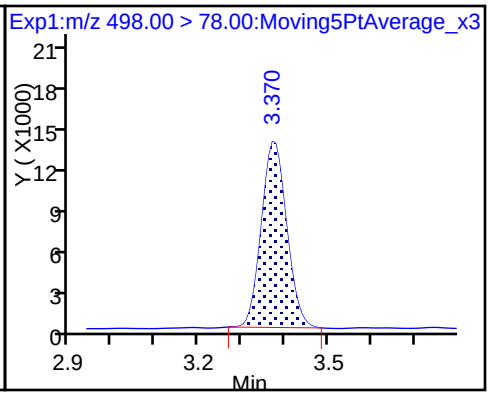
20 Perfluorononanoic acid



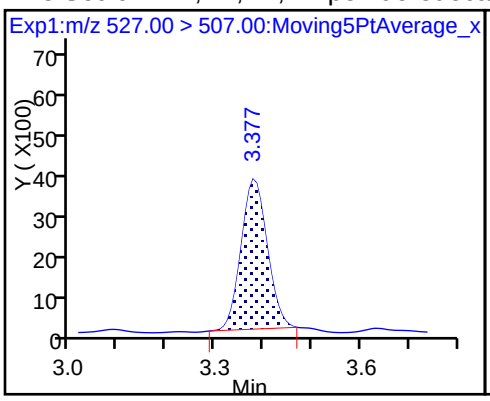
D 21 13C8 FOSA



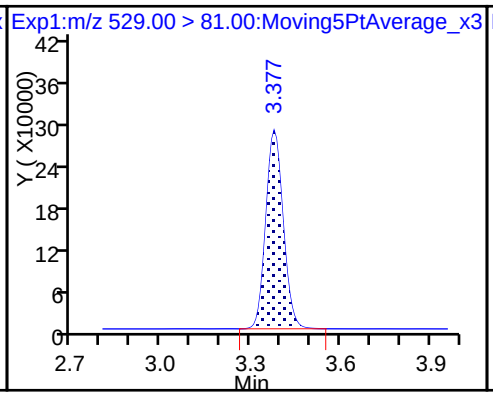
22 Perfluorooctane Sulfonamide



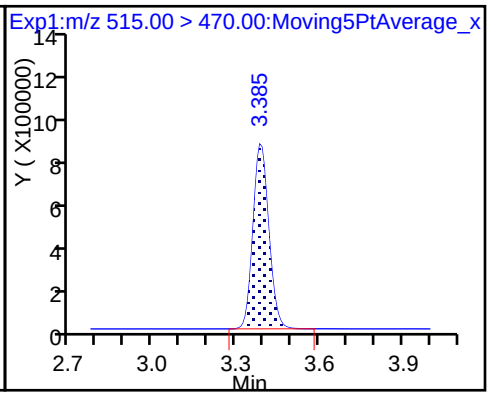
25 Sodium 1H,1H,2H,2H-perfluorodecane



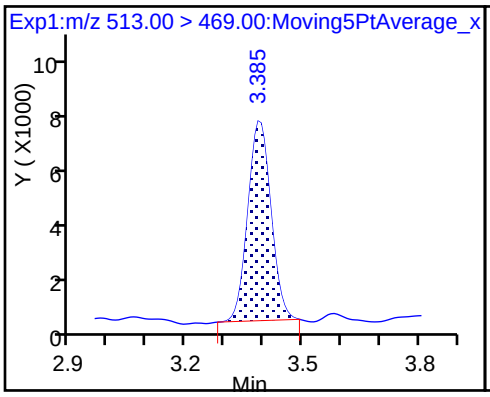
D 26 M2-8:2FTS



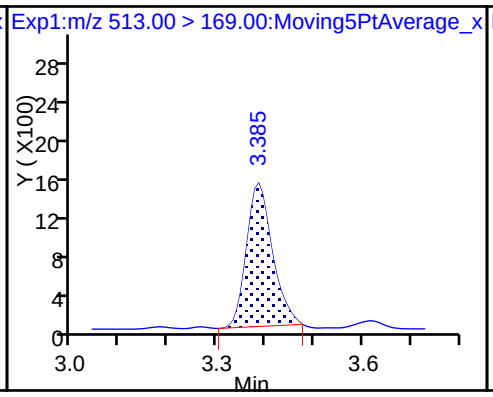
D 23 13C2 PFDA



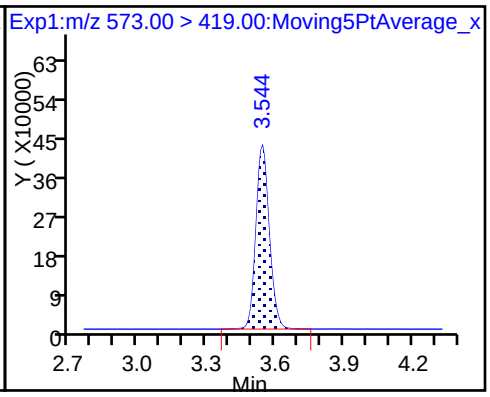
24 Perfluorodecanoic acid



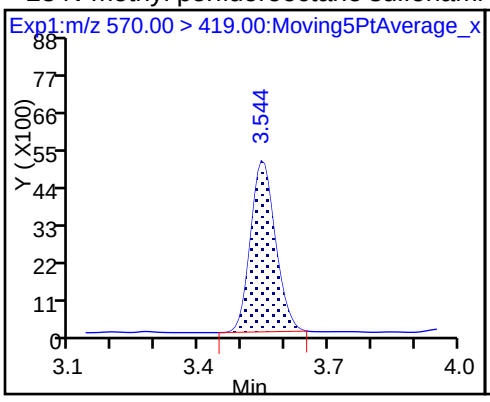
24 Perfluorodecanoic acid



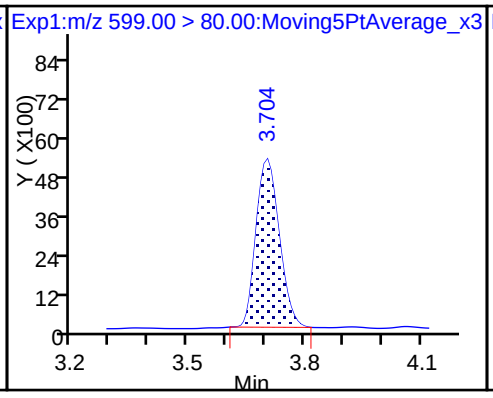
D 27 d3-NMeFOSAA



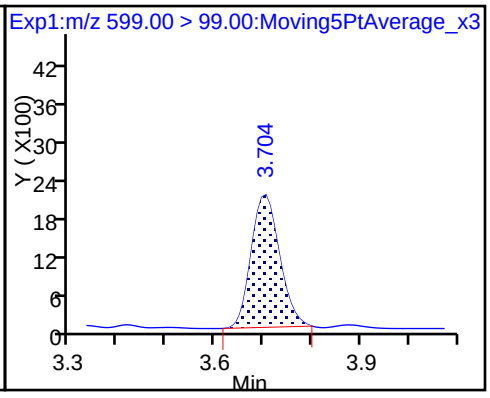
28 N-methyl perfluorooctane sulfonami



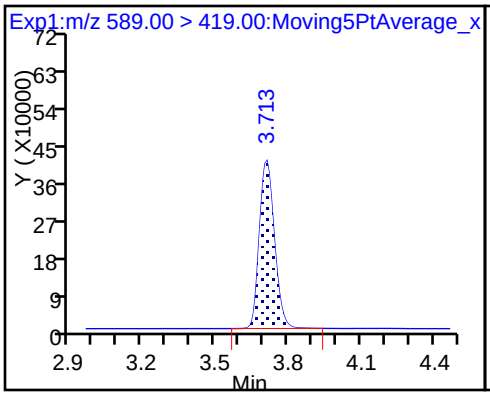
29 Perfluorodecane Sulfonic acid



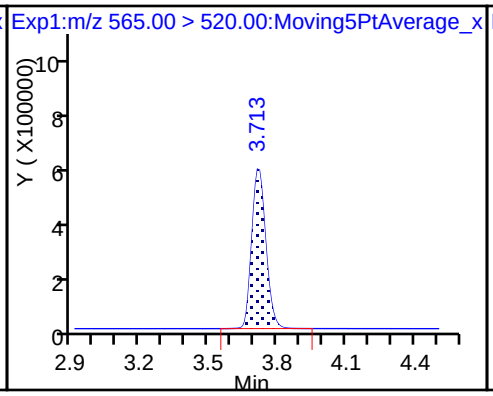
29 Perfluorodecane Sulfonic acid



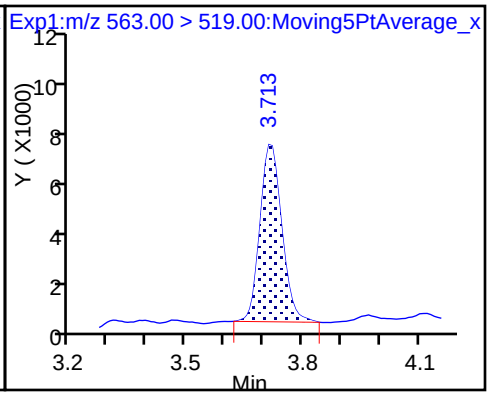
D 32 d5-NEtFOSAA



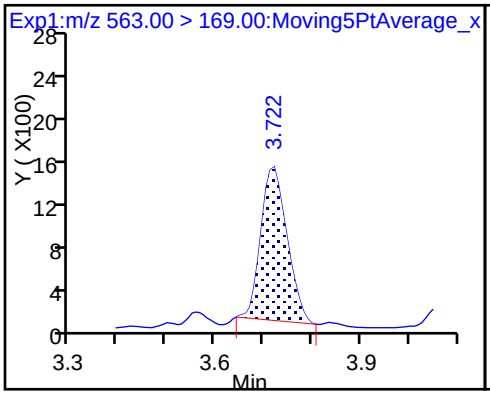
D 30 13C2 PFUnA



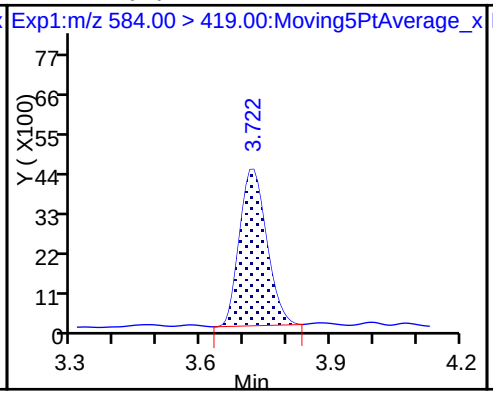
31 Perfluoroundecanoic acid



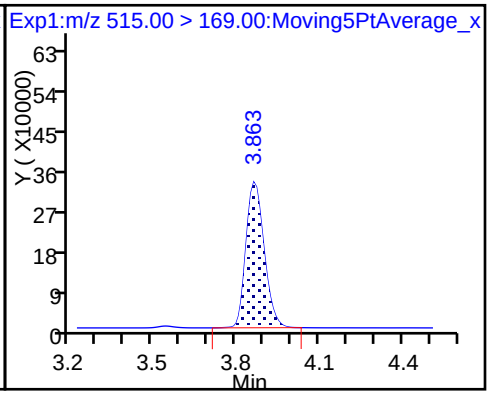
31 Perfluoroundecanoic acid



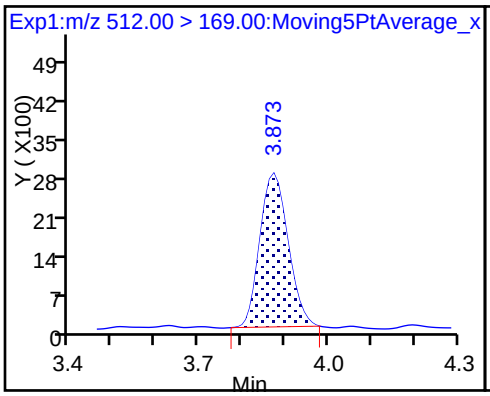
33 N-ethyl perfluorooctane sulfonamid



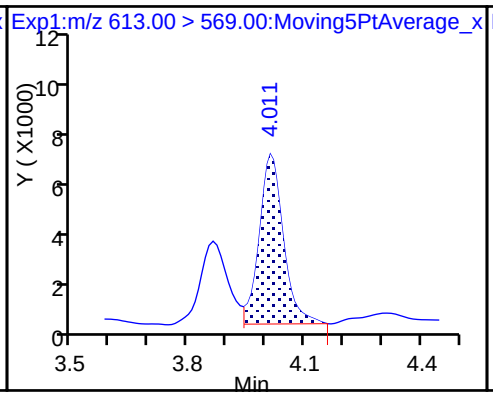
D 34 d-N-MeFOSA-M



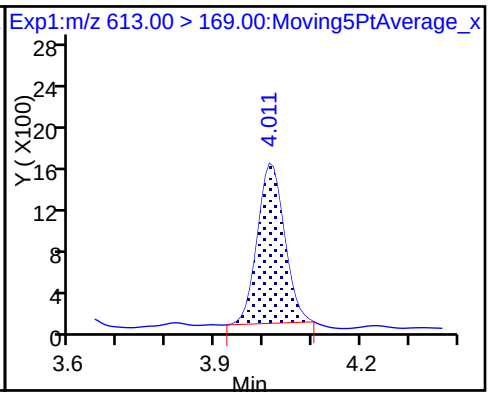
35 MeFOSA



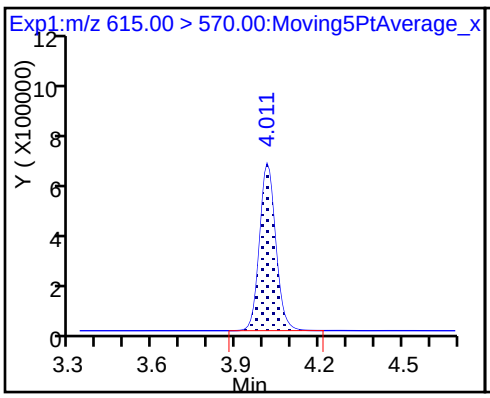
37 Perfluorododecanoic acid



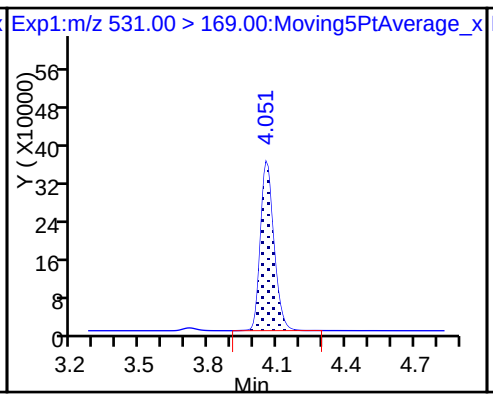
37 Perfluorododecanoic acid



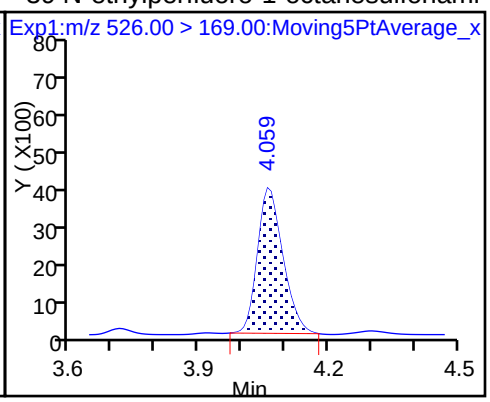
D 36 13C2 PFDoA



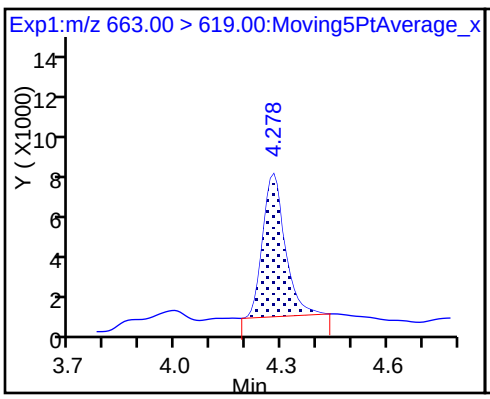
D 38 d-N-EtFOSA-M



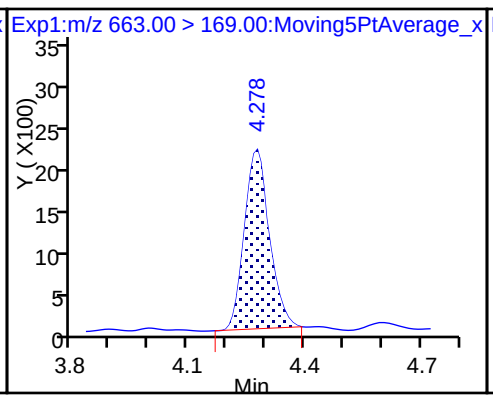
39 N-ethylperfluoro-1-octanesulfonami



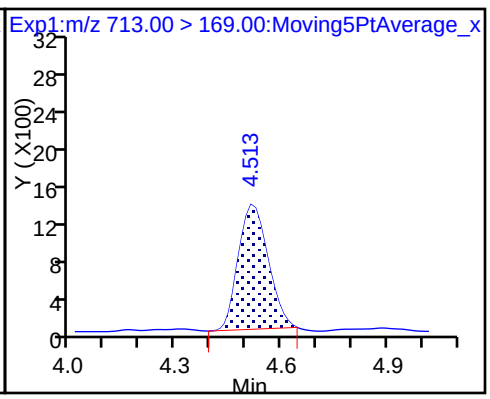
41 Perfluorotridecanoic acid



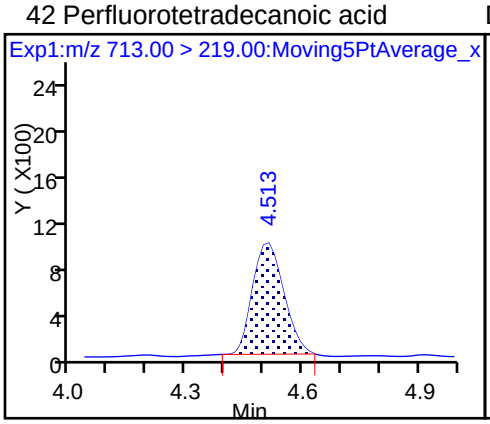
41 Perfluorotridecanoic acid



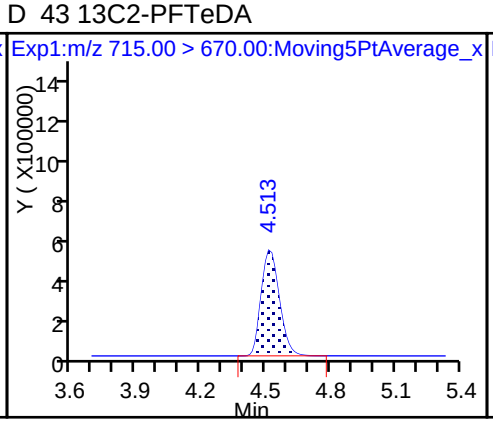
42 Perfluorotetradecanoic acid



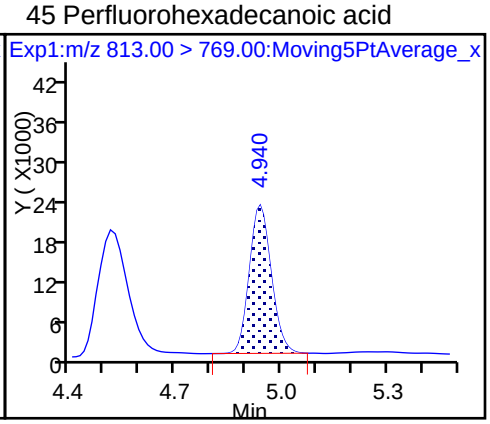
42 Perfluorotetradecanoic acid



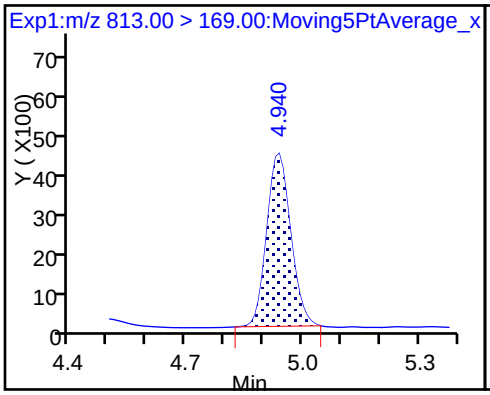
D 43 13C2-PFTeDA



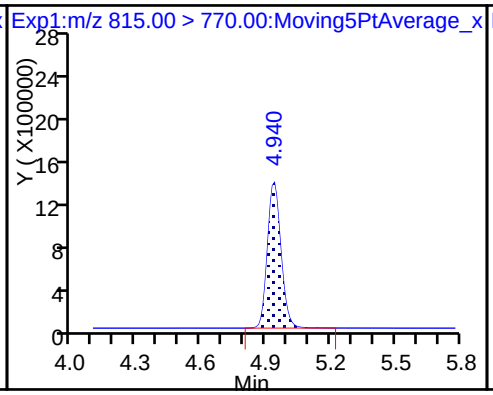
45 Perfluorohexadecanoic acid



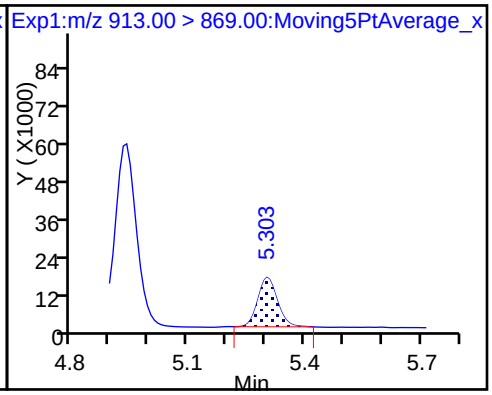
45 Perfluorohexadecanoic acid



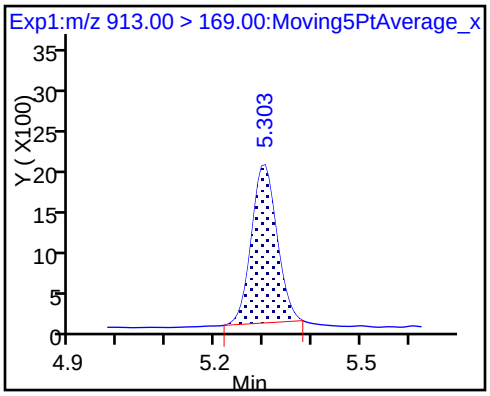
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento

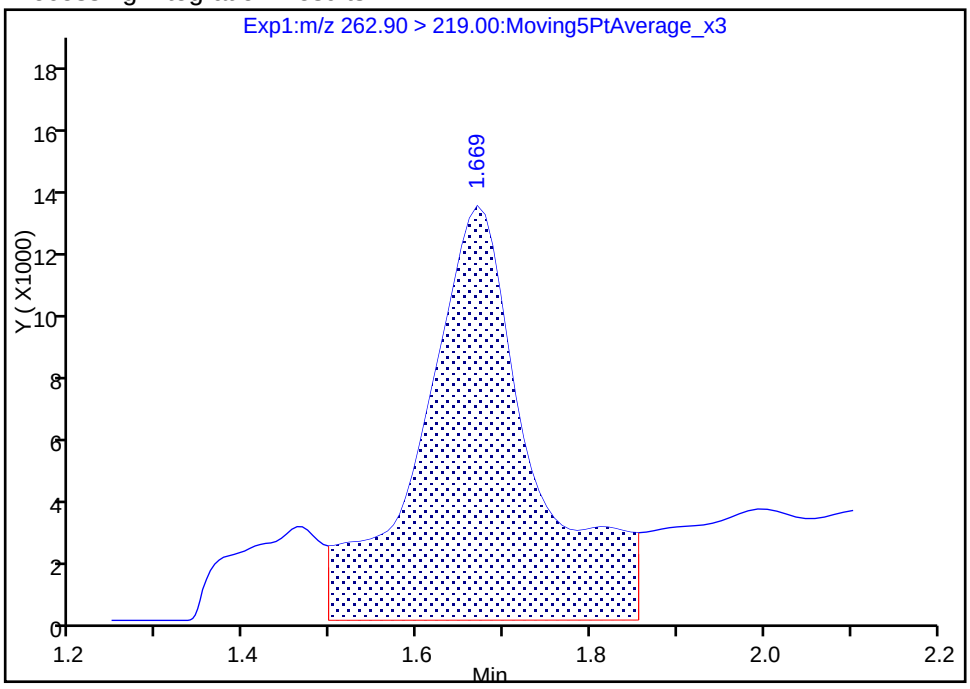
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_002.d
Injection Date: 21-Dec-2017 15:05:59 Instrument ID: A8_N
Lims ID: IC L1 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

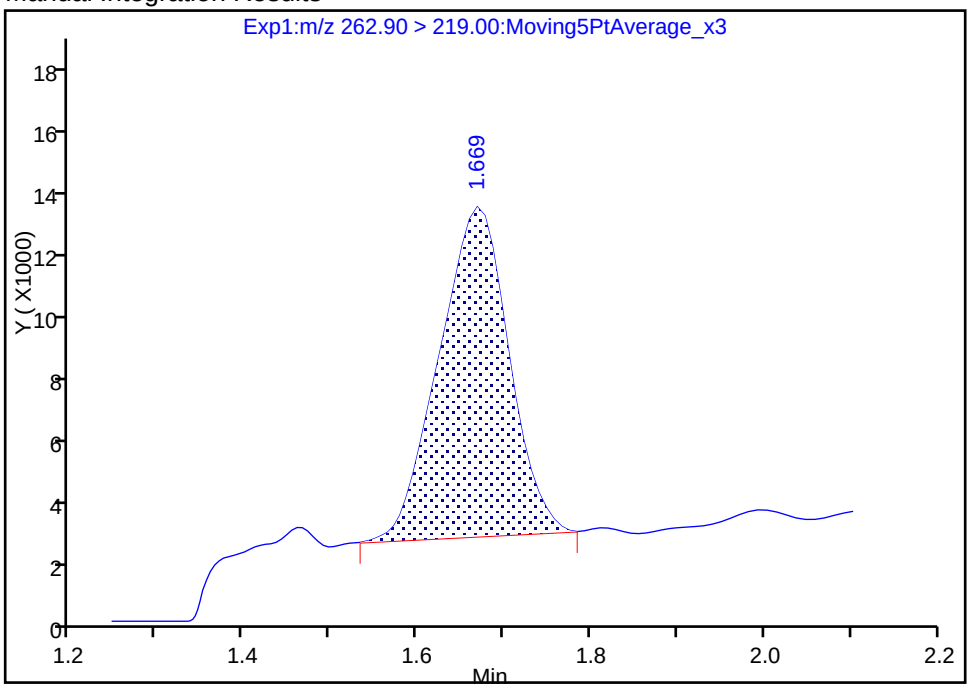
Processing Integration Results

RT: 1.67
Area: 115534
Amount: 0.046512
Amount Units: ng/ml



Manual Integration Results

RT: 1.67
Area: 58359
Amount: 0.026932
Amount Units: ng/ml



Reviewer: hannigana, 22-Dec-2017 09:02:38
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_003.d
Lims ID: IC L2 Full
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Dec-2017 15:13:51 ALS Bottle#: 11 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L2-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:26:58 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:04:28

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.535	7985484	2.34		93.5	27763	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	149609	0.0511		102	51.3	
D 3 13C5-PFPeA										
267.90 > 223.00	1.670	1.670	0.0	0.630	4931418	2.41		96.4	54938	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.670	1.670	0.0	1.000	112651	0.0512		102	65.9	M
D 47 13C3-PFBS										
301.90 > 83.00	1.706	1.705	0.001	0.643	90654	2.08		89.4	2773	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.706	1.707	-0.001	1.000	144831	0.0494		112	991	
298.90 > 99.00	1.706	1.707	-0.001	1.000	59023		2.45(1.25-3.74)	112	782	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.922	1.920	0.002	1.000	33949	0.0466		99.7	1554	
D 7 13C2 PFHxA										
315.00 > 270.00	1.953	1.953	0.0	0.737	5267753	2.41		96.5	54914	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.953	1.956	-0.003	1.000	110008	0.0521		104	324	
313.00 > 119.00	1.953	1.956	-0.003	1.000	10337		10.64(5.03-15.10)	104	160	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.864	4809471	2.38		95.2	31470	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.291	2.291	0.0	1.000	99436	0.0494		98.8	134	
363.00 > 169.00	2.291	2.291	0.0	1.000	41272		2.41(1.13-3.40)	98.8	361	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	1.000	130412	0.0492		108	393	
399.00 > 99.00	2.304	2.304	0.0	1.000	39276		3.32(1.50-4.49)	108	233	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.304	0.0	0.869	5820783	2.28		96.5	39640	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.644	2.642	0.002	1.000	69364	0.0505		106	3253	
D 12 M2-6:2FTS										
429.00 > 81.00	2.644	2.642	0.002	0.997	2106131	2.24		94.2	39480	
D 14 13C4 PFOA										
417.00 > 372.00	2.651	2.654	-0.003	1.000	5766084	2.48		99.3	45716	
* 62 13C2-PFOA										
415.00 > 370.00	2.651	2.656	-0.005		5623140	2.50			52590	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.658	2.656	0.002	1.003	126908	0.0523		105	50.2	
413.00 > 169.00	2.651	2.656	-0.005	1.000	69741		1.82(0.84-2.52)	105	651	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.658	2.662	-0.004	1.000	99194	0.0472		99.1	1348	
449.00 > 99.00	2.658	2.662	-0.004	1.000	27853		3.56(1.94-5.82)	99.1	953	
D 18 13C4 PFOS										
503.00 > 80.00	3.024	3.025	-0.001	1.141	3838031	2.28		95.4	27081	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.003	78661	0.0462		99.6	8.0	
499.00 > 99.00	3.024	3.028	-0.004	1.000	19602		4.01(2.31-6.93)	99.6	12.6	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.144	3995865	2.42		96.8	41492	
20 Perfluorononanoic acid										
463.00 > 419.00	3.032	3.029	0.003	1.000	79498	0.0494		98.9	106	
463.00 > 169.00	3.032	3.029	0.003	1.000	18338		4.34(1.90-5.69)	98.9	454	
D 21 13C8 FOSA										
506.00 > 78.00	3.369	3.370	-0.001	1.271	5549186	2.42		96.8	27997	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.376	3.372	0.004	1.002	109865	0.0516		103	3465	
D 26 M2-8:2FTS										
529.00 > 81.00	3.376	3.377	-0.001	1.274	1218144	2.32		96.7	18816	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.376	3.377	-0.001	1.000	31765	0.0514		107	877	
D 23 13C2 PFDA										
515.00 > 470.00	3.392	3.389	0.003	1.279	3312504	2.43		97.3	46567	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.392	3.390	0.002	1.000	63350	0.0494		98.9	245	
513.00 > 169.00	3.392	3.390	0.002	1.000	12301		5.15(2.36-7.09)	98.9	404	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.543	3.543	0.0	1.336	1757055	2.40		96.2	20153	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.550	3.548	0.002	1.002	35218	0.0467		93.4	272	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.703	3.703	0.0	1.000	51344	0.0518		107	2125	
599.00 > 99.00	3.703	3.703	0.0	1.000	15896		3.23(1.39-4.16)	107	449	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.712	3.712	0.0	1.400	1786420	2.50		100	8374	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.721	3.717	0.004	1.403	2611796	2.52		101	28239	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.721	3.718	0.003	1.000	45145	0.0472		94.3	203	
563.00 > 169.00	3.721	3.718	0.003	1.000	12542		3.60(0.00-0.00)	94.3	573	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.721	3.720	0.001	1.002	33144	0.0467		93.4	518	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.862	3.862	0.0	1.457	1500641	2.30		92.0	3292	
35 MeFOSA										
512.00 > 169.00	3.872	3.872	0.0	1.003	30226	0.0514		103	1357	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.011	-0.001	1.513	2665544	2.38		95.4	27699	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.010	4.011	-0.001	1.000	50136	0.0474		94.8	120	
613.00 > 169.00	4.010	4.011	-0.001	1.000	16128		3.11(2.13-6.40)	94.8	825	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.050	4.052	-0.002	1.528	1451263	2.31		92.6	2684	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.058	4.058	0.0	1.002	29858	0.0483		96.6	1053	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.277	4.277	0.0	1.000	66960	0.0542		108	154	
663.00 > 169.00	4.277	4.277	0.0	1.000	19151		3.50(1.25-3.76)	108	708	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.523	4.518	0.005	1.706	3039455	2.43		97.3	15904	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.523	4.518	0.005	1.000	14992	0.0478		95.7	510	
713.00 > 219.00	4.509	4.518	-0.009	0.997	12150		1.23(0.71-2.13)	95.7	534	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.938	4.939	-0.001	1.863	5427780	2.39		95.5	19477	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.938	4.939	-0.001	1.000	143410	0.0533		107	72.6	
813.00 > 169.00	4.938	4.939	-0.001	1.000	26375		5.44(2.86-8.58)	107	768	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.308	5.306	0.002	1.000	123452	0.0552		110	27.8	
913.00 > 169.00	5.301	5.306	-0.005	0.999	15403		8.01(0.00-0.00)	110	234	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFC_LL2_00002 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:26:59 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_003.d

Injection Date: 21-Dec-2017 15:13:51 Instrument ID: A8_N

Lims ID: IC L2 Full

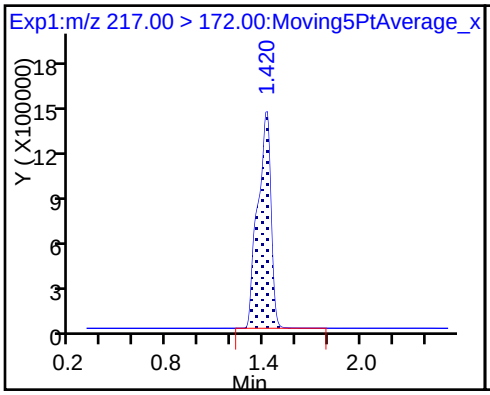
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 3

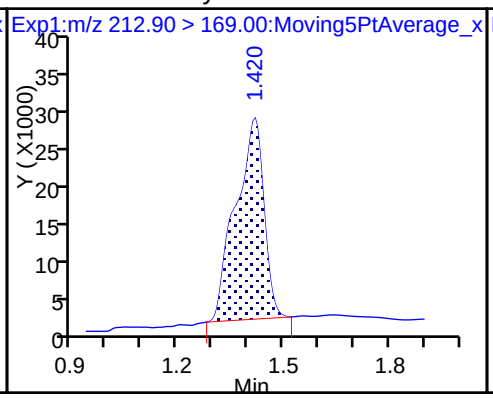
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

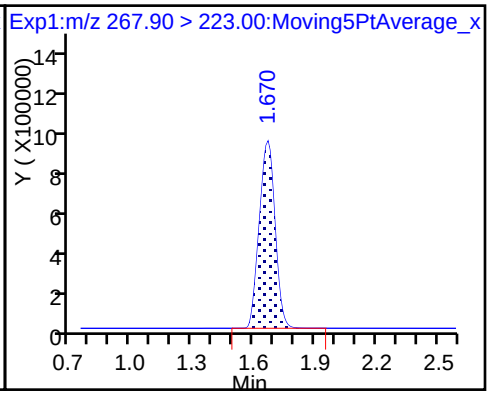
D 1 13C4 PFBA



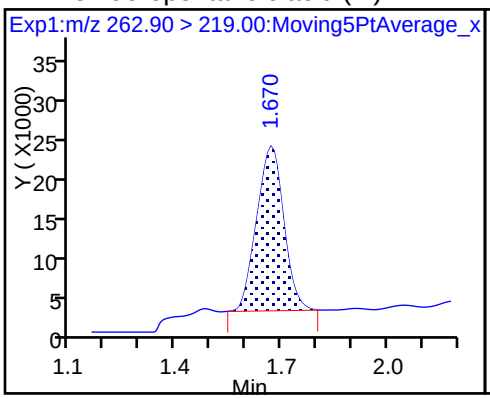
2 Perfluorobutyric acid



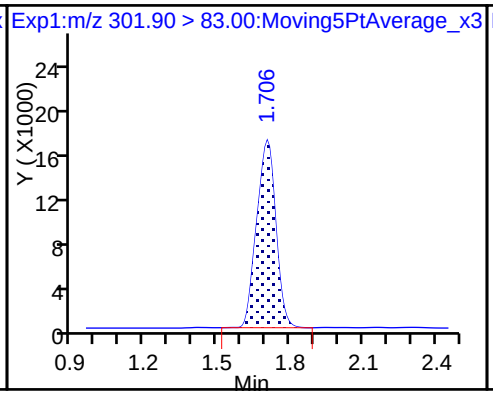
D 3 13C5-PFPeA



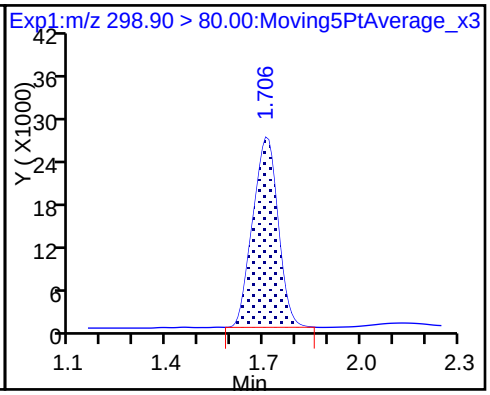
4 Perfluoropentanoic acid (M)



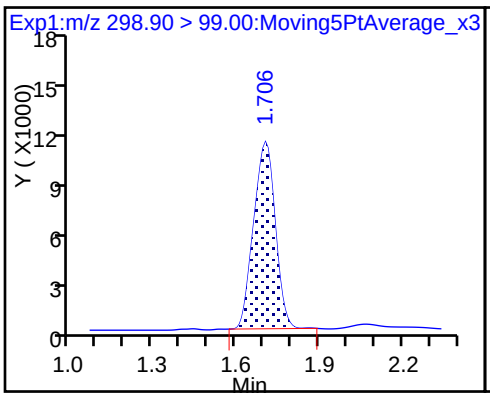
D 47 13C3-PFBS



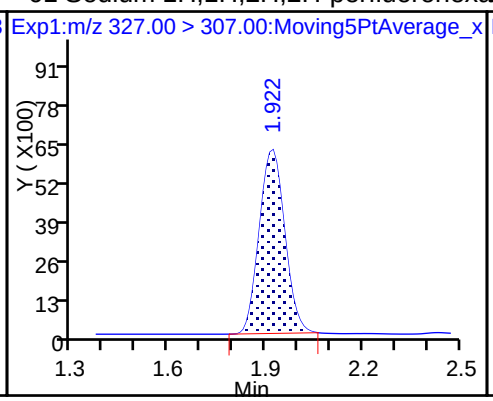
5 Perfluorobutanesulfonic acid



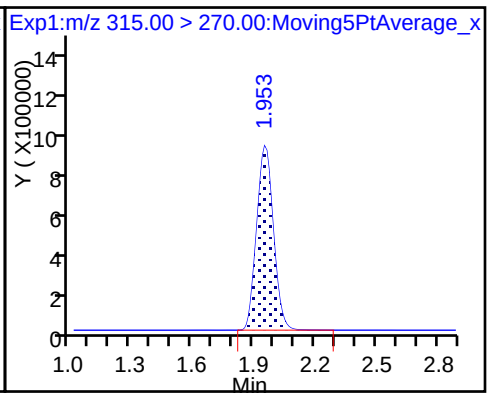
5 Perfluorobutanesulfonic acid



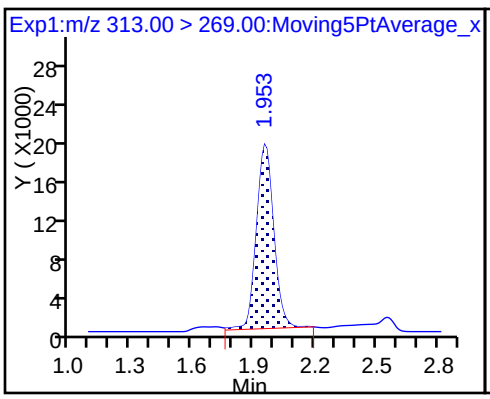
61 Sodium 1H,1H,2H,2H-perfluorohexa



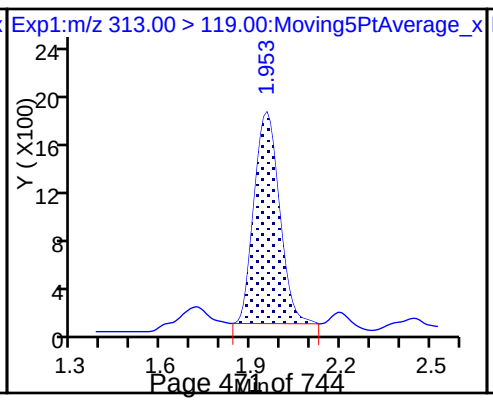
D 7 13C2 PFHxA



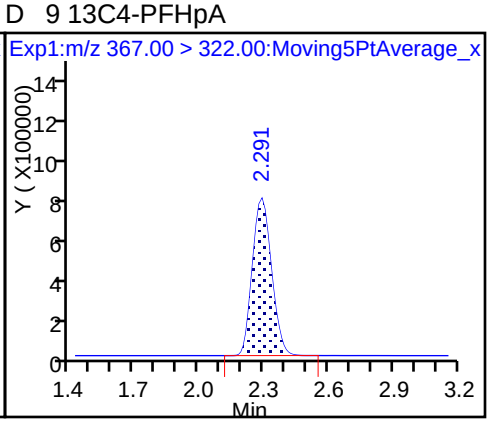
6 Perfluorohexanoic acid



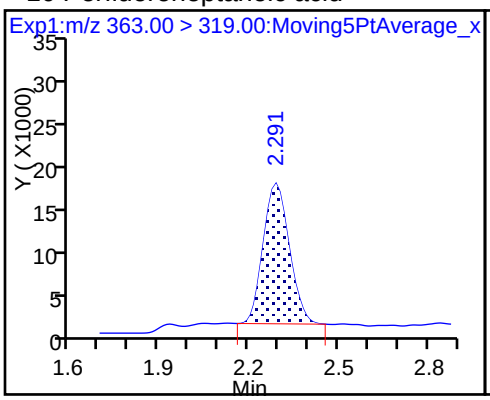
6 Perfluorohexanoic acid



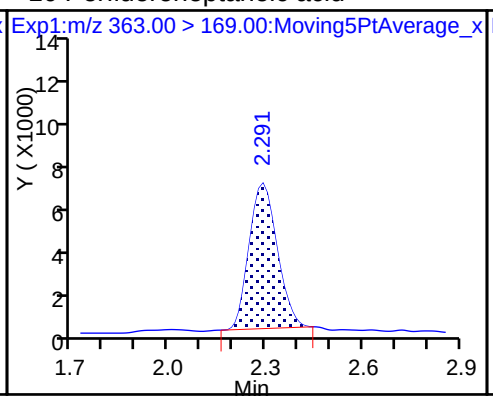
D 9 13C4-PFHpA



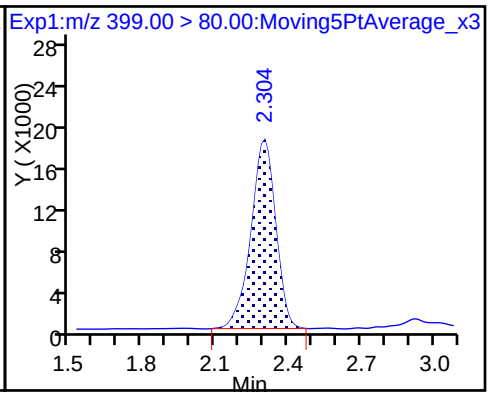
10 Perfluoroheptanoic acid



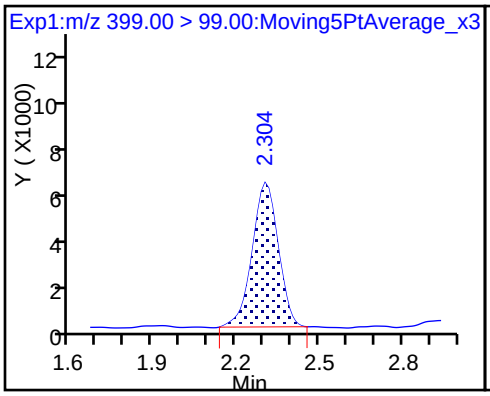
10 Perfluoroheptanoic acid



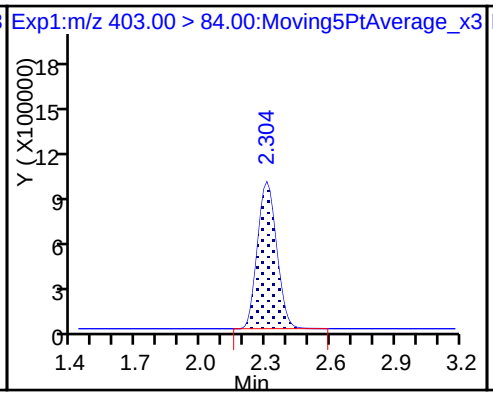
8 Perfluorohexanesulfonic acid



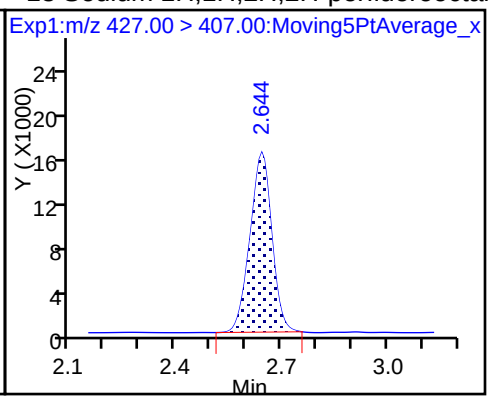
8 Perfluorohexanesulfonic acid



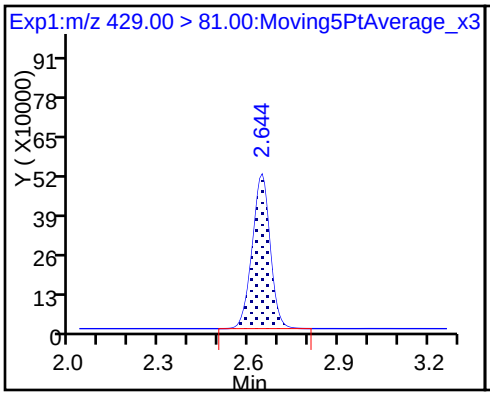
D 11 18O2 PFHxS



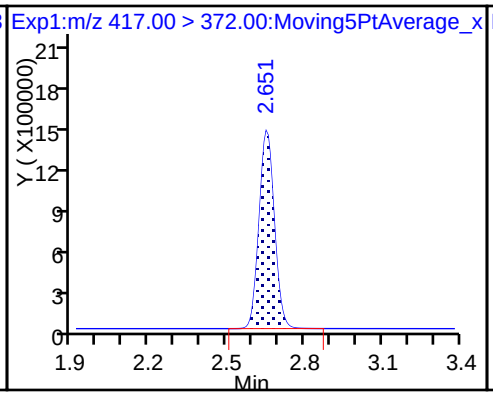
13 Sodium 1H,1H,2H,2H-perfluorooctane



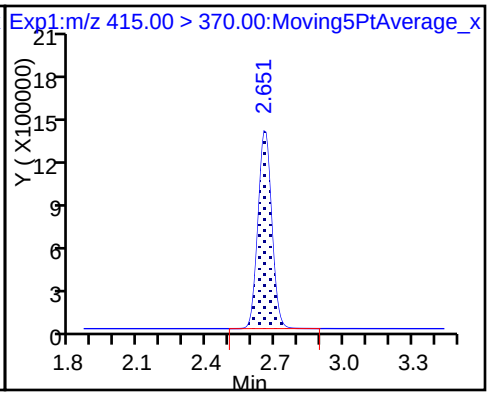
D 12 M2-6:2FTS



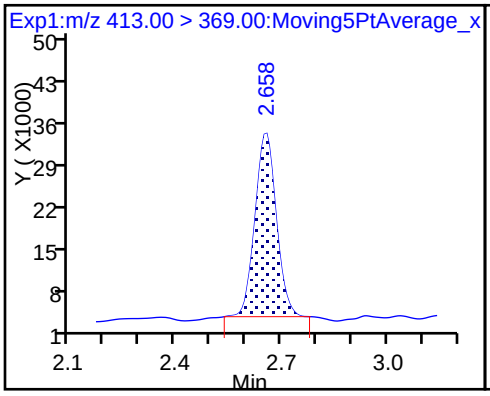
D 14 13C4 PFOA



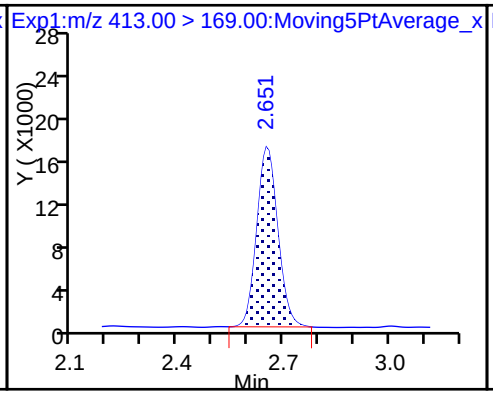
* 62 13C2-PFOA



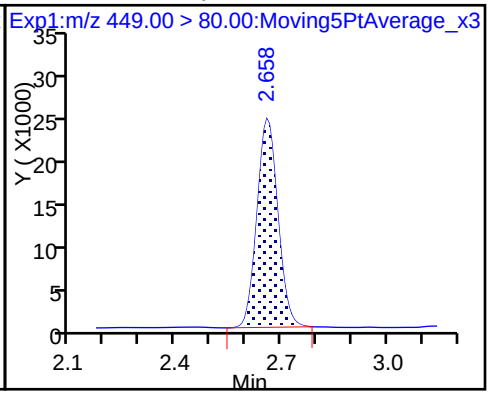
15 Perfluorooctanoic acid



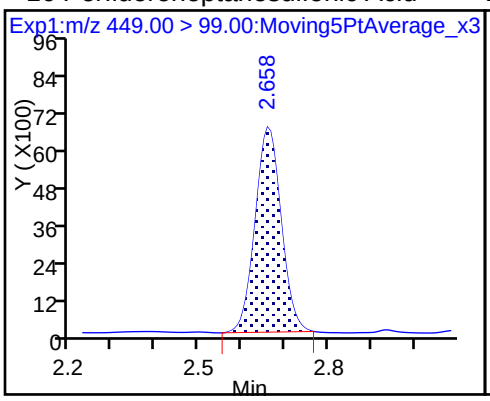
15 Perfluorooctanoic acid



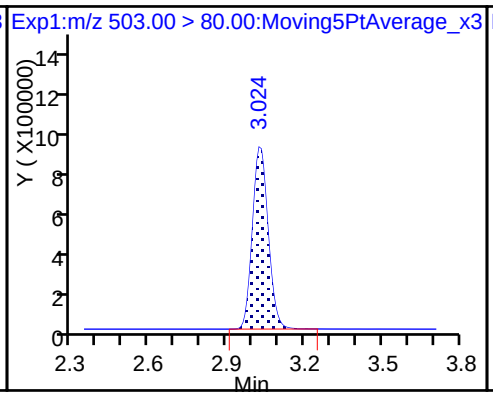
16 Perfluoroheptanesulfonic Acid



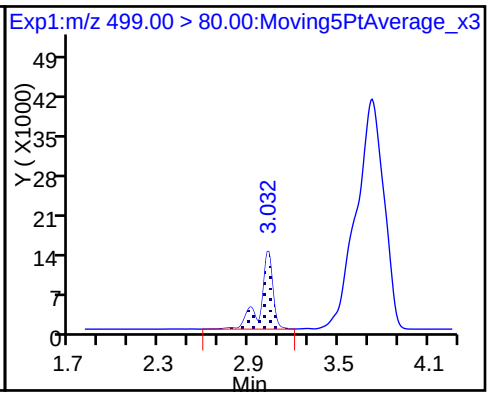
16 Perfluoroheptanesulfonic Acid



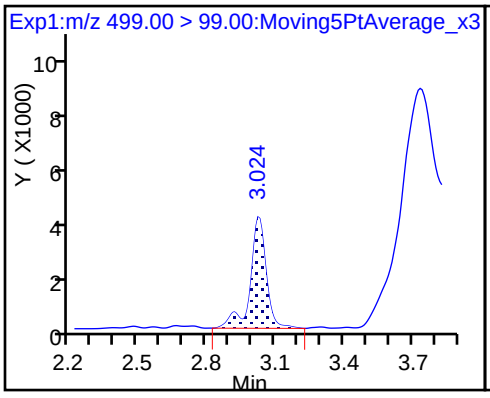
D 18 13C4 PFOS



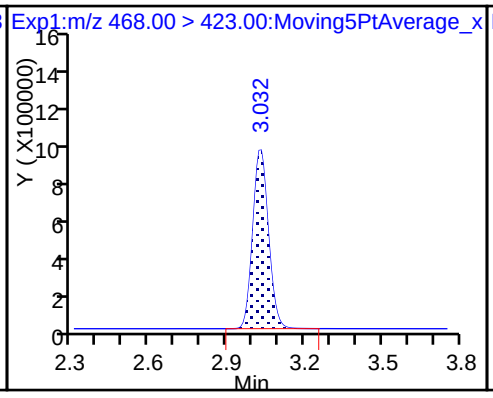
17 Perfluorooctane sulfonic acid



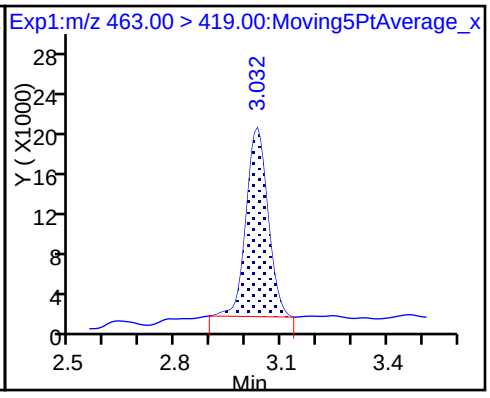
17 Perfluorooctane sulfonic acid



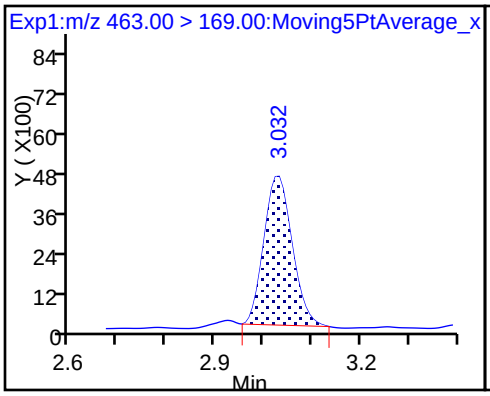
D 19 13C5 PFNA



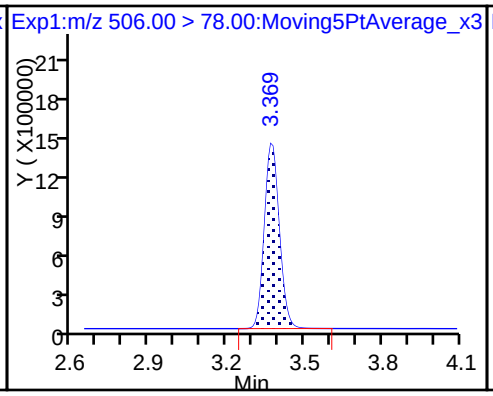
20 Perfluorononanoic acid



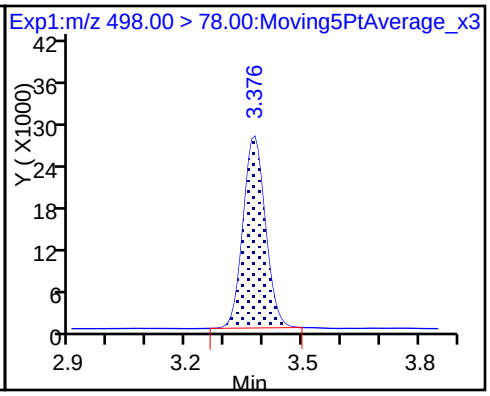
20 Perfluorononanoic acid



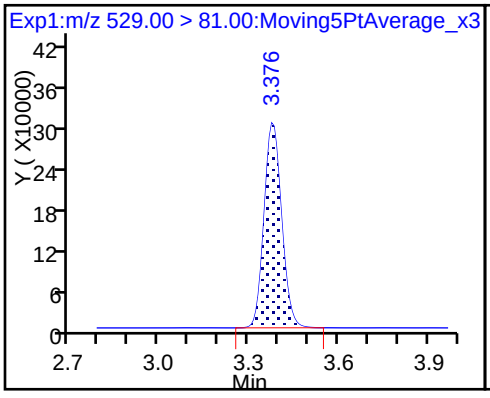
D 21 13C8 FOSA



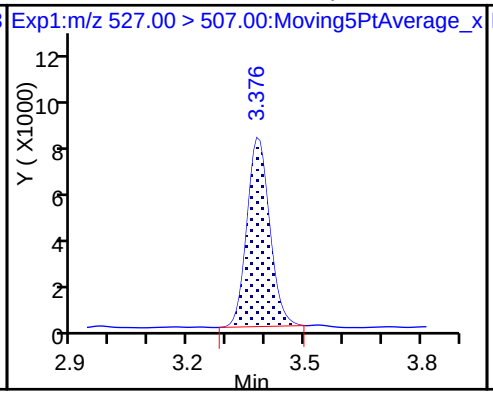
22 Perfluorooctane Sulfonamide



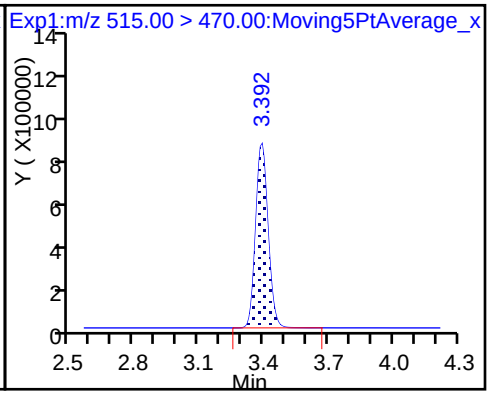
D 26 M2-8:2FTS



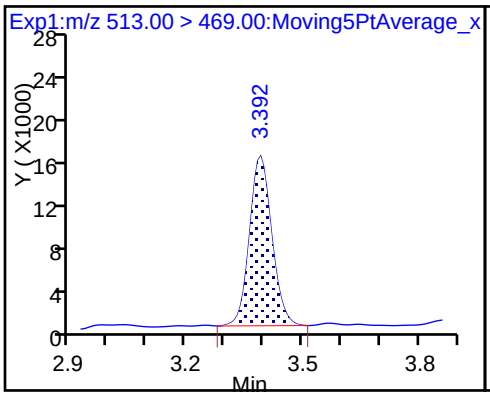
25 Sodium 1H,1H,2H,2H-perfluorodecane



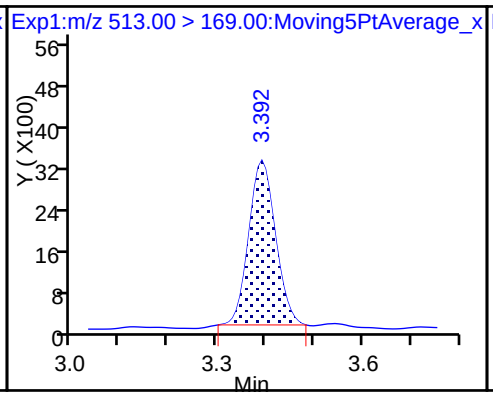
D 23 13C2 PFDA



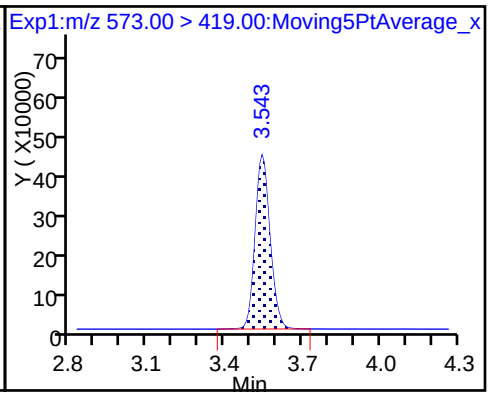
24 Perfluorodecanoic acid



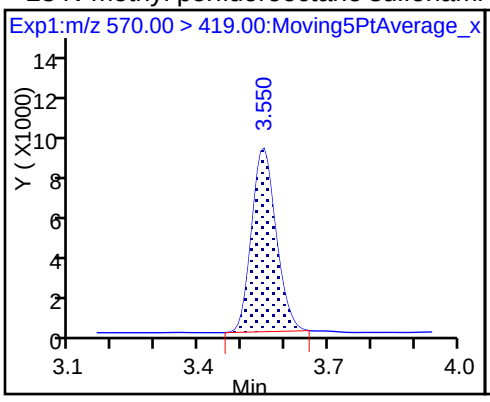
24 Perfluorodecanoic acid



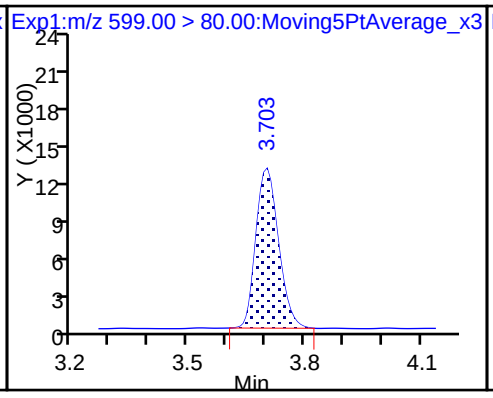
D 27 d3-NMeFOSAA



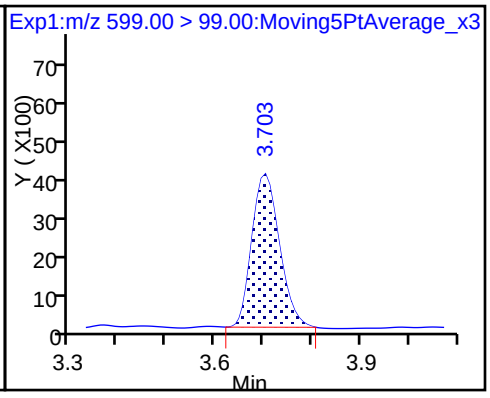
28 N-methyl perfluorooctane sulfonami



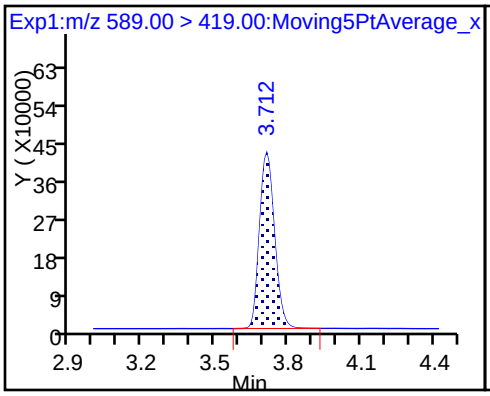
29 Perfluorodecane Sulfonic acid



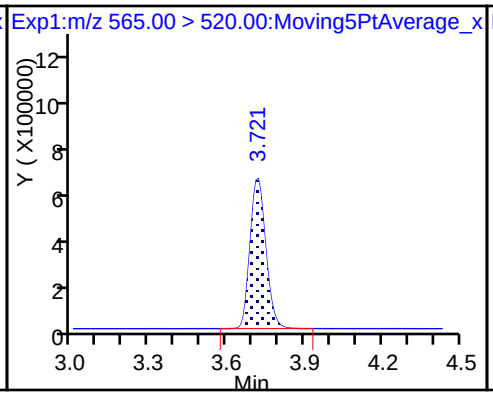
29 Perfluorodecane Sulfonic acid



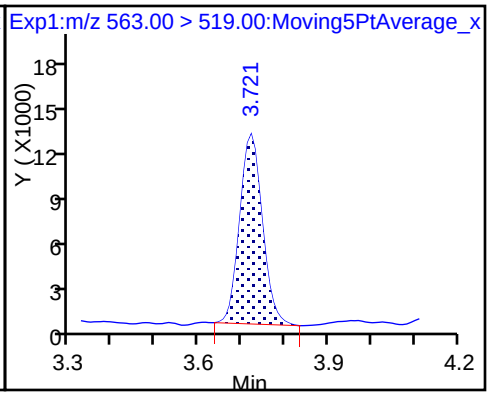
D 32 d5-NEtFOSAA



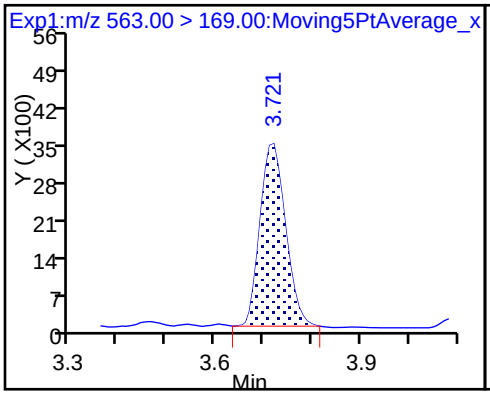
D 30 13C2 PFUnA



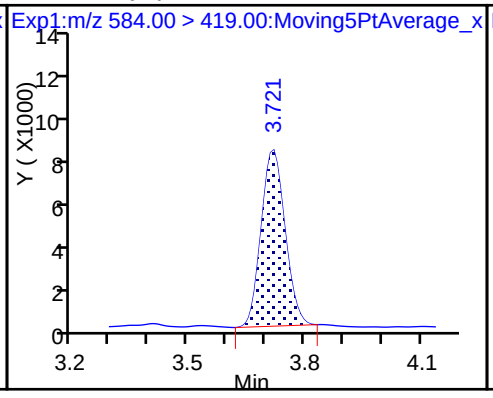
31 Perfluoroundecanoic acid



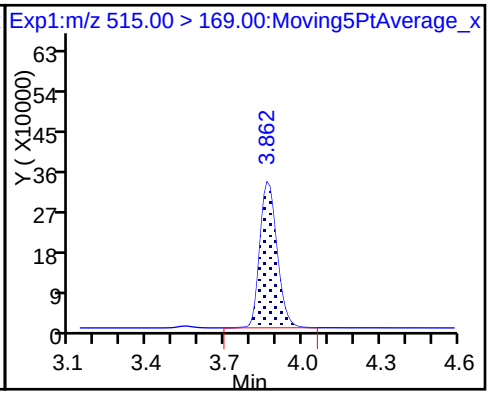
31 Perfluoroundecanoic acid



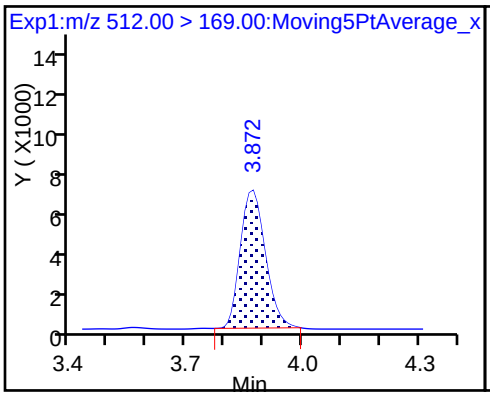
33 N-ethyl perfluorooctane sulfonamid



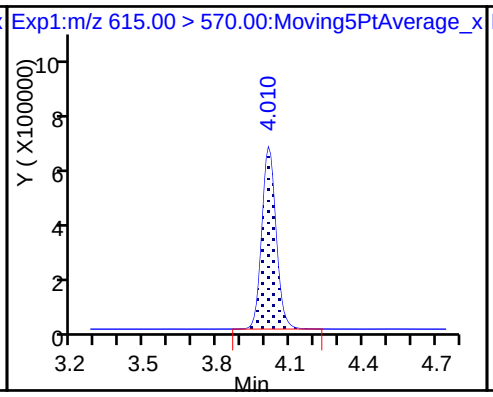
D 34 d-N-MeFOSA-M



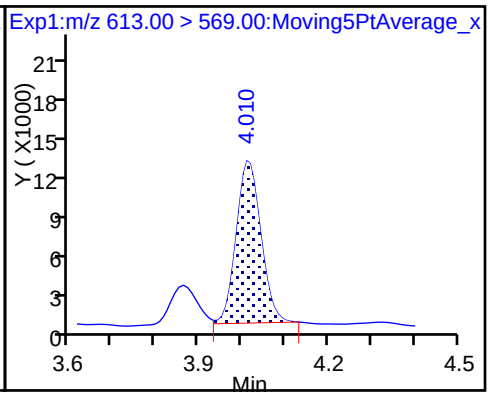
35 MeFOSA



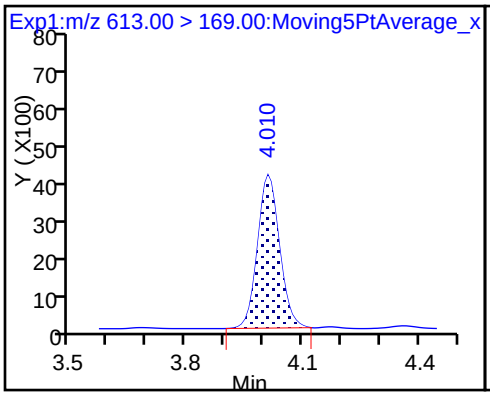
D 36 13C2 PFDoA



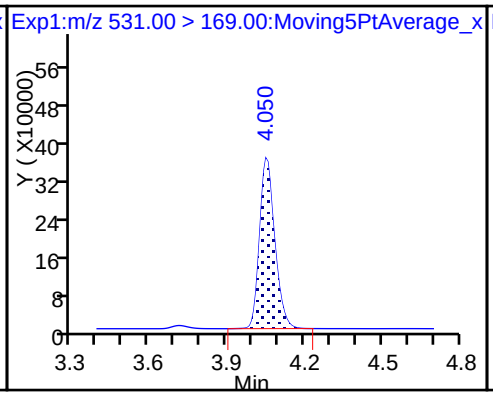
37 Perfluorododecanoic acid



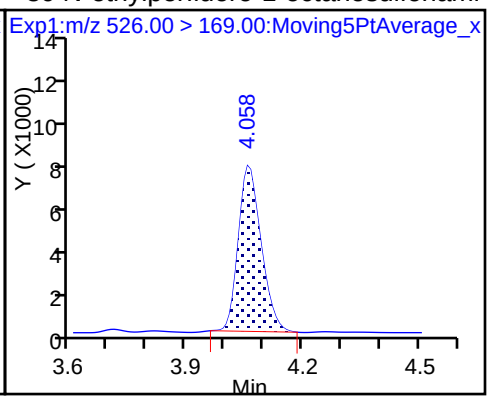
37 Perfluorododecanoic acid



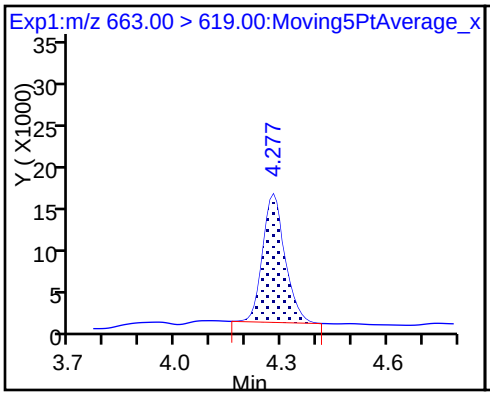
D 38 d-N-EtFOSA-M



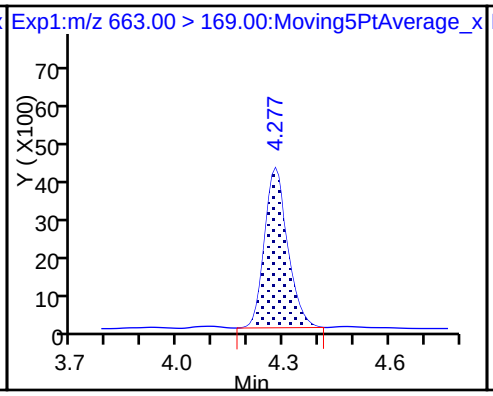
39 N-ethylperfluoro-1-octanesulfonami



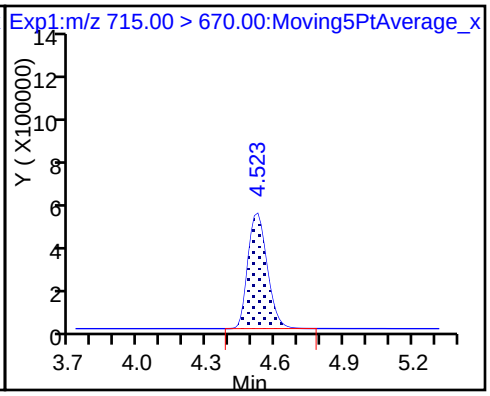
41 Perfluorotridecanoic acid



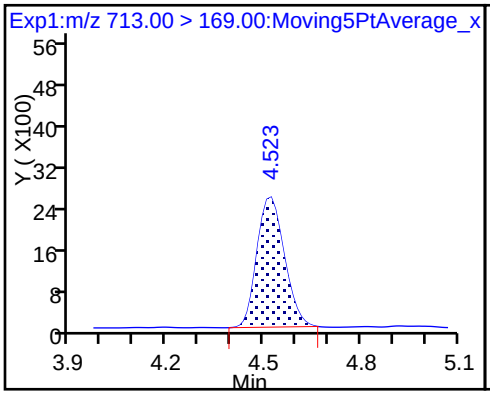
41 Perfluorotridecanoic acid



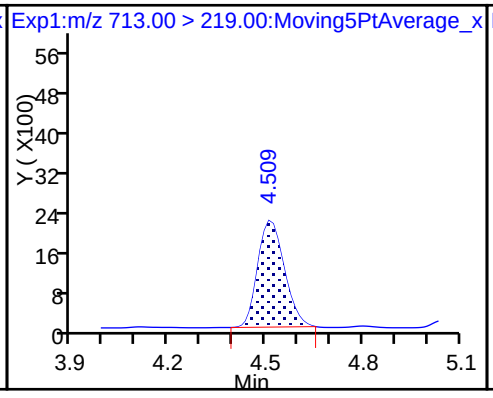
D 43 13C2-PFTeDA



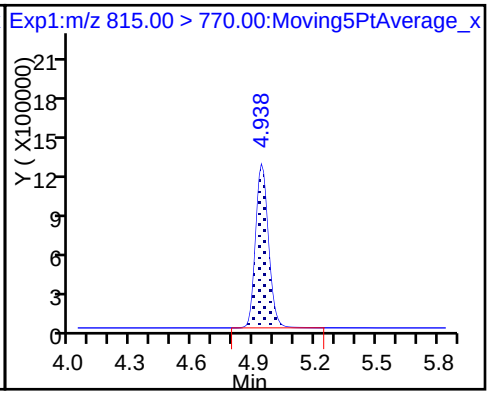
42 Perfluorotetradecanoic acid



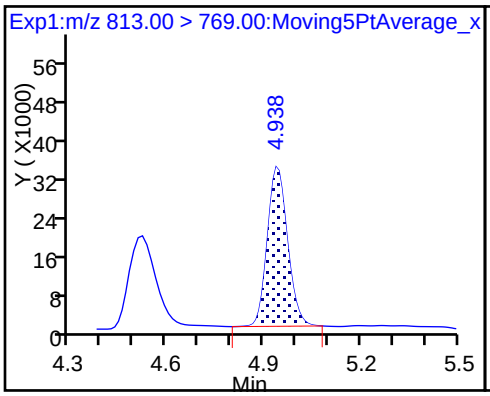
42 Perfluorotetradecanoic acid



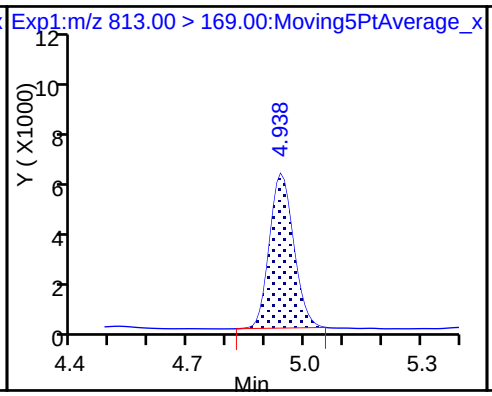
D 44 13C2-PFHxDA



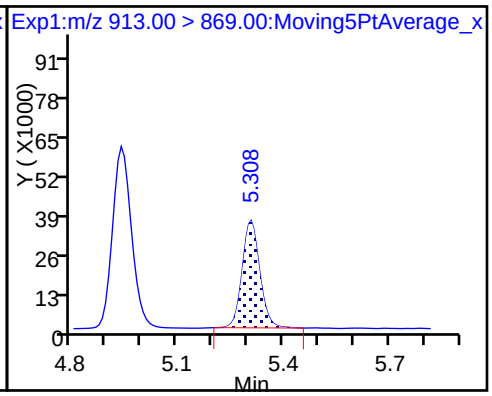
45 Perfluorohexadecanoic acid



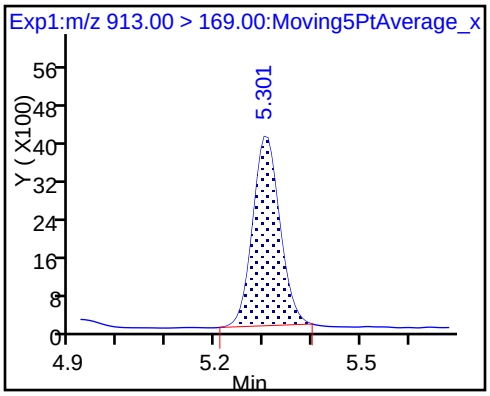
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

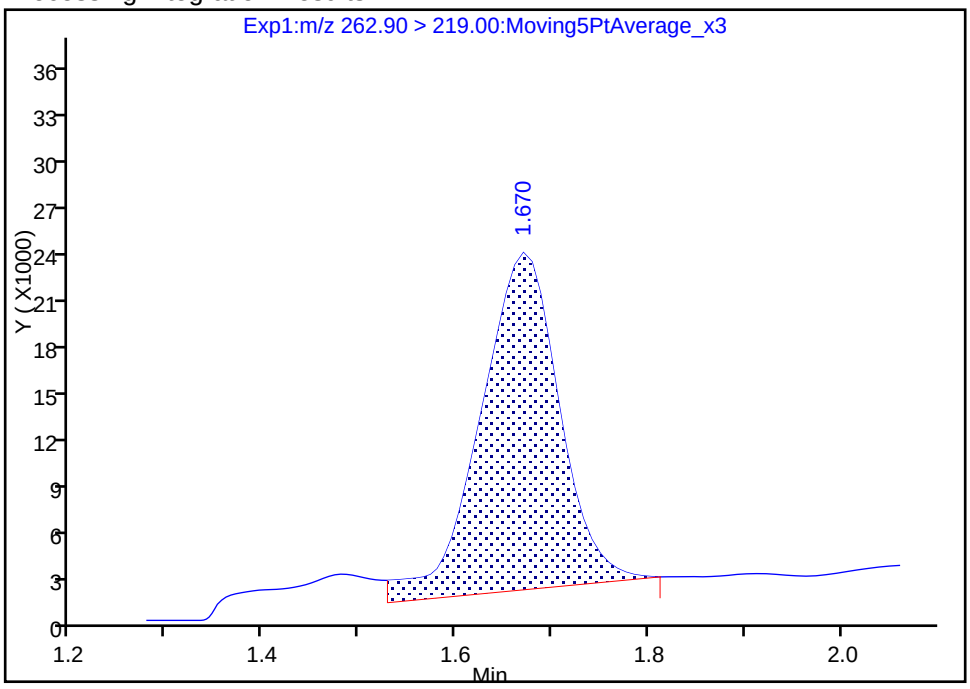
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_003.d
Injection Date: 21-Dec-2017 15:13:51 Instrument ID: A8_N
Lims ID: IC L2 Full
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

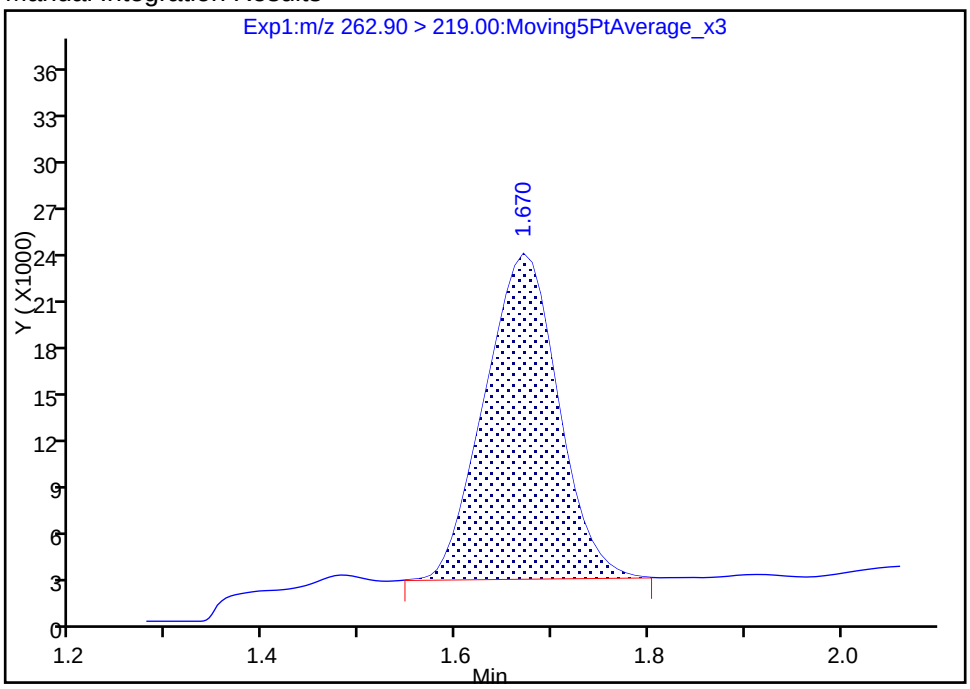
Processing Integration Results

RT: 1.67
Area: 125317
Amount: 0.056108
Amount Units: ng/ml



Manual Integration Results

RT: 1.67
Area: 112651
Amount: 0.051162
Amount Units: ng/ml



Reviewer: hannigana, 22-Dec-2017 09:04:02
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_004.d
Lims ID: IC L3 Full
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Dec-2017 15:21:39 ALS Bottle#: 12 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L3-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:27:01 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:05:05

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	750051	0.2575		103	222	
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.534	7947697	2.39		95.7	30491	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.670	1.670	0.0	1.000	560389	0.2521		101	360	
D 3 13C5-PFPeA										
267.90 > 223.00	1.670	1.670	0.0	0.628	4979129	2.50		100	92577	
D 47 13C3-PFBS										
301.90 > 83.00	1.706	1.705	0.001	0.642	96655	2.28		98.1	3011	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.706	1.707	-0.001	1.000	700583	0.2240		101	4354	
298.90 > 99.00	1.706	1.707	-0.001	1.000	294665		2.38(1.25-3.74)	101	3321	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.923	1.920	0.003	1.000	174598	0.2200		94.2	7930	
D 7 13C2 PFHxA										
315.00 > 270.00	1.954	1.953	0.001	0.735	5246790	2.47		98.9	39838	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.954	1.956	-0.002	1.000	506862	0.2412		96.5	1291	
313.00 > 119.00	1.954	1.956	-0.002	1.000	49198		10.30(5.03-15.10)	96.5	1221	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.291	2.291	0.0	1.000	496497	0.2439		97.6	790	
363.00 > 169.00	2.291	2.291	0.0	1.000	204430		2.43(1.13-3.40)	97.6	1953	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.862	4865147	2.48		99.1	34517	
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.304	0.0	0.867	5859680	2.36		99.9	29770	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	1.000	581986	0.2182		95.9	1498	
399.00 > 99.00	2.304	2.304	0.0	1.000	198038		2.94(1.50-4.49)	95.9	1037	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.644	2.642	0.002	1.000	361912	0.2418		102	17487	
D 12 M2-6:2FTS										
429.00 > 81.00	2.644	2.642	0.002	0.995	2293081	2.51		106	47398	
D 14 13C4 PFOA										
417.00 > 372.00	2.658	2.654	0.004	1.000	5709764	2.53		101	47697	
* 62 13C2-PFOA										
415.00 > 370.00	2.658	2.656	0.002		5463968	2.50			43910	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.658	2.656	0.002	1.000	614438	0.2558		102	249	
413.00 > 169.00	2.658	2.656	0.002	1.000	331348		1.85(0.84-2.52)	102	3124	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.666	2.662	0.004	1.000	512839	0.2402		101	5792	
449.00 > 99.00	2.666	2.662	0.004	1.000	140266		3.66(1.94-5.82)	101	3367	
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.140	3896182	2.38		99.6	25177	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.140	3989341	2.49		99.5	39663	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	405361	0.2346		101	41.6	
499.00 > 99.00	3.032	3.028	0.004	1.000	88049		4.60(2.31-6.93)	101	52.3	
20 Perfluorononanoic acid										
463.00 > 419.00	3.032	3.029	0.003	1.000	373010	0.2323		92.9	496	
463.00 > 169.00	3.032	3.029	0.003	1.000	98395		3.79(1.90-5.69)	92.9	2602	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.268	5315226	2.39		95.5	28372	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.377	3.372	0.005	1.002	545722	0.2676		107	9071	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.377	3.377	0.0	1.000	146774	0.2401		100	4052	
D 26 M2-8:2FTS										
529.00 > 81.00	3.377	3.377	0.0	1.270	1204160	2.36		98.4	19096	
D 23 13C2 PFDA										
515.00 > 470.00	3.392	3.389	0.003	1.276	3305746	2.50		99.9	34848	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.392	3.390	0.002	1.000	313237	0.2449		98.0	1540	
513.00 > 169.00	3.392	3.390	0.002	1.000	60137		5.21(2.36-7.09)	98.0	1362	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1706528	2.40		96.1	22435	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.551	3.548	0.003	1.002	182960	0.2497		99.9	1458	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.704	3.703	0.001	1.000	242152	0.2405		99.8	6462	
599.00 > 99.00	3.695	3.703	-0.008	0.998	80881		2.99(1.39-4.16)	99.8	2447	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.713	3.712	0.001	1.397	1697550	2.45		97.9	9413	
D 30 13C2 PFUnA										
565.00 > 520.00	3.713	3.717	-0.004	1.397	2608579	2.59		104	28242	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.713	3.718	-0.005	1.000	236349	0.2473		98.9	1097	
563.00 > 169.00	3.713	3.718	-0.005	1.000	48613		4.86(0.00-0.00)	98.9	2570	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.721	3.720	0.001	1.002	182516	0.2705		108	3508	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.863	3.862	0.001	1.453	1467756	2.31		92.6	3302	
35 MeFOSA										
512.00 > 169.00	3.873	3.872	0.001	1.003	154270	0.2685		107	2408	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.011	4.011	0.0	1.000	267420	0.2538		102	713	
613.00 > 169.00	4.011	4.011	0.0	1.000	66078		4.05(2.13-6.40)	102	2763	
D 36 13C2 PFDoA										
615.00 > 570.00	4.011	4.011	0.0	1.509	2653771	2.44		97.7	22168	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.050	4.052	-0.002	1.524	1440997	2.37		94.6	2816	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.058	4.058	0.0	1.002	151307	0.2466		98.6	1942	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.278	4.277	0.001	1.000	325173	0.2642		106	744	
663.00 > 169.00	4.278	4.277	0.001	1.000	101894		3.19(1.25-3.76)	106	4619	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.513	4.518	-0.005	1.000	84101	0.2694		108	2390	
713.00 > 219.00	4.513	4.518	-0.005	1.000	51931		1.62(0.71-2.13)	108	1489	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.698	3027973	2.49		99.8	19113	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.939	4.939	0.0	1.000	529034	0.2502		100	255	
813.00 > 169.00	4.939	4.939	0.0	1.000	103975		5.09(2.86-8.58)	100	2702	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.939	4.939	0.0	1.858	5642954	2.55		102	20536	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.302	5.306	-0.004	1.000	601525	0.2589		104	129	
913.00 > 169.00	5.302	5.306	-0.004	1.000	79681		7.55(0.00-0.00)	104	901	

Reagents:

LCPFC_LL3_00002 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:27:02 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_004.d

Injection Date: 21-Dec-2017 15:21:39 Instrument ID: A8_N

Lims ID: IC L3 Full

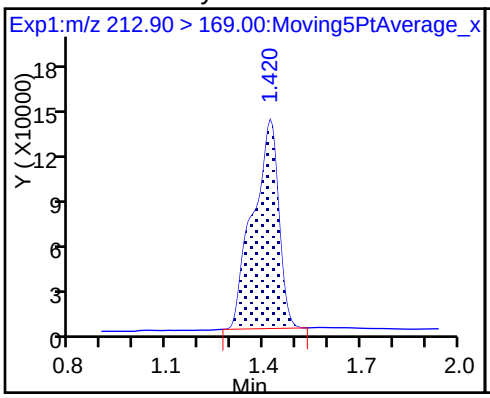
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 12 Worklist Smp#: 4

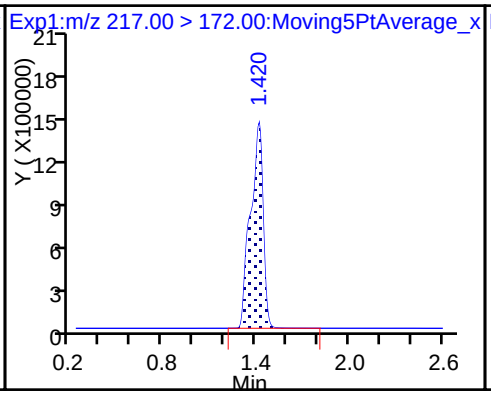
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

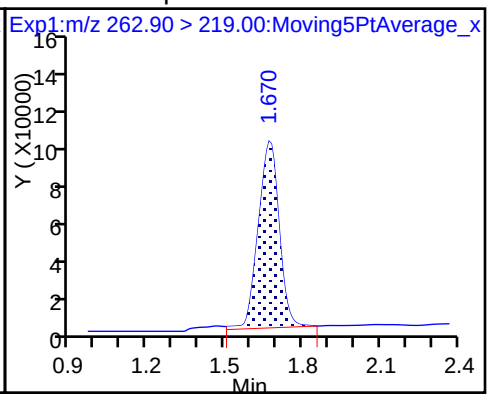
2 Perfluorobutyric acid



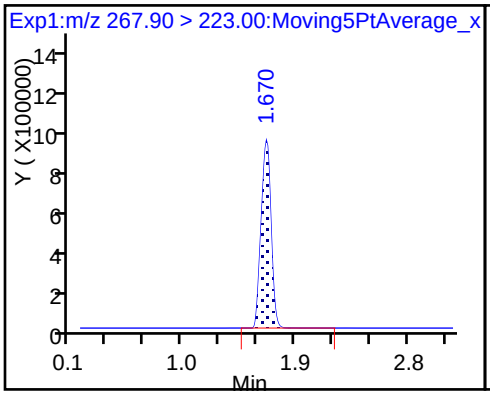
D 1 13C4 PFBA



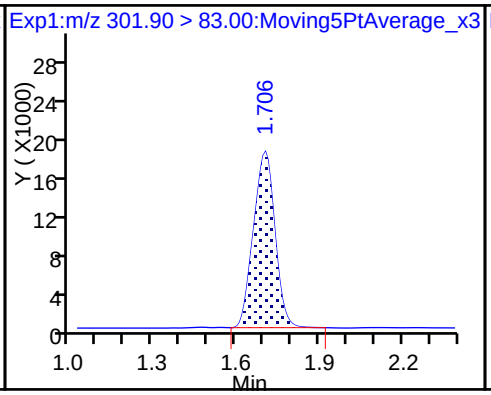
4 Perfluoropentanoic acid



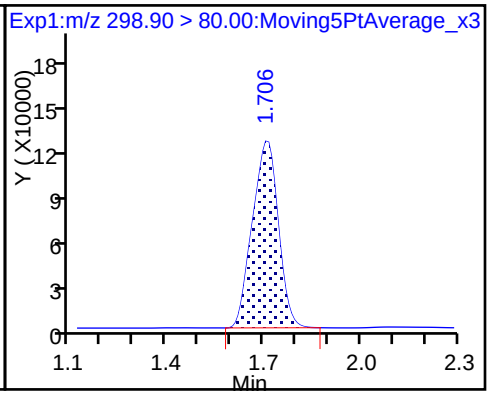
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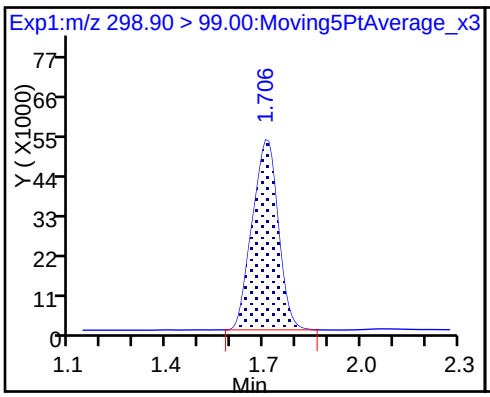
D 47 13C3-PFBS



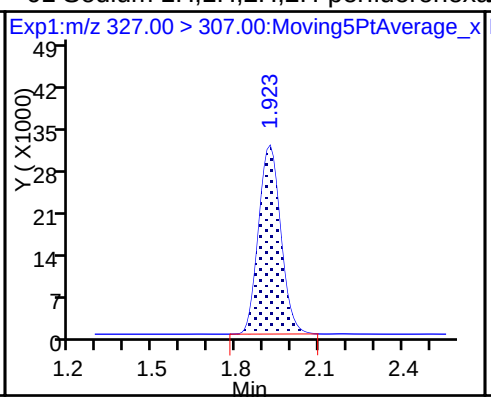
5 Perfluorobutanesulfonic acid



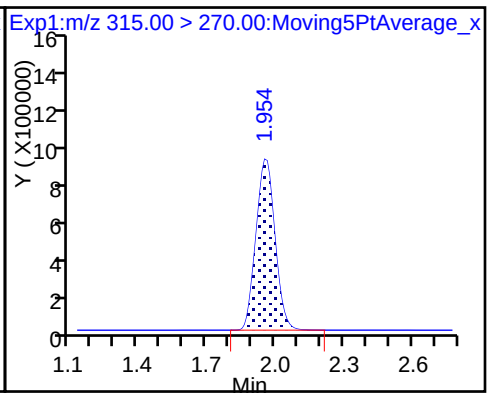
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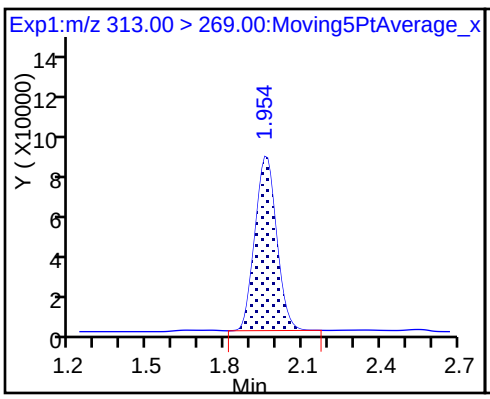
61 Sodium 1H,1H,2H,2H-perfluorohexa



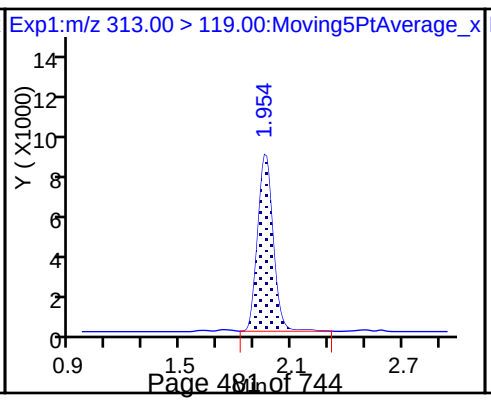
D 7 13C2 PFHxA



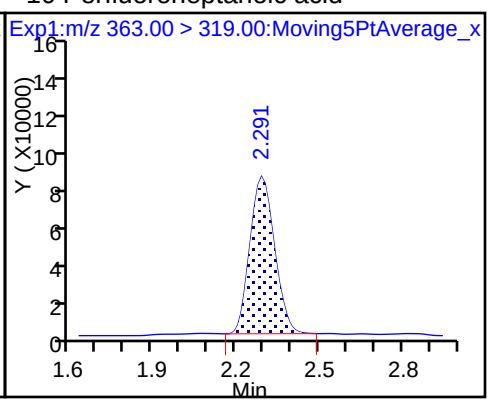
6 Perfluorohexanoic acid



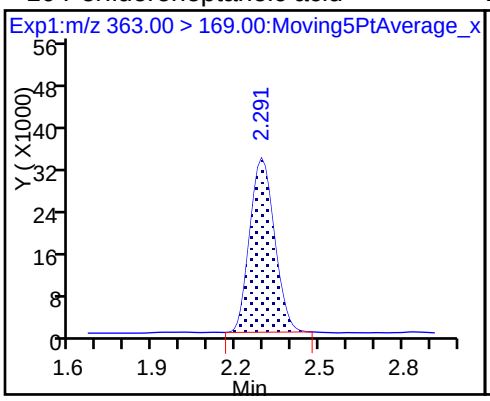
6 Perfluorohexanoic acid



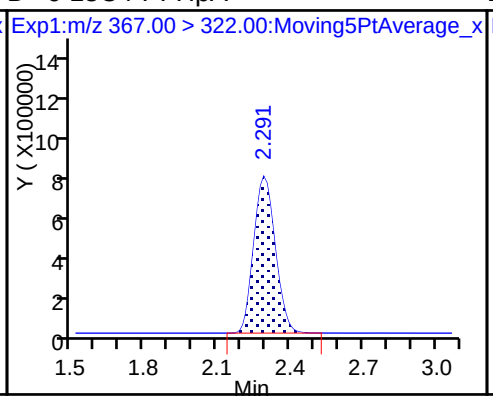
10 Perfluoroheptanoic acid



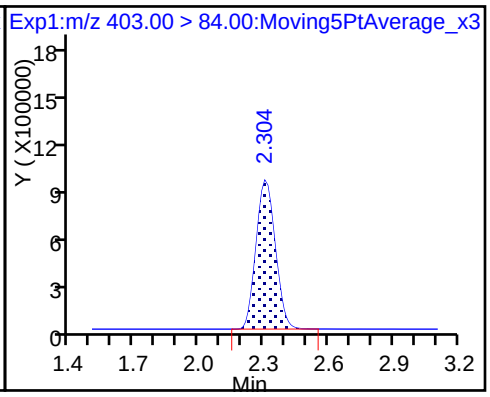
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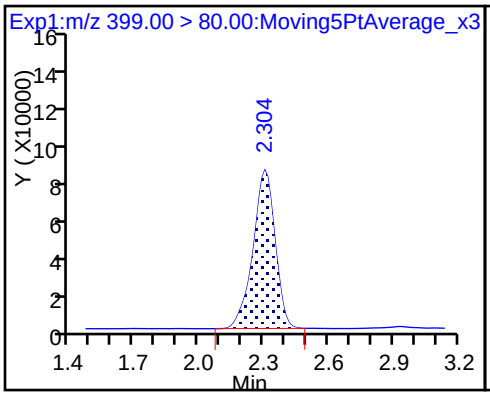
D 9 13C4-PFHpA



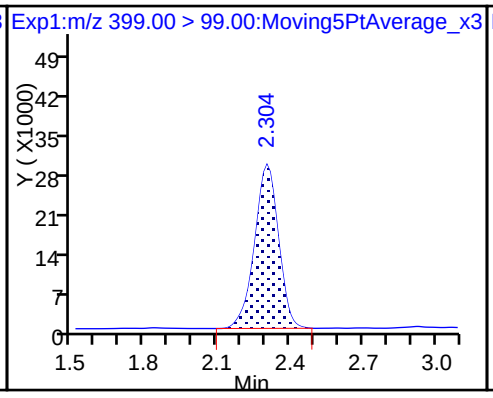
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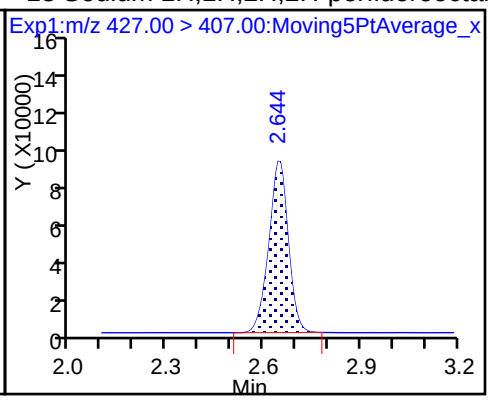
8 Perfluorohexanesulfonic acid



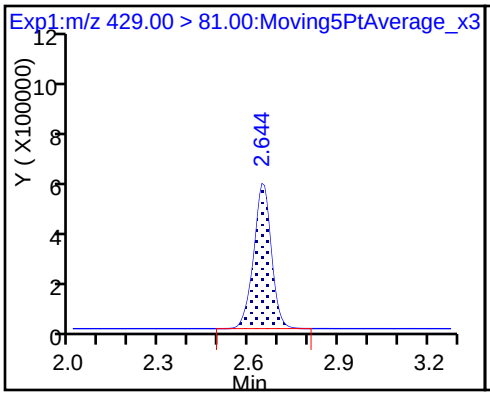
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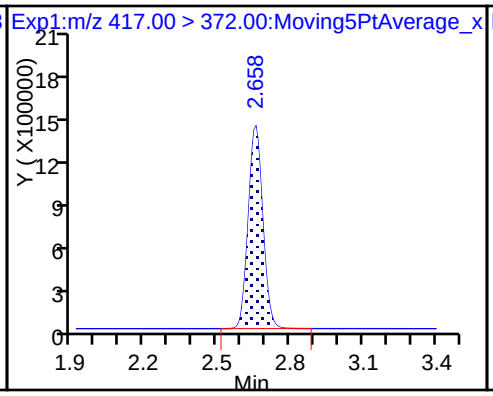
13 Sodium 1H,1H,2H,2H-perfluorooctane



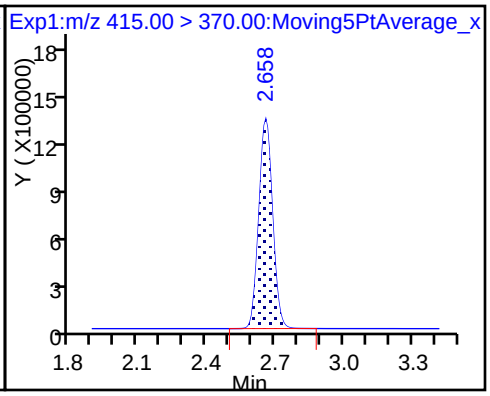
D 12 M2-6:2FTS



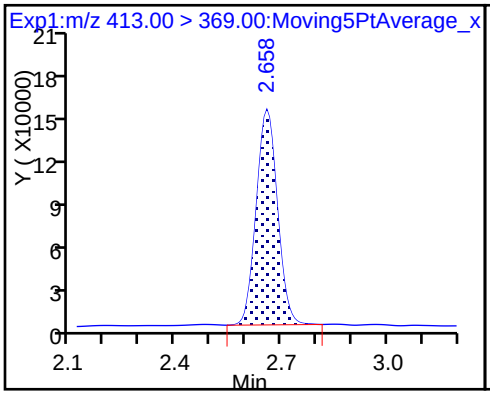
D 14 13C4 PFOA



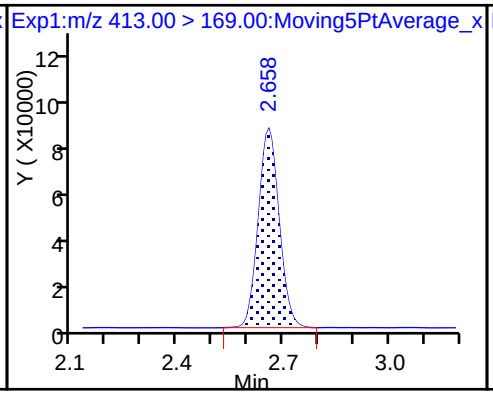
* 62 13C2-PFOA



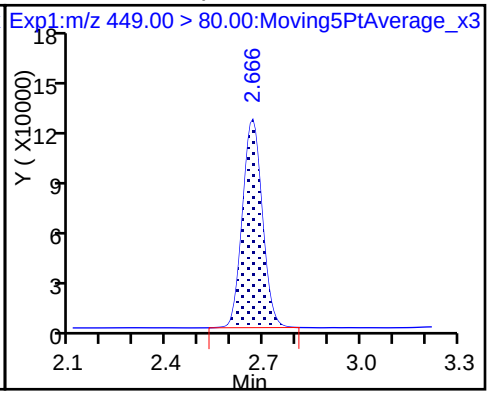
15 Perfluorooctanoic acid



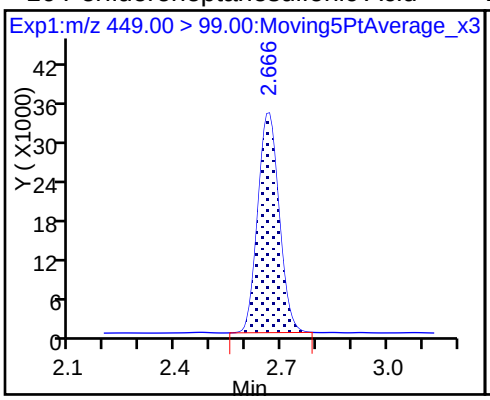
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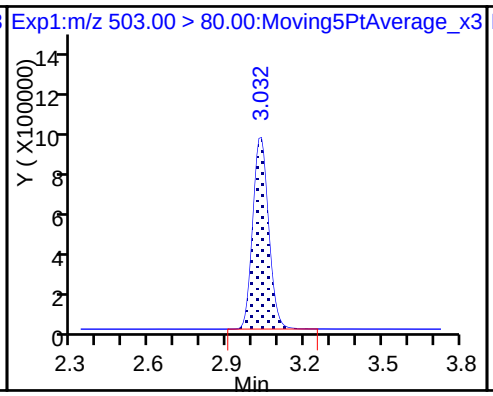
16 Perfluoroheptanesulfonic Acid



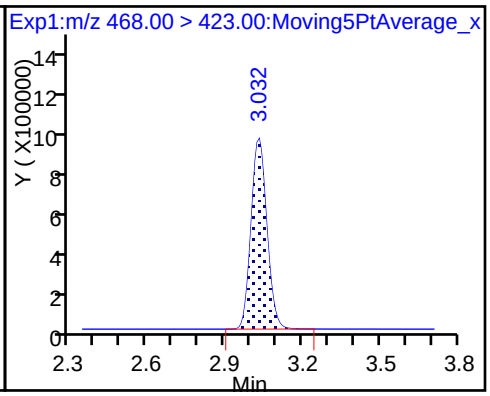
16 Perfluoroheptanesulfonic Acid



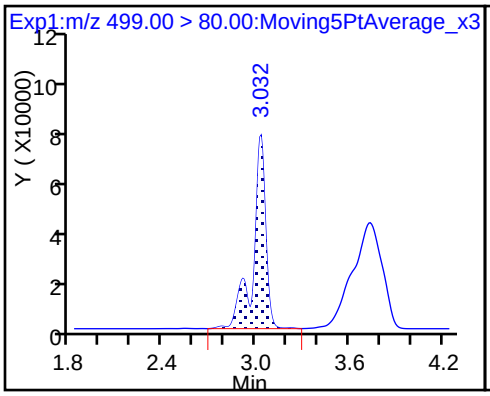
D 18 13C4 PFOS



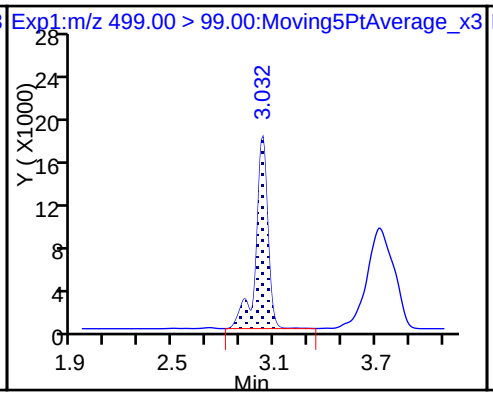
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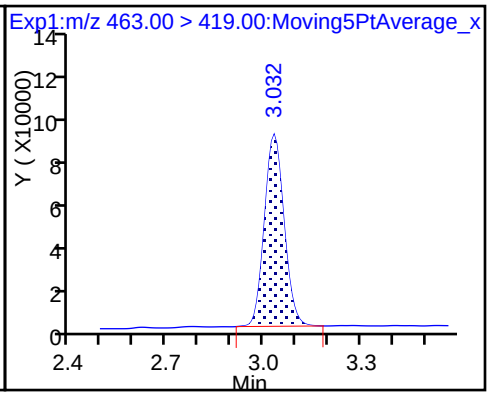
17 Perfluorooctane sulfonic acid



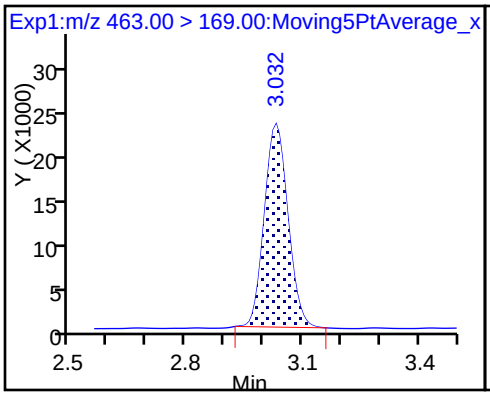
17 Perfluorooctane sulfonic acid



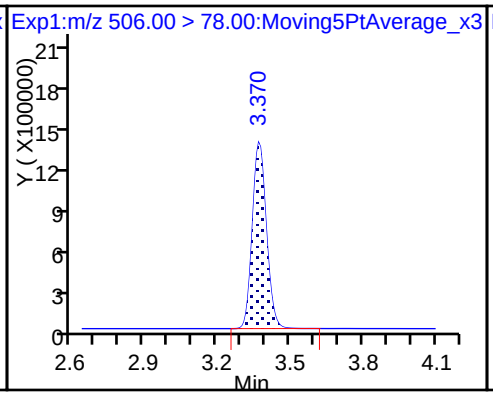
20 Perfluorononanoic acid



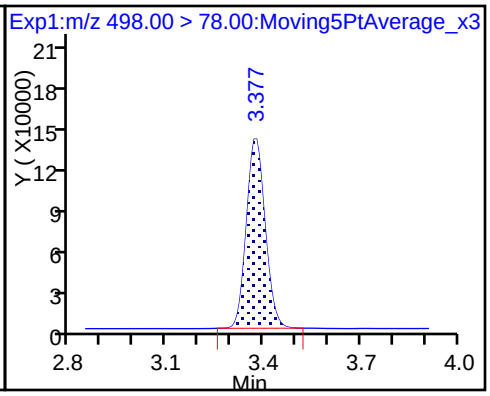
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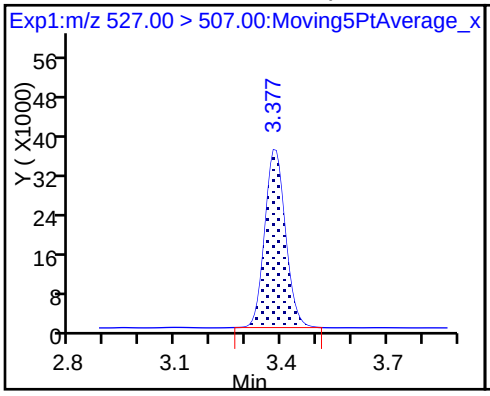
D 21 13C8 FOSA



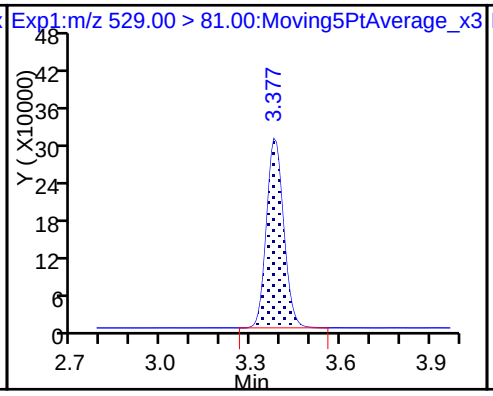
22 Perfluorooctane Sulfonamide



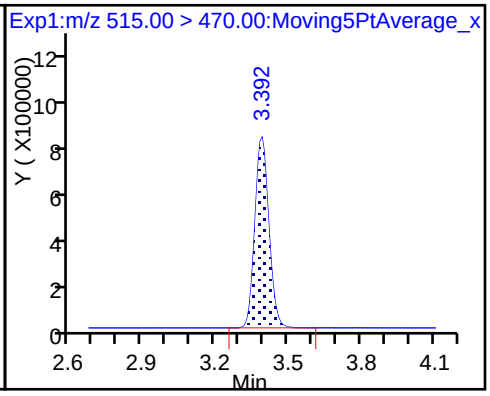
25 Sodium 1H,1H,2H,2H-perfluorodecane



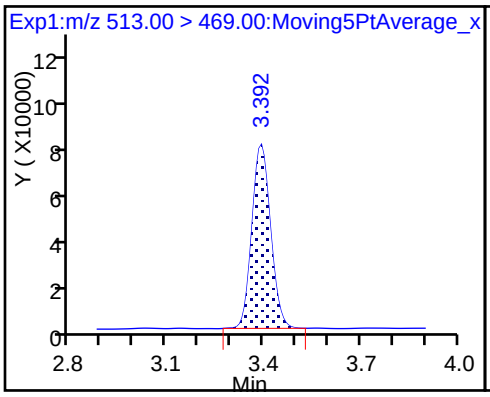
D 26 M2-8:2FTS



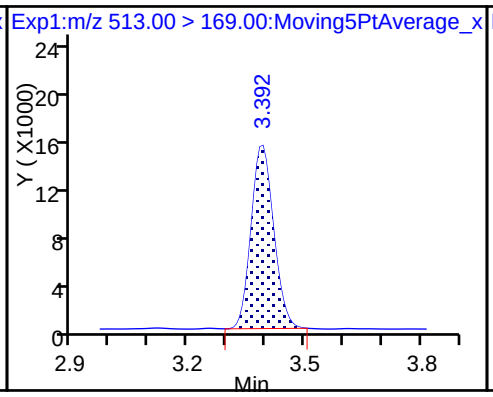
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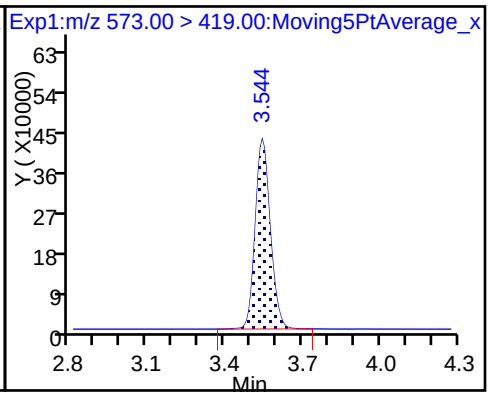
24 Perfluorodecanoic acid



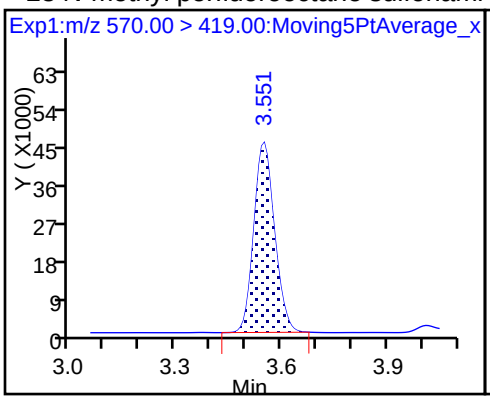
24 Perfluorodecanoic acid



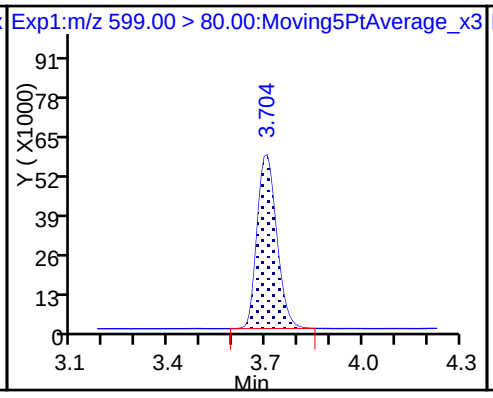
D 27 d3-NMeFOSAA



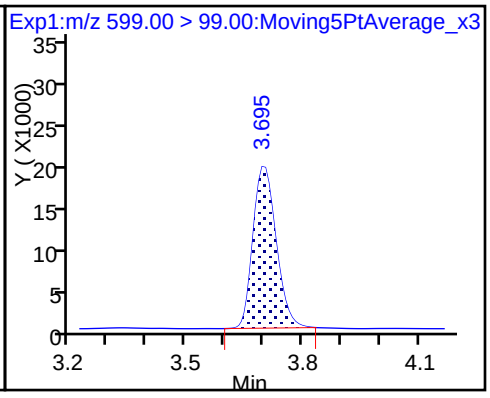
28 N-methyl perfluorooctane sulfonami



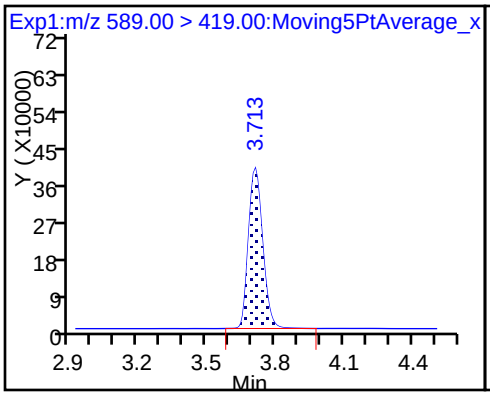
29 Perfluorodecane Sulfonic acid



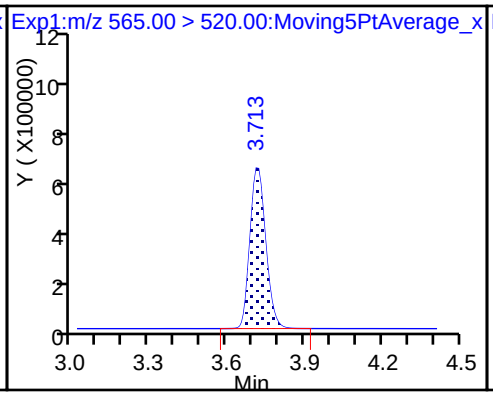
29 Perfluorodecane Sulfonic acid



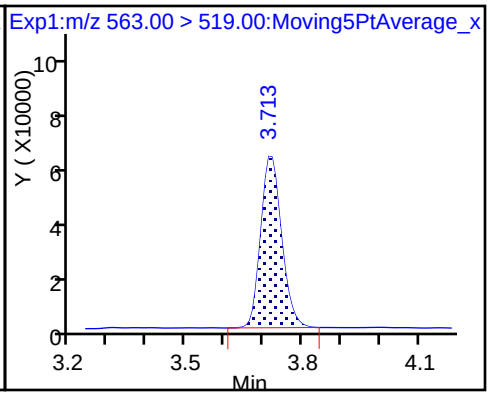
D 32 d5-NEtFOSAA



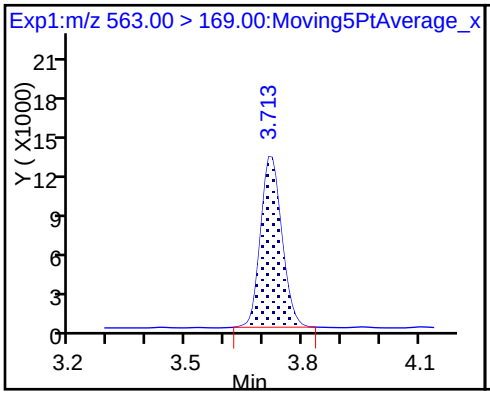
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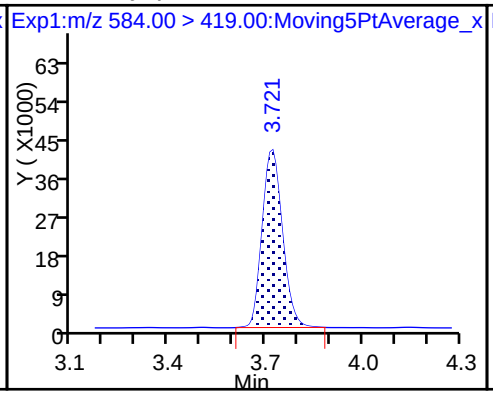
31 Perfluoroundecanoic acid



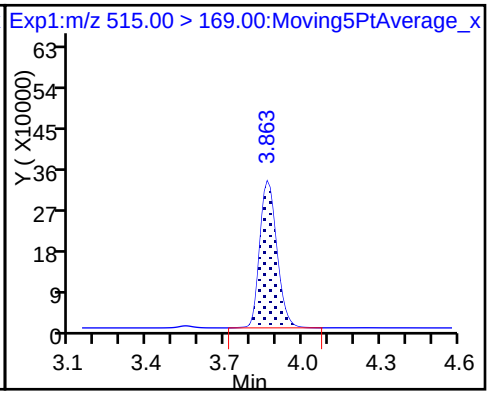
31 Perfluoroundecanoic acid



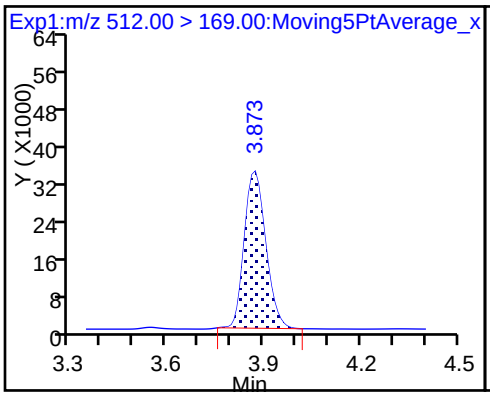
33 N-ethyl perfluorooctane sulfonamid



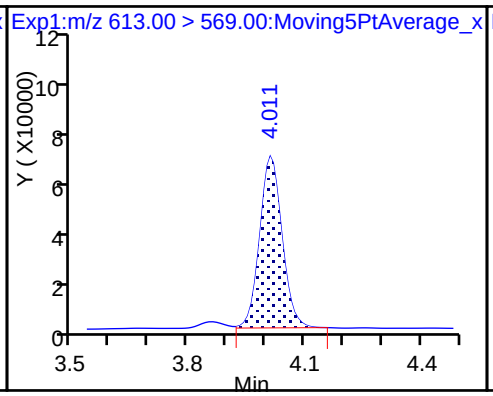
D 34 d-N-MeFOSA-M



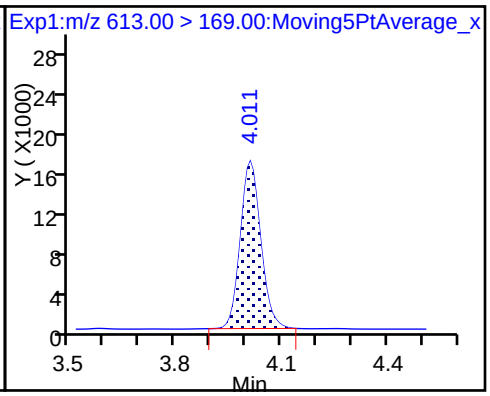
35 MeFOSA



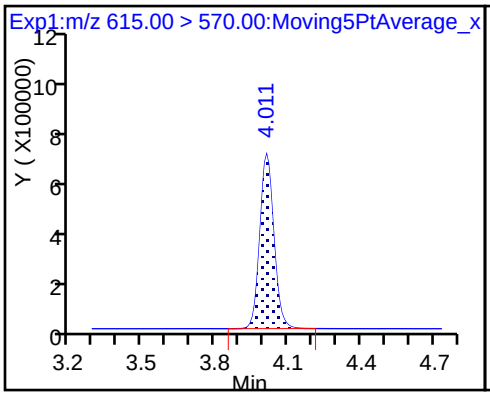
37 Perfluorododecanoic acid



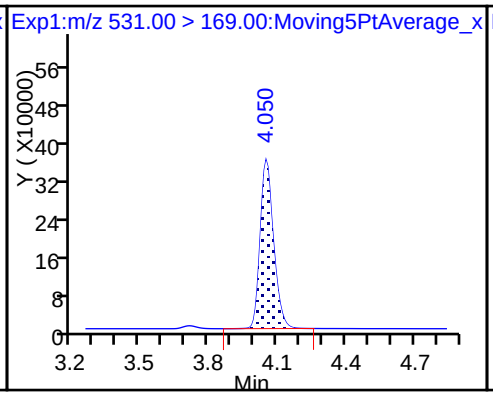
37 Perfluorododecanoic acid



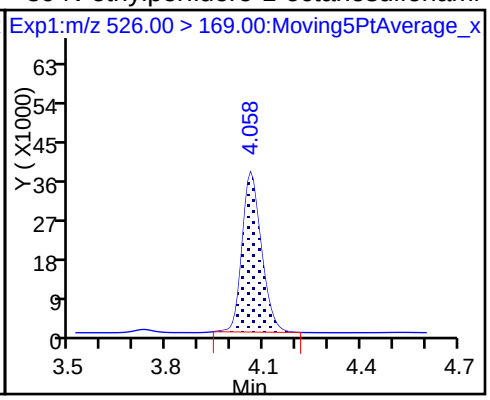
D 36 13C2 PFDoA



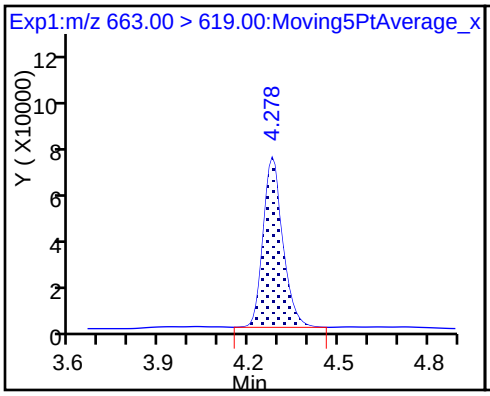
D 38 d-N-EtFOSA-M



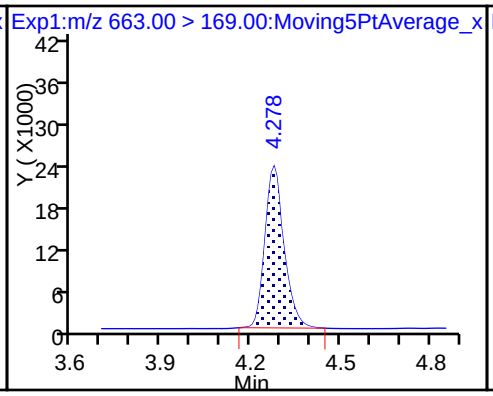
39 N-ethylperfluoro-1-octanesulfonami



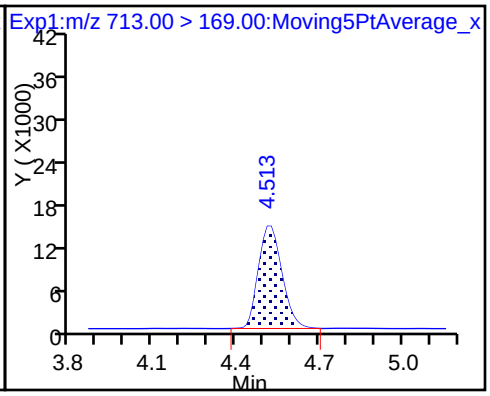
41 Perfluorotridecanoic acid



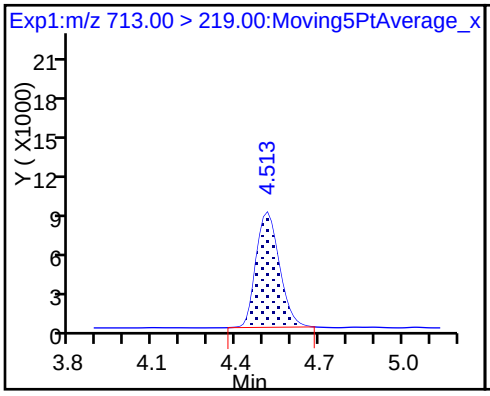
41 Perfluorotridecanoic acid



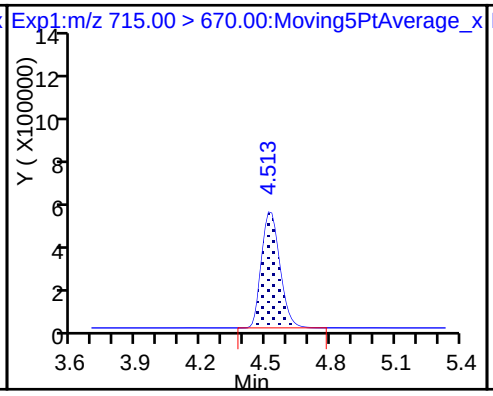
42 Perfluorotetradecanoic acid



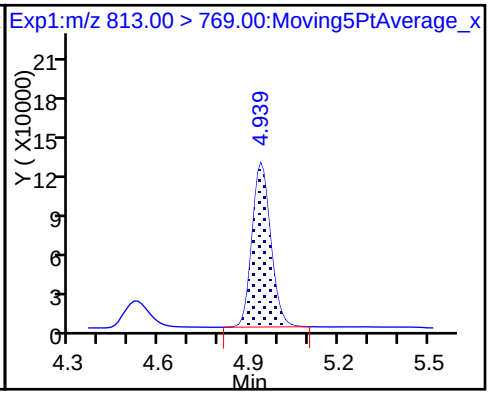
42 Perfluorotetradecanoic acid



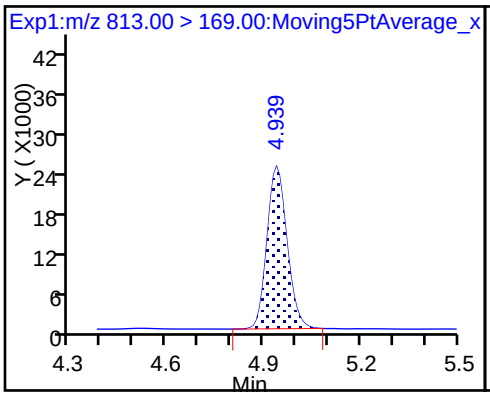
D 43 13C2-PFTeDA



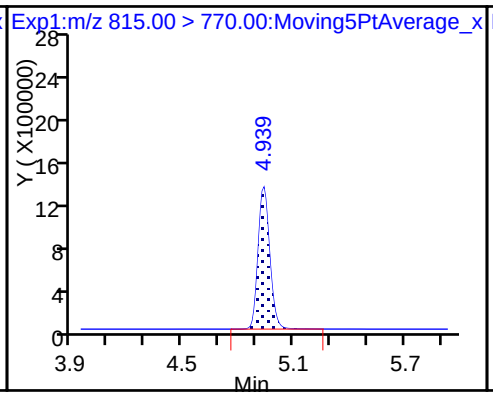
45 Perfluorohexadecanoic acid



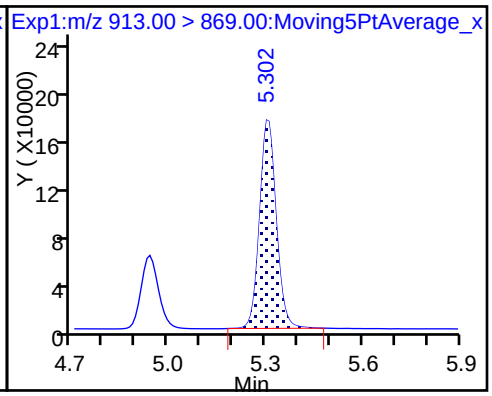
45 Perfluorohexadecanoic acid



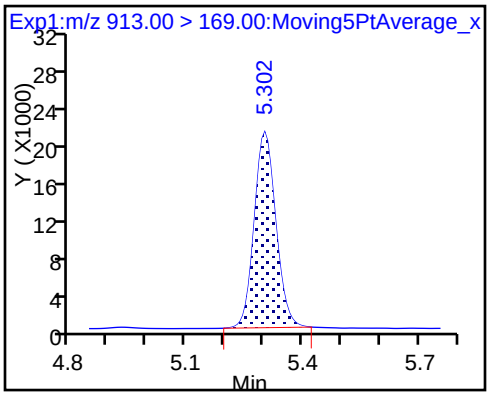
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_005.d
Lims ID: IC L4 Full
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Dec-2017 15:29:28 ALS Bottle#: 13 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L4-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:27:04 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:05:35

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.419	1.419	0.0	0.534	7910765	2.53		101	24597	
2 Perfluorobutyric acid										
212.90 > 169.00	1.419	1.419	0.0	1.000	2959580	1.02		102	851	
D 3 13C5-PFPeA										
267.90 > 223.00	1.670	1.670	0.0	0.629	4678298	2.50		100.0	77580	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.670	1.670	0.0	1.000	2060919	0.9866		98.7	1410	
D 47 13C3-PFBS										
301.90 > 83.00	1.705	1.705	0.0	0.642	91473	2.29		98.6	2338	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.705	1.707	-0.002	1.000	2736616	0.9247		105	17109	
298.90 > 99.00	1.705	1.707	-0.002	1.000	1144018		2.39(1.25-3.74)	105	11483	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.922	1.920	0.002	1.000	692506	0.9155		98.0	25168	
D 7 13C2 PFHxA										
315.00 > 270.00	1.953	1.953	0.0	0.735	5041504	2.52		101	41831	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.953	1.956	-0.003	1.000	2014119	1.00		99.8	5314	
313.00 > 119.00	1.953	1.956	-0.003	1.000	183488		10.98(5.03-15.10)	99.8	3480	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.862	4733493	2.56		102	28466	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.291	2.291	0.0	1.000	2034903	1.03		103	3238	
363.00 > 169.00	2.291	2.291	0.0	1.000	786148		2.59(1.13-3.40)	103	6377	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	1.000	2306702	0.8991		98.8	4747	
399.00 > 99.00	2.304	2.304	0.0	1.000	758825		3.04(1.50-4.49)	98.8	3704	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.304	0.0	0.867	5636753	2.41		102	25349	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.642	2.642	0.0	1.000	1278132	0.8962		94.5	37698	
D 12 M2-6:2FTS										
429.00 > 81.00	2.642	2.642	0.0	0.995	2185400	2.54		107	48400	
D 14 13C4 PFOA										
417.00 > 372.00	2.656	2.654	0.002	1.000	5445865	2.56		102	30387	
* 62 13C2-PFOA										
415.00 > 370.00	2.656	2.656	0.0		5144869	2.50			40787	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.656	2.656	0.0	1.000	2316692	1.01		101	960	
413.00 > 169.00	2.656	2.656	0.0	1.000	1239745		1.87(0.84-2.52)	101	10255	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.664	2.662	0.002	1.000	2063948	1.02		107	16392	
449.00 > 99.00	2.664	2.662	0.002	1.000	537343		3.84(1.94-5.82)	107	9799	
D 18 13C4 PFOS										
503.00 > 80.00	3.022	3.025	-0.003	1.138	3682923	2.39		100	31211	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.030	3.028	0.002	1.003	1582639	0.9688		104	151	
499.00 > 99.00	3.030	3.028	0.002	1.003	337241		4.69(2.31-6.93)	104	201	
D 19 13C5 PFNA										
468.00 > 423.00	3.030	3.028	0.002	1.141	3850882	2.55		102	36756	
20 Perfluorononanoic acid										
463.00 > 419.00	3.030	3.029	0.001	1.000	1517301	0.9789		97.9	2115	
463.00 > 169.00	3.030	3.029	0.001	1.000	392029		3.87(1.90-5.69)	97.9	8518	
D 21 13C8 FOSA										
506.00 > 78.00	3.368	3.370	-0.002	1.268	5171390	2.47		98.6	26492	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.368	3.372	-0.004	1.000	2103527	1.06		106	16908	
D 26 M2-8:2FTS										
529.00 > 81.00	3.376	3.377	-0.001	1.271	1181970	2.46		103	16416	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.376	3.377	-0.001	1.000	549454	0.9159		95.6	10571	
D 23 13C2 PFDA										
515.00 > 470.00	3.391	3.389	0.002	1.276	3165987	2.54		102	32940	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.391	3.390	0.001	1.000	1273852	1.04		104	5585	
513.00 > 169.00	3.391	3.390	0.001	1.000	230406		5.53(2.36-7.09)	104	2159	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.542	3.543	-0.001	1.333	1709219	2.56		102	21223	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.550	3.548	0.002	1.002	727385	0.99		99.1	4758	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.702	3.703	-0.001	1.000	957540	1.01		104	16616	
599.00 > 99.00	3.702	3.703	-0.001	1.000	316860		3.02(1.39-4.16)	104	8447	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.711	3.712	-0.001	1.397	1687944	2.58		103	7998	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.720	3.717	0.003	1.400	2389837	2.52		101	29666	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.720	3.718	0.002	1.000	858830	0.9808		98.1	3975	
563.00 > 169.00	3.720	3.718	0.002	1.000	206937		4.15(0.00-0.00)	98.1	9276	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.720	3.720	0.0	1.002	681119	1.02		102	9897	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.861	3.862	-0.001	1.454	1436923	2.41		96.2	3199	
35 MeFOSA										
512.00 > 169.00	3.871	3.872	-0.001	1.003	571619	1.02		102	3103	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.011	-0.001	1.509	2542417	2.49		99.4	24329	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.010	4.011	-0.001	1.000	1061502	1.05		105	2893	
613.00 > 169.00	4.010	4.011	-0.001	1.000	258493		4.11(2.13-6.40)	105	12814	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.049	4.052	-0.003	1.524	1411807	2.46		98.4	2827	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.057	4.058	-0.001	1.002	603432	1.00		100	2679	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.276	4.277	-0.001	1.000	1199386	1.02		102	3241	
663.00 > 169.00	4.276	4.277	-0.001	1.000	390569		3.07(1.25-3.76)	102	15035	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.518	4.518	0.0	1.701	2965610	2.59		104	22263	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.518	4.518	0.0	1.000	273069	0.8932		89.3	7841	
713.00 > 219.00	4.518	4.518	0.0	1.000	215892		1.26(0.71-2.13)	89.3	7373	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.942	4.939	0.003	1.860	5459382	2.62		105	14407	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.942	4.939	0.003	1.000	1951502	1.02		102	949	
813.00 > 169.00	4.942	4.939	0.003	1.000	338269		5.77(2.86-8.58)	102	5263	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.305	5.306	-0.001	1.000	2250667	1.00		100	458	
913.00 > 169.00	5.305	5.306	-0.001	1.000	297680		7.56(0.00-0.00)	100	2074	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:27:05 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_005.d

Injection Date: 21-Dec-2017 15:29:28 Instrument ID: A8_N

Lims ID: IC L4 Full

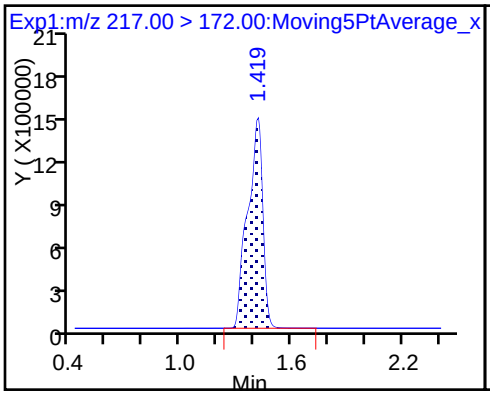
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 5

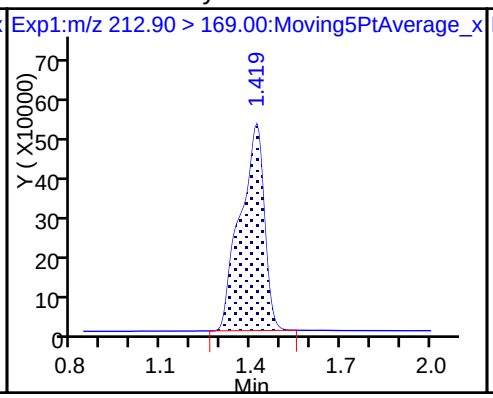
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

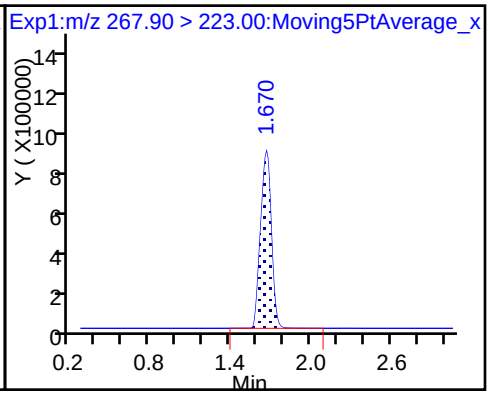
D 1 13C4 PFBA



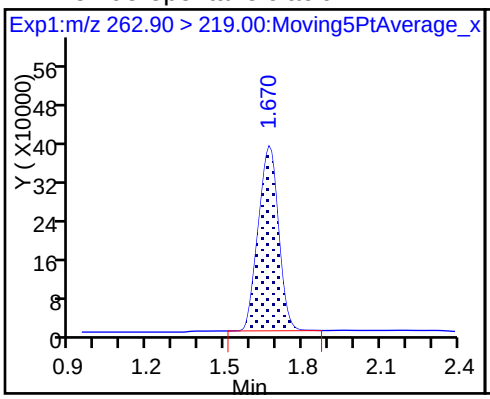
2 Perfluorobutyric acid



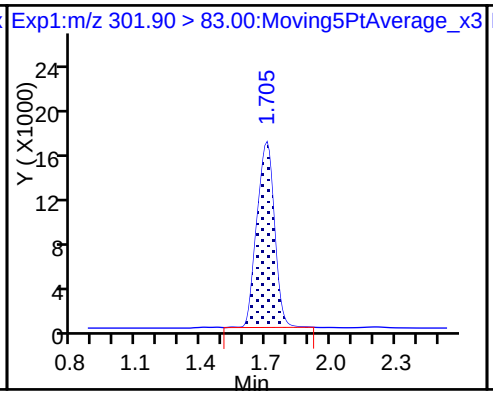
D 3 13C5-PFPeA



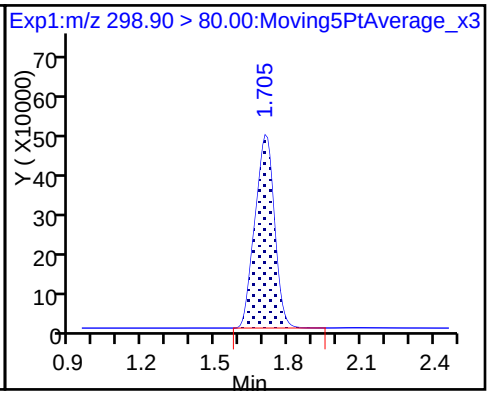
4 Perfluoropentanoic acid



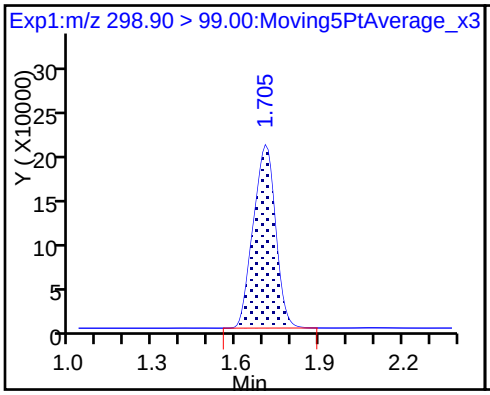
D 47 13C3-PFBS



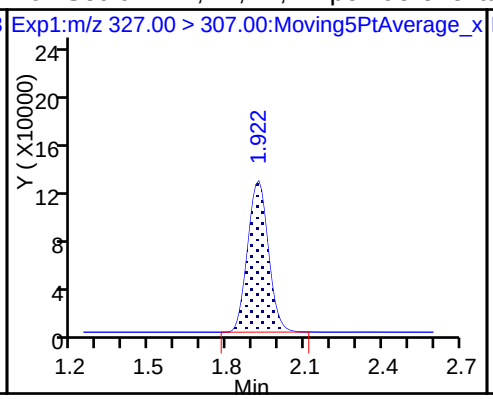
5 Perfluorobutanesulfonic acid



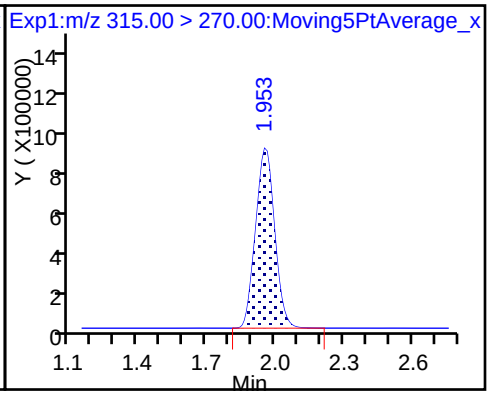
5 Perfluorobutanesulfonic acid



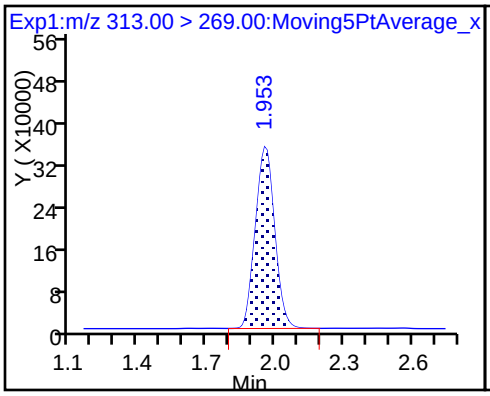
61 Sodium 1H,1H,2H,2H-perfluorohexa



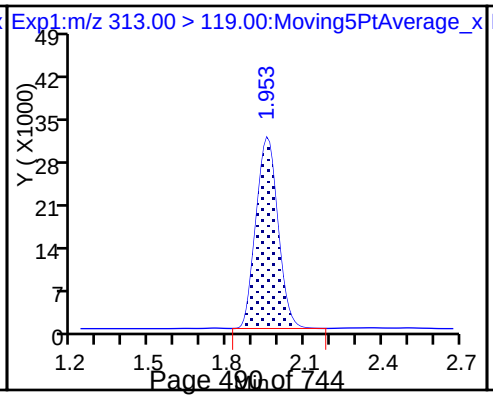
D 7 13C2 PFHxA



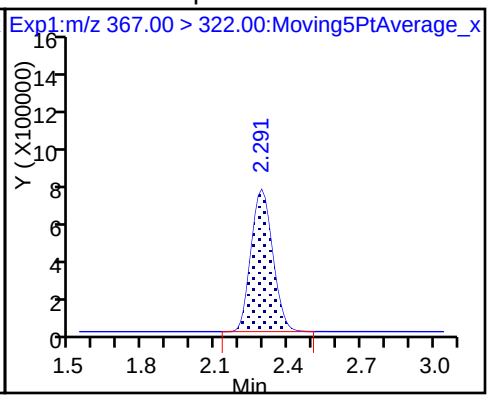
6 Perfluorohexanoic acid



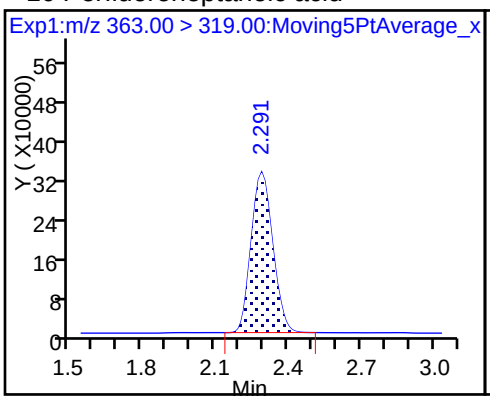
6 Perfluorohexanoic acid



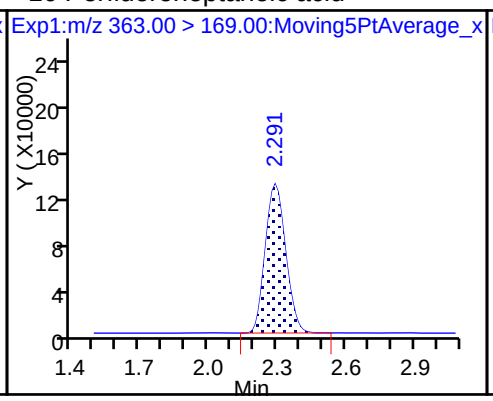
D 9 13C4-PFHpA



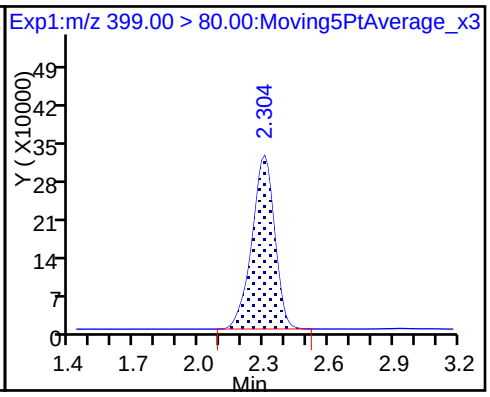
10 Perfluoroheptanoic acid



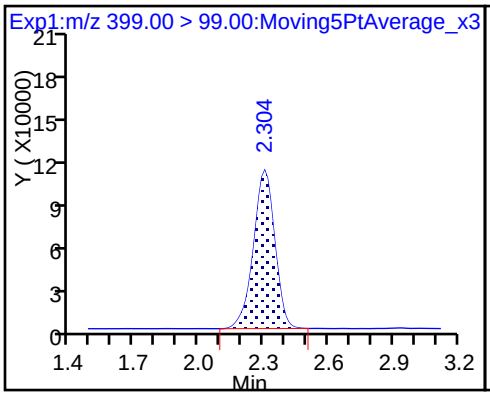
10 Perfluoroheptanoic acid



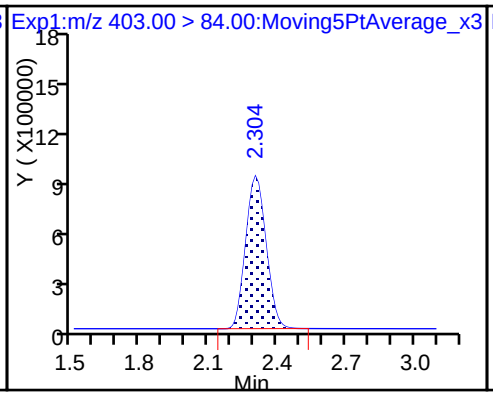
8 Perfluorohexanesulfonic acid



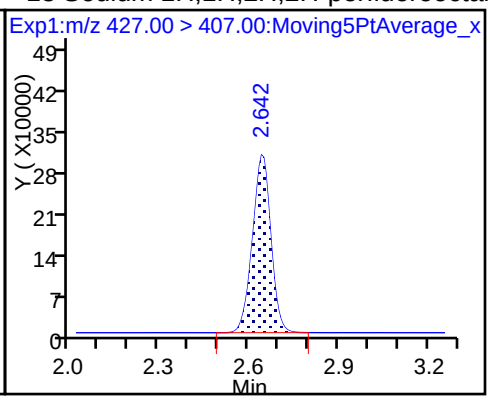
8 Perfluorohexanesulfonic acid



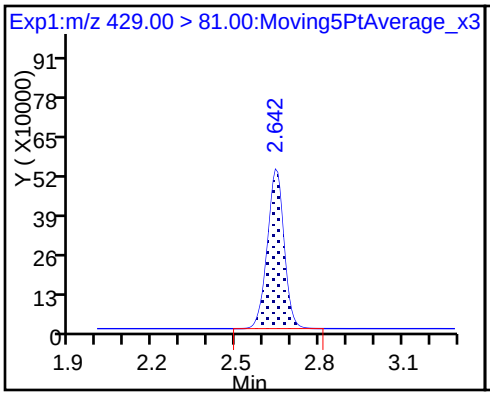
D 11 18O2 PFHxS



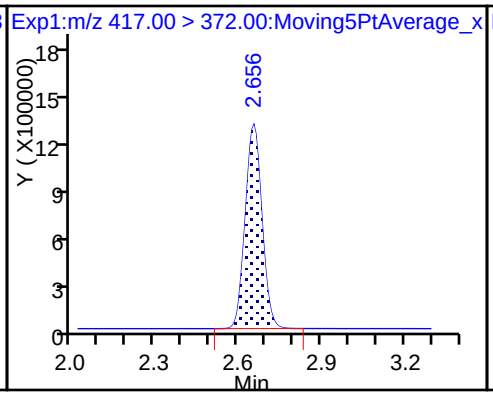
13 Sodium 1H,1H,2H,2H-perfluorooctane



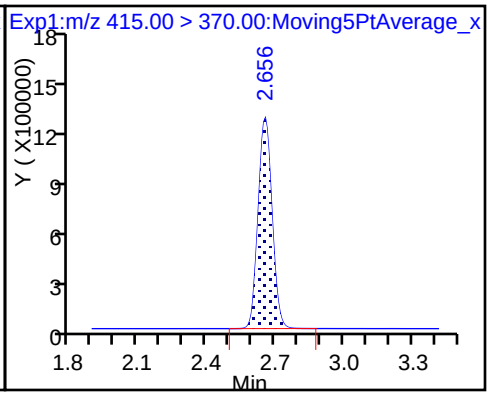
D 12 M2-6:2FTS



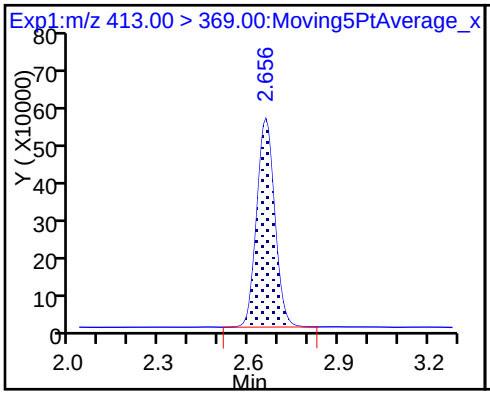
D 14 13C4 PFOA



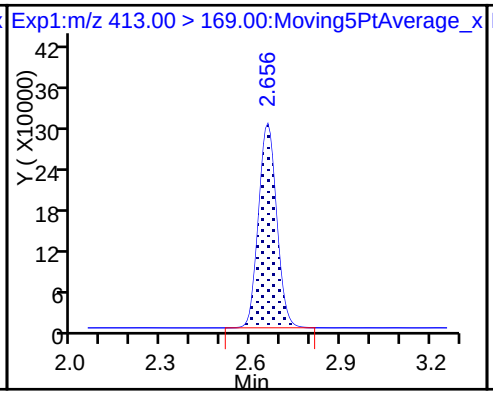
* 62 13C2-PFOA



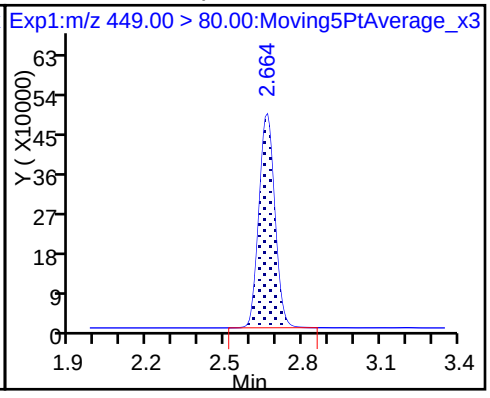
15 Perfluorooctanoic acid



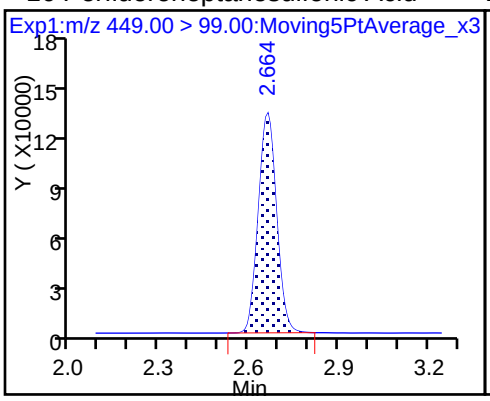
15 Perfluorooctanoic acid



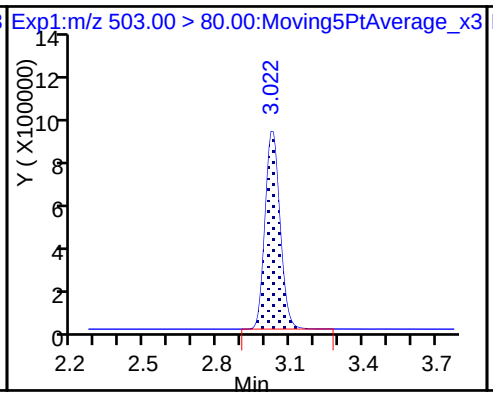
16 Perfluoroheptanesulfonic Acid



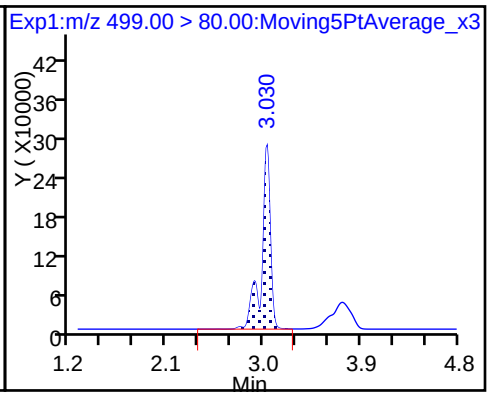
16 Perfluoroheptanesulfonic Acid



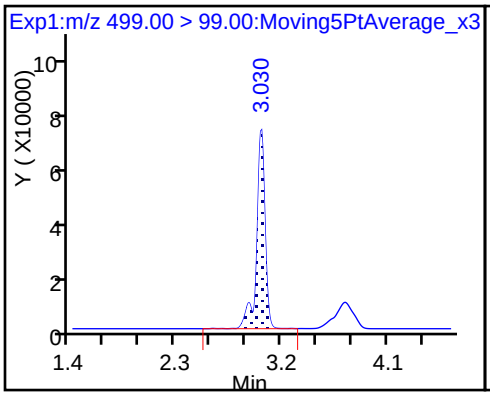
D 18 13C4 PFOS



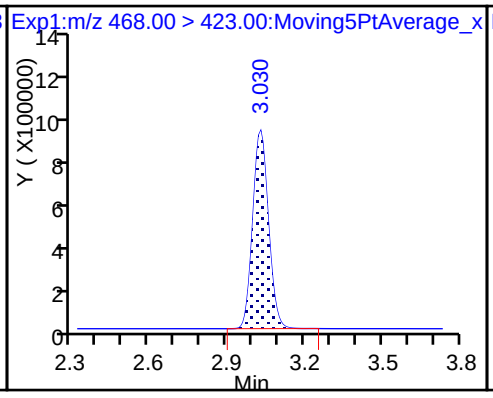
17 Perfluorooctane sulfonic acid



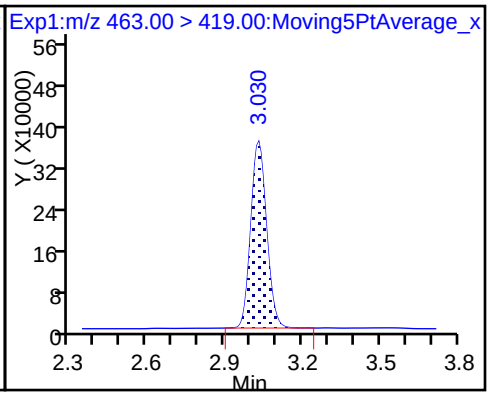
17 Perfluorooctane sulfonic acid



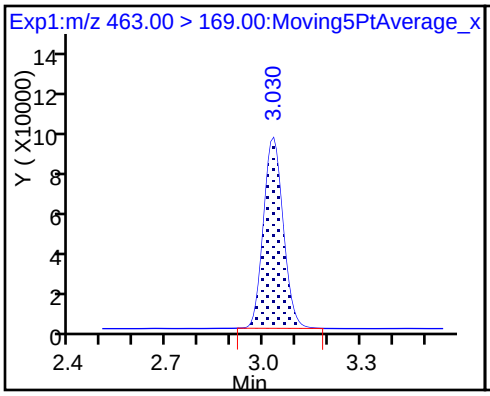
D 19 13C5 PFNA



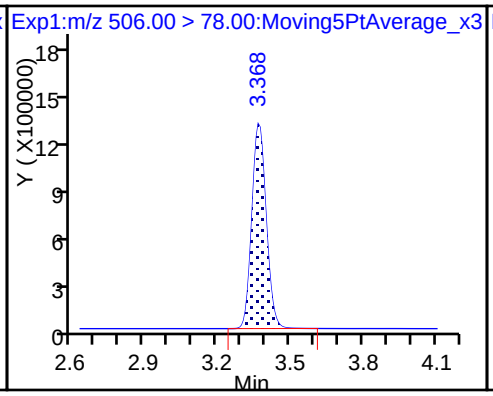
20 Perfluorononanoic acid



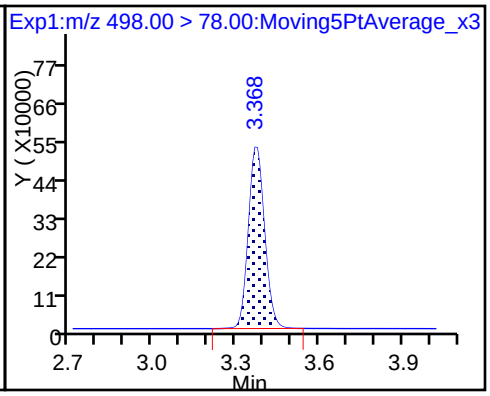
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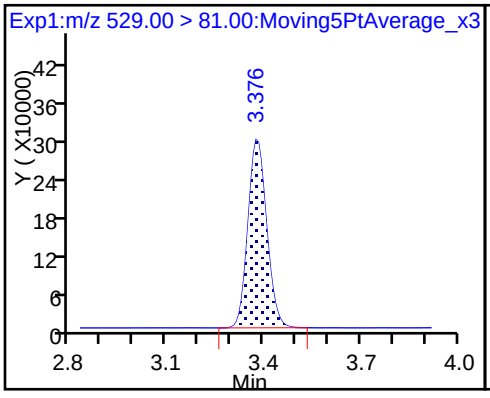
D 21 13C8 FOSA



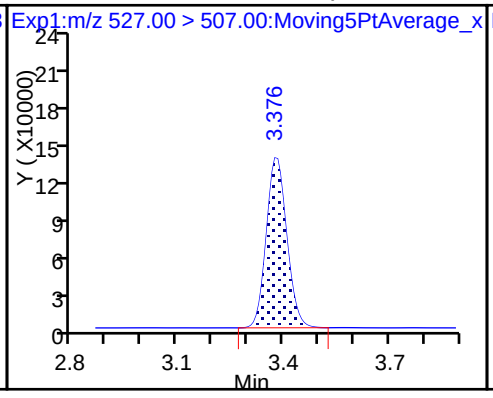
22 Perfluorooctane Sulfonamide



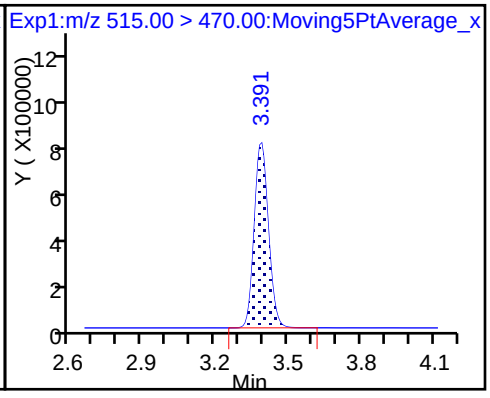
D 26 M2-8:2FTS



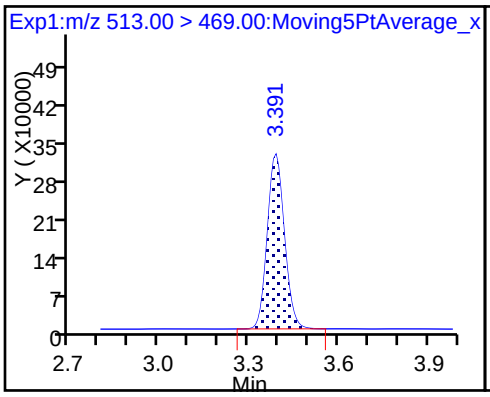
25 Sodium 1H,1H,2H,2H-perfluorodecane



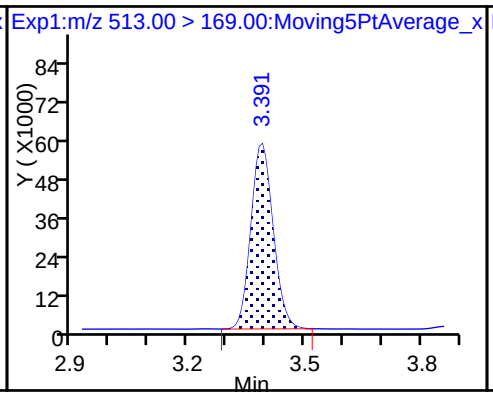
D 23 13C2 PFDA



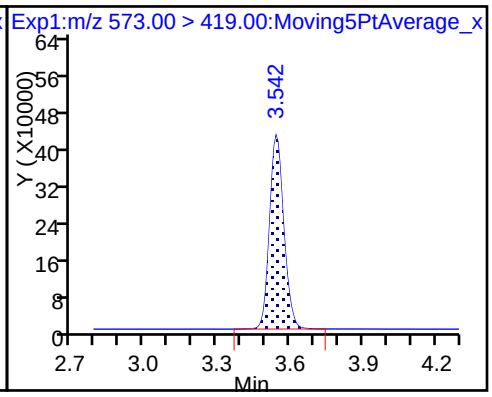
24 Perfluorodecanoic acid



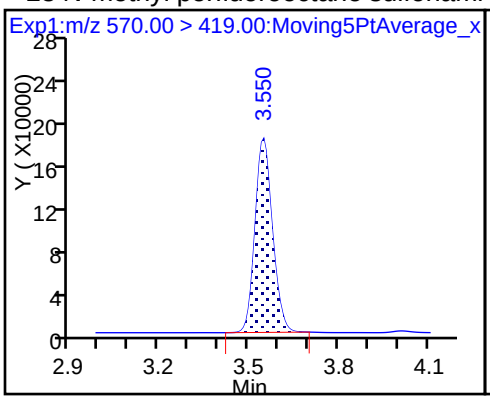
24 Perfluorodecanoic acid



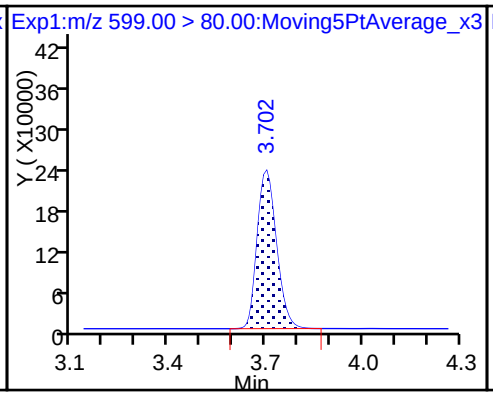
D 27 d3-NMeFOSAA



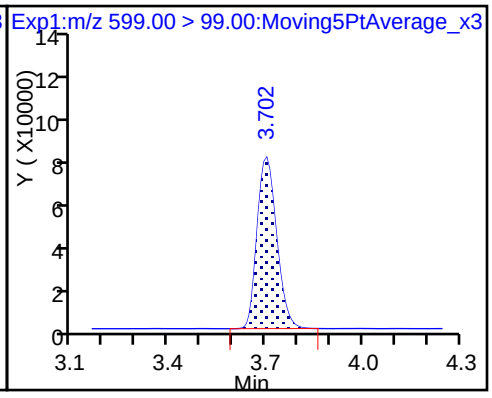
28 N-methyl perfluorooctane sulfonami



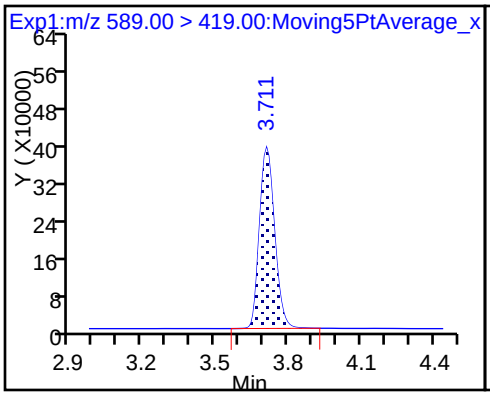
29 Perfluorodecane Sulfonic acid



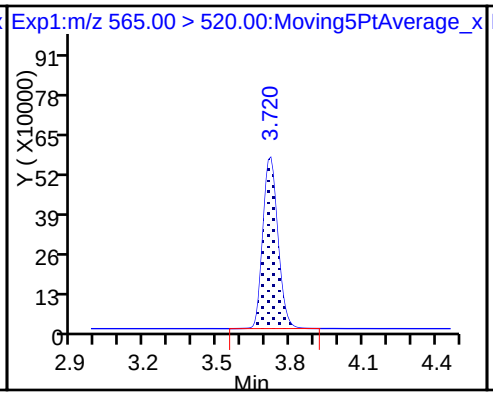
29 Perfluorodecane Sulfonic acid



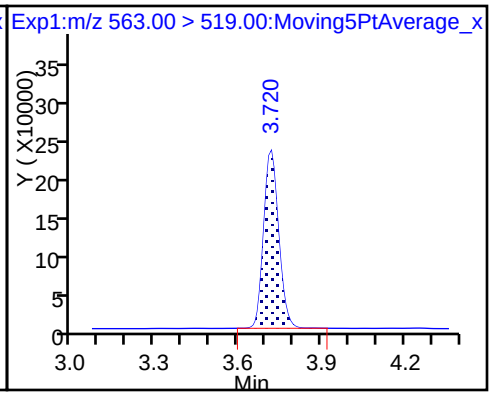
D 32 d5-NEtFOSAA



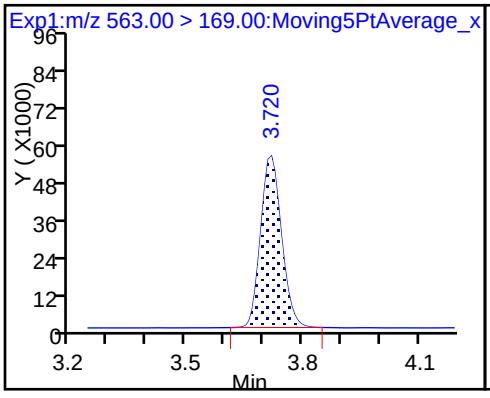
D 30 13C2 PFUnA



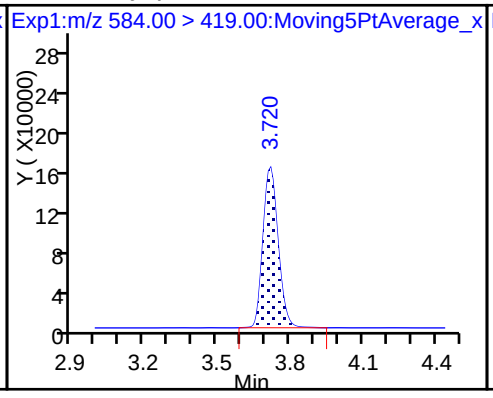
31 Perfluoroundecanoic acid



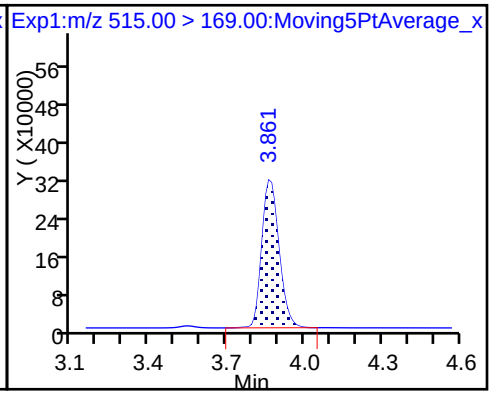
31 Perfluoroundecanoic acid



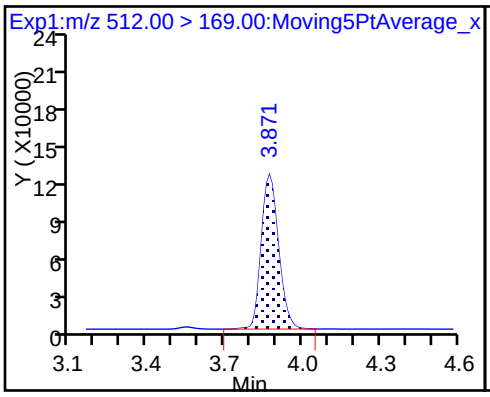
33 N-ethyl perfluorooctane sulfonamid



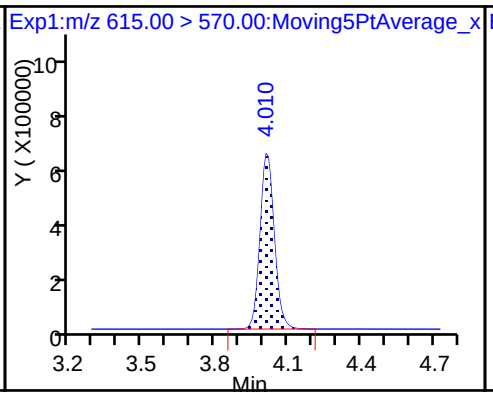
D 34 d-N-MeFOSA-M



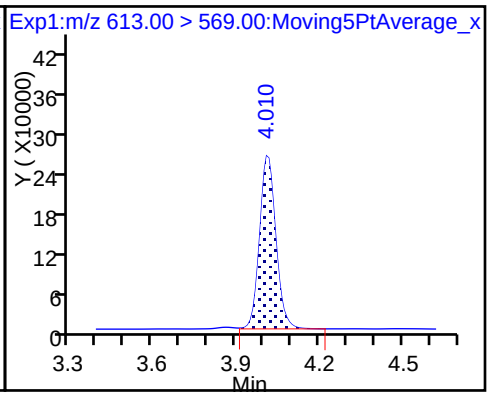
35 MeFOSA



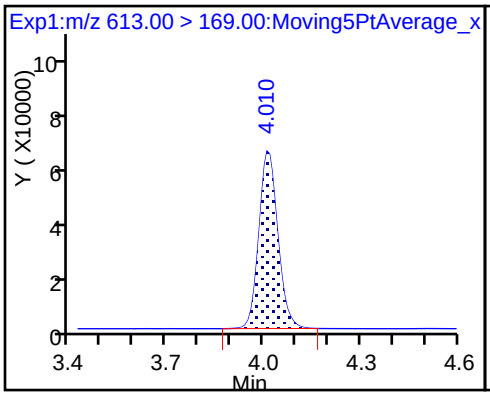
D 36 13C2 PFDoA



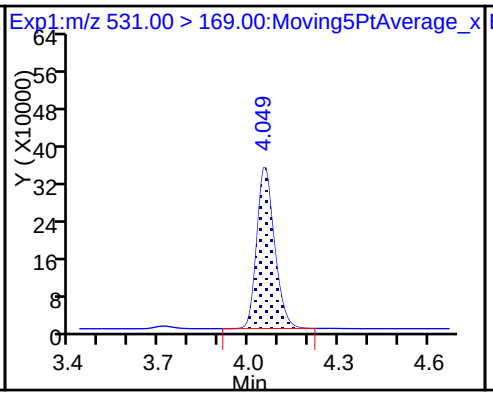
37 Perfluorododecanoic acid



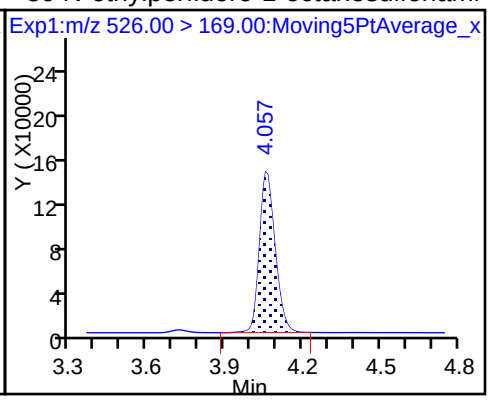
37 Perfluorododecanoic acid



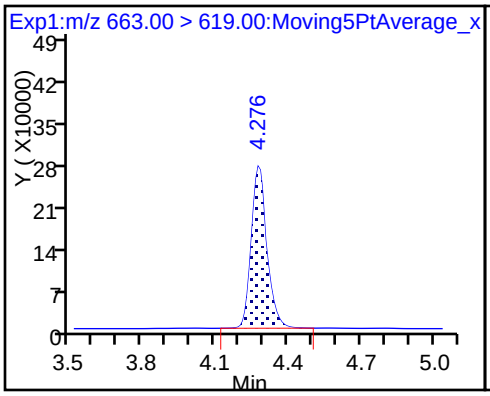
D 38 d-N-EtFOSA-M



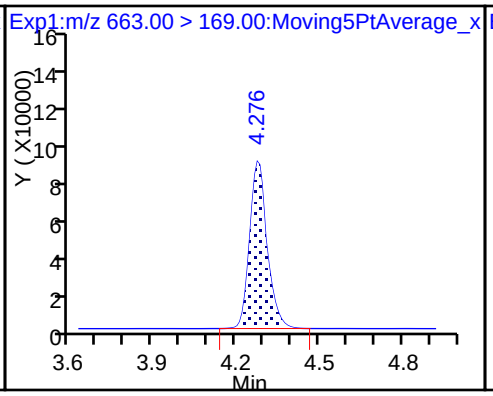
39 N-ethylperfluoro-1-octanesulfonami



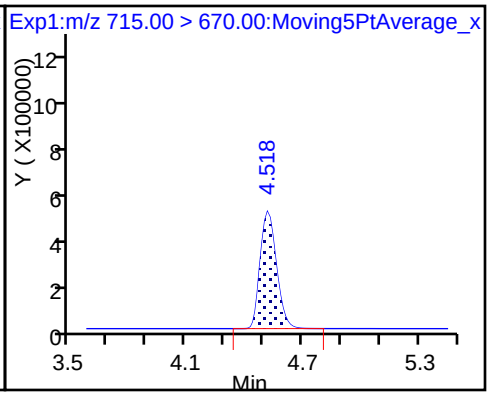
41 Perfluorotridecanoic acid



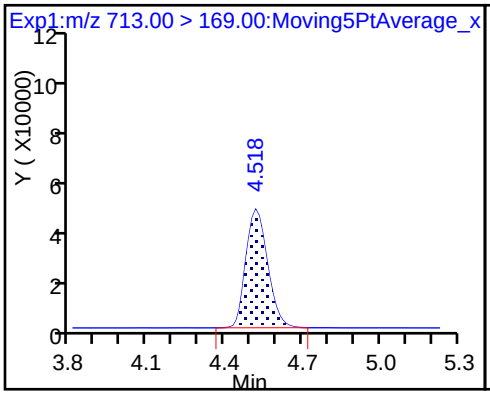
41 Perfluorotridecanoic acid



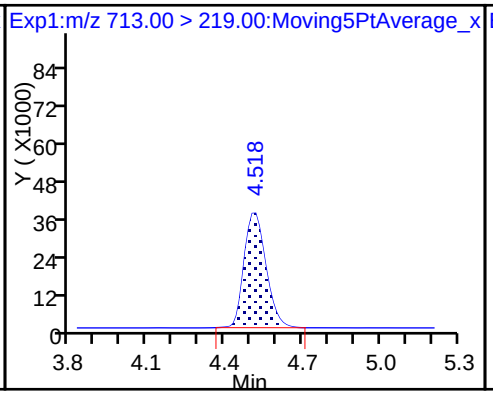
D 43 13C2-PFTeDA



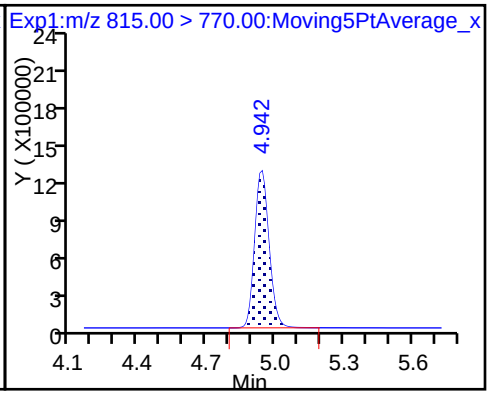
42 Perfluorotetradecanoic acid



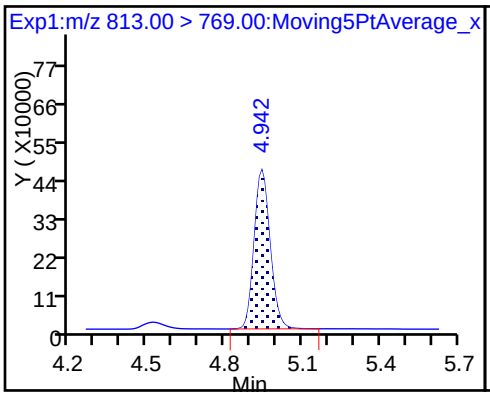
42 Perfluorotetradecanoic acid



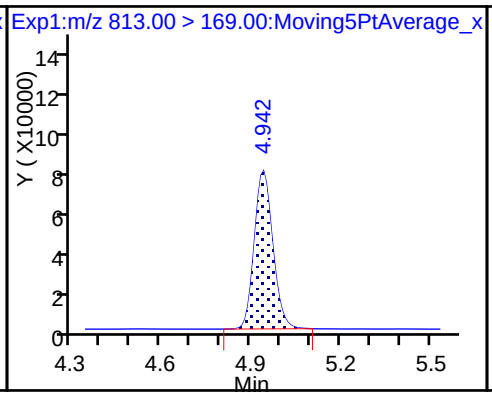
D 44 13C2-PFHxDA



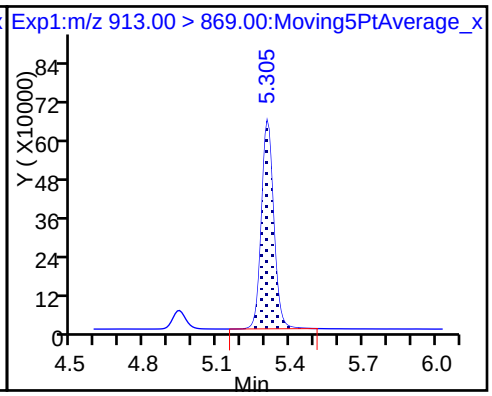
45 Perfluorohexadecanoic acid



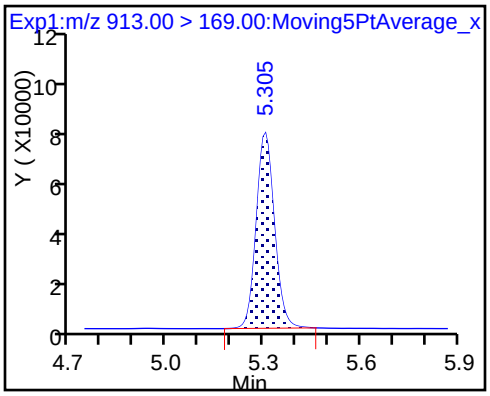
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_006.d
Lims ID: IC L5 Full
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Dec-2017 15:37:18 ALS Bottle#: 14 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L5-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:27:07 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:06:04

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutyric acid										
212.90 > 169.00	1.419	1.419	0.0	1.000	7285711	2.58		103	2132	
D 1 13C4 PFBA										
217.00 > 172.00	1.419	1.419	0.0	0.535	7696270	2.40		96.1	25569	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.670	1.670	0.0	1.000	5324778	2.60		104	3370	
D 3 13C5-PFPeA										
267.90 > 223.00	1.670	1.670	0.0	0.630	4589173	2.39		95.7	76399	
D 47 13C3-PFBS										
301.90 > 83.00	1.705	1.705	0.0	0.643	93263	2.28		98.1	2847	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.714	1.707	0.007	1.005	6917510	2.29		104	32378	
298.90 > 99.00	1.714	1.707	0.007	1.005	2866535		2.41(1.25-3.74)	104	29960	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.922	1.920	0.002	1.000	1648248	2.10		89.8	58780	
D 7 13C2 PFHxA										
315.00 > 270.00	1.953	1.953	0.0	0.737	5035421	2.46		98.4	54148	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.964	1.956	0.008	1.005	5039492	2.50		100.0	16046	
313.00 > 119.00	1.964	1.956	0.008	1.005	463459		10.87(5.03-15.10)	100.0	8825	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.291	2.291	0.0	1.000	4846589	2.49		99.6	7059	
363.00 > 169.00	2.291	2.291	0.0	1.000	1972538		2.46(1.13-3.40)	99.6	13957	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.864	4650286	2.45		98.2	31463	
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.304	0.0	0.869	5658825	2.37		100	33723	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	1.000	5394708	2.09		92.1	9295	
399.00 > 99.00	2.304	2.304	0.0	1.000	1764165		3.06(1.50-4.49)	92.1	6585	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.644	2.642	0.002	1.000	3454700	2.33		98.3	78211	
D 12 M2-6:2FTS										
429.00 > 81.00	2.644	2.642	0.002	0.997	2271698	2.57		108	56762	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	1.000	5513652	2.53		101	57563	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.656	-0.004		5270580	2.50			50361	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.659	2.656	0.003	1.003	5678071	2.45		97.9	2399	
413.00 > 169.00	2.659	2.656	0.003	1.003	3005406		1.89(0.84-2.52)	97.9	21778	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.659	2.662	-0.003	1.000	5035921	2.50		105	28404	
449.00 > 99.00	2.659	2.662	-0.003	1.000	1319380		3.82(1.94-5.82)	105	18200	
D 18 13C4 PFOS										
503.00 > 80.00	3.024	3.025	-0.001	1.141	3680461	2.33		97.6	24548	
D 19 13C5 PFNA										
468.00 > 423.00	3.024	3.028	-0.004	1.141	3777358	2.44		97.7	30713	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.024	3.028	-0.004	1.000	3852088	2.36		102	370	
499.00 > 99.00	3.024	3.028	-0.004	1.000	848667		4.54(2.31-6.93)	102	507	
20 Perfluorononanoic acid										
463.00 > 419.00	3.024	3.029	-0.005	1.000	3868757	2.54		102	5640	
463.00 > 169.00	3.024	3.029	-0.005	1.000	949695		4.07(1.90-5.69)	102	17506	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.271	5269550	2.45		98.1	29400	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.372	-0.002	1.000	5144163	2.54		102	37712	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.378	3.377	0.001	1.000	1357996	2.44		102	20160	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.274	1095511	2.22		92.8	14481	
D 23 13C2 PFDA										
515.00 > 470.00	3.385	3.389	-0.004	1.277	3119915	2.44		97.8	43688	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.385	3.390	-0.005	1.000	2952794	2.45		97.8	10163	
513.00 > 169.00	3.385	3.390	-0.005	1.000	544027		5.43(2.36-7.09)	97.8	2193	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.337	1640210	2.39		95.8	21573	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.544	3.548	-0.004	1.000	1768335	2.51		100	9422	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.697	3.703	-0.006	1.000	2347758	2.47		102	37814	
599.00 > 99.00	3.697	3.703	-0.006	1.000	766429		3.06(1.39-4.16)	102	14051	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.714	3.712	0.002	1.401	1699098	2.54		102	7205	
D 30 13C2 PFUnA										
565.00 > 520.00	3.714	3.717	-0.003	1.401	2288504	2.36		94.2	23656	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.714	3.718	-0.004	1.000	2099347	2.50		100	9456	
563.00 > 169.00	3.714	3.718	-0.004	1.000	488797		4.29(0.00-0.00)	100	18856	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.714	3.720	-0.006	1.000	1559830	2.31		92.4	13922	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.864	3.862	0.002	1.457	1480334	2.42		96.8	3457	
35 MeFOSA										
512.00 > 169.00	3.874	3.872	0.002	1.003	1431311	2.47		98.8	2826	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.012	4.011	0.001	1.000	2527004	2.42		96.7	6553	
613.00 > 169.00	4.012	4.011	0.001	1.000	625753		4.04(2.13-6.40)	96.7	15493	
D 36 13C2 PFDoA										
615.00 > 570.00	4.012	4.011	0.001	1.513	2634039	2.51		101	19977	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.051	4.052	-0.001	1.528	1404385	2.39		95.6	2659	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.059	4.058	0.001	1.002	1541778	2.58		103	2756	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.279	4.277	0.002	1.000	2904461	2.38		95.1	6752	
663.00 > 169.00	4.279	4.277	0.002	1.000	957216		3.03(1.25-3.76)	95.1	21345	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.518	-0.004	1.000	721103	2.48		99.2	15278	
713.00 > 219.00	4.514	4.518	-0.004	1.000	507624		1.42(0.71-2.13)	99.2	14614	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.702	2820137	2.41		96.3	16567	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.939	0.001	1.000	4541602	2.63		105	2087	
813.00 > 169.00	4.940	4.939	0.001	1.000	830764		5.47(2.86-8.58)	105	8752	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.940	4.939	0.001	1.863	5000280	2.35		93.8	13981	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.310	5.306	0.004	1.000	5318805	2.58		103	922	
913.00 > 169.00	5.303	5.306	-0.003	0.999	693627		7.67(0.00-0.00)	103	2568	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:27:08 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_006.d

Injection Date: 21-Dec-2017 15:37:18 Instrument ID: A8_N

Lims ID: IC L5 Full

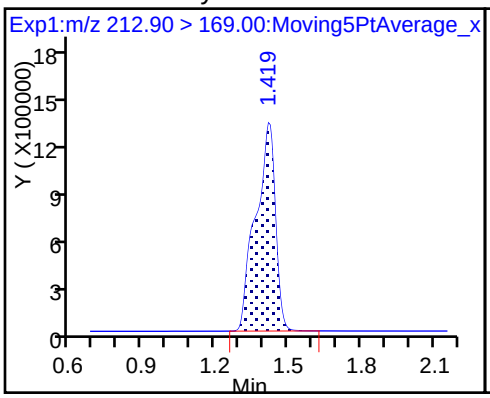
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 6

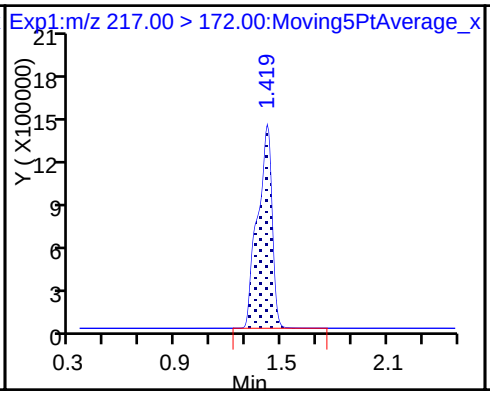
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

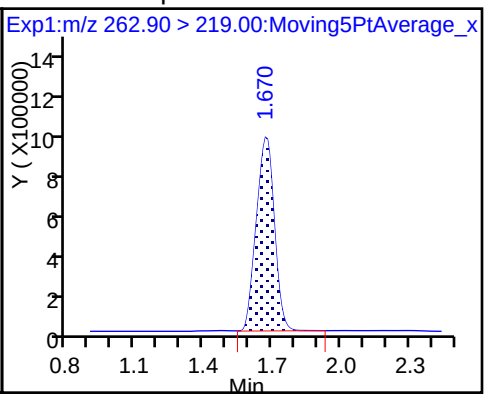
2 Perfluorobutyric acid



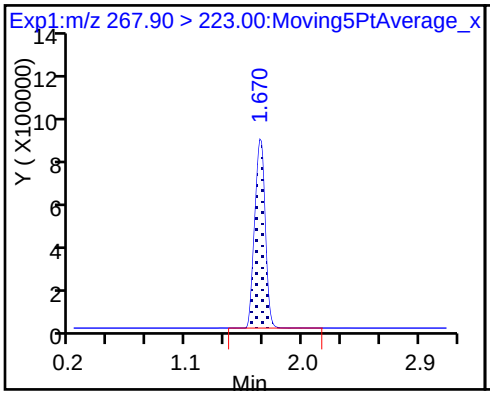
D 1 13C4 PFBA



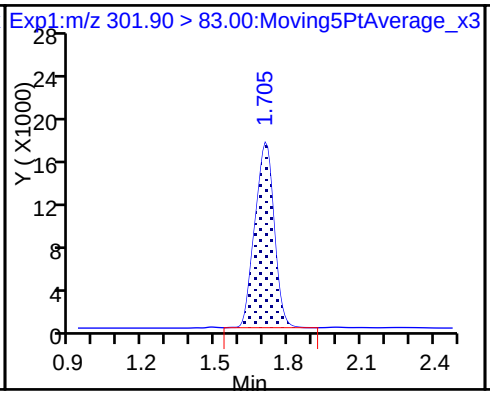
4 Perfluoropentanoic acid



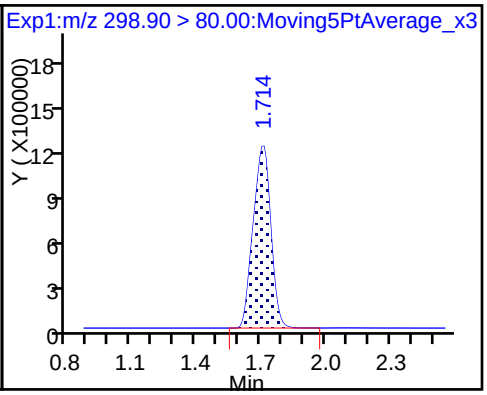
D 3 13C5-PFPeA



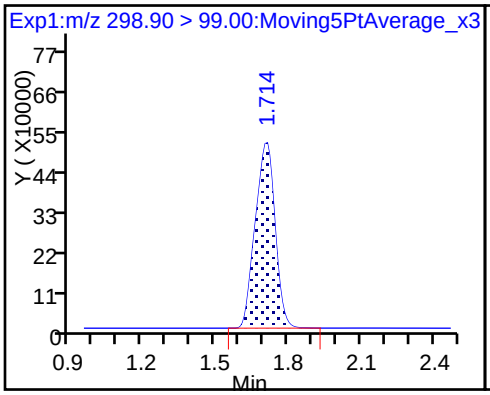
D 47 13C3-PFBS



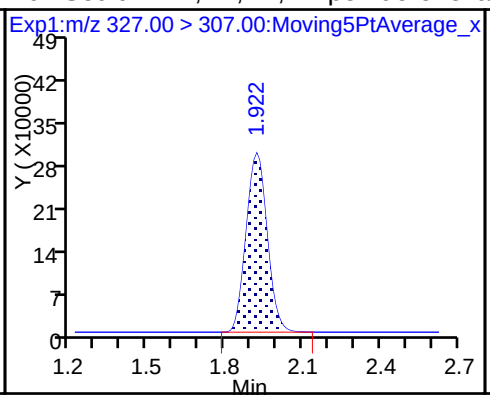
5 Perfluorobutanesulfonic acid



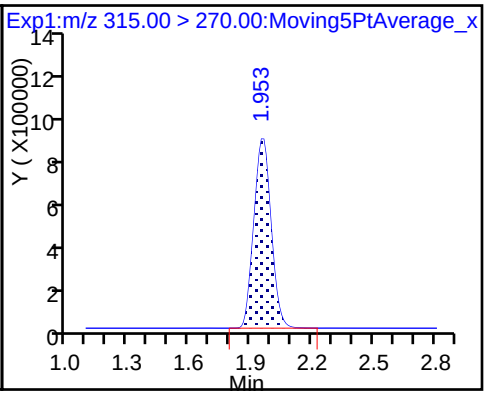
5 Perfluorobutanesulfonic acid



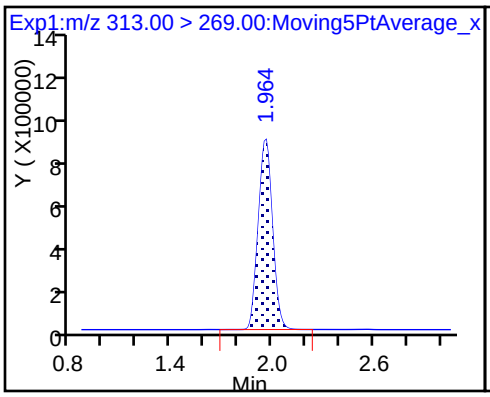
61 Sodium 1H,1H,2H,2H-perfluorohexa



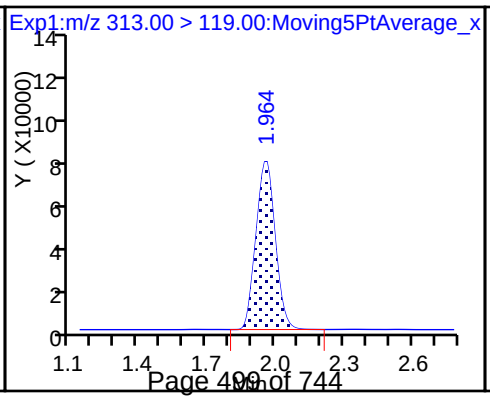
D 7 13C2 PFHxA



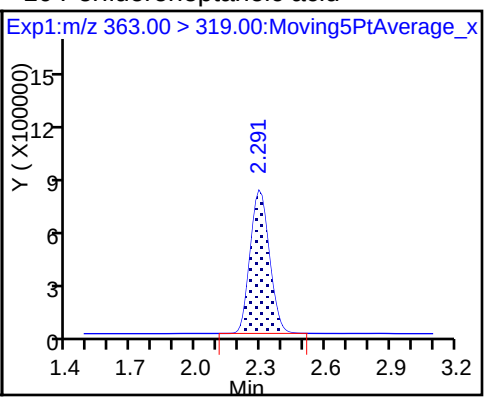
6 Perfluorohexanoic acid



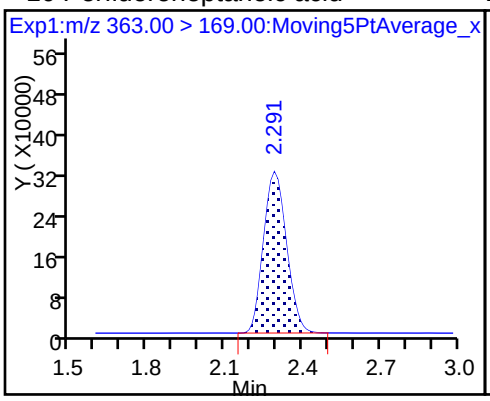
6 Perfluorohexanoic acid



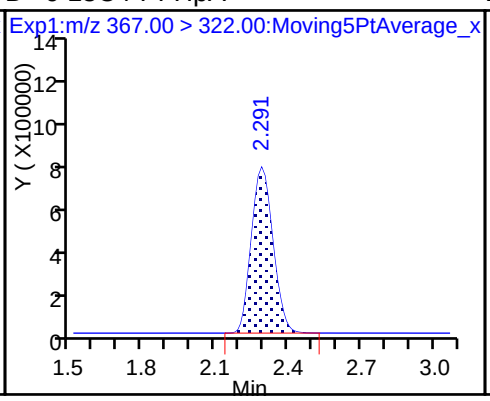
10 Perfluoroheptanoic acid



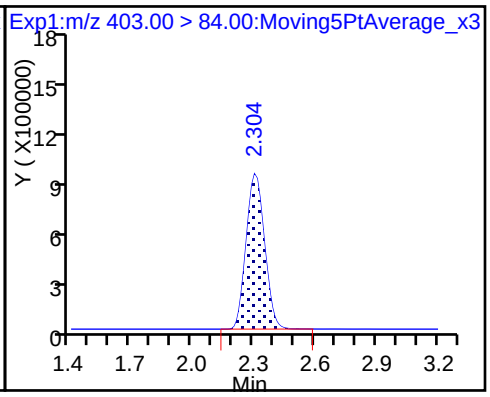
10 Perfluoroheptanoic acid



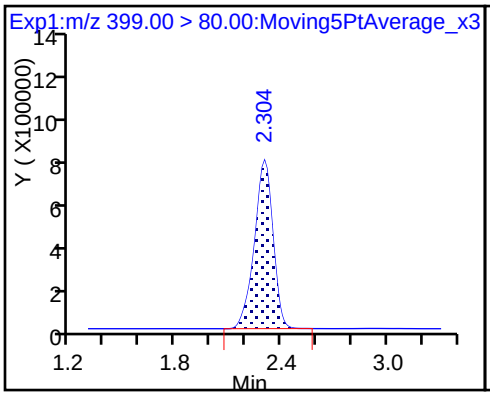
D 9 13C4-PFHpA



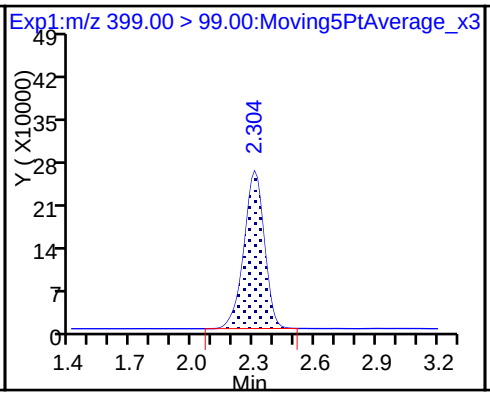
D 11 18O2 PFHxS



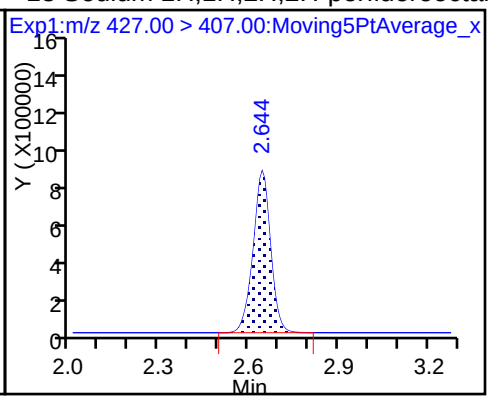
8 Perfluorohexanesulfonic acid



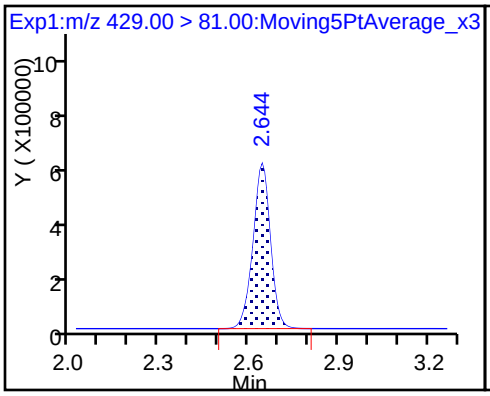
8 Perfluorohexanesulfonic acid



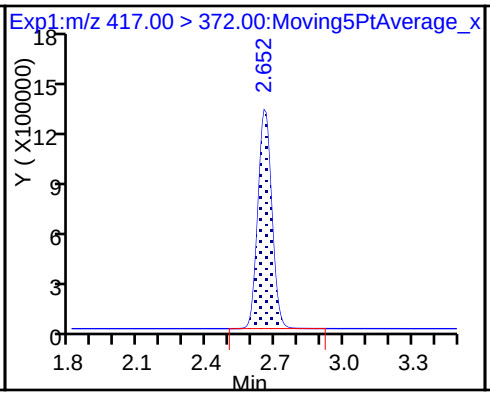
13 Sodium 1H,1H,2H,2H-perfluorooctane



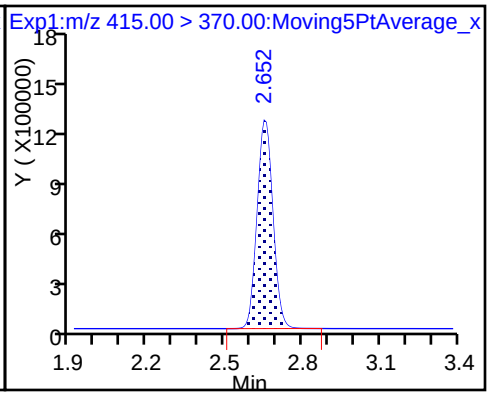
D 12 M2-6:2FTS



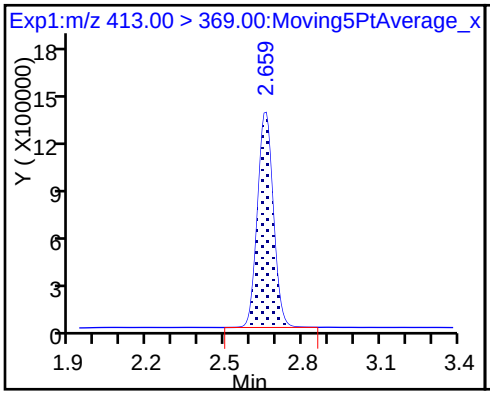
D 14 13C4 PFOA



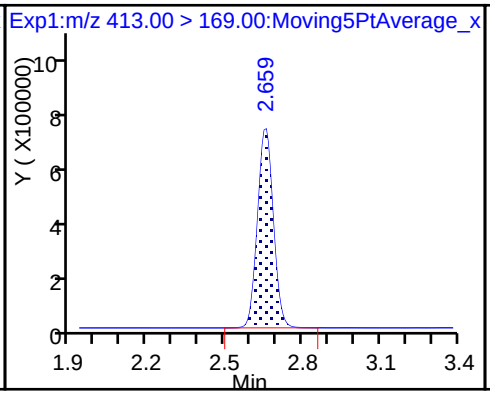
* 62 13C2-PFOA



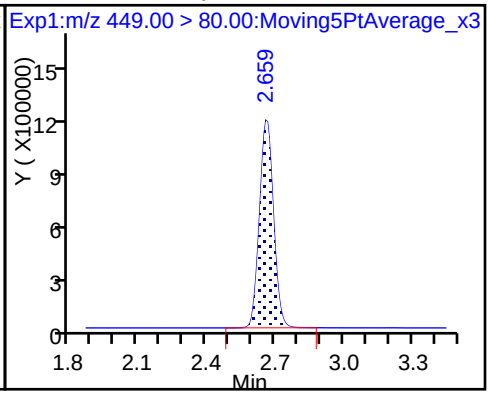
15 Perfluorooctanoic acid



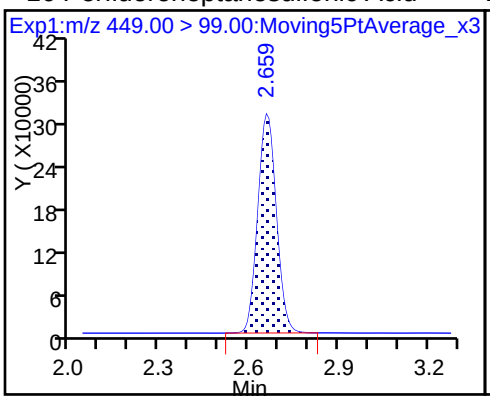
15 Perfluorooctanoic acid



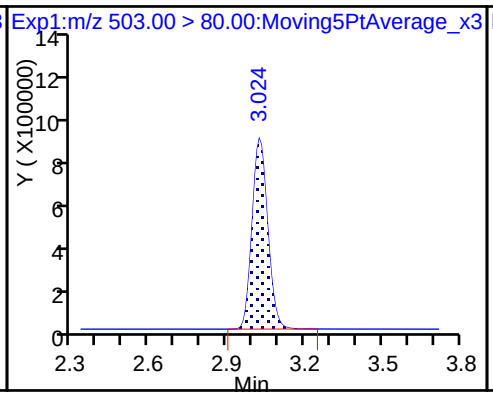
16 Perfluoroheptanesulfonic Acid



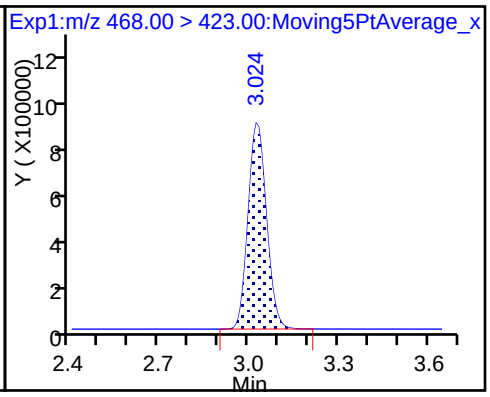
16 Perfluoroheptanesulfonic Acid



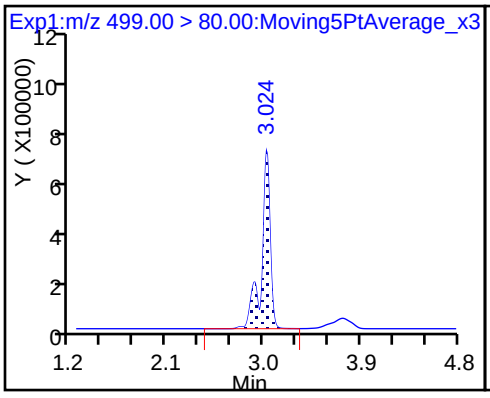
D 18 13C4 PFOS



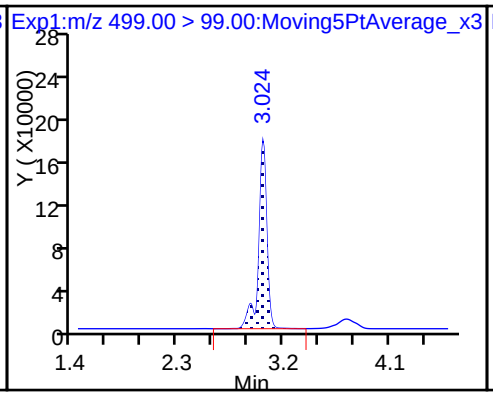
D 19 13C5 PFNA



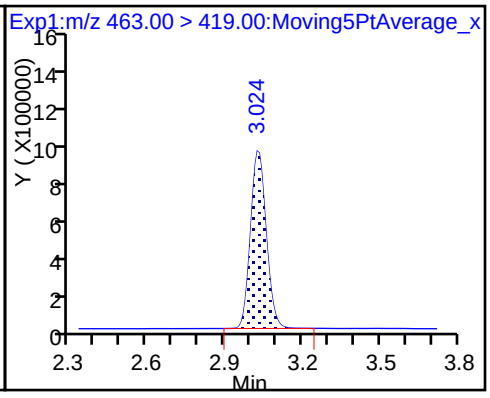
17 Perfluorooctane sulfonic acid



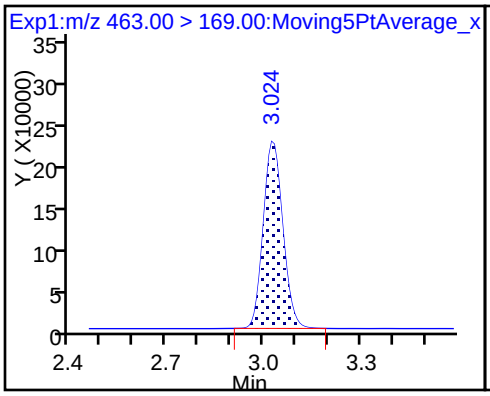
17 Perfluorooctane sulfonic acid



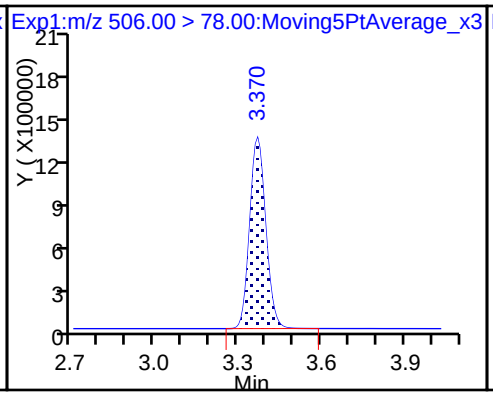
20 Perfluorononanoic acid



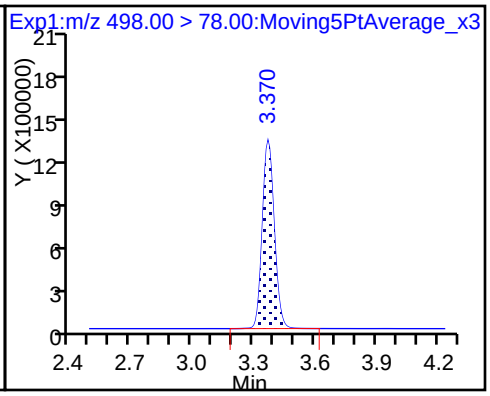
20 Perfluorononanoic acid



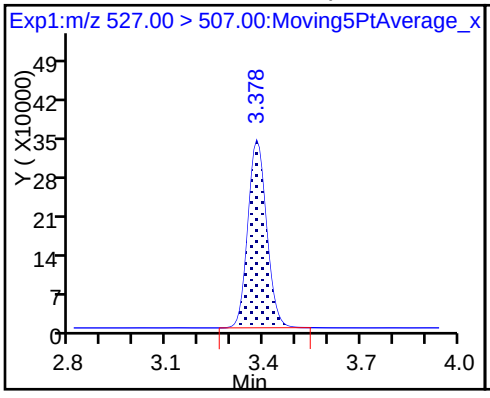
D 21 13C8 FOSA



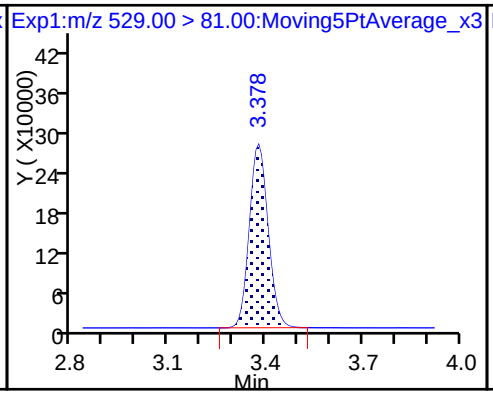
22 Perfluorooctane Sulfonamide



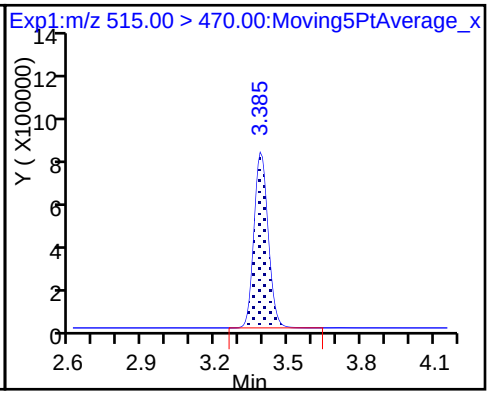
25 Sodium 1H,1H,2H,2H-perfluorodecane



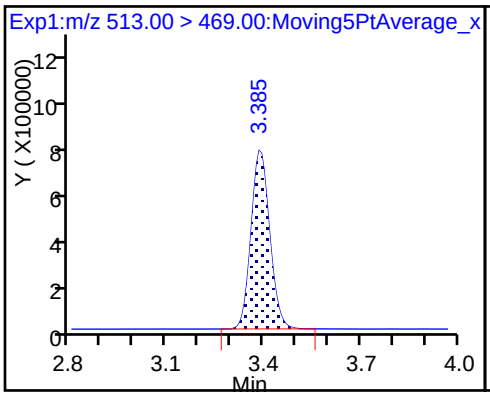
D 26 M2-8:2FTS



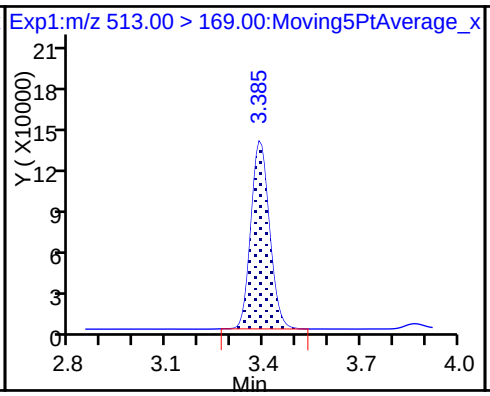
D 23 13C2 PFDA



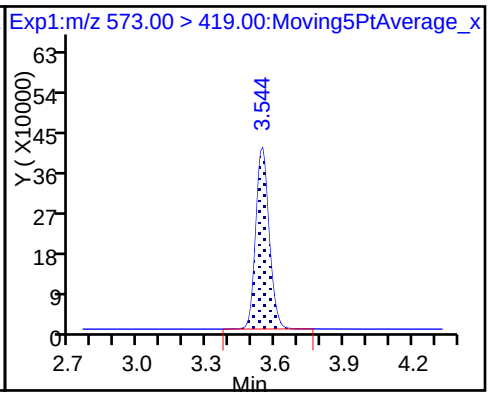
24 Perfluorodecanoic acid



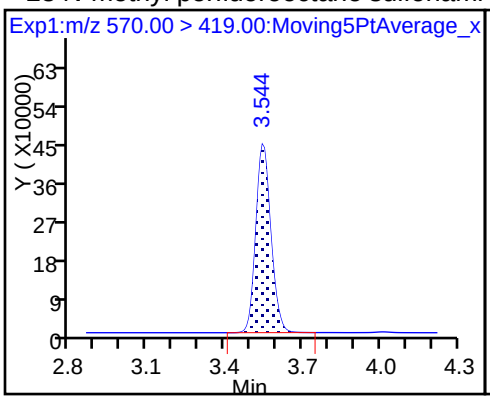
24 Perfluorodecanoic acid



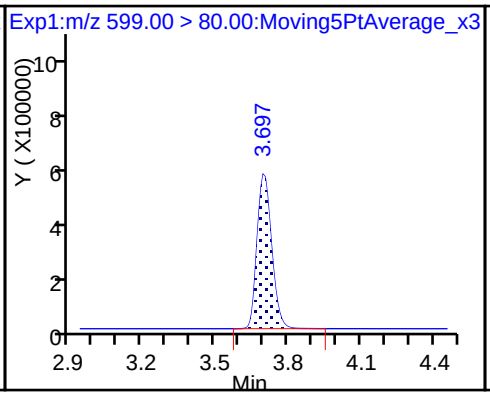
D 27 d3-NMeFOSAA



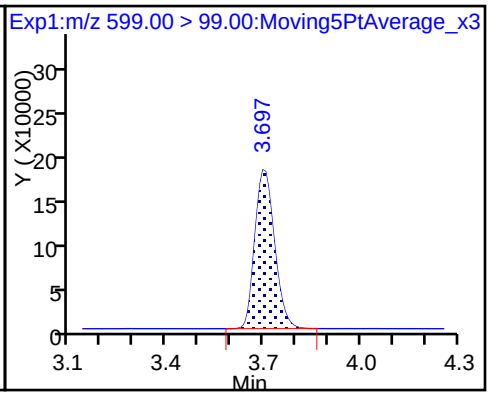
28 N-methyl perfluorooctane sulfonami



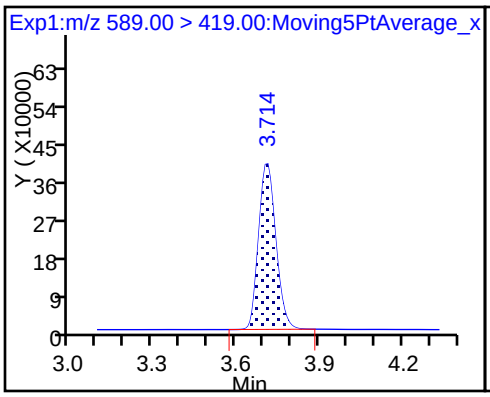
29 Perfluorodecane Sulfonic acid



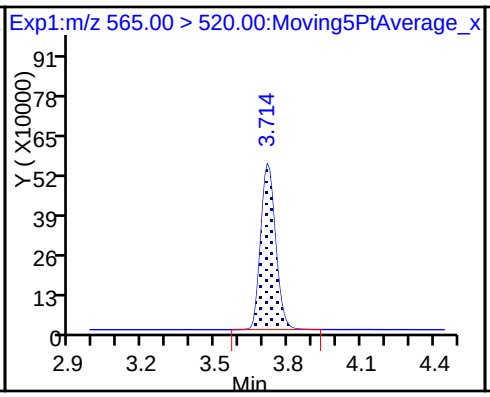
29 Perfluorodecane Sulfonic acid



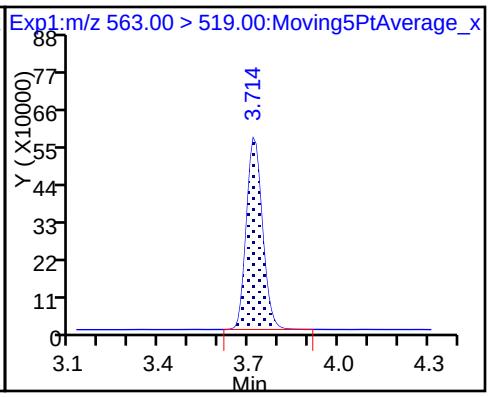
D 32 d5-NEtFOSAA



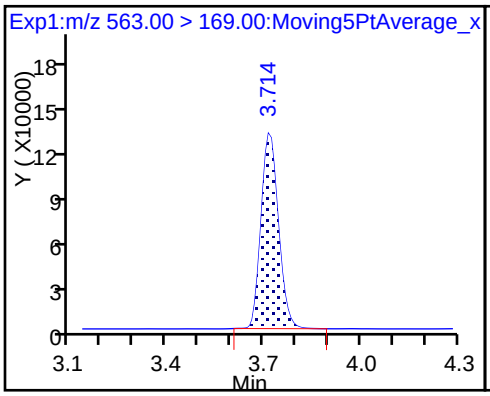
D 30 13C2 PFUnA



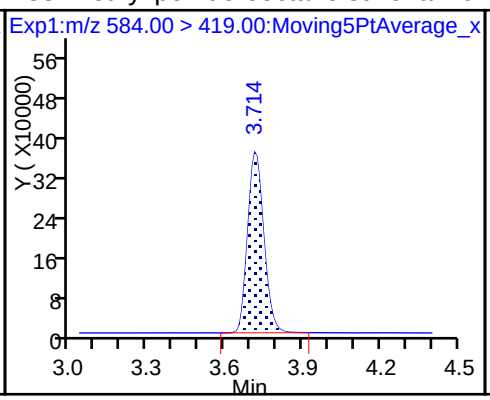
31 Perfluoroundecanoic acid



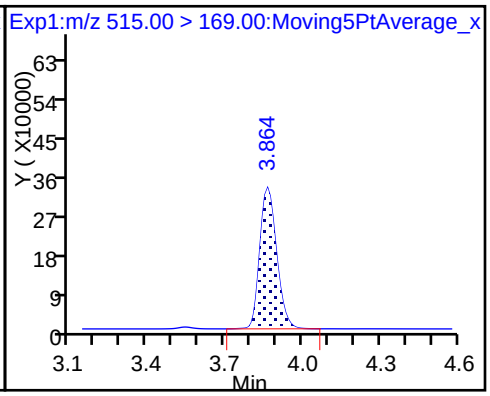
31 Perfluoroundecanoic acid



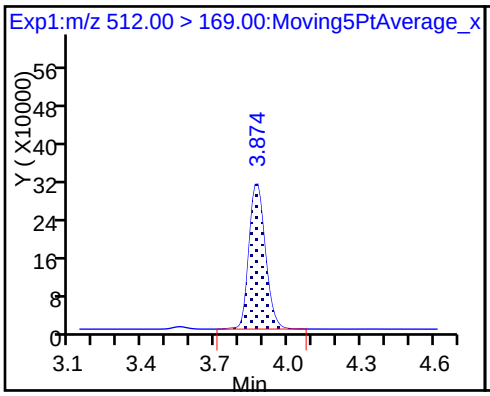
33 N-ethyl perfluorooctane sulfonamid



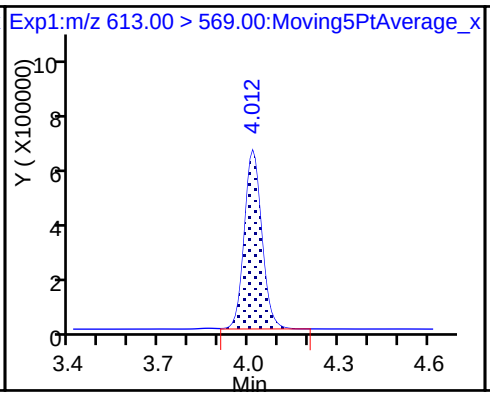
D 34 d-N-MeFOSA-M



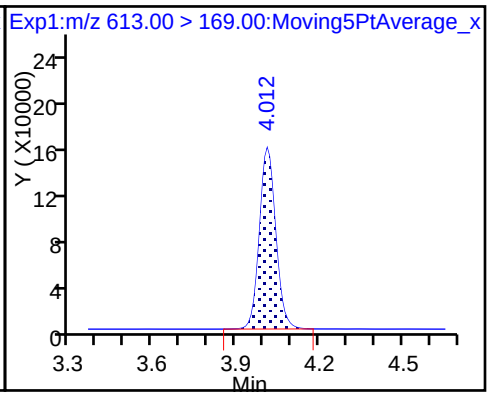
35 MeFOSA



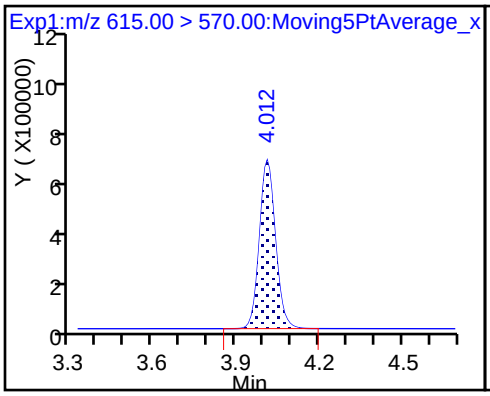
37 Perfluorododecanoic acid



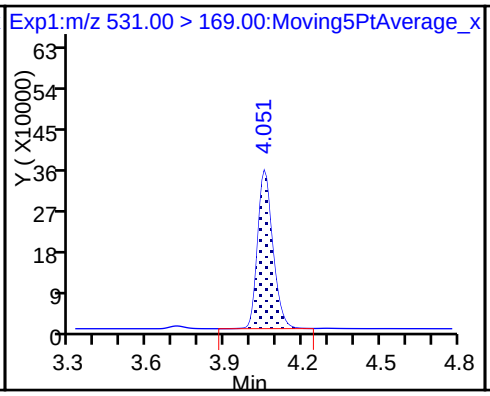
37 Perfluorododecanoic acid



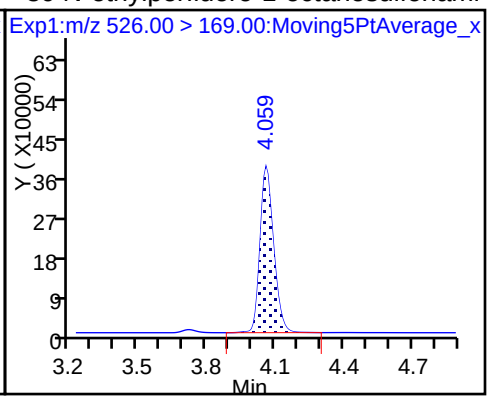
D 36 13C2 PFDoA



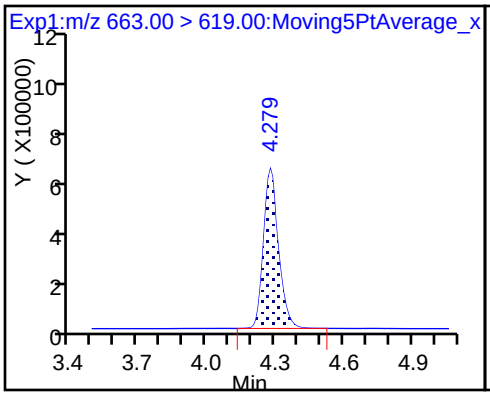
D 38 d-N-EtFOSA-M



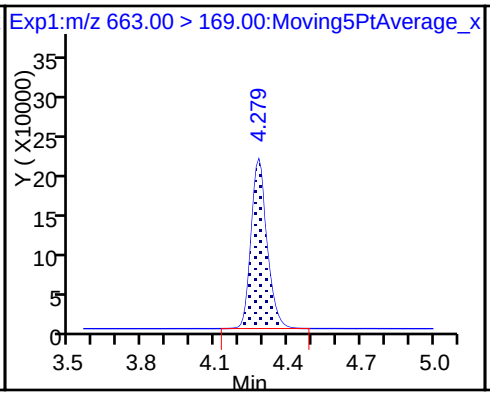
39 N-ethylperfluoro-1-octanesulfonami



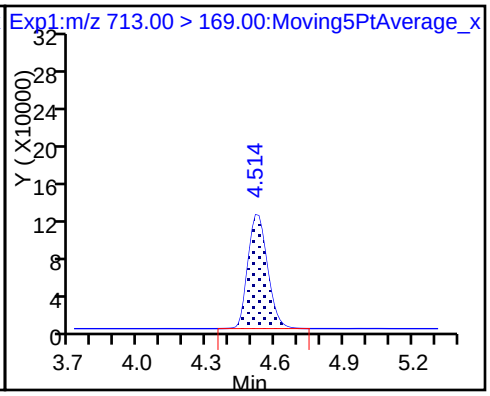
41 Perfluorotridecanoic acid



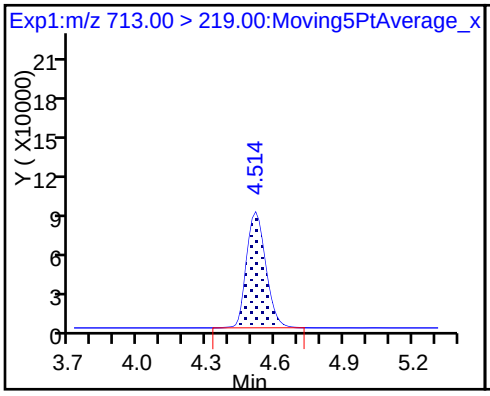
41 Perfluorotridecanoic acid



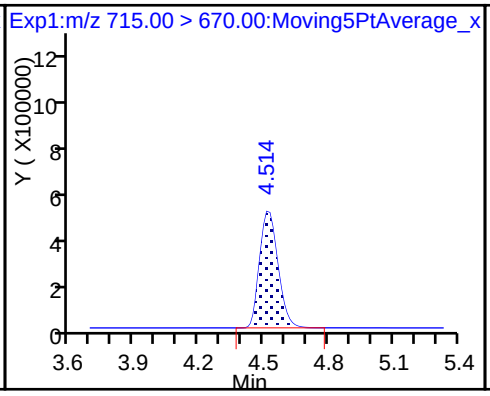
42 Perfluorotetradecanoic acid



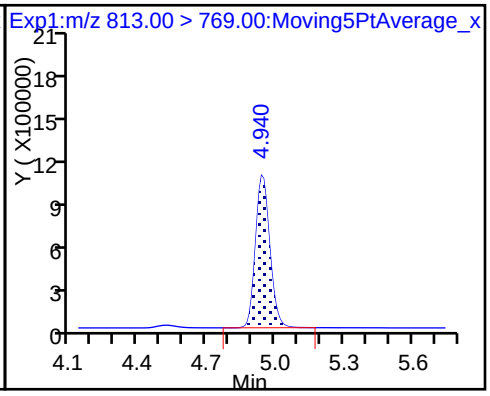
42 Perfluorotetradecanoic acid



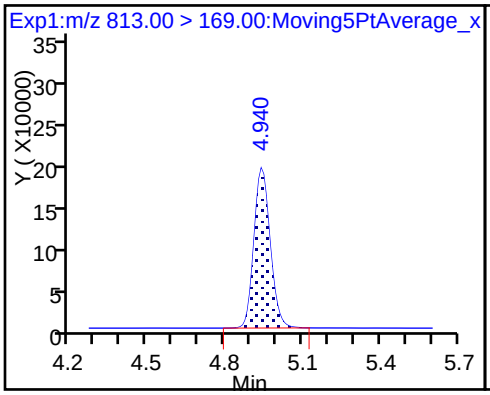
D 43 13C2-PFTeDA



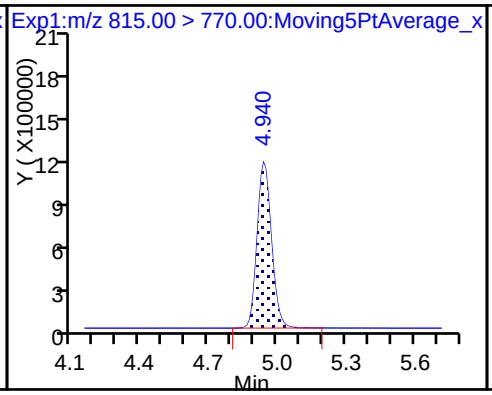
45 Perfluorohexadecanoic acid



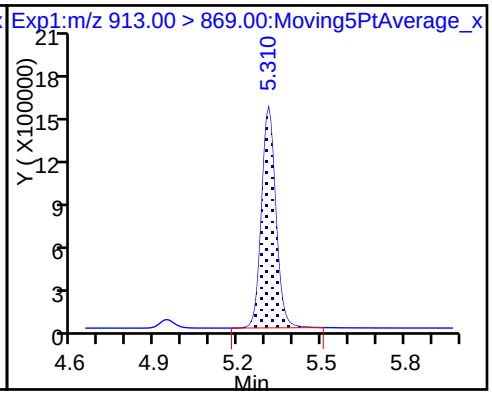
45 Perfluorohexadecanoic acid



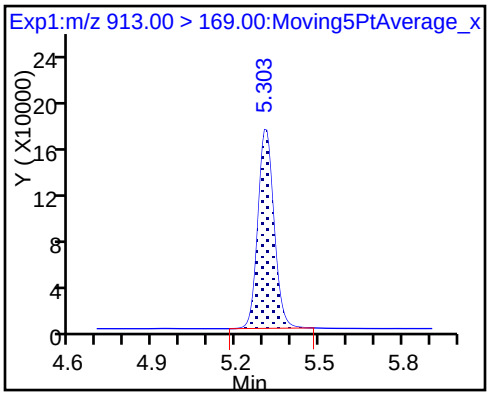
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_007.d
Lims ID: IC L6 Full
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Dec-2017 15:45:07 ALS Bottle#: 15 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L6-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:27:10 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:06:28

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.536	7841844	2.57		103	24796	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	14649125	5.10		102	5974	
D 3 13C5-PFPeA										
267.90 > 223.00	1.670	1.670	0.0	0.630	4532696	2.48		99.1	52359	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.670	1.670	0.0	1.000	10076106	4.98		99.6	6660	
D 47 13C3-PFBS										
301.90 > 83.00	1.706	1.705	0.001	0.643	96761	2.48		107	2966	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.706	1.707	-0.001	1.000	13621865	4.35		98.4	58732	
298.90 > 99.00	1.706	1.707	-0.001	1.000	5757272		2.37(1.25-3.74)	98.4	48360	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.923	1.920	0.003	1.000	3219671	5.17		111	82821	
D 7 13C2 PFHxA										
315.00 > 270.00	1.953	1.953	0.0	0.737	4882103	2.50		100.0	50527	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.953	1.956	-0.003	1.000	9771131	5.00		100.0	31473	
313.00 > 119.00	1.953	1.956	-0.003	1.000	857398		11.40(5.03-15.10)	100.0	16595	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.864	4703159	2.60		104	31967	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.291	2.291	0.0	1.000	9612665	4.88		97.7	13163	
363.00 > 169.00	2.291	2.291	0.0	1.000	3811986		2.52(1.13-3.40)	97.7	22811	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	1.000	11127318	4.59		101	16262	
399.00 > 99.00	2.304	2.304	0.0	1.000	3740149		2.98(1.50-4.49)	101	11808	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.304	0.0	0.869	5325222	2.33		98.7	29654	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.637	2.642	-0.005	0.997	5609893	4.78		101	80023	
D 12 M2-6:2FTS										
429.00 > 81.00	2.644	2.642	0.002	0.997	1798987	2.14		90.0	32441	
D 14 13C4 PFOA										
417.00 > 372.00	2.651	2.654	-0.003	1.000	5265565	2.53		101	41292	
* 62 13C2-PFOA										
415.00 > 370.00	2.651	2.656	-0.005		5029007	2.50			50103	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.651	2.656	-0.005	1.000	10780791	4.87		97.3	4785	
413.00 > 169.00	2.651	2.656	-0.005	1.000	5972560		1.81(0.84-2.52)	97.3	28569	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.658	2.662	-0.004	1.000	10159580	5.05		106	41594	
449.00 > 99.00	2.658	2.662	-0.004	1.000	2634258		3.86(1.94-5.82)	106	24083	
D 18 13C4 PFOS										
503.00 > 80.00	3.024	3.025	-0.001	1.141	3669982	2.44		102	20457	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.024	3.028	-0.004	1.000	7678011	4.72		102	742	
499.00 > 99.00	3.024	3.028	-0.004	1.000	1664992		4.61(2.31-6.93)	102	980	
D 19 13C5 PFNA										
468.00 > 423.00	3.024	3.028	-0.004	1.141	3719043	2.52		101	36796	
20 Perfluorononanoic acid										
463.00 > 419.00	3.024	3.029	-0.005	1.000	7519039	5.02		100	8995	
463.00 > 169.00	3.024	3.029	-0.005	1.000	1865641		4.03(1.90-5.69)	100	21886	
D 21 13C8 FOSA										
506.00 > 78.00	3.369	3.370	-0.001	1.271	5154664	2.51		101	26007	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.369	3.372	-0.003	1.000	10279855	5.20		104	47329	
D 26 M2-8:2FTS										
529.00 > 81.00	3.376	3.377	-0.001	1.274	1173108	2.49		104	18586	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.376	3.377	-0.001	1.000	2781160	4.67		97.5	41094	
D 23 13C2 PFDA										
515.00 > 470.00	3.384	3.389	-0.005	1.277	3016260	2.48		99.1	28933	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.392	3.390	0.002	1.002	6280843	5.38		108	22790	
513.00 > 169.00	3.392	3.390	0.002	1.002	1142483		5.50(2.36-7.09)	108	2251	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.543	3.543	0.0	1.336	1627104	2.49		99.6	16143	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.543	3.548	-0.005	1.000	3453343	4.94		98.8	12208	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.703	3.703	0.0	1.000	4785400	5.05		105	54760	
599.00 > 99.00	3.703	3.703	0.0	1.000	1552383		3.08(1.39-4.16)	105	25006	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.712	3.712	0.0	1.400	1613051	2.53		101	8976	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.712	3.717	-0.005	1.400	2297307	2.48		99.1	23431	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.721	3.718	0.003	1.002	4098143	4.87		97.4	13080	
563.00 > 169.00	3.721	3.718	0.003	1.002	903981		4.53(0.00-0.00)	97.4	15077	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.721	3.720	0.001	1.002	3085854	4.81		96.3	19678	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.862	3.862	0.0	1.457	1488562	2.55		102	3404	
35 MeFOSA										
512.00 > 169.00	3.872	3.872	0.0	1.003	2961869	5.08		102	3551	
D 36 13C2 PFDoA										
615.00 > 570.00	4.010	4.011	-0.001	1.513	2514667	2.52		101	31218	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.010	4.011	-0.001	1.000	5067646	5.08		102	14390	
613.00 > 169.00	4.010	4.011	-0.001	1.000	1243219		4.08(2.13-6.40)	102	28040	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.050	4.052	-0.002	1.528	1419551	2.53		101	2385	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.058	4.058	0.0	1.002	2970918	4.91		98.3	2987	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.277	4.277	0.0	1.000	5863317	5.03		101	14478	
663.00 > 169.00	4.277	4.277	0.0	1.000	1953926		3.00(1.25-3.76)	101	43741	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.523	4.518	0.005	1.706	2863496	2.56		103	18356	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.523	4.518	0.005	1.000	1420222	4.81		96.2	20340	
713.00 > 219.00	4.509	4.518	-0.009	0.997	930796		1.53(0.71-2.13)	96.2	14727	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.937	4.939	-0.002	1.862	4819897	2.37		94.8	17646	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.937	4.939	-0.002	1.000	8416392	5.08		102	3545	
813.00 > 169.00	4.937	4.939	-0.002	1.000	1599807		5.26(2.86-8.58)	102	12630	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.308	5.306	0.002	1.000	10730387	5.41		108	1733	
913.00 > 169.00	5.301	5.306	-0.005	0.999	1375203		7.80(0.00-0.00)	108	3579	

Reagents:

LCPFC_LL6_00002 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:27:11 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_007.d

Injection Date: 21-Dec-2017 15:45:07 Instrument ID: A8_N

Lims ID: IC L6 Full

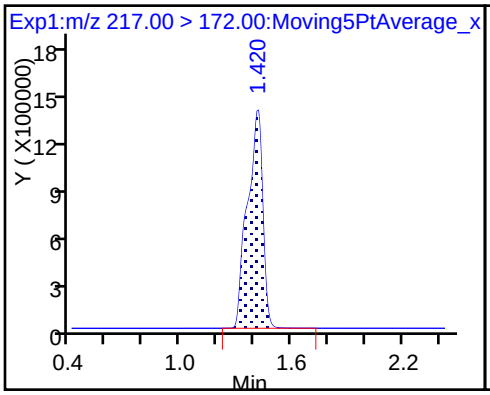
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Operator ID: SACINSTLCMS01 ALS Bottle#: 15 Worklist Smp#: 7

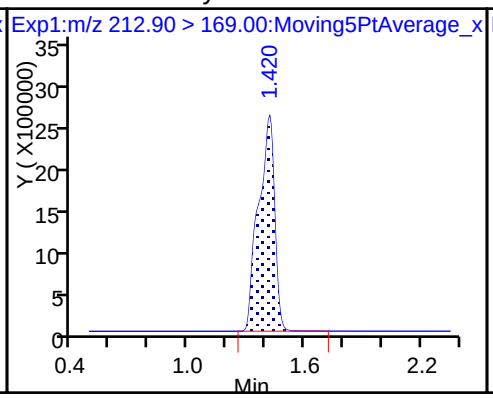
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

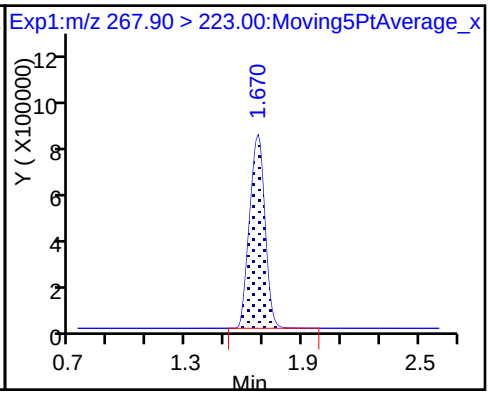
D 1 13C4 PFBA



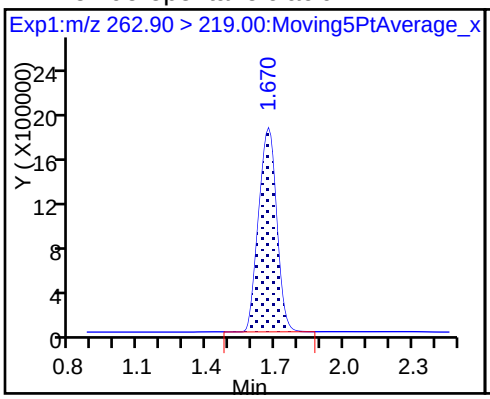
2 Perfluorobutyric acid



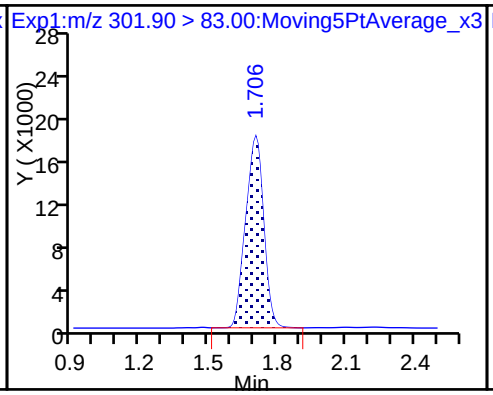
D 3 13C5-PFPeA



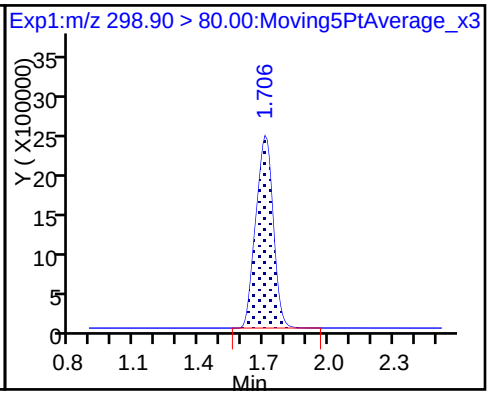
4 Perfluoropentanoic acid



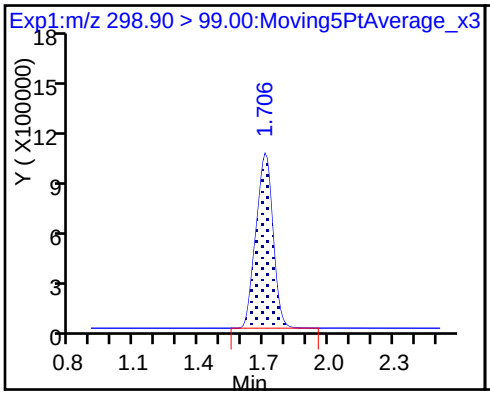
D 47 13C3-PFBS



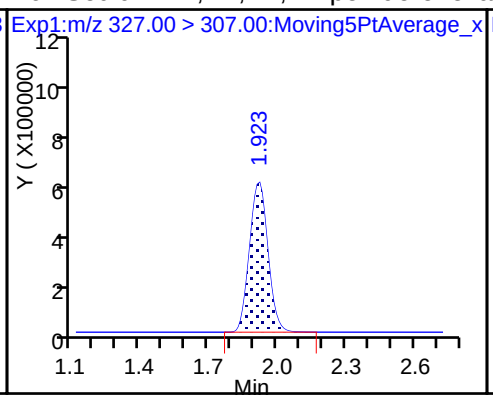
5 Perfluorobutanesulfonic acid



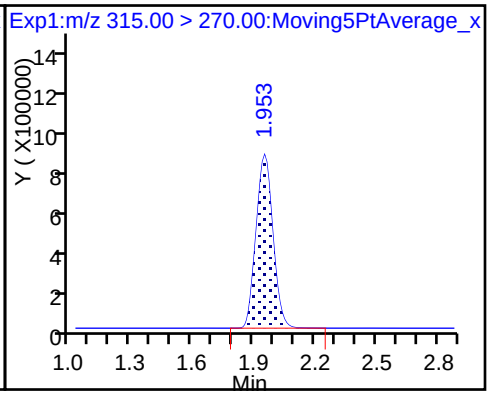
5 Perfluorobutanesulfonic acid



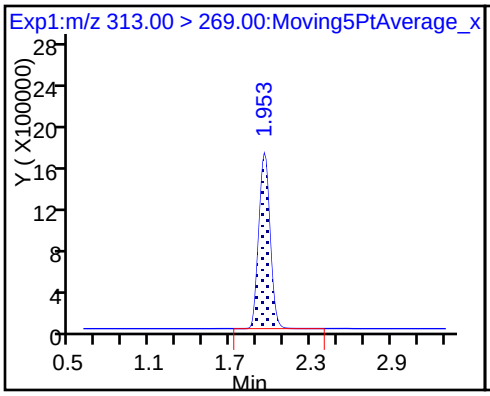
61 Sodium 1H,1H,2H,2H-perfluorohexa



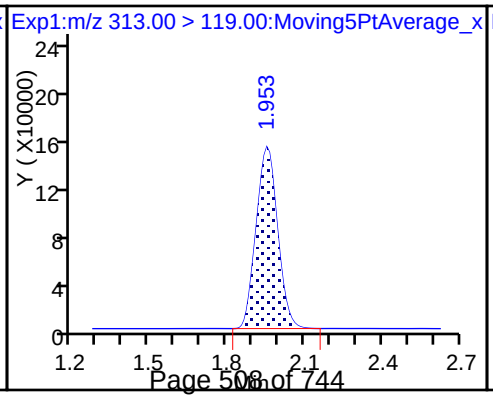
D 7 13C2 PFHxA



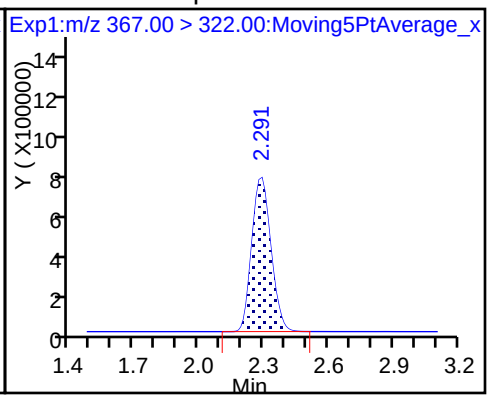
6 Perfluorohexanoic acid



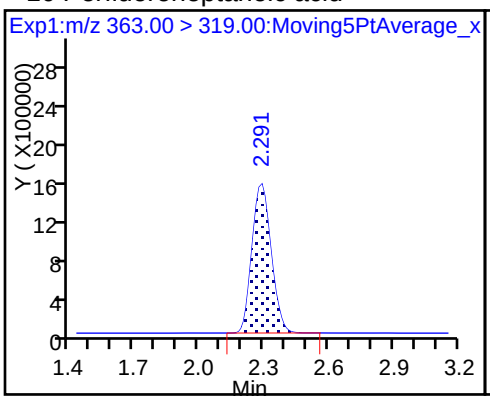
6 Perfluorohexanoic acid



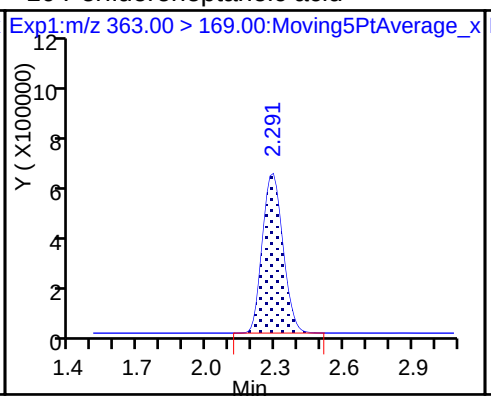
D 9 13C4-PFHpA



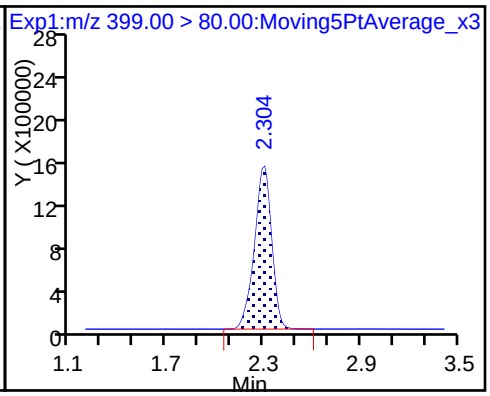
10 Perfluoroheptanoic acid



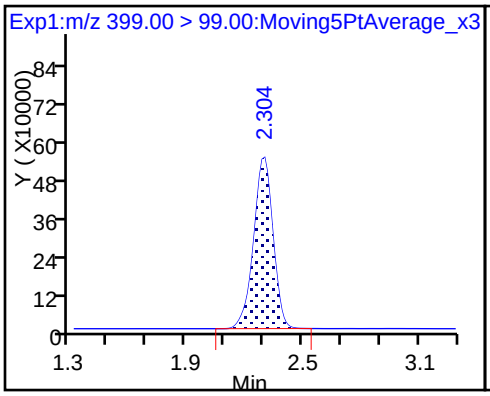
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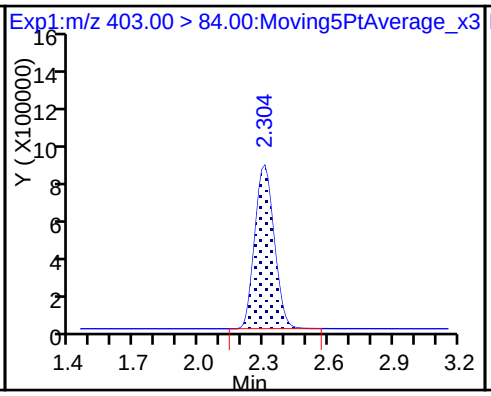
8 Perfluorohexanesulfonic acid



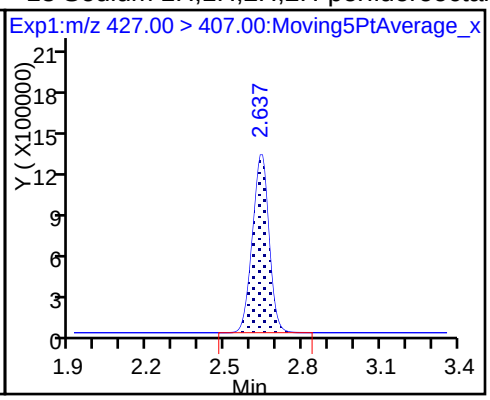
8 Perfluorohexanesulfonic acid



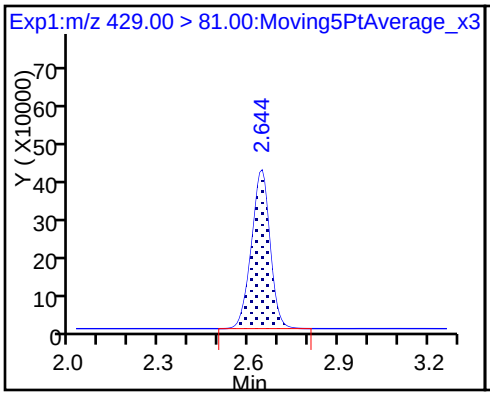
D 11 18O2 PFHxS



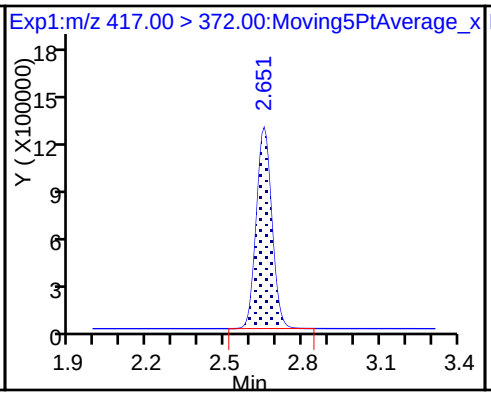
13 Sodium 1H,1H,2H,2H-perfluorooctane



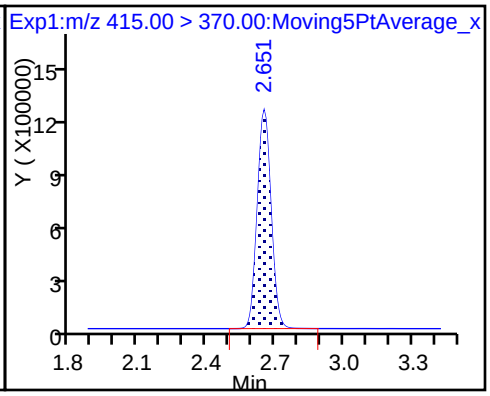
D 12 M2-6:2FTS



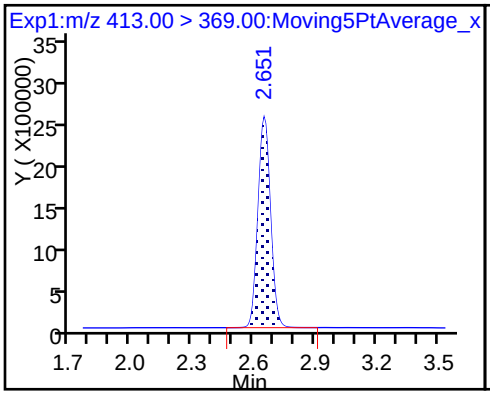
D 14 13C4 PFOA



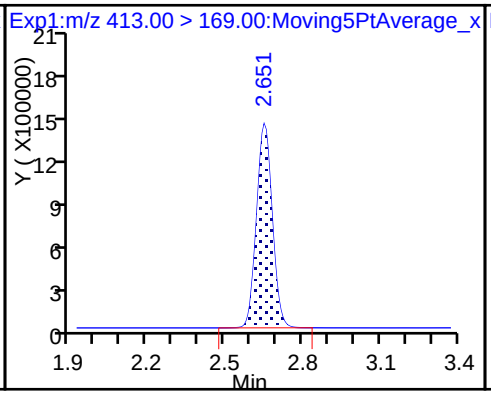
* 62 13C2-PFOA



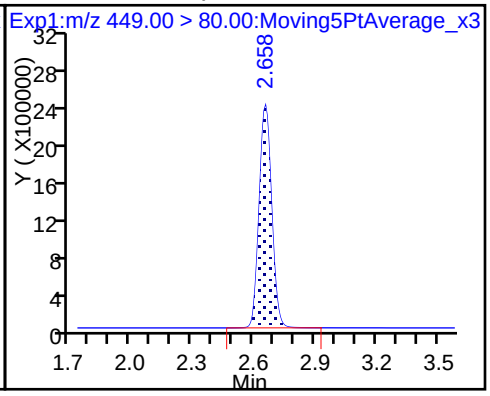
15 Perfluorooctanoic acid



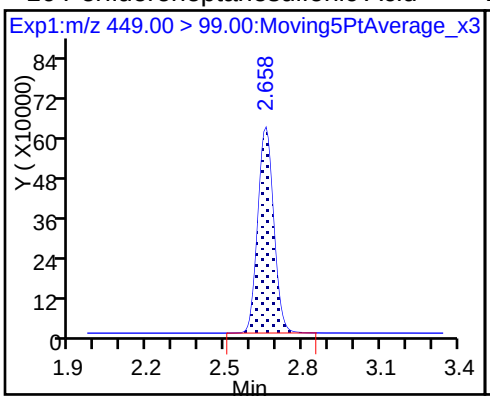
15 Perfluorooctanoic acid



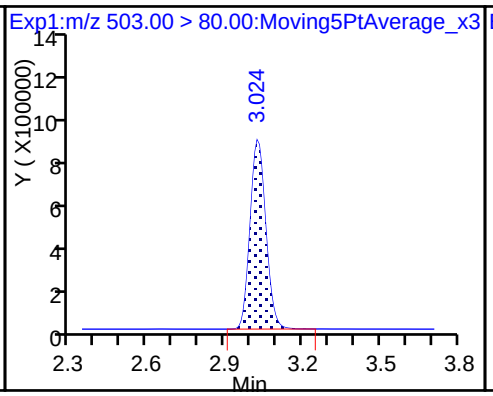
16 Perfluoroheptanesulfonic Acid



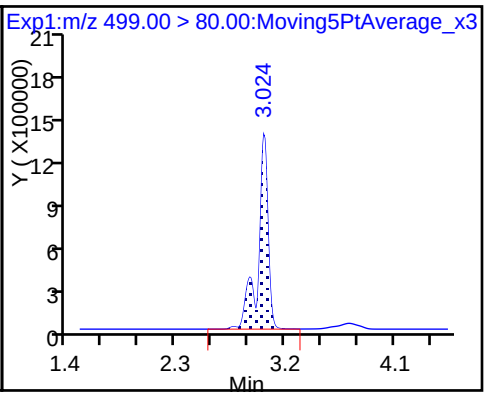
16 Perfluoroheptanesulfonic Acid



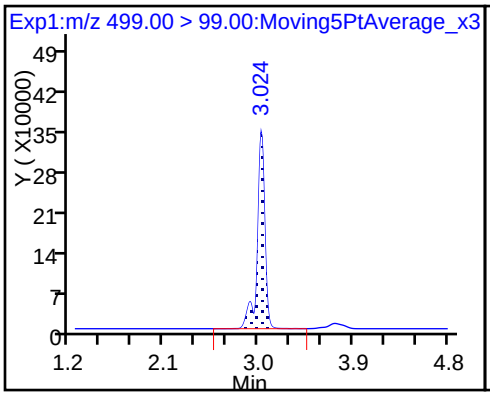
D 18 13C4 PFOS



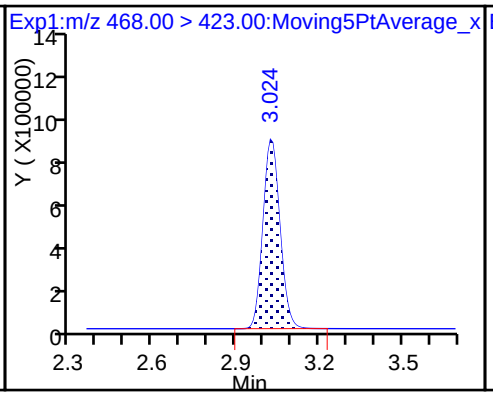
17 Perfluorooctane sulfonic acid



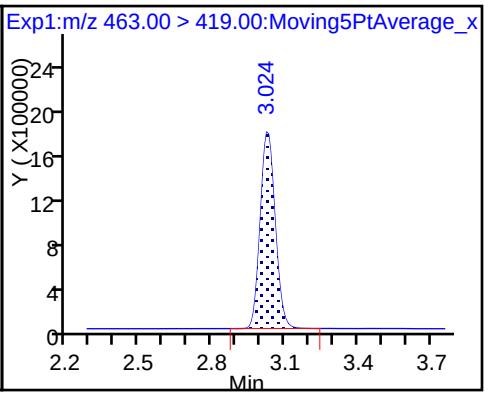
17 Perfluorooctane sulfonic acid



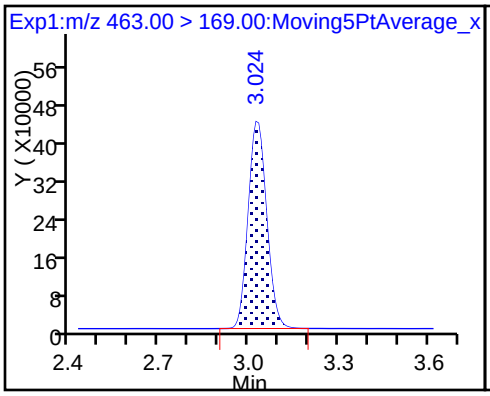
D 19 13C5 PFNA



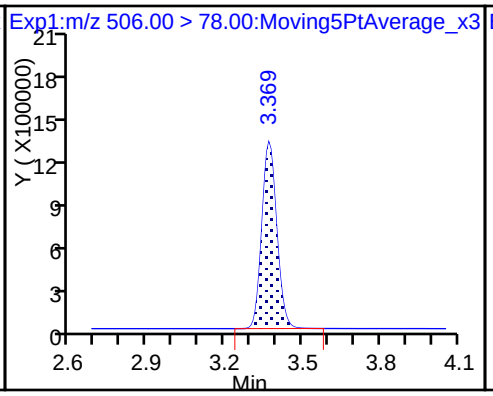
20 Perfluorononanoic acid



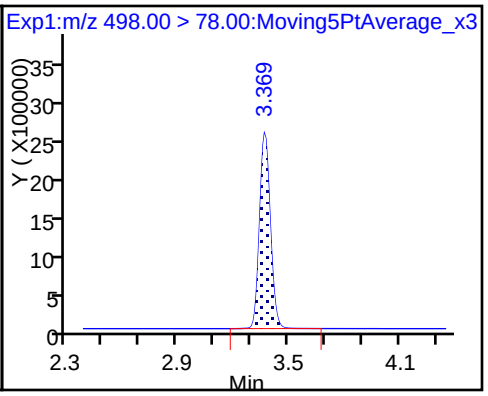
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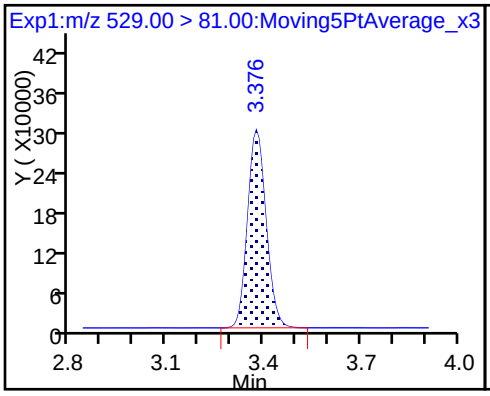
D 21 13C8 FOSA



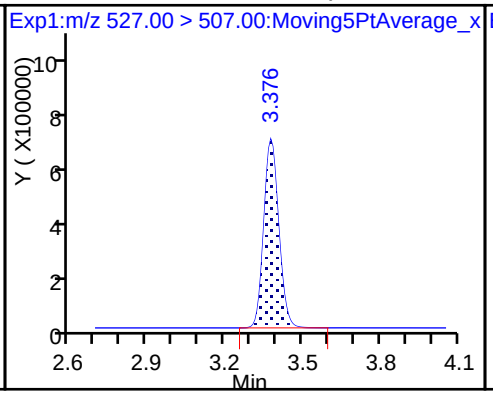
22 Perfluorooctane Sulfonamide



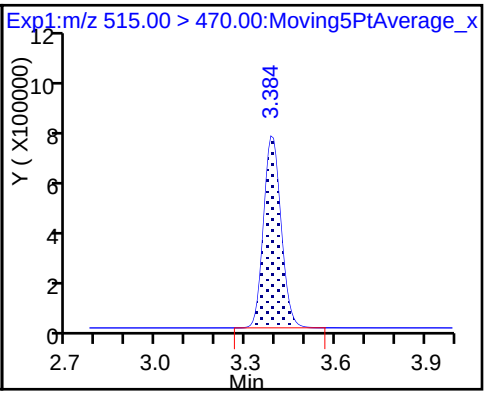
D 26 M2-8:2FTS



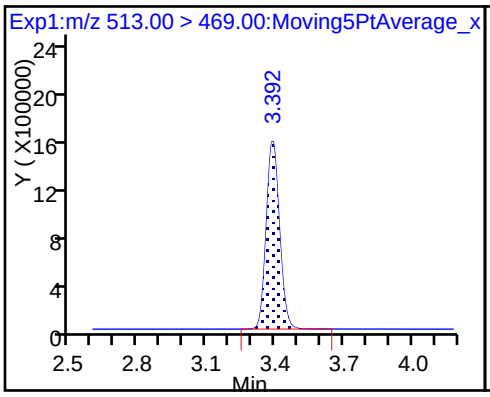
25 Sodium 1H,1H,2H,2H-perfluorodecane



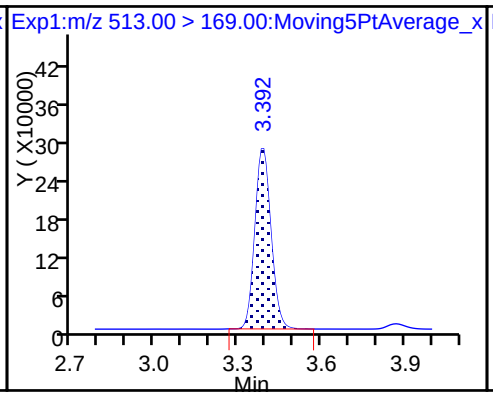
D 23 13C2 PFDA



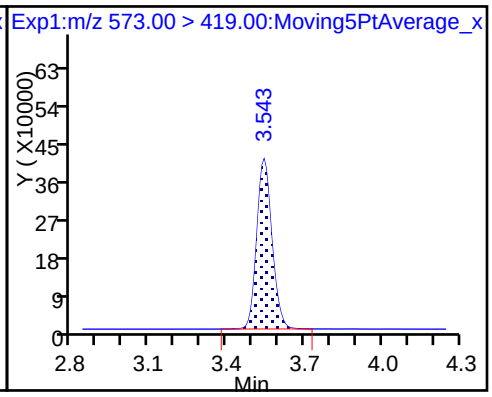
24 Perfluorodecanoic acid



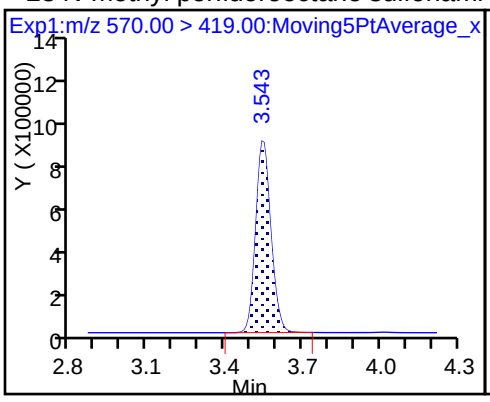
24 Perfluorodecanoic acid



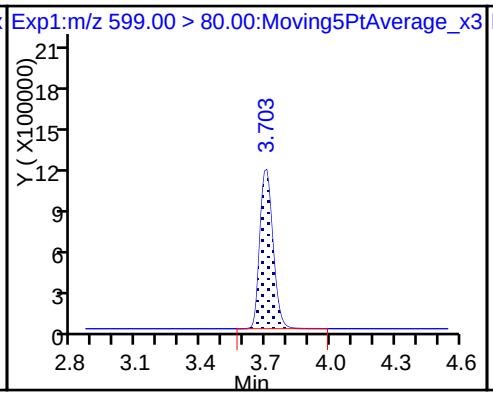
D 27 d3-NMeFOSAA



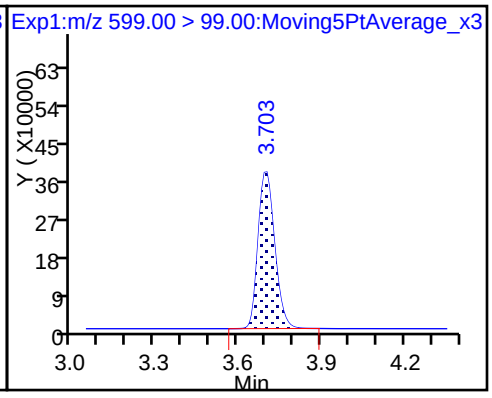
28 N-methyl perfluorooctane sulfonami



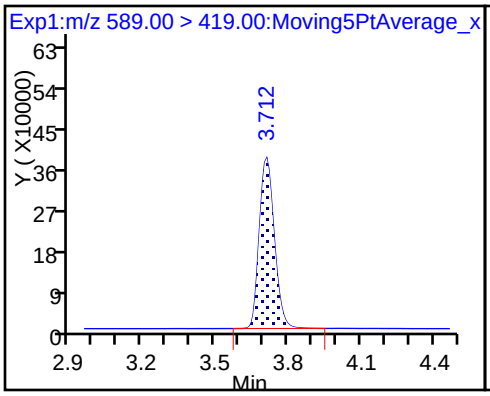
29 Perfluorodecane Sulfonic acid



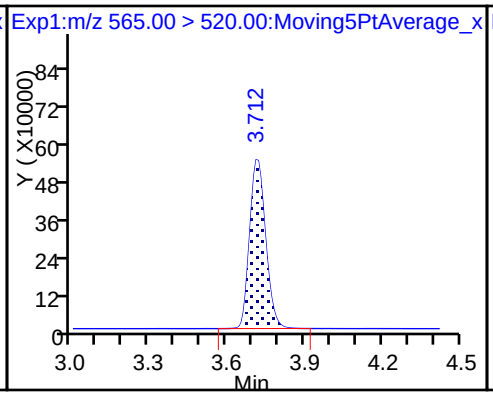
29 Perfluorodecane Sulfonic acid



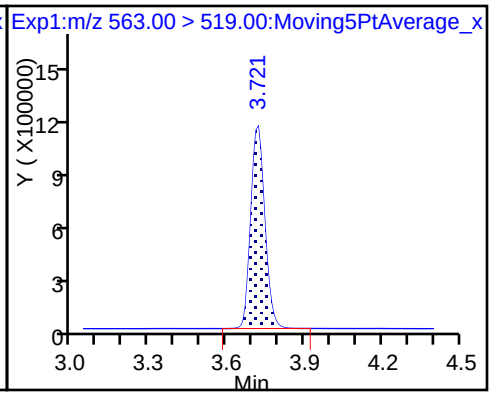
D 32 d5-NEtFOSAA



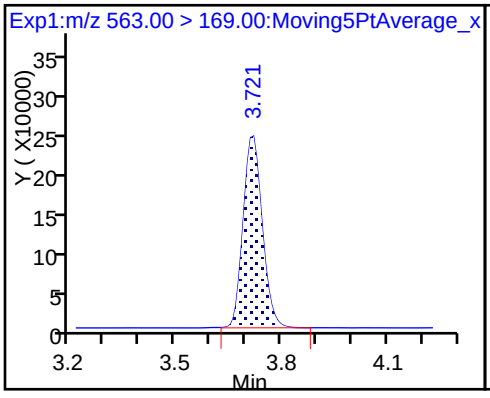
D 30 13C2 PFUnA



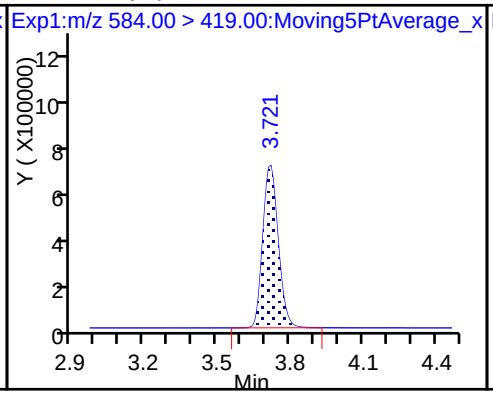
31 Perfluoroundecanoic acid



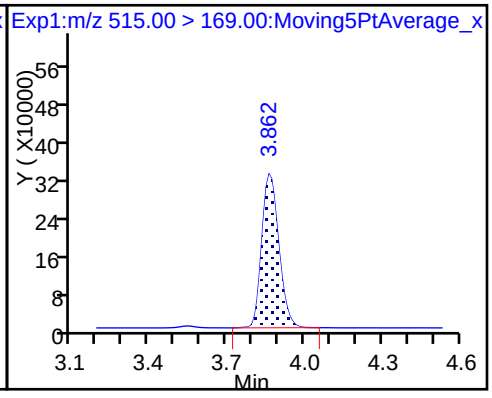
31 Perfluoroundecanoic acid



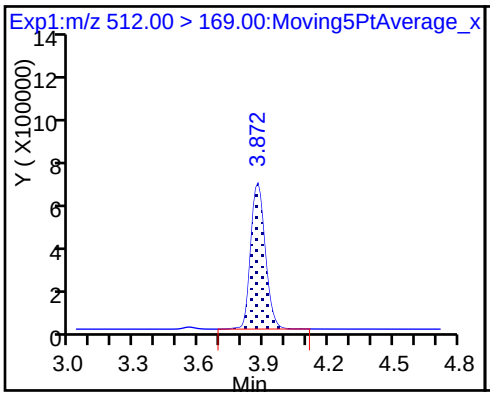
33 N-ethyl perfluorooctane sulfonamid



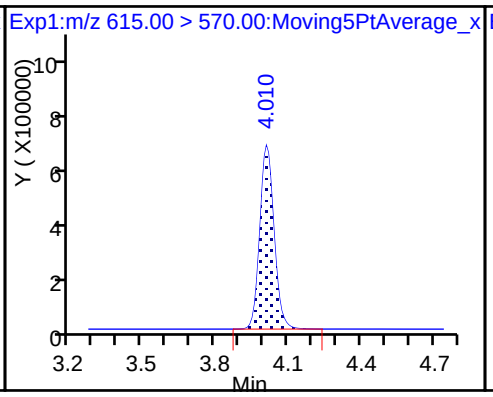
D 34 d-N-MeFOSA-M



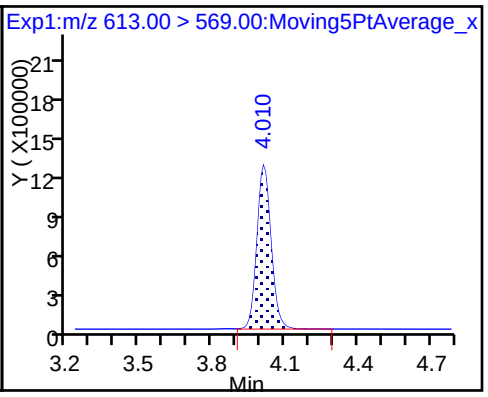
35 MeFOSA



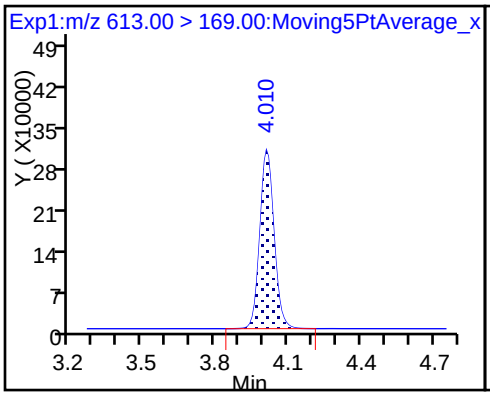
D 36 13C2 PFDoA



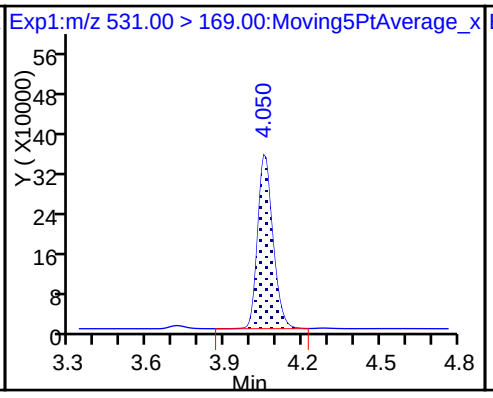
37 Perfluorododecanoic acid



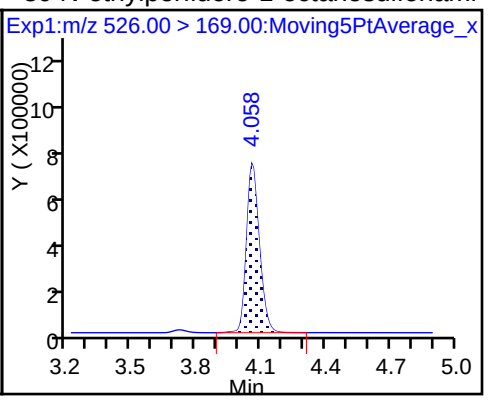
37 Perfluorododecanoic acid



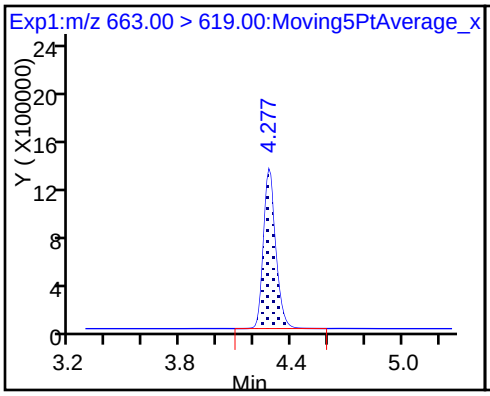
D 38 d-N-EtFOSA-M



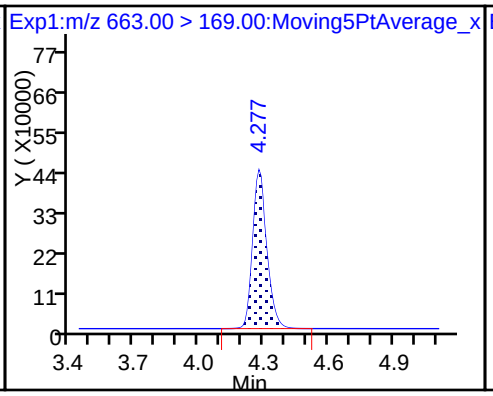
39 N-ethylperfluoro-1-octanesulfonami



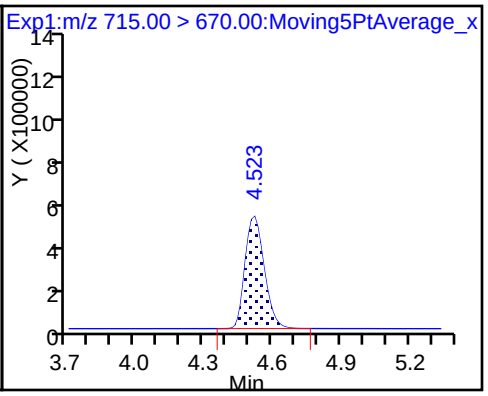
41 Perfluorotridecanoic acid



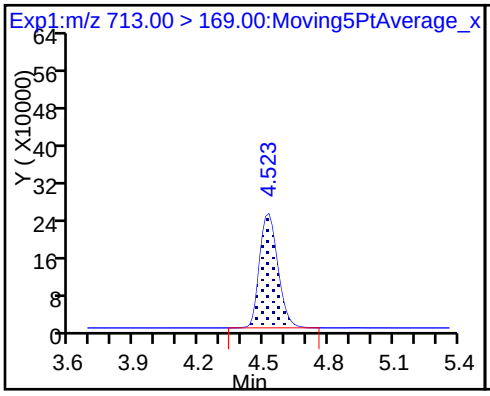
41 Perfluorotridecanoic acid



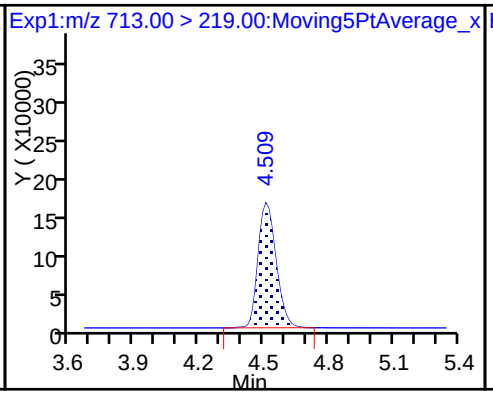
D 43 13C2-PFTeDA



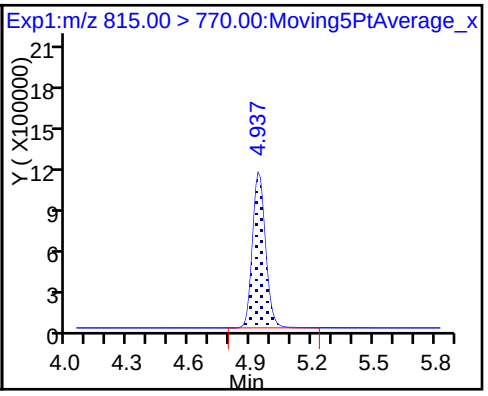
42 Perfluorotetradecanoic acid



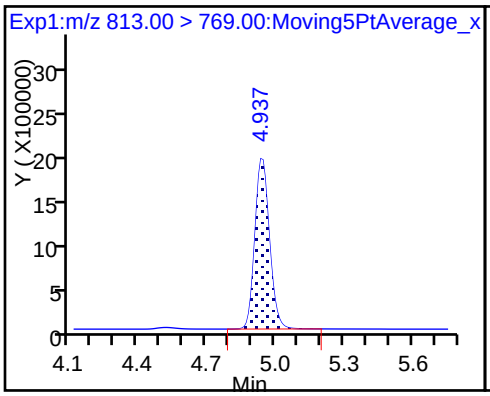
42 Perfluorotetradecanoic acid



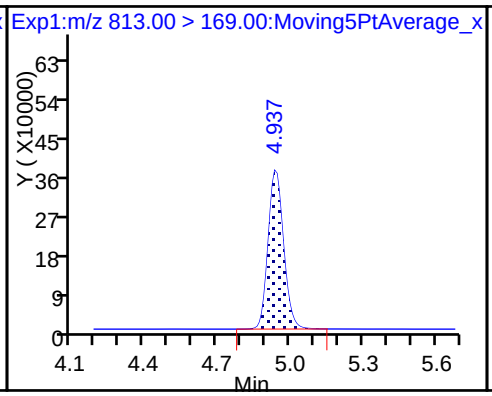
D 44 13C2-PFHxDA



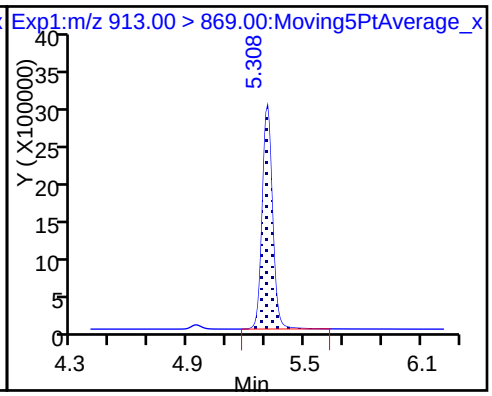
45 Perfluorohexadecanoic acid



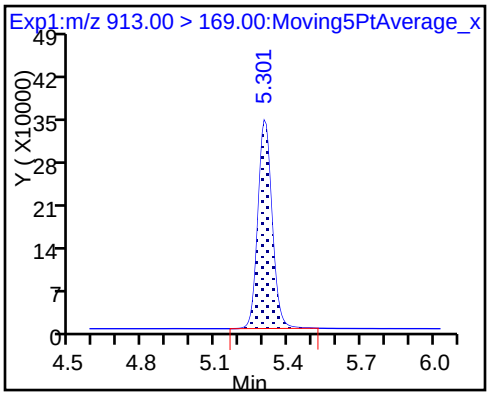
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_008.d
Lims ID: IC L7 Full
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Dec-2017 15:52:54 ALS Bottle#: 16 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L7-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:27:13 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:06:54

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutyric acid										
212.90 > 169.00	1.414	1.419	-0.005	1.000	27682152	9.97		99.7	9277	
D 1 13C4 PFBA										
217.00 > 172.00	1.414	1.419	-0.005	0.533	7579367	2.51		100	26449	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.670	0.002	1.000	19070831	9.73		97.3	13421	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.630	4388357	2.43		97.2	42212	
D 47 13C3-PFBS										
301.90 > 83.00	1.698	1.705	-0.007	0.640	88125	2.29		98.4	2664	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.707	1.707	0.0	1.005	24884595	8.73		98.7	92705	
298.90 > 99.00	1.707	1.707	0.0	1.005	10967988		2.27(1.25-3.74)	98.7	78306	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.914	1.920	-0.006	1.000	6206525	11.4		122	121900	
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.953	0.002	0.737	4729842	2.45		98.1	50978	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.955	1.956	-0.001	1.000	18501936	9.77		97.7	73249	
313.00 > 119.00	1.955	1.956	-0.001	1.000	1820465		10.16(5.03-15.10)	97.7	39569	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.292	2.291	0.001	1.000	17828937	9.69		96.9	25090	
363.00 > 169.00	2.292	2.291	0.001	1.000	7822044		2.28(1.13-3.40)	96.9	42019	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.864	4396642	2.46		98.5	32086	
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.869	5148564	2.29		96.6	30538	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	20840256	8.89		97.7	17915	
399.00 > 99.00	2.306	2.304	0.002	1.000	7269446		2.87(1.50-4.49)	97.7	14870	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.645	2.642	0.003	1.000	10445701	10.2		107	89302	
D 12 M2-6:2FTS										
429.00 > 81.00	2.645	2.642	0.003	0.997	1570687	1.89		79.6	26790	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	1.000	4825928	2.35		94.1	35526	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.656	-0.004		4965647	2.50			34768	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.652	2.656	-0.004	1.000	19995182	9.85		98.5	8445	
413.00 > 169.00	2.652	2.656	-0.004	1.000	11507868		1.74(0.84-2.52)	98.5	32191	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.660	2.662	-0.002	1.000	17858719	9.34		98.1	73197	
449.00 > 99.00	2.660	2.662	-0.002	1.000	5345781		3.34(1.94-5.82)	98.1	25487	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3490587	2.35		98.2	18199	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.028	-0.003	1.141	3530948	2.42		96.9	32424	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.028	-0.003	1.000	14551225	9.40		101	1264	
499.00 > 99.00	3.025	3.028	-0.003	1.000	3243497		4.49(2.31-6.93)	101	1895	
20 Perfluorononanoic acid										
463.00 > 419.00	3.025	3.029	-0.004	1.000	14310135	10.1		101	23004	
463.00 > 169.00	3.025	3.029	-0.004	1.000	3669361		3.90(1.90-5.69)	101	32102	
D 21 13C8 FOSA										
506.00 > 78.00	3.372	3.370	0.002	1.271	5072077	2.51		100	20556	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.372	3.372	0.0	1.000	18027750	9.26		92.6	118488	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.379	3.377	0.002	1.000	5272516	9.53		99.5	66077	
D 26 M2-8:2FTS										
529.00 > 81.00	3.379	3.377	0.002	1.274	1090140	2.35		98.0	14062	
D 23 13C2 PFDA										
515.00 > 470.00	3.387	3.389	-0.002	1.277	2852827	2.37		94.9	25421	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.387	3.390	-0.003	1.000	11530530	10.4		104	34694	
513.00 > 169.00	3.387	3.390	-0.003	1.000	2192686		5.26(2.36-7.09)	104	2262	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.538	3.543	-0.005	1.334	1605143	2.49		99.5	15133	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.546	3.548	-0.002	1.002	7032734	10.2		102	25169	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.699	3.703	-0.004	1.000	8522065	9.45		98.0	37891	
599.00 > 99.00	3.699	3.703	-0.004	1.000	2851346		2.99(1.39-4.16)	98.0	34323	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.707	3.712	-0.005	1.398	1513961	2.40		96.1	6548	
D 30 13C2 PFUnA										
565.00 > 520.00	3.716	3.717	-0.001	1.401	2172683	2.37		94.9	19610	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.716	3.718	-0.002	1.000	7892336	9.91		99.1	24898	
563.00 > 169.00	3.716	3.718	-0.002	1.000	1802446		4.38(0.00-0.00)	99.1	28429	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.716	3.720	-0.004	1.002	5880293	9.77		97.7	30311	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.862	-0.006	1.454	1455164	2.52		101	3686	
35 MeFOSA										
512.00 > 169.00	3.866	3.872	-0.006	1.003	5888998	10.3		103	3473	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.006	4.011	-0.005	1.000	9365176	9.83		98.3	26806	
613.00 > 169.00	4.006	4.011	-0.005	1.000	2496338		3.75(2.13-6.40)	98.3	47677	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.011	-0.005	1.510	2400181	2.43		97.3	21115	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.053	4.052	0.001	1.528	1414354	2.55		102	2447	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.053	4.058	-0.005	1.000	6071711	10.1		101	3426	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.271	4.277	-0.006	1.000	10978736	9.86		98.6	20112	
663.00 > 169.00	4.271	4.277	-0.006	1.000	3595856		3.05(1.25-3.76)	98.6	44653	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.518	-0.004	1.000	2857131	10.2		102	40845	
713.00 > 219.00	4.514	4.518	-0.004	1.000	1907030		1.50(0.71-2.13)	102	27002	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.702	2729477	2.47		99.0	17357	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.939	0.001	1.000	16452280	9.91		99.1	6739	
813.00 > 169.00	4.940	4.939	0.001	1.000	3109663		5.29(2.86-8.58)	99.1	12978	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.940	4.939	0.001	1.863	4845252	2.41		96.5	13392	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.303	5.306	-0.003	1.000	18646888	9.35		93.5	2699	
913.00 > 169.00	5.296	5.306	-0.010	0.999	2544434		7.33(0.00-0.00)	93.5	3467	

Reagents:

LCPFC_LL7_00002 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:27:14 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_008.d

Injection Date: 21-Dec-2017 15:52:54 Instrument ID: A8_N

Lims ID: IC L7 Full

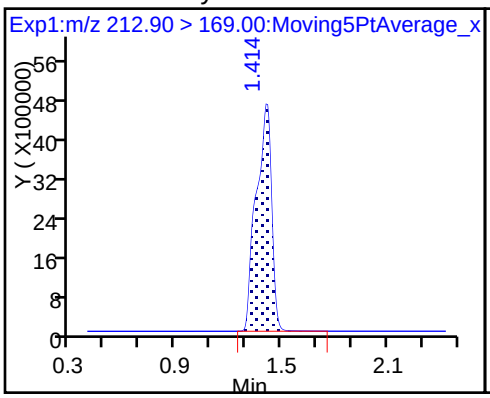
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 16 Worklist Smp#: 8

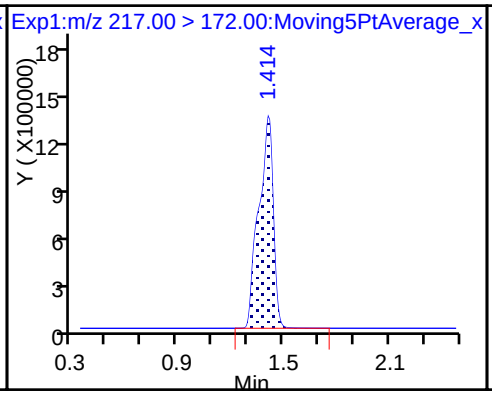
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

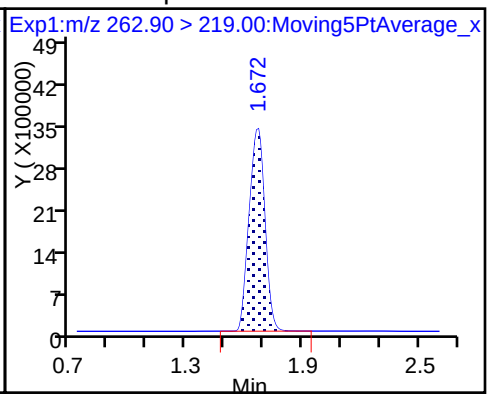
2 Perfluorobutyric acid



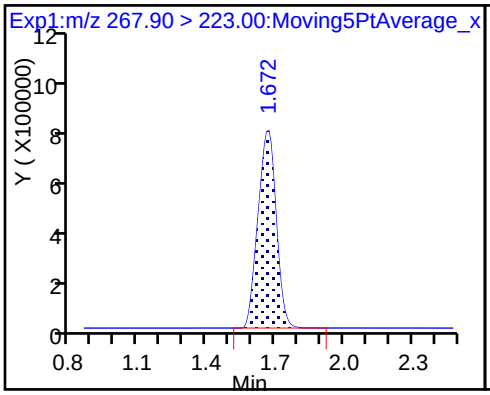
D 1 13C4 PFBA



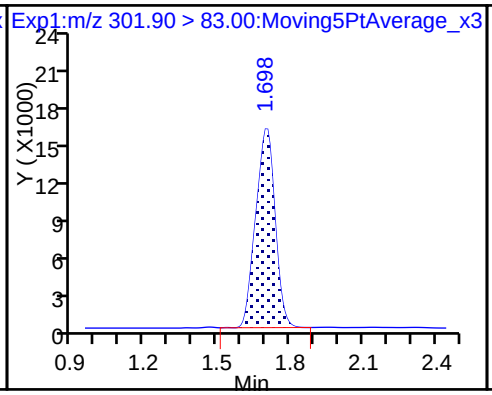
4 Perfluoropentanoic acid



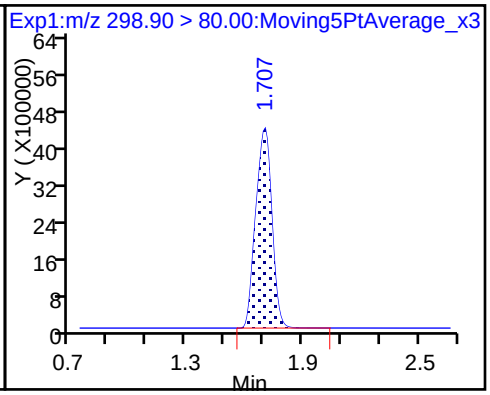
D 3 13C5-PFPeA



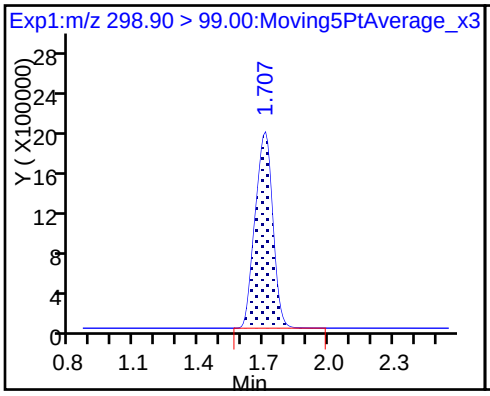
D 47 13C3-PFBS



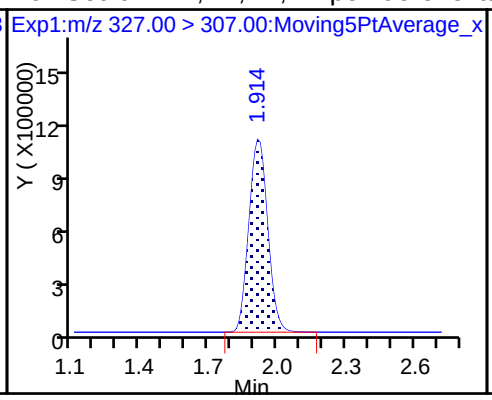
5 Perfluorobutanesulfonic acid



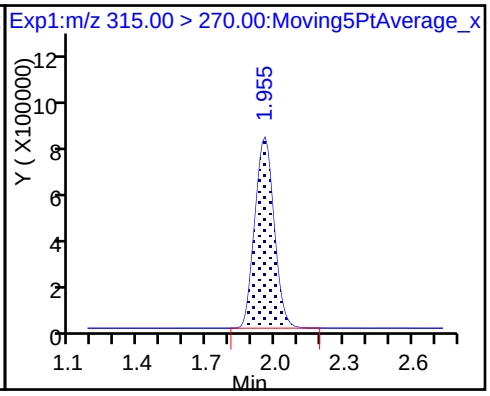
5 Perfluorobutanesulfonic acid



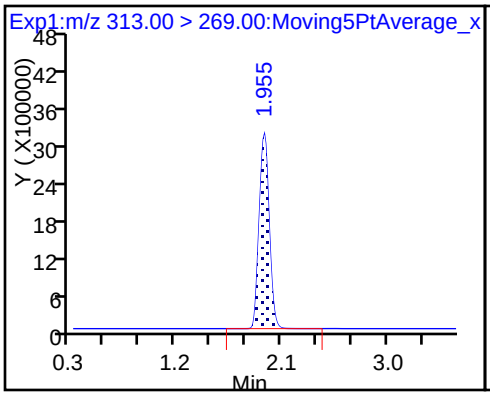
61 Sodium 1H,1H,2H,2H-perfluorohexa



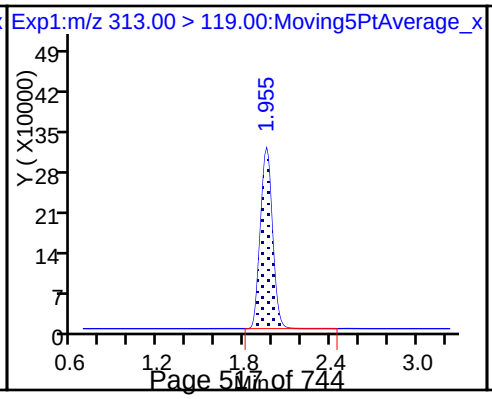
D 7 13C2 PFHxA



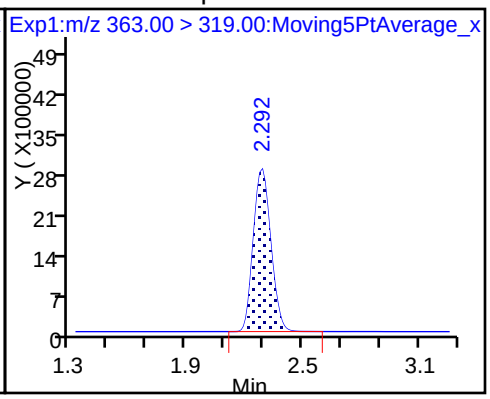
6 Perfluorohexanoic acid



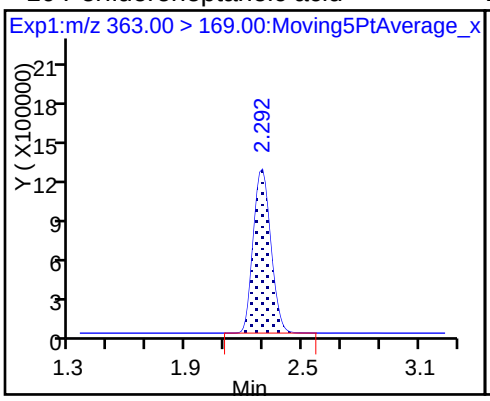
6 Perfluorohexanoic acid



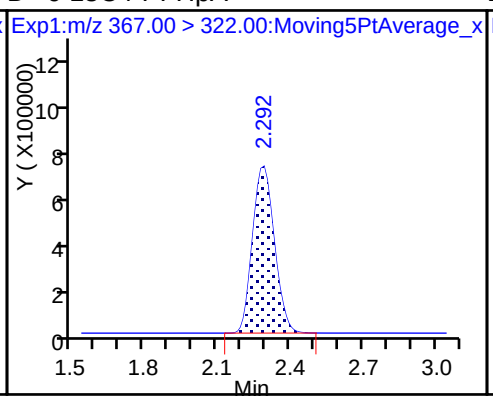
10 Perfluoroheptanoic acid



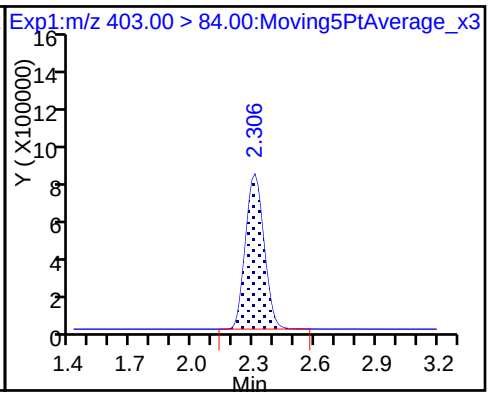
10 Perfluoroheptanoic acid



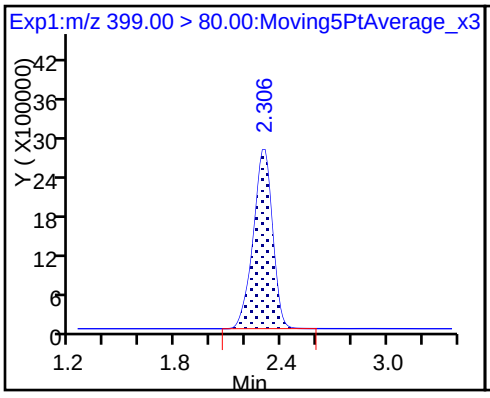
D 9 13C4-PFHpA



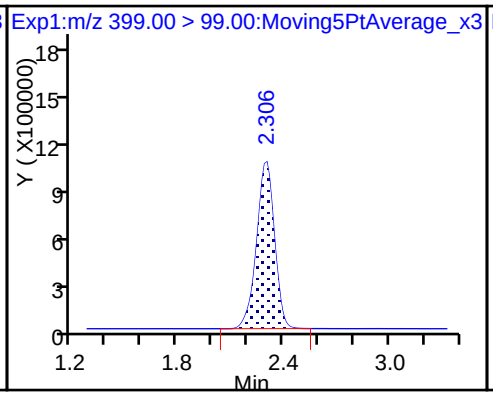
D 11 18O2 PFHxS



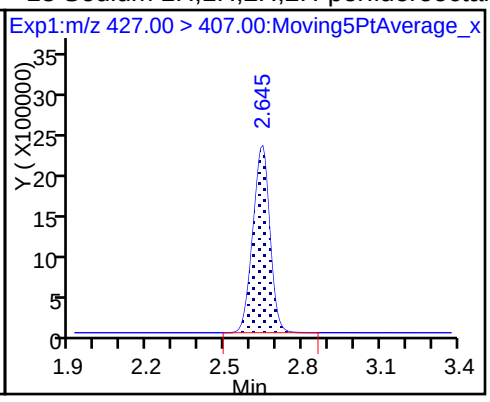
8 Perfluorohexanesulfonic acid



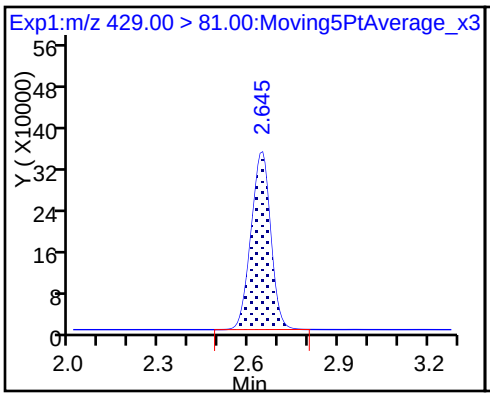
8 Perfluorohexanesulfonic acid



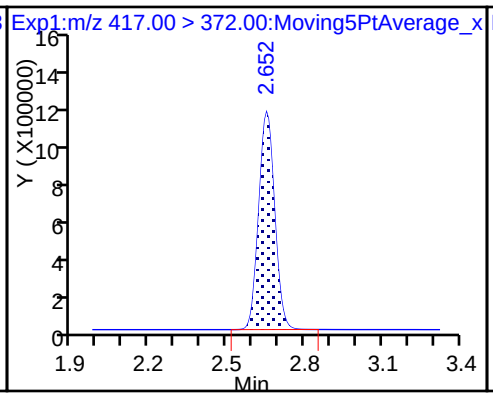
13 Sodium 1H,1H,2H,2H-perfluorooctane



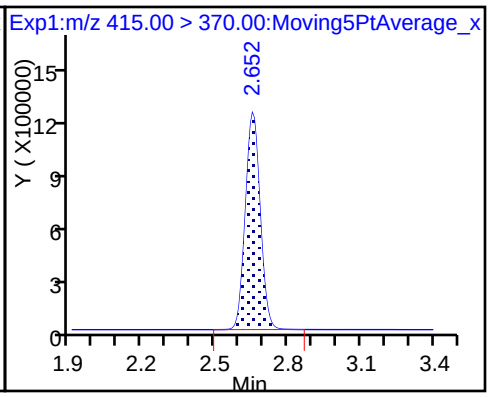
D 12 M2-6:2FTS



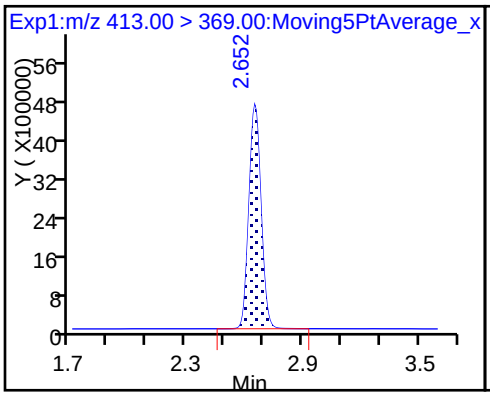
D 14 13C4 PFOA



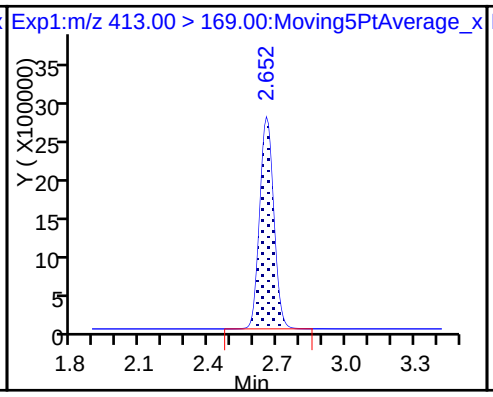
* 62 13C2-PFOA



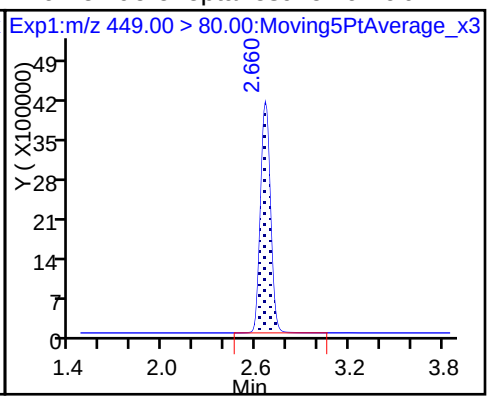
15 Perfluorooctanoic acid



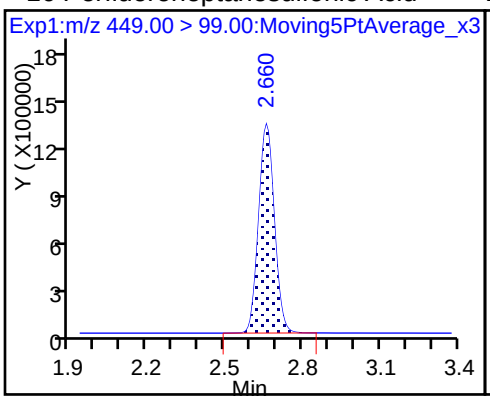
15 Perfluorooctanoic acid



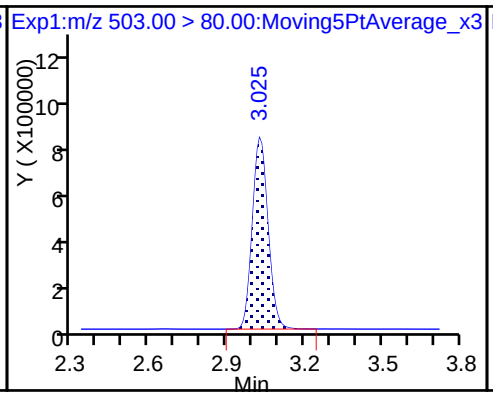
16 Perfluoroheptanesulfonic Acid



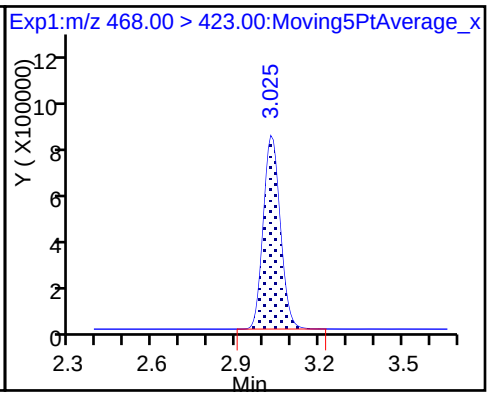
16 Perfluoroheptanesulfonic Acid



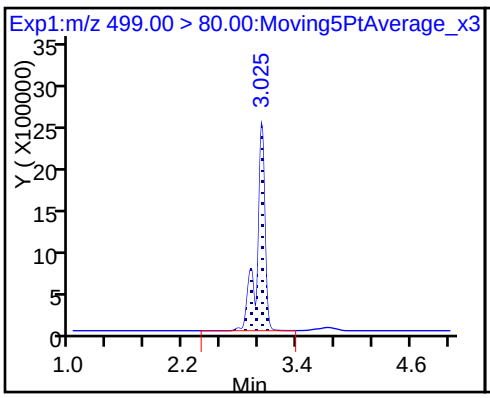
D 18 13C4 PFOS



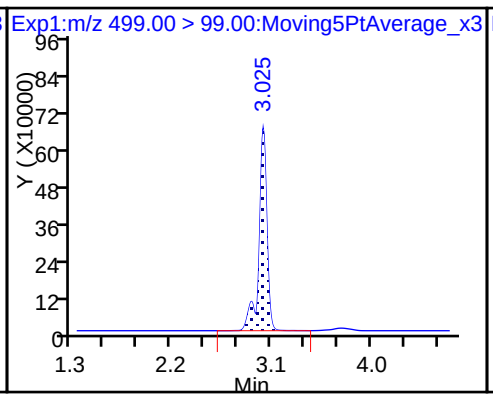
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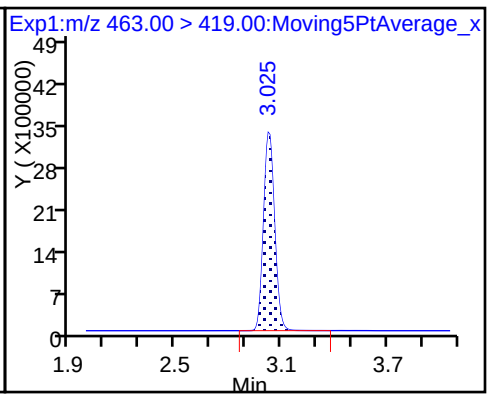
17 Perfluorooctane sulfonic acid



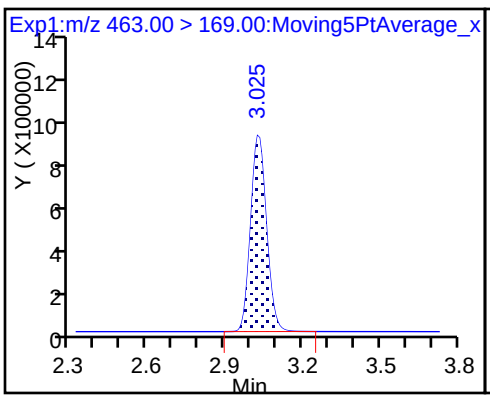
17 Perfluorooctane sulfonic acid



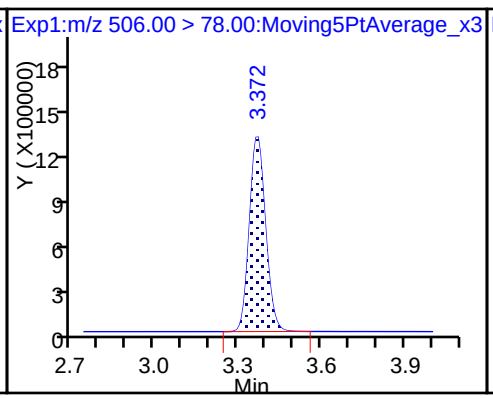
20 Perfluorononanoic acid



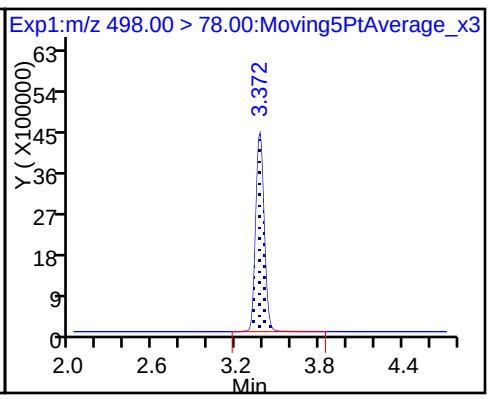
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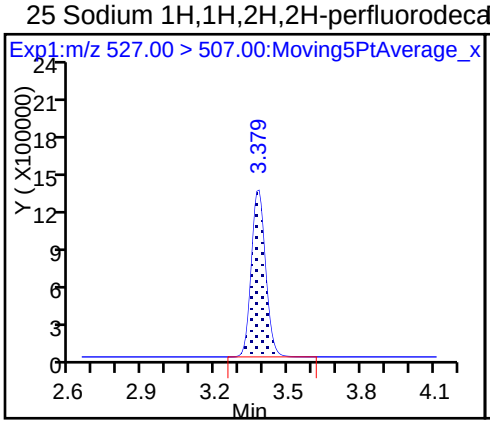
D 21 13C8 FOSA



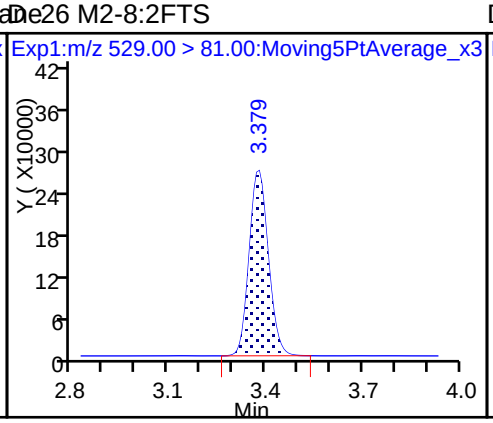
22 Perfluorooctane Sulfonamide



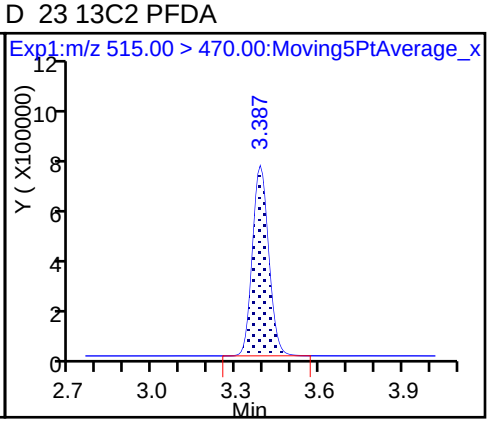
25 Sodium 1H,1H,2H,2H-perfluorodecane



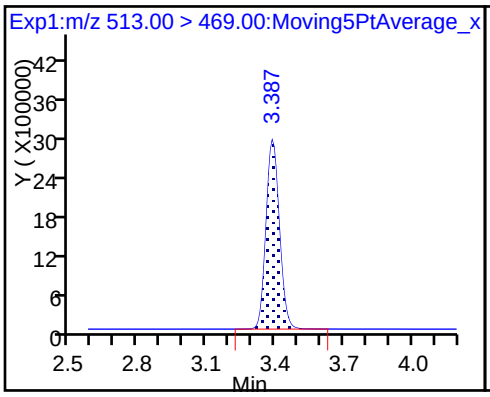
D 26 M2-8:2FTS



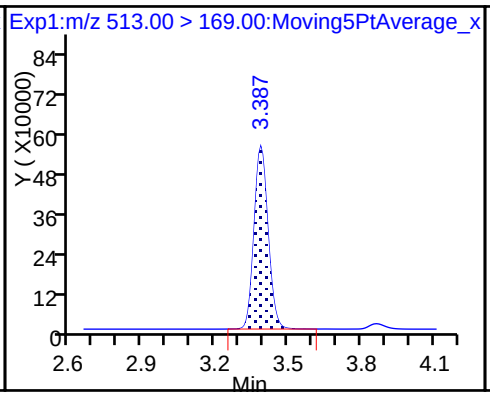
D 23 13C2 PFDA



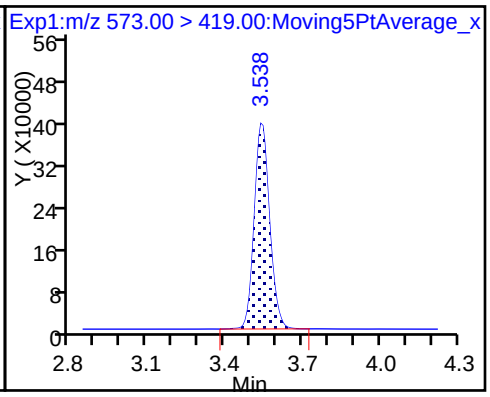
24 Perfluorodecanoic acid



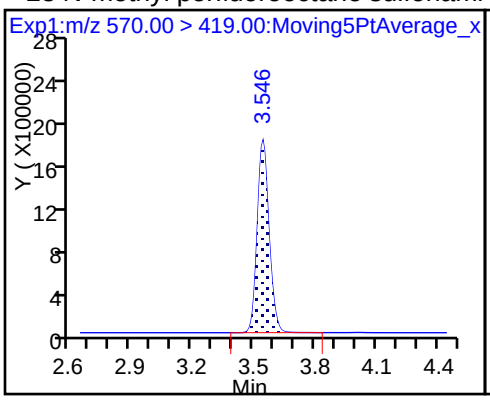
24 Perfluorodecanoic acid



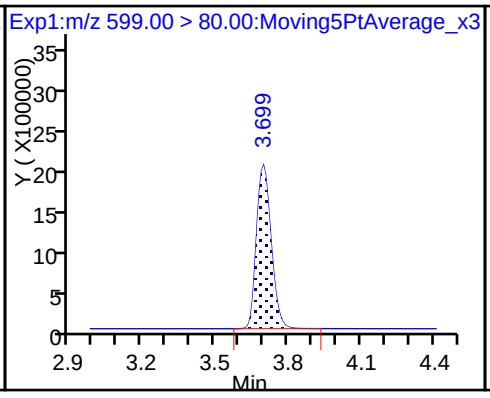
D 27 d3-NMeFOSAA



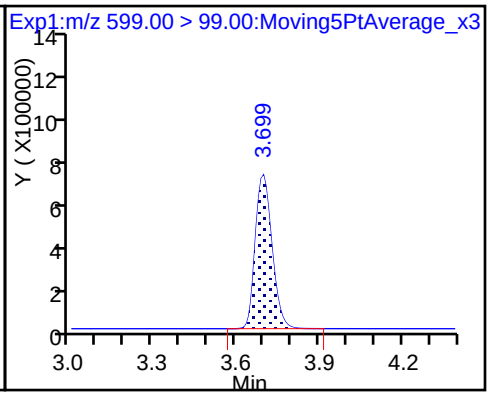
28 N-methyl perfluorooctane sulfonami



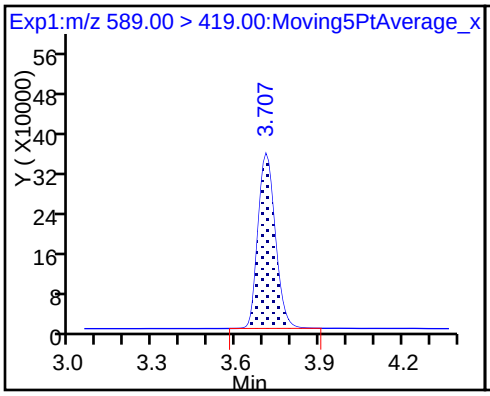
29 Perfluorodecane Sulfonic acid



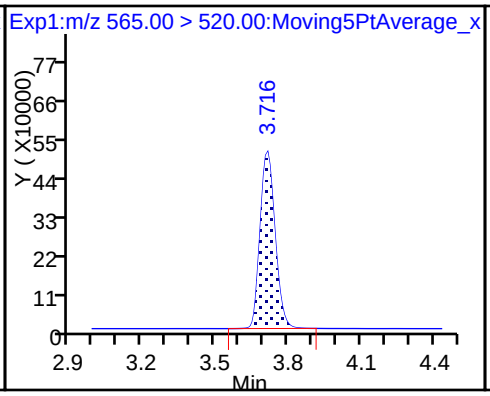
29 Perfluorodecane Sulfonic acid



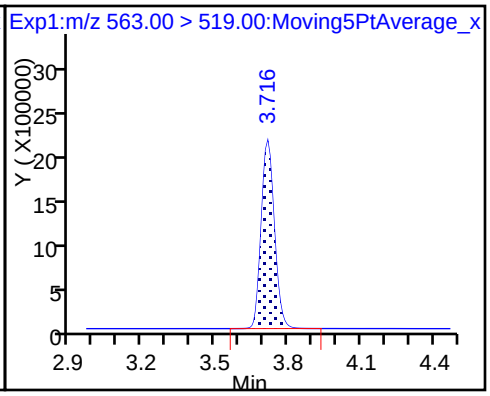
D 32 d5-NEtFOSAA



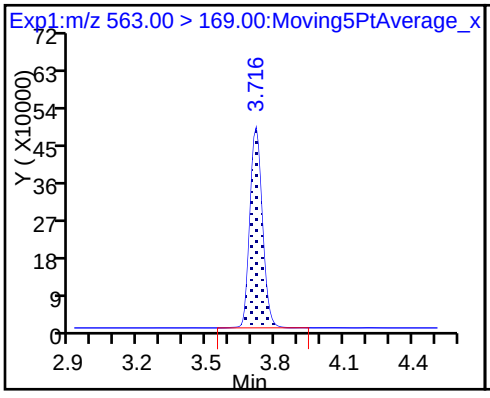
D 30 13C2 PFUnA



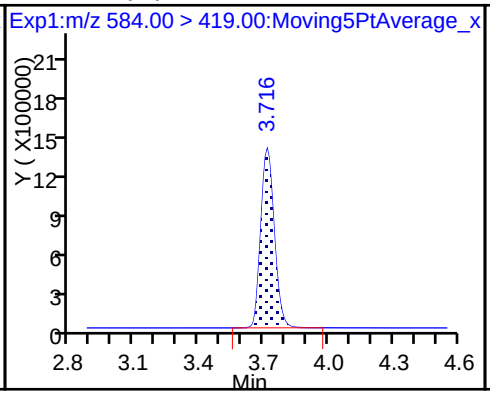
31 Perfluoroundecanoic acid



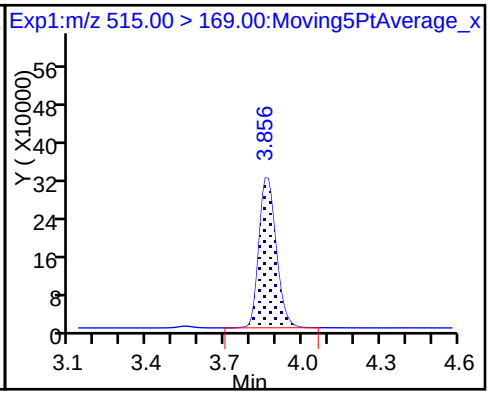
31 Perfluoroundecanoic acid



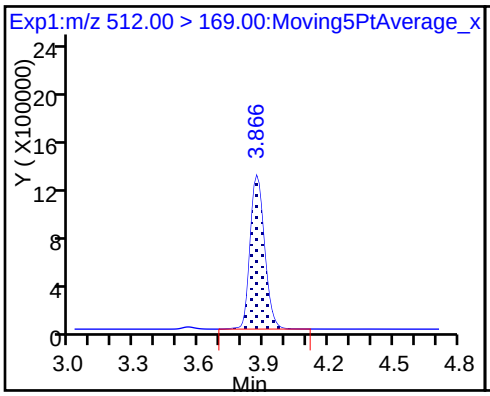
33 N-ethyl perfluorooctane sulfonamid



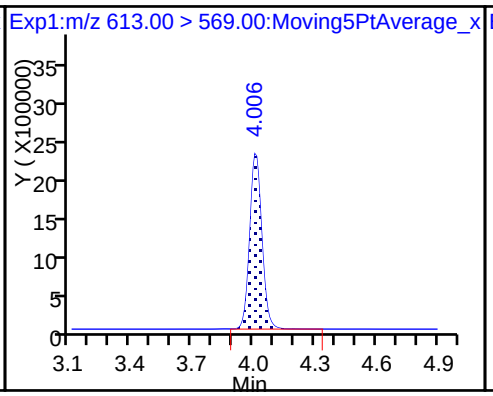
D 34 d-N-MeFOSA-M



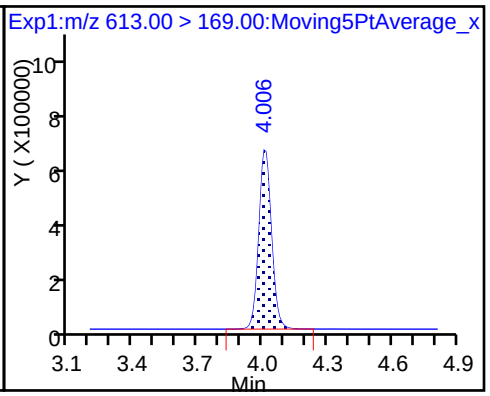
35 MeFOSA



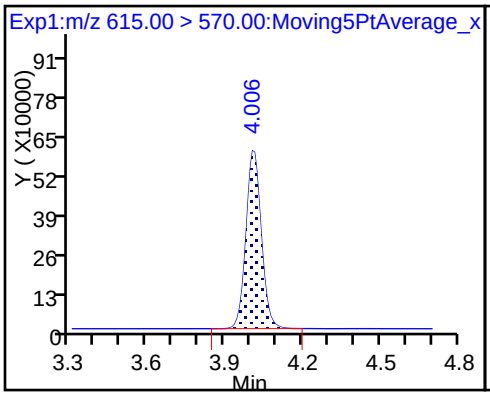
37 Perfluorododecanoic acid



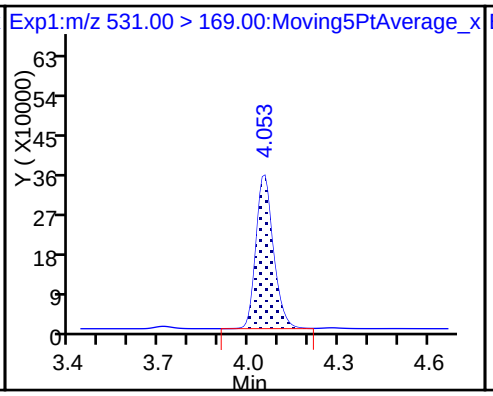
37 Perfluorododecanoic acid



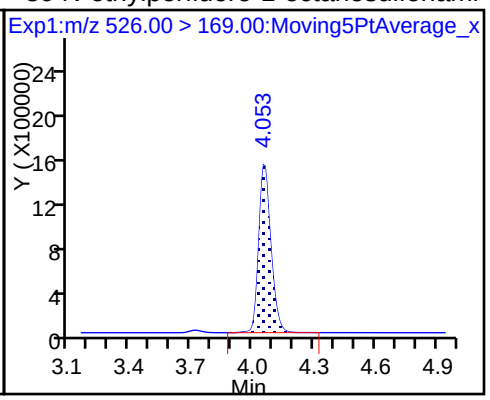
D 36 13C2 PFDoA



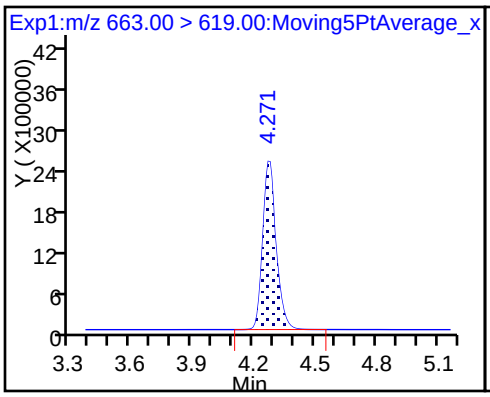
D 38 d-N-EtFOSA-M



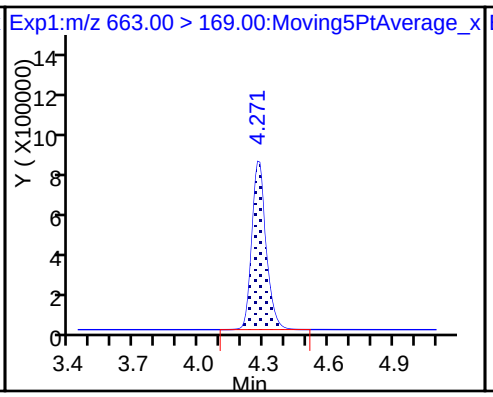
39 N-ethylperfluoro-1-octanesulfonami



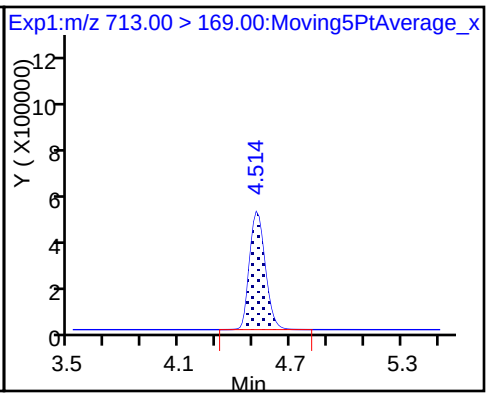
41 Perfluorotridecanoic acid



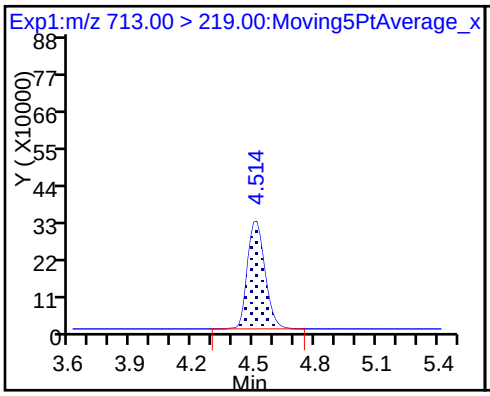
41 Perfluorotridecanoic acid



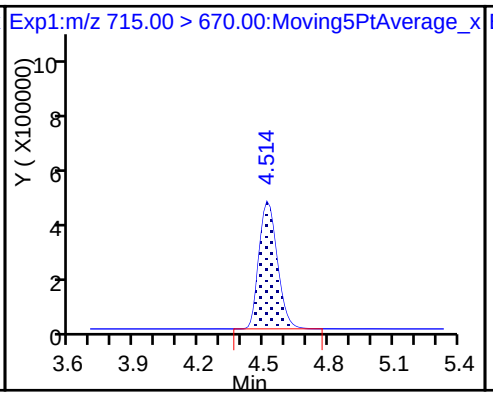
42 Perfluorotetradecanoic acid



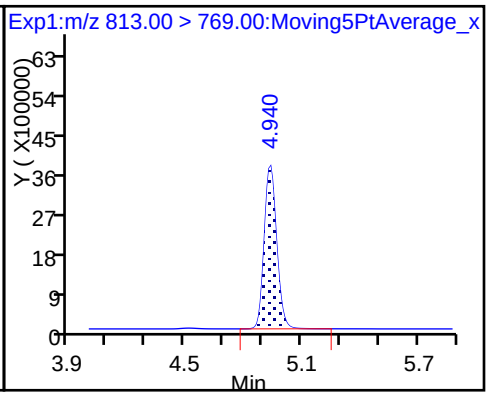
42 Perfluorotetradecanoic acid



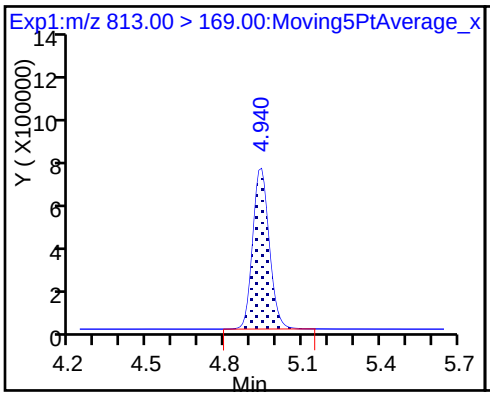
D 43 13C2-PFTeDA



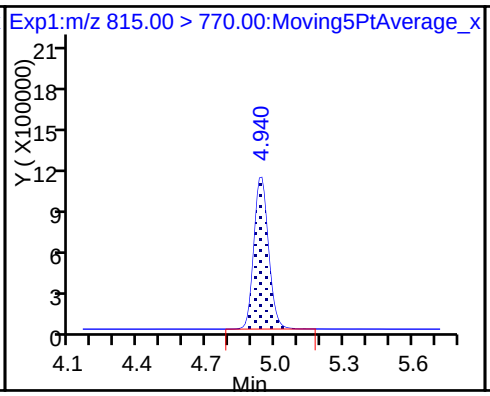
45 Perfluorohexadecanoic acid



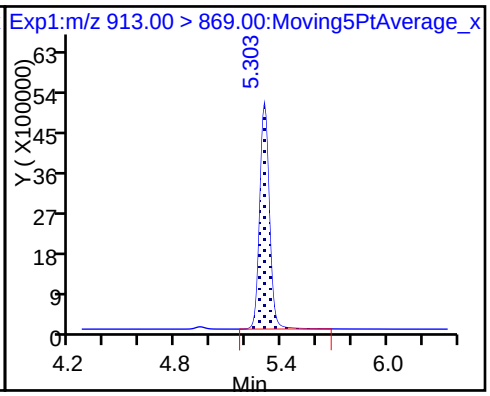
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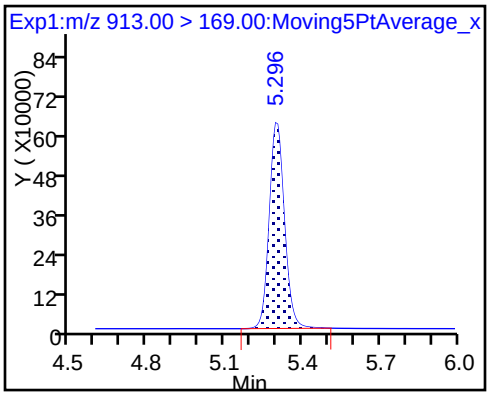
D 44 13C2-PFHxDA



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_009.d
Lims ID: IC L8 Full
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 21-Dec-2017 16:00:42 ALS Bottle#: 17 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: L8-FULL
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:27:16 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:08:48

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.534	7169568	2.80		112	29929	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	47047864	17.9		89.5	14587	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.629	4195411	2.73		109	36075	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.670	0.002	1.000	33568726	17.9		89.6	29021	
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.705	0.002	0.642	84726	2.59		111	2122	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.707	1.707	0.0	1.000	40269625	14.7		83.1	138562	
298.90 > 99.00	1.707	1.707	0.0	1.000	19757606		2.04(1.25-3.74)	83.1	93514	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.914	1.920	-0.006	1.000	11146039	30.8		165	176975	
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.953	0.002	0.735	4355951	2.66		106	39376	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.955	1.956	-0.001	1.000	33018394	18.9		94.6	72733	
313.00 > 119.00	1.955	1.956	-0.001	1.000	3313924		9.96(5.03-15.10)	94.6	70904	
D 9 13C4-PFHpA										
367.00 > 322.00	2.292	2.291	0.001	0.862	3850620	2.54		102	29343	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.292	2.291	0.001	1.000	29737938	18.5		92.3	23212	
363.00 > 169.00	2.292	2.291	0.001	1.000	13475687		2.21(1.13-3.40)	92.3	39828	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	35522645	16.5		90.4	25149	
399.00 > 99.00	2.306	2.304	0.002	1.000	12802493		2.77(1.50-4.49)	90.4	18670	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.867	4742553	2.48		105	23665	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.642	-0.004	1.003	14144250	20.7		109	73813	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.989	1046570	1.48		62.4	26448	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	0.997	4287955	2.46		98.4	29089	
* 62 13C2-PFOA										
415.00 > 370.00	2.660	2.656	0.004		4217141	2.50			26782	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.660	2.656	0.004	1.003	31704557	17.6		87.9	13904	
413.00 > 169.00	2.660	2.656	0.004	1.003	18875605		1.68(0.84-2.52)	87.9	37559	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.667	2.662	0.005	1.000	29818123	17.2		90.4	100084	
449.00 > 99.00	2.667	2.662	0.005	1.000	9484144		3.14(1.94-5.82)	90.4	64113	
D 18 13C4 PFOS										
503.00 > 80.00	3.026	3.025	0.001	1.138	3163280	2.50		105	11619	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.034	3.028	0.006	1.003	26220642	18.7		101	2141	
499.00 > 99.00	3.026	3.028	-0.002	1.000	6089359		4.31(2.31-6.93)	101	3368	
D 19 13C5 PFNA										
468.00 > 423.00	3.034	3.028	0.006	1.141	3189147	2.58		103	33742	
20 Perfluorononanoic acid										
463.00 > 419.00	3.034	3.029	0.005	1.000	23346321	18.2		90.9	24614	
463.00 > 169.00	3.034	3.029	0.005	1.000	6602218		3.54(1.90-5.69)	90.9	50995	
D 21 13C8 FOSA										
506.00 > 78.00	3.372	3.370	0.002	1.268	4583649	2.67		107	19223	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.372	3.372	0.0	1.000	29455119	16.7		83.7	62068	
D 26 M2-8:2FTS										
529.00 > 81.00	3.380	3.377	0.003	1.271	1043626	2.65		110	18387	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.380	3.377	0.003	1.000	9766222	18.4		96.2	61048	
D 23 13C2 PFDA										
515.00 > 470.00	3.395	3.389	0.006	1.276	2713099	2.66		106	19730	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.395	3.390	0.005	1.000	19652616	18.7		93.6	58865	
513.00 > 169.00	3.395	3.390	0.005	1.000	4029167		4.88(2.36-7.09)	93.6	1984	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.546	3.543	0.003	1.333	1500795	2.74		110	16773	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.554	3.548	0.006	1.002	12424122	19.3		96.4	27496	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.708	3.703	0.005	1.000	14589155	17.8		92.6	37877	
599.00 > 99.00	3.708	3.703	0.005	1.000	5197467		2.81(1.39-4.16)	92.6	51117	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.716	3.712	0.004	1.397	1271751	2.38		95.0	6049	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.725	3.717	0.008	1.401	2010505	2.59		103	22201	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.725	3.718	0.007	1.000	13914565	18.9		94.4	38367	
563.00 > 169.00	3.725	3.718	0.007	1.000	3305040		4.21(0.00-0.00)	94.4	39856	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.725	3.720	0.005	1.002	10022668	19.8		99.1	59664	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.862	0.005	1.454	1481991	3.03		121	3442	
35 MeFOSA										
512.00 > 169.00	3.877	3.872	0.005	1.003	11398323	19.6		98.2	3708	
D 36 13C2 PFDoA										
615.00 > 570.00	4.014	4.011	0.003	1.509	2277087	2.72		109	25521	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.014	4.011	0.003	1.000	16925951	18.7		93.6	70497	
613.00 > 169.00	4.014	4.011	0.003	1.000	4661644		3.63(2.13-6.40)	93.6	47720	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.061	4.052	0.009	1.527	1372131	2.92		117	1575	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.061	4.058	0.003	1.000	11387431	19.5		97.4	3531	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.280	4.277	0.003	1.000	19218577	18.2		91.0	36183	
663.00 > 169.00	4.280	4.277	0.003	1.000	6813687		2.82(1.25-3.76)	91.0	68644	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.528	4.518	0.010	1.703	2352410	2.51		100	13718	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.528	4.518	0.010	1.000	5208229	21.5		107	36715	
713.00 > 219.00	4.515	4.518	-0.003	0.997	3438501		1.51(0.71-2.13)	107	27760	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.941	4.939	0.002	1.858	4377373	2.57		103	15022	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.941	4.939	0.002	1.000	26511774	17.7		88.5	11472	
813.00 > 169.00	4.941	4.939	0.002	1.000	5534972		4.79(2.86-8.58)	88.5	19179	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.311	5.306	0.005	1.000	31961699	17.7		88.7	4234	
913.00 > 169.00	5.304	5.306	-0.002	0.999	4659307		6.86(0.00-0.00)	88.7	4073	

Reagents:

LCPFC_LL8_00001 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:27:17 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_009.d

Injection Date: 21-Dec-2017 16:00:42 Instrument ID: A8_N

Lims ID: IC L8 Full

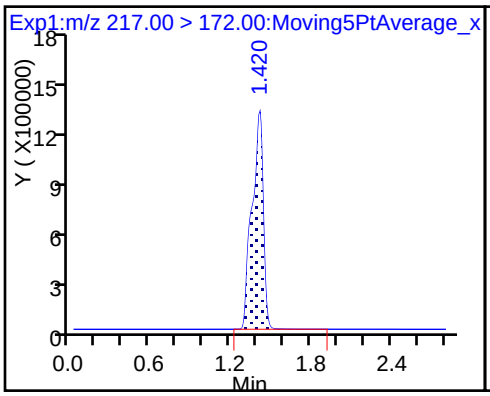
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 17 Worklist Smp#: 9

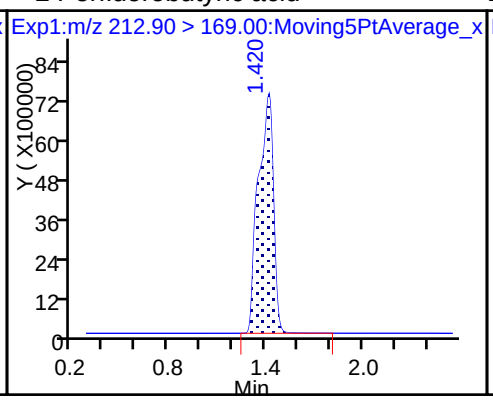
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

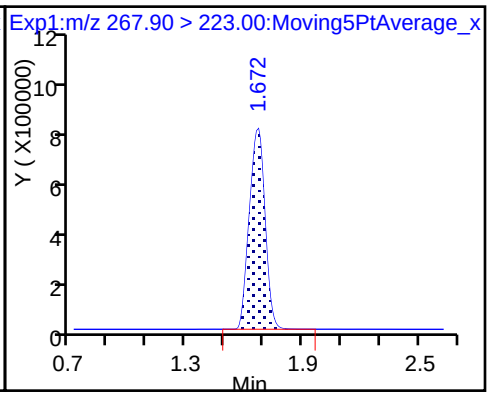
D 1 13C4 PFBA



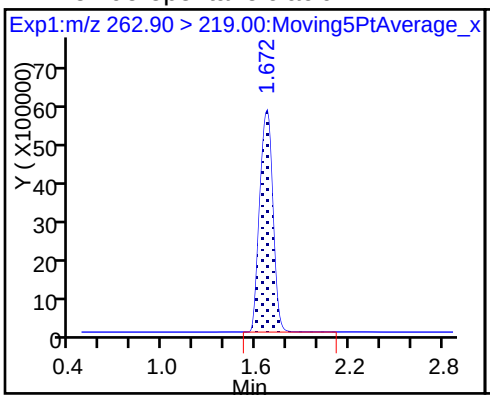
2 Perfluorobutyric acid



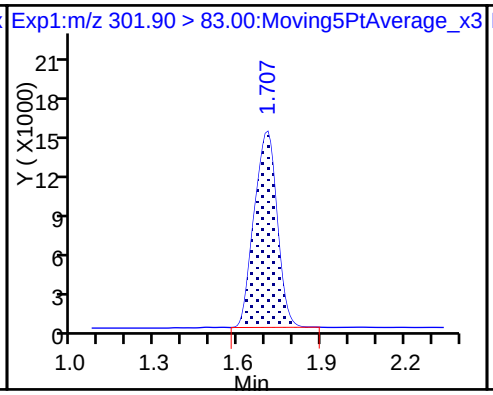
D 3 13C5-PFPeA



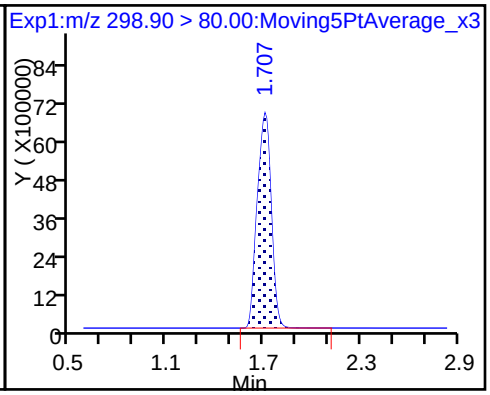
4 Perfluoropentanoic acid



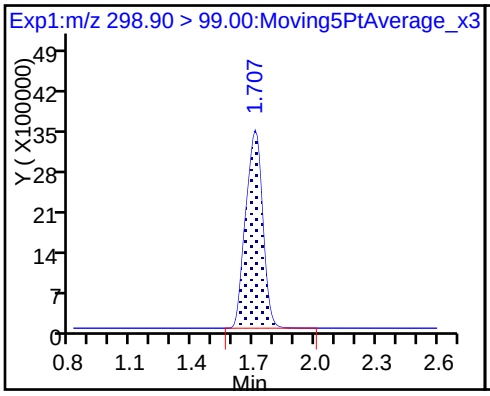
D 47 13C3-PFBS



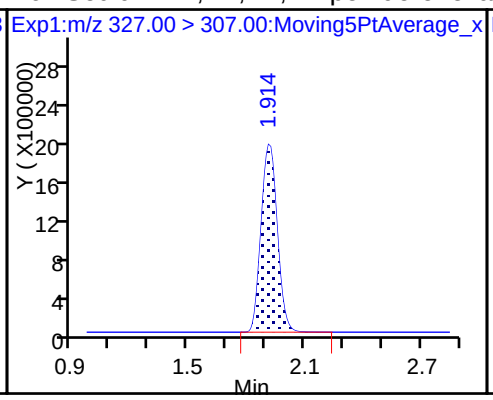
5 Perfluorobutanesulfonic acid



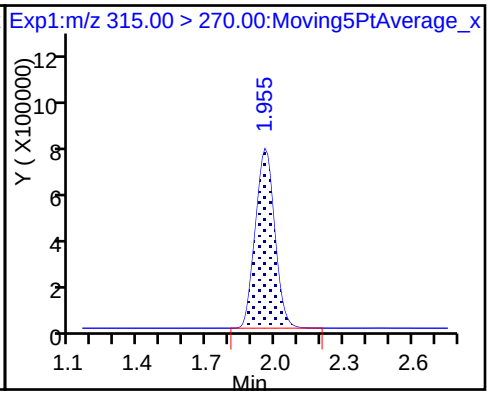
5 Perfluorobutanesulfonic acid



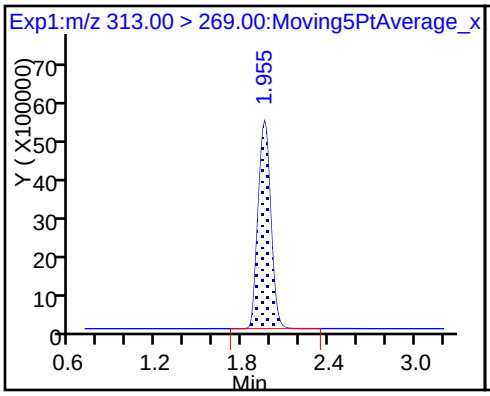
61 Sodium 1H,1H,2H,2H-perfluorohexa



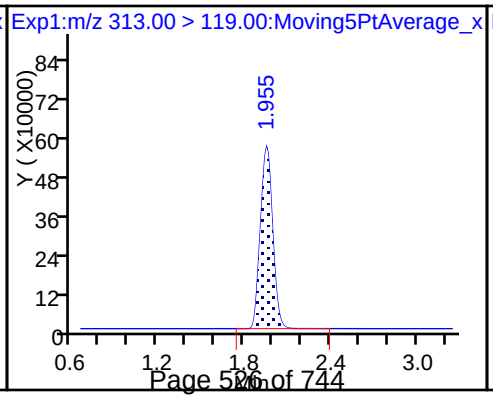
D 7 13C2 PFHxA



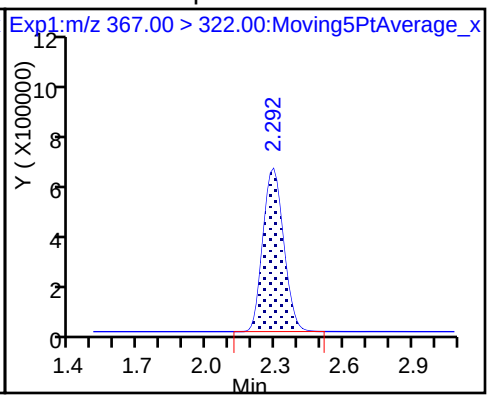
6 Perfluorohexanoic acid



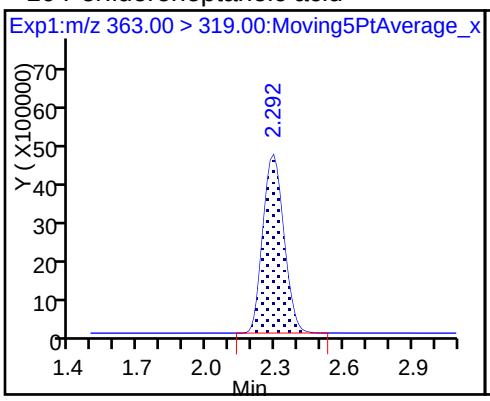
6 Perfluorohexanoic acid



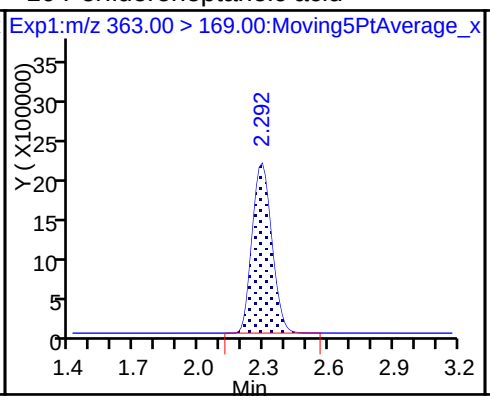
D 9 13C4-PFHpA



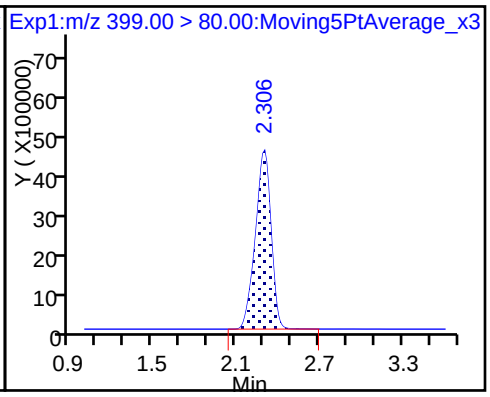
10 Perfluoroheptanoic acid



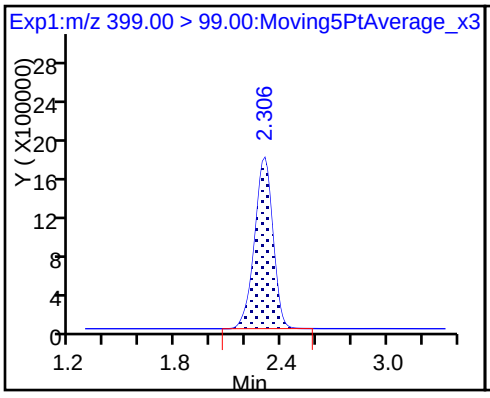
10 Perfluoroheptanoic acid



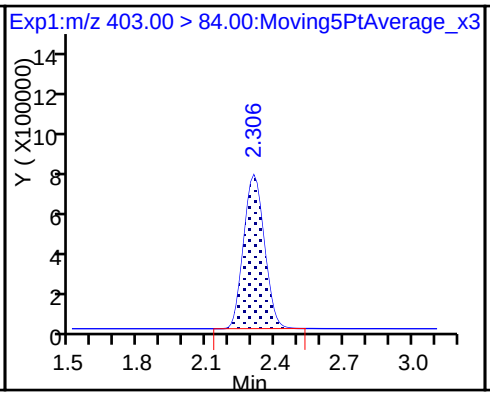
8 Perfluorohexanesulfonic acid



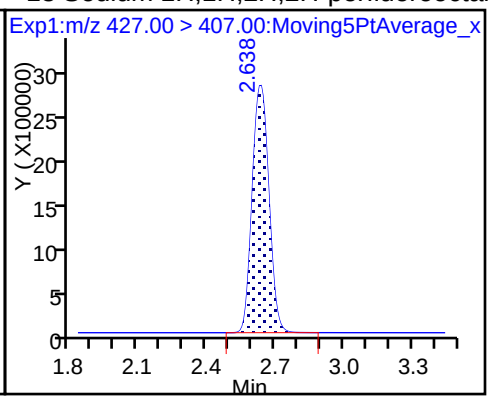
8 Perfluorohexanesulfonic acid



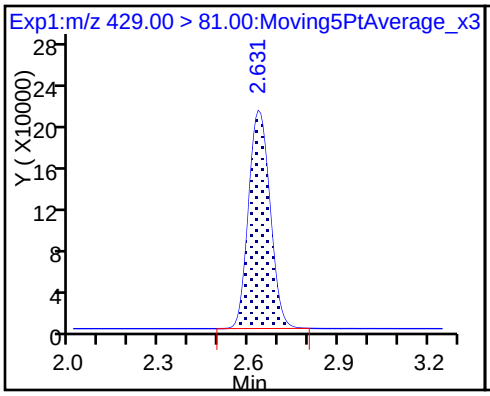
D 11 18O2 PFHxS



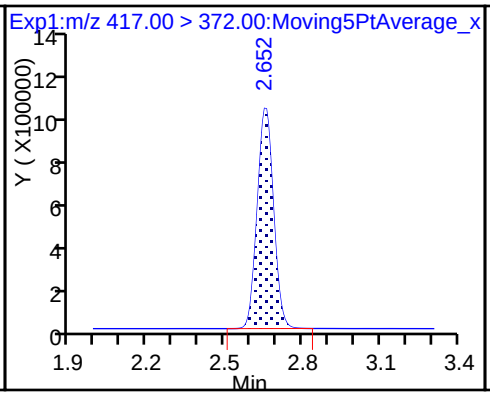
13 Sodium 1H,1H,2H,2H-perfluorooctane



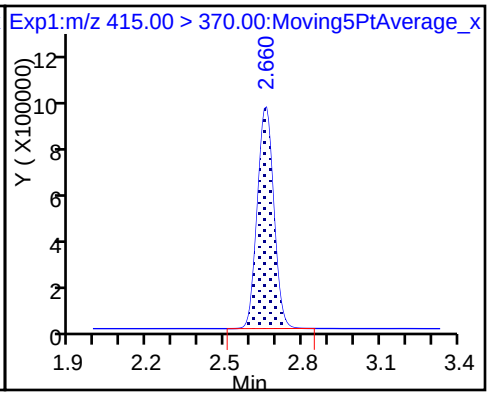
D 12 M2-6:2FTS



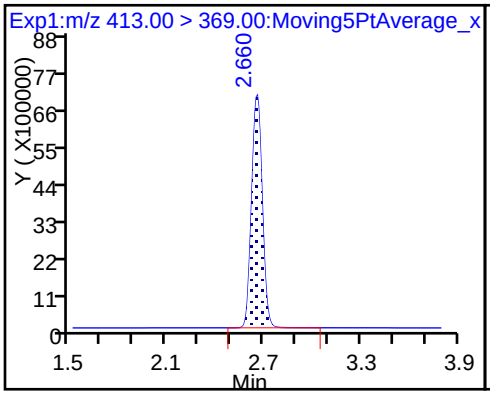
D 14 13C4 PFOA



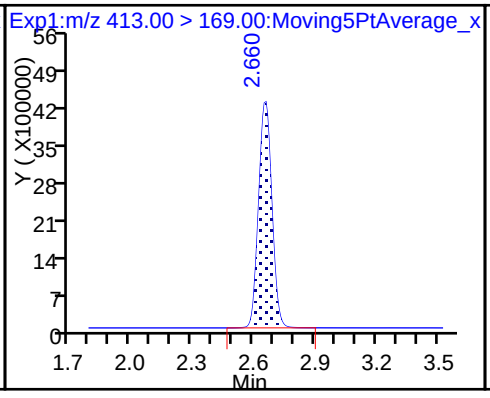
* 62 13C2-PFOA



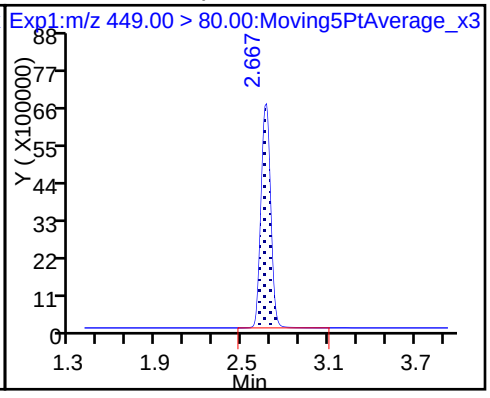
15 Perfluorooctanoic acid



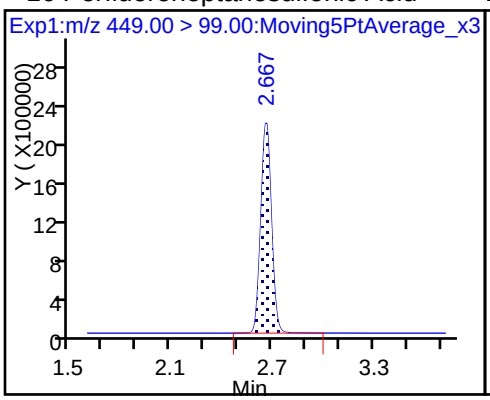
15 Perfluorooctanoic acid



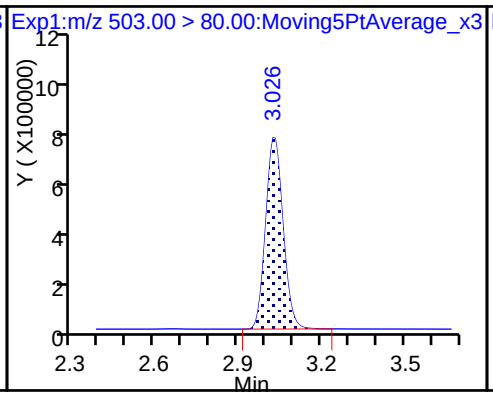
16 Perfluoroheptanesulfonic Acid



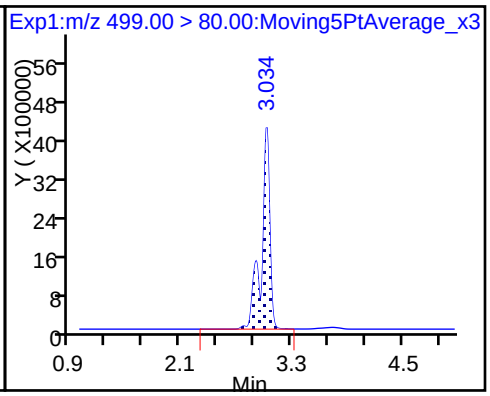
16 Perfluoroheptanesulfonic Acid



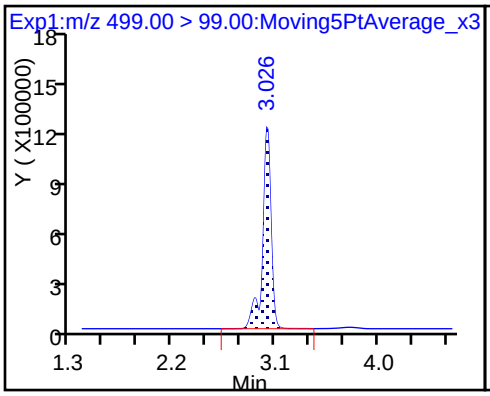
D 18 13C4 PFOS



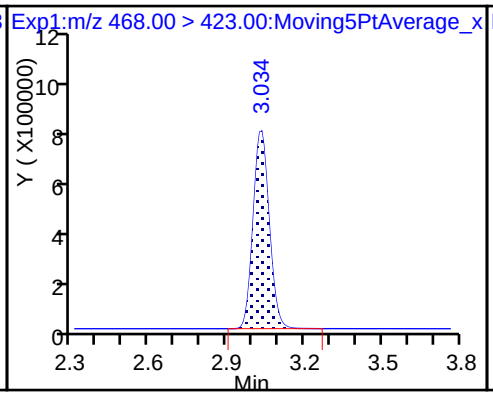
17 Perfluorooctane sulfonic acid



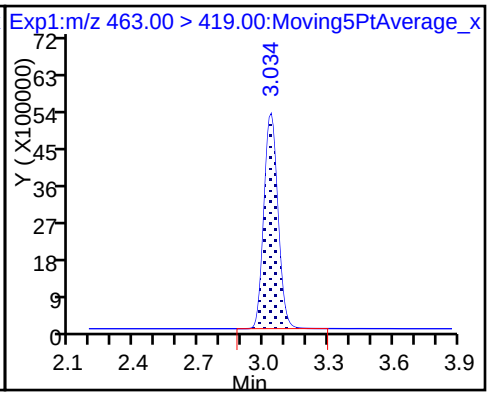
17 Perfluorooctane sulfonic acid



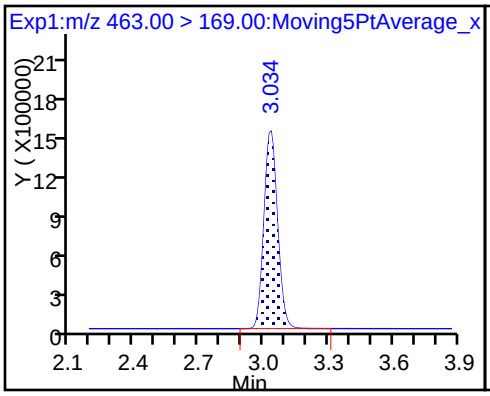
D 19 13C5 PFNA



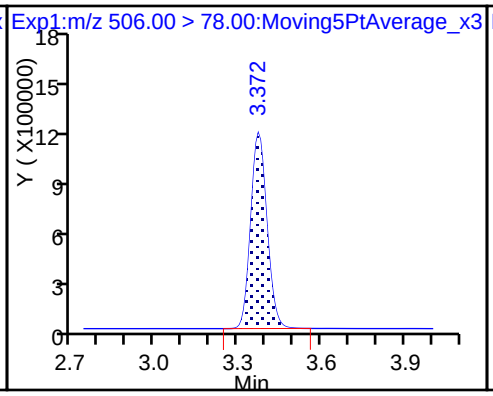
20 Perfluorononanoic acid



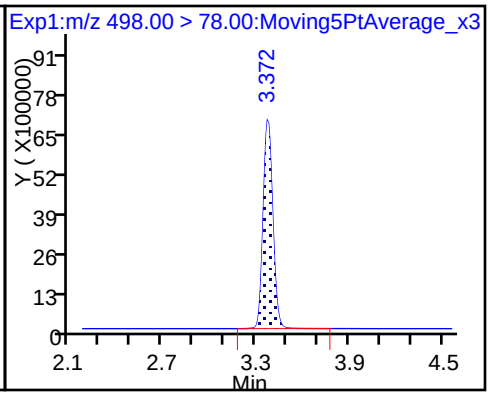
20 Perfluorononanoic acid



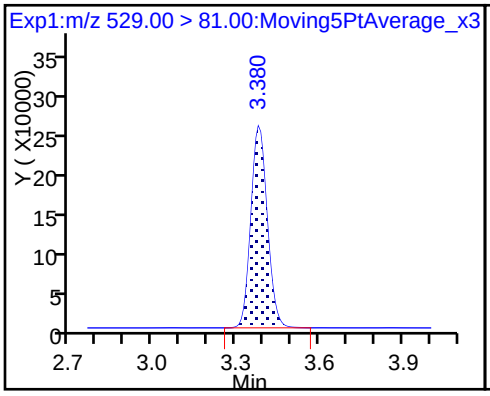
D 21 13C8 FOSA



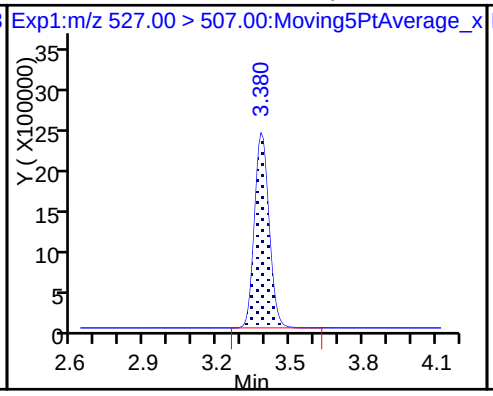
22 Perfluorooctane Sulfonamide



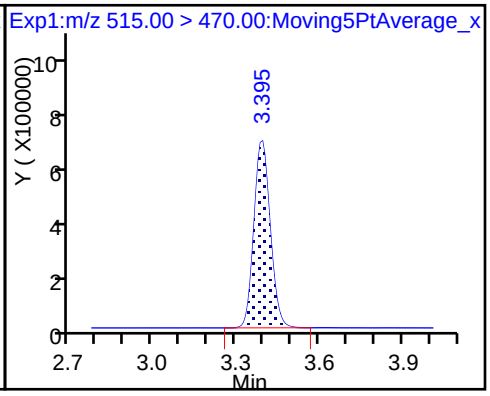
D 26 M2-8:2FTS



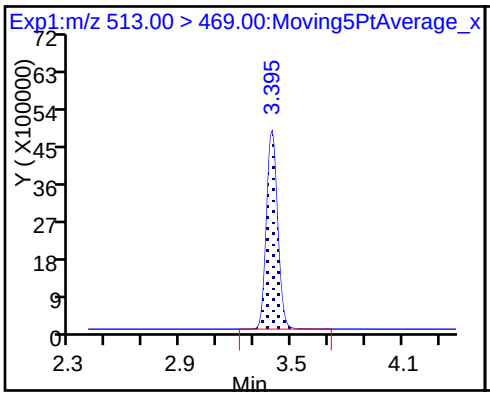
25 Sodium 1H,1H,2H,2H-perfluorodecane



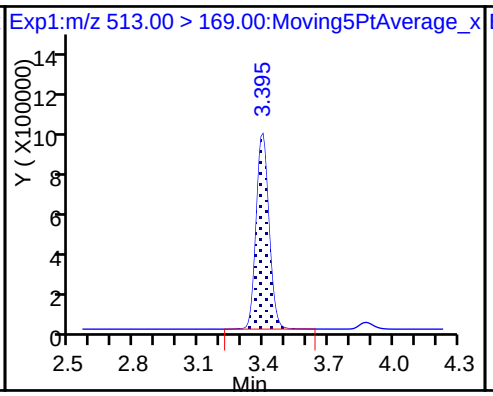
D 23 13C2 PFDA



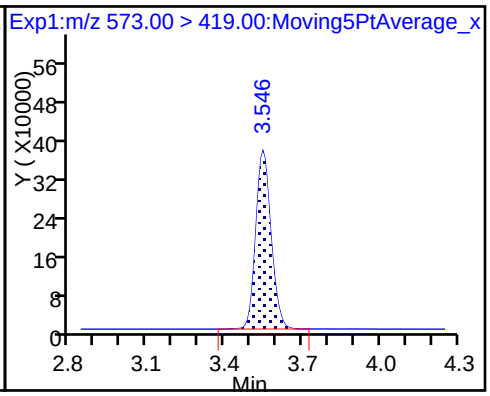
24 Perfluorodecanoic acid



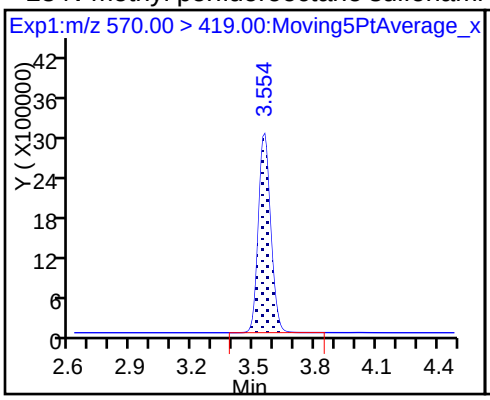
24 Perfluorodecanoic acid



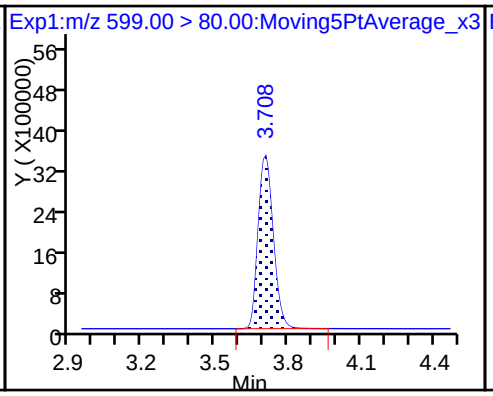
D 27 d3-NMeFOSAA



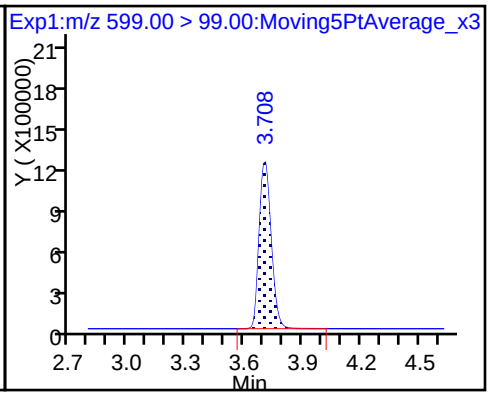
28 N-methyl perfluorooctane sulfonami



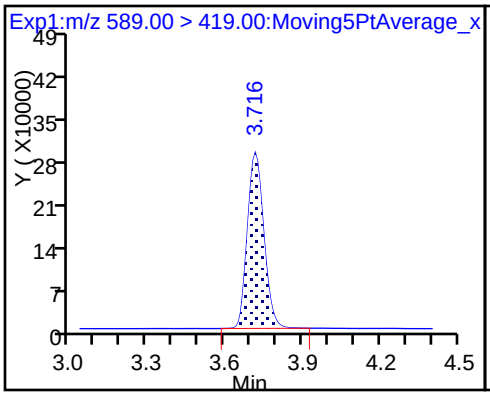
29 Perfluorodecane Sulfonic acid



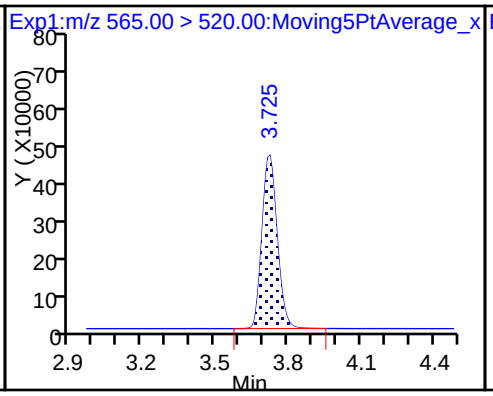
29 Perfluorodecane Sulfonic acid



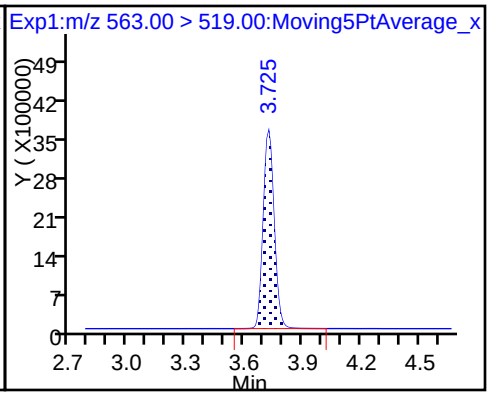
D 32 d5-NEtFOSAA



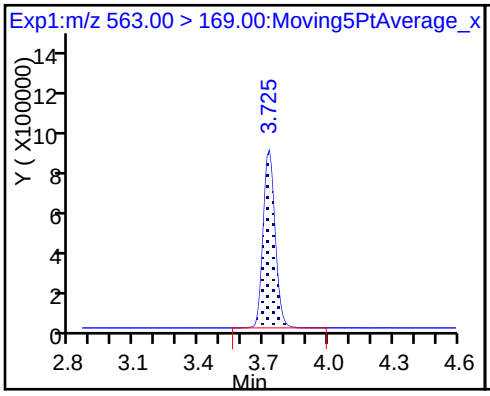
D 30 13C2 PFUnA



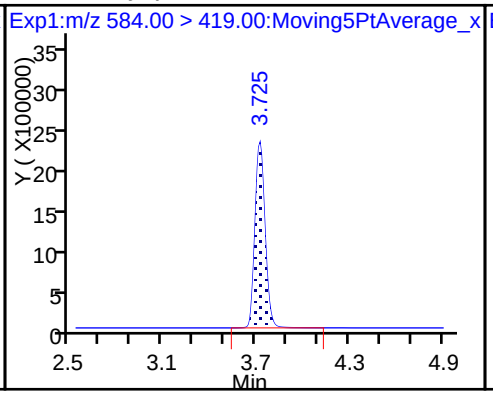
31 Perfluoroundecanoic acid



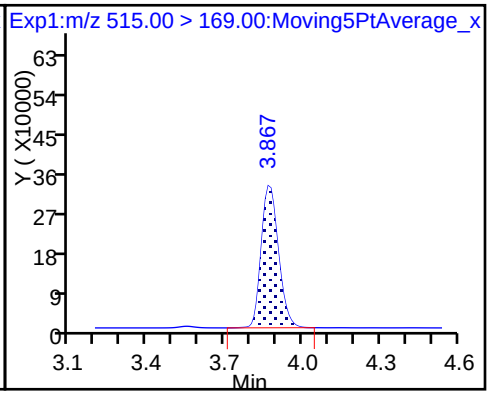
31 Perfluoroundecanoic acid



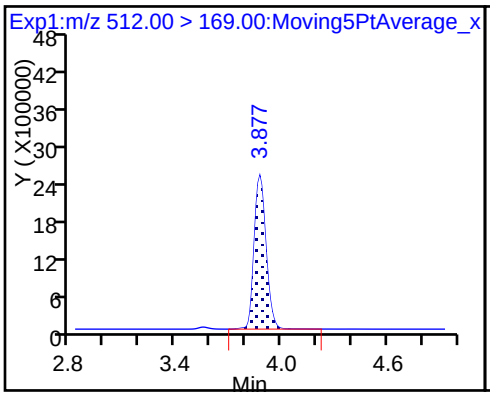
33 N-ethyl perfluorooctane sulfonamid



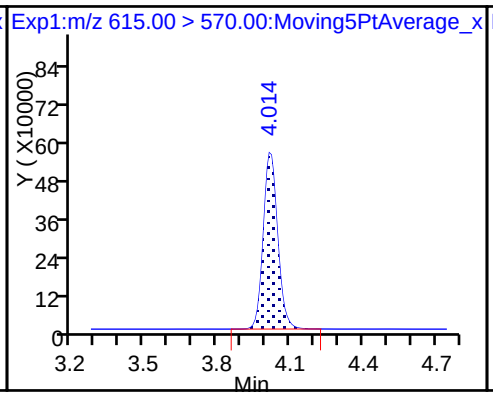
D 34 d-N-MeFOSA-M



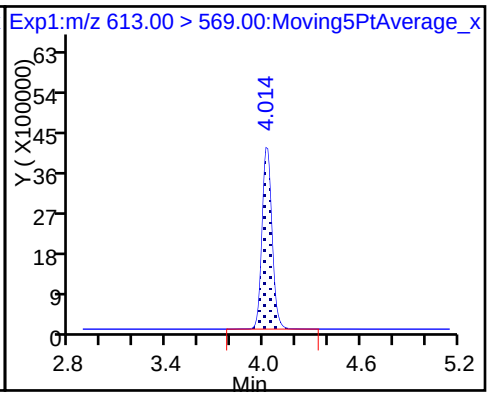
35 MeFOSA



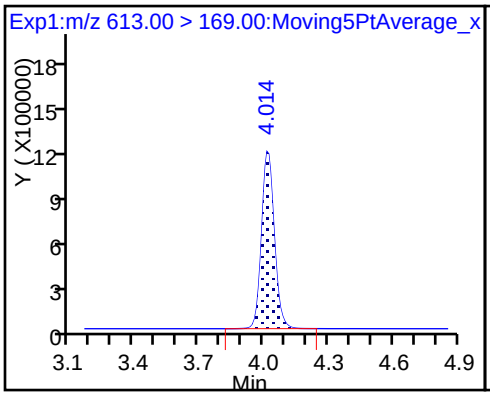
D 36 13C2 PFDoA



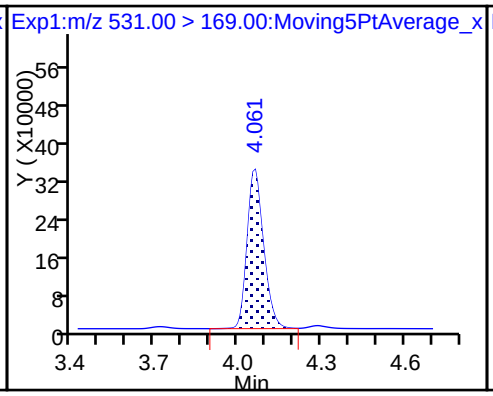
37 Perfluorododecanoic acid



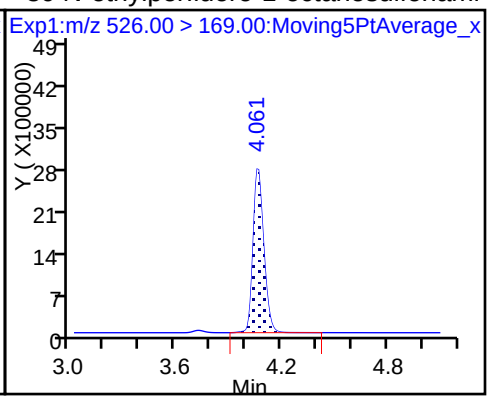
37 Perfluorododecanoic acid



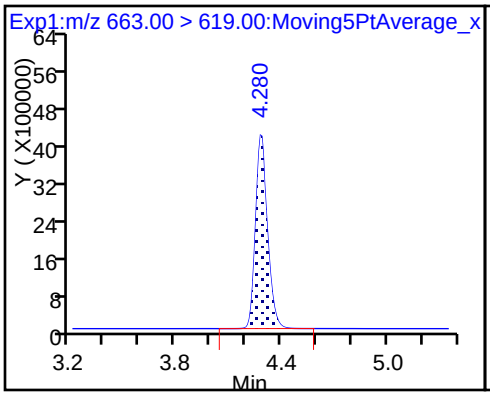
D 38 d-N-EtFOSA-M



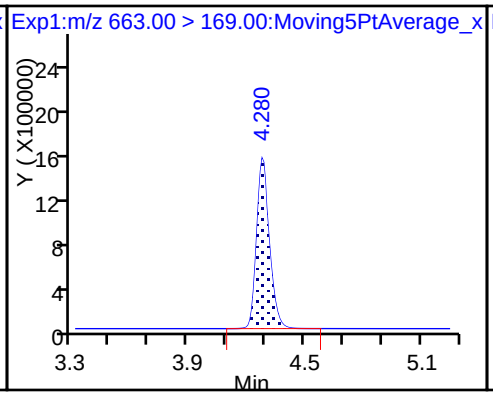
39 N-ethylperfluoro-1-octanesulfonami



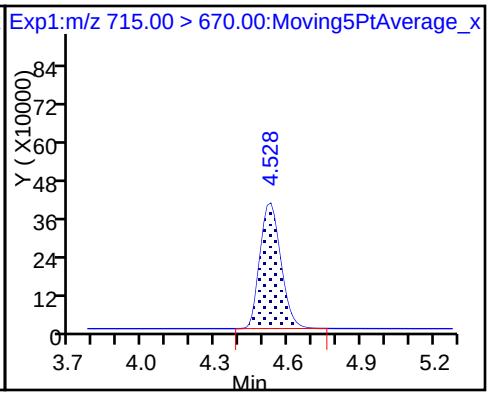
41 Perfluorotridecanoic acid



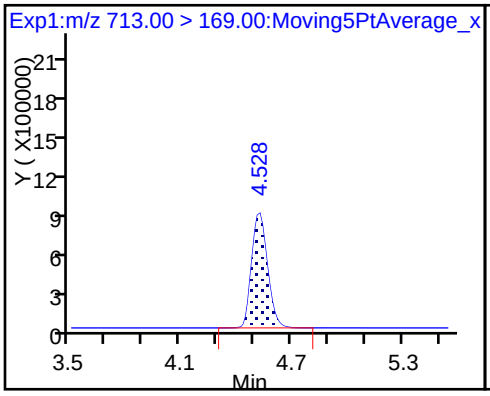
41 Perfluorotridecanoic acid



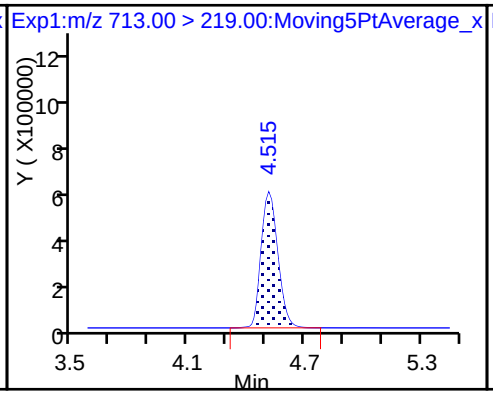
D 43 13C2-PFTeDA



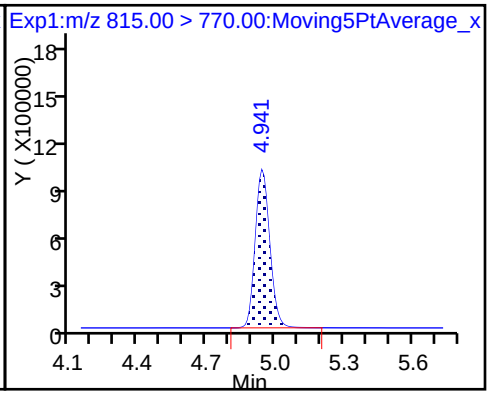
42 Perfluorotetradecanoic acid



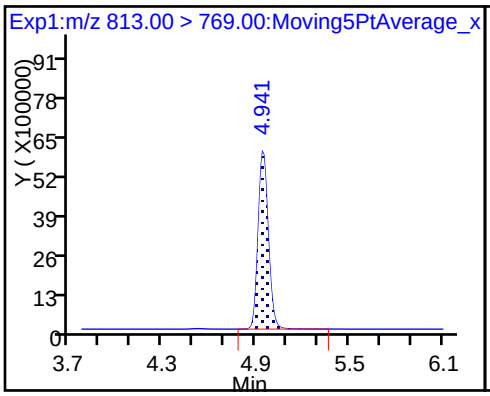
42 Perfluorotetradecanoic acid



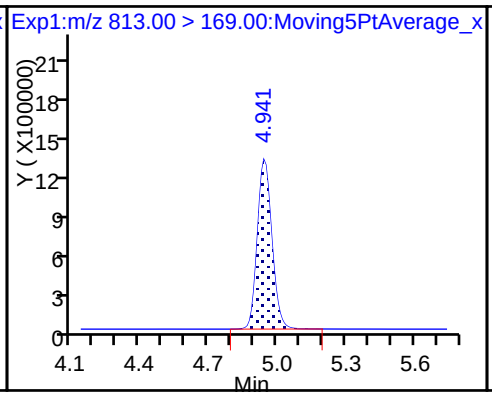
D 44 13C2-PFHxDA



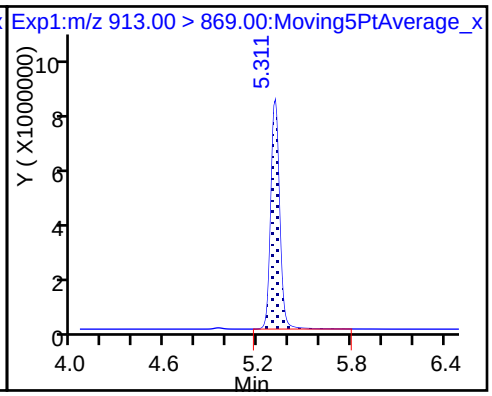
45 Perfluorohexadecanoic acid



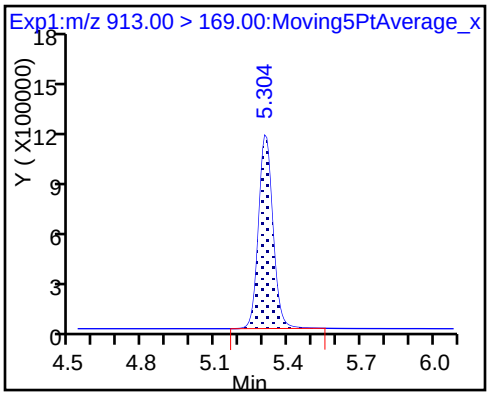
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d
Lims ID: IC M2-4:2FTS
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Dec-2017 16:08:29 ALS Bottle#: 22 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: M2:4-2FTS Calibration Std
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub19

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:32:46 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 60 M2-4:2FTS										
329.00 > 81.00	1.943	1.943	0.0	0.729	518429	2.34		100	21583	
* 62 13C2-PFOA										
415.00 > 370.00	2.664	2.656	0.008		5308381	2.50			45939	

Reagents:

LCM2-4:2LLIC_00002 Amount Added: 1.00 Units: mL

Report Date: 22-Dec-2017 09:32:47 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Injection Date: 21-Dec-2017 16:08:29 Instrument ID: A8_N

Lims ID: IC M2-4:2FTS

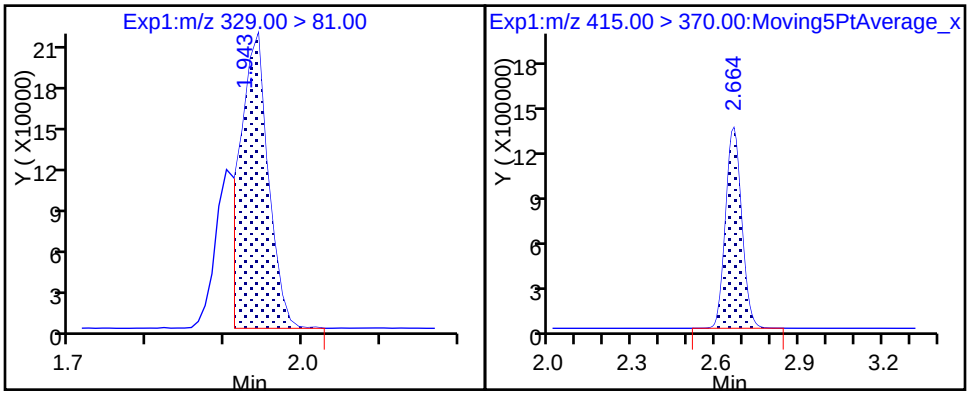
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 22 Worklist Smp#: 10

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

D 60 M2-4:2FTS * 62 13C2-PFOA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: ICV 320-201053/12 Calibration Date: 12/21/2017 16:24

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.21ICALX_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9163	0.9072		2.48	2.50	-1.0	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.116	1.089		2.44	2.50	-2.4	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	75.22	76.53		2.25	2.21	1.7	50.0
4:2 FTS	AveID	0.8220	0.7359		2.09	2.34	-10.5	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.001	1.017		2.54	2.50	1.6	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.130		2.70	2.50	8.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.076	1.012		2.22	2.36	-6.0	40.0
6:2FTS	AveID	1.550	1.461		2.23	2.37	-5.7	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.052	1.070		2.54	2.50	1.7	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.309	1.312		2.38	2.38	0.2	50.0
Perfluorononanoic acid (PFNA)	AveID	1.006	1.028		2.55	2.50	2.2	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.060	1.096		2.47	2.39	3.4	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9592	0.9403		2.45	2.50	-2.0	40.0
8:2FTS	AveID	1.216	1.220		2.40	2.40	0.4	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9673	1.028		2.66	2.50	6.3	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.074	0.9797		2.28	2.50	-8.7	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6176	0.6812		2.66	2.41	10.3	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9936	0.9673		2.43	2.50	-2.6	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9160	0.9407		2.57	2.50	2.7	40.0
MeFOSA	AveID	0.9787	1.005		2.57	2.50	2.7	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9925	1.038		2.61	2.50	4.5	40.0
N-EtFOSA-M	AveID	1.065	1.004		2.36	2.50	-5.7	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.160	1.238		2.67	2.50	6.8	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2577	0.2500		2.43	2.50	-3.0	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9528		2.76	2.50	10.5	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.029	1.111		2.70	2.50	8.0	50.0
13C4 PFBA	Ave	1.519	1.468		2.42	2.50	-3.4	50.0
13C5 PFPeA	Ave	0.9096	0.8739		2.40	2.50	-3.9	50.0
13C3-PFBS	Ave	0.0194	0.0190		2.28	2.33	-2.1	50.0
13C2 PFHxA	Ave	0.9709	0.9254		2.38	2.50	-4.7	50.0
13C4-PFHpA	Ave	0.8985	0.8571		2.39	2.50	-4.6	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: ICV 320-201053/12 Calibration Date: 12/21/2017 16:24

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.21ICALX_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.134	1.084		2.26	2.37	-4.4	50.0
M2-6:2FTS	Ave	0.4185	0.4332		2.46	2.38	3.5	40.0
13C4 PFOA	Ave	1.033	0.9730		2.36	2.50	-5.8	50.0
13C4 PFOS	Ave	0.7487	0.6756		2.16	2.39	-9.8	50.0
13C5 PFNA	Ave	0.7339	0.6885		2.35	2.50	-6.2	50.0
13C8 FOSA	Ave	1.019	0.9723		2.39	2.50	-4.6	50.0
M2-8:2FTS	Ave	0.2338	0.2346		2.40	2.40	0.3	40.0
13C2 PFDA	Ave	0.6054	0.5794		2.39	2.50	-4.3	50.0
d3-NMeFOSAA	Ave	0.3249	0.3204		2.47	2.50	-1.4	50.0
d5-NEtFOSAA	Ave	0.3173	0.3133		2.47	2.50	-1.3	50.0
13C2 PFUnA	Ave	0.4609	0.4259		2.31	2.50	-7.6	50.0
d-N-MeFOSA-M	Ave	0.2902	0.2705		2.33	2.50	-6.8	50.0
13C2 PFDoA	Ave	0.4970	0.4706		2.37	2.50	-5.3	50.0
d-N-EtFOSA-M	Ave	0.2788	0.2737		2.46	2.50	-1.8	50.0
13C2-PFTeDA	Ave	0.5554	0.5150		2.32	2.50	-7.3	50.0
13C2-PFHxDA	Ave	1.011	0.9246		2.29	2.50	-8.6	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_012.d
Lims ID: ICV Full
Client ID:
Sample Type: ICV
Inject. Date: 21-Dec-2017 16:24:05 ALS Bottle#: 18 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist:

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 22-Dec-2017 09:32:52 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK052

First Level Reviewer: hannigana Date: 22-Dec-2017 09:29:20

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.418	1.419	-0.001	0.534	7689285	2.42		96.6	26550	
2 Perfluorobutyric acid										
212.90 > 169.00	1.418	1.419	-0.001	1.000	6975510	2.48			2432	
D 3 13C5-PFPeA										
267.90 > 223.00	1.668	1.670	-0.002	0.628	4576212	2.40		96.1	50367	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.668	1.670	-0.002	1.000	4983920	2.44			3179	
D 47 13C3-PFBS										
301.90 > 83.00	1.712	1.705	0.007	0.645	92474	2.28		97.9	2500	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.712	1.707	0.005	1.000	6734643	2.25			35046	
298.90 > 99.00	1.712	1.707	0.005	1.000	2794972		2.41(1.25-3.74)		28744	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.918	1.920	-0.002	1.000	1559224	2.09			57221	
D 7 13C2 PFHxA										
315.00 > 270.00	1.960	1.953	0.007	0.738	4845999	2.38		95.3	45226	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.960	1.956	0.004	1.000	4929363	2.54			16929	
313.00 > 119.00	1.960	1.956	0.004	1.000	449471		10.97(5.03-15.10)		11225	
D 9 13C4-PFHpA										
367.00 > 322.00	2.286	2.291	-0.005	0.861	4488205	2.38		95.4	31796	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.286	2.291	-0.005	1.000	5071412	2.70			6777	
363.00 > 169.00	2.286	2.291	-0.005	1.000	1928917		2.63(1.13-3.40)		13633	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.299	2.304	-0.005	1.000	5429616	2.22			11136	
399.00 > 99.00	2.299	2.304	-0.005	1.000	1776107		3.06(1.50-4.49)		8215	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.299	2.304	-0.005	0.866	5372252	2.26		95.6	36335	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.640	2.642	-0.002	1.000	3142078	2.23			85000	
D 12 M2-6:2FTS										
429.00 > 81.00	2.640	2.642	-0.002	0.995	2155102	2.46		104	47444	
D 14 13C4 PFOA										
417.00 > 372.00	2.654	2.654	0.0	1.000	5095322	2.35		94.2	46098	
* 62 13C2-PFOA										
415.00 > 370.00	2.654	2.656	-0.002		5236561	2.50			45851	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.654	2.656	-0.002	1.000	5449809	2.54			2229	
413.00 > 169.00	2.654	2.656	-0.002	1.000	2983371		1.83(0.84-2.52)		17844	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.662	2.662	0.0	1.000	4417261	2.38			27381	
449.00 > 99.00	2.662	2.662	0.0	1.000	1179325		3.75(1.94-5.82)		16784	
D 18 13C4 PFOS										
503.00 > 80.00	3.028	3.025	0.003	1.141	3382103	2.16		90.2	23972	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.028	3.028	0.0	1.000	3703713	2.47			508	
499.00 > 99.00	3.028	3.028	0.0	1.000	846507		4.38(2.31-6.93)		625	
D 19 13C5 PFNA										
468.00 > 423.00	3.028	3.028	0.0	1.141	3605091	2.35		93.8	39412	
20 Perfluorononanoic acid										
463.00 > 419.00	3.028	3.029	-0.001	1.000	3706043	2.55			4879	
463.00 > 169.00	3.028	3.029	-0.001	1.000	946252		3.92(1.90-5.69)		16133	
D 21 13C8 FOSA										
506.00 > 78.00	3.366	3.370	-0.004	1.268	5091272	2.39		95.4	32151	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.373	3.372	0.001	1.002	4787541	2.45			23278	
D 26 M2-8:2FTS										
529.00 > 81.00	3.381	3.377	0.004	1.274	1176711	2.40		100	19622	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.381	3.377	0.004	1.000	1435533	2.40			27864	
D 23 13C2 PFDA										
515.00 > 470.00	3.388	3.389	-0.001	1.277	3034127	2.39		95.7	29780	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.388	3.390	-0.002	1.000	3120202	2.66			11817	
513.00 > 169.00	3.388	3.390	-0.002	1.000	552111		5.65(2.36-7.09)		2312	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.540	3.543	-0.003	1.334	1677603	2.47		98.6	23512	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.548	3.548	0.0	1.002	1643499	2.28			9718	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.699	3.703	-0.004	1.000	2325514	2.66			31480	
599.00 > 99.00	3.699	3.703	-0.004	1.000	757677		3.07(1.39-4.16)		14093	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.708	3.712	-0.004	1.397	1640693	2.47		98.7	10406	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.717	3.717	0.0	1.400	2230486	2.31		92.4	24003	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.717	3.718	-0.001	1.000	2098273	2.57			9645	
563.00 > 169.00	3.717	3.718	-0.001	1.000	473435		4.43(0.00-0.00)		12756	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.717	3.720	-0.003	1.002	1587053	2.43			14228	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.862	0.005	1.457	1416464	2.33		93.2	3263	
35 MeFOSA										
512.00 > 169.00	3.867	3.872	-0.005	1.000	1423728	2.57			3013	
D 36 13C2 PFDoA										
615.00 > 570.00	4.007	4.011	-0.004	1.509	2464389	2.37		94.7	21094	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.007	4.011	-0.004	1.000	2557214	2.61			6991	
613.00 > 169.00	4.007	4.011	-0.004	1.000	645002		3.96(2.13-6.40)		22973	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.054	4.052	0.002	1.527	1433468	2.46		98.2	2466	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.054	4.058	-0.004	1.000	1439179	2.36			2893	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.272	4.277	-0.005	1.000	3050820	2.67			8038	
663.00 > 169.00	4.272	4.277	-0.005	1.000	949654		3.21(1.25-3.76)		26785	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.515	4.518	-0.003	1.701	2696793	2.32		92.7	17833	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.515	4.518	-0.003	1.000	674290	2.43			16396	
713.00 > 219.00	4.515	4.518	-0.003	1.000	504751		1.34(0.71-2.13)		14418	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.939	-0.007	1.858	4841597	2.29		91.4	13502	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.941	4.939	0.002	1.002	4612903	2.76			2155	
813.00 > 169.00	4.941	4.939	0.002	1.002	838151		5.50(2.86-8.58)		8849	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.304	5.306	-0.002	1.000	5381160	2.70			1103	
913.00 > 169.00	5.304	5.306	-0.002	1.000	671138		8.02(0.00-0.00)		2519	

Reagents:

LCPFCIC_FULL_00007 Amount Added: 0.25 Units: mL

Report Date: 22-Dec-2017 09:32:53 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_012.d

Injection Date: 21-Dec-2017 16:24:05 Instrument ID: A8_N

Lims ID: ICV Full

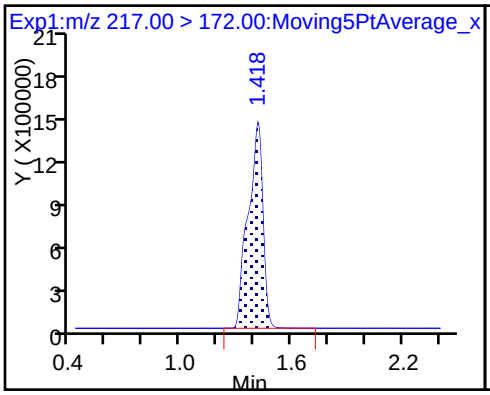
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 18 Worklist Smp#: 12

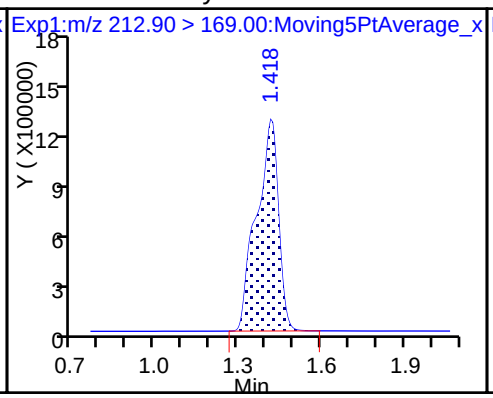
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

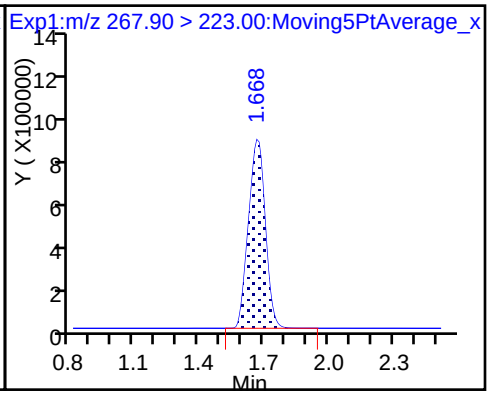
D 1 13C4 PFBA



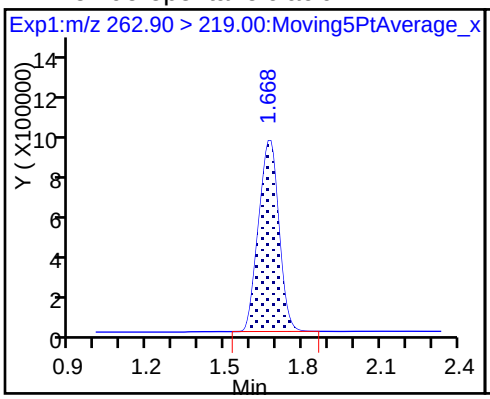
2 Perfluorobutyric acid



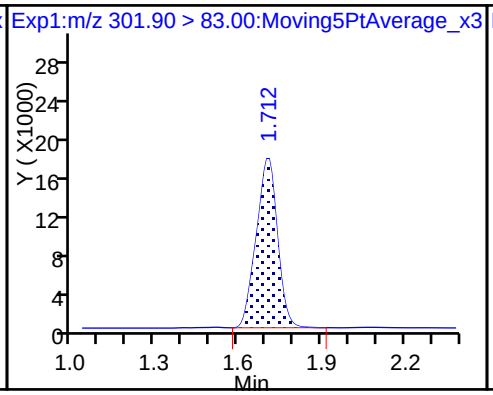
D 3 13C5-PFPeA



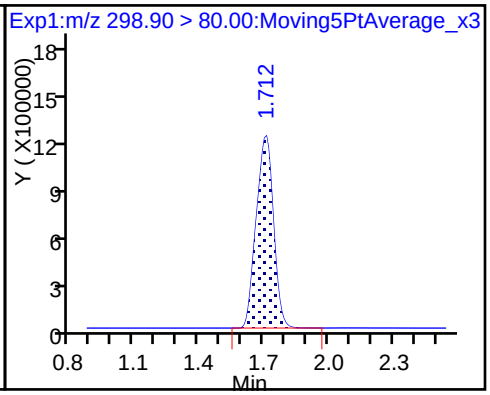
4 Perfluoropentanoic acid



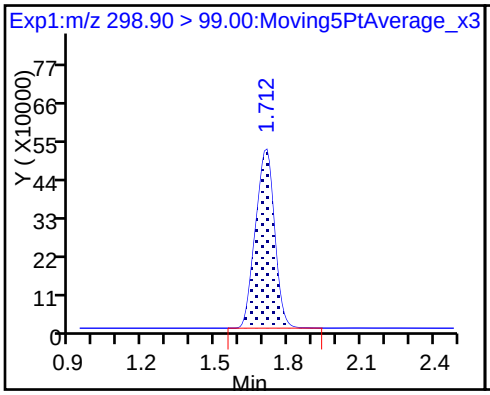
D 47 13C3-PFBS



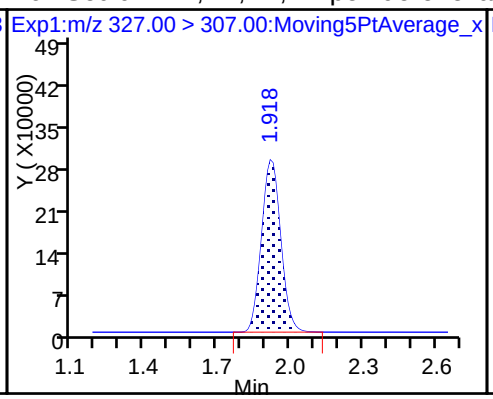
5 Perfluorobutanesulfonic acid



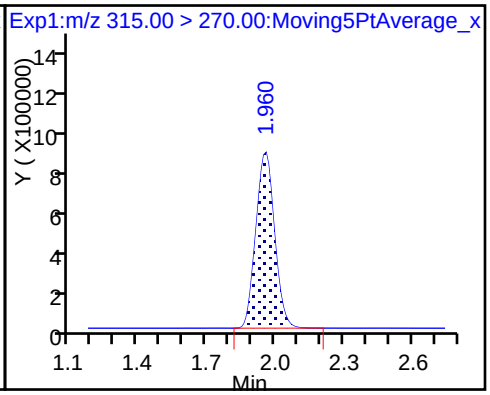
5 Perfluorobutanesulfonic acid



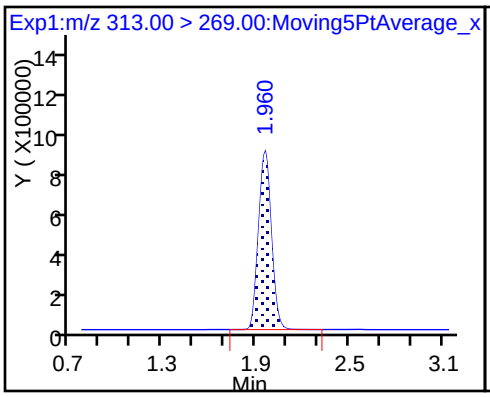
61 Sodium 1H,1H,2H,2H-perfluorohexa



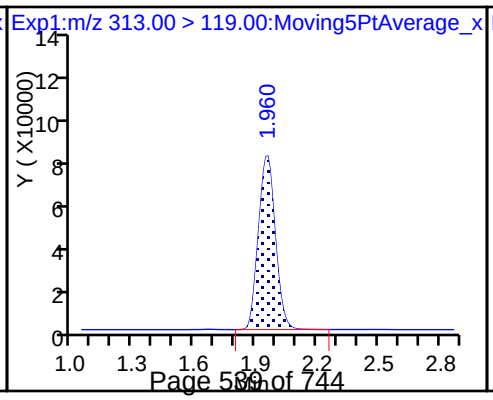
D 7 13C2 PFHxA



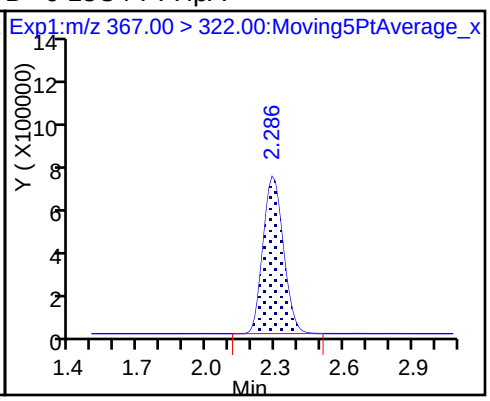
6 Perfluorohexanoic acid



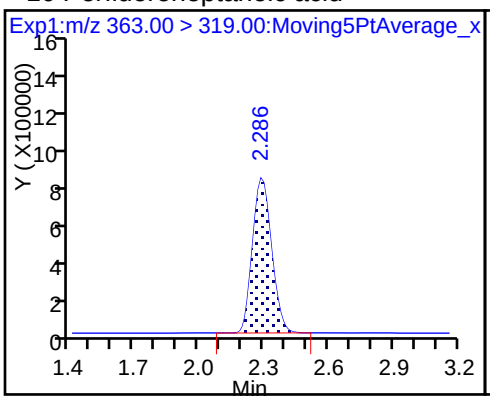
6 Perfluorohexanoic acid



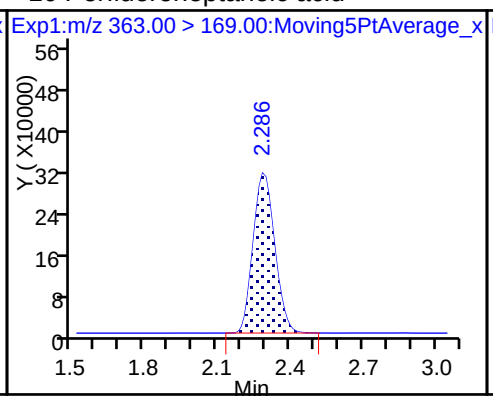
D 9 13C4-PFHpA



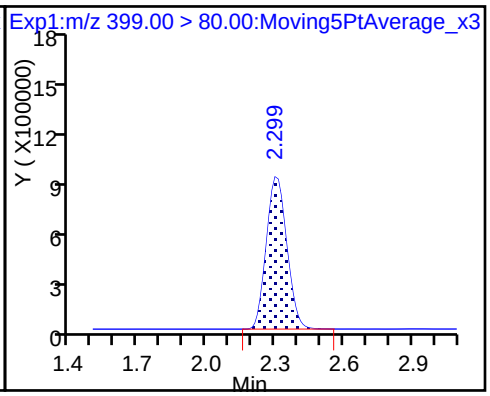
10 Perfluoroheptanoic acid



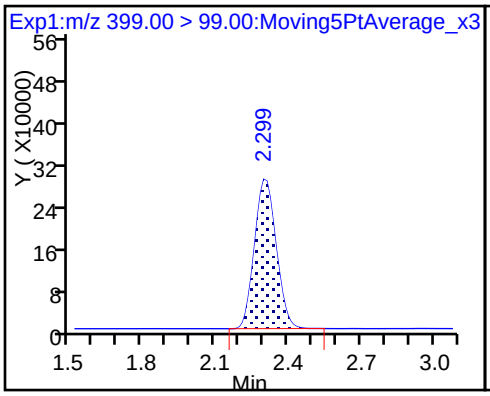
10 Perfluoroheptanoic acid



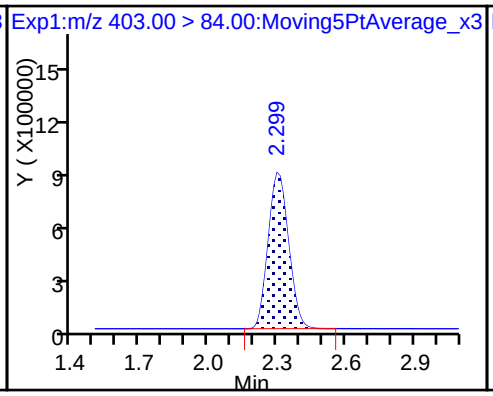
8 Perfluorohexanesulfonic acid



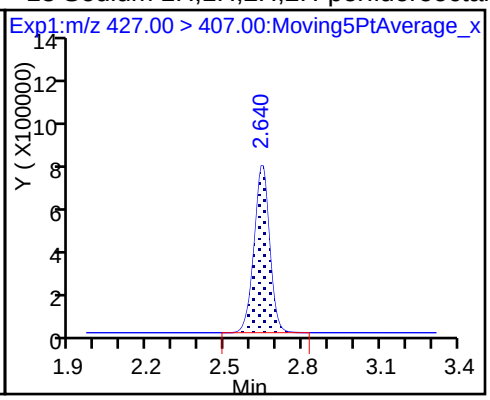
8 Perfluorohexanesulfonic acid



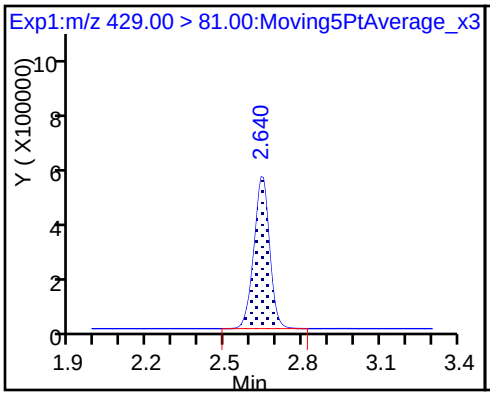
D 11 18O2 PFHxS



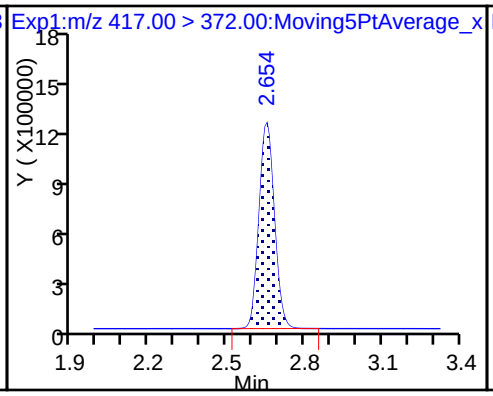
13 Sodium 1H,1H,2H,2H-perfluorooctane



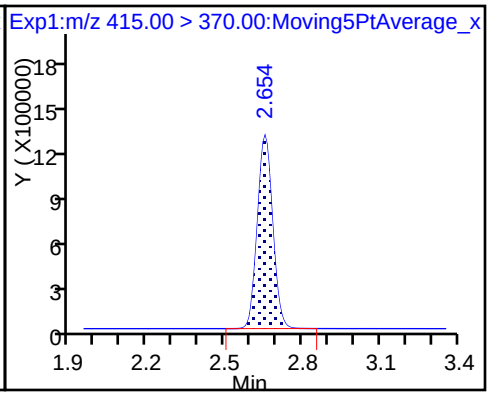
D 12 M2-6:2FTS



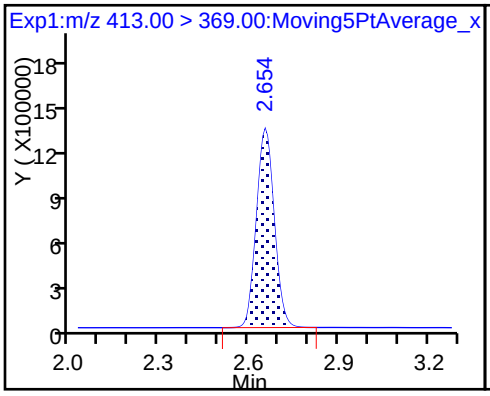
D 14 13C4 PFOA



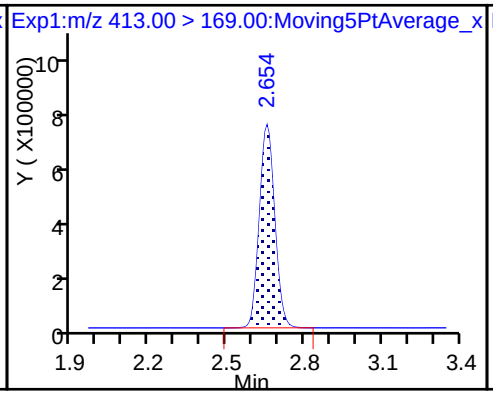
* 62 13C2-PFOA



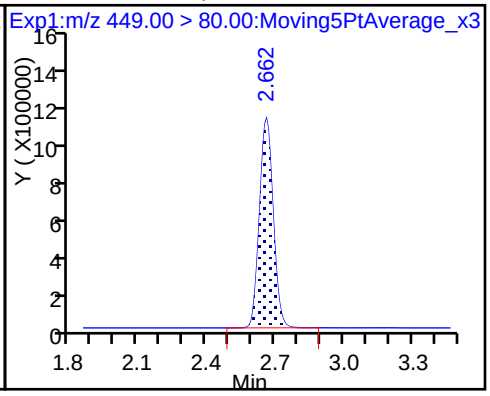
15 Perfluorooctanoic acid



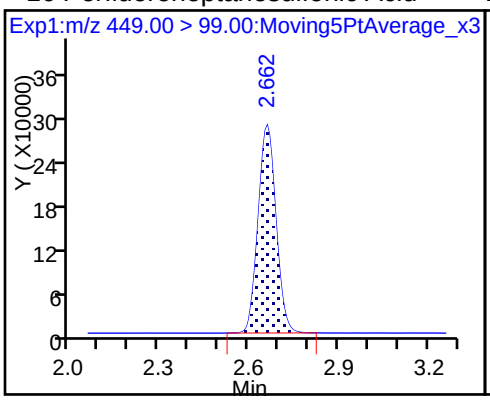
15 Perfluorooctanoic acid



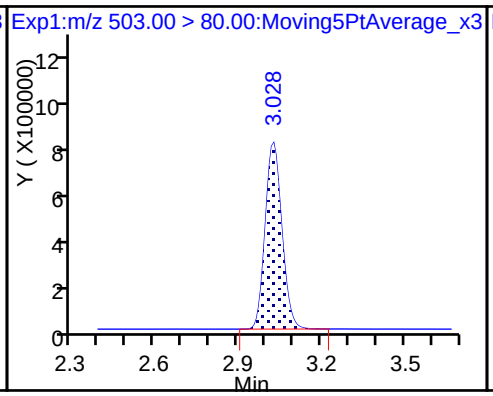
16 Perfluoroheptanesulfonic Acid



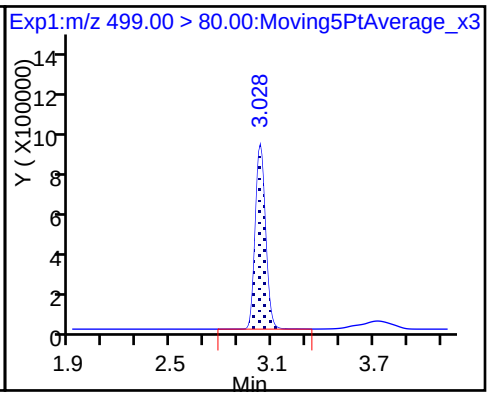
16 Perfluoroheptanesulfonic Acid



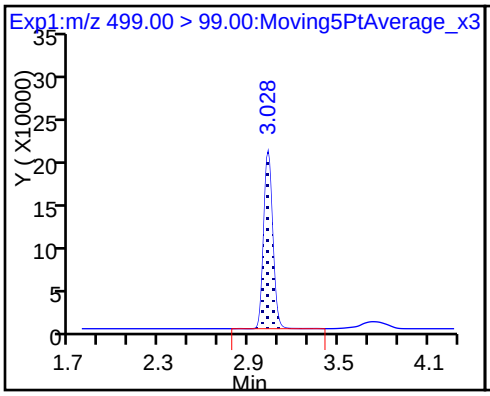
D 18 13C4 PFOS



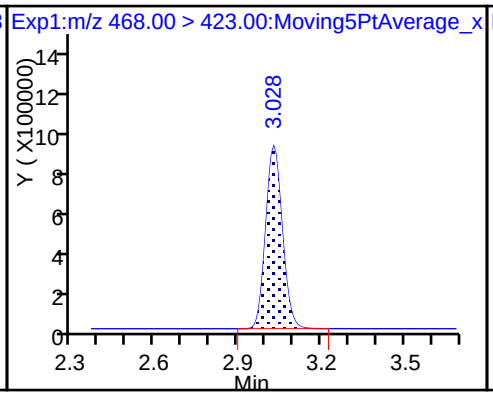
17 Perfluorooctane sulfonic acid



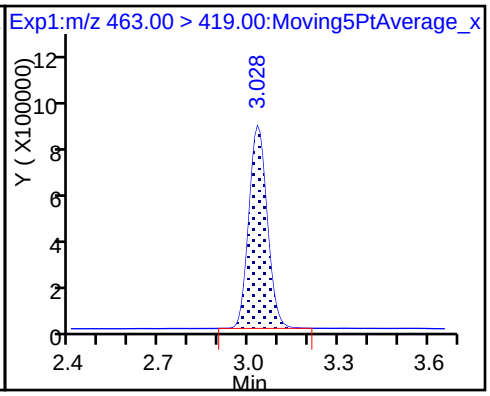
17 Perfluorooctane sulfonic acid



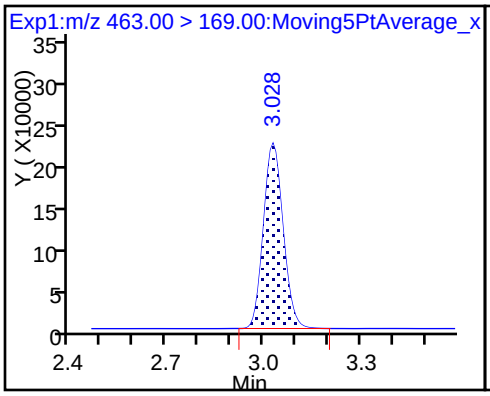
D 19 13C5 PFNA



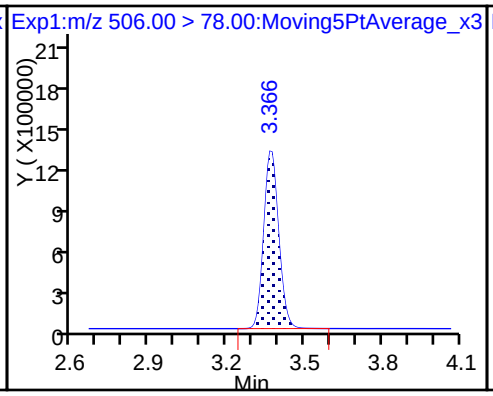
20 Perfluorononanoic acid



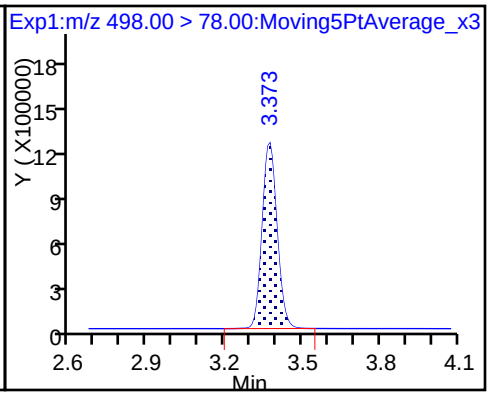
20 Perfluorononanoic acid



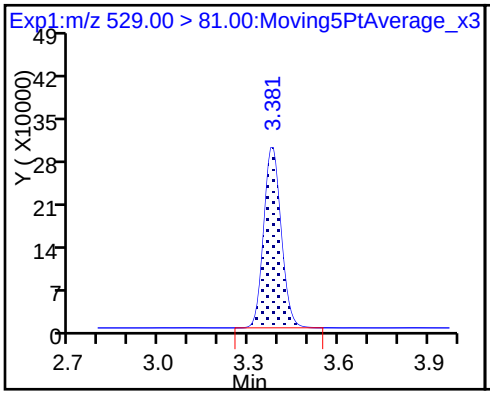
D 21 13C8 FOSA



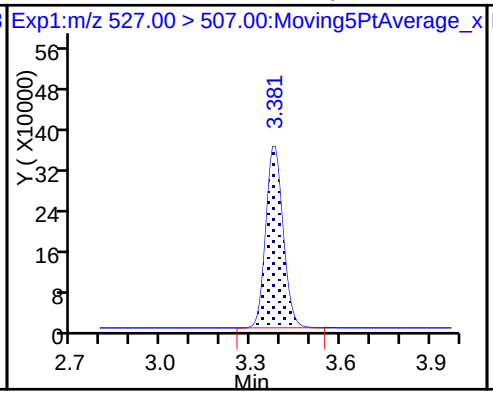
22 Perfluorooctane Sulfonamide



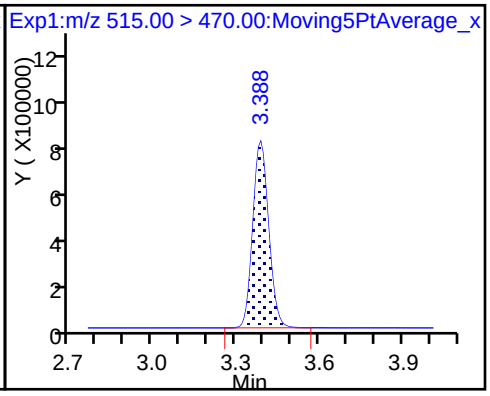
D 26 M2-8:2FTS



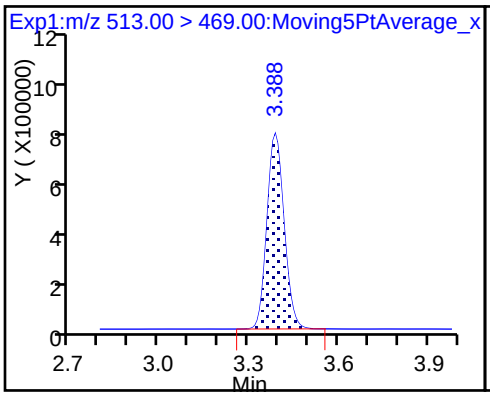
25 Sodium 1H,1H,2H,2H-perfluorodecane



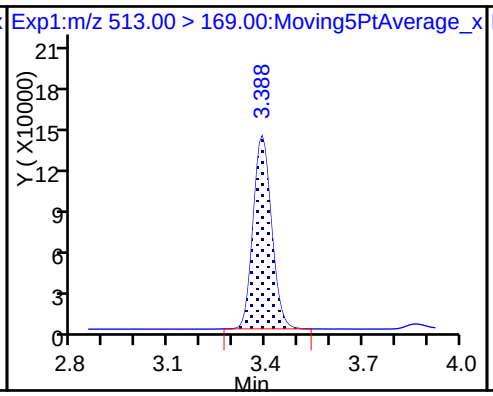
D 23 13C2 PFDA



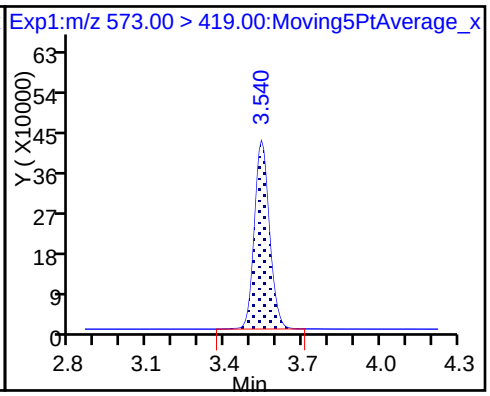
24 Perfluorodecanoic acid



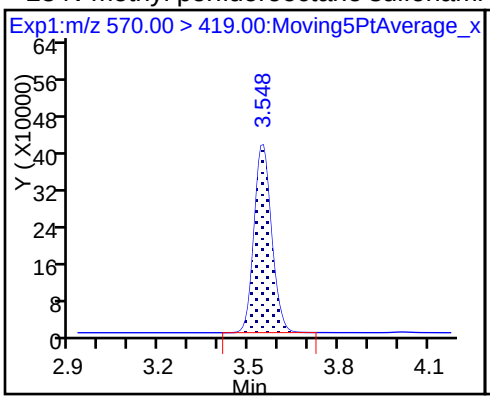
24 Perfluorodecanoic acid



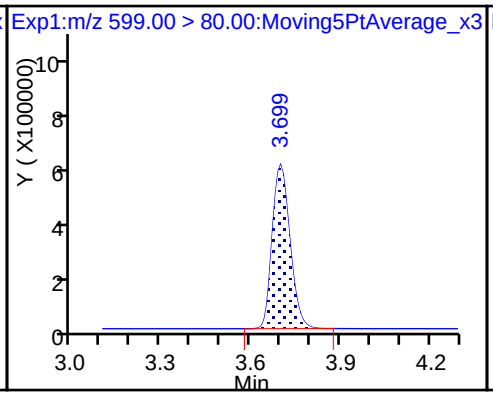
D 27 d3-NMeFOSAA



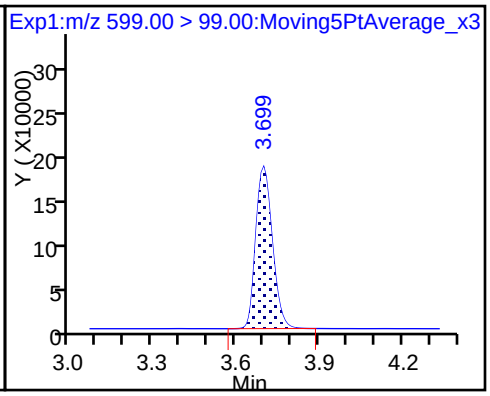
28 N-methyl perfluorooctane sulfonami



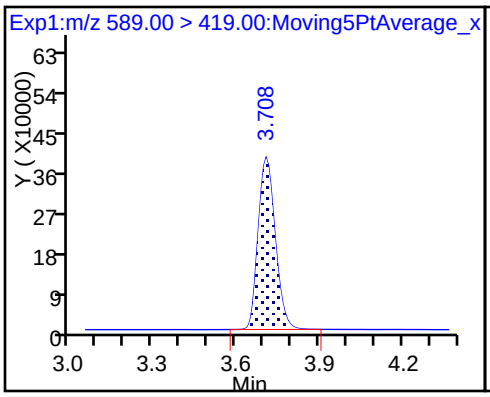
29 Perfluorodecane Sulfonic acid



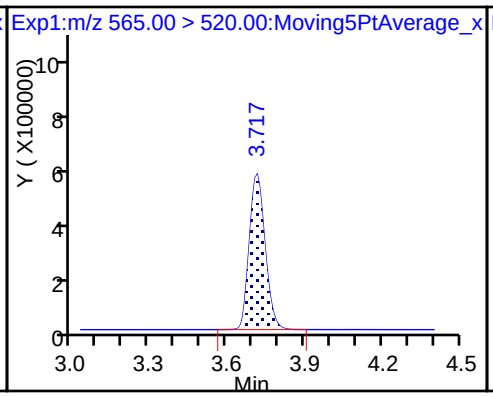
29 Perfluorodecane Sulfonic acid



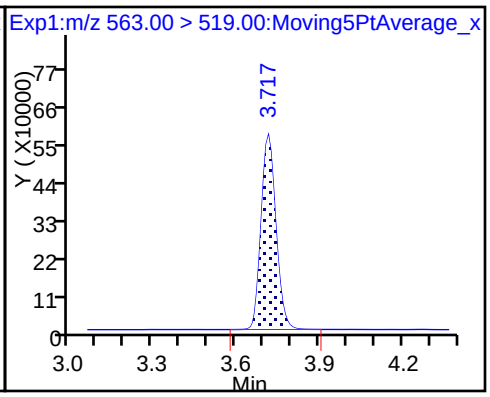
D 32 d5-NEtFOSAA



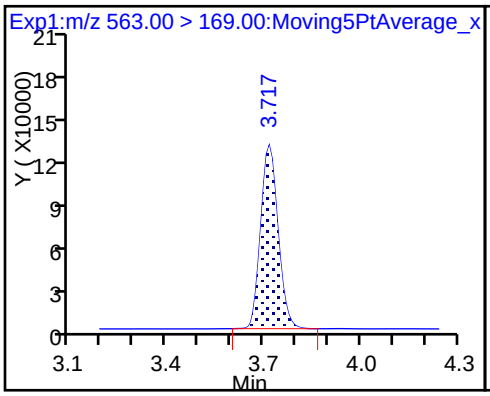
D 30 13C2 PFUnA



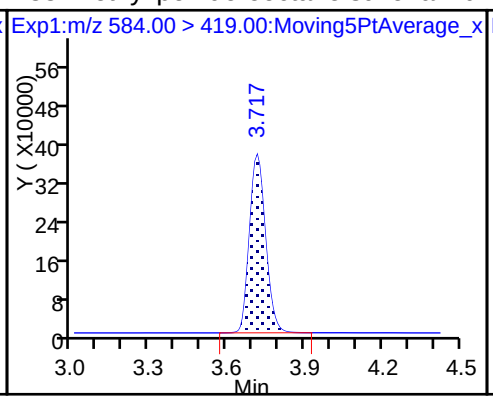
31 Perfluoroundecanoic acid



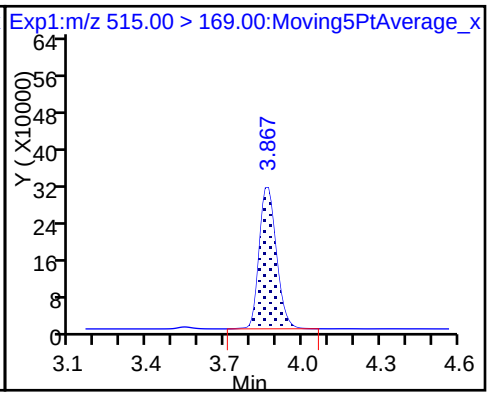
31 Perfluoroundecanoic acid



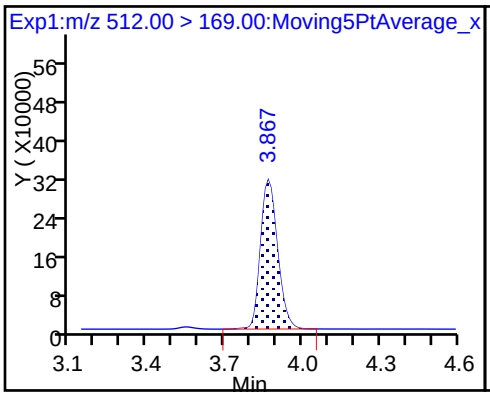
33 N-ethyl perfluorooctane sulfonamid



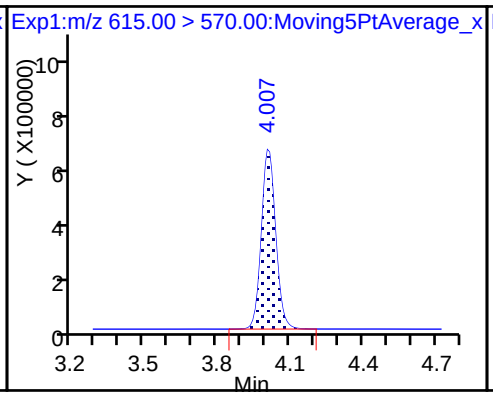
D 34 d-N-MeFOSA-M



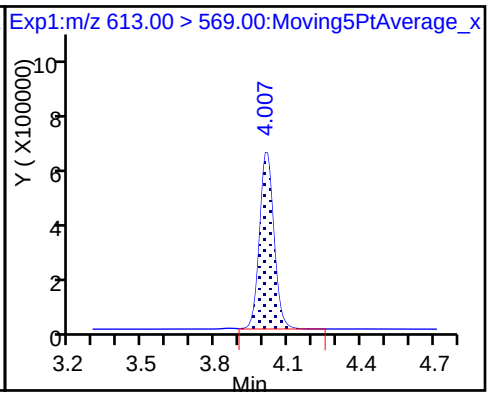
35 MeFOSA



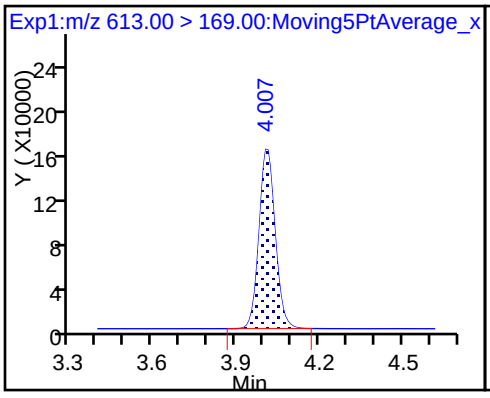
D 36 13C2 PFDoA



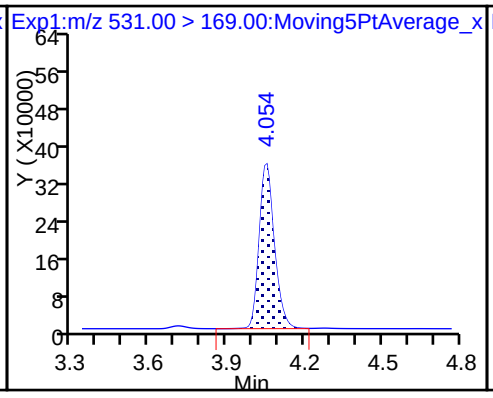
37 Perfluorododecanoic acid



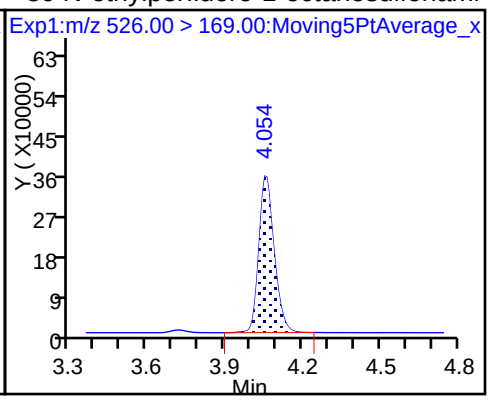
37 Perfluorododecanoic acid



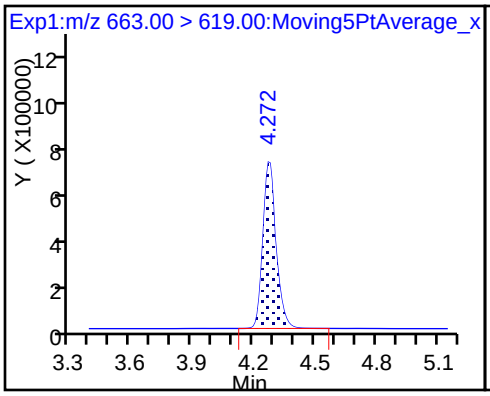
D 38 d-N-EtFOSA-M



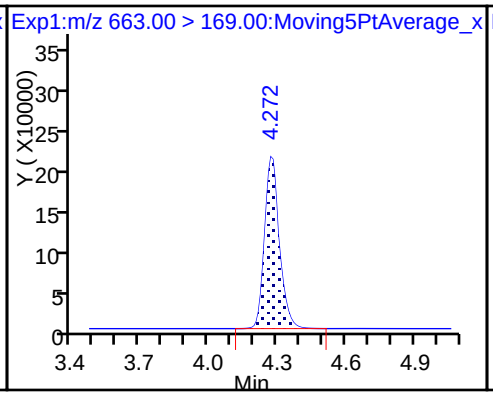
39 N-ethylperfluoro-1-octanesulfonami



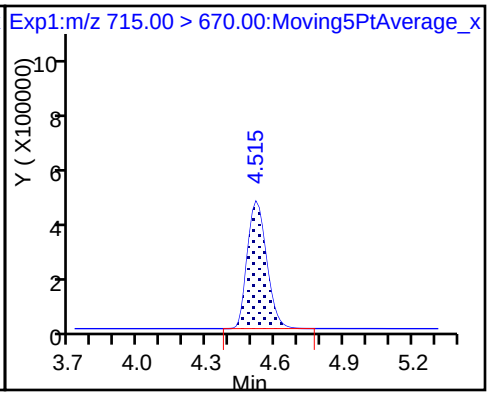
41 Perfluorotridecanoic acid



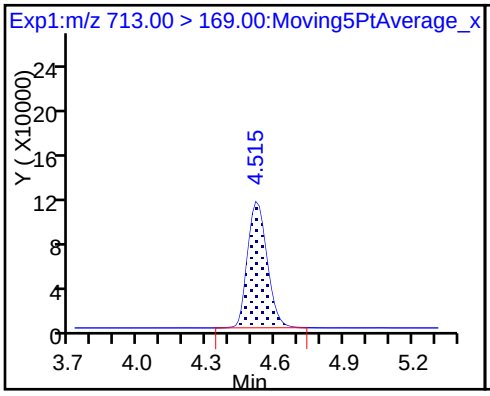
41 Perfluorotridecanoic acid



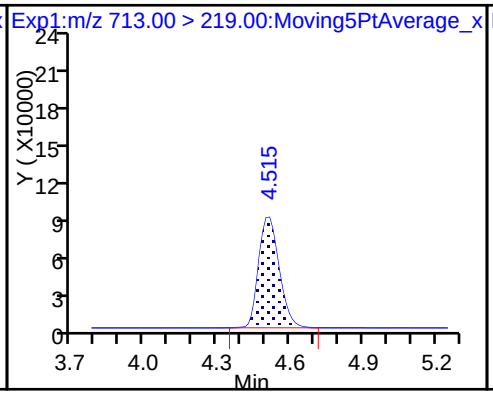
D 43 13C2-PFTeDA



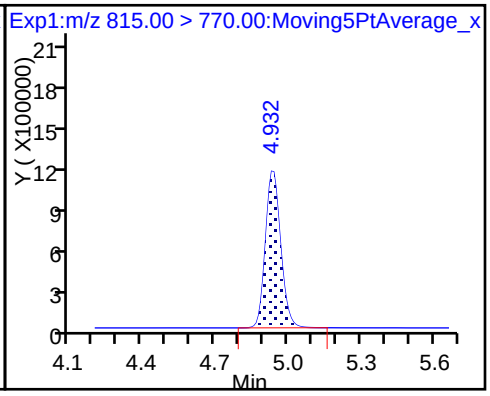
42 Perfluorotetradecanoic acid



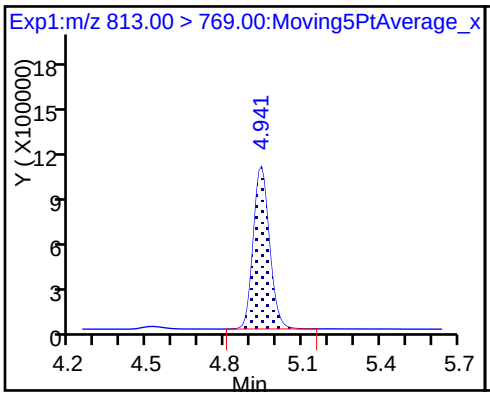
42 Perfluorotetradecanoic acid



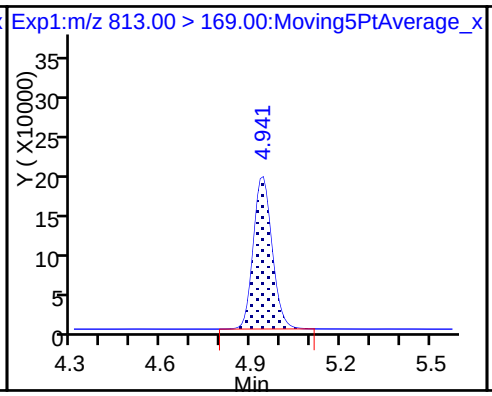
D 44 13C2-PFHxDA



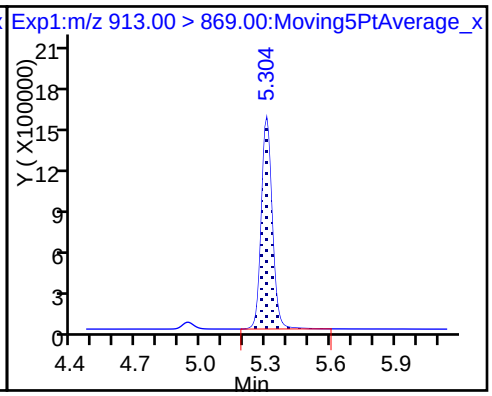
45 Perfluorohexadecanoic acid



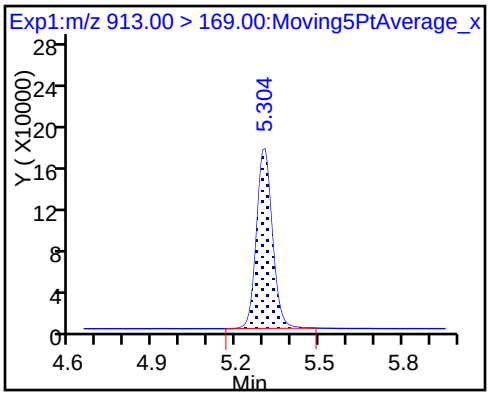
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201221/1 Calibration Date: 12/22/2017 22:39

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_009.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9163	0.9358		1.02	1.00	2.1	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.116	1.138		1.02	1.00	2.0	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	75.22	78.03		0.917	0.884	3.7	50.0
4:2 FTS	AveID	0.8220	1.276		1.45	0.934	55.2*	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.001	1.010		1.01	1.00	0.9	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.089		1.04	1.00	4.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.076	1.035		0.875	0.910	-3.8	40.0
6:2FTS	AveID	1.550	1.682		1.03	0.948	8.5	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.052	1.032		0.981	1.00	-1.9	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.309	1.384		1.01	0.952	5.7	50.0
Perfluorononanoic acid (PFNA)	AveID	1.006	0.9803		0.974	1.00	-2.6	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.060	1.039		0.910	0.928	-2.0	40.0
8:2FTS	AveID	1.216	1.237		0.975	0.958	1.8	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9673	0.9387		0.970	1.00	-3.0	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9592	0.9913		1.03	1.00	3.3	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.074	1.028		0.958	1.00	-4.2	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6176	0.6029		0.941	0.964	-2.4	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9936	1.000		1.01	1.00	0.6	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9160	0.9591		1.05	1.00	4.7	40.0
MeFOSA	AveID	0.9787	1.012		1.03	1.00	3.4	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9925	0.9616		0.969	1.00	-3.1	40.0
N-EtFOSA-M	AveID	1.065	1.049		1.00	1.00	-1.5	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.160	0.996		0.858	1.00	-14.2	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2577	0.2645		1.03	1.00	2.6	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9316		1.07	1.00	6.6	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.029	1.183		1.15	1.00	14.9	50.0
13C4 PFBA	Ave	1.519	1.562		2.57	2.50	2.8	50.0
13C5 PFPeA	Ave	0.9096	0.9516		2.62	2.50	4.6	50.0
13C3-PFBS	Ave	0.0194	0.0203		2.43	2.33	4.6	50.0
13C2 PFHxA	Ave	0.9709	0.9898		2.55	2.50	1.9	50.0
13C4-PFHpA	Ave	0.8985	0.9182		2.56	2.50	2.2	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201221/1 Calibration Date: 12/22/2017 22:39

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_009.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.134	1.186		2.47	2.37	4.6	50.0
M2-6:2FTS	Ave	0.4185	0.2037		1.16	2.38	-51.3*	40.0
13C4 PFOA	Ave	1.033	1.066		2.58	2.50	3.2	50.0
13C4 PFOS	Ave	0.7487	0.7843		2.50	2.39	4.8	50.0
13C5 PFNA	Ave	0.7339	0.7684		2.62	2.50	4.7	50.0
M2-8:2FTS	Ave	0.2338	0.1685		1.73	2.40	-27.9	40.0
13C2 PFDA	Ave	0.6054	0.6235		2.58	2.50	3.0	50.0
13C8 FOSA	Ave	1.019	1.044		2.56	2.50	2.4	50.0
d3-NMeFOSAA	Ave	0.3249	0.2893		2.23	2.50	-11.0	50.0
d5-NEtFOSAA	Ave	0.3173	0.2793		2.20	2.50	-12.0	50.0
13C2 PFUnA	Ave	0.4609	0.4513		2.45	2.50	-2.1	50.0
d-N-MeFOSA-M	Ave	0.2902	0.2908		2.51	2.50	0.2	50.0
13C2 PFDoA	Ave	0.4970	0.5127		2.58	2.50	3.2	50.0
d-N-EtFOSA-M	Ave	0.2788	0.2877		2.58	2.50	3.2	50.0
13C2-PFTeDA	Ave	0.5554	0.5306		2.39	2.50	-4.5	50.0
13C2-PFHxDA	Ave	1.011	0.9611		2.38	2.50	-4.9	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_009.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 22-Dec-2017 22:39:05 ALS Bottle#: 13 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L4
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:30:46

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.402	1.419	-0.017	0.533	7457881	2.57		103	31653	
2 Perfluorobutyric acid										
212.90 > 169.00	1.402	1.419	-0.017	1.000	2791557	1.02		102	680	
D 3 13C5-PFPeA										
267.90 > 223.00	1.654	1.670	-0.016	0.629	4542542	2.62		105	35106	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.654	1.670	-0.016	1.000	2068126	1.02		102	2789	
D 47 13C3-PFBS										
301.90 > 83.00	1.690	1.705	-0.015	0.642	90038	2.43		105	3146	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.699	1.707	-0.008	1.005	2671136	0.9170		104	15092	
298.90 > 99.00	1.690	1.707	-0.017	1.000	1126920		2.37(1.25-3.74)		9123	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.904	1.920	-0.016	1.000	463503	1.45		155	26530	
D 7 13C2 PFHxA										
315.00 > 270.00	1.935	1.953	-0.018	0.736	4724988	2.55		102	39505	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.935	1.956	-0.021	1.000	1909405	1.01		101	4634	
313.00 > 119.00	1.935	1.956	-0.021	1.000	178993		10.67(5.03-15.10)		3724	
D 9 13C4-PFHpA										
367.00 > 322.00	2.267	2.291	-0.024	0.862	4383416	2.55		102	29072	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.267	2.291	-0.024	1.000	1909423	1.04		104	4086	
363.00 > 169.00	2.267	2.291	-0.024	1.000	757423		2.52(1.13-3.40)		6308	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.280	2.304	-0.024	1.000	2134280	0.8752		96.2	5178	
399.00 > 99.00	2.280	2.304	-0.024	1.000	741275		2.88(1.50-4.49)		4382	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.280	2.304	-0.024	0.867	5357736	2.47		105	25591	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.609	2.642	-0.033	1.000	620327	1.03		109	13368	
D 12 M2-6:2FTS										
429.00 > 81.00	2.609	2.642	-0.033	0.992	923935	1.16		48.7	22281	
D 14 13C4 PFOA										
417.00 > 372.00	2.630	2.654	-0.024	1.000	5088229	2.58		103	37630	
* 62 13C2-PFOA										
415.00 > 370.00	2.630	2.656	-0.026		4773821	2.50			36859	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.630	2.656	-0.026	1.000	2100476	0.9814		98.1	2648	
413.00 > 169.00	2.630	2.656	-0.026	1.000	1123925		1.87(0.84-2.52)		8105	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.638	2.662	-0.024	1.000	1972814	1.01		106	14785	
449.00 > 99.00	2.638	2.662	-0.024	1.000	538398		3.66(1.94-5.82)		11396	
D 18 13C4 PFOS										
503.00 > 80.00	3.001	3.025	-0.024	1.141	3579391	2.50		105	23864	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.001	3.028	-0.027	1.000	1444128	0.9096		98.0	181	
499.00 > 99.00	3.001	3.028	-0.027	1.000	311521		4.64(2.31-6.93)		243	
D 19 13C5 PFNA										
468.00 > 423.00	3.001	3.028	-0.027	1.141	3668312	2.62		105	39769	
20 Perfluorononanoic acid										
463.00 > 419.00	3.001	3.029	-0.028	1.000	1438346	0.9742		97.4	5988	
463.00 > 169.00	3.001	3.029	-0.028	1.000	346916		4.15(1.90-5.69)		9236	
D 21 13C8 FOSA										
506.00 > 78.00	3.364	3.370	-0.006	1.279	4982024	2.56		102	28076	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.364	3.372	-0.008	1.000	1975368	1.03		103	19786	
D 26 M2-8:2FTS										
529.00 > 81.00	3.349	3.377	-0.028	1.273	770538	1.73		72.1	17510	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.356	3.377	-0.021	1.002	381379	0.9752		102	13576	
D 23 13C2 PFDA										
515.00 > 470.00	3.364	3.389	-0.025	1.279	2976468	2.57		103	34268	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.364	3.390	-0.026	1.000	1117551	0.9704		97.0	6574	
513.00 > 169.00	3.364	3.390	-0.026	1.000	204365		5.47(2.36-7.09)		1715	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.516	3.543	-0.027	1.337	1380987	2.23		89.0	16585	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.523	3.548	-0.025	1.002	568115	0.9580		95.8	3848	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.672	3.703	-0.031	1.000	870469	0.9411		97.6	24448	
599.00 > 99.00	3.672	3.703	-0.031	1.000	285964		3.04(1.39-4.16)		6478	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.681	3.712	-0.031	1.399	1333186	2.20		88.0	6231	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.690	3.717	-0.027	1.403	2154574	2.45		97.9	22822	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.690	3.718	-0.028	1.000	826546	1.05		105	5945	
563.00 > 169.00	3.690	3.718	-0.028	1.000	185313		4.46(0.00-0.00)		8553	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.690	3.720	-0.030	1.002	533193	1.01		101	11720	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.866	3.862	0.004	1.470	1388050	2.50		100	3912	
35 MeFOSA										
512.00 > 169.00	3.866	3.872	-0.006	1.000	561735	1.03		103	3157	
D 36 13C2 PFDoA										
615.00 > 570.00	3.982	4.011	-0.029	1.514	2447707	2.58		103	33030	
37 Perfluorododecanoic acid										
613.00 > 569.00	3.982	4.011	-0.029	1.000	941483	0.9689		96.9	4600	
613.00 > 169.00	3.982	4.011	-0.029	1.000	232793		4.04(2.13-6.40)		9328	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.053	4.052	0.001	1.541	1373607	2.58		103	3981	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.061	4.058	0.003	1.002	576154	0.9849		98.5	3807	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.244	4.277	-0.033	1.000	974702	0.8585		85.8	6660	
663.00 > 169.00	4.244	4.277	-0.033	1.000	307867		3.17(1.25-3.76)		17869	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.487	4.518	-0.031	1.706	2532748	2.39		95.5	21372	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.487	4.518	-0.031	1.000	267978	1.03		103	11856	
713.00 > 219.00	4.473	4.518	-0.045	0.997	168739		1.59(0.71-2.13)		5985	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.904	4.939	-0.035	1.864	4588056	2.38		95.1	17225	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.904	4.939	-0.035	1.000	1709764	1.07		107	1680	
813.00 > 169.00	4.904	4.939	-0.035	1.000	295733		5.78(2.86-8.58)		5693	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.261	5.306	-0.045	1.000	2170432	1.15		115	796	
913.00 > 169.00	5.261	5.306	-0.045	1.000	266676		8.14(0.00-0.00)		2199	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 26-Dec-2017 15:09:51 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_009.d

Injection Date: 22-Dec-2017 22:39:05 Instrument ID: A8_N

Lims ID: CCV L4

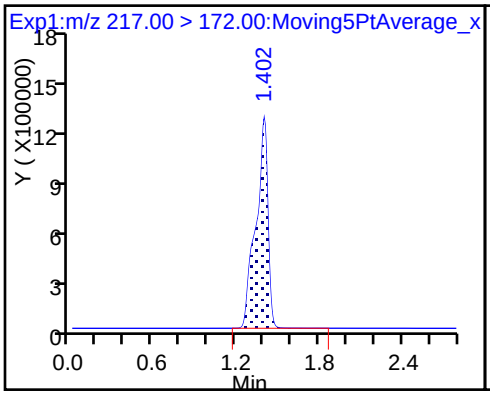
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 1

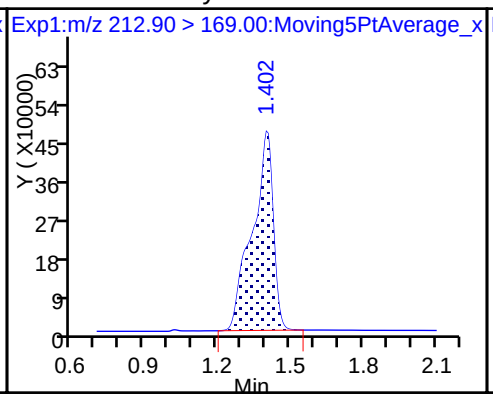
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

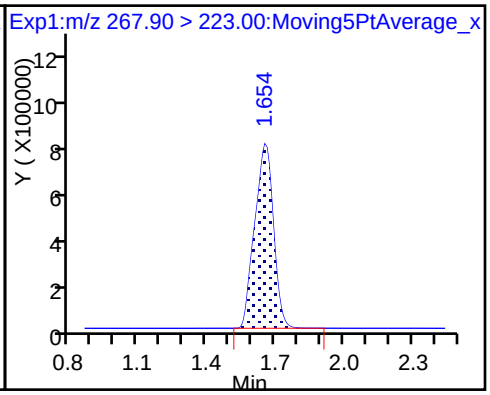
D 1 13C4 PFBA



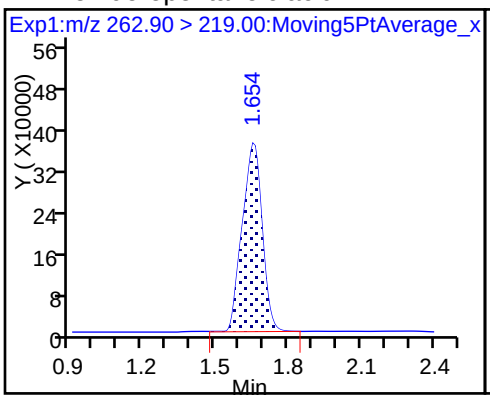
2 Perfluorobutyric acid



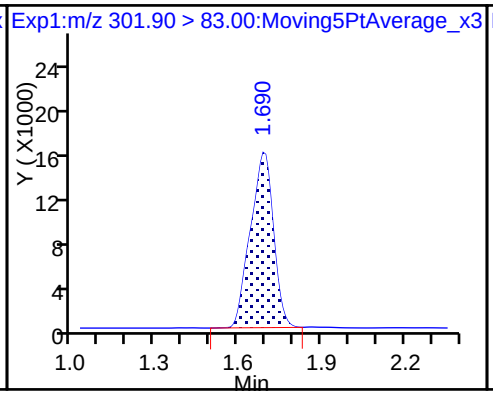
D 3 13C5-PFPeA



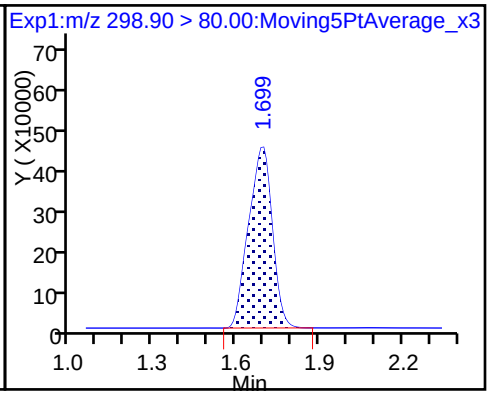
4 Perfluoropentanoic acid



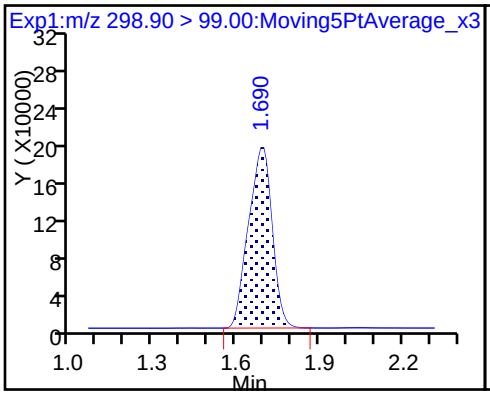
D 47 13C3-PFBS



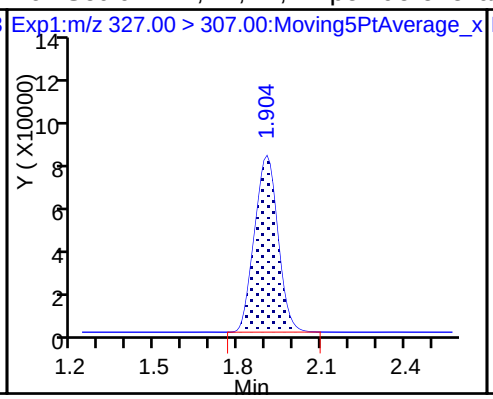
5 Perfluorobutanesulfonic acid



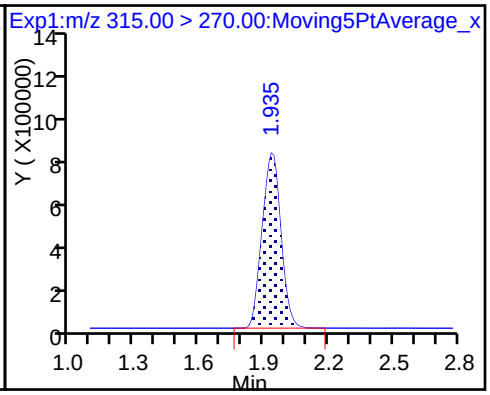
5 Perfluorobutanesulfonic acid



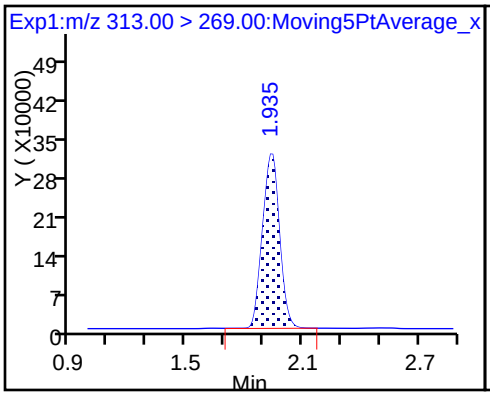
61 Sodium 1H,1H,2H,2H-perfluorohexa



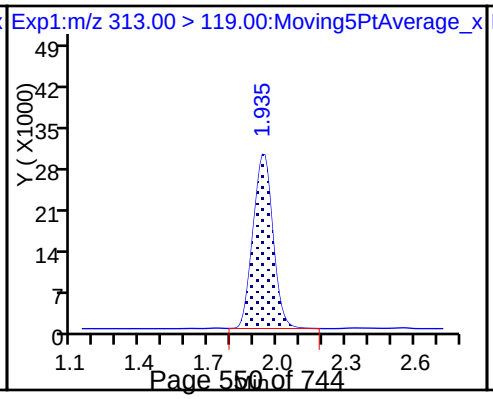
D 7 13C2 PFHxA



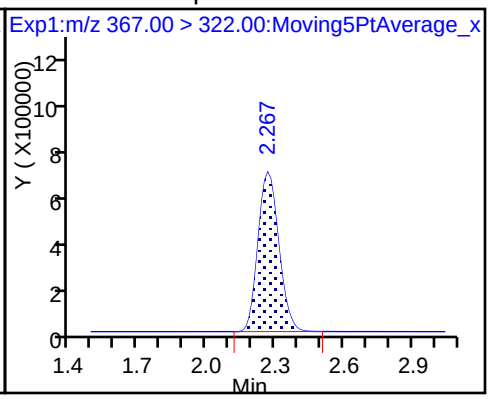
6 Perfluorohexanoic acid



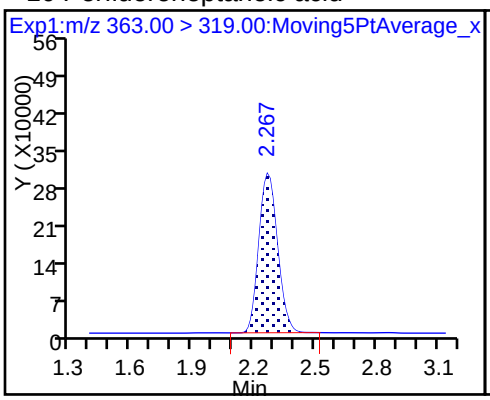
6 Perfluorohexanoic acid



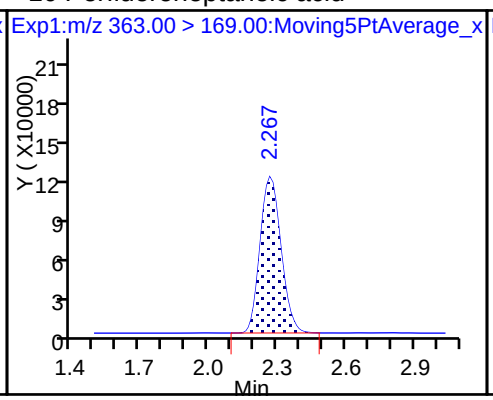
D 9 13C4-PFHpA



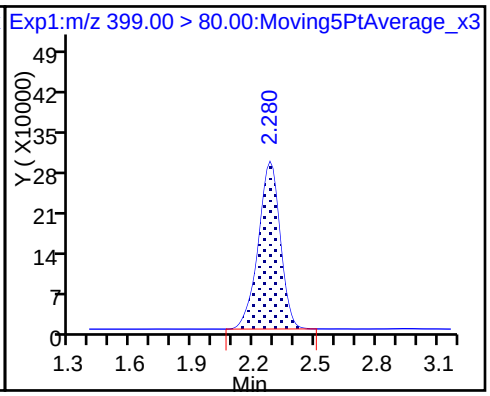
10 Perfluoroheptanoic acid



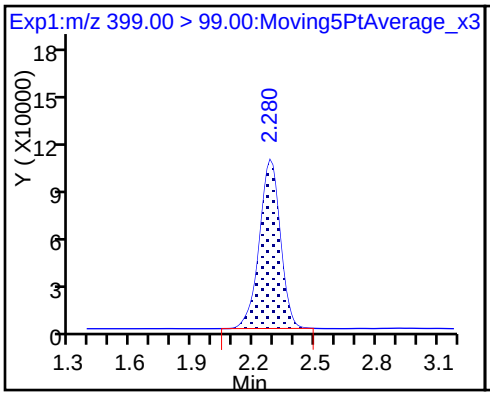
10 Perfluoroheptanoic acid



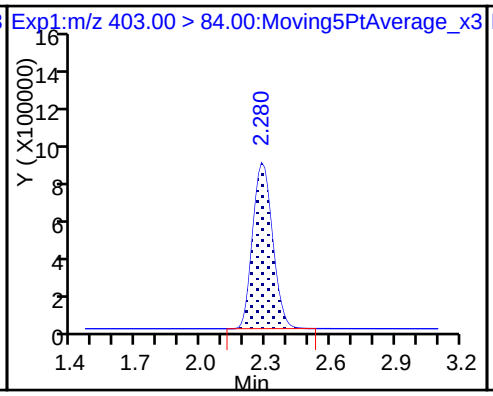
8 Perfluorohexanesulfonic acid



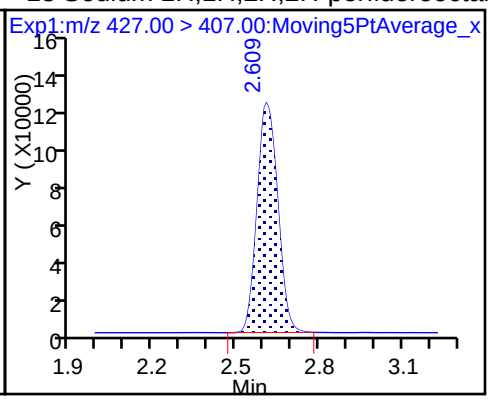
8 Perfluorohexanesulfonic acid



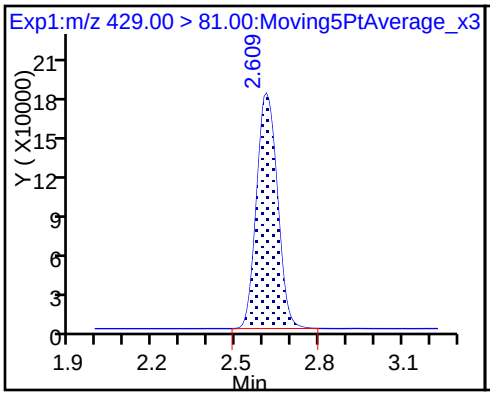
D 11 18O2 PFHxS



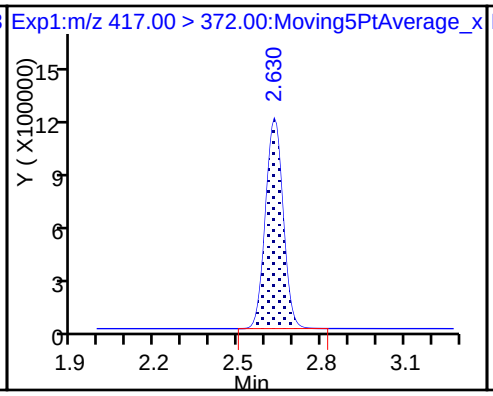
13 Sodium 1H,1H,2H,2H-perfluorooctane



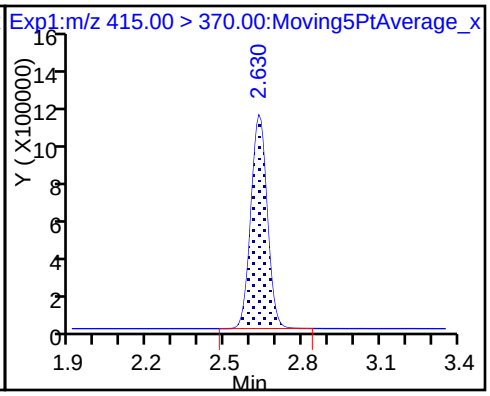
D 12 M2-6:2FTS



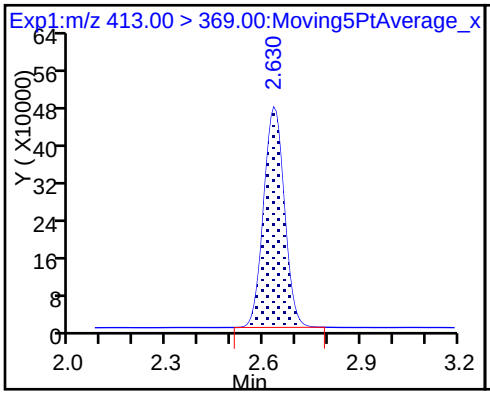
D 14 13C4 PFOA



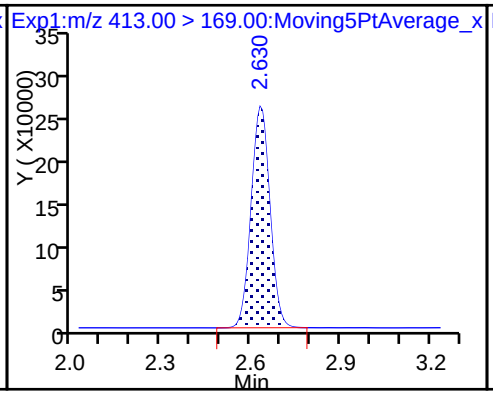
* 62 13C2-PFOA



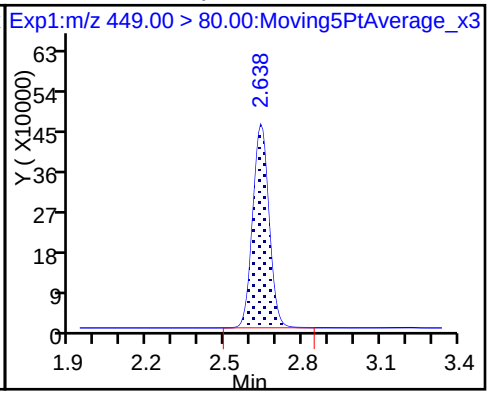
15 Perfluorooctanoic acid



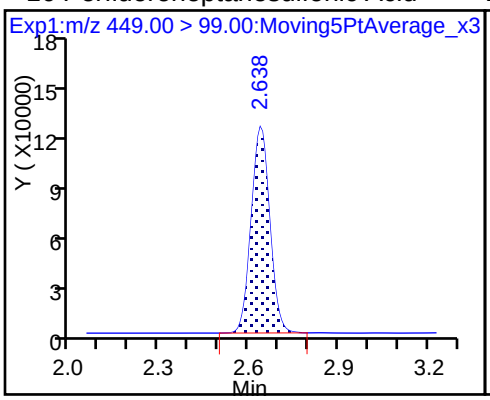
15 Perfluorooctanoic acid



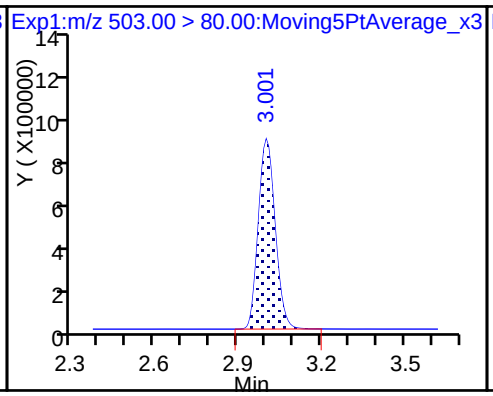
16 Perfluoroheptanesulfonic Acid



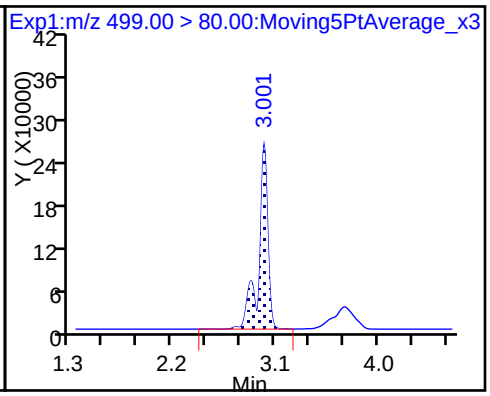
16 Perfluoroheptanesulfonic Acid



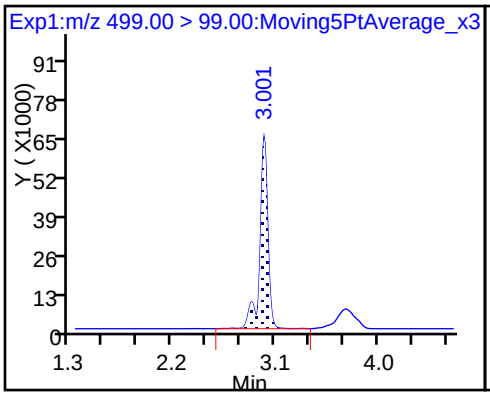
D 18 13C4 PFOS



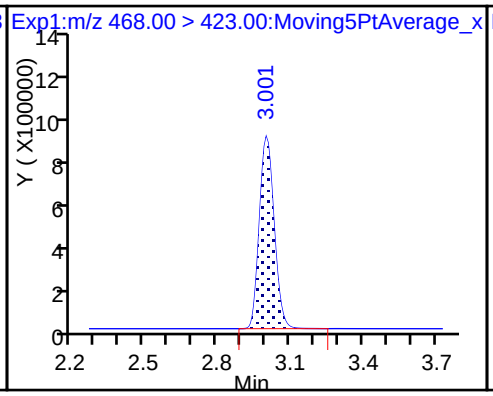
17 Perfluorooctane sulfonic acid



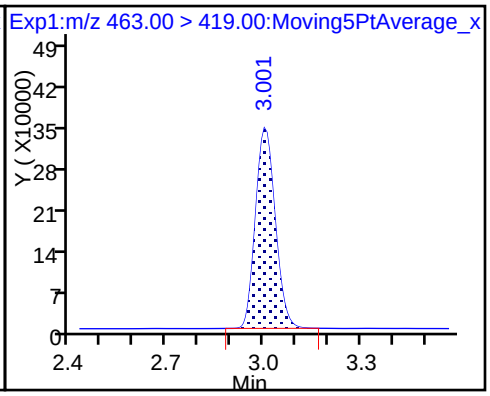
17 Perfluorooctane sulfonic acid



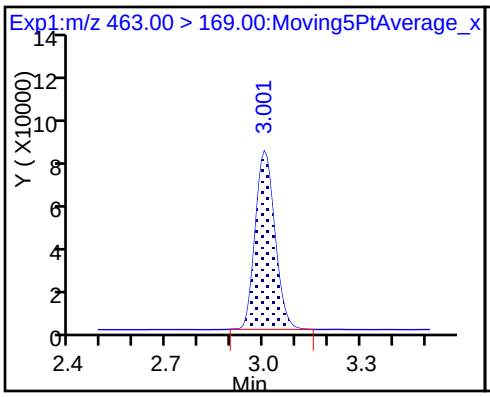
D 19 13C5 PFNA



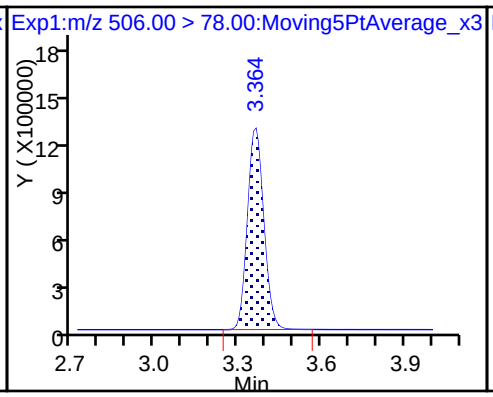
20 Perfluorononanoic acid



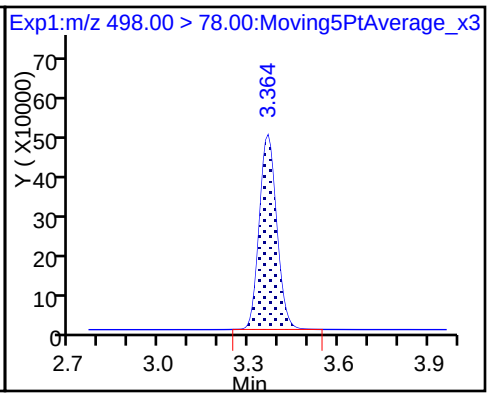
20 Perfluorononanoic acid



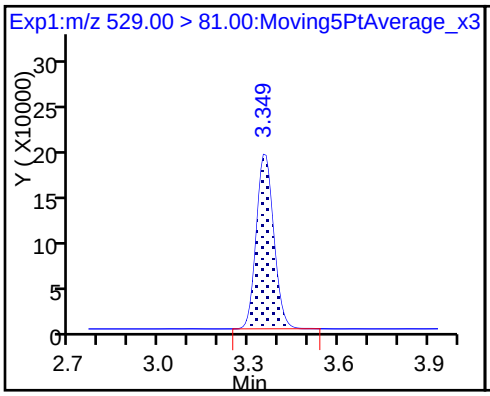
D 21 13C8 FOSA



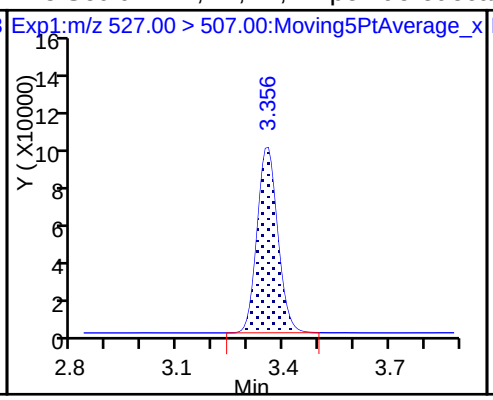
22 Perfluorooctane Sulfonamide



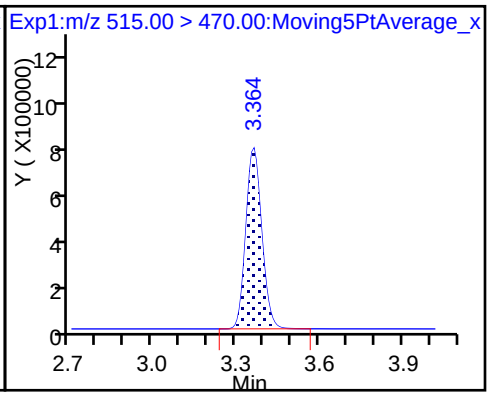
D 26 M2-8:2FTS



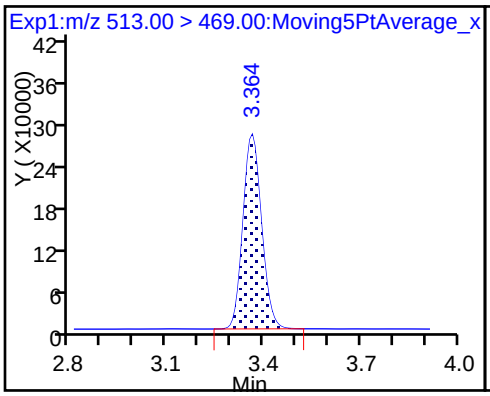
25 Sodium 1H,1H,2H,2H-perfluorodecane



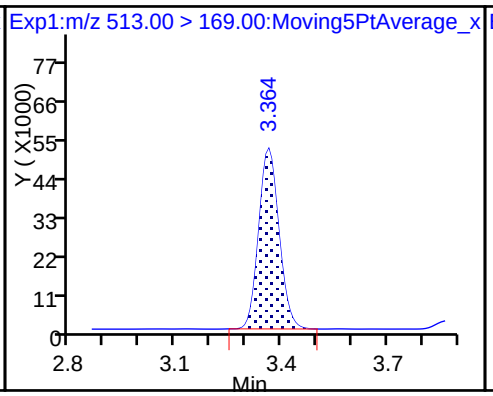
D 23 13C2 PFDA



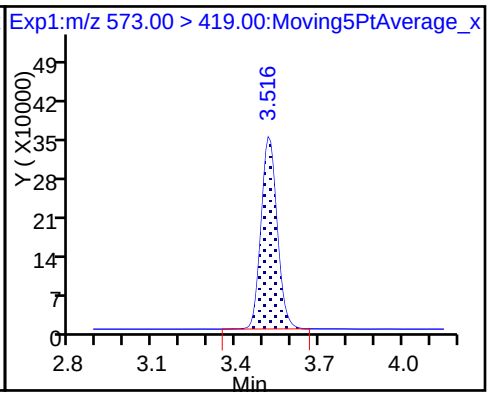
24 Perfluorodecanoic acid



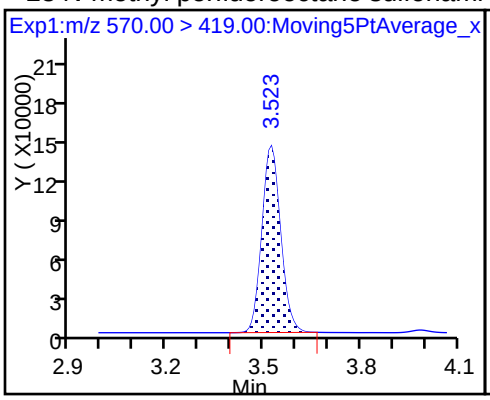
24 Perfluorodecanoic acid



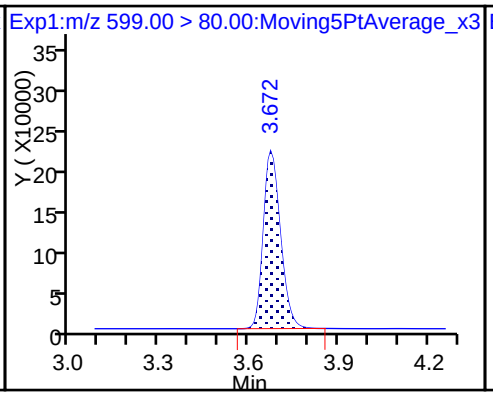
D 27 d3-NMeFOSAA



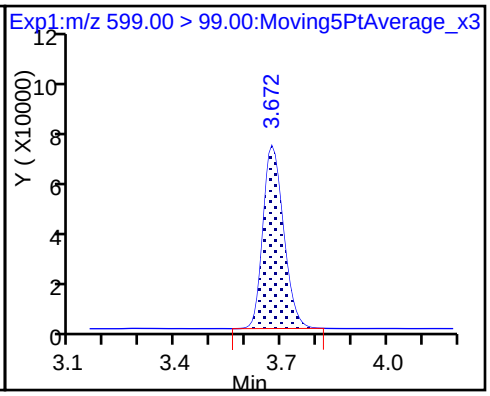
28 N-methyl perfluorooctane sulfonami



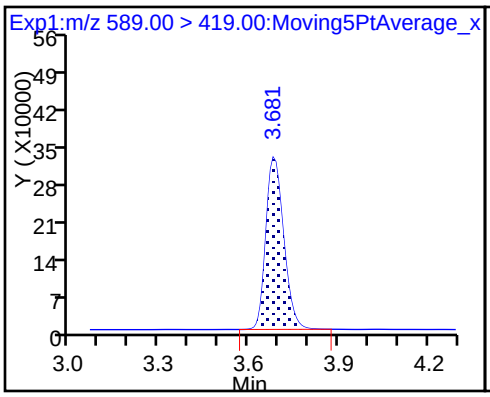
29 Perfluorodecane Sulfonic acid



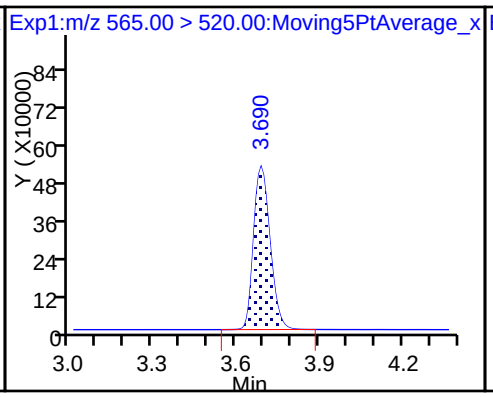
29 Perfluorodecane Sulfonic acid



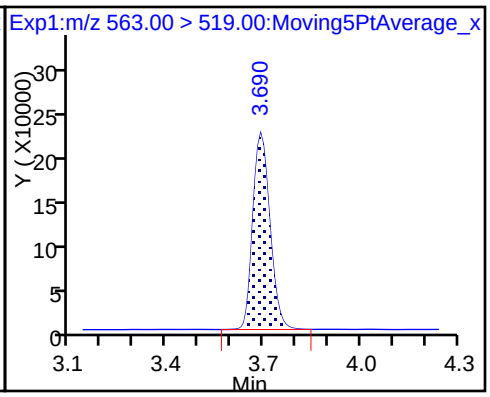
D 32 d5-NEtFOSAA



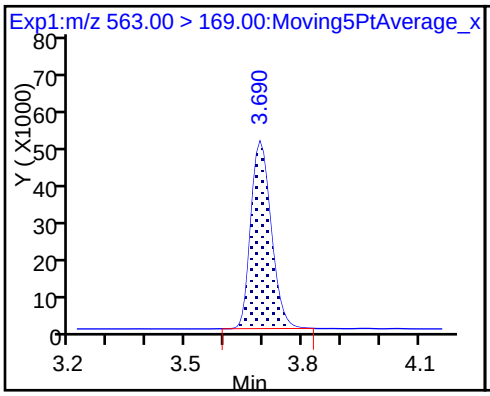
D 30 13C2 PFUnA



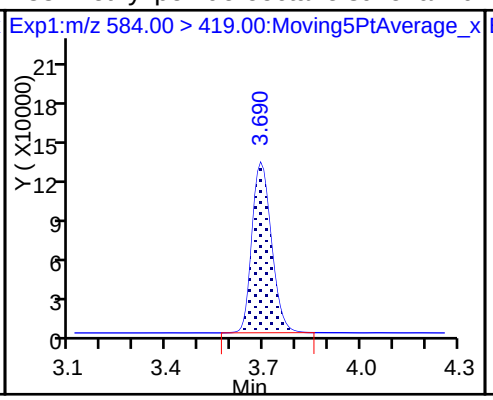
31 Perfluoroundecanoic acid



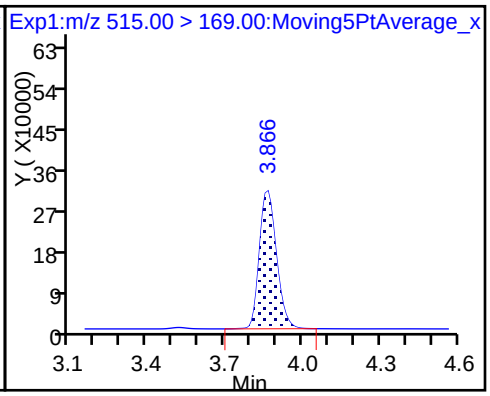
31 Perfluoroundecanoic acid



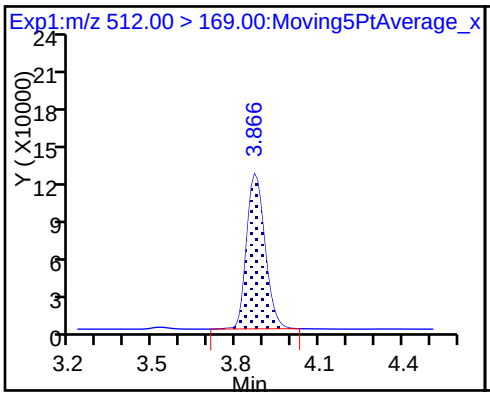
33 N-ethyl perfluorooctane sulfonamid



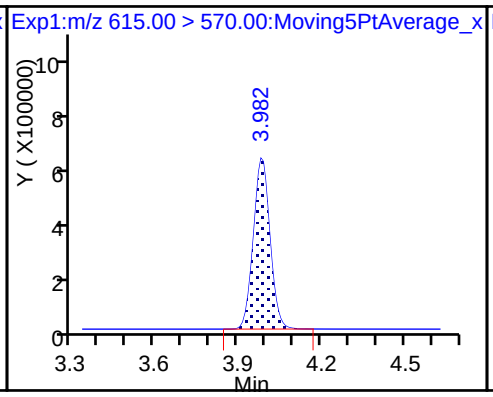
D 34 d-N-MeFOSA-M



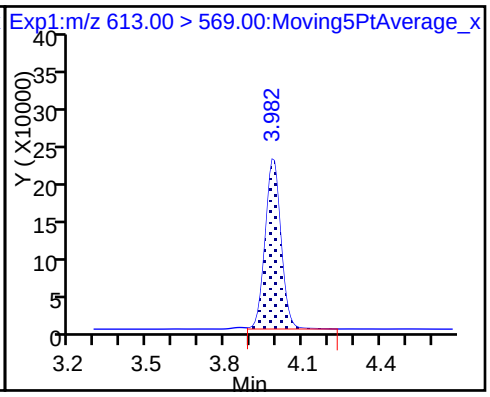
35 MeFOSA



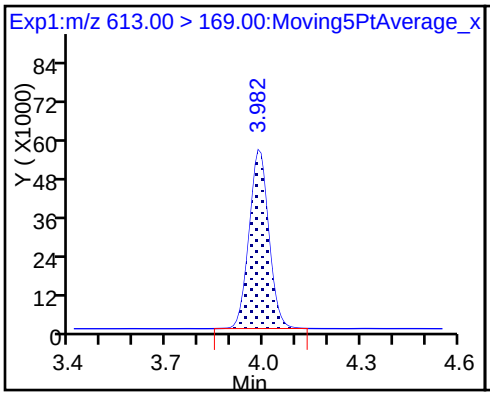
D 36 13C2 PFDoA



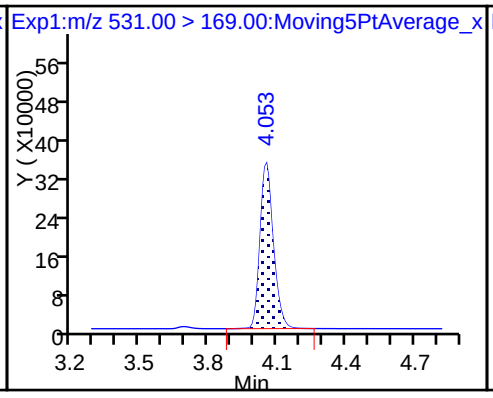
37 Perfluorododecanoic acid



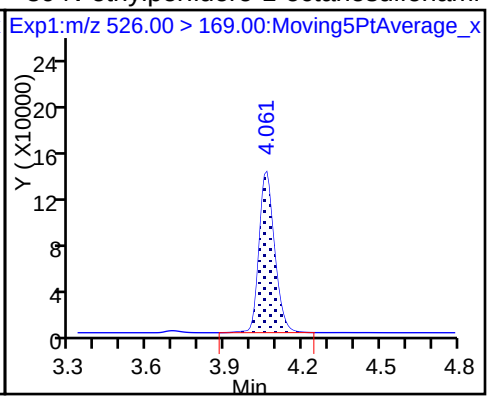
37 Perfluorododecanoic acid



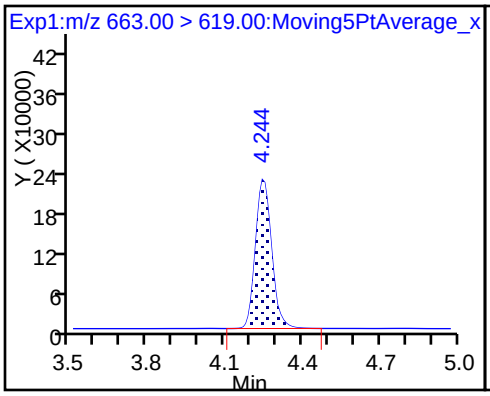
D 38 d-N-EtFOSA-M



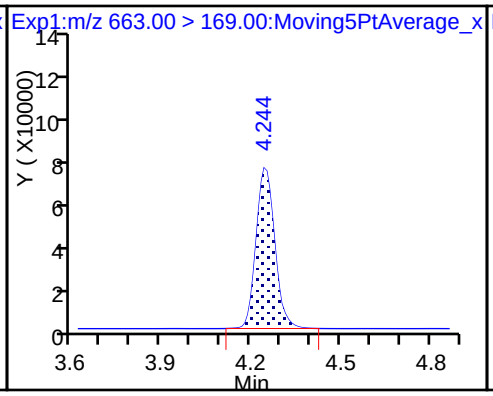
39 N-ethylperfluoro-1-octanesulfonami



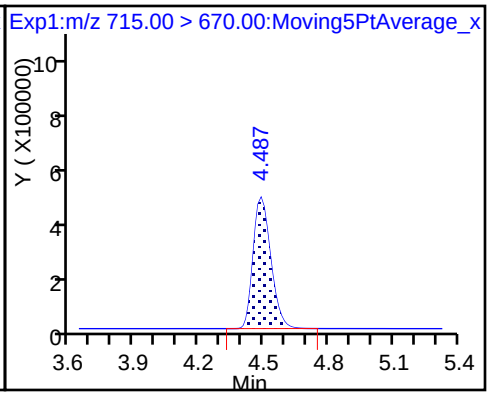
41 Perfluorotridecanoic acid



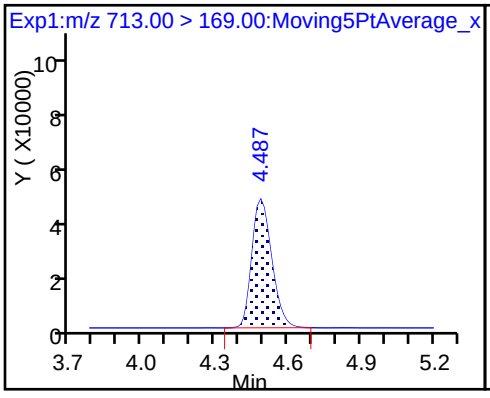
41 Perfluorotridecanoic acid



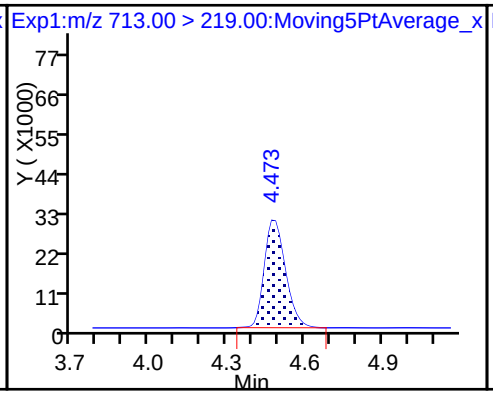
D 43 13C2-PFTeDA



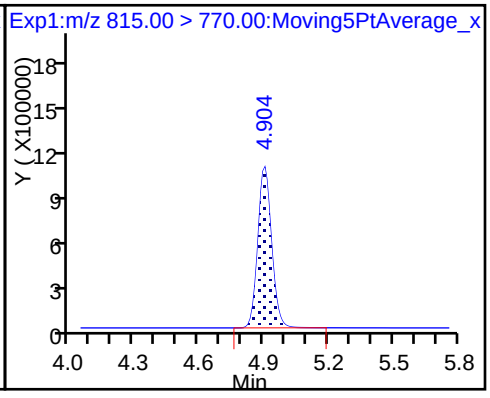
42 Perfluorotetradecanoic acid



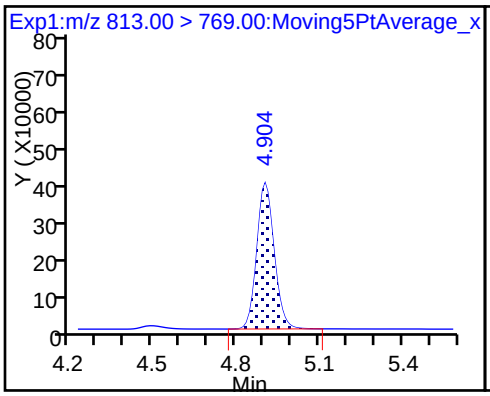
42 Perfluorotetradecanoic acid



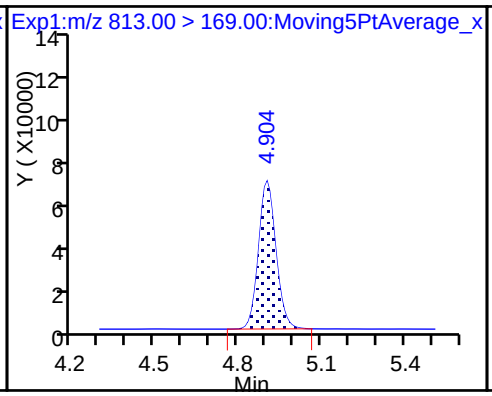
D 44 13C2-PFHxDA



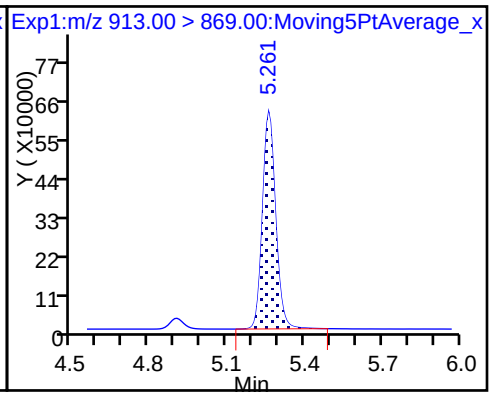
45 Perfluorohexadecanoic acid



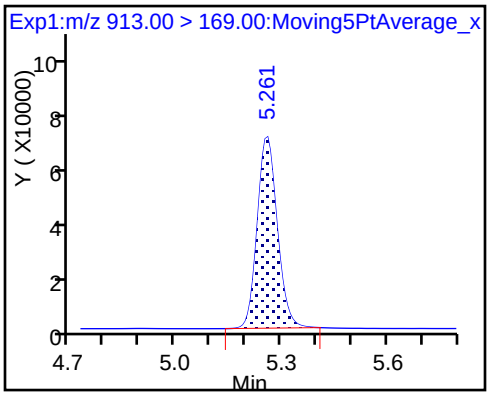
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201221/12 Calibration Date: 12/23/2017 00:05

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_020.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9163	0.9356		2.55	2.50	2.1	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.116	1.106		2.48	2.50	-0.9	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	75.22	77.37		2.27	2.21	2.9	50.0
4:2 FTS	AveID	0.8220	0.8478		2.41	2.34	3.1	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.001	0.9823		2.45	2.50	-1.9	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.067		2.55	2.50	2.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.076	1.023		2.16	2.28	-4.9	40.0
6:2FTS	AveID	1.550	1.531		2.34	2.37	-1.2	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.052	1.070		2.54	2.50	1.7	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.309	1.463		2.66	2.38	11.7	50.0
Perfluorononanoic acid (PFNA)	AveID	1.006	1.055		2.62	2.50	4.8	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.060	1.089		2.38	2.32	2.7	40.0
8:2FTS	AveID	1.216	1.214		2.39	2.40	-0.1	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9592	1.007		2.63	2.50	5.0	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9673	1.016		2.63	2.50	5.0	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.074	1.076		2.51	2.50	0.2	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6176	0.6052		2.36	2.41	-2.0	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9936	0.9820		2.47	2.50	-1.2	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9160	0.8642		2.36	2.50	-5.7	40.0
MeFOSA	AveID	0.9787	1.033		2.64	2.50	5.6	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9925	1.023		2.58	2.50	3.1	40.0
N-EtFOSA-M	AveID	1.065	1.085		2.55	2.50	1.9	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.160	1.081		2.33	2.50	-6.8	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2577	0.2495		2.42	2.50	-3.2	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9141		2.65	2.50	6.0	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.029	1.089		2.65	2.50	5.8	50.0
13C4 PFBA	Ave	1.519	1.462		2.41	2.50	-3.8	50.0
13C5 PFPeA	Ave	0.9096	0.8727		2.40	2.50	-4.1	50.0
13C3-PFBS	Ave	0.0194	0.0188		2.26	2.33	-2.9	50.0
13C2 PFHxA	Ave	0.9709	0.9377		2.42	2.50	-3.4	50.0
13C4-PFHpA	Ave	0.8985	0.8626		2.40	2.50	-4.0	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201221/12 Calibration Date: 12/23/2017 00:05

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_020.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.134	1.089		2.27	2.37	-4.0	50.0
M2-6:2FTS	Ave	0.4185	0.2917		1.66	2.38	-30.3	40.0
13C4 PFOA	Ave	1.033	1.011		2.45	2.50	-2.2	50.0
13C4 PFOS	Ave	0.7487	0.6989		2.23	2.39	-6.7	50.0
13C5 PFNA	Ave	0.7339	0.6914		2.36	2.50	-5.8	50.0
13C8 FOSA	Ave	1.019	0.9469		2.32	2.50	-7.1	50.0
M2-8:2FTS	Ave	0.2338	0.1599		1.64	2.40	-31.6	40.0
13C2 PFDA	Ave	0.6054	0.5427		2.24	2.50	-10.4	50.0
d3-NMeFOSAA	Ave	0.3249	0.2587		1.99	2.50	-20.4	50.0
13C2 PFUnA	Ave	0.4609	0.4305		2.34	2.50	-6.6	50.0
d5-NEtFOSAA	Ave	0.3173	0.2568		2.02	2.50	-19.1	50.0
d-N-MeFOSA-M	Ave	0.2902	0.2754		2.37	2.50	-5.1	50.0
13C2 PFDoA	Ave	0.4970	0.4632		2.33	2.50	-6.8	50.0
d-N-EtFOSA-M	Ave	0.2788	0.2617		2.35	2.50	-6.1	50.0
13C2-PFTeDA	Ave	0.5554	0.5144		2.32	2.50	-7.4	50.0
13C2-PFHxDA	Ave	1.011	0.9652		2.39	2.50	-4.5	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_020.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2017 00:05:27 ALS Bottle#: 14 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:19 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:28:21

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.538	7421463	2.40		96.2	20227	
2 Perfluorobutyric acid										
212.90 > 169.00	1.432	1.419	0.013	1.004	6943593	2.55		102	2013	
D 3 13C5-PFPeA										
267.90 > 223.00	1.679	1.670	0.009	0.633	4431467	2.40		95.9	44840	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.670	0.009	1.000	4901368	2.48		99.1	6142	
D 47 13C3-PFBS										
301.90 > 83.00	1.715	1.705	0.010	0.647	88902	2.26		97.1	3209	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.723	1.707	0.016	1.005	6538467	2.27		103	32414	
298.90 > 99.00	1.715	1.707	0.008	1.000	2760605		2.37(1.25-3.74)		21514	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.933	1.920	0.013	1.000	1172844	2.41		103	34145	
D 7 13C2 PFHxA										
315.00 > 270.00	1.964	1.953	0.011	0.741	4761714	2.41		96.6	43534	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.964	1.956	0.008	1.000	4677547	2.45		98.1	11787	
313.00 > 119.00	1.964	1.956	0.008	1.000	443476		10.55(5.03-15.10)		10898	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.864	4380096	2.40		96.0	31038	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.291	2.291	0.0	1.000	4672668	2.55		102	7809	
363.00 > 169.00	2.291	2.291	0.0	1.000	1716284		2.72(1.13-3.40)		9240	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	1.000	5147989	2.16		95.1	9276	
399.00 > 99.00	2.304	2.304	0.0	1.000	1741618		2.96(1.50-4.49)		6501	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.304	2.304	0.0	0.869	5230058	2.27		96.0	34940	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.645	2.642	0.003	1.000	2150057	2.34		98.8	38145	
D 12 M2-6:2FTS										
429.00 > 81.00	2.645	2.642	0.003	0.997	1407068	1.66		69.7	27243	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	1.000	5132061	2.45		97.8	31884	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.656	-0.004		5077971	2.50			39714	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.652	2.656	-0.004	1.000	5490044	2.54		102	8195	
413.00 > 169.00	2.652	2.656	-0.004	1.000	2929318		1.87(0.84-2.52)		14745	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.659	2.662	-0.003	1.000	4943418	2.66		112	28983	
449.00 > 99.00	2.659	2.662	-0.003	1.000	1289668		3.83(1.94-5.82)		15557	
D 18 13C4 PFOS										
503.00 > 80.00	3.017	3.025	-0.008	1.138	3392741	2.23		93.3	21891	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.028	-0.003	1.003	3586886	2.38		103	383	
499.00 > 99.00	3.025	3.028	-0.003	1.003	767530		4.67(2.31-6.93)		495	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.028	-0.003	1.141	3510951	2.36		94.2	34811	
20 Perfluorononanoic acid										
463.00 > 419.00	3.025	3.029	-0.004	1.000	3702810	2.62		105	13116	
463.00 > 169.00	3.025	3.029	-0.004	1.000	850921		4.35(1.90-5.69)		16850	
D 21 13C8 FOSA										
506.00 > 78.00	3.363	3.370	-0.007	1.268	4808256	2.32		92.9	28139	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.372	-0.002	1.002	4842101	2.62		105	30942	
D 26 M2-8:2FTS										
529.00 > 81.00	3.370	3.377	-0.007	1.271	777617	1.64		68.4	15236	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.370	3.377	-0.007	1.000	943990	2.39		99.9	21701	
D 23 13C2 PFDA										
515.00 > 470.00	3.378	3.389	-0.011	1.274	2755708	2.24		89.6	24792	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.378	3.390	-0.012	1.000	2799766	2.63		105	16706	
513.00 > 169.00	3.378	3.390	-0.012	1.000	522120		5.36(2.36-7.09)		1998	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.537	3.543	-0.006	1.334	1313625	1.99		79.6	20544	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.537	3.548	-0.011	1.000	1412913	2.50		100	6869	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.689	3.703	-0.014	1.000	2070298	2.36		98.0	24775	
599.00 > 99.00	3.689	3.703	-0.014	1.000	699765		2.96(1.39-4.16)		11928	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.712	-0.006	1.397	1303777	2.02		80.9	7474	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.706	3.717	-0.011	1.397	2186184	2.34		93.4	30649	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.706	3.718	-0.012	1.000	1889243	2.36		94.3	14040	
563.00 > 169.00	3.706	3.718	-0.012	1.000	438438		4.31(0.00-0.00)		19668	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.706	3.720	-0.014	1.000	1280254	2.47		98.8	15717	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.865	3.862	0.003	1.457	1398492	2.37		94.9	3545	
35 MeFOSA										
512.00 > 169.00	3.865	3.872	-0.007	1.000	1444798	2.64		106	3354	
D 36 13C2 PFDoA										
615.00 > 570.00	4.005	4.011	-0.006	1.510	2351992	2.33		93.2	28039	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.005	4.011	-0.006	1.000	2406699	2.58		103	10355	
613.00 > 169.00	4.005	4.011	-0.006	1.000	590640		4.07(2.13-6.40)		16428	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.052	4.052	0.0	1.528	1328716	2.35		93.9	3535	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.060	4.058	0.002	1.002	1441151	2.55		102	3415	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.270	4.277	-0.007	1.000	2542077	2.33		93.2	22418	
663.00 > 169.00	4.270	4.277	-0.007	1.000	831955		3.06(1.25-3.76)		21287	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.702	2612122	2.32		92.6	26525	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.513	4.518	-0.005	1.000	651582	2.42		96.8	16028	
713.00 > 219.00	4.500	4.518	-0.018	0.997	452351		1.44(0.71-2.13)		13068	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.931	4.939	-0.008	1.859	4900999	2.39		95.5	14955	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.931	4.939	-0.008	1.000	4480141	2.65		106	3527	
813.00 > 169.00	4.931	4.939	-0.008	1.000	809931		5.53(2.86-8.58)		9493	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.296	5.306	-0.010	1.000	5337509	2.64		106	1768	
913.00 > 169.00	5.296	5.306	-0.010	1.000	665558		8.02(0.00-0.00)		3132	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 26-Dec-2017 15:10:20 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_020.d

Injection Date: 23-Dec-2017 00:05:27 Instrument ID: A8_N

Lims ID: CCV L5

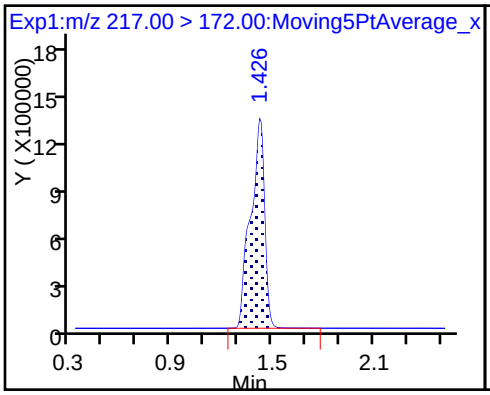
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 12

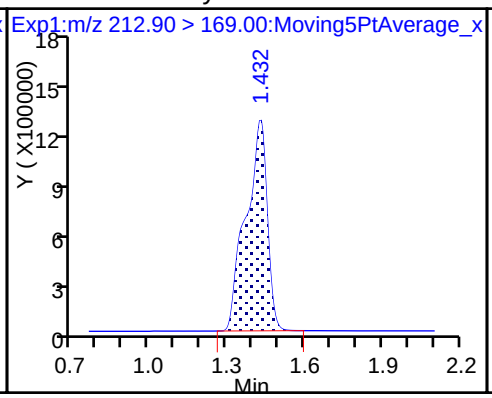
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

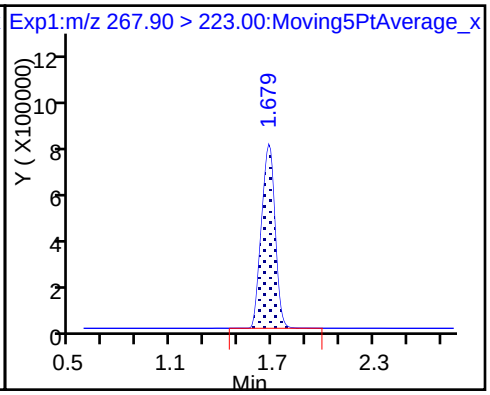
D 1 13C4 PFBA



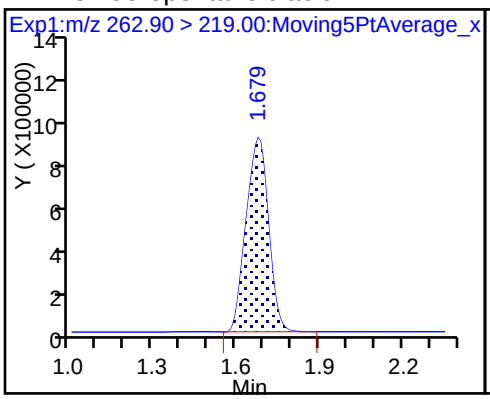
2 Perfluorobutyric acid



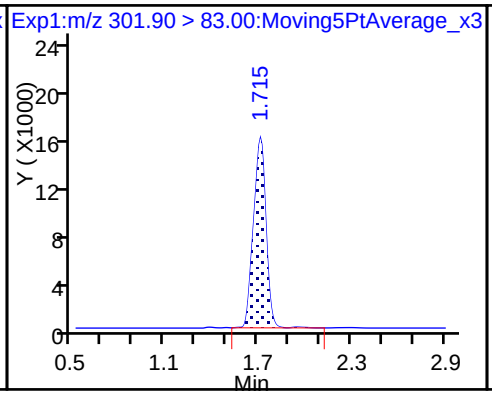
D 3 13C5-PFPeA



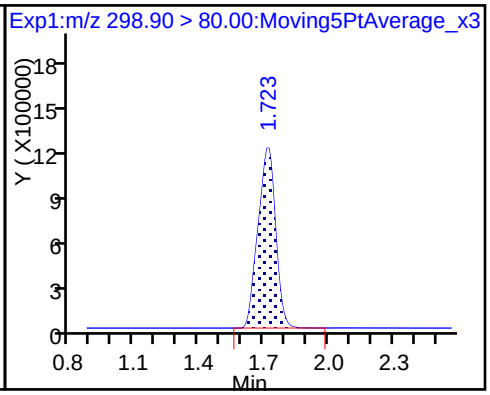
4 Perfluoropentanoic acid



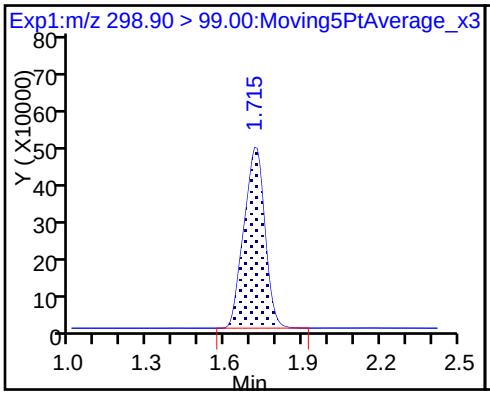
D 47 13C3-PFBS



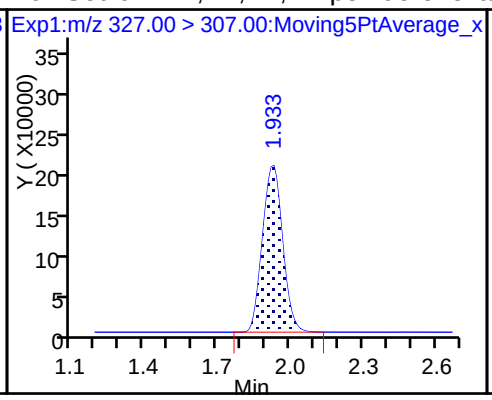
5 Perfluorobutanesulfonic acid



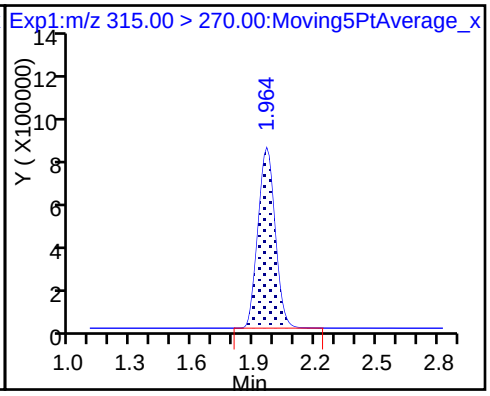
5 Perfluorobutanesulfonic acid



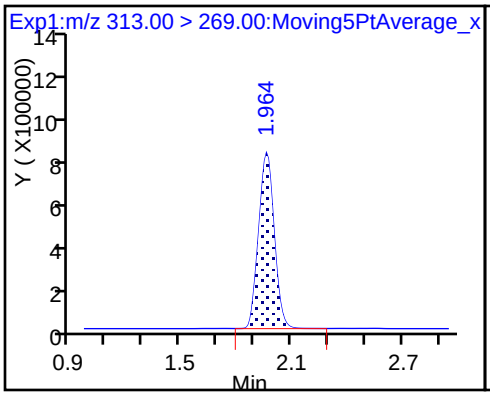
61 Sodium 1H,1H,2H,2H-perfluorohexa



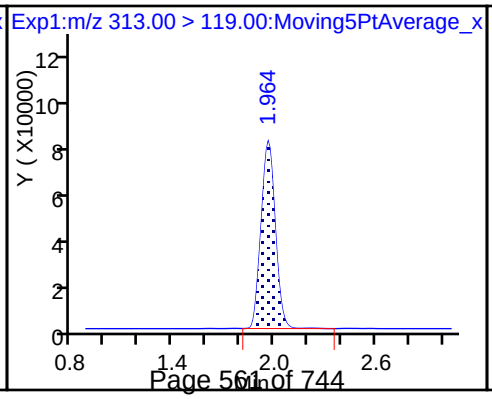
D 7 13C2 PFHxA



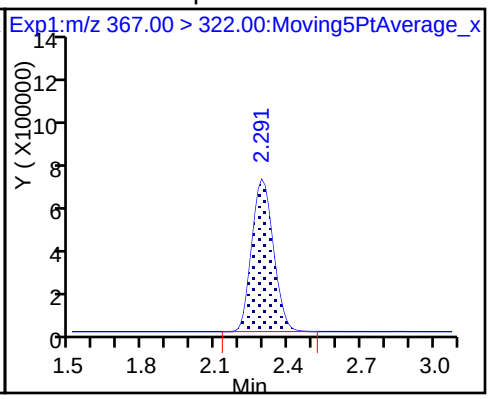
6 Perfluorohexanoic acid



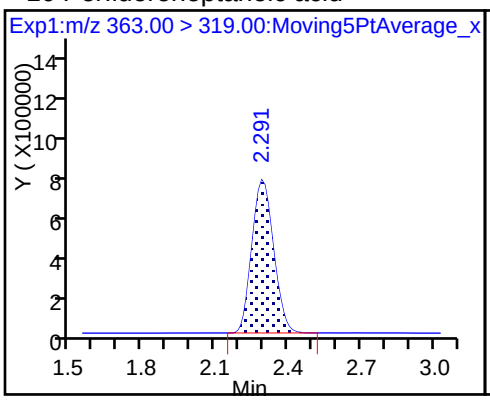
6 Perfluorohexanoic acid



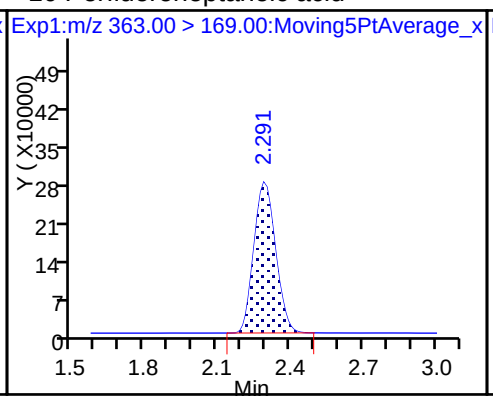
D 9 13C4-PFHpA



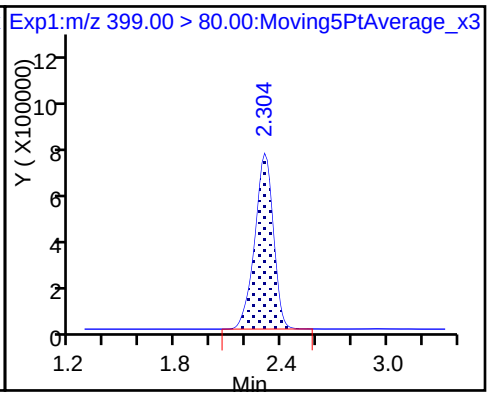
10 Perfluoroheptanoic acid



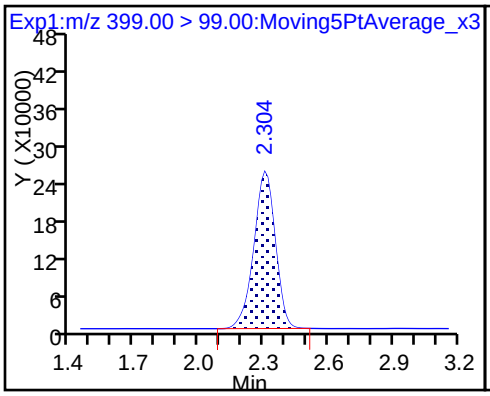
10 Perfluoroheptanoic acid



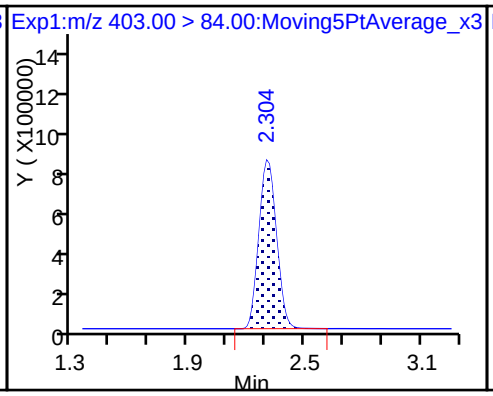
8 Perfluorohexanesulfonic acid



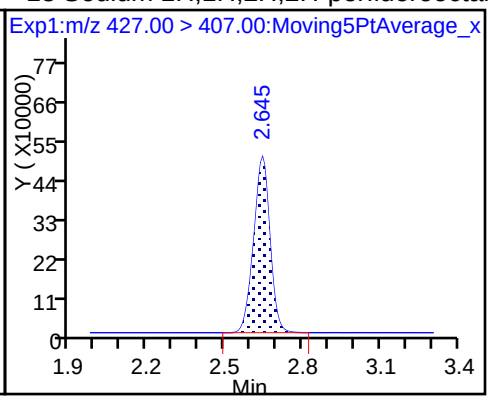
8 Perfluorohexanesulfonic acid



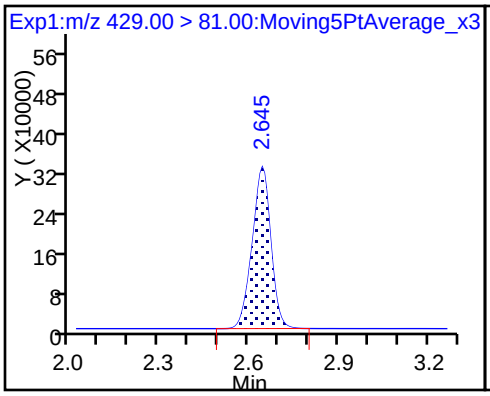
D 11 18O2 PFHxS



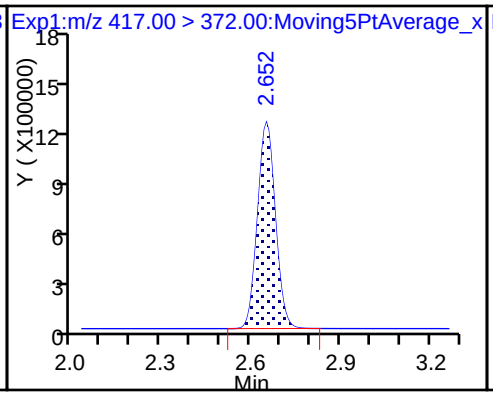
13 Sodium 1H,1H,2H,2H-perfluorooctane



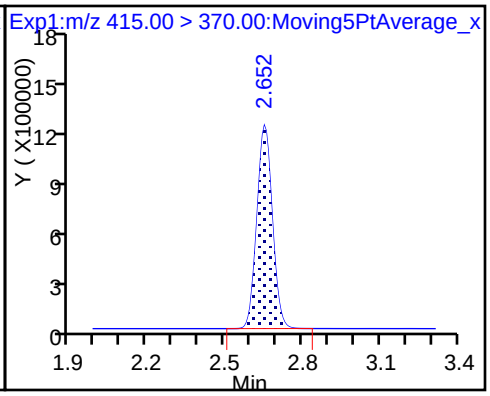
D 12 M2-6:2FTS



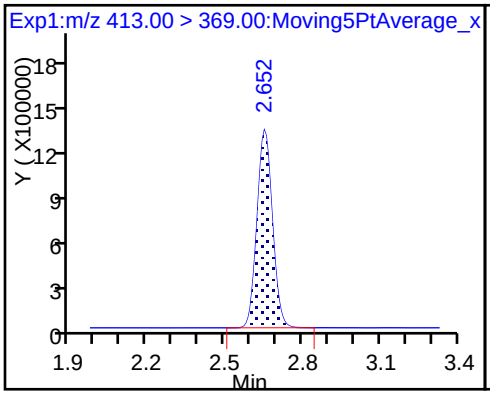
D 14 13C4 PFOA



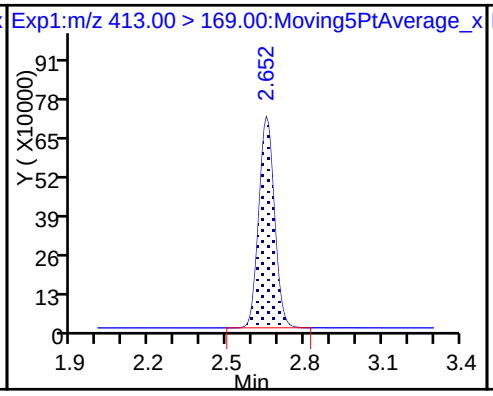
* 62 13C2-PFOA



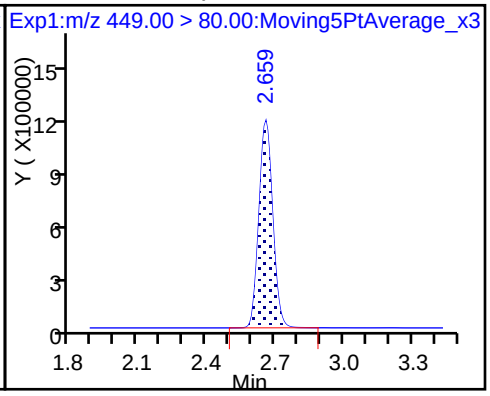
15 Perfluorooctanoic acid



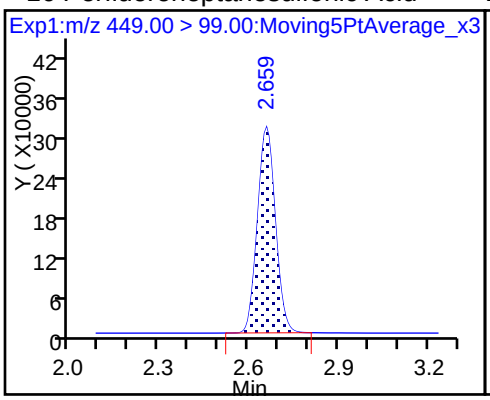
15 Perfluorooctanoic acid



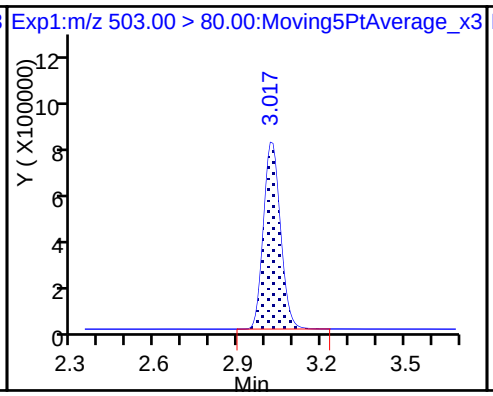
16 Perfluoroheptanesulfonic Acid



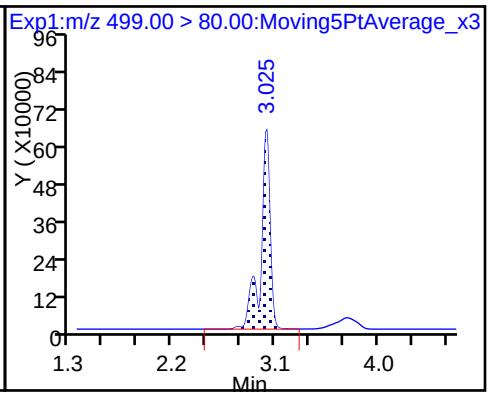
16 Perfluoroheptanesulfonic Acid



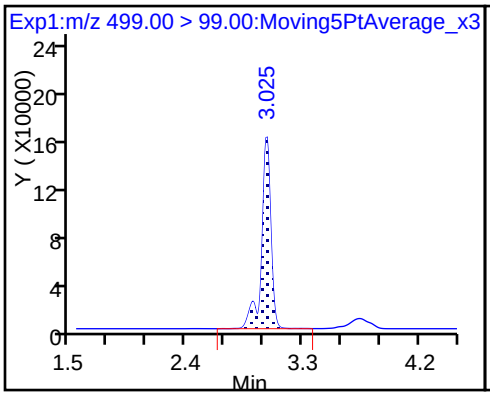
D 18 13C4 PFOS



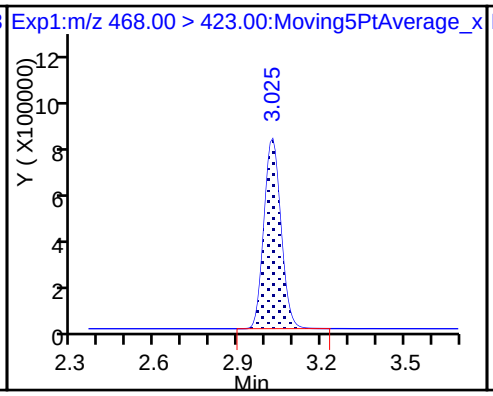
17 Perfluorooctane sulfonic acid



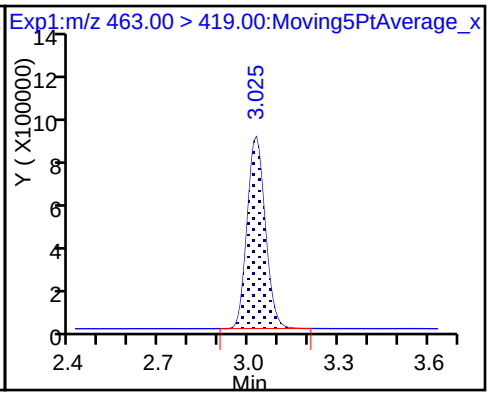
17 Perfluorooctane sulfonic acid



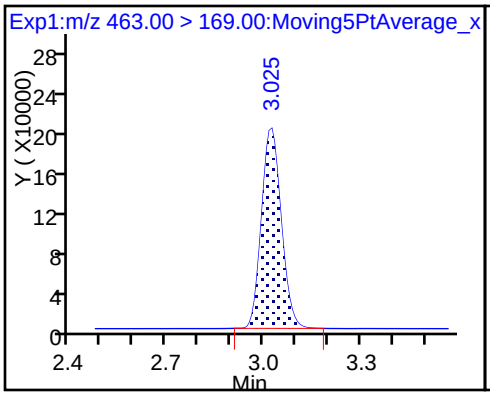
D 19 13C5 PFNA



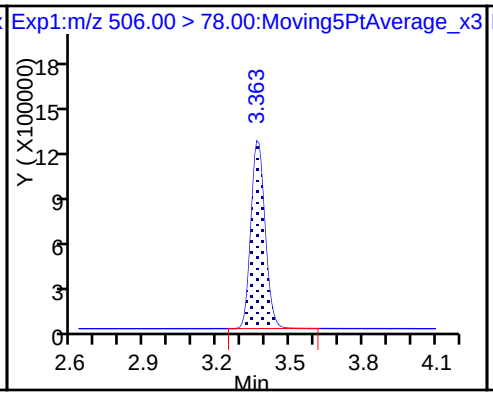
20 Perfluorononanoic acid



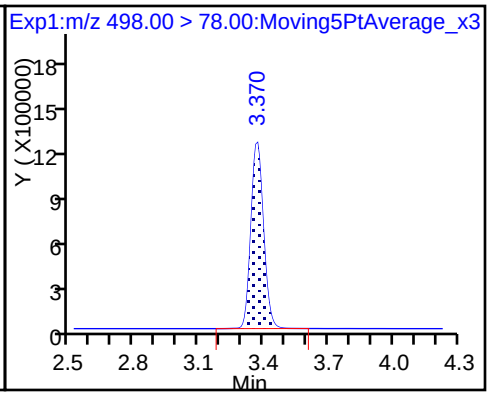
20 Perfluorononanoic acid



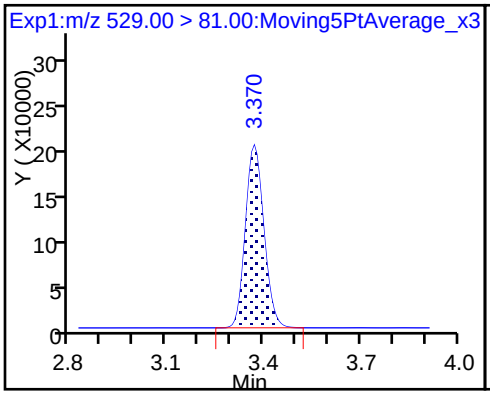
D 21 13C8 FOSA



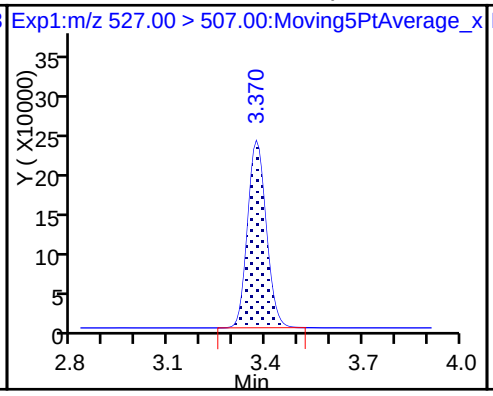
22 Perfluorooctane Sulfonamide



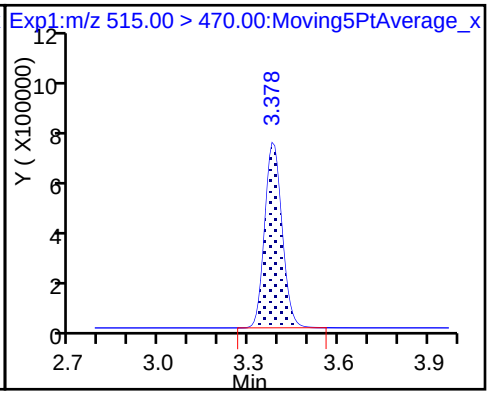
D 26 M2-8:2FTS



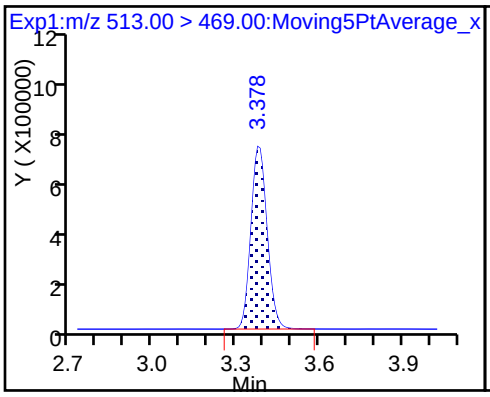
25 Sodium 1H,1H,2H,2H-perfluorodecane



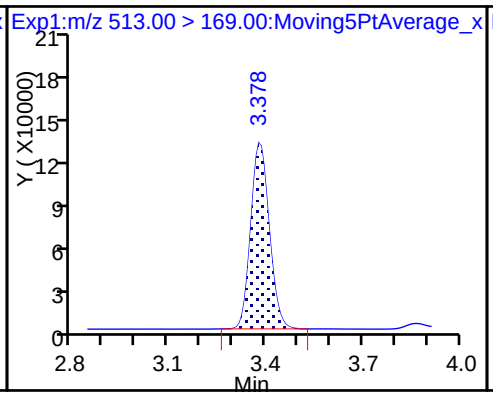
D 23 13C2 PFDA



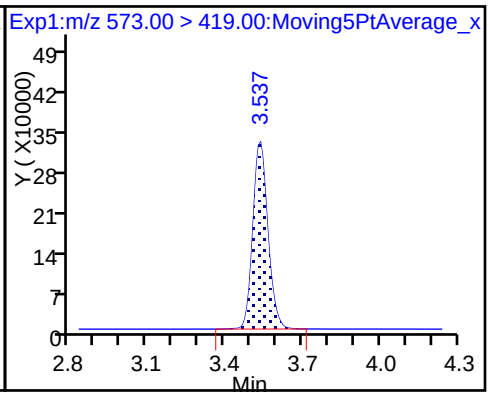
24 Perfluorodecanoic acid



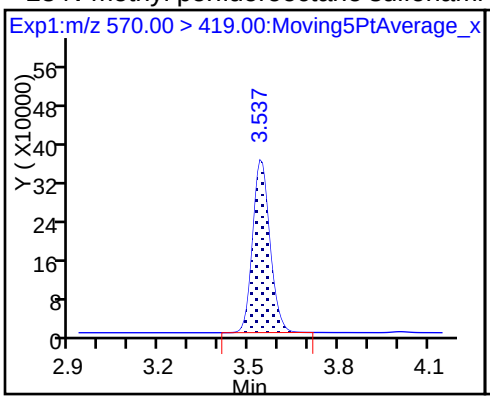
24 Perfluorodecanoic acid



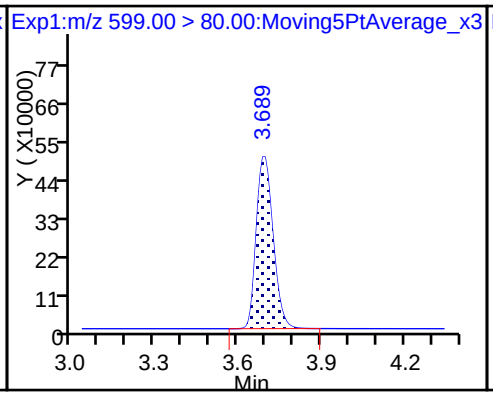
D 27 d3-NMeFOSAA



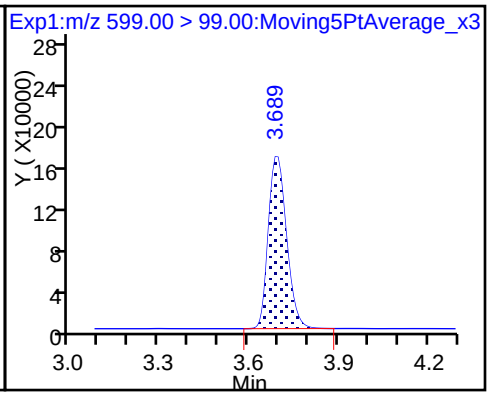
28 N-methyl perfluorooctane sulfonami



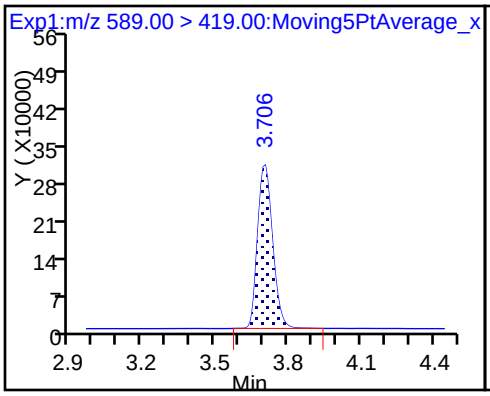
29 Perfluorodecane Sulfonic acid



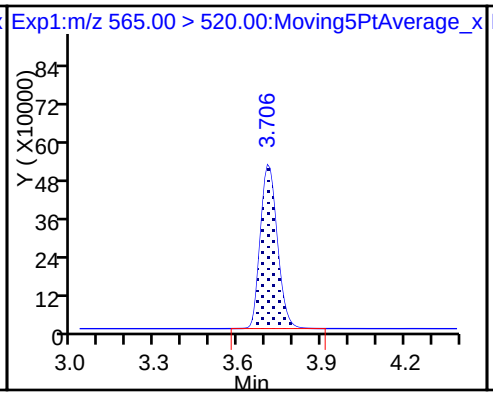
29 Perfluorodecane Sulfonic acid



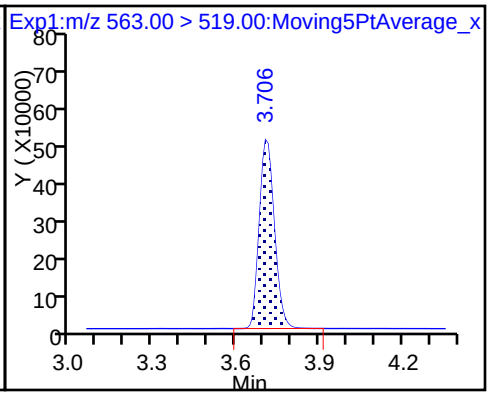
D 32 d5-NEtFOSAA



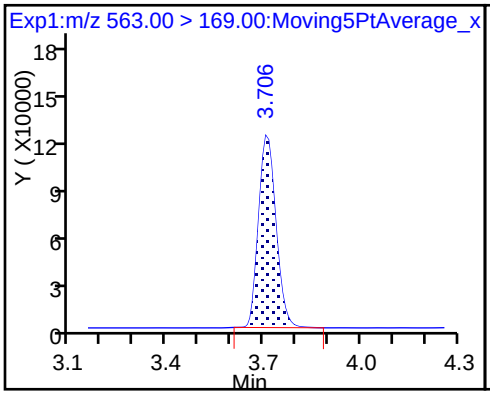
D 30 13C2 PFUnA



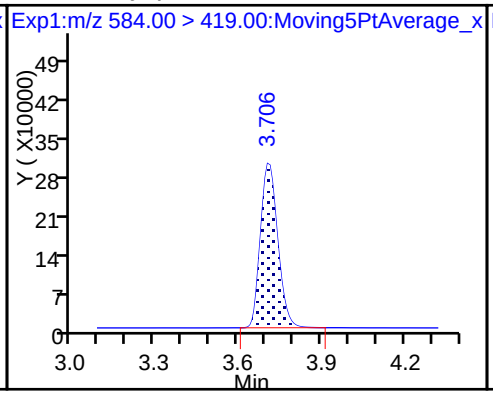
31 Perfluoroundecanoic acid



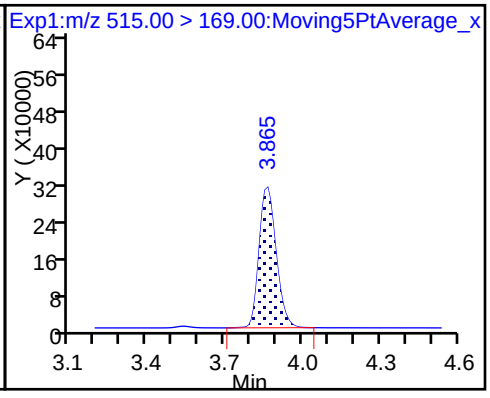
31 Perfluoroundecanoic acid



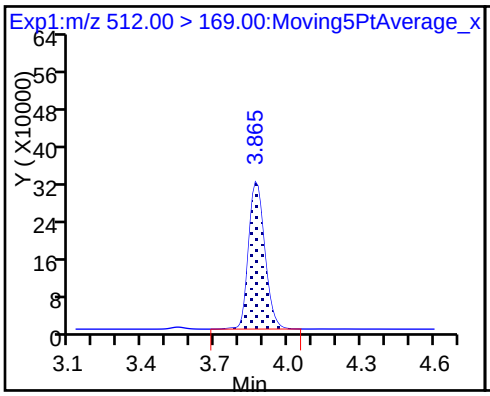
33 N-ethyl perfluorooctane sulfonamid



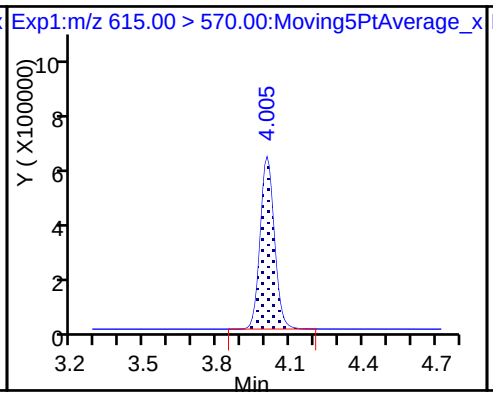
D 34 d-N-MeFOSA-M



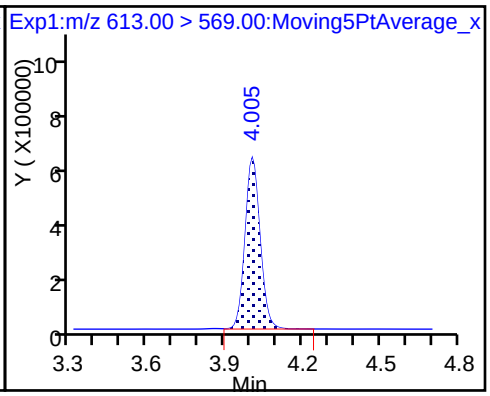
35 MeFOSA



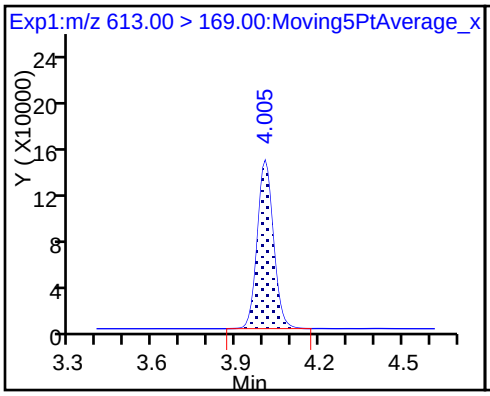
D 36 13C2 PFDoA



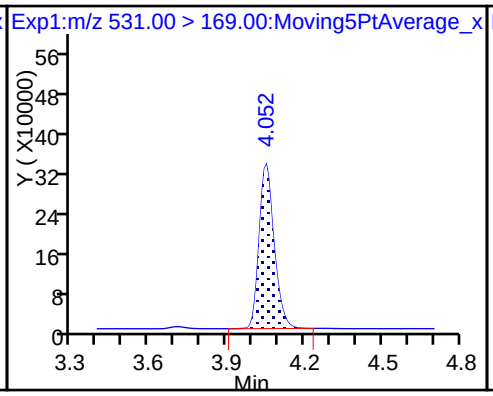
37 Perfluorododecanoic acid



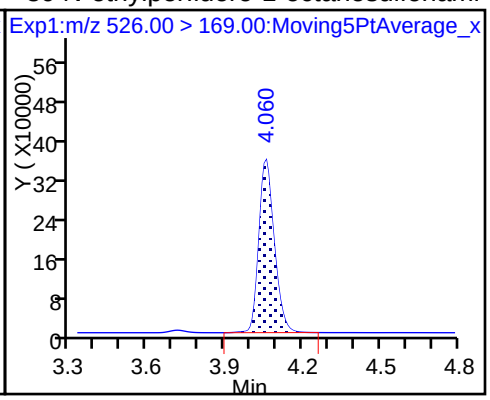
37 Perfluorododecanoic acid



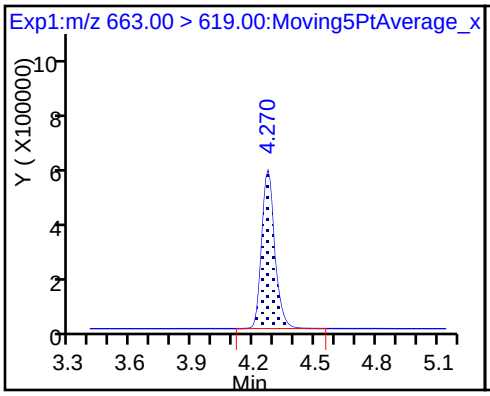
D 38 d-N-EtFOSA-M



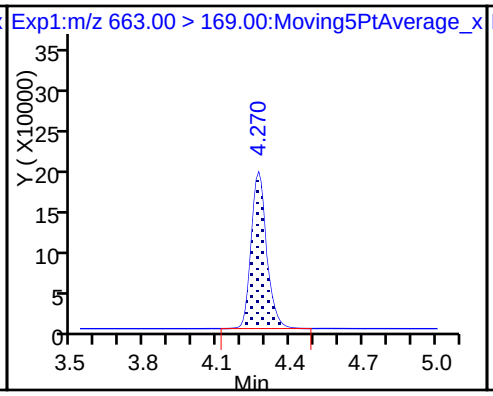
39 N-ethylperfluoro-1-octanesulfonami



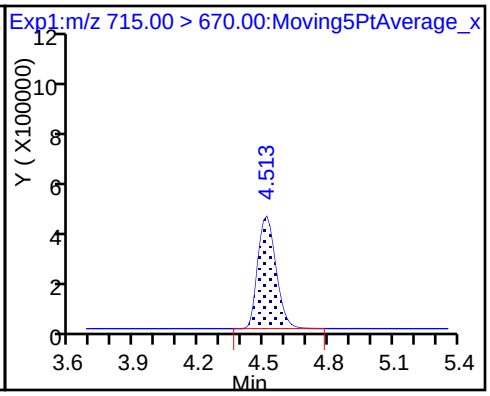
41 Perfluorotridecanoic acid



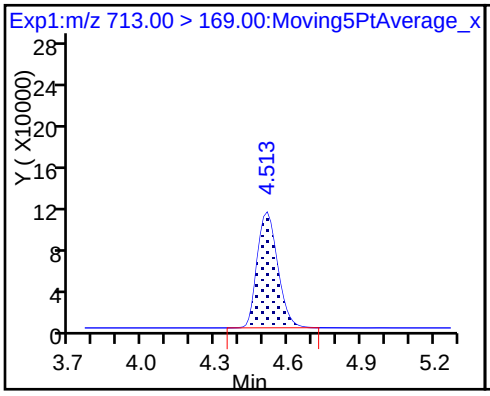
41 Perfluorotridecanoic acid



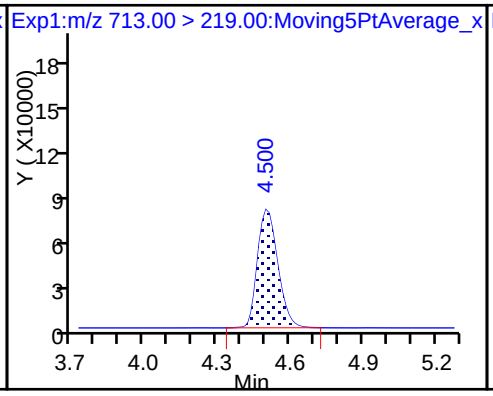
D 43 13C2-PFTeDA



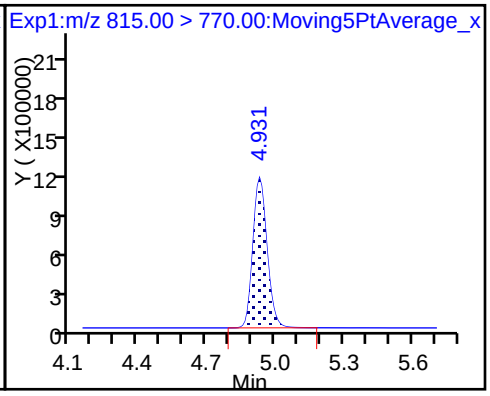
42 Perfluorotetradecanoic acid



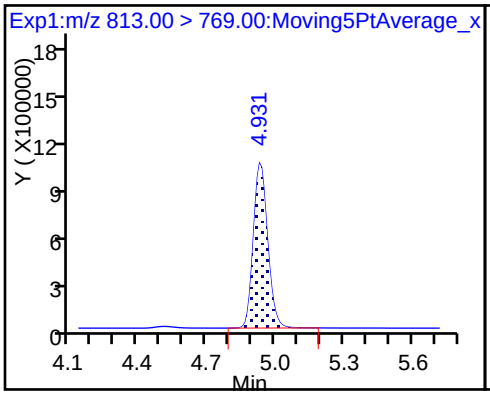
42 Perfluorotetradecanoic acid



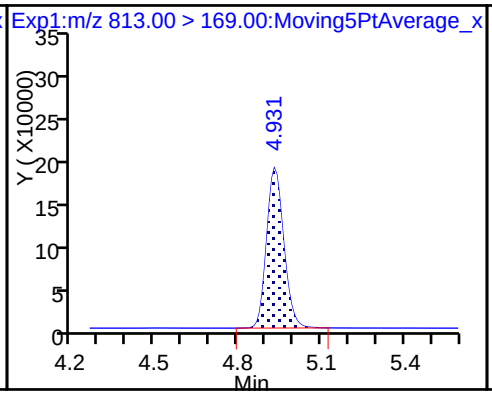
D 44 13C2-PFHxDA



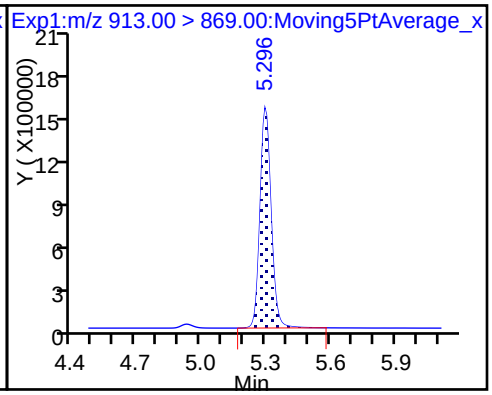
45 Perfluorohexadecanoic acid



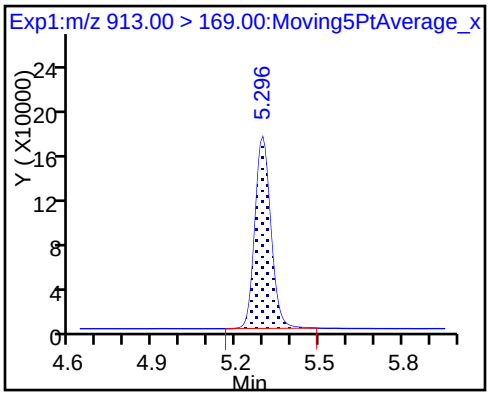
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201221/23 Calibration Date: 12/23/2017 01:31

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_031.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9163	0.9348		1.02	1.00	2.0	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.116	1.128		1.01	1.00	1.0	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	75.22	76.87		0.903	0.884	2.2	50.0
4:2 FTS	AveID	0.8220	0.7707		0.876	0.934	-6.2	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.001	1.019		1.02	1.00	1.8	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	0.9804		0.937	1.00	-6.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.076	1.009		0.853	0.910	-6.3	40.0
6:2FTS	AveID	1.550	1.575		0.963	0.948	1.6	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.052	1.107		1.05	1.00	5.2	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.309	1.486		1.08	0.952	13.5	50.0
Perfluorononanoic acid (PFNA)	AveID	1.006	0.9753		0.969	1.00	-3.1	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.060	1.108		0.970	0.928	4.5	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9592	0.9832		1.03	1.00	2.5	40.0
8:2FTS	AveID	1.216	1.247		0.983	0.958	2.6	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9673	1.064		1.10	1.00	10.0	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.074	1.126		1.05	1.00	4.9	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6176	0.6381		0.996	0.964	3.3	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9936	0.9370		0.943	1.00	-5.7	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9160	0.8987		0.981	1.00	-1.9	40.0
MeFOSA	AveID	0.9787	1.010		1.03	1.00	3.2	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9925	0.9458		0.953	1.00	-4.7	40.0
N-EtFOSA-M	AveID	1.065	1.062		1.00	1.00	-0.2	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.160	1.083		0.934	1.00	-6.6	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2577	0.2615		1.02	1.00	1.5	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.8936		1.02	1.00	2.2	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.029	1.143		1.11	1.00	11.0	50.0
13C4 PFBA	Ave	1.519	1.549		2.55	2.50	2.0	50.0
13C5 PFPeA	Ave	0.9096	0.9074		2.49	2.50	-0.2	50.0
13C3-PFBS	Ave	0.0194	0.0198		2.37	2.33	1.8	50.0
13C2 PFHxA	Ave	0.9709	0.9542		2.46	2.50	-1.7	50.0
13C4-PFHpA	Ave	0.8985	0.9405		2.62	2.50	4.7	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201221/23 Calibration Date: 12/23/2017 01:31

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_031.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.134	1.175		2.45	2.37	3.6	50.0
M2-6:2FTS	Ave	0.4185	0.3192		1.81	2.38	-23.7	40.0
13C4 PFOA	Ave	1.033	1.048		2.54	2.50	1.5	50.0
13C4 PFOS	Ave	0.7487	0.7168		2.29	2.39	-4.3	50.0
13C5 PFNA	Ave	0.7339	0.7467		2.54	2.50	1.8	50.0
13C8 FOSA	Ave	1.019	1.024		2.51	2.50	0.5	50.0
M2-8:2FTS	Ave	0.2338	0.1640		1.68	2.40	-29.9	40.0
13C2 PFDA	Ave	0.6054	0.5676		2.34	2.50	-6.2	50.0
d3-NMeFOSAA	Ave	0.3249	0.2659		2.05	2.50	-18.2	50.0
d5-NEtFOSAA	Ave	0.3173	0.2920		2.30	2.50	-8.0	50.0
13C2 PFUnA	Ave	0.4609	0.4469		2.42	2.50	-3.0	50.0
d-N-MeFOSA-M	Ave	0.2902	0.2860		2.46	2.50	-1.5	50.0
13C2 PFDoA	Ave	0.4970	0.4976		2.50	2.50	0.1	50.0
d-N-EtFOSA-M	Ave	0.2788	0.2756		2.47	2.50	-1.1	50.0
13C2-PFTeDA	Ave	0.5554	0.5219		2.35	2.50	-6.0	50.0
13C2-PFHxDA	Ave	1.011	1.002		2.48	2.50	-0.9	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_031.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2017 01:31:49 ALS Bottle#: 13 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L4
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:10:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:28:41

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.536	7518286	2.55		102	19666	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.004	2811211	1.02		102	825	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.630	4402920	2.49		99.8	39926	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.005	1986278	1.01		101	2434	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.647	89121	2.37		102	4059	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	2604727	0.9034		102	15452	
298.90 > 99.00	1.716	1.707	0.009	1.000	1093601		2.38(1.25-3.74)		10304	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.924	1.920	0.004	1.000	445976	0.8757		93.8	19761	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.741	4630424	2.46		98.3	34498	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.966	1.956	0.010	1.000	1887855	1.02		102	4263	
313.00 > 119.00	1.966	1.956	0.010	1.000	172954		10.92(5.03-15.10)		2971	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.865	4563632	2.62		105	23902	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	1789633	0.9372		93.7	3359	
363.00 > 169.00	2.293	2.291	0.002	1.000	716900		2.50(1.13-3.40)		4458	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	2093463	0.8529		93.7	4315	
399.00 > 99.00	2.306	2.304	0.002	1.000	716799		2.92(1.50-4.49)		3493	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.870	5392945	2.45		104	29124	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.645	2.642	0.003	1.000	924851	0.9631		102	16992	
D 12 M2-6:2FTS										
429.00 > 81.00	2.645	2.642	0.003	0.997	1471454	1.81		76.3	38801	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	1.000	5085518	2.54		101	33964	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.656	-0.004		4852451	2.50			50595	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.652	2.656	-0.004	1.000	2251256	1.05		105	3909	
413.00 > 169.00	2.652	2.656	-0.004	1.000	1175029		1.92(0.84-2.52)		7887	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.659	2.662	-0.003	1.000	1967896	1.08		113	17982	
449.00 > 99.00	2.659	2.662	-0.003	1.000	535624		3.67(1.94-5.82)		11496	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3324943	2.29		95.7	22613	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.028	-0.003	1.000	1429929	0.9696		104	156	
499.00 > 99.00	3.025	3.028	-0.003	1.000	321546		4.45(2.31-6.93)		204	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.028	-0.003	1.141	3623532	2.54		102	28848	
20 Perfluorononanoic acid										
463.00 > 419.00	3.025	3.029	-0.004	1.000	1413584	0.9692		96.9	5728	
463.00 > 169.00	3.025	3.029	-0.004	1.000	357082		3.96(1.90-5.69)		7139	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.271	4968517	2.51		100	23792	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.370	3.372	-0.002	1.000	1953997	1.03		103	20548	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.274	762140	1.68		70.1	13821	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.378	3.377	0.001	1.000	380072	0.9825		103	19354	
D 23 13C2 PFDA										
515.00 > 470.00	3.386	3.389	-0.003	1.277	2754282	2.34		93.8	31690	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.386	3.390	-0.004	1.000	1172249	1.10		110	8352	
513.00 > 169.00	3.386	3.390	-0.004	1.000	195502		6.00(2.36-7.09)		1980	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.545	3.543	0.002	1.337	1290336	2.05		81.8	17748	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.545	3.548	-0.003	1.000	581178	1.05		105	4835	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.698	3.703	-0.005	1.000	855746	1.00		103	25930	
599.00 > 99.00	3.698	3.703	-0.005	1.000	281023		3.05(1.39-4.16)		7564	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.707	3.712	-0.005	1.398	1416832	2.30		92.0	6055	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.715	3.717	-0.002	1.401	2168526	2.42		97.0	30186	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.715	3.718	-0.003	1.000	779542	0.9811		98.1	7113	
563.00 > 169.00	3.715	3.718	-0.003	1.000	169299		4.60(0.00-0.00)		5033	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.715	3.720	-0.005	1.002	531050	0.9431		94.3	12472	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.866	3.862	0.004	1.458	1387546	2.46		98.5	4213	
35 MeFOSA										
512.00 > 169.00	3.866	3.872	-0.006	1.000	560351	1.03		103	3200	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.513	2414611	2.50		100	43268	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.013	4.011	0.002	1.000	913504	0.9529		95.3	4069	
613.00 > 169.00	4.013	4.011	0.002	1.000	225496		4.05(2.13-6.40)		9497	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.053	4.052	0.001	1.528	1337472	2.47		98.9	3377	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.061	4.058	0.003	1.002	568161	1.00		99.8	3158	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.280	4.277	0.003	1.000	1046207	0.9341		93.4	9811	
663.00 > 169.00	4.271	4.277	-0.006	0.998	334368		3.13(1.25-3.76)		15070	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.702	2532382	2.35		94.0	21897	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.518	-0.004	1.000	264856	1.01		101	11459	
713.00 > 219.00	4.514	4.518	-0.004	1.000	181022		1.46(0.71-2.13)		6193	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.939	-0.007	1.860	4862919	2.48		99.1	14029	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.939	-0.007	1.000	1738130	1.02		102	1506	
813.00 > 169.00	4.932	4.939	-0.007	1.000	304968		5.70(2.86-8.58)		6385	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.304	5.306	-0.002	1.000	2222821	1.11		111	778	
913.00 > 169.00	5.297	5.306	-0.009	0.999	277806		8.00(0.00-0.00)		2226	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 26-Dec-2017 15:10:52 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_031.d

Injection Date: 23-Dec-2017 01:31:49 Instrument ID: A8_N

Lims ID: CCV L4

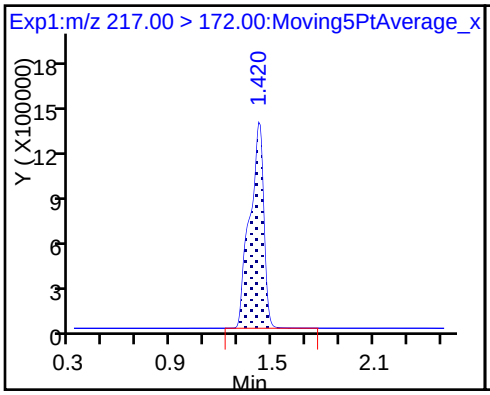
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 23

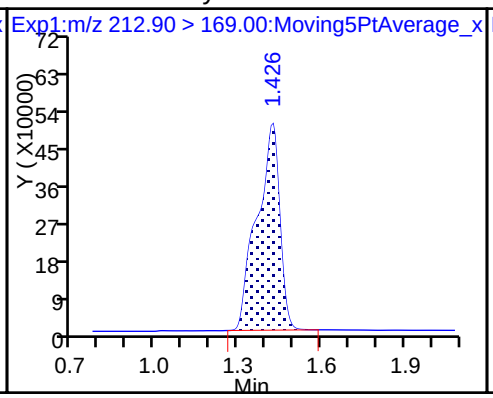
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

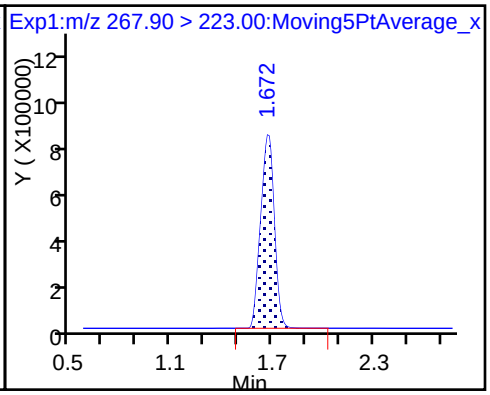
D 1 13C4 PFBA



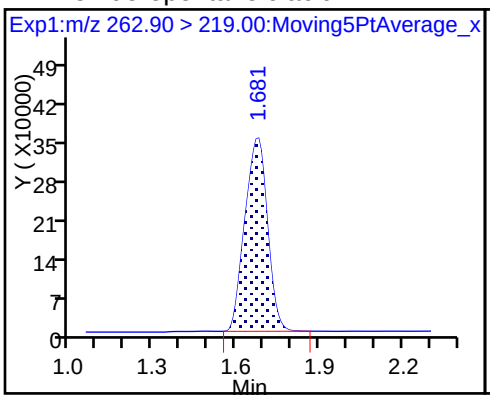
2 Perfluorobutyric acid



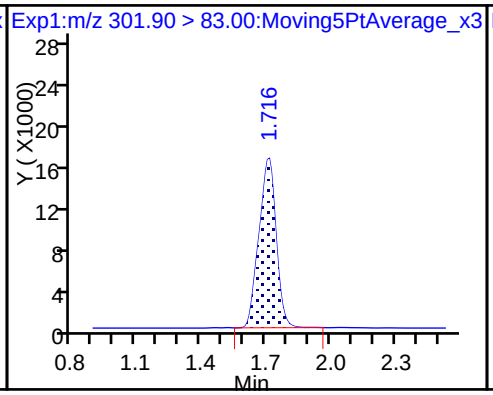
D 3 13C5-PFPeA



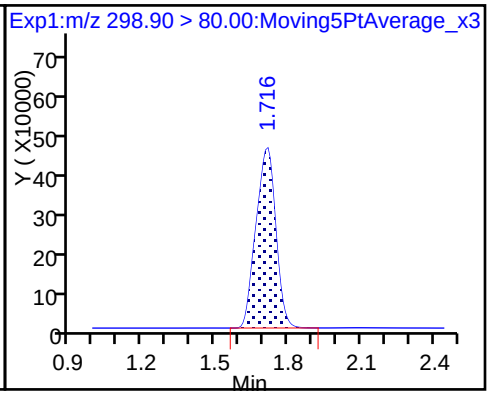
4 Perfluoropentanoic acid



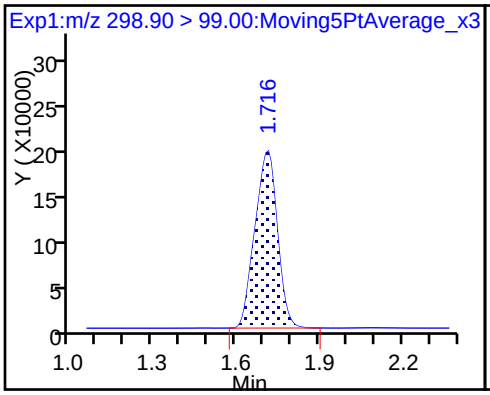
D 47 13C3-PFBS



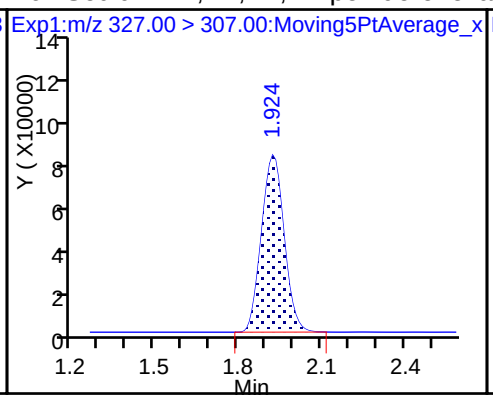
5 Perfluorobutanesulfonic acid



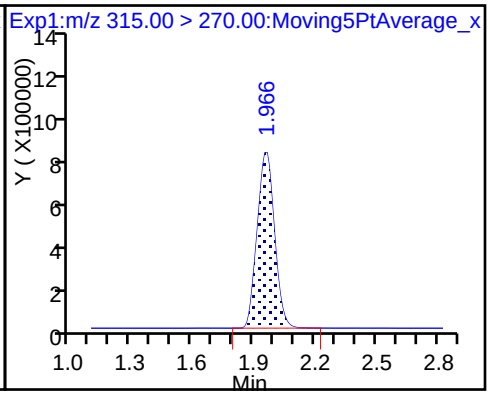
5 Perfluorobutanesulfonic acid



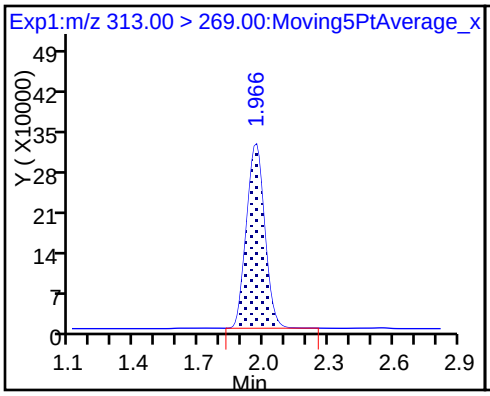
61 Sodium 1H,1H,2H,2H-perfluorohexa



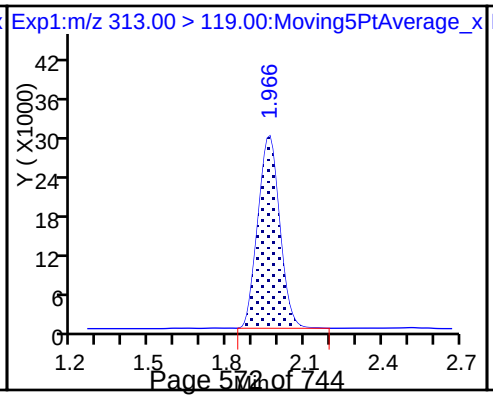
D 7 13C2 PFHxA



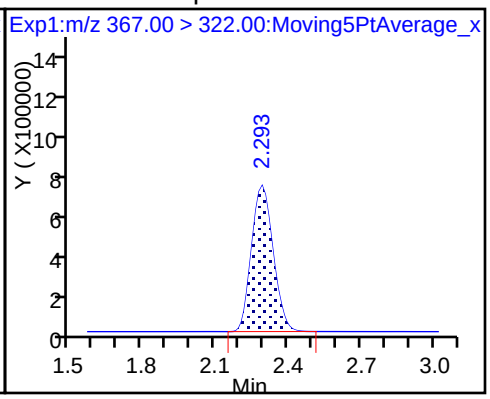
6 Perfluorohexanoic acid



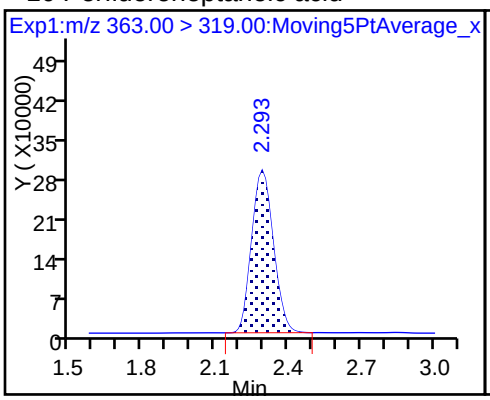
6 Perfluorohexanoic acid



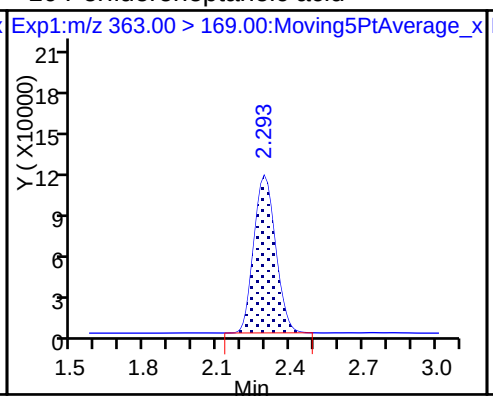
D 9 13C4-PFHpA



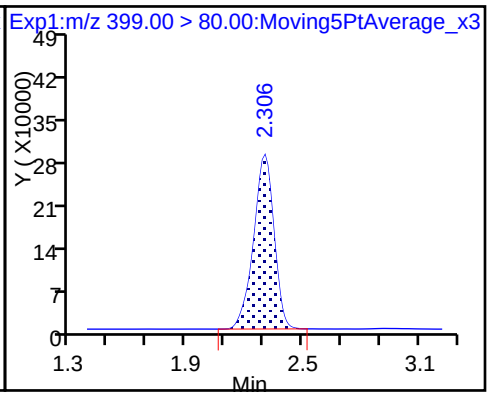
10 Perfluoroheptanoic acid



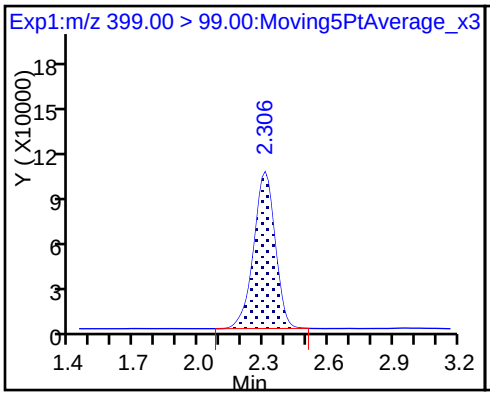
10 Perfluoroheptanoic acid



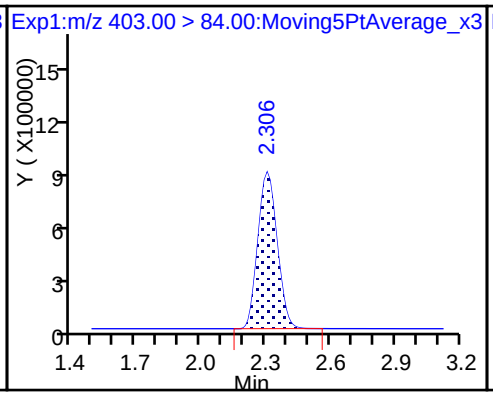
8 Perfluorohexanesulfonic acid



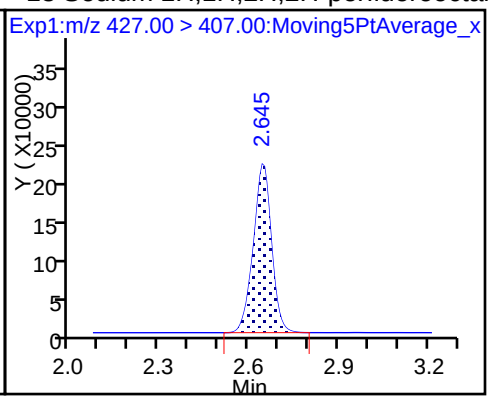
8 Perfluorohexanesulfonic acid



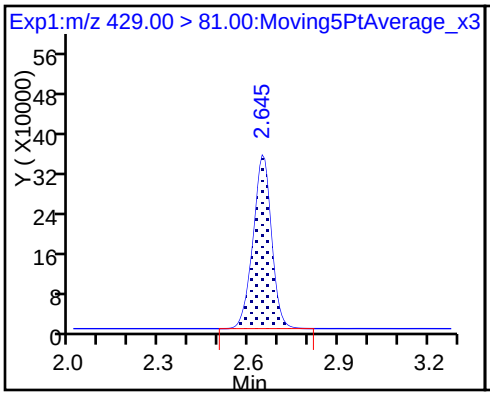
D 11 18O2 PFHxS



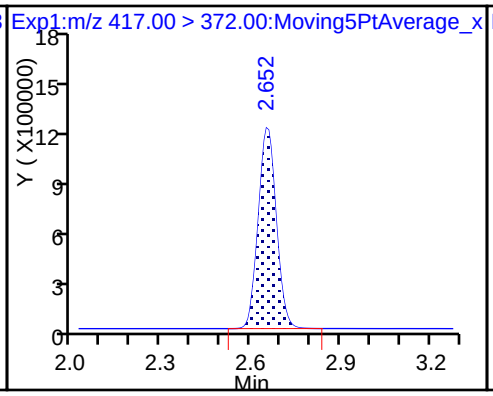
13 Sodium 1H,1H,2H,2H-perfluorooctane



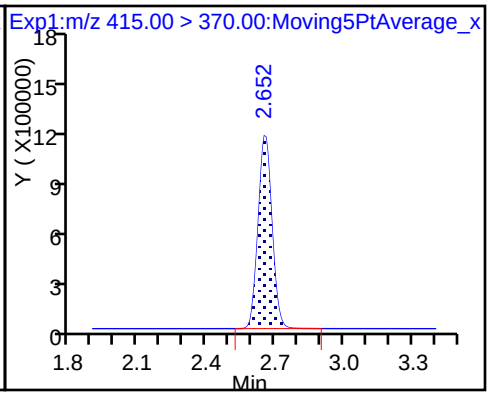
D 12 M2-6:2FTS



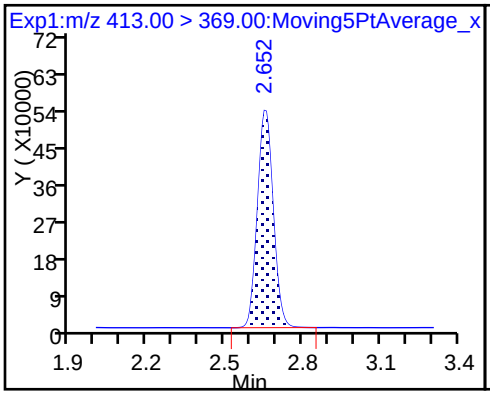
D 14 13C4 PFOA



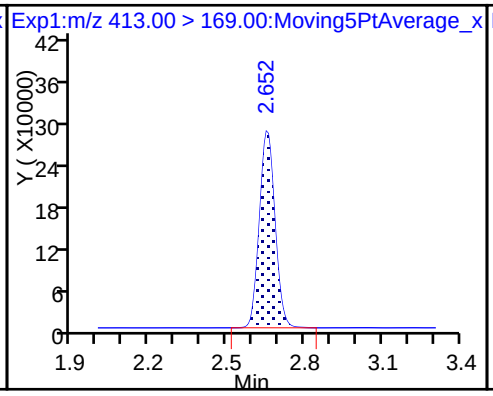
* 62 13C2-PFOA



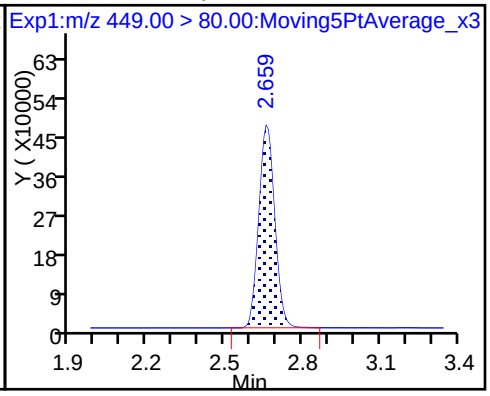
15 Perfluorooctanoic acid



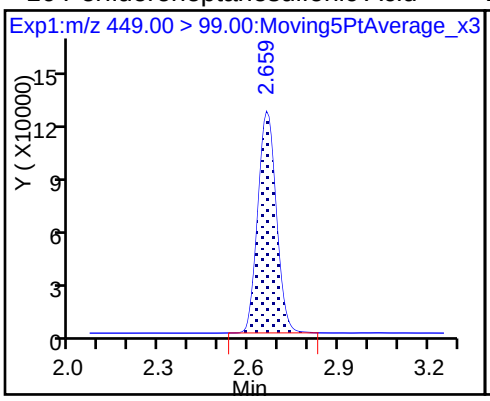
15 Perfluorooctanoic acid



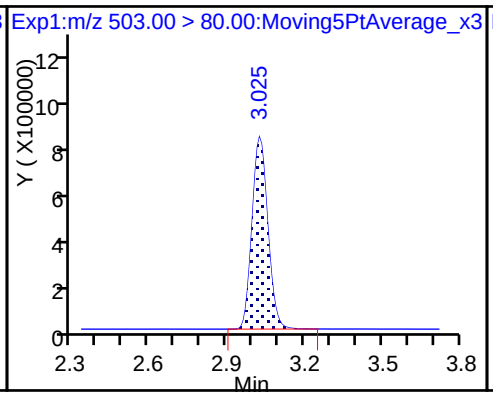
16 Perfluoroheptanesulfonic Acid



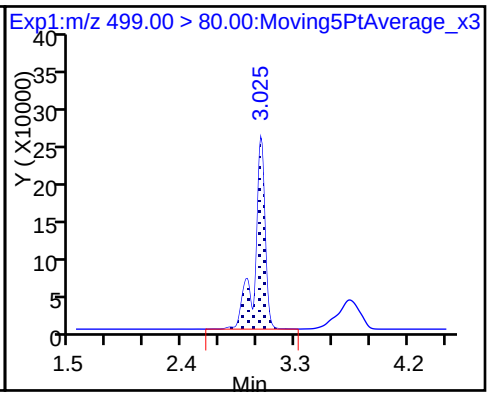
16 Perfluoroheptanesulfonic Acid



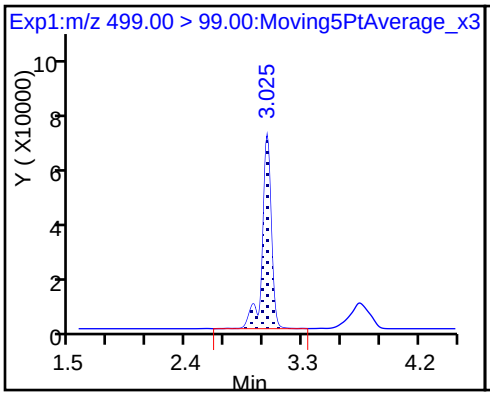
D 18 13C4 PFOS



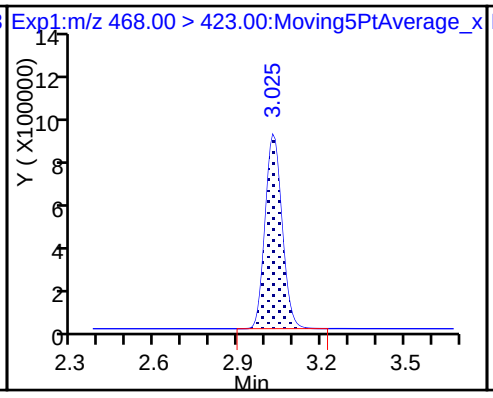
17 Perfluorooctane sulfonic acid



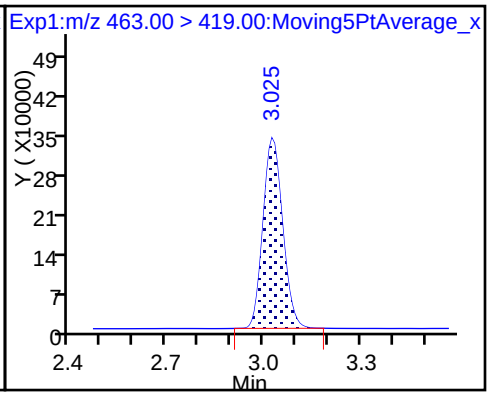
17 Perfluorooctane sulfonic acid



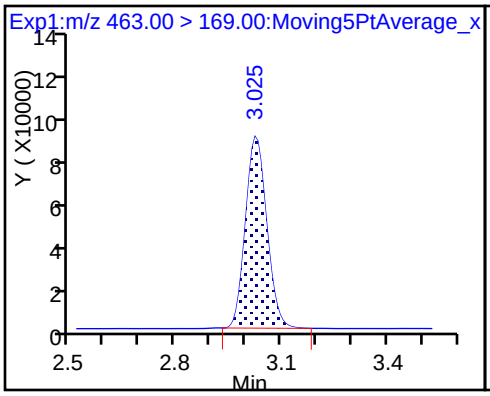
D 19 13C5 PFNA



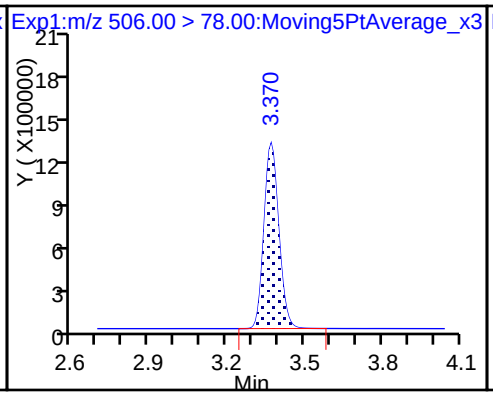
20 Perfluorononanoic acid



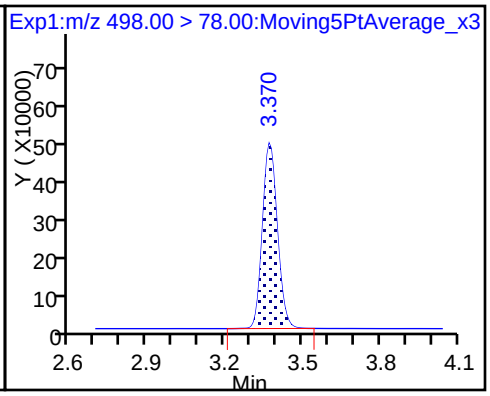
20 Perfluorononanoic acid



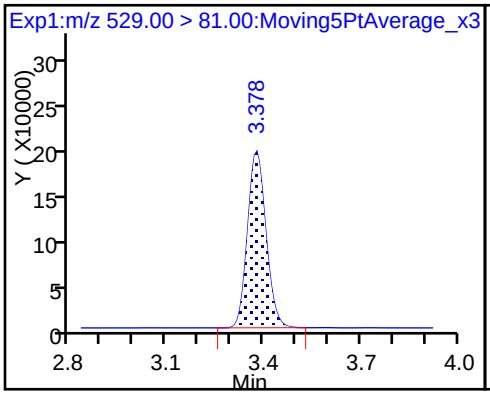
D 21 13C8 FOSA



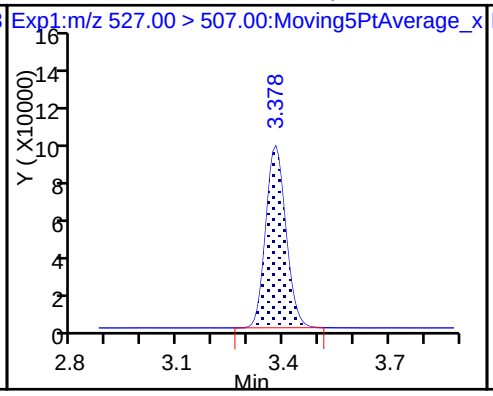
22 Perfluorooctane Sulfonamide



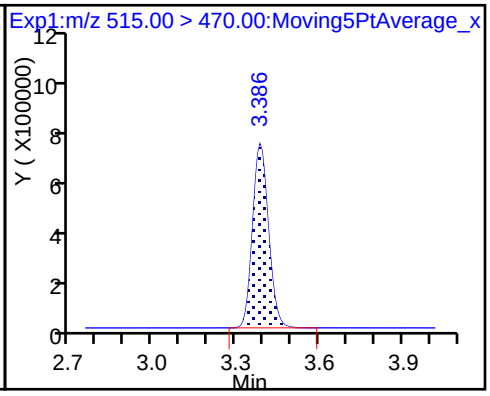
D 26 M2-8:2FTS



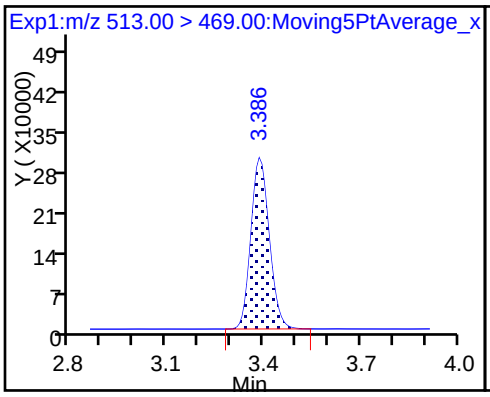
25 Sodium 1H,1H,2H,2H-perfluorodecane



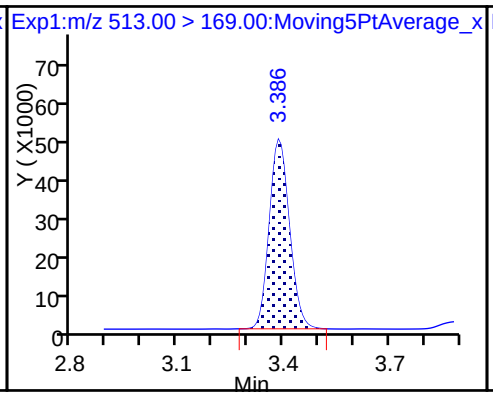
D 23 13C2 PFDA



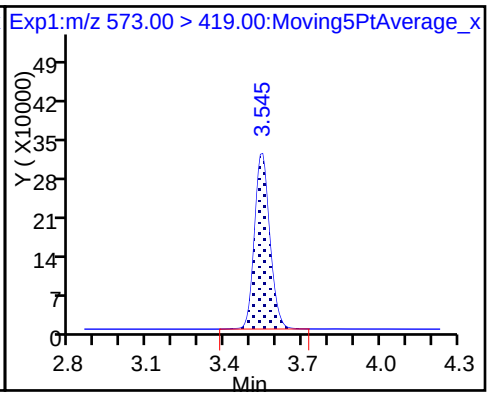
24 Perfluorodecanoic acid



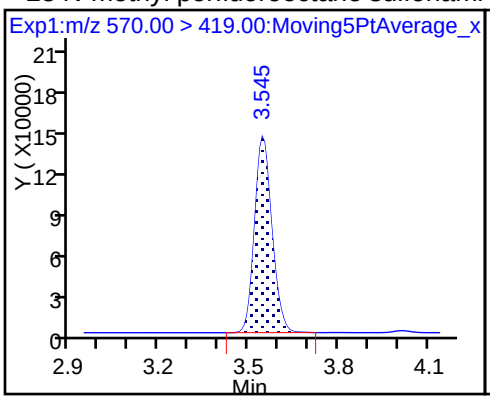
24 Perfluorodecanoic acid



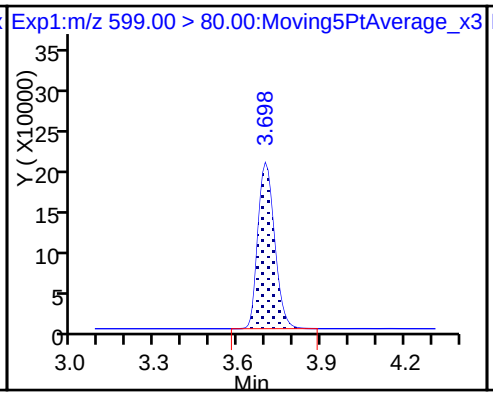
D 27 d3-NMeFOSAA



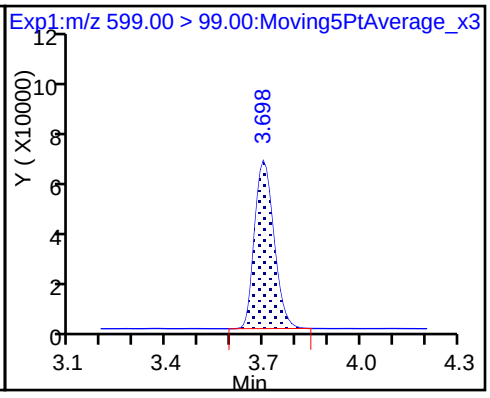
28 N-methyl perfluorooctane sulfonami



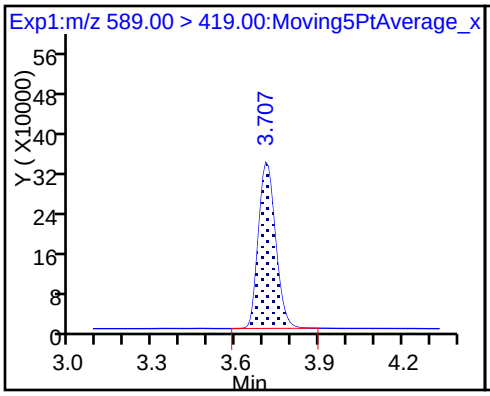
29 Perfluorodecane Sulfonic acid



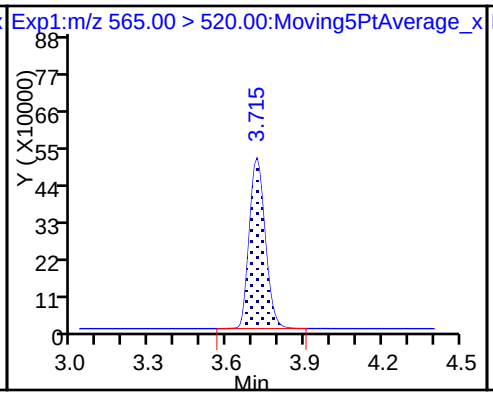
29 Perfluorodecane Sulfonic acid



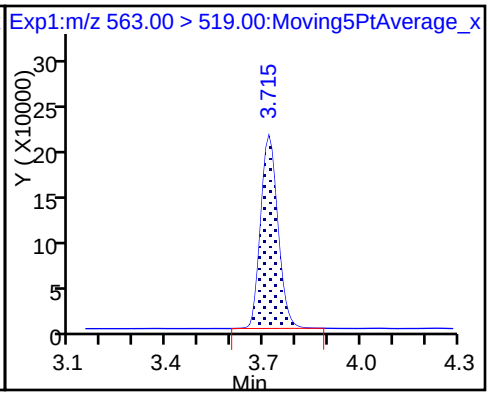
D 32 d5-NEtFOSAA



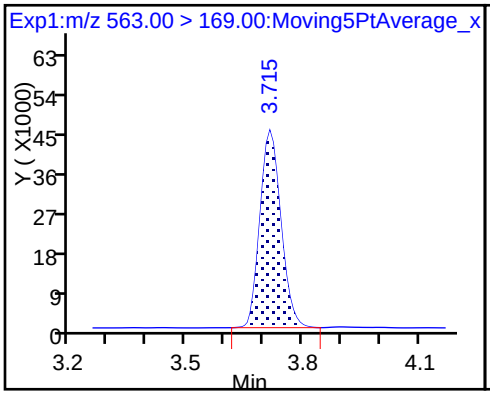
D 30 13C2 PFUnA



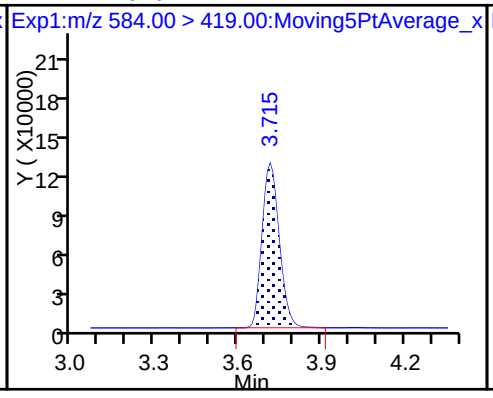
31 Perfluoroundecanoic acid



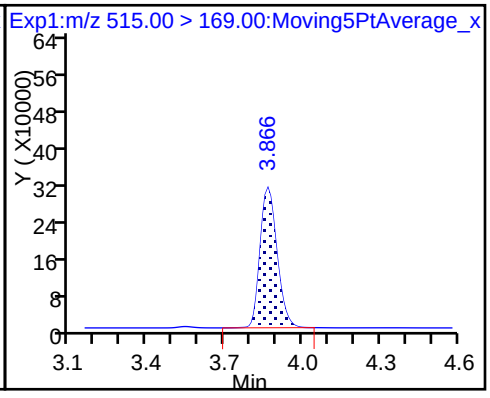
31 Perfluoroundecanoic acid



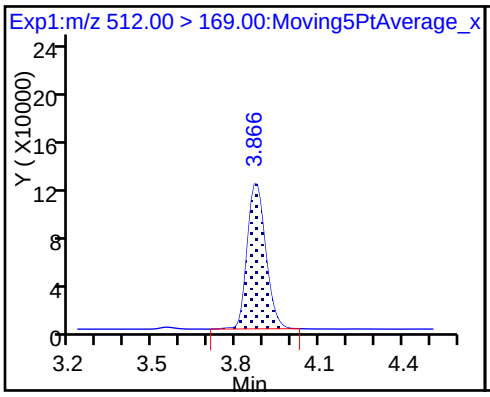
33 N-ethyl perfluorooctane sulfonamid



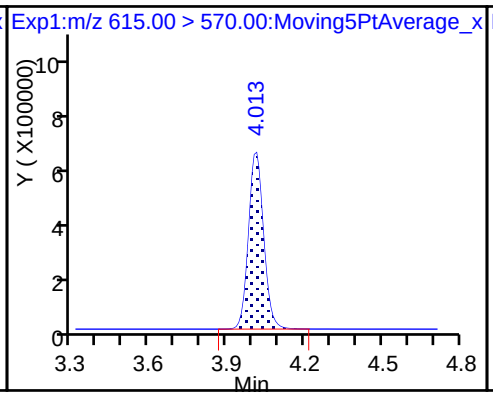
D 34 d-N-MeFOSA-M



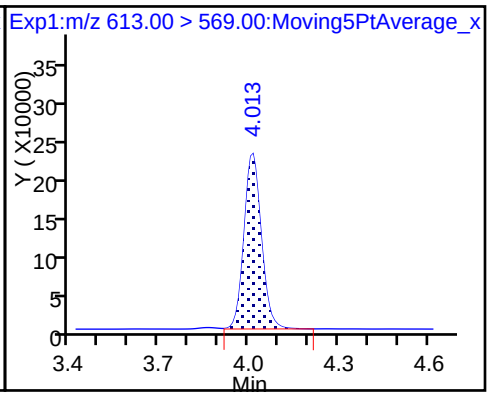
35 MeFOSA



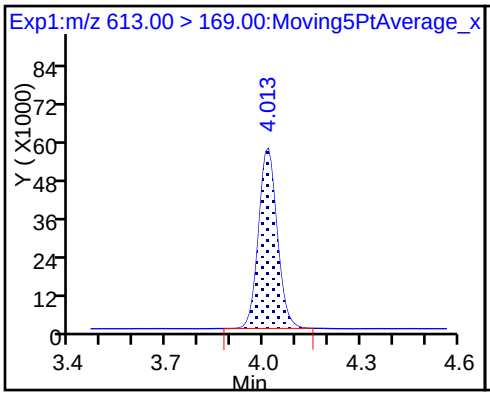
D 36 13C2 PFDoA



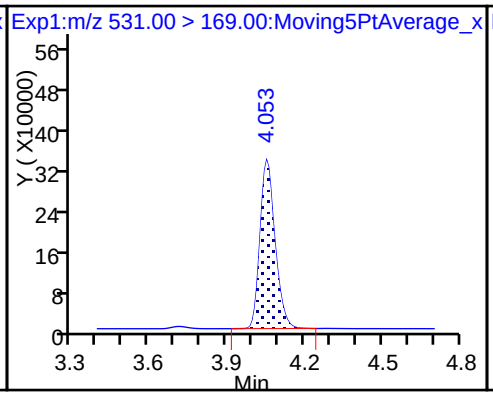
37 Perfluorododecanoic acid



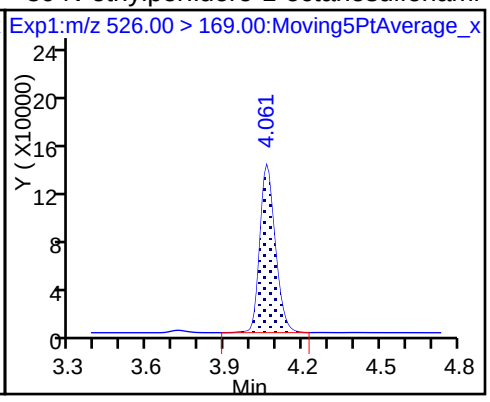
37 Perfluorododecanoic acid



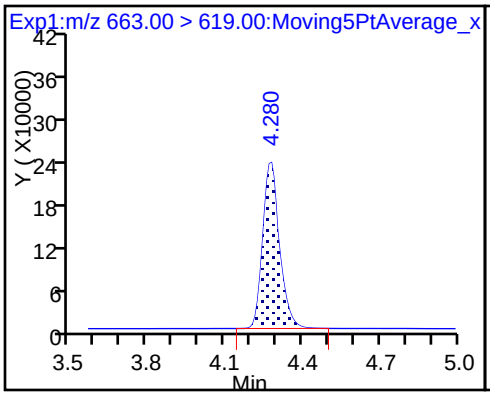
D 38 d-N-EtFOSA-M



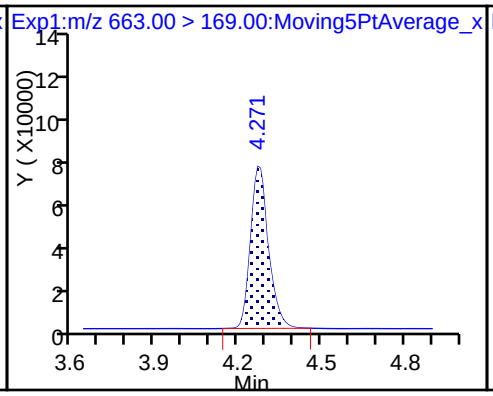
39 N-ethylperfluoro-1-octanesulfonami



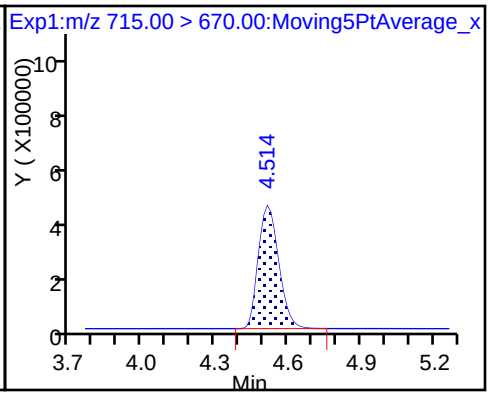
41 Perfluorotridecanoic acid



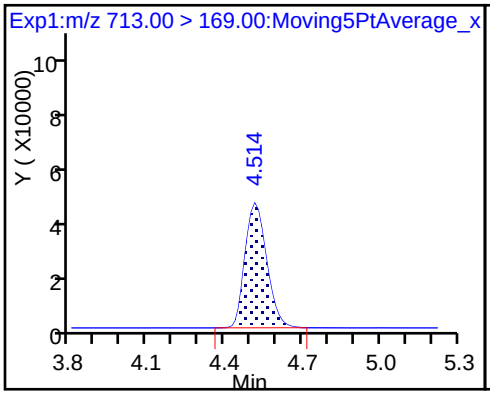
41 Perfluorotridecanoic acid



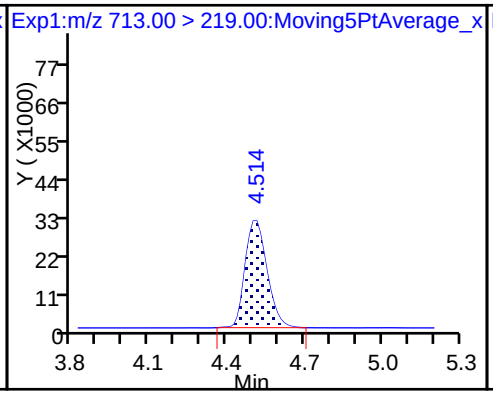
D 43 13C2-PFTeDA



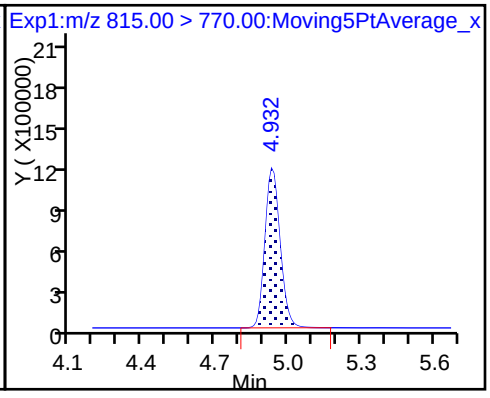
42 Perfluorotetradecanoic acid



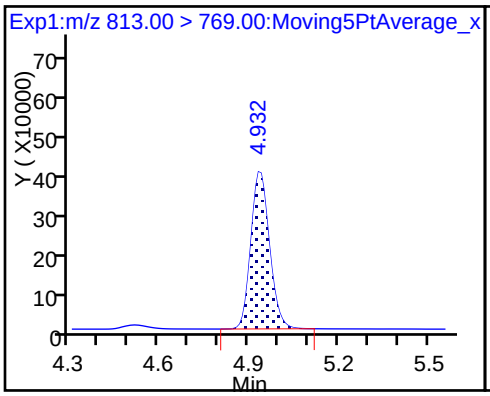
42 Perfluorotetradecanoic acid



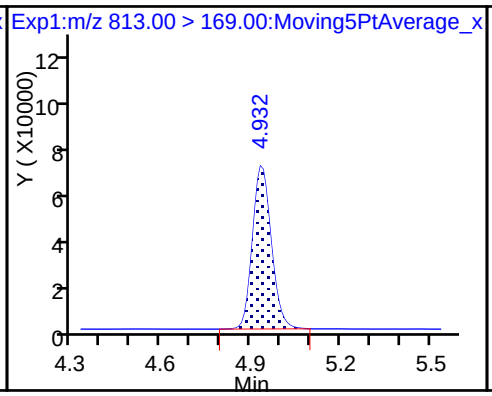
D 44 13C2-PFHxDA



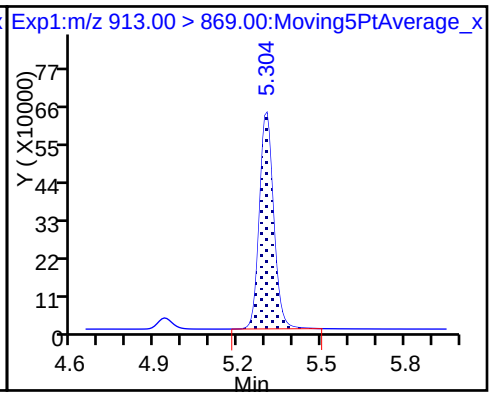
45 Perfluorohexadecanoic acid



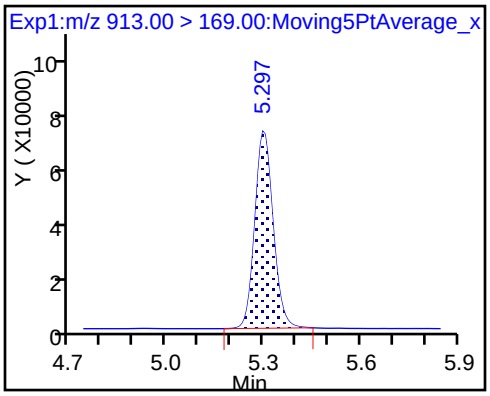
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201221/27 Calibration Date: 12/23/2017 02:03

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_035.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9163	0.9424		2.57	2.50	2.9	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.116	1.136		2.54	2.50	1.7	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	75.22	76.27		2.24	2.21	1.4	50.0
4:2 FTS	AveID	0.8220	0.8750		2.49	2.34	6.4	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.001	0.9811		2.45	2.50	-2.0	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.058		2.53	2.50	1.2	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.076	1.044		2.21	2.28	-3.0	40.0
6:2FTS	AveID	1.550	1.543		2.36	2.37	-0.5	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.052	1.138		2.71	2.50	8.2	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.309	1.443		2.62	2.38	10.2	50.0
Perfluorononanoic acid (PFNA)	AveID	1.006	1.007		2.50	2.50	0.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.060	1.070		2.34	2.32	0.9	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9592	1.036		2.70	2.50	8.0	40.0
8:2FTS	AveID	1.216	1.183		2.33	2.40	-2.7	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9673	1.030		2.66	2.50	6.5	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.074	1.006		2.34	2.50	-6.3	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6176	0.6150		2.40	2.41	-0.4	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9936	0.9395		2.36	2.50	-5.4	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9160	0.8950		2.44	2.50	-2.3	40.0
MeFOSA	AveID	0.9787	1.017		2.60	2.50	3.9	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9925	0.995		2.51	2.50	0.3	40.0
N-EtFOSA-M	AveID	1.065	1.062		2.49	2.50	-0.3	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.160	1.196		2.58	2.50	3.1	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2577	0.2399		2.33	2.50	-6.9	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.8996		2.61	2.50	4.3	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.029	1.066		2.59	2.50	3.6	50.0
13C4 PFBA	Ave	1.519	1.528		2.52	2.50	0.6	50.0
13C5 PFPeA	Ave	0.9096	0.8901		2.45	2.50	-2.1	50.0
13C3-PFBS	Ave	0.0194	0.0198		2.37	2.33	2.0	50.0
13C2 PFHxA	Ave	0.9709	0.9872		2.54	2.50	1.7	50.0
13C4-PFHpA	Ave	0.8985	0.8990		2.50	2.50	0.0	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201221/27 Calibration Date: 12/23/2017 02:03

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_035.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.134	1.133		2.36	2.37	-0.1	50.0
M2-6:2FTS	Ave	0.4185	0.3061		1.74	2.38	-26.8	40.0
13C4 PFOA	Ave	1.033	1.020		2.47	2.50	-1.3	50.0
13C4 PFOS	Ave	0.7487	0.7297		2.33	2.39	-2.5	50.0
13C5 PFNA	Ave	0.7339	0.7194		2.45	2.50	-2.0	50.0
13C8 FOSA	Ave	1.019	0.9841		2.41	2.50	-3.4	50.0
M2-8:2FTS	Ave	0.2338	0.1673		1.71	2.40	-28.4	40.0
13C2 PFDA	Ave	0.6054	0.5751		2.38	2.50	-5.0	50.0
d3-NMeFOSAA	Ave	0.3249	0.2793		2.15	2.50	-14.0	50.0
d5-NEtFOSAA	Ave	0.3173	0.2769		2.18	2.50	-12.7	50.0
13C2 PFUnA	Ave	0.4609	0.4283		2.32	2.50	-7.1	50.0
d-N-MeFOSA-M	Ave	0.2902	0.2880		2.48	2.50	-0.8	50.0
13C2 PFDoA	Ave	0.4970	0.4728		2.38	2.50	-4.9	50.0
d-N-EtFOSA-M	Ave	0.2788	0.2694		2.42	2.50	-3.3	50.0
13C2-PFTeDA	Ave	0.5554	0.5380		2.42	2.50	-3.1	50.0
13C2-PFHxDA	Ave	1.011	1.020		2.52	2.50	0.9	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_035.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2017 02:03:12 ALS Bottle#: 14 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:11:03 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:29:14

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7386080	2.51		101	22096	
2 Perfluorobutyric acid										
212.90 > 169.00	1.432	1.419	0.013	1.004	6960644	2.57		103	1980	
D 3 13C5-PFPeA										
267.90 > 223.00	1.679	1.670	0.009	0.632	4301644	2.45		97.9	30577	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.670	0.009	1.000	4885226	2.54		102	5784	
D 47 13C3-PFBS										
301.90 > 83.00	1.714	1.705	0.009	0.645	88911	2.37		102	3220	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.723	1.707	0.016	1.005	6445607	2.24		101	34051	
298.90 > 99.00	1.723	1.707	0.016	1.005	2665531		2.42(1.25-3.74)		20778	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.933	1.920	0.013	1.000	1208997	2.49		106	43295	
D 7 13C2 PFHxA										
315.00 > 270.00	1.964	1.953	0.011	0.739	4770791	2.54		102	39009	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.964	1.956	0.008	1.000	4680789	2.45		98.0	11509	
313.00 > 119.00	1.964	1.956	0.008	1.000	439218		10.66(5.03-15.10)		9462	
D 9 13C4-PFHpA										
367.00 > 322.00	2.304	2.291	0.013	0.867	4344585	2.50		100	24950	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.304	2.291	0.013	1.000	4597387	2.53		101	8401	
363.00 > 169.00	2.304	2.291	0.013	1.000	1743287		2.64(1.13-3.40)		11691	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	0.994	5202210	2.21		97.0	8788	
399.00 > 99.00	2.304	2.304	0.0	0.994	1702308		3.06(1.50-4.49)		6163	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.317	2.304	0.013	0.872	5180267	2.36		99.9	33055	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.651	2.642	0.009	1.000	2163758	2.36		99.5	42322	
D 12 M2-6:2FTS										
429.00 > 81.00	2.651	2.642	0.009	0.997	1405465	1.74		73.2	41528	
D 14 13C4 PFOA										
417.00 > 372.00	2.658	2.654	0.004	1.000	4927701	2.47		98.7	42592	
* 62 13C2-PFOA										
415.00 > 370.00	2.658	2.656	0.002		4832584	2.50			38869	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.658	2.656	0.002	1.000	5607131	2.71		108	8182	
413.00 > 169.00	2.658	2.656	0.002	1.000	2820321		1.99(0.84-2.52)		16878	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.665	2.662	0.003	1.000	4842938	2.62		110	33245	
449.00 > 99.00	2.665	2.662	0.003	1.000	1265937		3.83(1.94-5.82)		17833	
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.141	3371344	2.33		97.5	27661	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	3500138	2.34		101	392	
499.00 > 99.00	3.032	3.028	0.004	1.000	773381		4.53(2.31-6.93)		516	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.141	3476567	2.45		98.0	27722	
20 Perfluorononanoic acid										
463.00 > 419.00	3.032	3.029	0.003	1.000	3501043	2.50		100	13073	
463.00 > 169.00	3.032	3.029	0.003	1.000	861510		4.06(1.90-5.69)		13722	
D 21 13C8 FOSA										
506.00 > 78.00	3.377	3.370	0.007	1.270	4755893	2.41		96.6	22078	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.377	3.372	0.005	1.000	4927031	2.70		108	34152	
D 26 M2-8:2FTS										
529.00 > 81.00	3.377	3.377	0.0	1.270	774555	1.71		71.6	16361	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.385	3.377	0.008	1.002	916093	2.33		97.3	25331	
D 23 13C2 PFDA										
515.00 > 470.00	3.392	3.389	0.003	1.276	2779430	2.38		95.0	26928	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.392	3.390	0.002	1.000	2863856	2.66		107	17335	
513.00 > 169.00	3.392	3.390	0.002	1.000	521906		5.49(2.36-7.09)		2053	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1349730	2.15		86.0	28062	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.551	3.548	0.003	1.002	1357534	2.34		93.7	7912	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.704	3.703	0.001	1.000	2090561	2.40		99.6	28178	
599.00 > 99.00	3.704	3.703	0.001	1.000	689685		3.03(1.39-4.16)		13822	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.713	3.712	0.001	1.397	1338165	2.18		87.3	6714	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.721	3.717	0.004	1.400	2069630	2.32		92.9	22077	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.721	3.718	0.003	1.000	1852353	2.44		97.7	14527	
563.00 > 169.00	3.713	3.718	-0.005	0.998	417392		4.44(0.00-0.00)		18570	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.721	3.720	0.001	1.002	1257178	2.36		94.6	17269	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.863	3.862	0.001	1.453	1391753	2.48		99.2	3983	
35 MeFOSA										
512.00 > 169.00	3.873	3.872	0.001	1.003	1415822	2.60		104	3869	
D 36 13C2 PFDoA										
615.00 > 570.00	4.011	4.011	0.0	1.509	2284610	2.38		95.1	29910	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.011	4.011	0.0	1.000	2274258	2.51		100	10912	
613.00 > 169.00	4.011	4.011	0.0	1.000	561368		4.05(2.13-6.40)		17451	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.059	4.052	0.007	1.527	1301991	2.42		96.7	2734	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.059	4.058	0.001	1.000	1382622	2.49		99.7	3022	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.278	4.277	0.001	1.000	2732169	2.58		103	20467	
663.00 > 169.00	4.278	4.277	0.001	1.000	857486		3.19(1.25-3.76)		27602	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.698	2600130	2.42		96.9	22209	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.513	4.518	-0.005	1.000	623744	2.33		93.1	13258	
713.00 > 219.00	4.513	4.518	-0.005	1.000	459971		1.36(0.71-2.13)		13165	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.939	4.939	0.0	1.858	4927645	2.52		101	20612	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.939	4.939	0.0	1.000	4432855	2.61		104	3578	
813.00 > 169.00	4.939	4.939	0.0	1.000	792277		5.60(2.86-8.58)		8476	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.309	5.306	0.003	1.000	5253990	2.59		104	1708	
913.00 > 169.00	5.302	5.306	-0.004	0.999	667488		7.87(0.00-0.00)		3042	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 26-Dec-2017 15:11:03 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_035.d

Injection Date: 23-Dec-2017 02:03:12 Instrument ID: A8_N

Lims ID: CCV L5

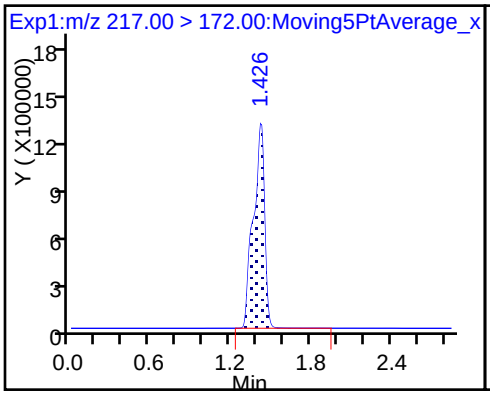
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 27

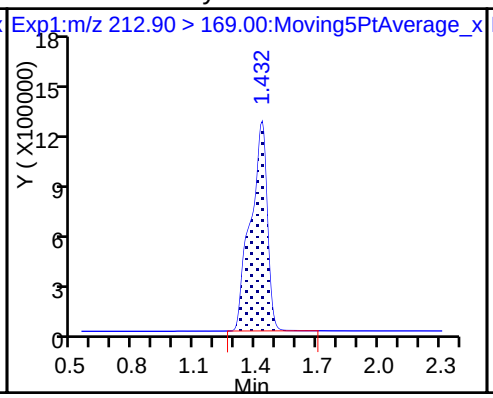
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

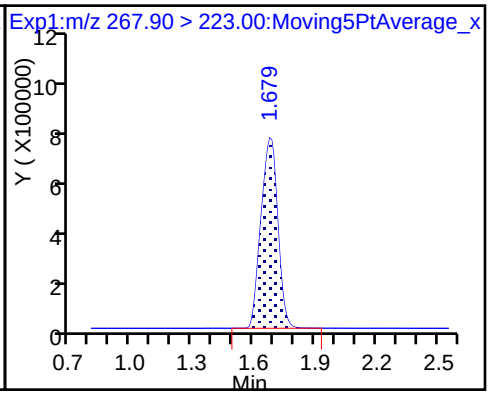
D 1 13C4 PFBA



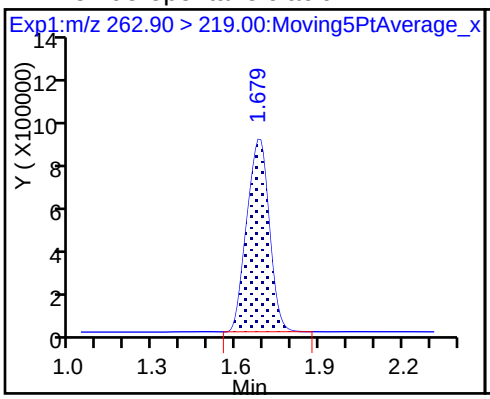
2 Perfluorobutyric acid



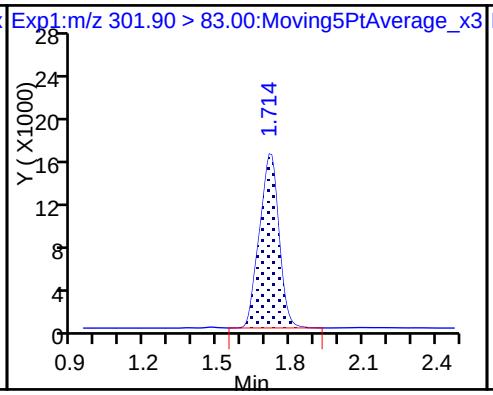
D 3 13C5-PFPeA



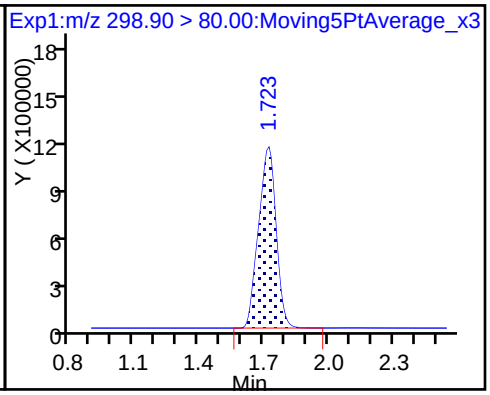
4 Perfluoropentanoic acid



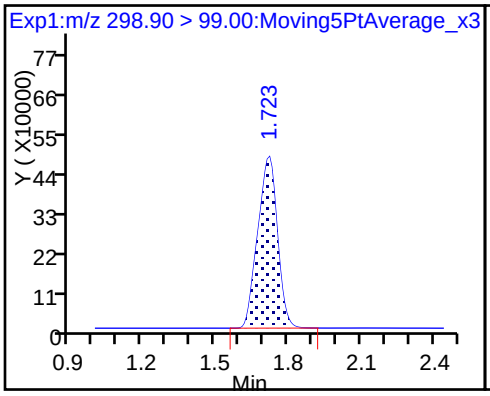
D 47 13C3-PFBS



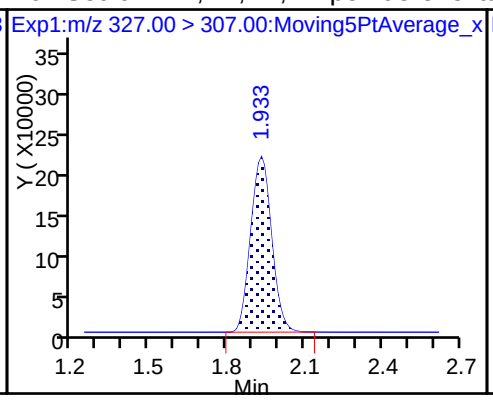
5 Perfluorobutanesulfonic acid



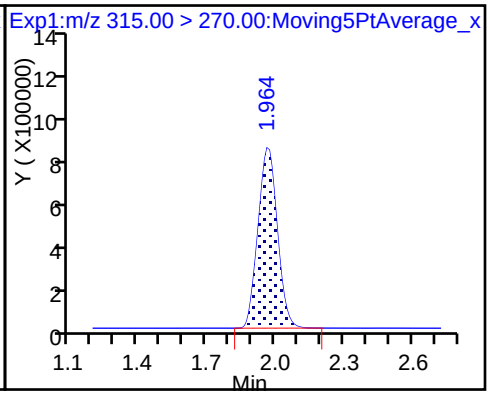
5 Perfluorobutanesulfonic acid



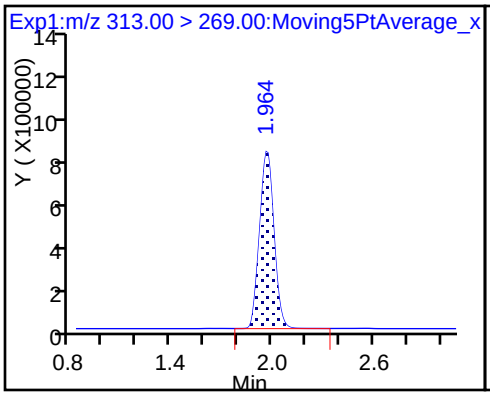
61 Sodium 1H,1H,2H,2H-perfluorohexa



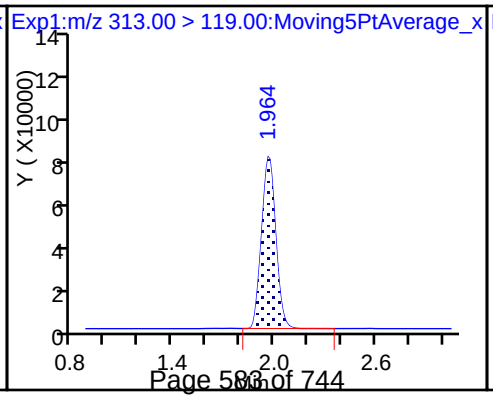
D 7 13C2 PFHxA



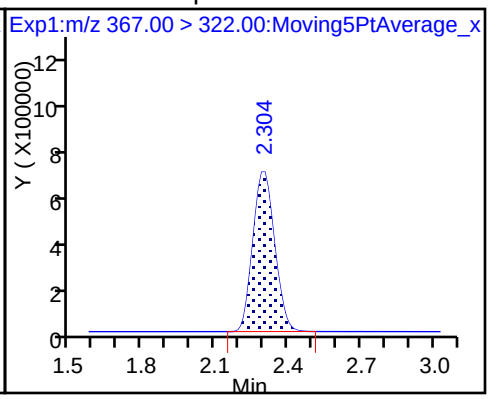
6 Perfluorohexanoic acid



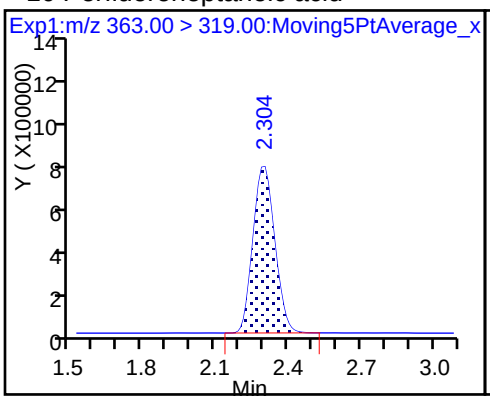
6 Perfluorohexanoic acid



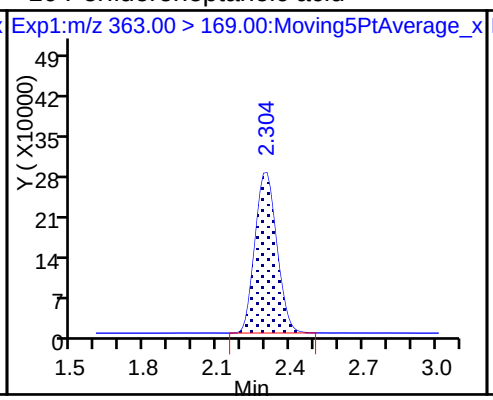
D 9 13C4-PFHpA



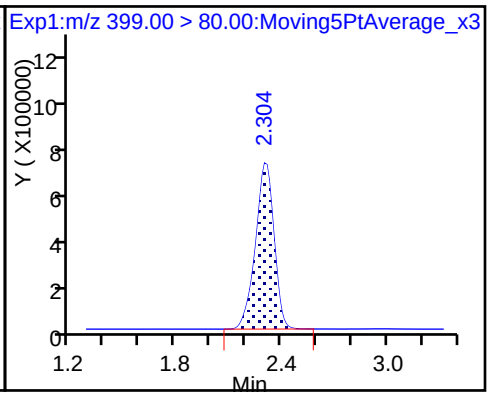
10 Perfluoroheptanoic acid



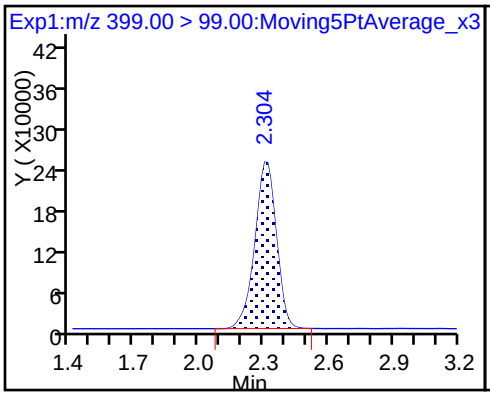
10 Perfluoroheptanoic acid



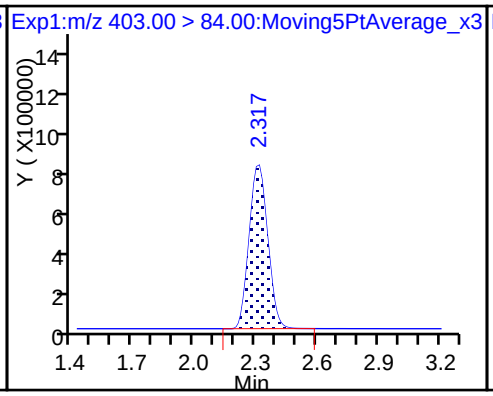
8 Perfluorohexanesulfonic acid



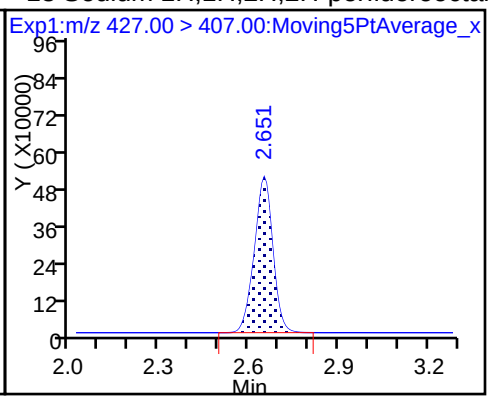
8 Perfluorohexanesulfonic acid



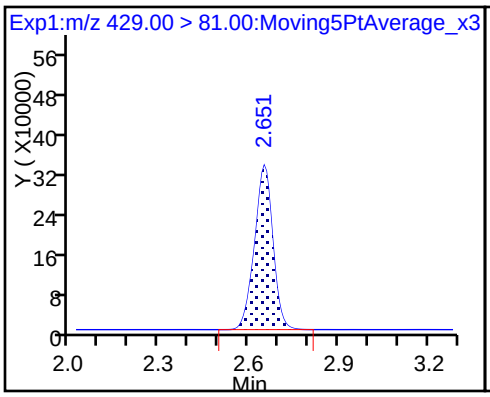
D 11 18O2 PFHxS



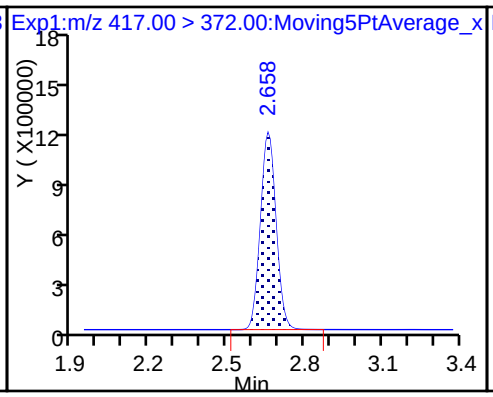
13 Sodium 1H,1H,2H,2H-perfluorooctane



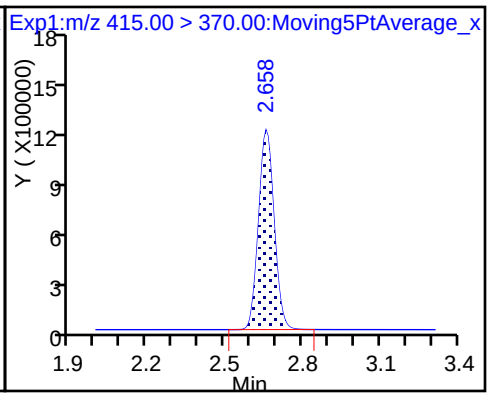
D 12 M2-6:2FTS



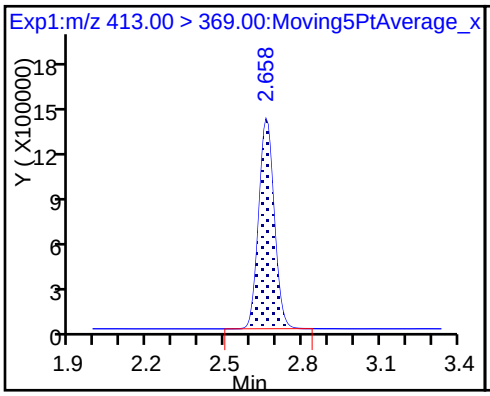
D 14 13C4 PFOA



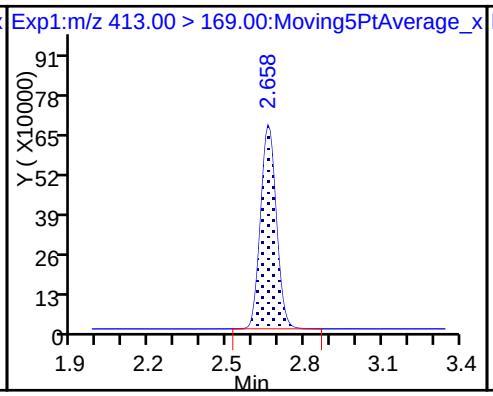
* 62 13C2-PFOA



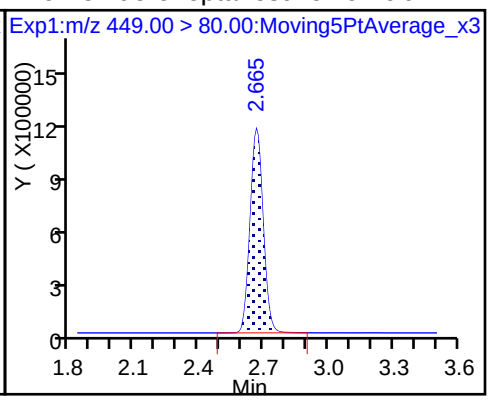
15 Perfluorooctanoic acid



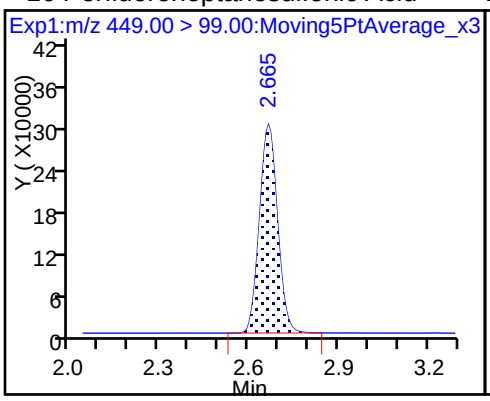
15 Perfluorooctanoic acid



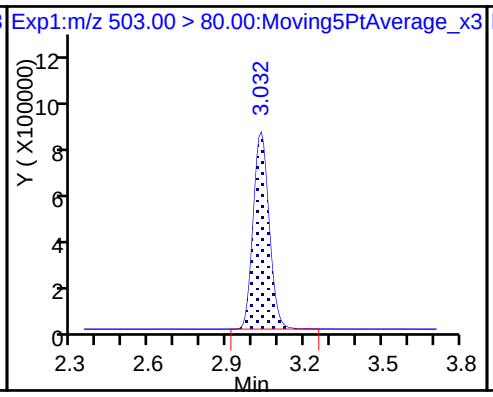
16 Perfluoroheptanesulfonic Acid



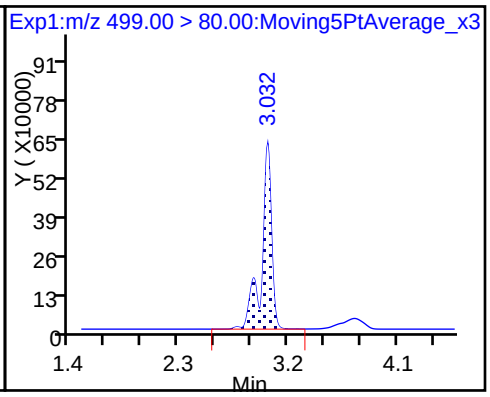
16 Perfluoroheptanesulfonic Acid



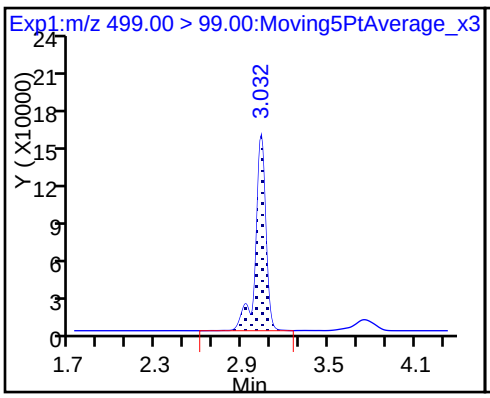
D 18 13C4 PFOS



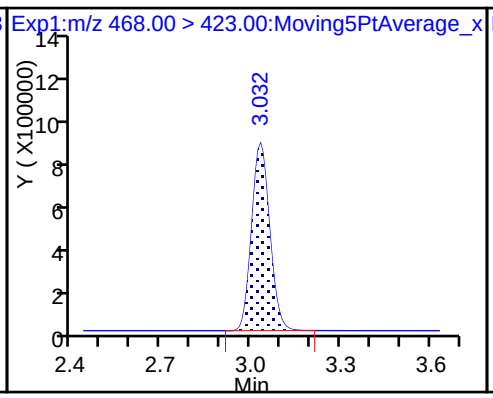
17 Perfluorooctane sulfonic acid



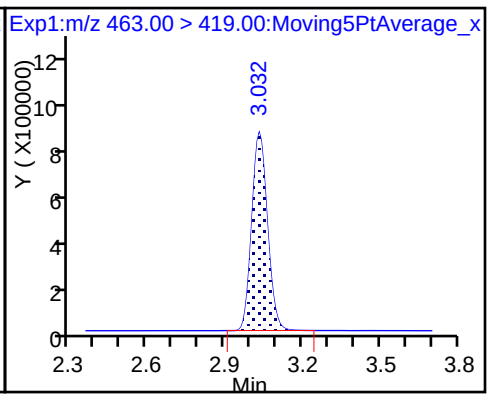
17 Perfluorooctane sulfonic acid



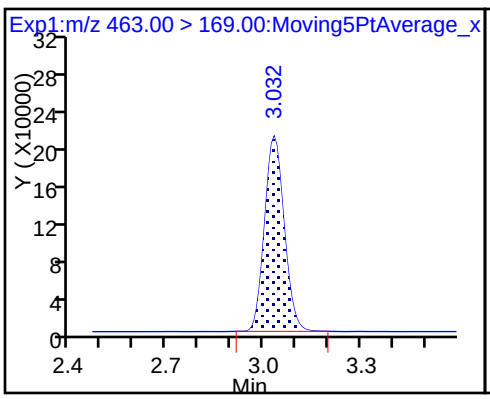
D 19 13C5 PFNA



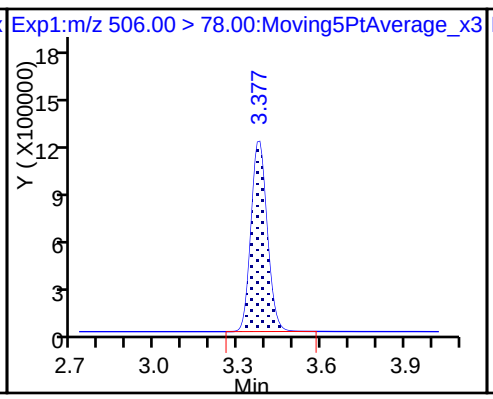
20 Perfluorononanoic acid



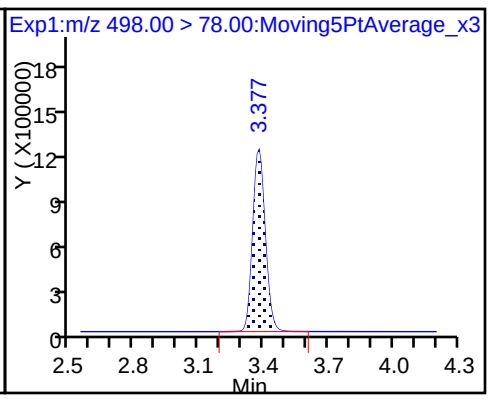
20 Perfluorononanoic acid



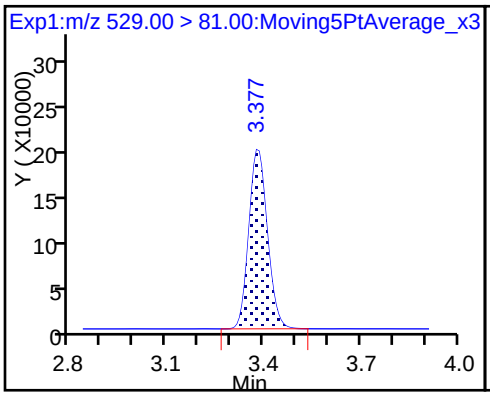
D 21 13C8 FOSA



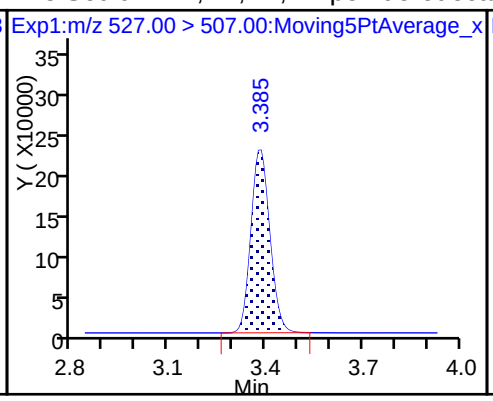
22 Perfluorooctane Sulfonamide



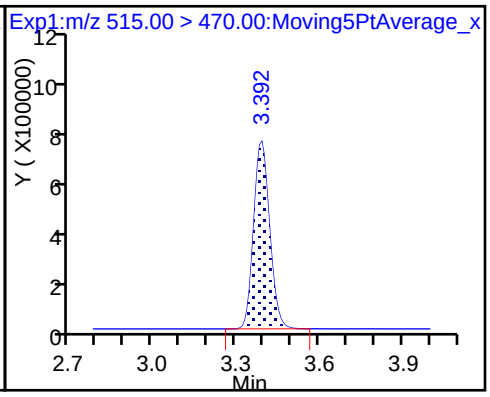
D 26 M2-8:2FTS



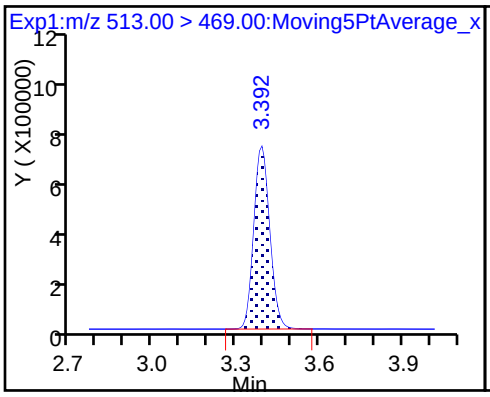
25 Sodium 1H,1H,2H,2H-perfluorodecane



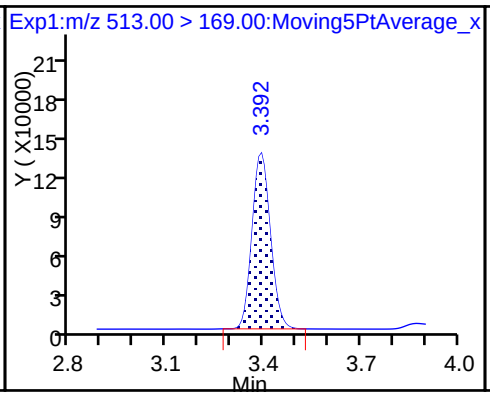
D 23 13C2 PFDA



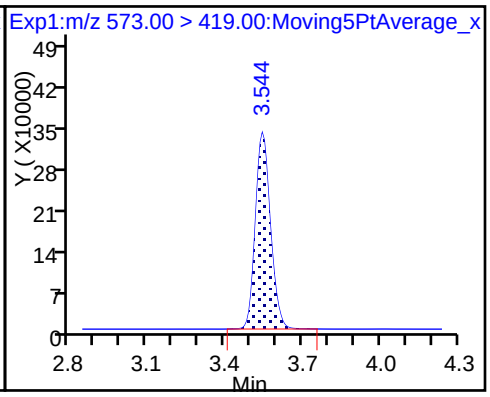
24 Perfluorodecanoic acid



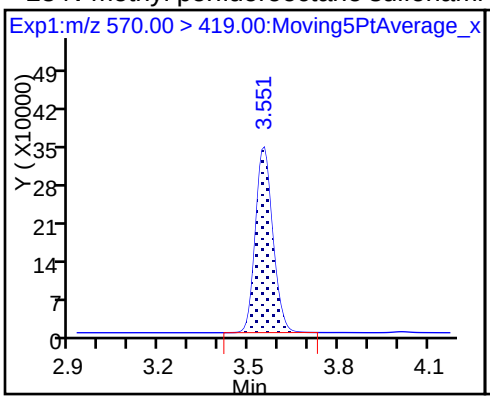
24 Perfluorodecanoic acid



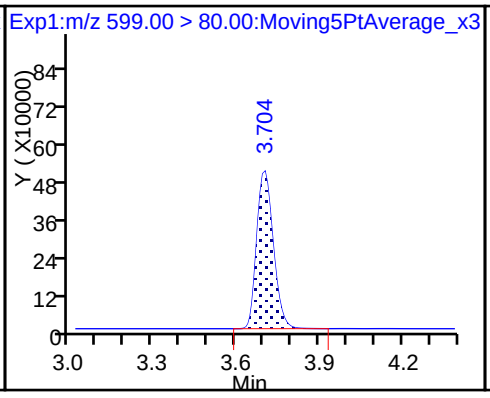
D 27 d3-NMeFOSAA



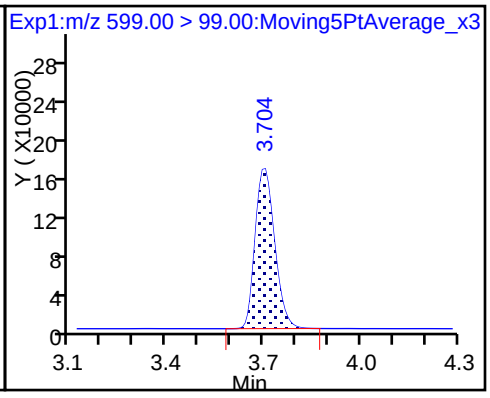
28 N-methyl perfluorooctane sulfonami



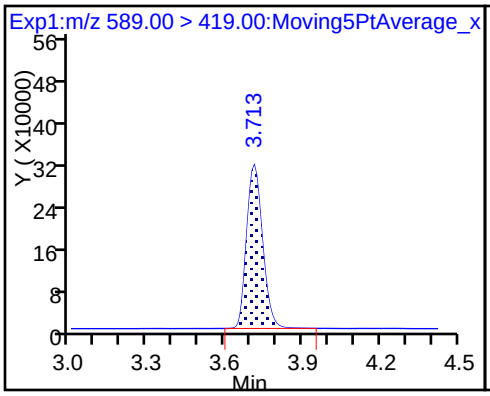
29 Perfluorodecane Sulfonic acid



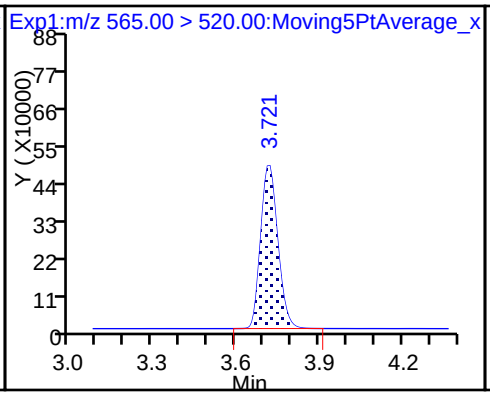
29 Perfluorodecane Sulfonic acid



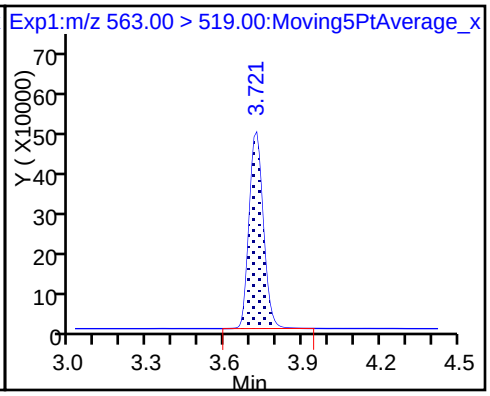
D 32 d5-NEtFOSAA



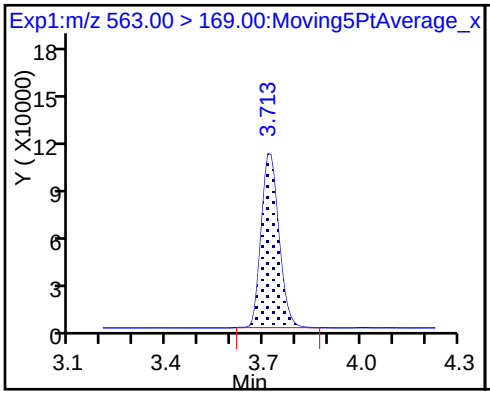
D 30 13C2 PFUnA



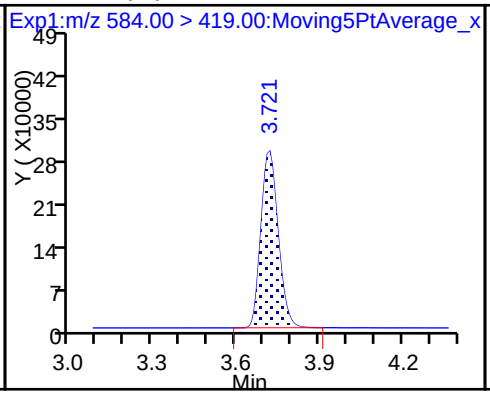
31 Perfluoroundecanoic acid



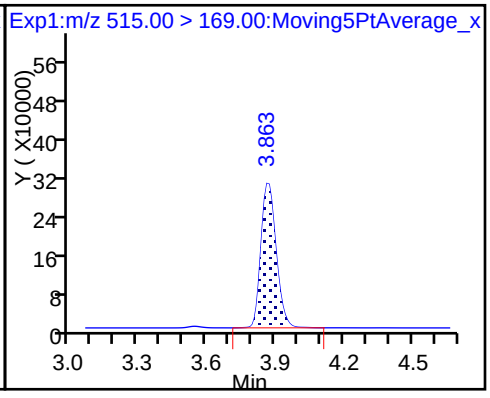
31 Perfluoroundecanoic acid



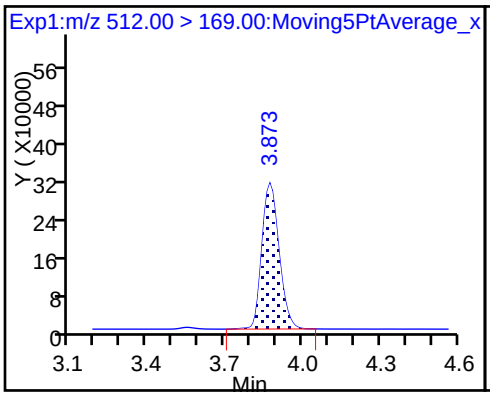
33 N-ethyl perfluorooctane sulfonamid



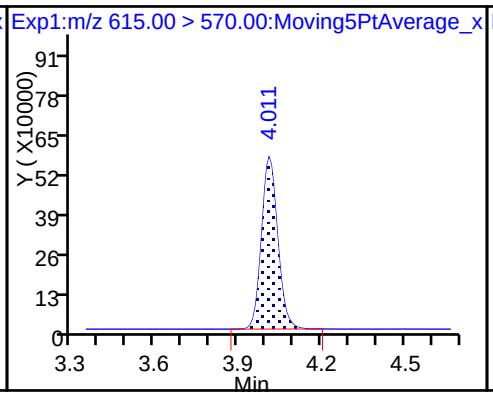
D 34 d-N-MeFOSA-M



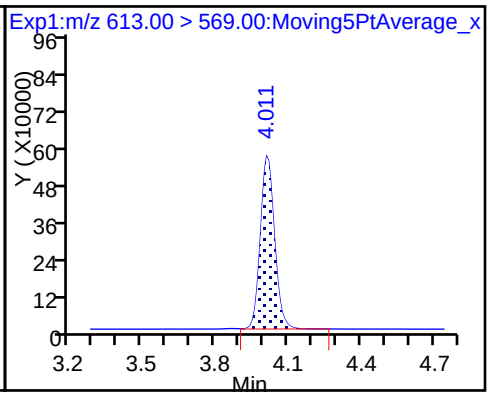
35 MeFOSA



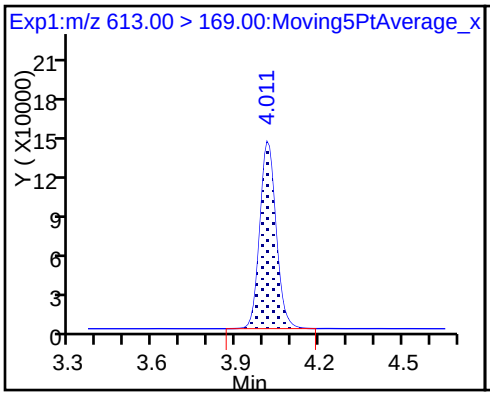
D 36 13C2 PFDoA



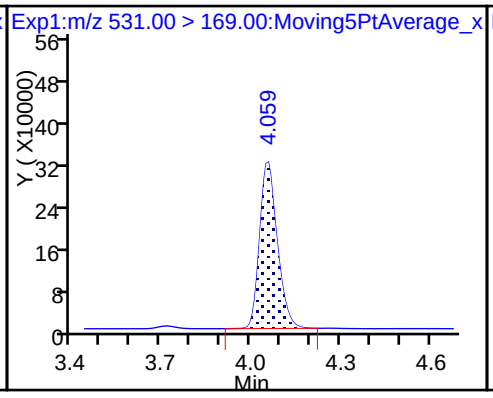
37 Perfluorododecanoic acid



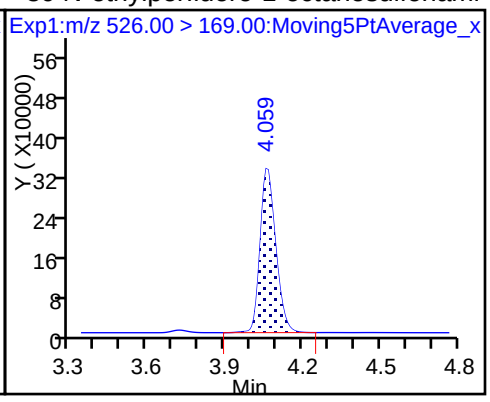
37 Perfluorododecanoic acid



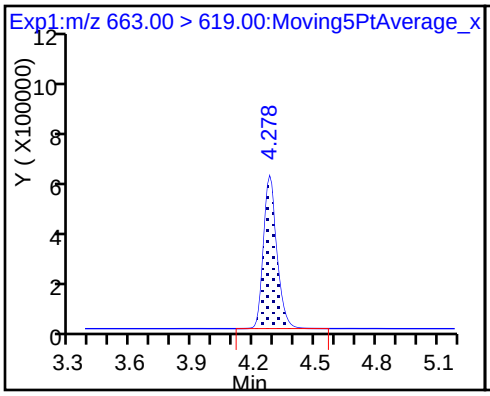
D 38 d-N-EtFOSA-M



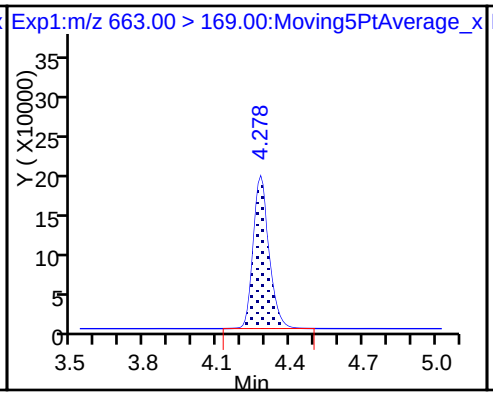
39 N-ethylperfluoro-1-octanesulfonami



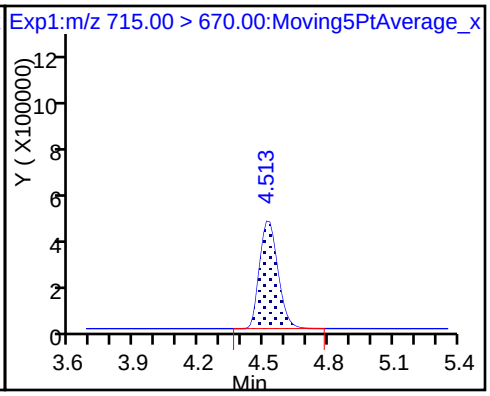
41 Perfluorotridecanoic acid



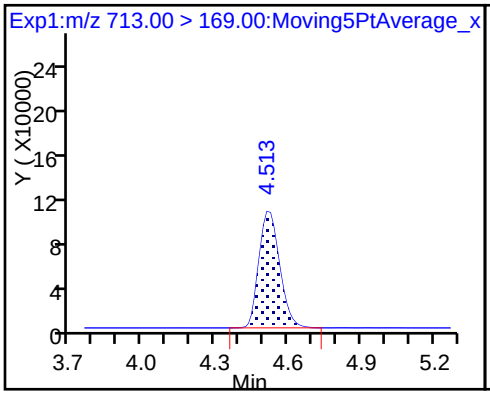
41 Perfluorotridecanoic acid



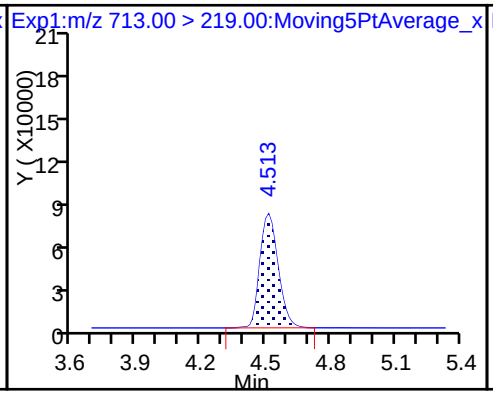
D 43 13C2-PFTeDA



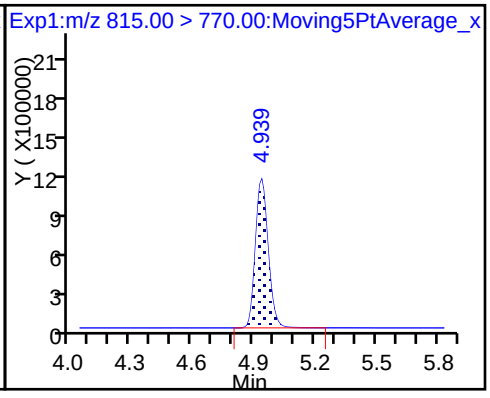
42 Perfluorotetradecanoic acid



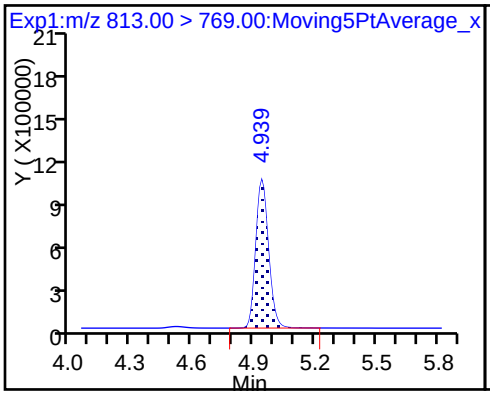
42 Perfluorotetradecanoic acid



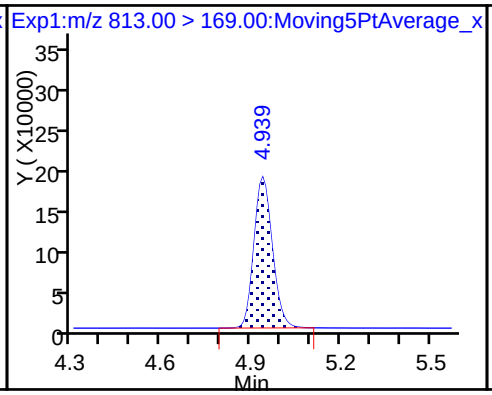
D 44 13C2-PFHxDA



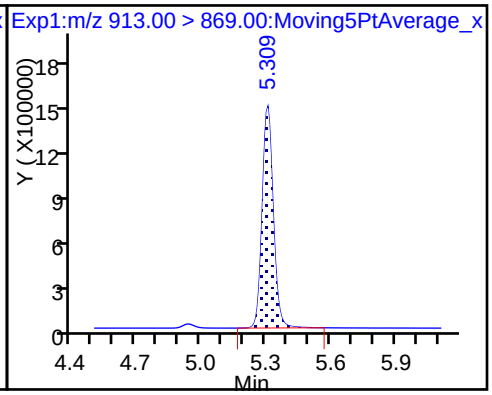
45 Perfluorohexadecanoic acid



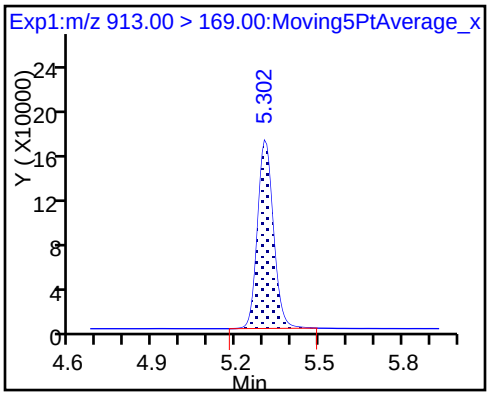
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201222/1 Calibration Date: 12/23/2017 02:11

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_036.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9163	0.9386		2.56	2.50	2.4	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.116	1.111		2.49	2.50	-0.4	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	75.22	79.70		2.34	2.21	5.9	50.0
4:2 FTS	AveID	0.8220	0.8357		2.37	2.34	1.7	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.001	0.9765		2.44	2.50	-2.5	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.002		2.40	2.50	-4.2	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.076	1.027		2.17	2.28	-4.6	40.0
6:2FTS	AveID	1.550	1.578		2.41	2.37	1.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.309	1.444		2.62	2.38	10.3	50.0
Perfluorooctanoic acid (PFOA)	AveID	1.052	1.024		2.44	2.50	-2.6	40.0
Perfluorononanoic acid (PFNA)	AveID	1.006	1.012		2.51	2.50	0.6	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.060	1.036		2.27	2.32	-2.3	40.0
8:2FTS	AveID	1.216	1.208		2.38	2.40	-0.6	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9592	0.995		2.59	2.50	3.8	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9673	0.9310		2.41	2.50	-3.7	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.074	1.067		2.49	2.50	-0.6	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6176	0.6003		2.34	2.41	-2.8	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9936	0.9725		2.45	2.50	-2.1	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9160	0.8715		2.38	2.50	-4.9	40.0
MeFOSA	AveID	0.9787	0.9406		2.40	2.50	-3.9	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9925	0.9526		2.40	2.50	-4.0	40.0
N-EtFOSA-M	AveID	1.065	1.078		2.53	2.50	1.3	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.160	1.060		2.29	2.50	-8.6	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2577	0.2536		2.46	2.50	-1.6	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.8879		2.57	2.50	2.9	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.029	1.074		2.61	2.50	4.3	50.0
13C4 PFBA	Ave	1.519	1.485		2.44	2.50	-2.3	50.0
13C5 PFPeA	Ave	0.9096	0.8808		2.42	2.50	-3.2	50.0
13C3-PFBS	Ave	0.0194	0.0189		2.27	2.33	-2.4	50.0
13C2 PFHxA	Ave	0.9709	0.9568		2.46	2.50	-1.5	50.0
13C4-PFHpA	Ave	0.8985	0.8867		2.47	2.50	-1.3	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201222/1 Calibration Date: 12/23/2017 02:11

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_036.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.134	1.100		2.29	2.37	-3.0	50.0
13C4 PFOA	Ave	1.033	1.029		2.49	2.50	-0.4	50.0
M2-6:2FTS	Ave	0.4185	0.3036		1.72	2.38	-27.5	40.0
13C4 PFOS	Ave	0.7487	0.7221		2.31	2.39	-3.6	50.0
13C5 PFNA	Ave	0.7339	0.6968		2.37	2.50	-5.1	50.0
13C8 FOSA	Ave	1.019	0.9701		2.38	2.50	-4.8	50.0
M2-8:2FTS	Ave	0.2338	0.1553		1.59	2.40	-33.6	40.0
13C2 PFDA	Ave	0.6054	0.5945		2.46	2.50	-1.8	50.0
d3-NMeFOSAA	Ave	0.3249	0.2588		1.99	2.50	-20.3	50.0
d5-NEtFOSAA	Ave	0.3173	0.2628		2.07	2.50	-17.2	50.0
13C2 PFUnA	Ave	0.4609	0.4310		2.34	2.50	-6.5	50.0
d-N-MeFOSA-M	Ave	0.2902	0.2883		2.48	2.50	-0.7	50.0
13C2 PFDoA	Ave	0.4970	0.4739		2.38	2.50	-4.6	50.0
d-N-EtFOSA-M	Ave	0.2788	0.2617		2.35	2.50	-6.1	50.0
13C2-PFTeDA	Ave	0.5554	0.5180		2.33	2.50	-6.7	50.0
13C2-PFHxDA	Ave	1.011	0.9894		2.45	2.50	-2.1	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_036.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2017 02:11:00 ALS Bottle#: 14 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:42:35

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.535	7375907	2.44		97.7	21503	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.004	6923318	2.56		102	1804	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.634	4374572	2.42		96.8	33165	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.000	4862074	2.49		99.6	6286	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.647	87447	2.27		97.6	3940	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	6624576	2.34		106	35360	
298.90 > 99.00	1.716	1.707	0.009	1.000	2728426		2.43(1.25-3.74)		23619	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.924	1.920	0.004	1.000	1176886	2.37		102	42398	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.741	4752231	2.46		98.5	37656	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.966	1.956	0.010	1.000	4640529	2.44		97.5	9501	
313.00 > 119.00	1.966	1.956	0.010	1.000	414442		11.20(5.03-15.10)		10229	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.864	4404052	2.47		98.7	31139	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	4413120	2.39		95.8	7618	
363.00 > 169.00	2.293	2.291	0.002	1.000	1784109		2.47(1.13-3.40)		10364	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	5106178	2.17		95.4	8595	
399.00 > 99.00	2.306	2.304	0.002	1.000	1706766		2.99(1.50-4.49)		6116	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.869	5167655	2.29		97.0	23330	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.639	2.642	-0.004	0.997	2254871	2.41		102	37860	
D 12 M2-6:2FTS										
429.00 > 81.00	2.646	2.642	0.004	0.997	1432370	1.72		72.5	28442	
D 14 13C4 PFOA										
417.00 > 372.00	2.646	2.654	-0.008	0.997	5110153	2.49		99.6	42820	
* 62 13C2-PFOA										
415.00 > 370.00	2.653	2.656	-0.003		4966878	2.50			44432	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.653	2.656	-0.003	1.003	5234587	2.44		97.4	7882	
413.00 > 169.00	2.653	2.656	-0.003	1.003	2924473		1.79(0.84-2.52)		16208	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.653	2.662	-0.009	1.000	4929529	2.62		110	26424	
449.00 > 99.00	2.653	2.662	-0.009	1.000	1304352		3.78(1.94-5.82)		19480	
D 18 13C4 PFOS										
503.00 > 80.00	3.018	3.025	-0.007	1.138	3428558	2.30		96.4	22339	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.018	3.028	-0.010	1.000	3448022	2.27		97.7	354	
499.00 > 99.00	3.018	3.028	-0.010	1.000	765501		4.50(2.31-6.93)		507	
D 19 13C5 PFNA										
468.00 > 423.00	3.018	3.028	-0.010	1.138	3460744	2.37		94.9	29696	
20 Perfluorononanoic acid										
463.00 > 419.00	3.018	3.029	-0.011	1.000	3501573	2.51		101	13601	
463.00 > 169.00	3.018	3.029	-0.011	1.000	843862		4.15(1.90-5.69)		12542	
D 21 13C8 FOSA										
506.00 > 78.00	3.365	3.370	-0.005	1.269	4818146	2.38		95.2	26386	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.365	3.372	-0.007	1.000	4796042	2.59		104	28171	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.377	-0.004	1.271	738780	1.59		66.4	18623	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.365	3.377	-0.012	0.998	892788	2.38		99.4	18646	
D 23 13C2 PFDA										
515.00 > 470.00	3.380	3.389	-0.009	1.274	2952868	2.46		98.2	32485	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.380	3.390	-0.010	1.000	2749210	2.41		96.3	17338	
513.00 > 169.00	3.380	3.390	-0.010	1.000	493250		5.57(2.36-7.09)		1963	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.543	-0.011	1.332	1285615	1.99		79.7	18946	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.540	3.548	-0.008	1.002	1372359	2.49		99.4	9348	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.703	-0.013	1.000	2075446	2.34		97.2	28265	
599.00 > 99.00	3.690	3.703	-0.013	1.000	674750		3.08(1.39-4.16)		13791	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.712	-0.013	1.394	1305351	2.07		82.8	7621	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.707	3.717	-0.010	1.398	2140828	2.34		93.5	28313	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.707	3.718	-0.011	1.000	1865785	2.38		95.1	12603	
563.00 > 169.00	3.707	3.718	-0.011	1.000	416469		4.48(0.00-0.00)		11205	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.707	3.720	-0.013	1.002	1269400	2.45		97.9	18719	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.862	-0.006	1.454	1431981	2.48		99.3	4571	
35 MeFOSA										
512.00 > 169.00	3.867	3.872	-0.005	1.003	1346892	2.40		96.1	3549	
D 36 13C2 PFDoA										
615.00 > 570.00	4.006	4.011	-0.005	1.510	2353829	2.38		95.4	41827	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.006	4.011	-0.005	1.000	2242252	2.40		96.0	8732	
613.00 > 169.00	4.006	4.011	-0.005	1.000	572115		3.92(2.13-6.40)		14163	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.046	4.052	-0.006	1.525	1299832	2.35		93.9	2903	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.053	4.058	-0.005	1.002	1401172	2.53		101	3369	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.272	4.277	-0.005	1.000	2494535	2.28		91.4	16392	
663.00 > 169.00	4.272	4.277	-0.005	1.000	793308		3.14(1.25-3.76)		29991	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.702	2572788	2.33		93.3	23296	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.518	-0.004	1.000	652421	2.46		98.4	16024	
713.00 > 219.00	4.501	4.518	-0.017	0.997	449709		1.45(0.71-2.13)		11248	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.939	-0.007	1.859	4914105	2.45		97.9	14952	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.939	-0.007	1.000	4363116	2.57		103	3358	
813.00 > 169.00	4.932	4.939	-0.007	1.000	775033		5.63(2.86-8.58)		8256	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.297	5.306	-0.009	1.000	5277786	2.61		104	1727	
913.00 > 169.00	5.297	5.306	-0.009	1.000	659740		8.00(0.00-0.00)		2580	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 26-Dec-2017 16:04:27 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_036.d

Injection Date: 23-Dec-2017 02:11:00 Instrument ID: A8_N

Lims ID: CCV L5

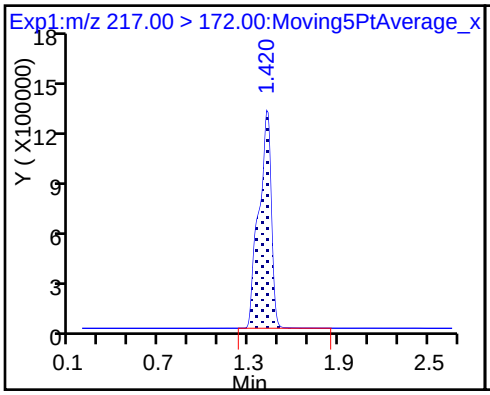
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 1

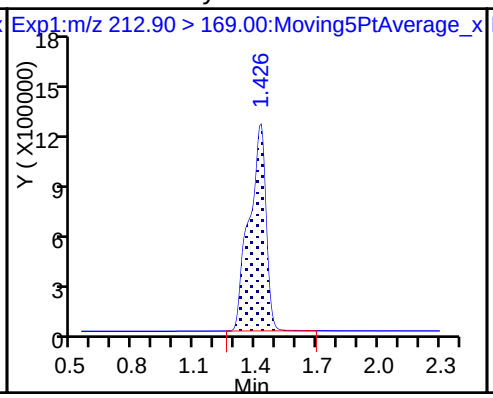
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

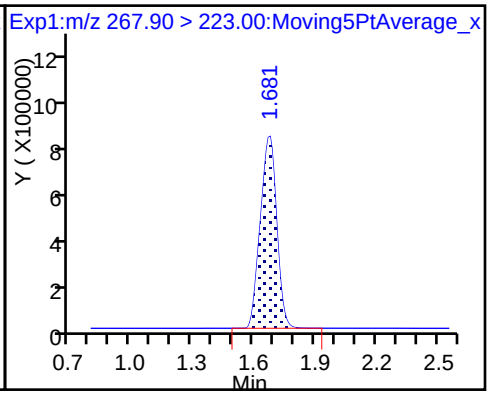
D 1 13C4 PFBA



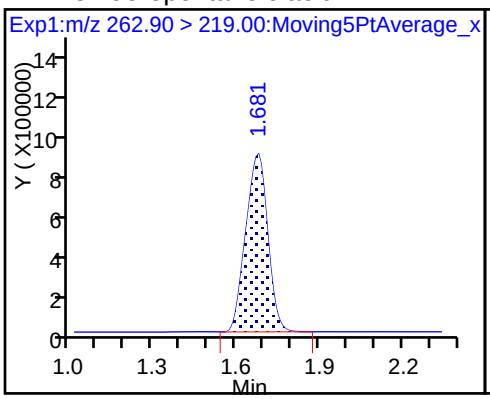
2 Perfluorobutyric acid



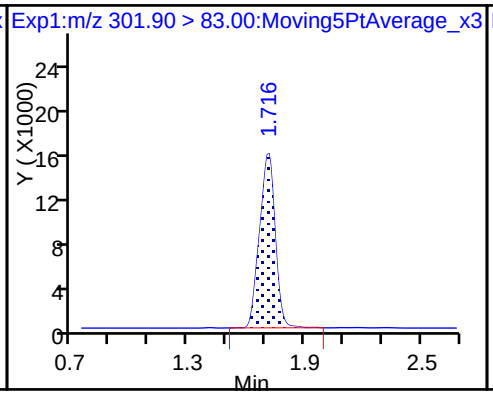
D 3 13C5-PFPeA



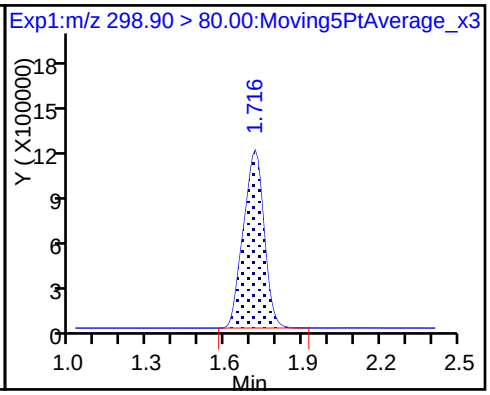
4 Perfluoropentanoic acid



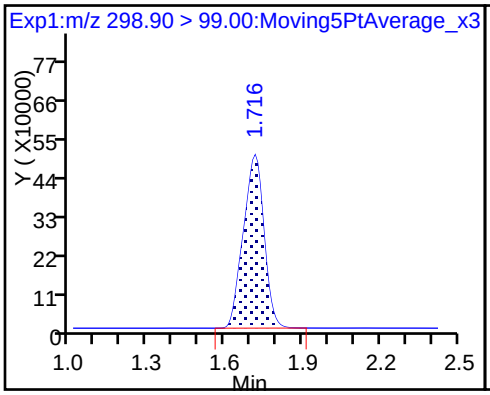
D 47 13C3-PFBS



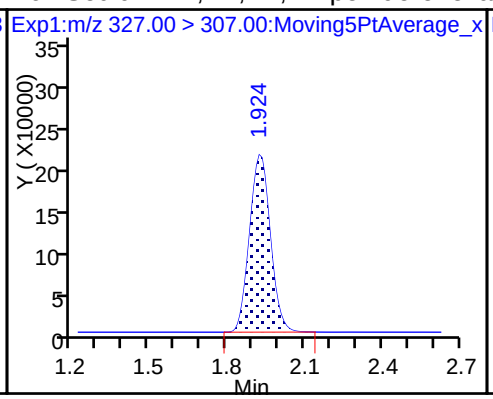
5 Perfluorobutanesulfonic acid



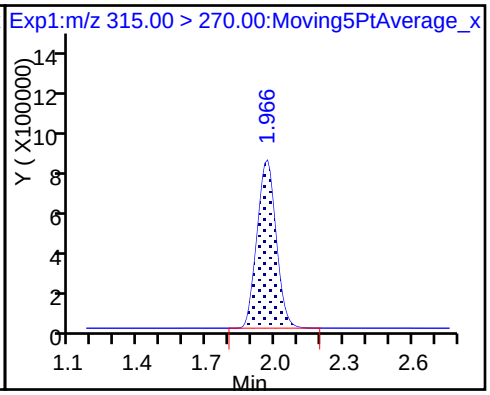
5 Perfluorobutanesulfonic acid



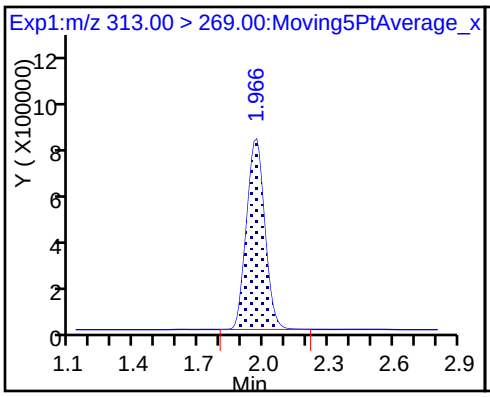
61 Sodium 1H,1H,2H,2H-perfluorohexa



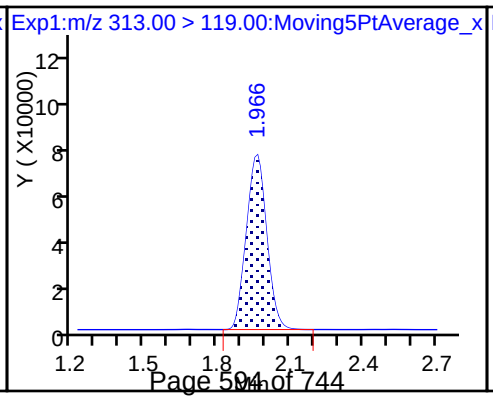
D 7 13C2 PFHxA



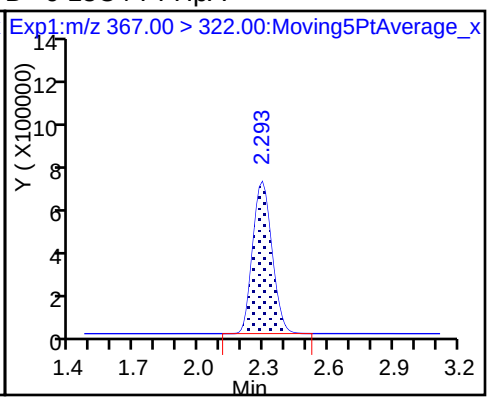
6 Perfluorohexanoic acid



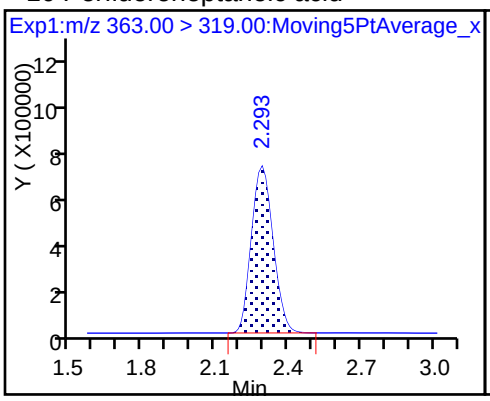
6 Perfluorohexanoic acid



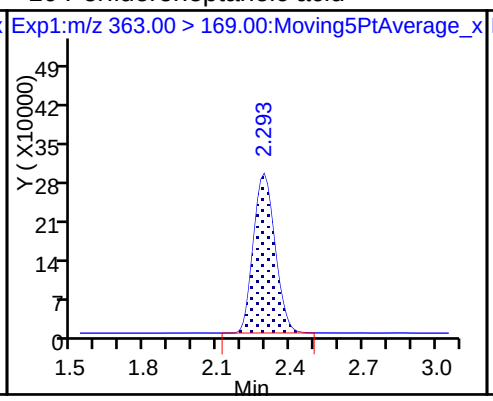
D 9 13C4-PFHpA



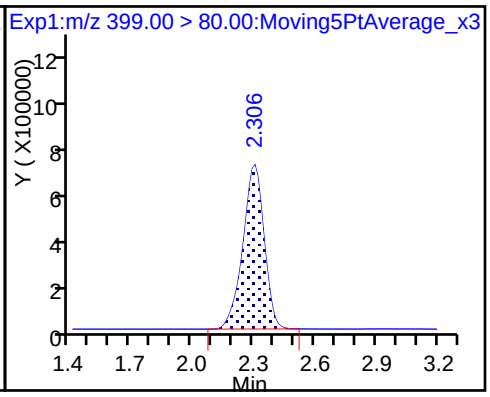
10 Perfluoroheptanoic acid



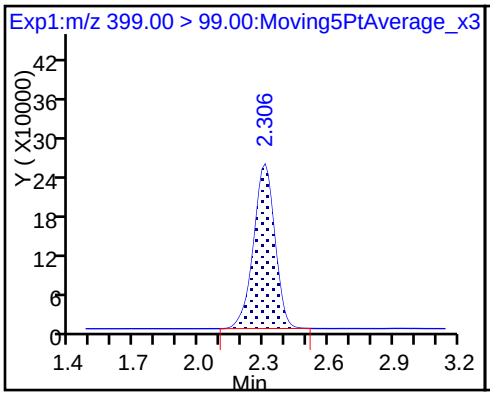
10 Perfluoroheptanoic acid



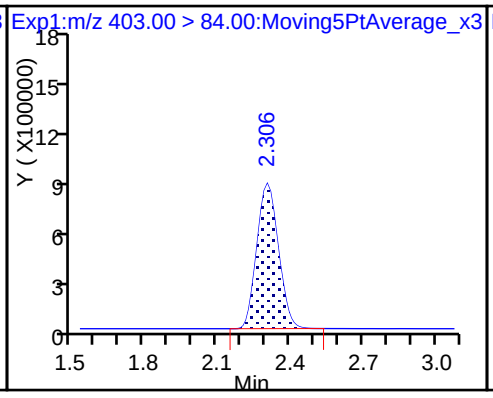
8 Perfluorohexanesulfonic acid



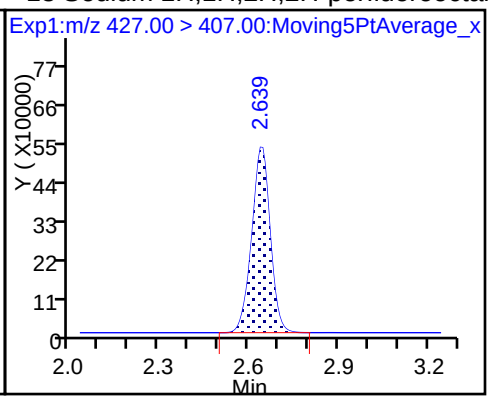
8 Perfluorohexanesulfonic acid



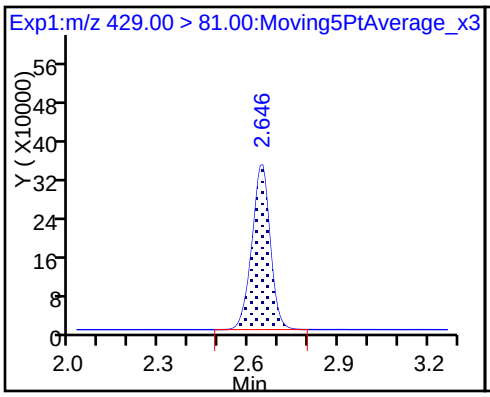
D 11 18O2 PFHxS



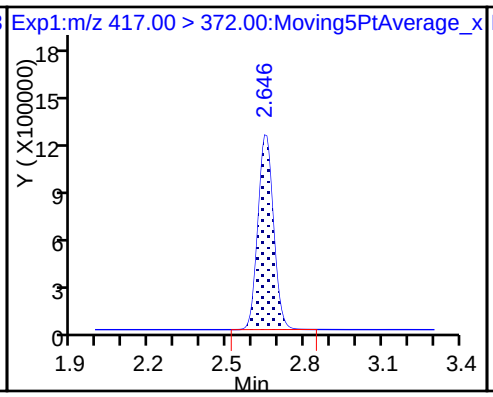
13 Sodium 1H,1H,2H,2H-perfluorooctane



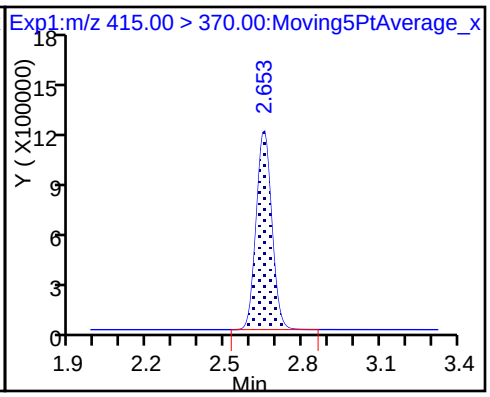
D 12 M2-6:2FTS



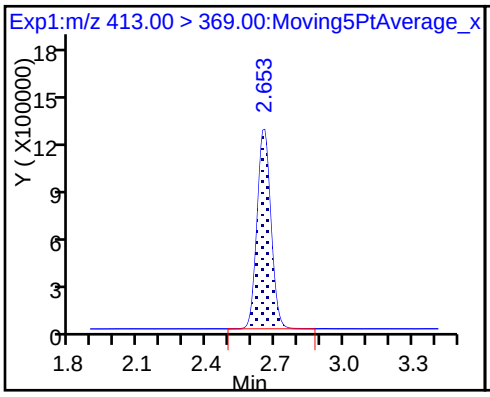
D 14 13C4 PFOA



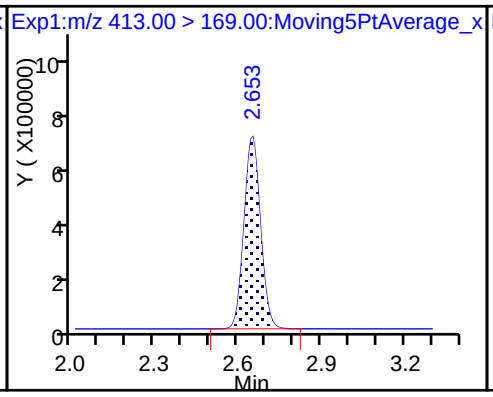
* 62 13C2-PFOA



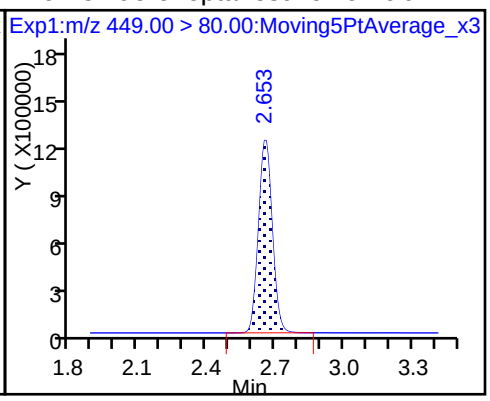
15 Perfluorooctanoic acid



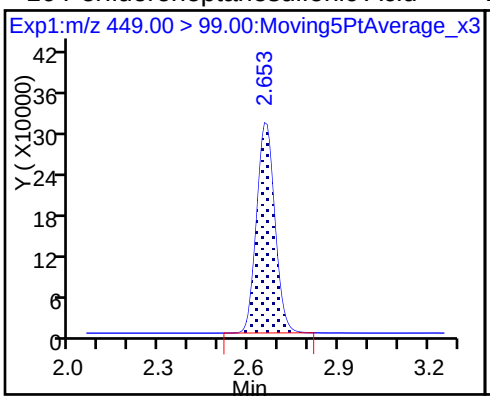
15 Perfluorooctanoic acid



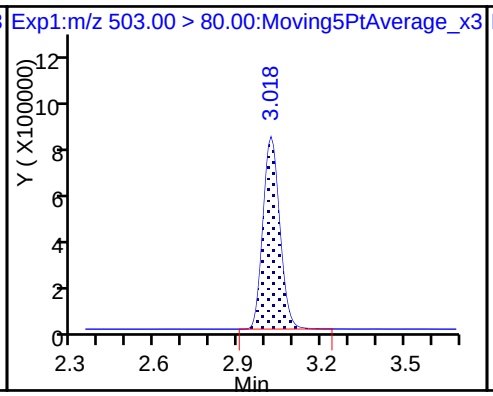
16 Perfluoroheptanesulfonic Acid



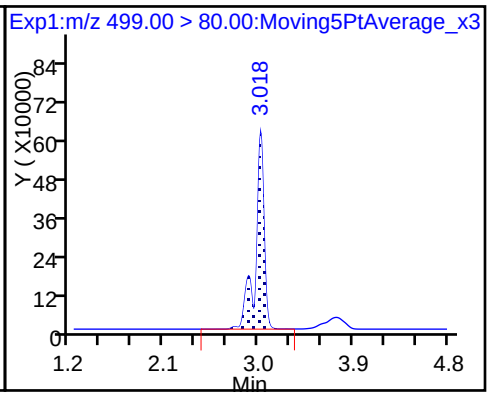
16 Perfluoroheptanesulfonic Acid



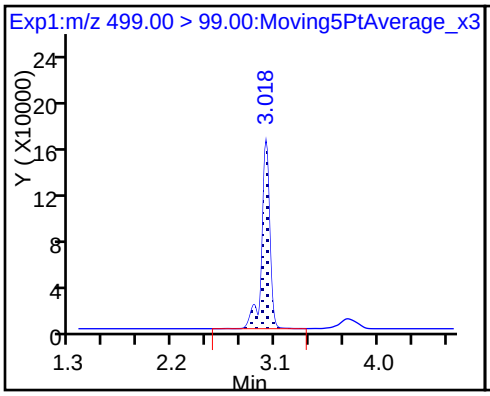
D 18 13C4 PFOS



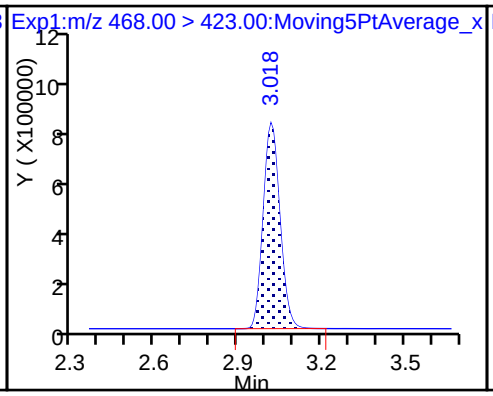
17 Perfluorooctane sulfonic acid



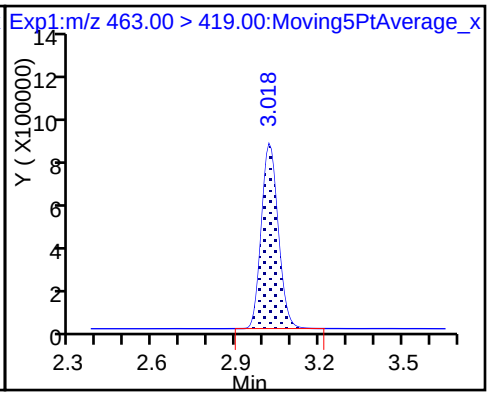
17 Perfluorooctane sulfonic acid



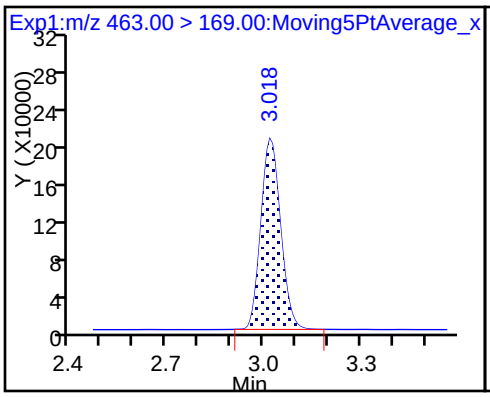
D 19 13C5 PFNA



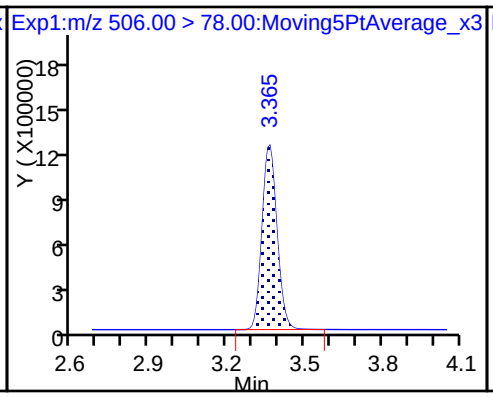
20 Perfluorononanoic acid



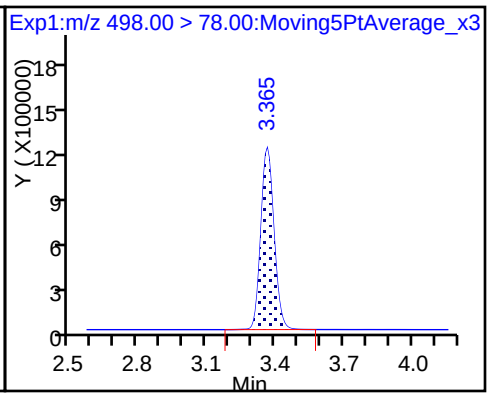
20 Perfluorononanoic acid



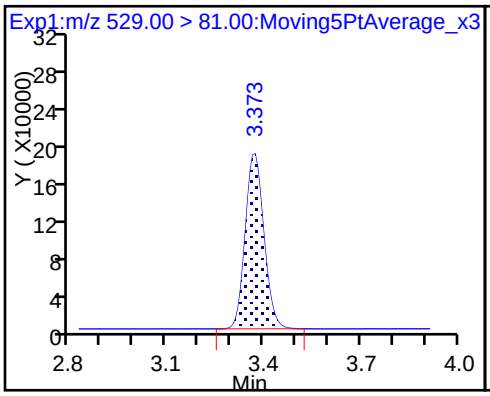
D 21 13C8 FOSA



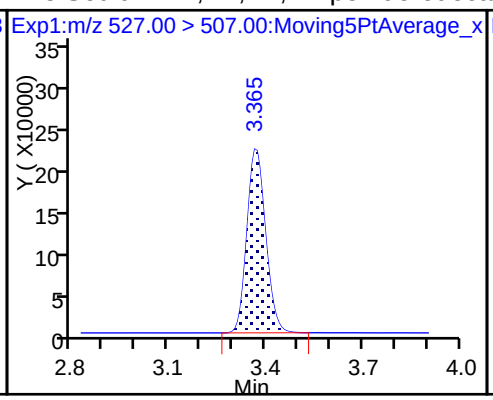
22 Perfluorooctane Sulfonamide



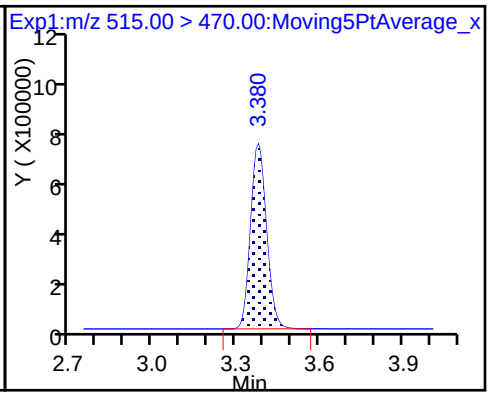
D 26 M2-8:2FTS



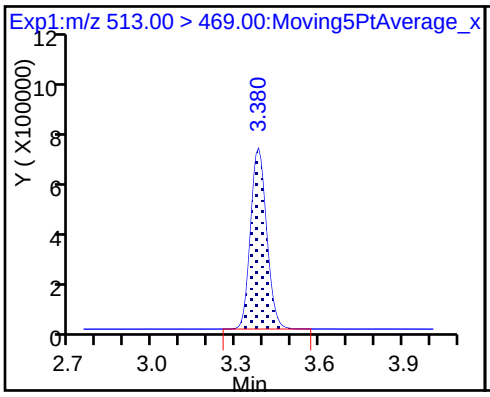
25 Sodium 1H,1H,2H,2H-perfluorodecane



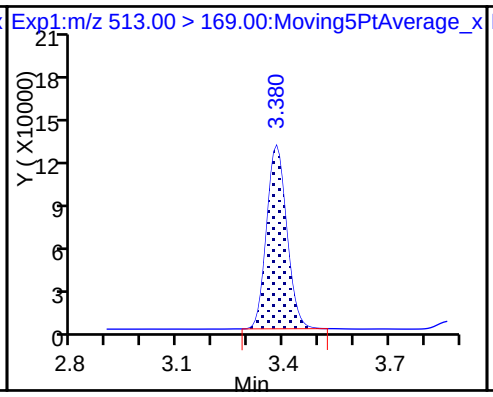
D 23 13C2 PFDA



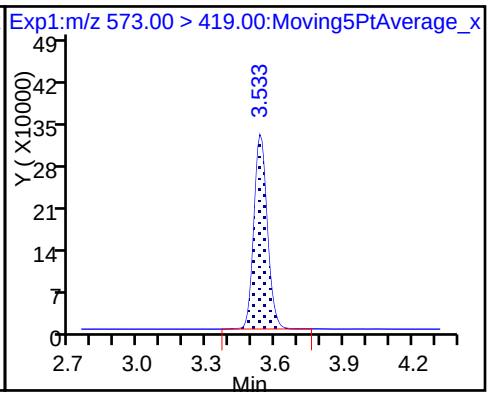
24 Perfluorodecanoic acid



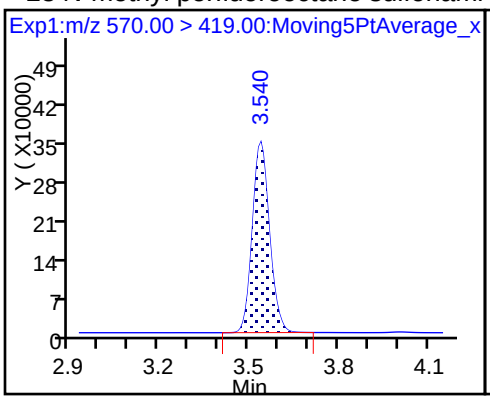
24 Perfluorodecanoic acid



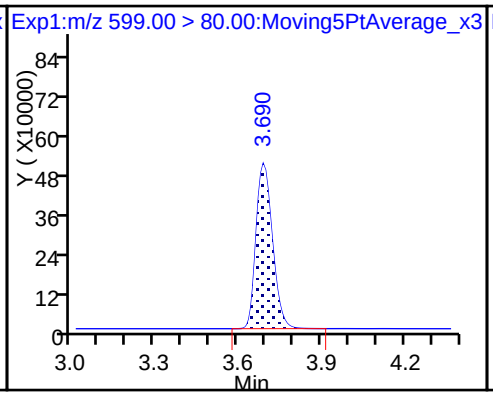
D 27 d3-NMeFOSAA



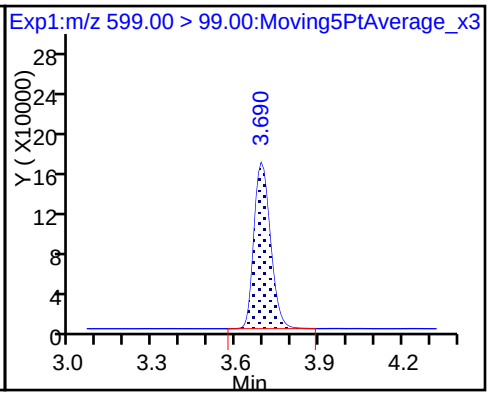
28 N-methyl perfluorooctane sulfonami



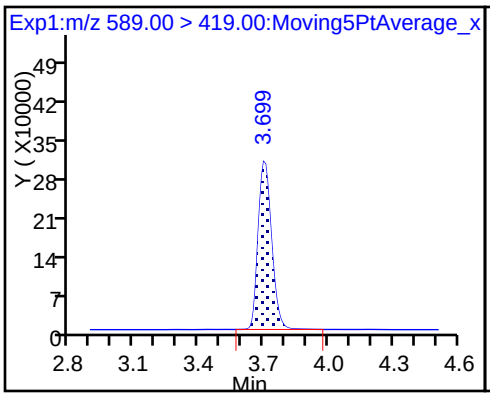
29 Perfluorodecane Sulfonic acid



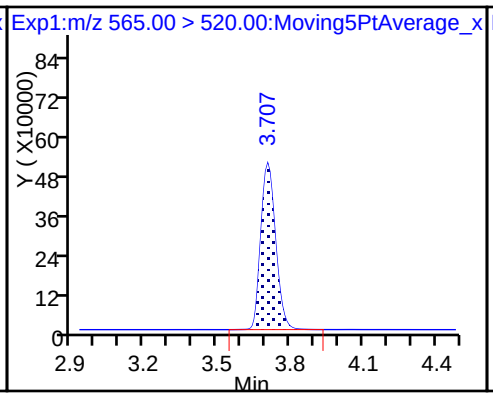
29 Perfluorodecane Sulfonic acid



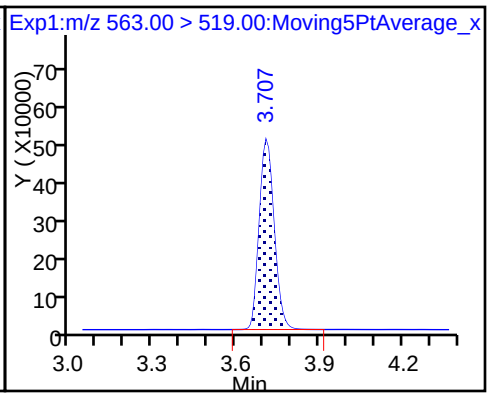
D 32 d5-NEtFOSAA



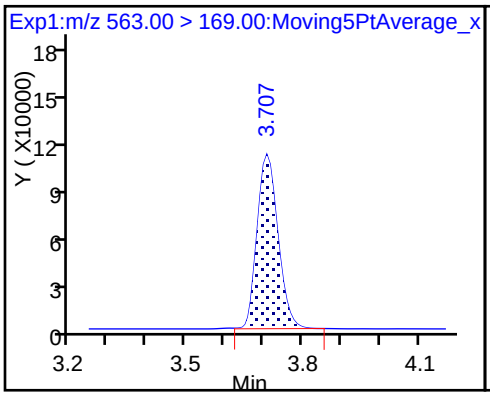
D 30 13C2 PFUnA



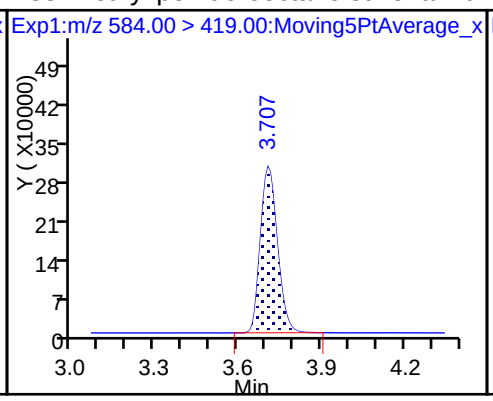
31 Perfluoroundecanoic acid



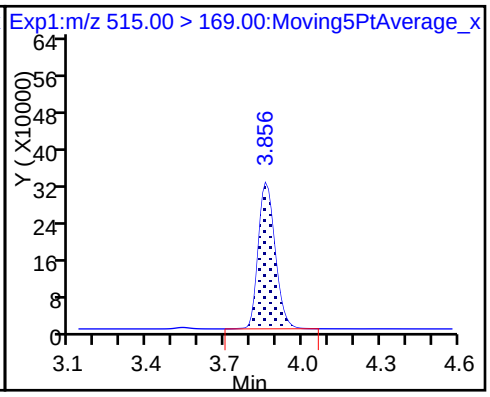
31 Perfluoroundecanoic acid



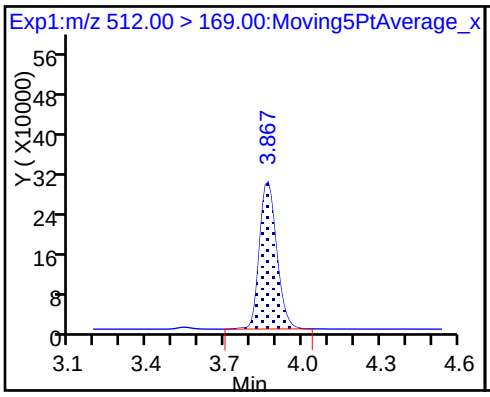
33 N-ethyl perfluorooctane sulfonamid



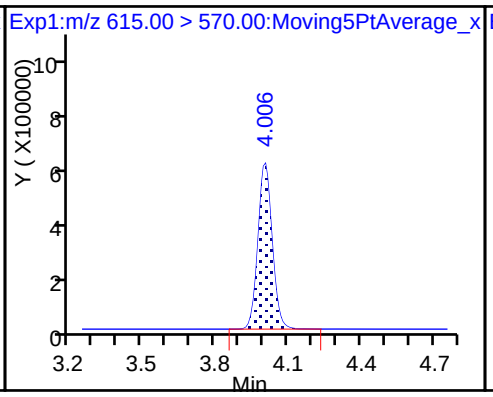
D 34 d-N-MeFOSA-M



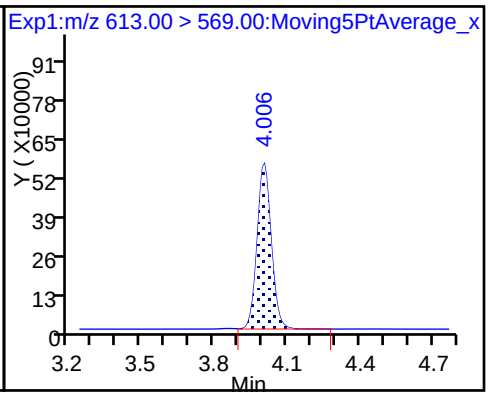
35 MeFOSA



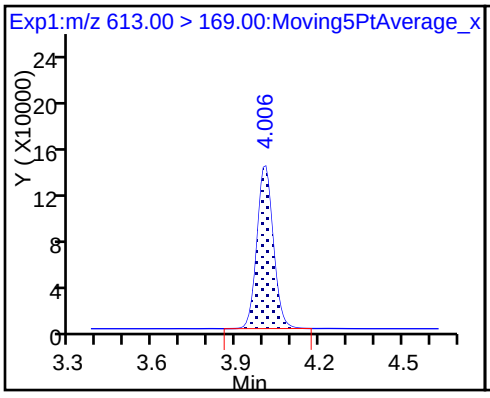
D 36 13C2 PFDoA



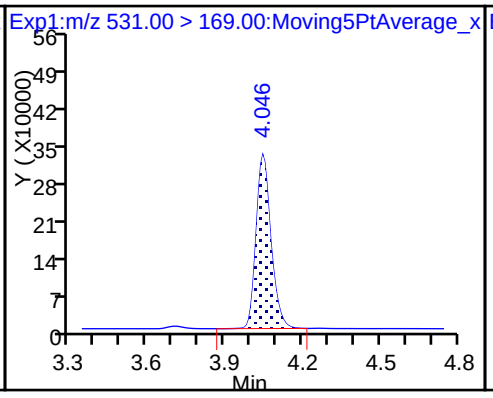
37 Perfluorododecanoic acid



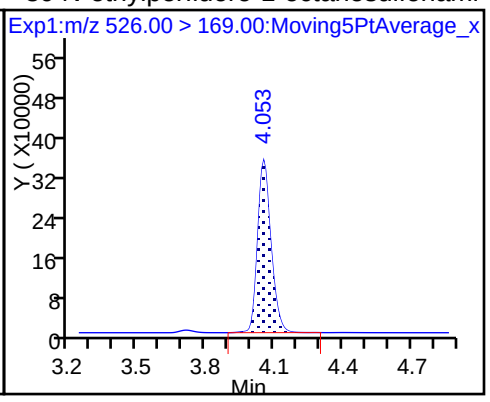
37 Perfluorododecanoic acid



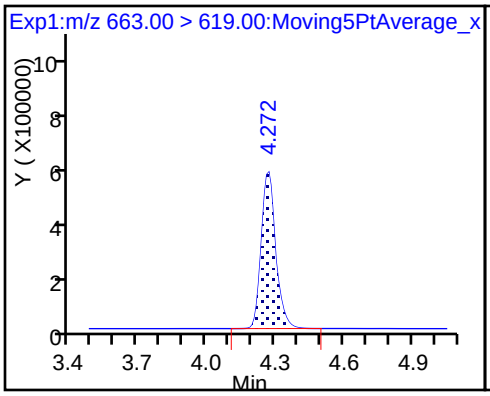
D 38 d-N-EtFOSA-M



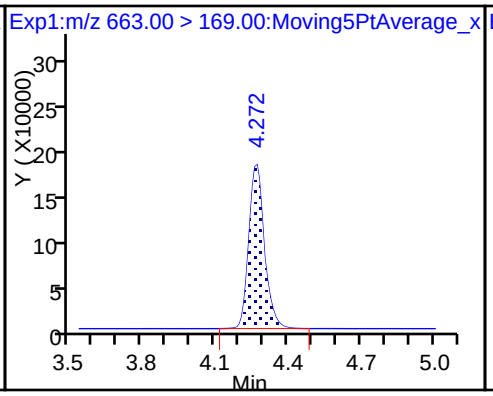
39 N-ethylperfluoro-1-octanesulfonami



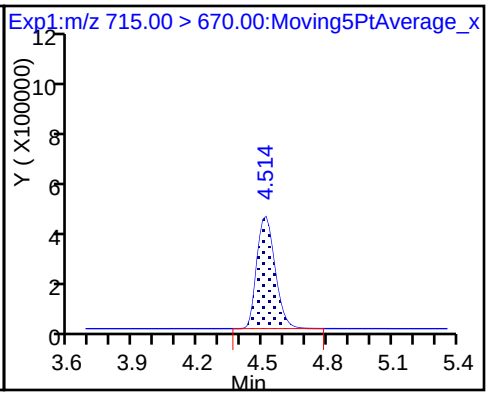
41 Perfluorotridecanoic acid



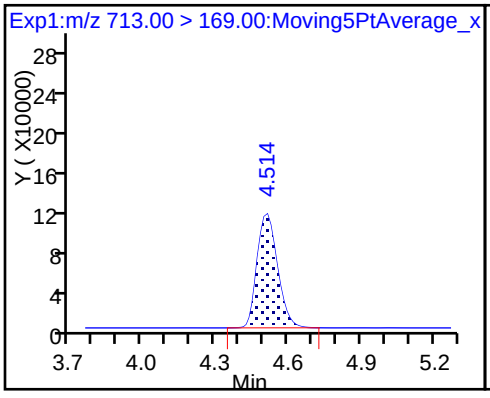
41 Perfluorotridecanoic acid



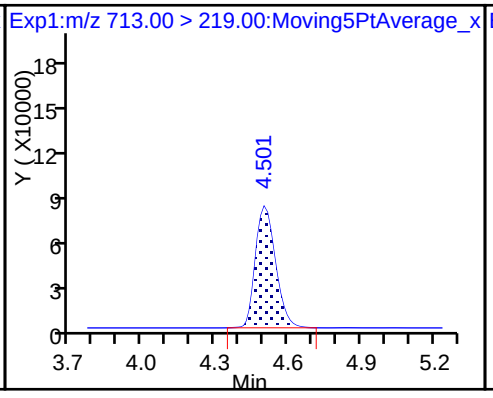
D 43 13C2-PFTeDA



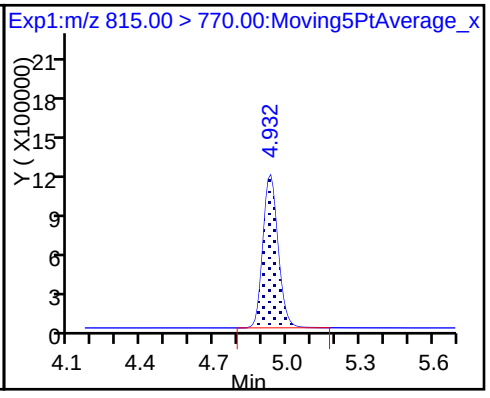
42 Perfluorotetradecanoic acid



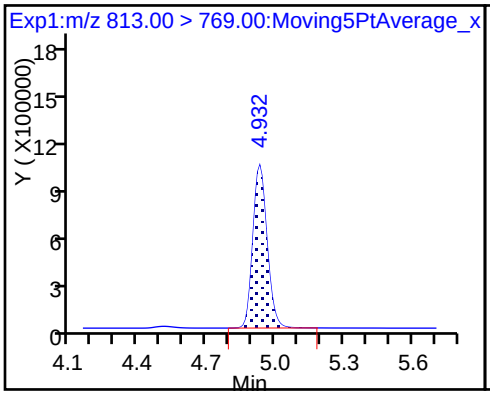
42 Perfluorotetradecanoic acid



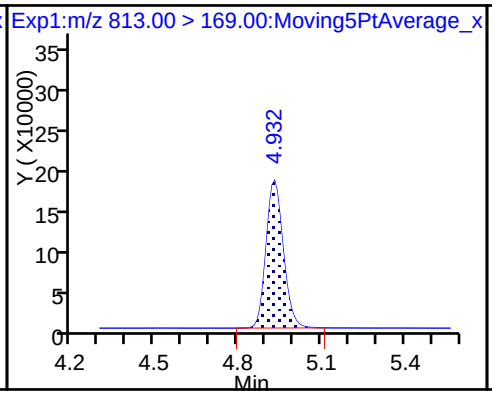
D 44 13C2-PFHxDA



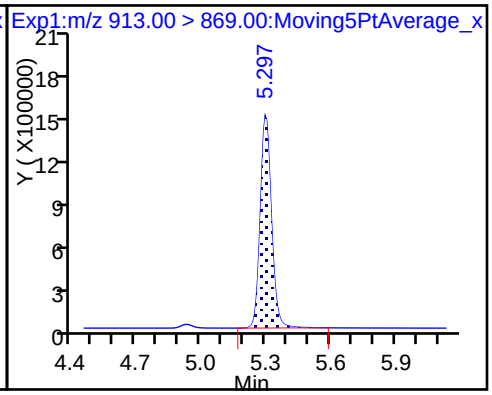
45 Perfluorohexadecanoic acid



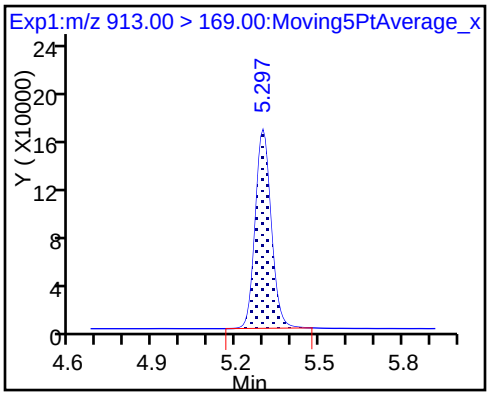
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201222/12 Calibration Date: 12/23/2017 03:37

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_047.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9163	0.9372		1.02	1.00	2.3	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.116	1.109		0.994	1.00	-0.6	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	75.22	80.39		0.945	0.884	6.9	50.0
4:2 FTS	AveID	0.8220	0.7990		0.908	0.934	-2.8	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.001	1.015		1.01	1.00	1.4	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.039		0.993	1.00	-0.7	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.076	1.024		0.866	0.910	-4.9	40.0
6:2FTS	AveID	1.550	1.607		0.983	0.948	3.7	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.052	1.090		1.04	1.00	3.6	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.309	1.396		1.02	0.952	6.6	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.060	1.071		0.937	0.928	1.0	40.0
Perfluorononanoic acid (PFNA)	AveID	1.006	0.9938		0.988	1.00	-1.2	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9592	0.9785		1.02	1.00	2.0	40.0
8:2FTS	AveID	1.216	1.271		1.00	0.958	4.5	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9673	1.027		1.06	1.00	6.1	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.074	1.077		1.00	1.00	0.3	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6176	0.6043		0.943	0.964	-2.2	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9936	0.9634		0.970	1.00	-3.0	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9160	0.8489		0.927	1.00	-7.3	40.0
MeFOSA	AveID	0.9787	1.017		1.04	1.00	3.9	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9925	1.004		1.01	1.00	1.1	40.0
N-EtFOSA-M	AveID	1.065	1.027		1.00	1.00	-3.6	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.160	1.147		0.989	1.00	-1.1	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2577	0.2442		0.947	1.00	-5.3	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.9297		1.06	1.00	6.4	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.029	1.135		1.10	1.00	10.3	50.0
13C4 PFBA	Ave	1.519	1.513		2.49	2.50	-0.4	50.0
13C5 PFPeA	Ave	0.9096	0.9010		2.48	2.50	-0.9	50.0
13C3-PFBS	Ave	0.0194	0.0188		2.26	2.33	-2.9	50.0
13C2 PFHxA	Ave	0.9709	0.9522		2.45	2.50	-1.9	50.0
13C4-PFHpA	Ave	0.8985	0.8830		2.46	2.50	-1.7	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201222/12 Calibration Date: 12/23/2017 03:37

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_047.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.134	1.137		2.37	2.37	0.3	50.0
M2-6:2FTS	Ave	0.4185	0.3025		1.72	2.38	-27.7	40.0
13C4 PFOA	Ave	1.033	1.048		2.54	2.50	1.4	50.0
13C4 PFOS	Ave	0.7487	0.7297		2.33	2.39	-2.5	50.0
13C5 PFNA	Ave	0.7339	0.7358		2.51	2.50	0.3	50.0
13C8 FOSA	Ave	1.019	0.9731		2.39	2.50	-4.5	50.0
M2-8:2FTS	Ave	0.2338	0.1595		1.63	2.40	-31.8	40.0
13C2 PFDA	Ave	0.6054	0.5639		2.33	2.50	-6.9	50.0
d3-NMeFOSAA	Ave	0.3249	0.2579		1.98	2.50	-20.6	50.0
d5-NEtFOSAA	Ave	0.3173	0.2750		2.17	2.50	-13.3	50.0
13C2 PFUnA	Ave	0.4609	0.4606		2.50	2.50	-0.0	50.0
d-N-MeFOSA-M	Ave	0.2902	0.2752		2.37	2.50	-5.2	50.0
13C2 PFDoA	Ave	0.4970	0.4732		2.38	2.50	-4.8	50.0
d-N-EtFOSA-M	Ave	0.2788	0.2668		2.39	2.50	-4.3	50.0
13C2-PFTeDA	Ave	0.5554	0.5319		2.39	2.50	-4.2	50.0
13C2-PFHxDA	Ave	1.011	0.9540		2.36	2.50	-5.6	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_047.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2017 03:37:11 ALS Bottle#: 13 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L4
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:47 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:42:00

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7421931	2.49		99.6	19703	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	2782278	1.02		102	543	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4418165	2.48		99.1	34371	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.000	1960038	0.99		99.4	2625	
D 47 13C3-PFBS										
301.90 > 83.00	1.717	1.705	0.012	0.646	85854	2.26		97.1	3059	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.717	1.707	0.010	1.000	2624323	0.9448		107	17342	
298.90 > 99.00	1.717	1.707	0.010	1.000	1088787		2.41(1.25-3.74)		10222	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.925	1.920	0.005	1.000	442843	0.9078		97.2	19759	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4669485	2.45		98.1	31994	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.966	1.956	0.010	1.000	1895757	1.01		101	4490	
313.00 > 119.00	1.966	1.956	0.010	1.000	166686		11.37(5.03-15.10)		4762	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.862	4330262	2.46		98.3	26946	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	1799514	0.99		99.3	3550	
363.00 > 169.00	2.293	2.291	0.002	1.000	735117		2.45(1.13-3.40)		5409	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	2079036	0.8657		95.1	4752	
399.00 > 99.00	2.306	2.304	0.002	1.000	709405		2.93(1.50-4.49)		3675	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.867	5276301	2.37		100	25026	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.652	2.642	0.010	1.000	904092	0.9830		104	20936	
D 12 M2-6:2FTS										
429.00 > 81.00	2.652	2.642	0.010	0.997	1409315	1.72		72.3	33403	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	5136919	2.54		101	36209	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4903836	2.50			33621	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.659	2.656	0.003	1.000	2239626	1.04		104	4050	
413.00 > 169.00	2.659	2.656	0.003	1.000	1109620		2.02(0.84-2.52)		7169	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.666	2.662	0.004	1.000	1901978	1.01		107	18748	
449.00 > 99.00	2.666	2.662	0.004	1.000	529034		3.60(1.94-5.82)		11382	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.138	3421052	2.33		97.5	26136	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.028	-0.003	1.000	1422393	0.9374		101	151	
499.00 > 99.00	3.025	3.028	-0.003	1.000	306045		4.65(2.31-6.93)		194	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.028	-0.003	1.138	3608316	2.51		100	38781	
20 Perfluorononanoic acid										
463.00 > 419.00	3.033	3.029	0.004	1.003	1434413	0.9877		98.8	6419	
463.00 > 169.00	3.033	3.029	0.004	1.003	353121		4.06(1.90-5.69)		7008	
D 21 13C8 FOSA										
506.00 > 78.00	3.371	3.370	0.001	1.268	4771806	2.39		95.5	20671	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.371	3.372	-0.001	1.000	1867764	1.02		102	16008	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.270	749215	1.63		68.2	17346	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.378	3.377	0.001	1.000	380762	1.00		105	13711	
D 23 13C2 PFDA										
515.00 > 470.00	3.386	3.389	-0.003	1.273	2765414	2.33		93.1	25824	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.386	3.390	-0.004	1.000	1135633	1.06		106	7593	
513.00 > 169.00	3.386	3.390	-0.004	1.000	203901		5.57(2.36-7.09)		1856	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.545	3.543	0.002	1.333	1264509	1.98		79.4	13632	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.545	3.548	-0.003	1.000	544700	1.00		100	3862	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.698	3.703	-0.005	1.000	833797	0.9431		97.8	25123	
599.00 > 99.00	3.698	3.703	-0.005	1.000	269121		3.10(1.39-4.16)		5390	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.712	-0.006	1.394	1348753	2.17		86.7	5575	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.715	3.717	-0.002	1.397	2258501	2.50		99.9	33651	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.715	3.718	-0.003	1.000	766890	0.9267		92.7	8081	
563.00 > 169.00	3.715	3.718	-0.003	1.000	172823		4.44(0.00-0.00)		6715	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.715	3.720	-0.005	1.002	519774	0.9696		97.0	13641	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.865	3.862	0.003	1.454	1349376	2.37		94.8	3463	
35 MeFOSA										
512.00 > 169.00	3.875	3.872	0.003	1.003	548901	1.04		104	3122	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	2320369	2.38		95.2	38824	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.013	4.011	0.002	1.000	931611	1.01		101	4030	
613.00 > 169.00	4.013	4.011	0.002	1.000	230133		4.05(2.13-6.40)		8166	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.052	4.052	0.0	1.524	1308147	2.39		95.7	3279	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.060	4.058	0.002	1.002	537239	0.9644		96.4	2478	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.279	4.277	0.002	1.000	1064476	0.9890		98.9	7743	
663.00 > 169.00	4.279	4.277	0.002	1.000	360318		2.95(1.25-3.76)		13676	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.697	2608284	2.39		95.8	22502	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.518	-0.004	1.000	254745	0.9474		94.7	6267	
713.00 > 219.00	4.514	4.518	-0.004	1.000	192821		1.32(0.71-2.13)		6662	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.931	4.939	-0.008	1.854	4678073	2.36		94.4	14817	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.939	0.001	1.002	1739695	1.06		106	1604	
813.00 > 169.00	4.940	4.939	0.001	1.002	308832		5.63(2.86-8.58)		5091	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.303	5.306	-0.003	1.000	2124196	1.10		110	717	
913.00 > 169.00	5.303	5.306	-0.003	1.000	273646		7.76(0.00-0.00)		1937	

Reagents:

LCPFC_LL4_00002 Amount Added: 1.00 Units: mL

Report Date: 26-Dec-2017 16:04:48 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_047.d

Injection Date: 23-Dec-2017 03:37:11 Instrument ID: A8_N

Lims ID: CCV L4

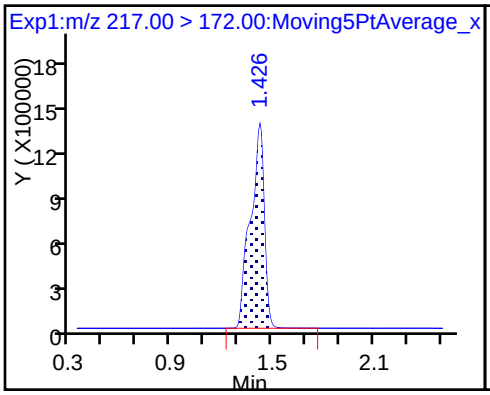
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 13 Worklist Smp#: 12

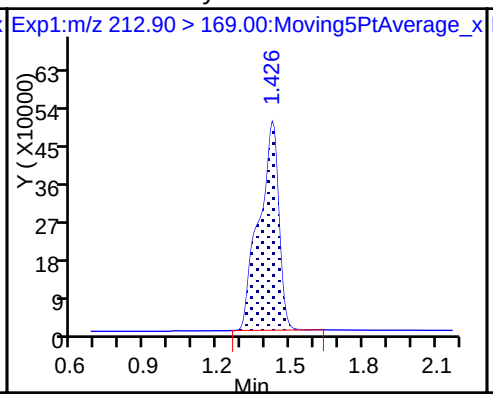
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

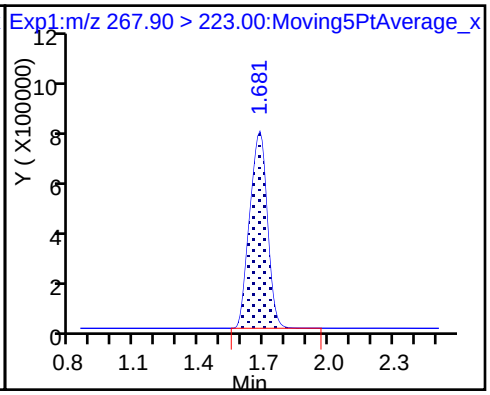
D 1 13C4 PFBA



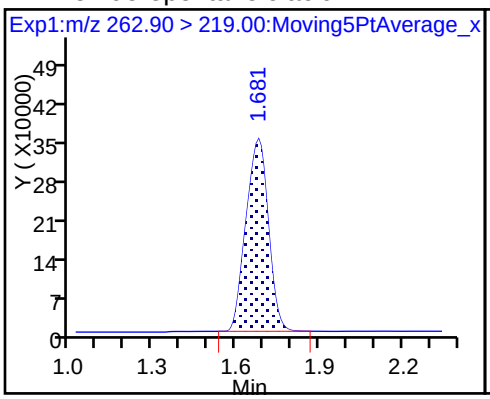
2 Perfluorobutyric acid



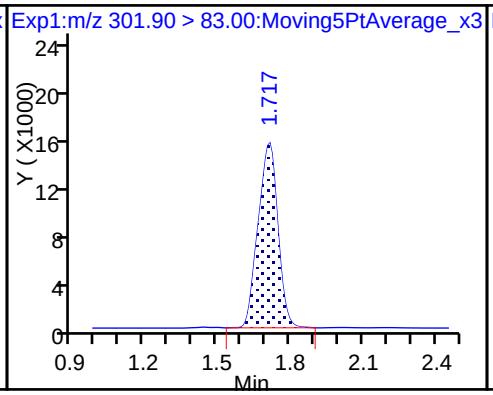
D 3 13C5-PFPeA



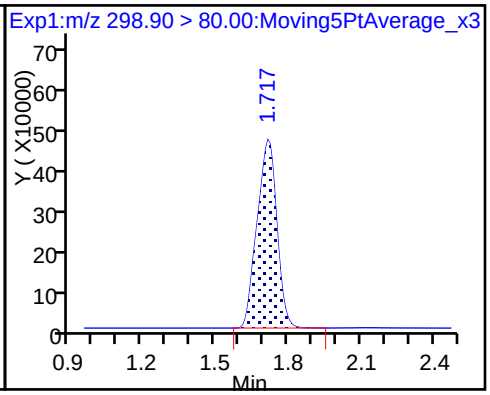
4 Perfluoropentanoic acid



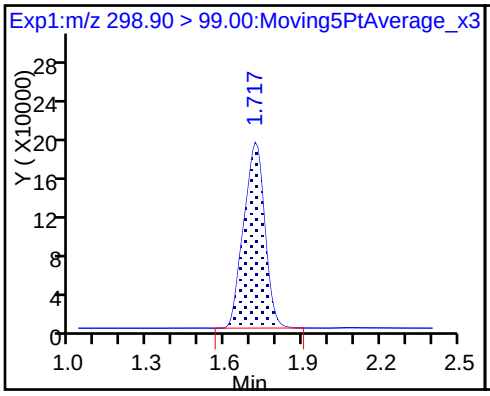
D 47 13C3-PFBS



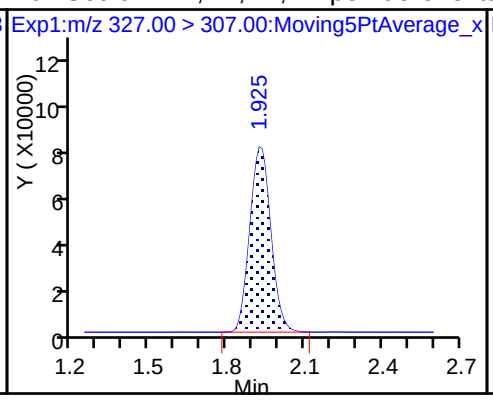
5 Perfluorobutanesulfonic acid



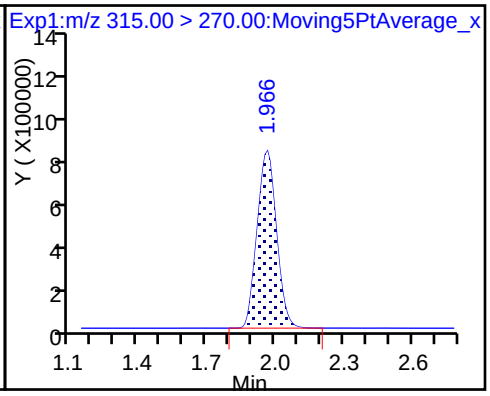
5 Perfluorobutanesulfonic acid



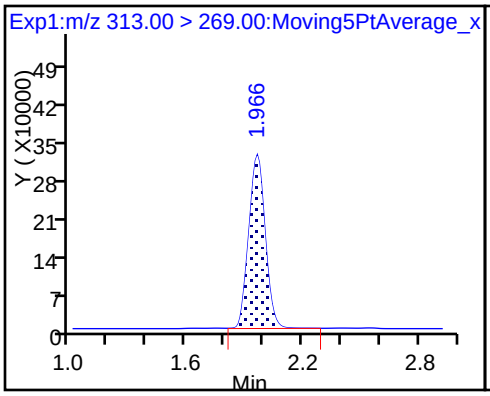
61 Sodium 1H,1H,2H,2H-perfluorohexa



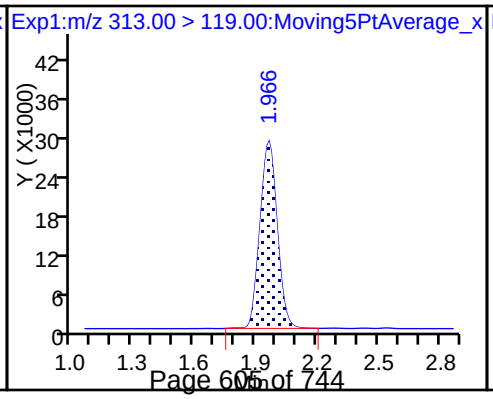
D 7 13C2 PFHxA



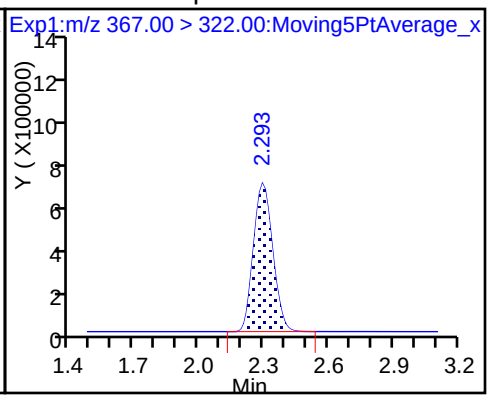
6 Perfluorohexanoic acid



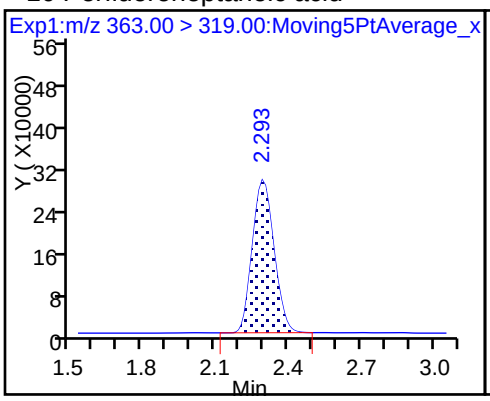
6 Perfluorohexanoic acid



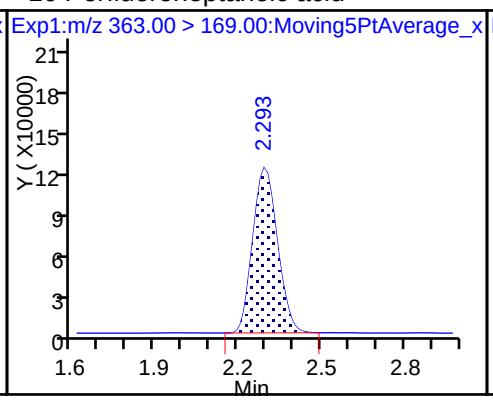
D 9 13C4-PFHpA



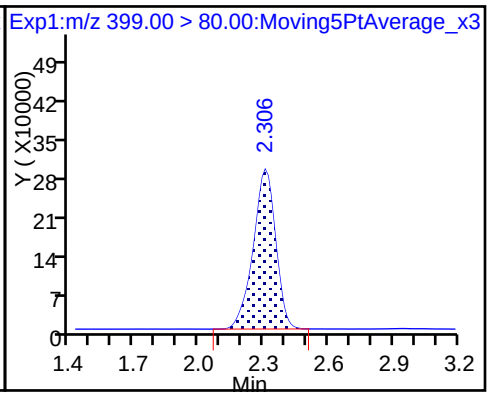
10 Perfluoroheptanoic acid



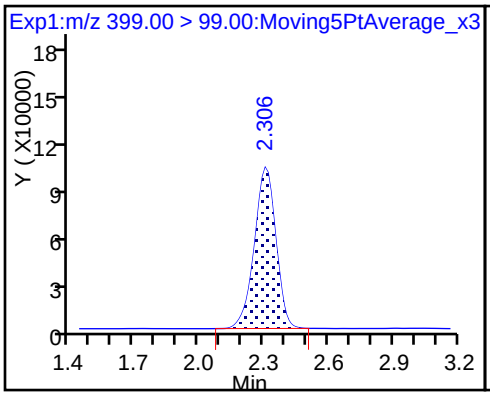
10 Perfluoroheptanoic acid



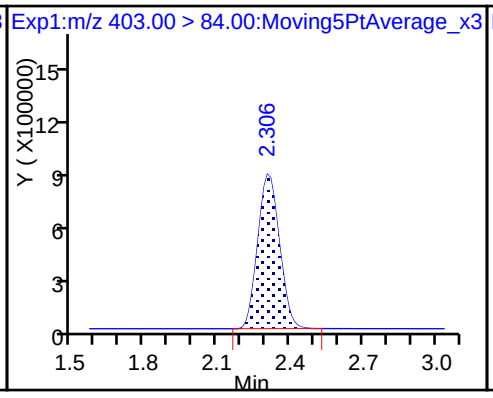
8 Perfluorohexanesulfonic acid



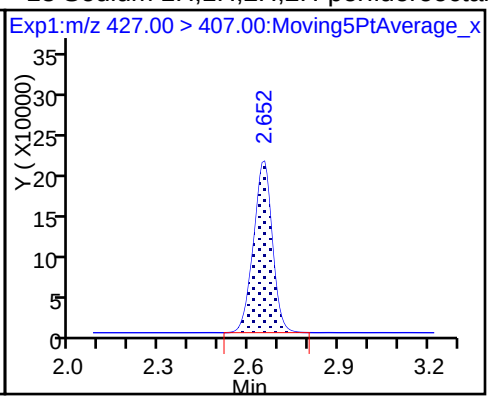
8 Perfluorohexanesulfonic acid



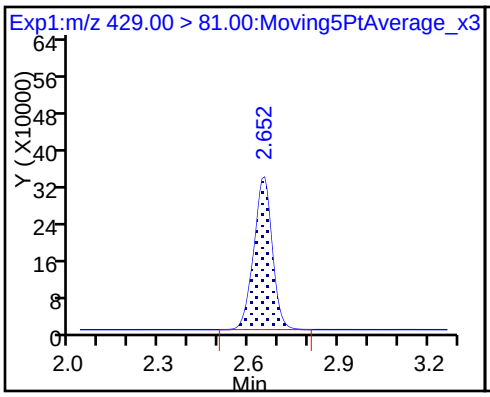
D 11 18O2 PFHxS



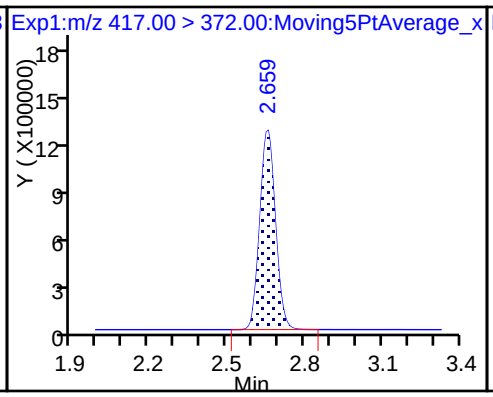
13 Sodium 1H,1H,2H,2H-perfluorooctane



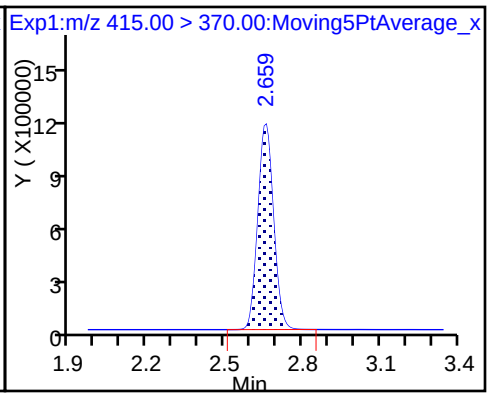
D 12 M2-6:2FTS



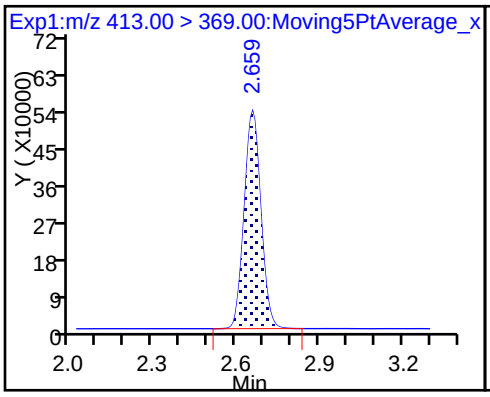
D 14 13C4 PFOA



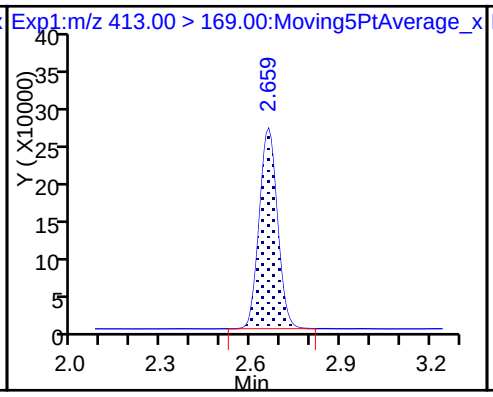
* 62 13C2-PFOA



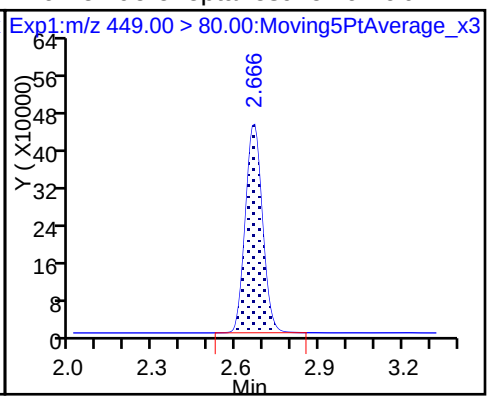
15 Perfluorooctanoic acid



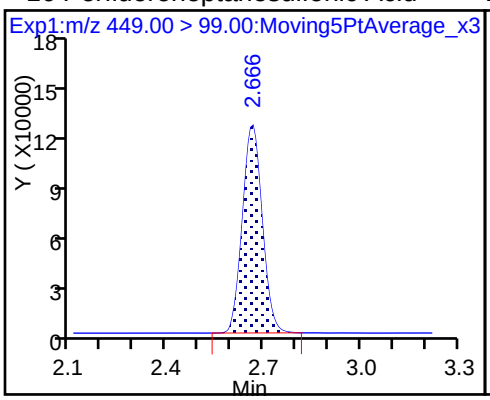
15 Perfluorooctanoic acid



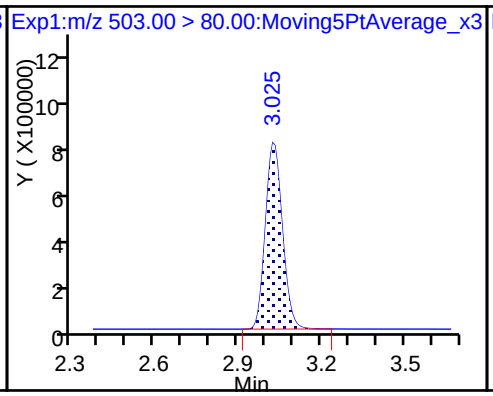
16 Perfluoroheptanesulfonic Acid



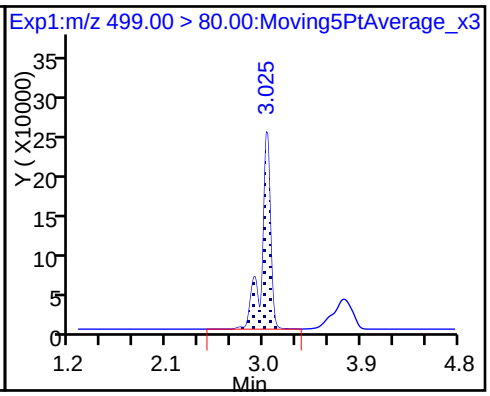
16 Perfluoroheptanesulfonic Acid



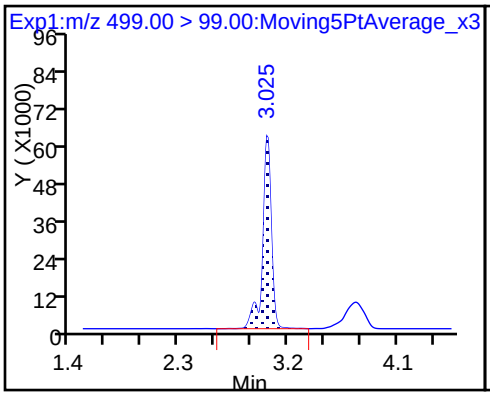
D 18 13C4 PFOS



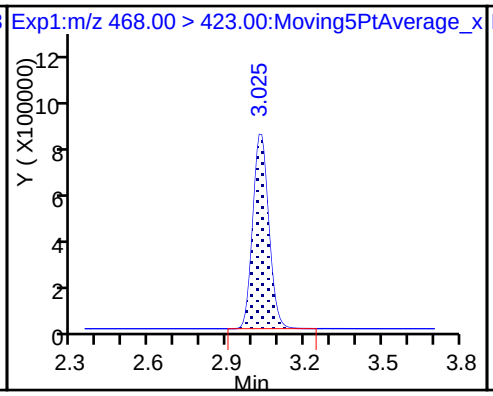
17 Perfluorooctane sulfonic acid



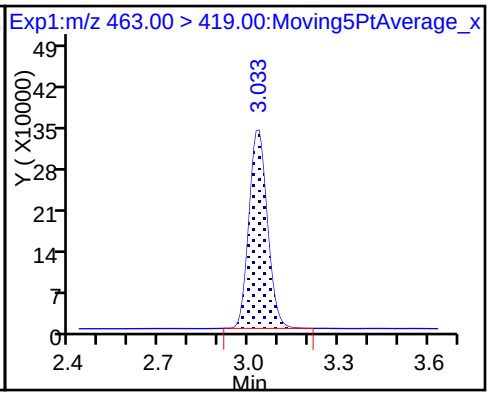
17 Perfluorooctane sulfonic acid



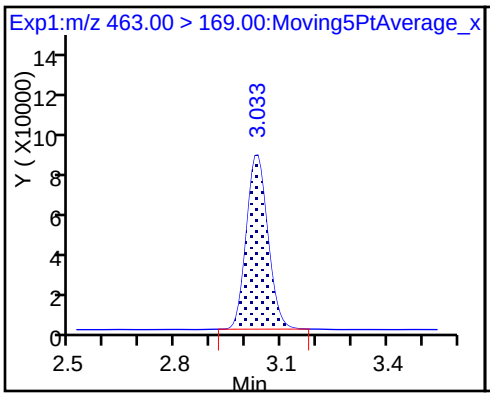
D 19 13C5 PFNA



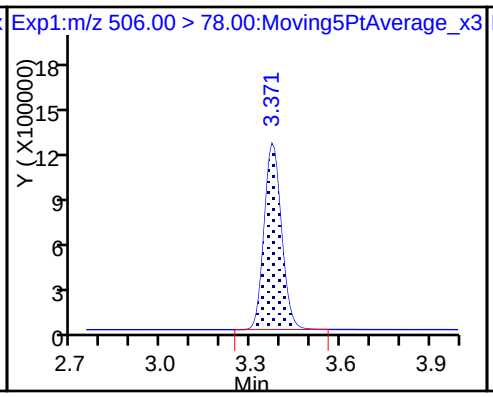
20 Perfluorononanoic acid



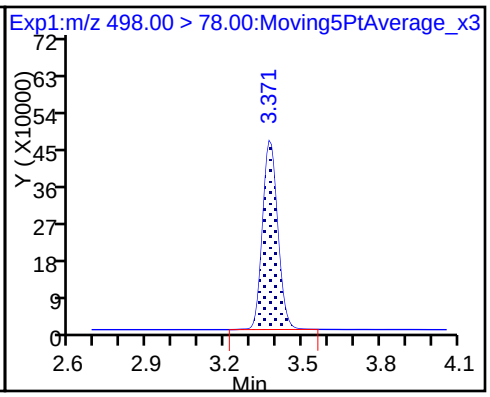
20 Perfluorononanoic acid



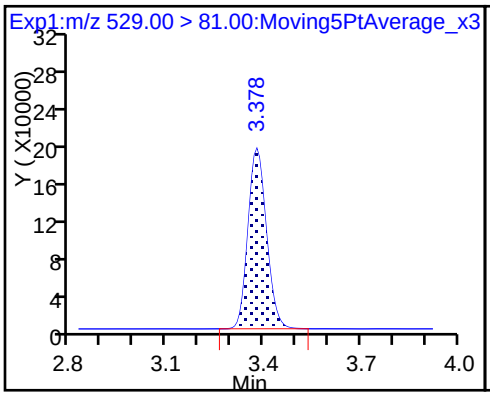
D 21 13C8 FOSA



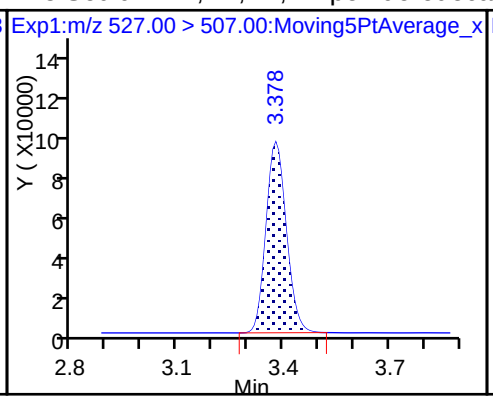
22 Perfluorooctane Sulfonamide



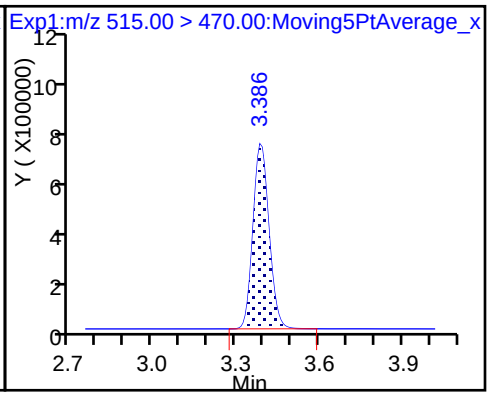
D 26 M2-8:2FTS



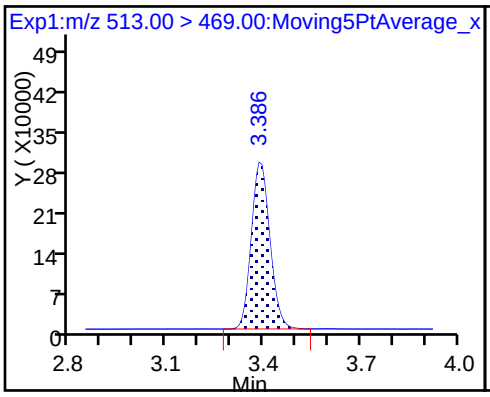
25 Sodium 1H,1H,2H,2H-perfluorodecane



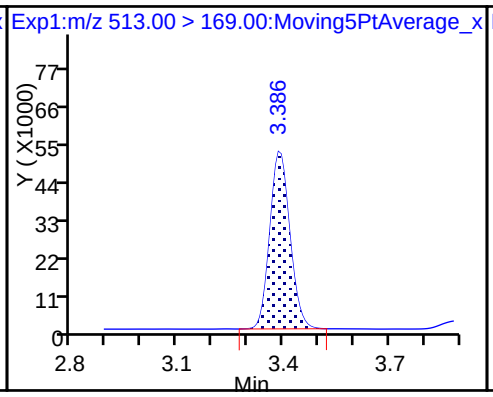
D 23 13C2 PFDA



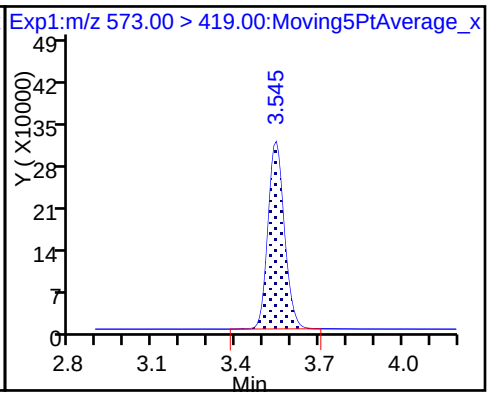
24 Perfluorodecanoic acid



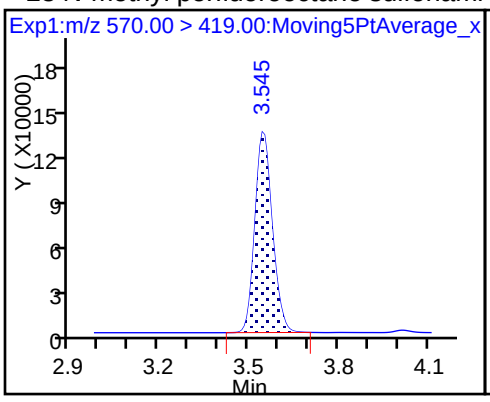
24 Perfluorodecanoic acid



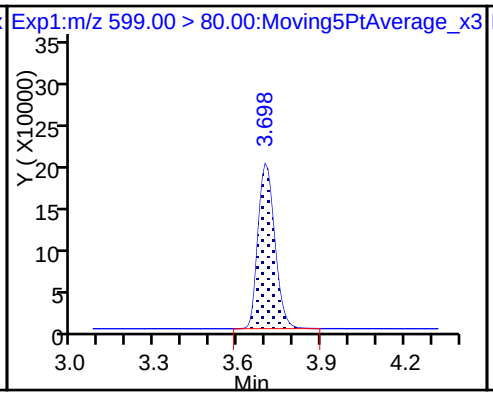
D 27 d3-NMeFOSAA



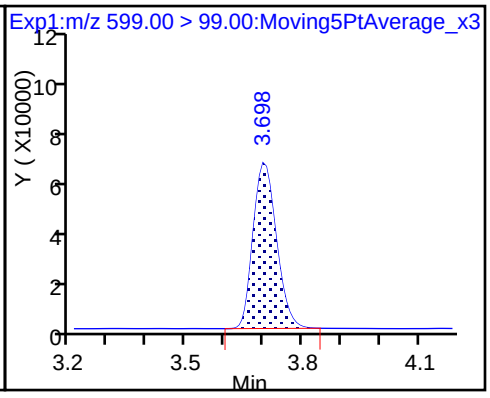
28 N-methyl perfluorooctane sulfonami



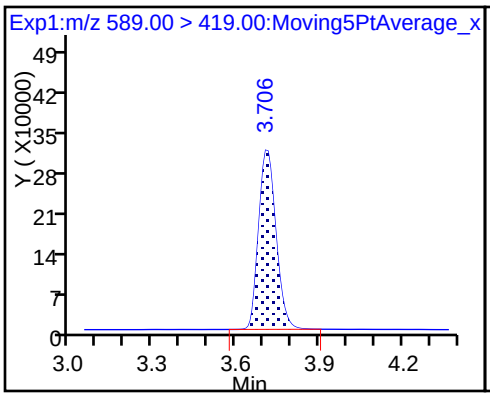
29 Perfluorodecane Sulfonic acid



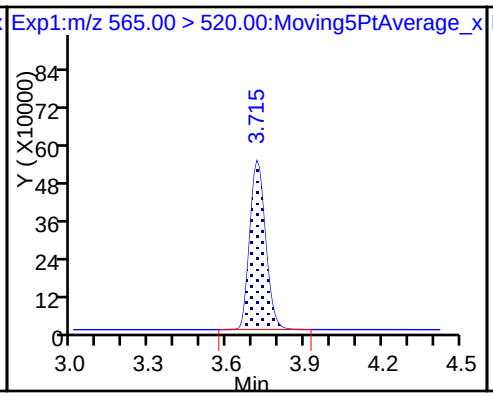
29 Perfluorodecane Sulfonic acid



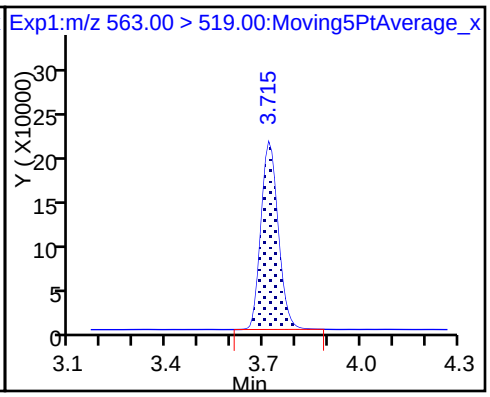
D 32 d5-NEtFOSAA



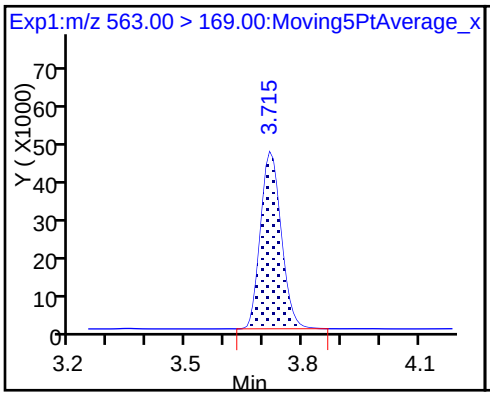
D 30 13C2 PFUnA



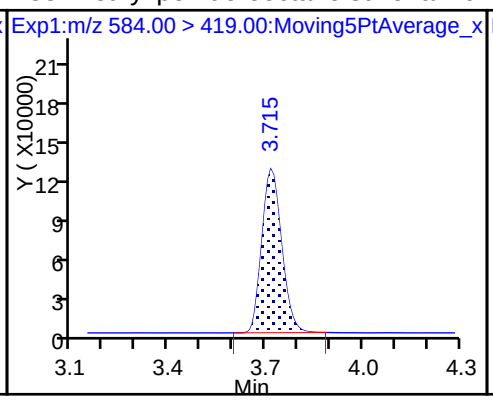
31 Perfluoroundecanoic acid



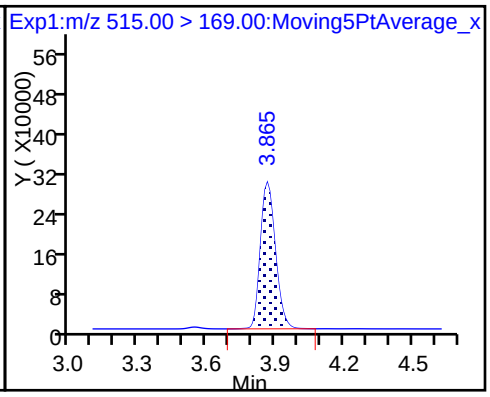
31 Perfluoroundecanoic acid



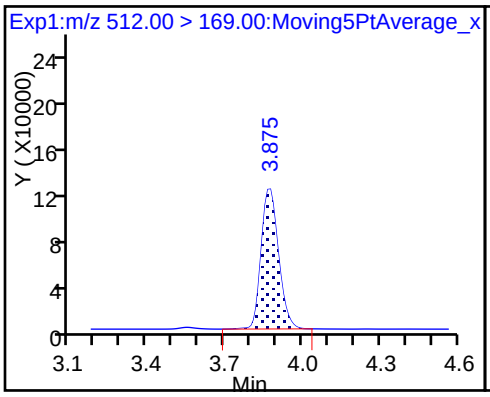
33 N-ethyl perfluorooctane sulfonamid



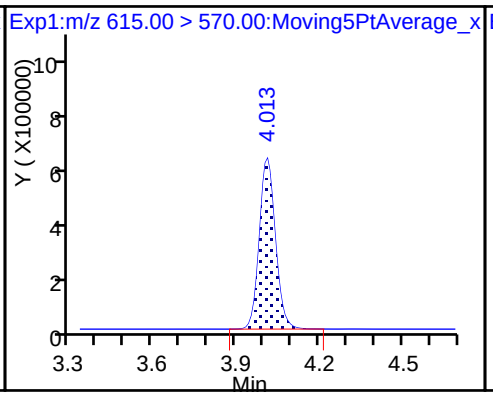
D 34 d-N-MeFOSA-M



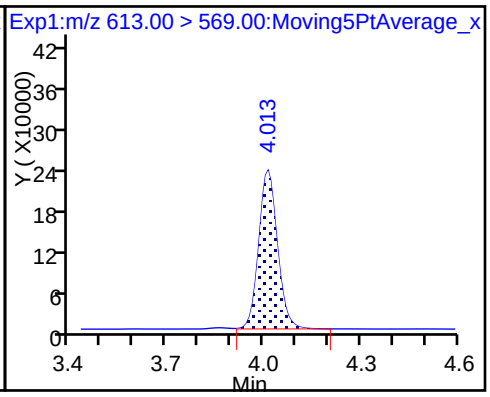
35 MeFOSA



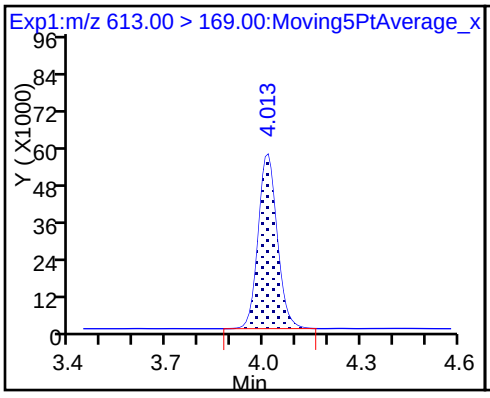
D 36 13C2 PFDoA



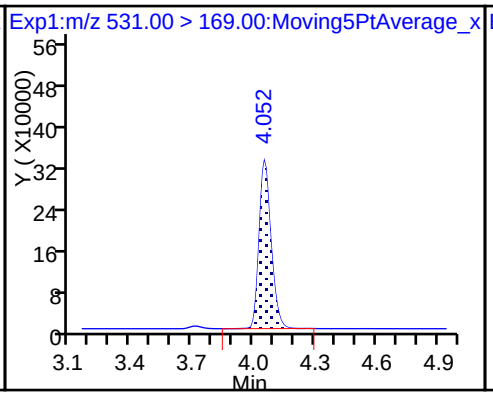
37 Perfluorododecanoic acid



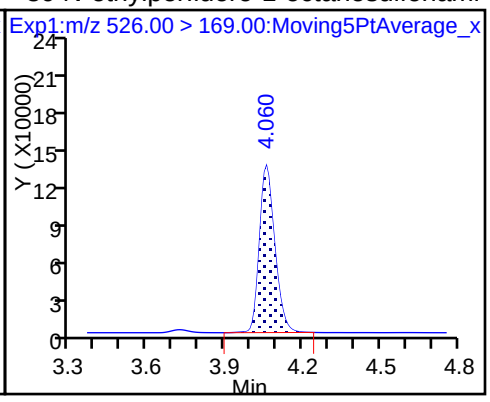
37 Perfluorododecanoic acid



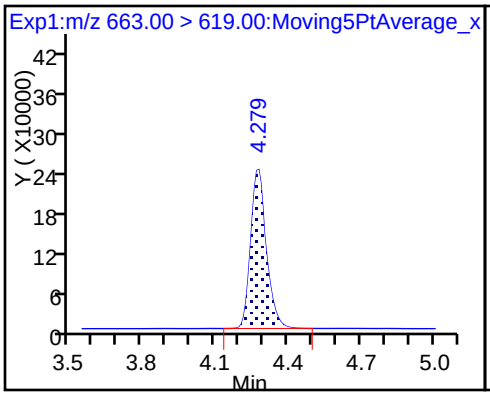
D 38 d-N-EtFOSA-M



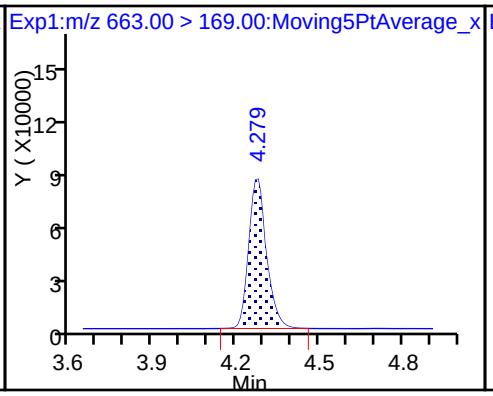
39 N-ethylperfluoro-1-octanesulfonami



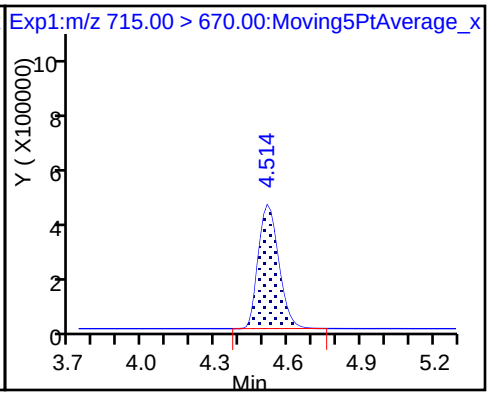
41 Perfluorotridecanoic acid



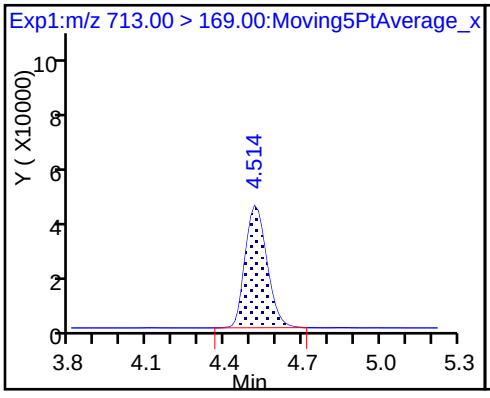
41 Perfluorotridecanoic acid



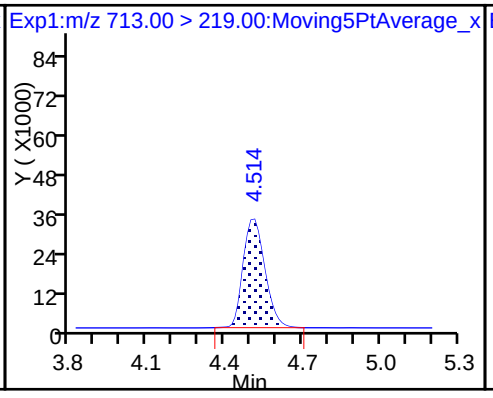
D 43 13C2-PFTeDA



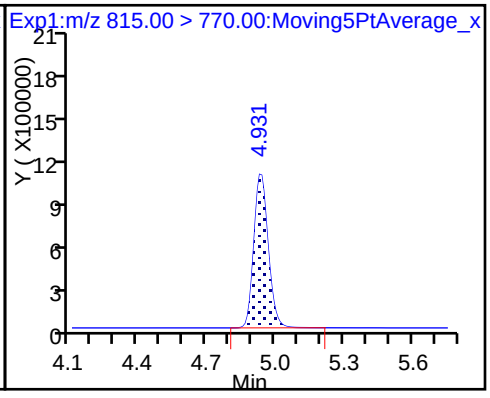
42 Perfluorotetradecanoic acid



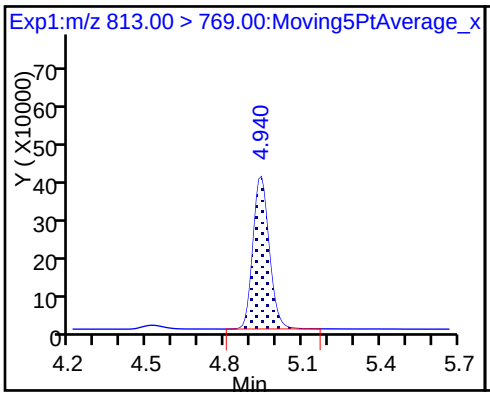
42 Perfluorotetradecanoic acid



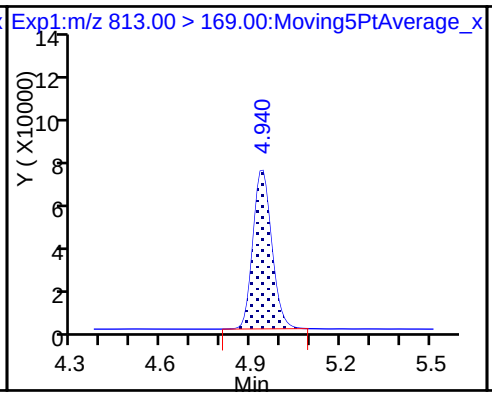
D 44 13C2-PFHxDA



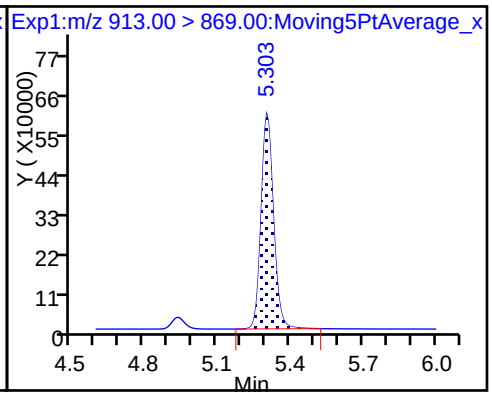
45 Perfluorohexadecanoic acid



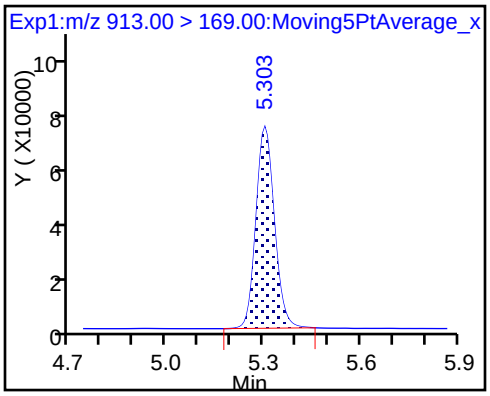
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201222/18 Calibration Date: 12/23/2017 04:24

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_053.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.9163	0.9509		2.60	2.50	3.8	40.0
Perfluoropentanoic acid (PFPeA)	AveID	1.116	1.127		2.52	2.50	1.0	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	75.22	77.77		2.29	2.21	3.4	50.0
4:2 FTS	AveID	0.8220	0.8008		2.28	2.34	-2.6	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.001	1.007		2.52	2.50	0.6	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.046	1.042		2.49	2.50	-0.4	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.076	0.9882		2.09	2.28	-8.2	40.0
6:2FTS	AveID	1.550	1.619		2.48	2.37	4.4	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.052	1.030		2.45	2.50	-2.1	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.309	1.435		2.61	2.38	9.6	50.0
Perfluorononanoic acid (PFNA)	AveID	1.006	1.037		2.58	2.50	3.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.060	1.056		2.31	2.32	-0.4	40.0
8:2FTS	AveID	1.216	1.226		2.42	2.40	0.8	40.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.9592	0.9695		2.53	2.50	1.1	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9673	0.9948		2.57	2.50	2.8	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	1.074	1.042		2.43	2.50	-2.9	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.6176	0.6284		2.45	2.41	1.8	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9936	0.9793		2.46	2.50	-1.4	40.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.9160	0.8874		2.42	2.50	-3.1	40.0
MeFOSA	AveID	0.9787	0.9908		2.53	2.50	1.2	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9925	0.9320		2.35	2.50	-6.1	40.0
N-EtFOSA-M	AveID	1.065	1.072		2.52	2.50	0.7	40.0
Perfluorotridecanoic Acid (PFTriA)	AveID	1.160	1.090		2.35	2.50	-6.0	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.2577	0.2380		2.31	2.50	-7.7	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L2ID		0.8943		2.59	2.50	3.7	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	1.029	1.111		2.70	2.50	7.9	50.0
13C4 PFBA	Ave	1.519	1.504		2.48	2.50	-1.0	50.0
13C5 PFPeA	Ave	0.9096	0.8833		2.43	2.50	-2.9	50.0
13C3-PFBS	Ave	0.0194	0.0191		2.29	2.33	-1.7	50.0
13C2 PFHxA	Ave	0.9709	0.9373		2.41	2.50	-3.5	50.0
13C4-PFHpA	Ave	0.8985	0.8719		2.43	2.50	-3.0	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Lab Sample ID: CCV 320-201222/18 Calibration Date: 12/23/2017 04:24

Instrument ID: A8_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.22LLB_053.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
18O2 PFHxS	Ave	1.134	1.134		2.37	2.37	0.0	50.0
M2-6:2FTS	Ave	0.4185	0.3070		1.74	2.38	-26.6	40.0
13C4 PFOA	Ave	1.033	1.068		2.59	2.50	3.4	50.0
13C4 PFOS	Ave	0.7487	0.7195		2.30	2.39	-3.9	50.0
13C5 PFNA	Ave	0.7339	0.7127		2.43	2.50	-2.9	50.0
13C8 FOSA	Ave	1.019	0.9735		2.39	2.50	-4.5	50.0
M2-8:2FTS	Ave	0.2338	0.1561		1.60	2.40	-33.2	40.0
13C2 PFDA	Ave	0.6054	0.5622		2.32	2.50	-7.1	50.0
d3-NMeFOSAA	Ave	0.3249	0.2623		2.02	2.50	-19.3	50.0
d5-NEtFOSAA	Ave	0.3173	0.2630		2.07	2.50	-17.1	50.0
13C2 PFUnA	Ave	0.4609	0.4352		2.36	2.50	-5.6	50.0
d-N-MeFOSA-M	Ave	0.2902	0.2801		2.41	2.50	-3.5	50.0
13C2 PFDoA	Ave	0.4970	0.4826		2.43	2.50	-2.9	50.0
d-N-EtFOSA-M	Ave	0.2788	0.2676		2.40	2.50	-4.0	50.0
13C2-PFTeDA	Ave	0.5554	0.5383		2.42	2.50	-3.1	50.0
13C2-PFHxDA	Ave	1.011	0.9902		2.45	2.50	-2.1	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_053.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2017 04:24:18 ALS Bottle#: 14 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5
Misc. Info.: Plate: 1 Rack: 1
Operator ID: SACINSTLCMS01 Instrument ID: A8_N
Sublist: chrom-A8_N*sub18

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:59 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:42:20

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7387538	2.48		99.0	19809	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	7025019	2.59		104	2098	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4338128	2.43		97.1	41529	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.000	4889647	2.52		101	6231	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.645	87108	2.29		98.3	3124	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	6438922	2.28		103	35197	
298.90 > 99.00	1.716	1.707	0.009	1.000	2595545		2.48(1.25-3.74)		21044	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.935	1.920	0.015	1.000	1127542	2.27		97.4	50063	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4603133	2.41		96.5	44099	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.966	1.956	0.010	1.000	4635369	2.51		101	12745	
313.00 > 119.00	1.966	1.956	0.010	1.000	432375		10.72(5.03-15.10)		9361	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.862	4282269	2.43		97.0	23117	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	4462684	2.49		99.6	8371	
363.00 > 169.00	2.293	2.291	0.002	1.000	1807134		2.47(1.13-3.40)		10483	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	5009887	2.09		91.8	8501	
399.00 > 99.00	2.306	2.304	0.002	1.000	1716002		2.92(1.50-4.49)		6943	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.867	5270416	2.37		100	31122	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.652	2.642	0.010	1.000	2313169	2.47		104	42436	
D 12 M2-6:2FTS										
429.00 > 81.00	2.652	2.642	0.010	0.997	1432192	1.74		73.4	42945	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	5247174	2.59		103	42622	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4911240	2.50			32976	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.659	2.656	0.003	1.000	5403721	2.45		97.9	8454	
413.00 > 169.00	2.659	2.656	0.003	1.000	2822764		1.91(0.84-2.52)		15826	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.666	2.662	0.004	1.000	4827373	2.61		110	29001	
449.00 > 99.00	2.666	2.662	0.004	1.000	1295320		3.73(1.94-5.82)		19369	
D 18 13C4 PFOS										
503.00 > 80.00	3.033	3.025	0.008	1.141	3378201	2.30		96.1	21777	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.033	3.028	0.005	1.000	3462949	2.31		99.6	360	
499.00 > 99.00	3.033	3.028	0.005	1.000	770816		4.49(2.31-6.93)		523	
D 19 13C5 PFNA										
468.00 > 423.00	3.033	3.028	0.005	1.141	3500085	2.43		97.1	28933	
20 Perfluorononanoic acid										
463.00 > 419.00	3.033	3.029	0.004	1.000	3628062	2.58		103	13828	
463.00 > 169.00	3.033	3.029	0.004	1.000	842637		4.31(1.90-5.69)		11928	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.268	4780967	2.39		95.5	31328	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.002	4635310	2.53		101	34008	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.270	734474	1.60		66.8	14268	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.378	3.377	0.001	1.000	900377	2.42		101	20408	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2761262	2.32		92.9	27673	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.393	3.390	0.003	1.000	2746762	2.57		103	16064	
513.00 > 169.00	3.393	3.390	0.003	1.000	492907		5.57(2.36-7.09)		2295	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1288048	2.02		80.7	18950	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.552	3.548	0.004	1.002	1342645	2.43		97.1	8985	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.706	3.703	0.003	1.000	2140740	2.45		102	26992	
599.00 > 99.00	3.706	3.703	0.003	1.000	689103		3.11(1.39-4.16)		11825	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.715	3.712	0.003	1.397	1291859	2.07		82.9	5620	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.723	3.717	0.006	1.400	2137106	2.36		94.4	35584	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.723	3.718	0.005	1.000	1896362	2.42		96.9	13317	
563.00 > 169.00	3.723	3.718	0.005	1.000	418695		4.53(0.00-0.00)		22365	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.723	3.720	0.003	1.002	1265155	2.46		98.6	18176	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.865	3.862	0.003	1.454	1375527	2.41		96.5	3532	
35 MeFOSA										
512.00 > 169.00	3.875	3.872	0.003	1.003	1362859	2.53		101	3719	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	2370057	2.43		97.1	37135	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.013	4.011	0.002	1.000	2208844	2.35		93.9	7968	
613.00 > 169.00	4.013	4.011	0.002	1.000	531578		4.16(2.13-6.40)		21915	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.060	4.052	0.008	1.527	1314062	2.40		96.0	3195	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.068	4.058	0.010	1.002	1408862	2.52		101	3128	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.279	4.277	0.002	1.000	2583657	2.35		94.0	18689	
663.00 > 169.00	4.279	4.277	0.002	1.000	854222		3.02(1.25-3.76)		38405	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.527	4.518	0.009	1.703	2643870	2.42		96.9	15645	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.527	4.518	0.009	1.000	629100	2.31		92.3	17896	
713.00 > 219.00	4.514	4.518	-0.004	0.997	460849		1.37(0.71-2.13)		9944	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.940	4.939	0.001	1.858	4863206	2.45		97.9	18993	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.939	0.001	1.000	4349149	2.59		104	3221	
813.00 > 169.00	4.940	4.939	0.001	1.000	797384		5.45(2.86-8.58)		8886	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.310	5.306	0.004	1.000	5402405	2.70		108	1734	
913.00 > 169.00	5.310	5.306	0.004	1.000	653196		8.27(0.00-0.00)		2580	

Reagents:

LCPFC_LL5_00002 Amount Added: 1.00 Units: mL

Report Date: 26-Dec-2017 16:04:59 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_053.d

Injection Date: 23-Dec-2017 04:24:18 Instrument ID: A8_N

Lims ID: CCV L5

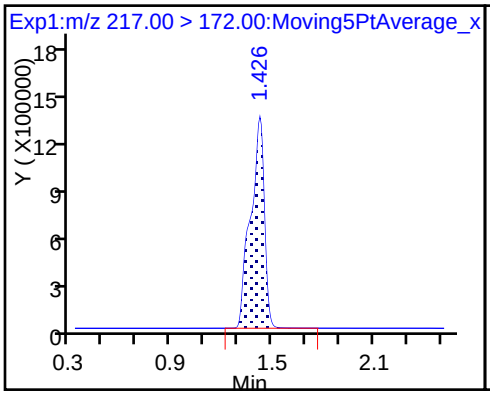
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 18

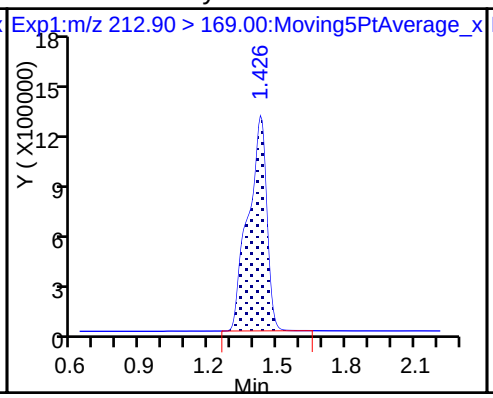
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

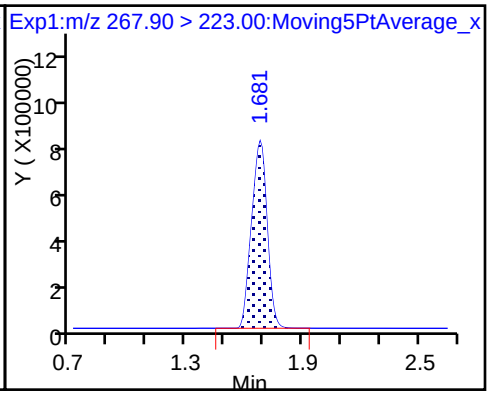
D 1 13C4 PFBA



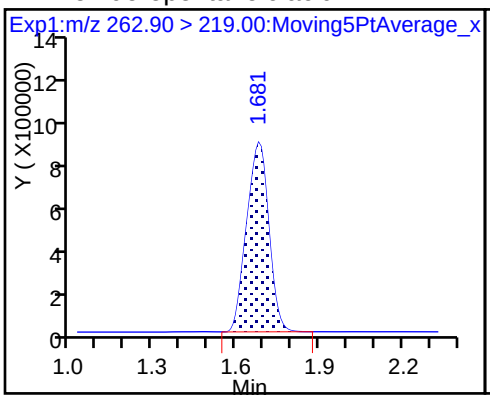
2 Perfluorobutyric acid



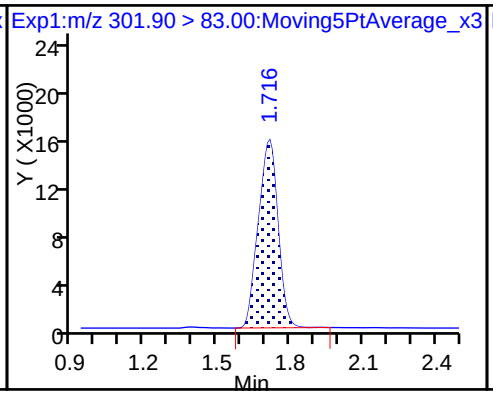
D 3 13C5-PFPeA



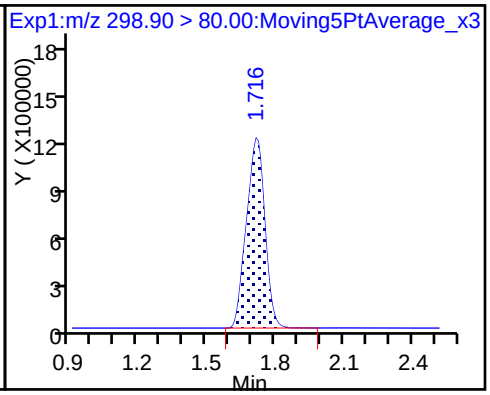
4 Perfluoropentanoic acid



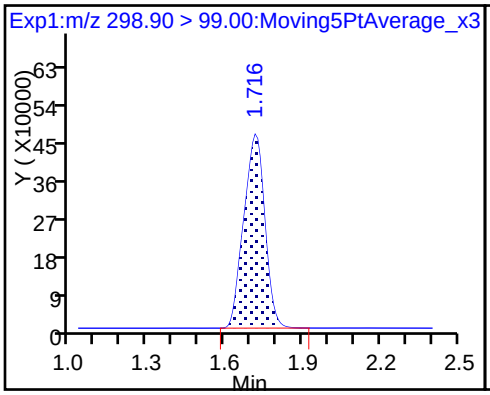
D 47 13C3-PFBS



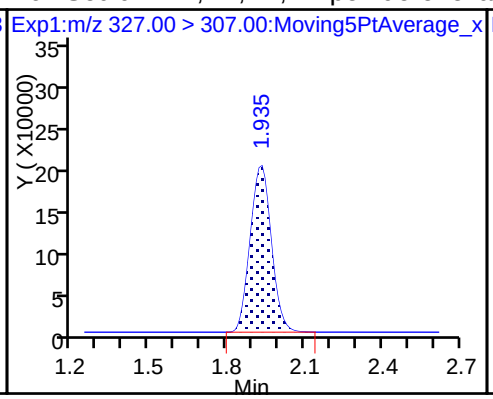
5 Perfluorobutanesulfonic acid



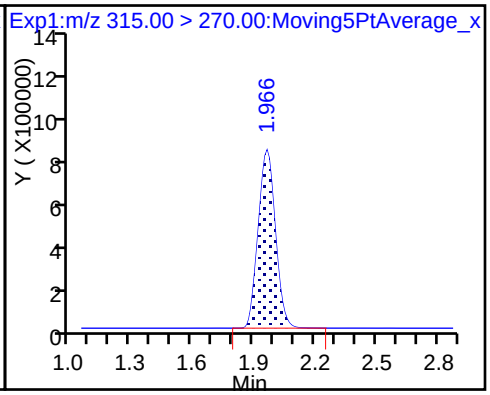
5 Perfluorobutanesulfonic acid



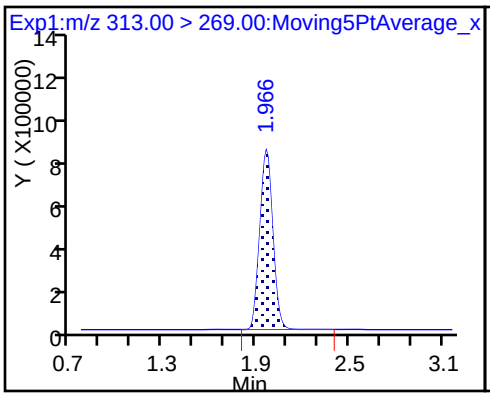
61 Sodium 1H,1H,2H,2H-perfluorohexa



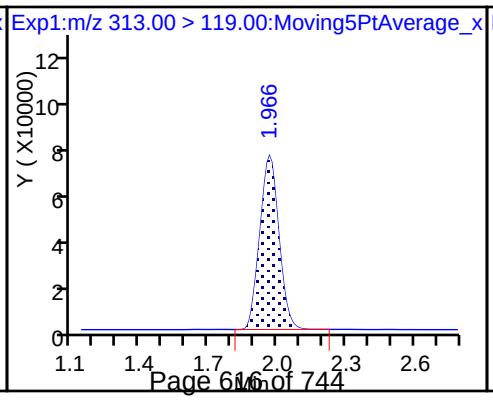
D 7 13C2 PFHxA



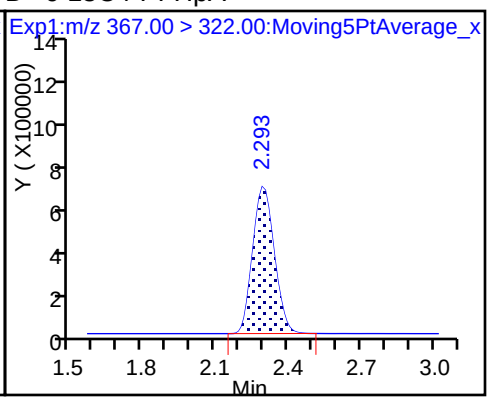
6 Perfluorohexanoic acid



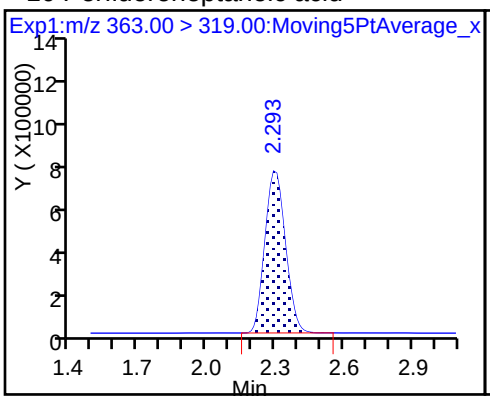
6 Perfluorohexanoic acid



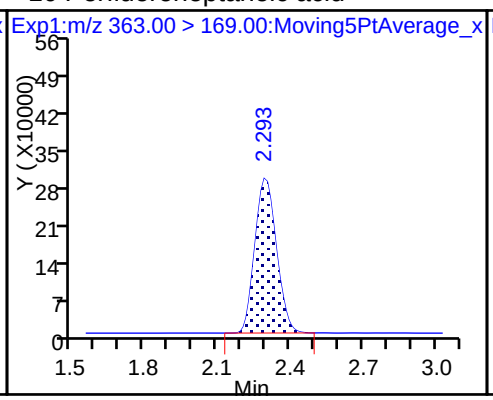
D 9 13C4-PFHpA



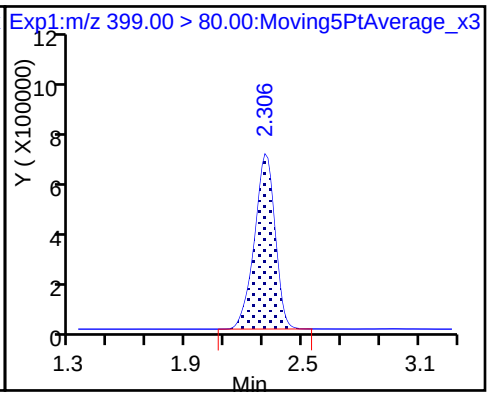
10 Perfluoroheptanoic acid



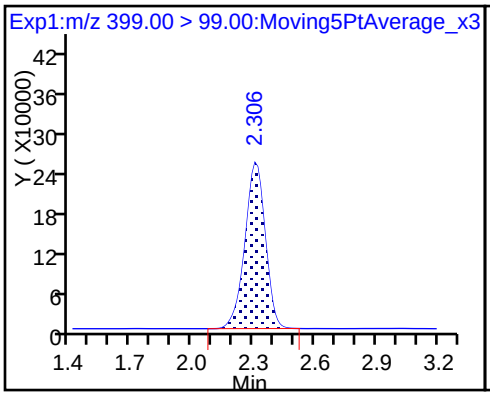
10 Perfluoroheptanoic acid



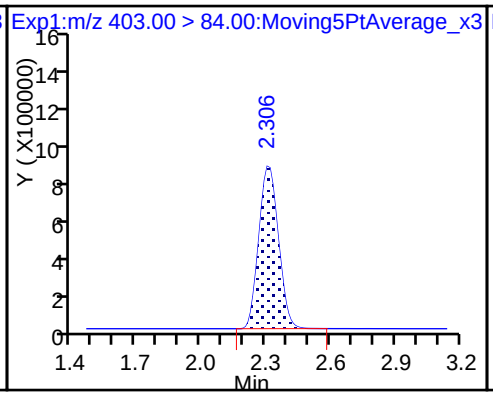
8 Perfluorohexanesulfonic acid



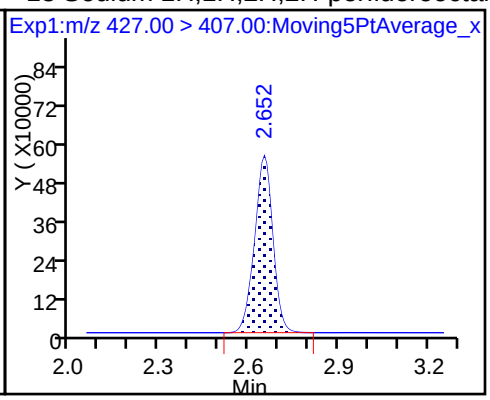
8 Perfluorohexanesulfonic acid



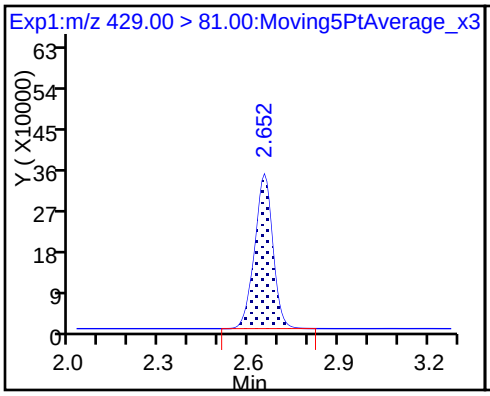
D 11 18O2 PFHxS



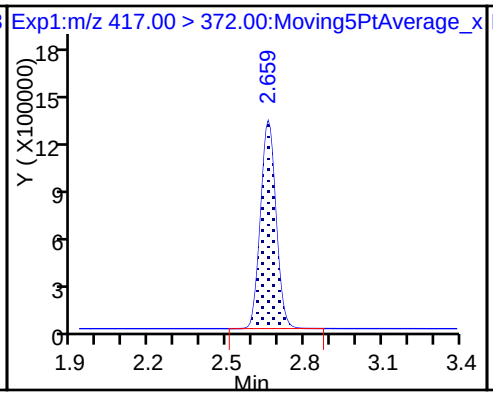
13 Sodium 1H,1H,2H,2H-perfluorooctane



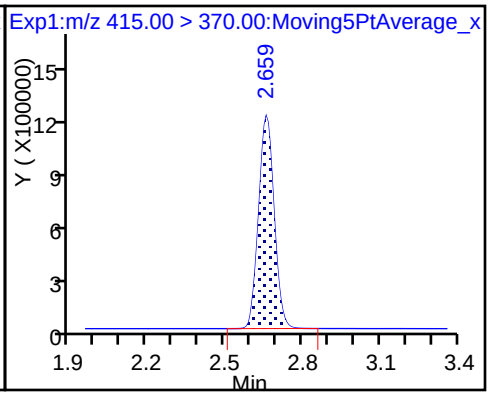
D 12 M2-6:2FTS



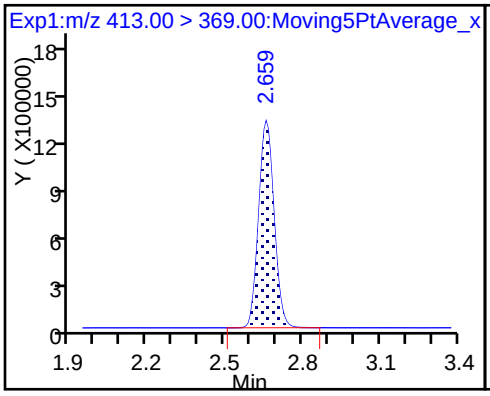
D 14 13C4 PFOA



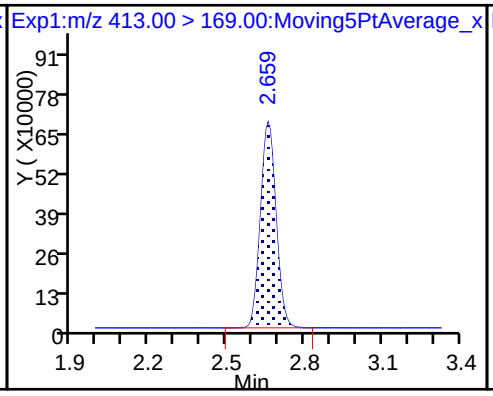
* 62 13C2-PFOA



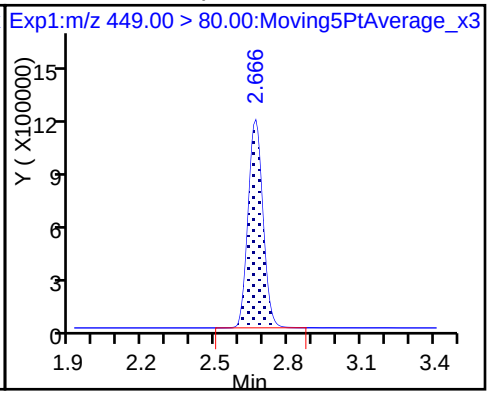
15 Perfluorooctanoic acid



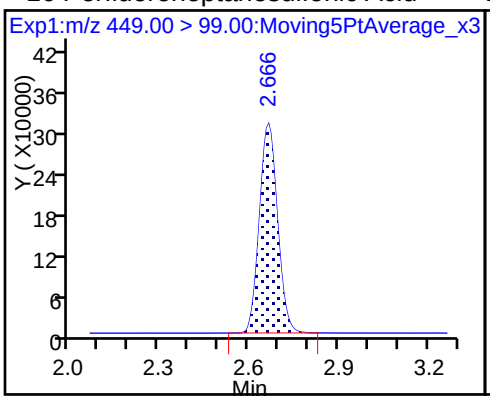
15 Perfluorooctanoic acid



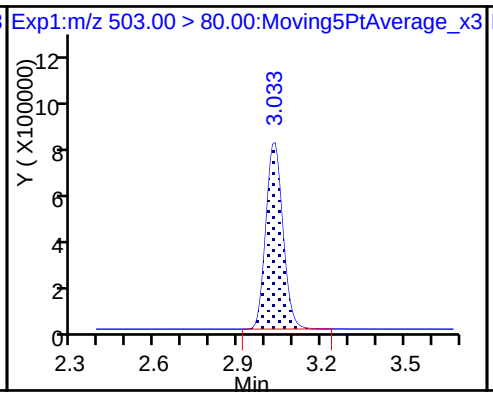
16 Perfluoroheptanesulfonic Acid



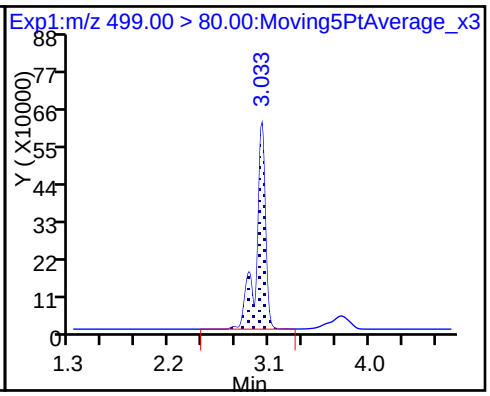
16 Perfluoroheptanesulfonic Acid



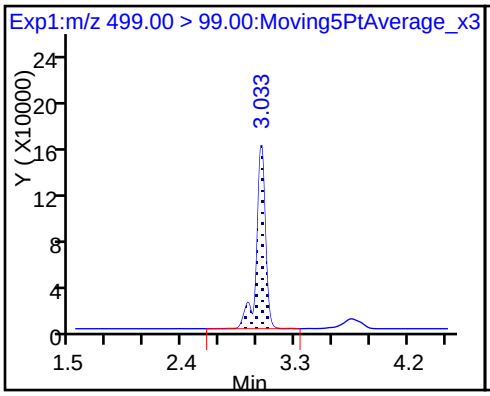
D 18 13C4 PFOS



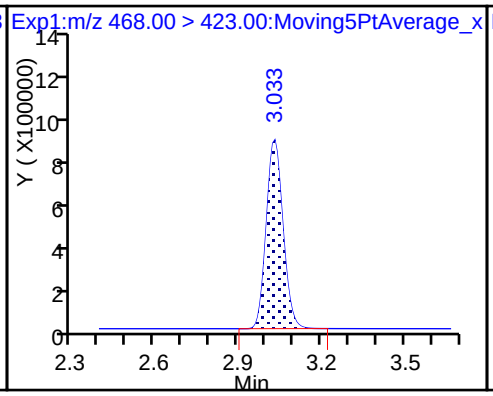
17 Perfluorooctane sulfonic acid



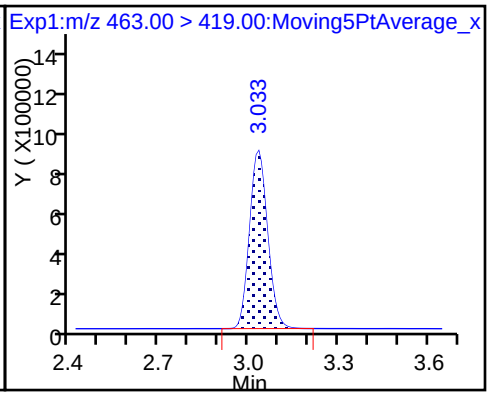
17 Perfluorooctane sulfonic acid



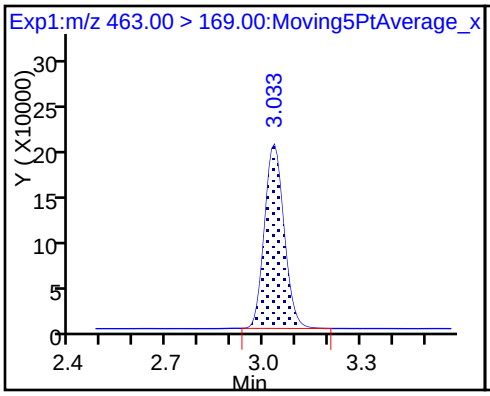
D 19 13C5 PFNA



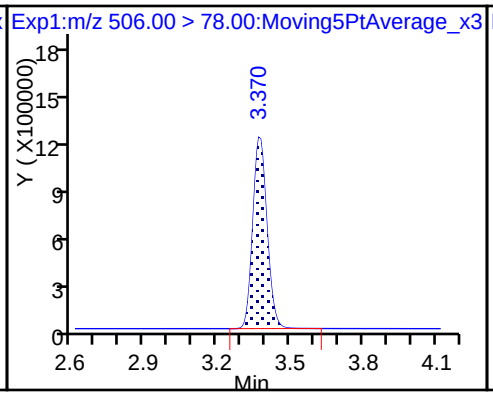
20 Perfluorononanoic acid



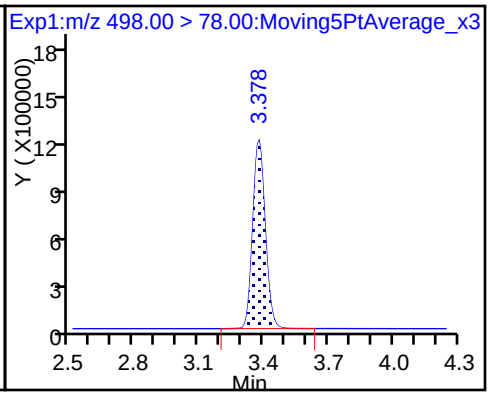
20 Perfluorononanoic acid



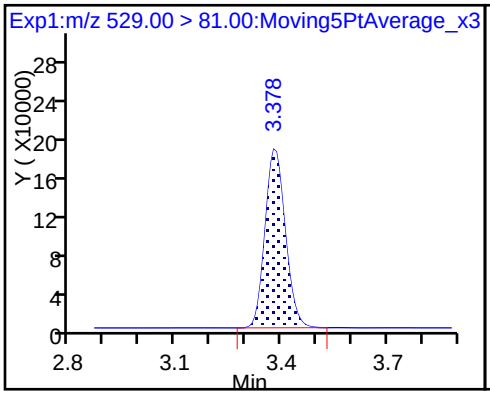
D 21 13C8 FOSA



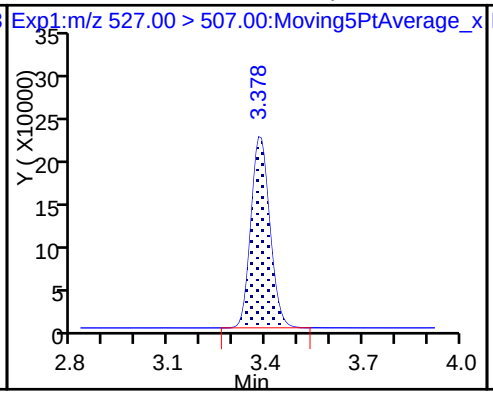
22 Perfluorooctane Sulfonamide



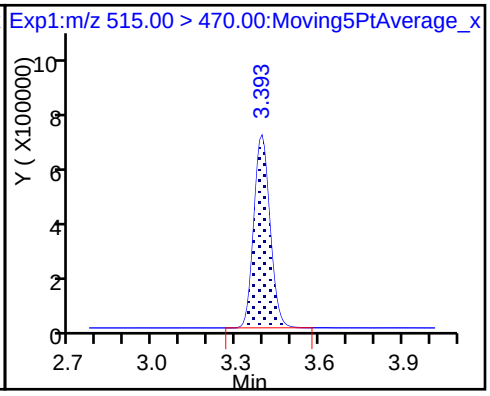
D 26 M2-8:2FTS



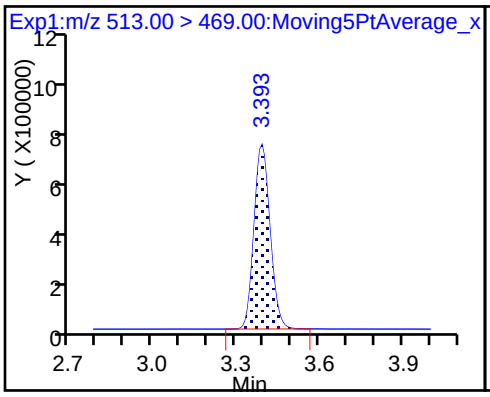
25 Sodium 1H,1H,2H,2H-perfluorodecane



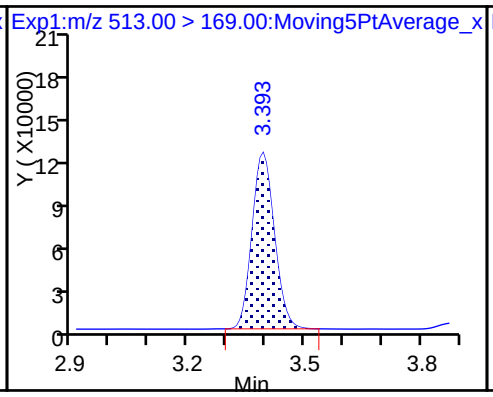
D 23 13C2 PFDA



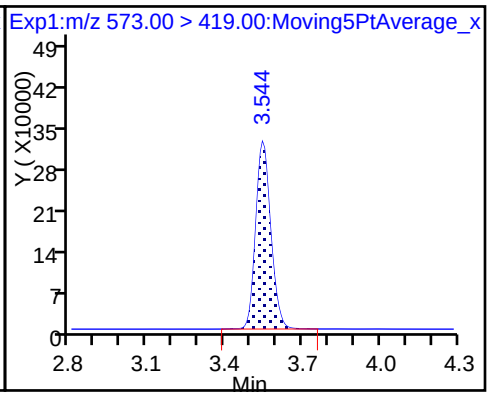
24 Perfluorodecanoic acid



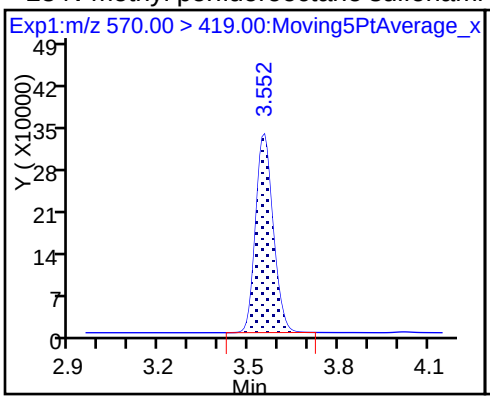
24 Perfluorodecanoic acid



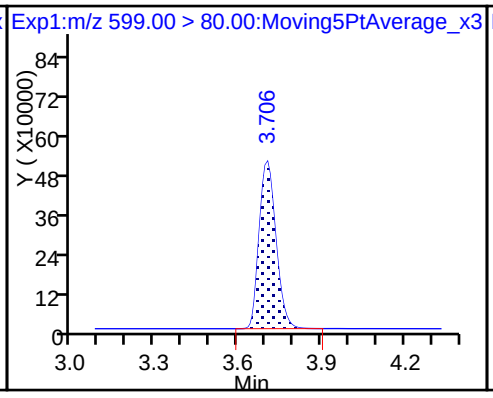
D 27 d3-NMeFOSAA



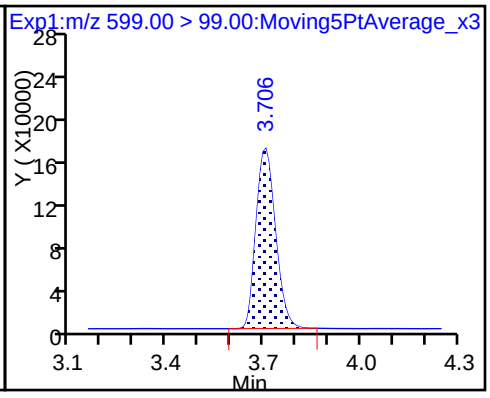
28 N-methyl perfluorooctane sulfonami



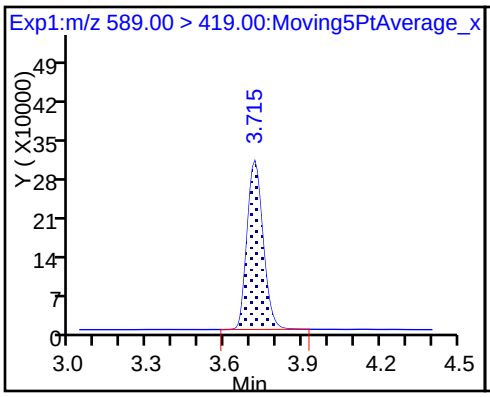
29 Perfluorodecane Sulfonic acid



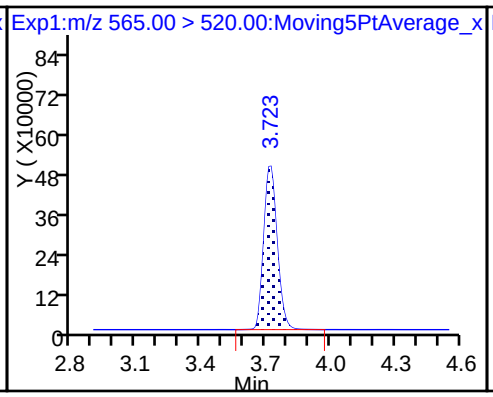
29 Perfluorodecane Sulfonic acid



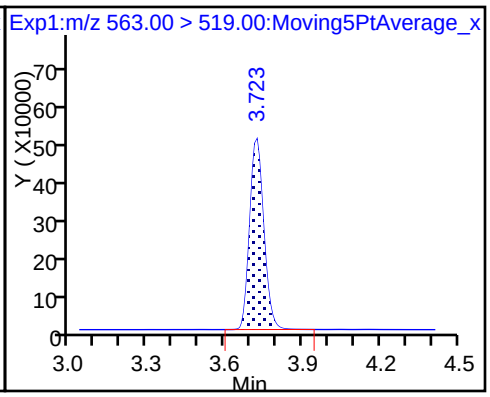
D 32 d5-NEtFOSAA



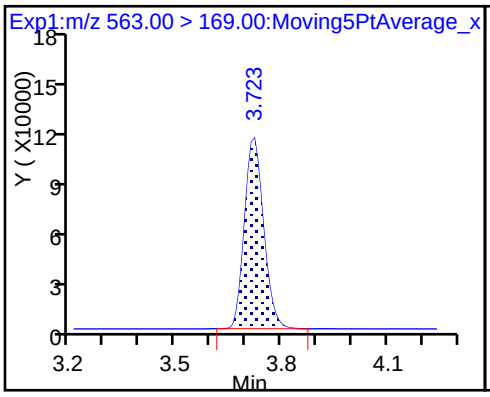
D 30 13C2 PFUnA



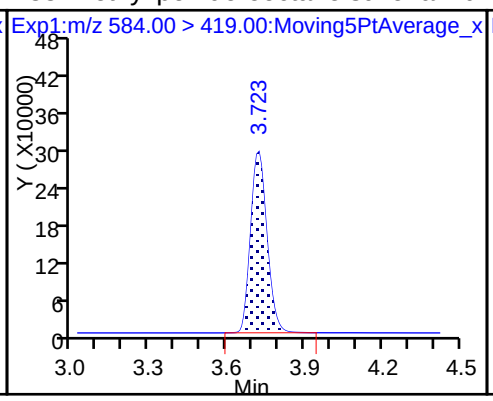
31 Perfluoroundecanoic acid



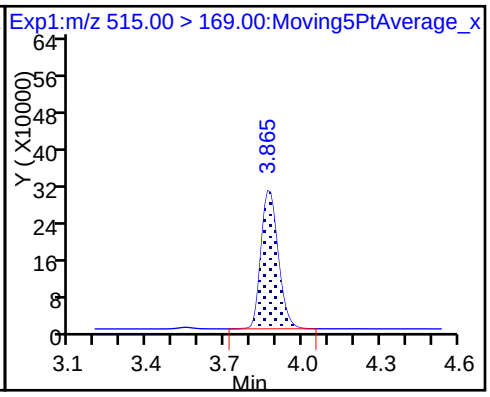
31 Perfluoroundecanoic acid



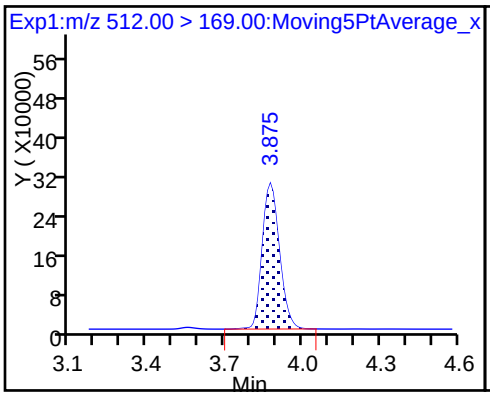
33 N-ethyl perfluorooctane sulfonamid



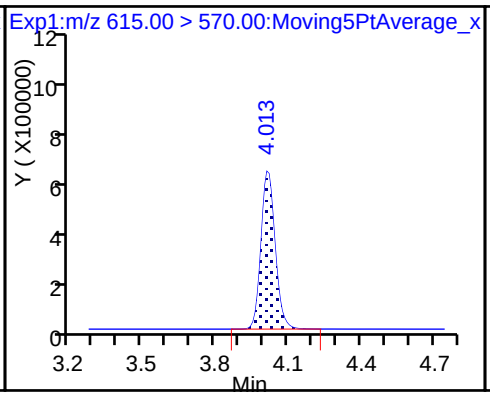
D 34 d-N-MeFOSA-M



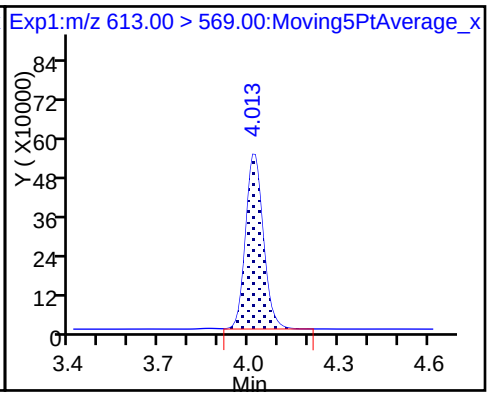
35 MeFOSA



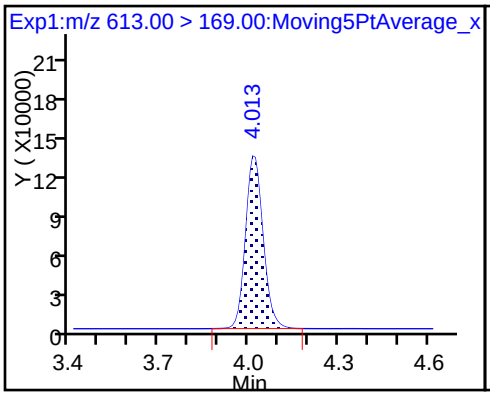
D 36 13C2 PFDoA



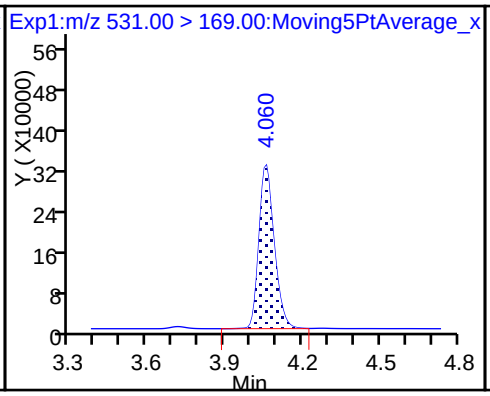
37 Perfluorododecanoic acid



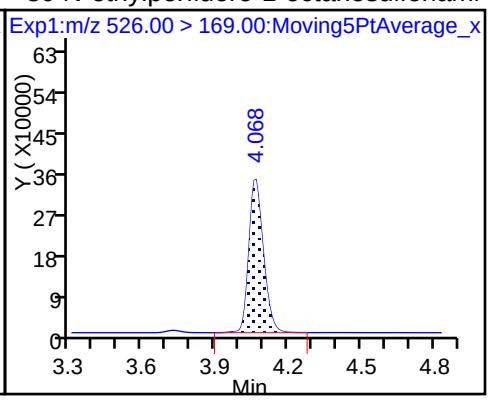
37 Perfluorododecanoic acid



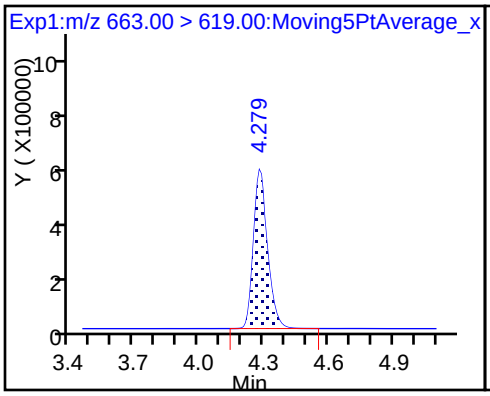
D 38 d-N-EtFOSA-M



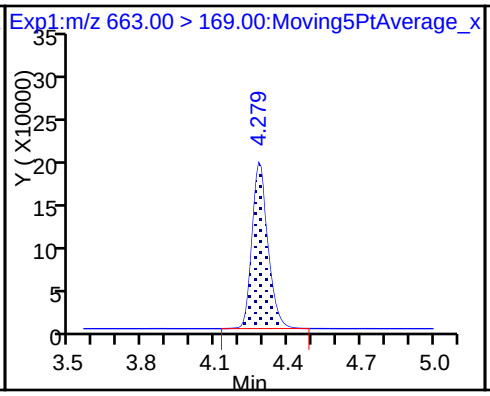
39 N-ethylperfluoro-1-octanesulfonami



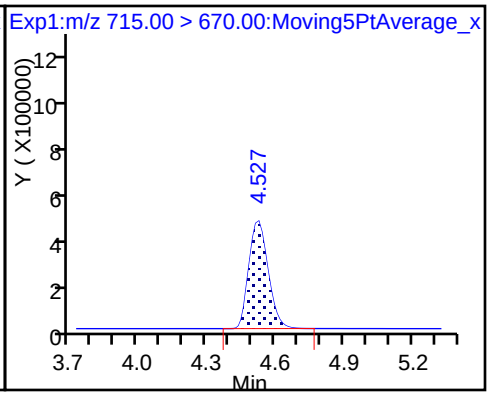
41 Perfluorotridecanoic acid



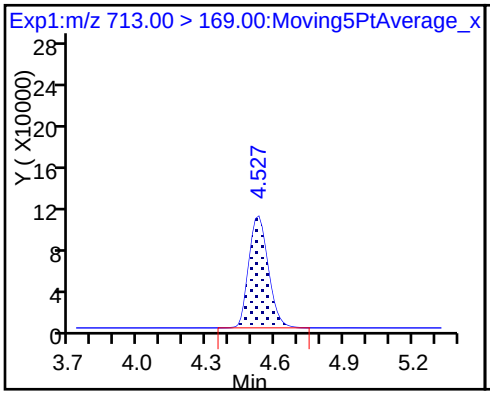
41 Perfluorotridecanoic acid



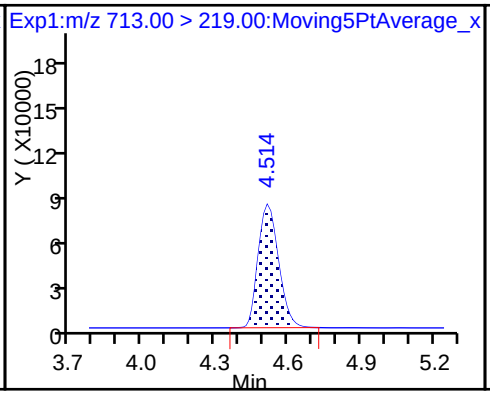
D 43 13C2-PFTeDA



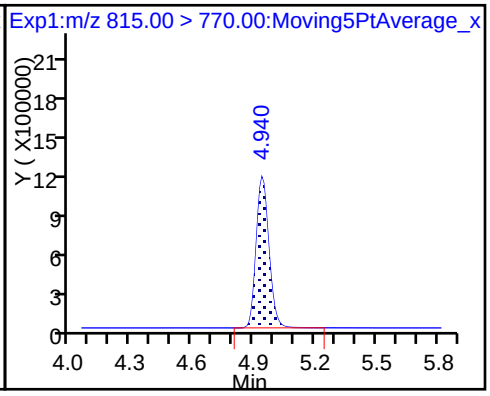
42 Perfluorotetradecanoic acid



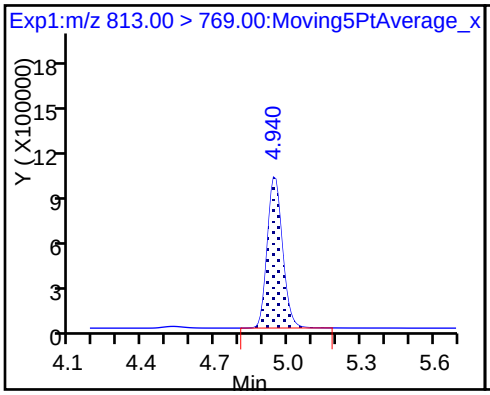
42 Perfluorotetradecanoic acid



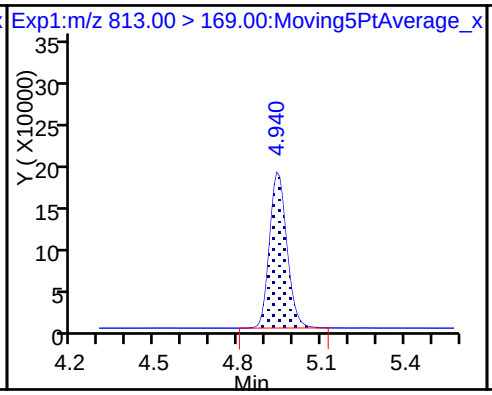
D 44 13C2-PFHxDA



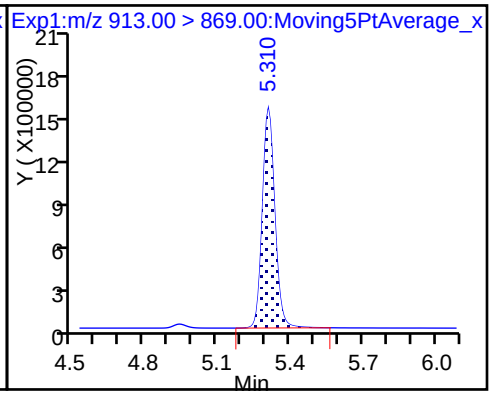
45 Perfluorohexadecanoic acid



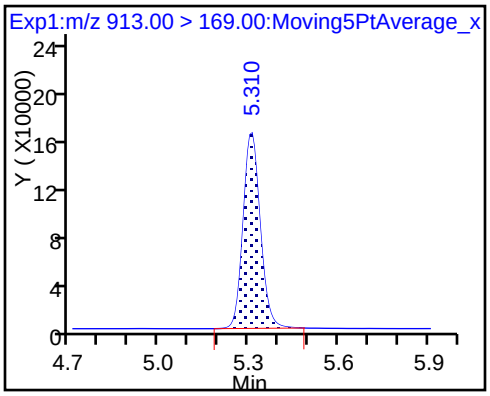
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-201036/1-A

Matrix: Water | Lab File ID: 2017.12.22LLB_010.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 250(mL) | Date Analyzed: 12/22/2017 22:46

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.29	U	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.316	J	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-201036/1-A

Matrix: Water | Lab File ID: 2017.12.22LLB_010.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 250(mL) | Date Analyzed: 12/22/2017 22:46

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	101		25-150
STL01893	13C5 PFPeA	100		25-150
STL00993	13C2 PFHxA	96		25-150
STL01892	13C4-PFHpA	101		25-150
STL00990	13C4 PFOA	94		25-150
STL00995	13C5 PFNA	100		25-150
STL00996	13C2 PFDA	99		25-150
STL00997	13C2 PFUnA	93		25-150
STL00998	13C2 PFDoA	91		25-150
STL02116	13C2-PFTeDA	114		25-150
STL02337	13C3-PFBS	100		25-150
STL00994	18O2 PFHxS	99		25-150
STL00991	13C4 PFOS	95		25-150
STL01056	13C8 FOSA	91		25-150
STL02118	d3-NMeFOSAA	79		25-150
STL02117	d5-NEtFOSAA	78		25-150
STL02279	M2-6:2FTS	41		25-150
STL02280	M2-8:2FTS	79		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_010.d
Lims ID: MB 320-201036/1-A
Client ID:
Sample Type: MB
Inject. Date: 22-Dec-2017 22:46:53 ALS Bottle#: 5 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-201036/1-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:33:22

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
217.00 > 172.00	1.415	1.419	-0.004	0.535	7146539	2.53		101	13814	M
2 Perfluorobutyric acid										M
212.90 > 169.00	1.421	1.419	0.002	1.004	11639	0.004444			2.1	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.664	1.670	-0.006	0.629	4240131	2.51		100	39675	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.664	1.670	-0.006	1.000	5480	0.002895			5.5	
D 47 13C3-PFBS										
301.90 > 83.00	1.699	1.705	-0.006	0.642	84138	2.34		100	3298	
D 60 M2-4:2FTS										
329.00 > 81.00	1.976	1.943	0.033	0.747	850	0.004377		0.0	33.6	
D 7 13C2 PFHxA										
315.00 > 270.00	1.956	1.953	0.003	0.739	4347940	2.41		96.5	48361	
D 9 13C4-PFHpA										
367.00 > 322.00	2.280	2.291	-0.011	0.862	4199669	2.52		101	35967	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.293	2.304	-0.011	1.000	17819	0.007902			59.6	
399.00 > 99.00	2.293	2.304	-0.011	1.000	4723		3.77(1.50-4.49)		26.1	
D 11 18O2 PFHxS										
403.00 > 84.00	2.293	2.304	-0.011	0.867	4954131	2.35		99.5	46911	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.616	2.642	-0.026	1.000	8093	0.0165			294	
D 12 M2-6:2FTS										
429.00 > 81.00	2.616	2.642	-0.026	0.989	752065	0.9677		40.7	21834	
D 14 13C4 PFOA										
417.00 > 372.00	2.638	2.654	-0.016	0.997	4515495	2.35		94.2	42903	
* 62 13C2-PFOA										
415.00 > 370.00	2.645	2.656	-0.011		4642549	2.50			45617	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
413.00 > 369.00	2.638	2.656	-0.018	1.000	8850	0.004659			13.0	
413.00 > 169.00	2.645	2.656	-0.011	1.003	4487		1.97(0.84-2.52)		34.1	
D 18 13C4 PFOS										
503.00 > 80.00	3.018	3.025	-0.007	1.141	3145285	2.26		94.7	32319	
D 19 13C5 PFNA										
468.00 > 423.00	3.018	3.028	-0.010	1.141	3391401	2.49		99.5	39852	
D 21 13C8 FOSA										
506.00 > 78.00	3.372	3.370	0.002	1.275	4295542	2.27		90.8	31861	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.372	3.372	0.0	1.000	6242	0.003787			238	
D 26 M2-8:2FTS										
529.00 > 81.00	3.365	3.377	-0.012	1.272	821052	1.89		78.9	17872	
D 23 13C2 PFDA										
515.00 > 470.00	3.372	3.389	-0.017	1.275	2769818	2.46		98.5	27731	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.532	3.543	-0.011	1.335	1196919	1.98		79.4	21650	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.532	3.548	-0.016	1.000	1676	0.003261			19.7	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.691	3.712	-0.021	1.395	1143993	1.94		77.7	5468	
D 30 13C2 PFUnA										
565.00 > 520.00	3.699	3.717	-0.018	1.399	1986001	2.32		92.8	40823	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.862	0.005	1.462	788264	1.46		58.5	2521	
D 36 13C2 PFDoA										
615.00 > 570.00	3.991	4.011	-0.020	1.509	2105039	2.28		91.2	34440	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.054	4.052	0.002	1.533	497294	0.9607		38.4	1686	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.488	4.518	-0.030	1.697	2927650	2.84		114	20633	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.906	4.939	-0.033	1.855	4326200	2.30		92.2	14328	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.906	4.939	-0.033	1.000	39516	0.002713			34.5	
813.00 > 169.00	4.906	4.939	-0.033	1.000	6976		5.66(2.86-8.58)		273	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 15:09:54 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_010.d

Injection Date: 22-Dec-2017 22:46:53 Instrument ID: A8_N

Lims ID: MB 320-201036/1-A

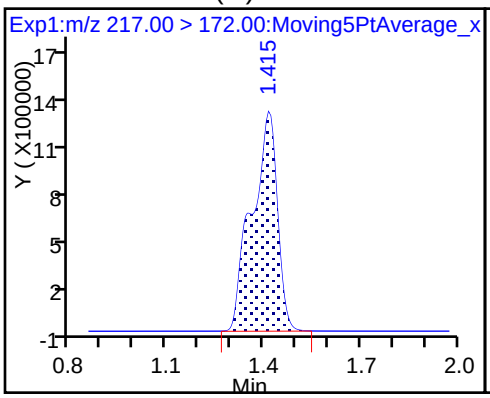
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 5 Worklist Smp#: 2

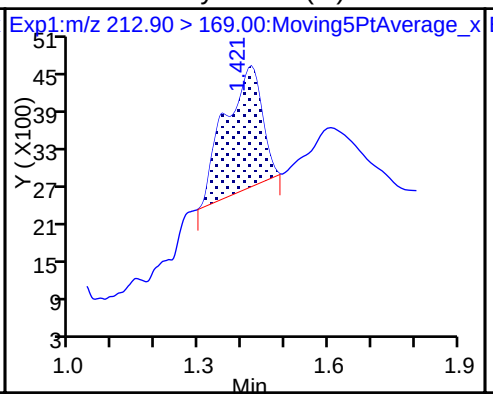
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

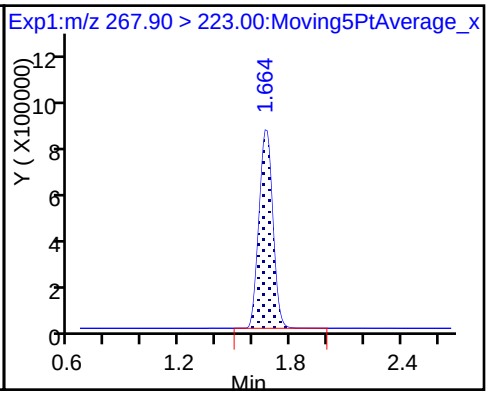
D 1 13C4 PFBA (M)



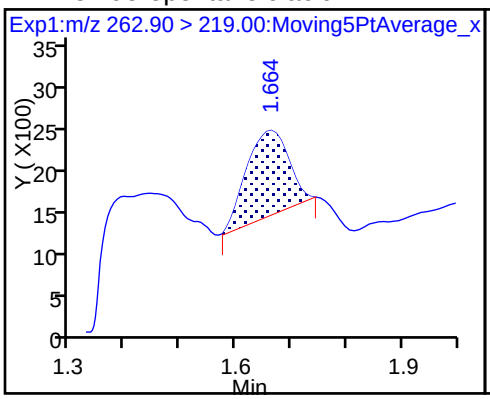
2 Perfluorobutyric acid (M)



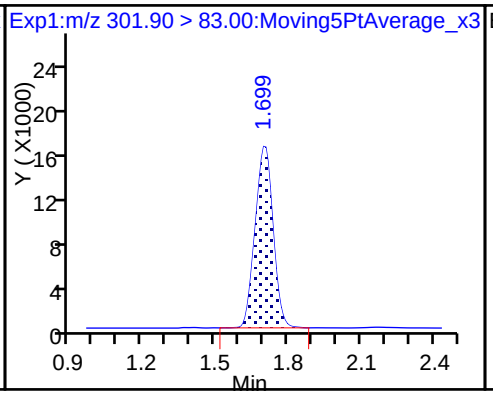
D 3 13C5-PFPeA



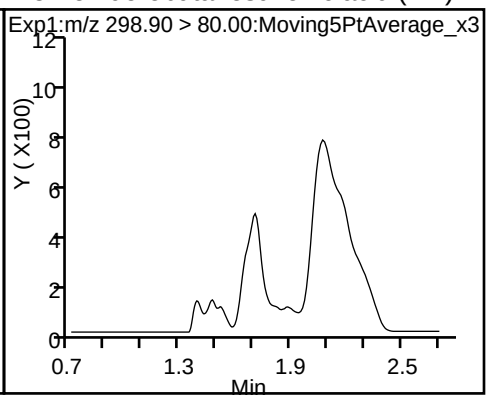
4 Perfluoropentanoic acid



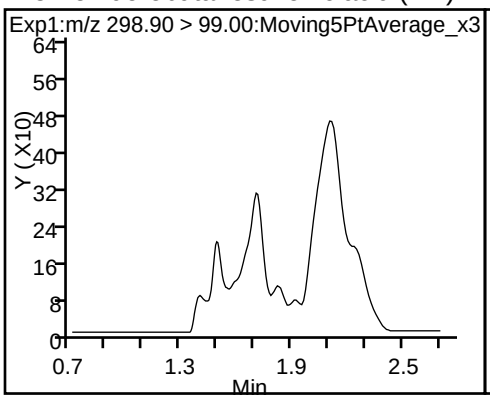
D 47 13C3-PFBS



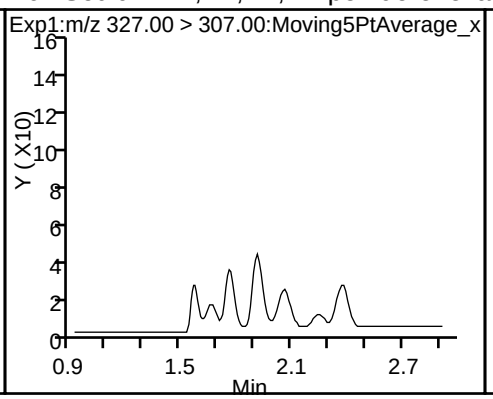
5 Perfluorobutanesulfonic acid (ND)



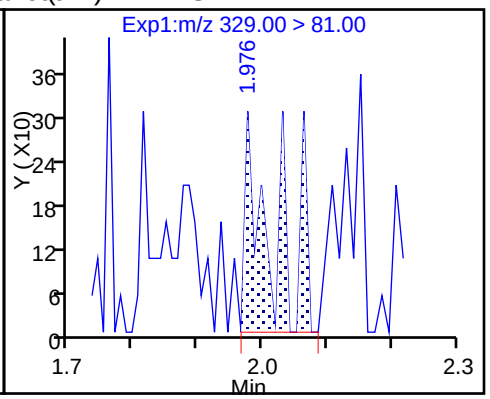
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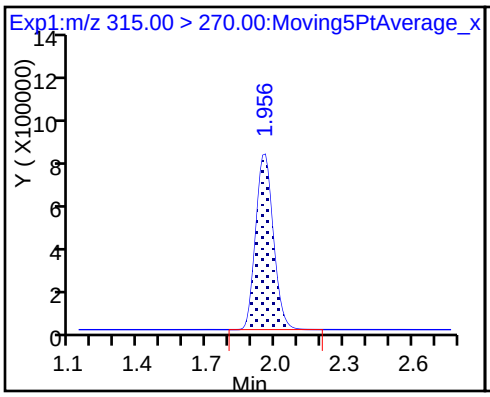
61 Sodium 1H,1H,2H,2H-perfluorohexanesulfonate (ND)



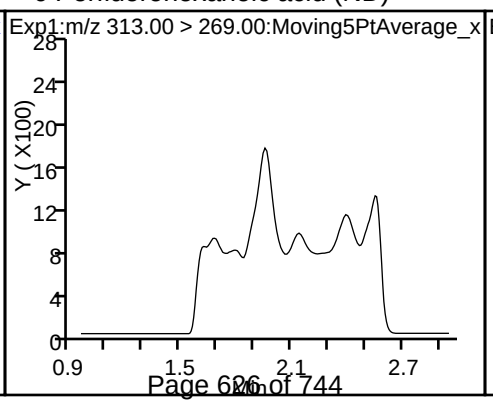
D 62 (ND) 2-4:2FTS



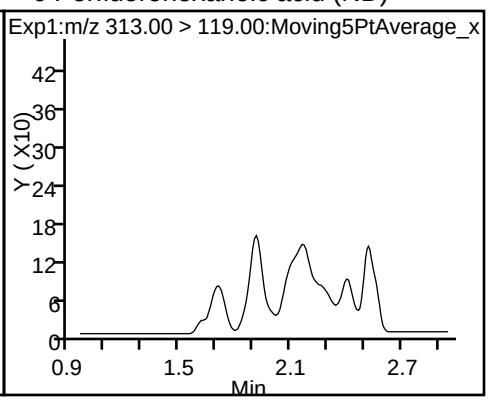
D 7 13C2 PFHxA



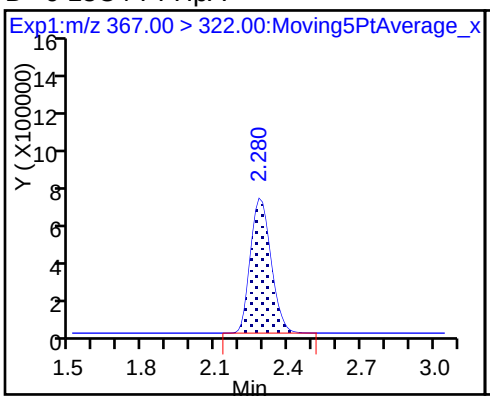
6 Perfluorohexanoic acid (ND)



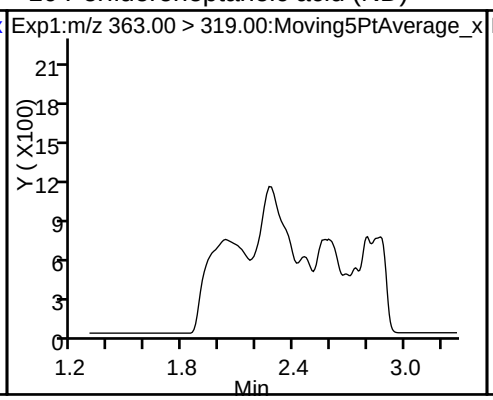
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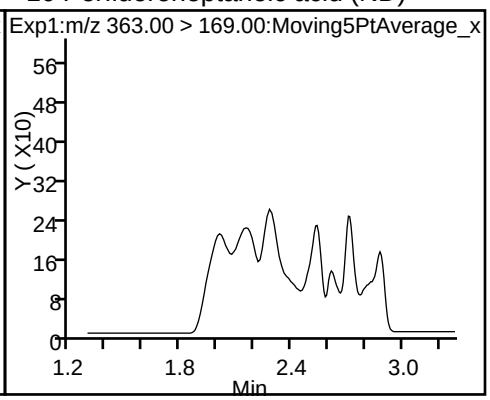
D 9 13C4-PFHpA



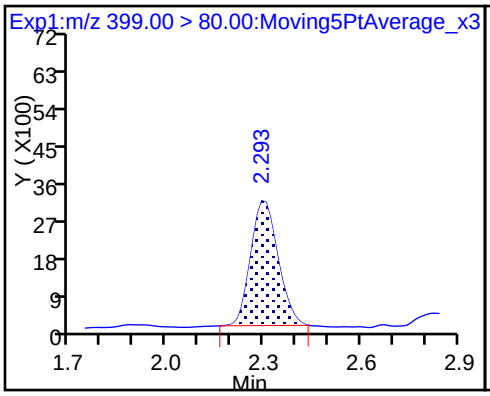
10 Perfluoroheptanoic acid (ND)



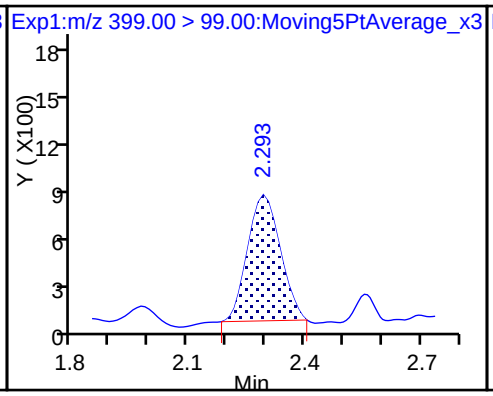
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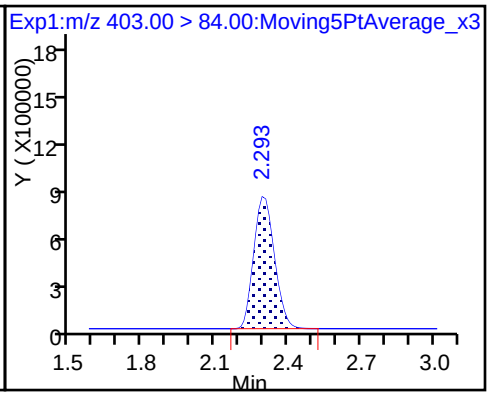
8 Perfluorohexanesulfonic acid



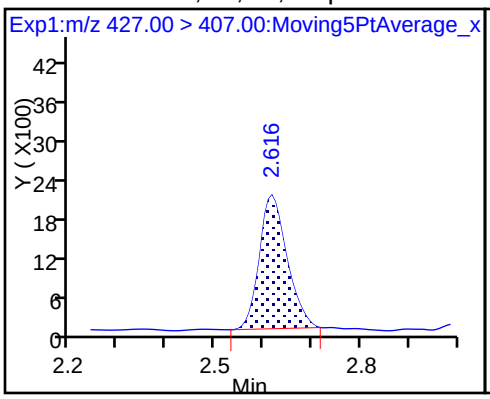
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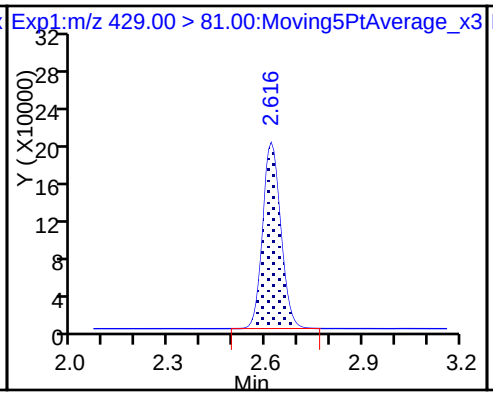
D 11 18O2 PFHxS



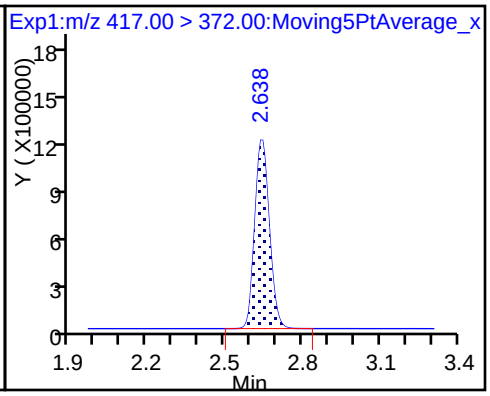
13 Sodium 1H,1H,2H,2H-perfluorooctane



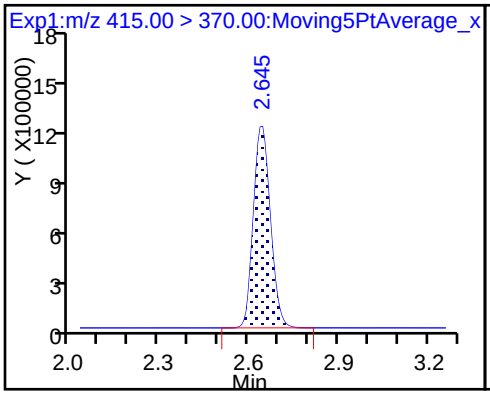
D 12 M2-6:2FTS



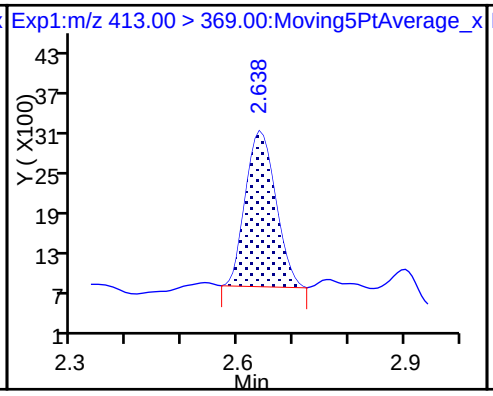
D 14 13C4 PFOA



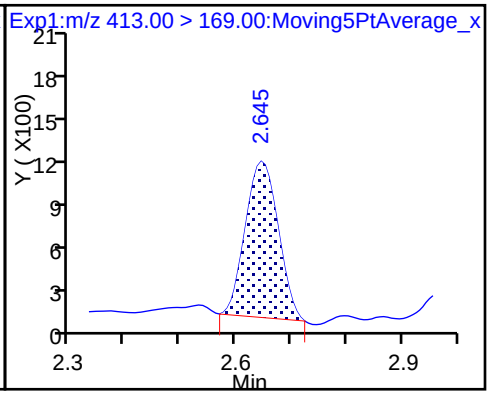
* 62 13C2-PFOA



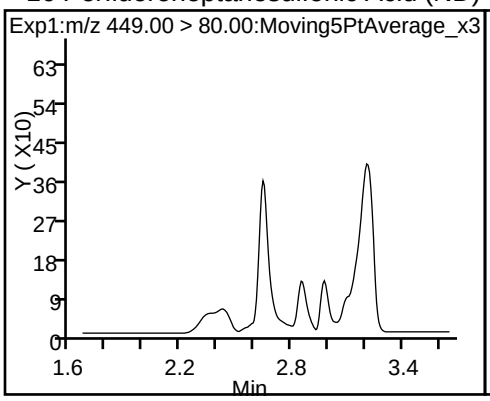
15 Perfluorooctanoic acid



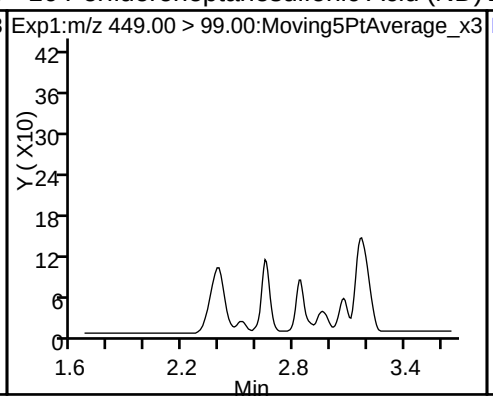
15 Perfluorooctanoic acid



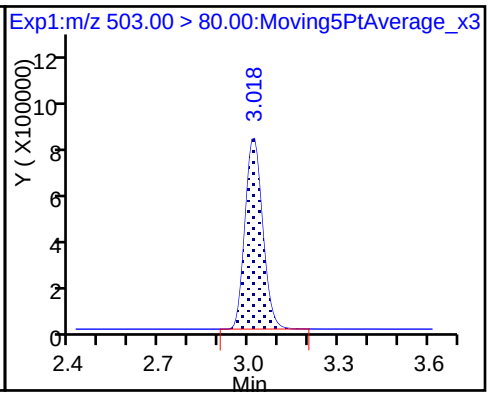
16 Perfluoroheptanesulfonic Acid (ND)



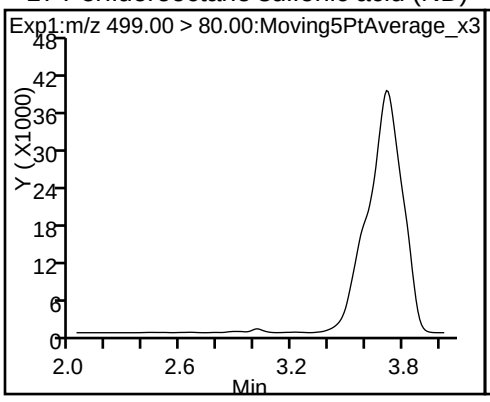
16 Perfluoroheptanesulfonic Acid (ND)



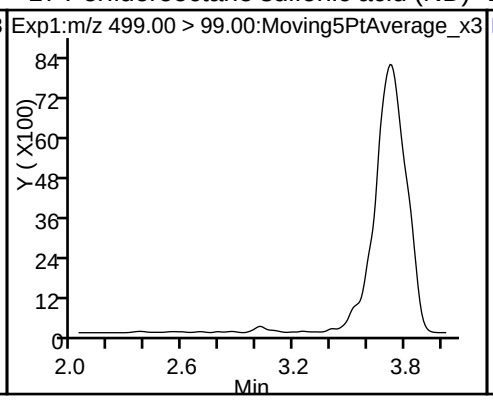
D 18 13C4 PFOS



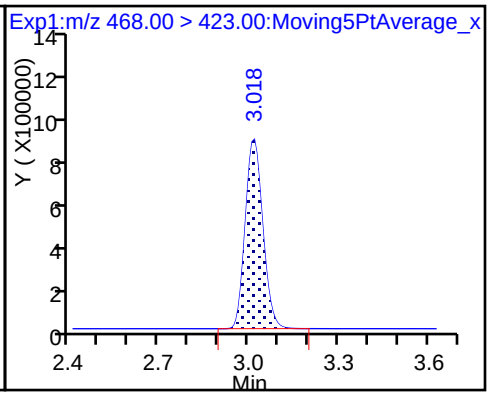
17 Perfluorooctane sulfonic acid (ND)



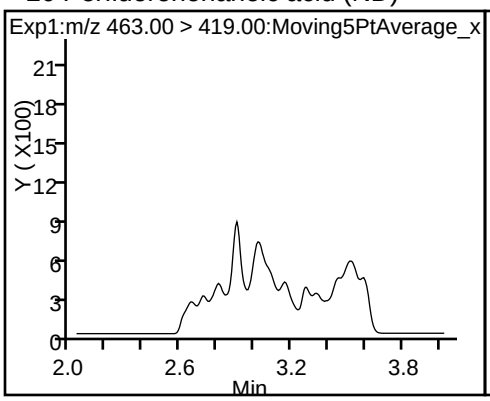
17 Perfluorooctane sulfonic acid (ND)



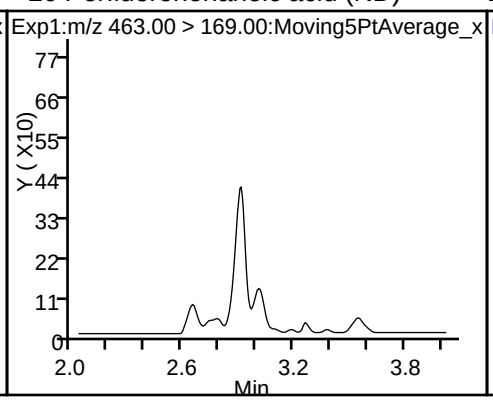
D 19 13C5 PFNA



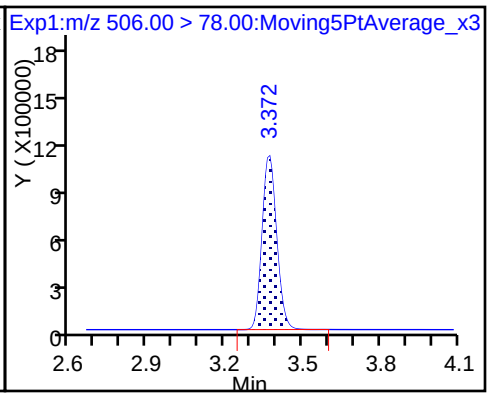
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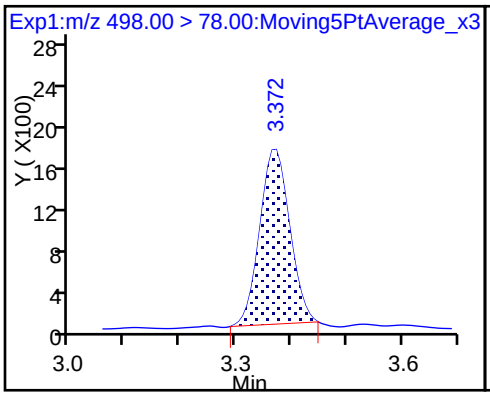
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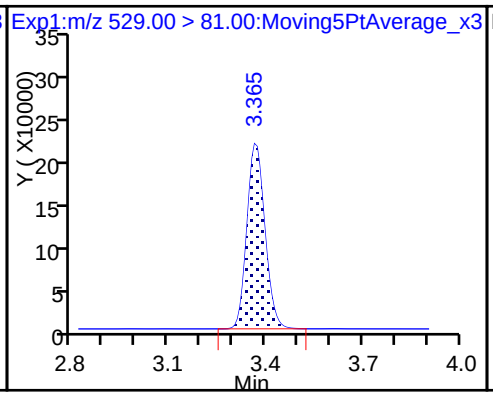
D 21 13C8 FOSA



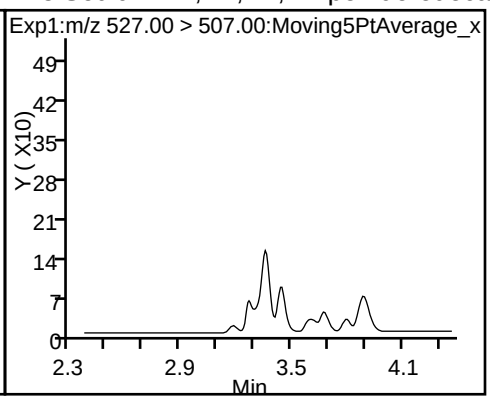
22 Perfluorooctane Sulfonamide



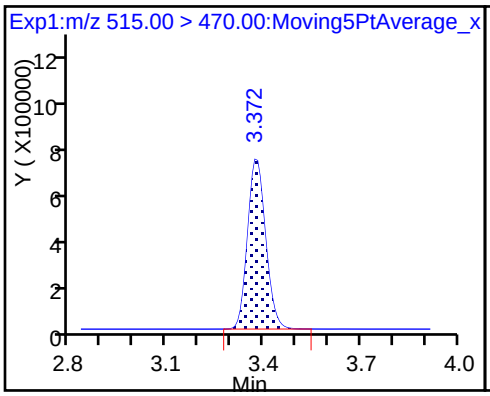
D 26 M2-8:2FTS



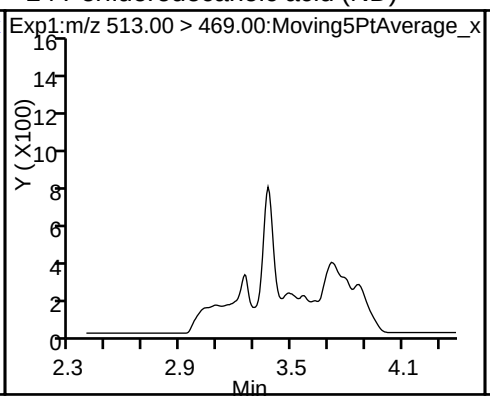
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



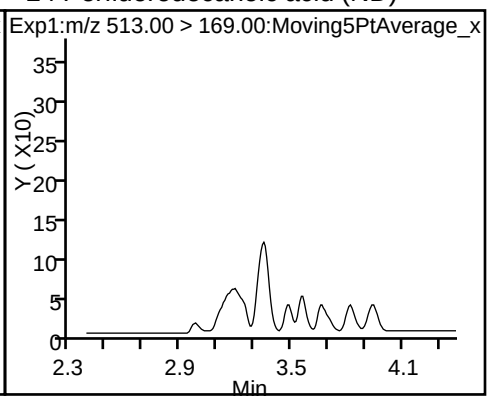
D 23 13C2 PFDA



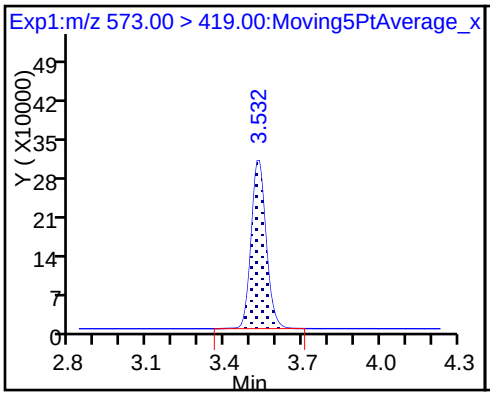
24 Perfluorodecanoic acid (ND)



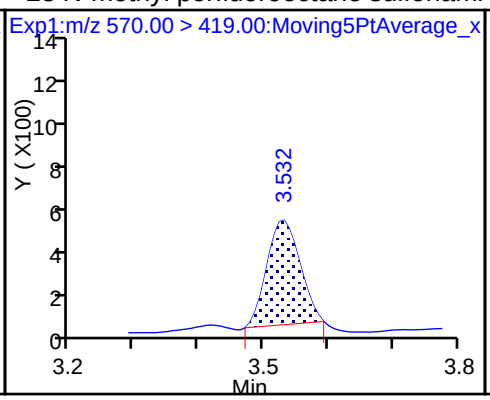
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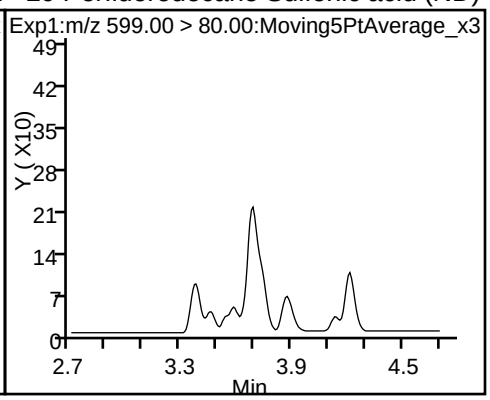
D 27 d3-NMeFOSAA



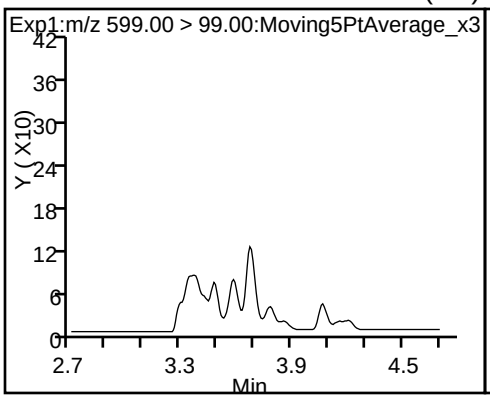
28 N-methyl perfluorooctane sulfonami



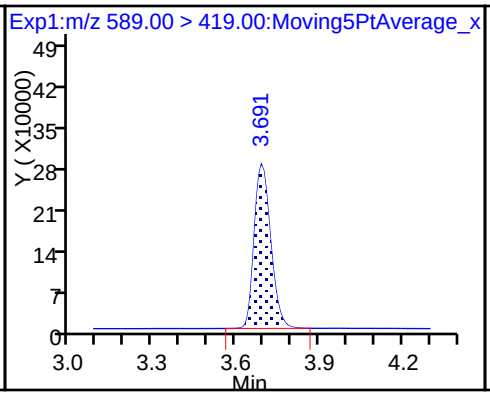
29 Perfluorodecane Sulfonic acid (ND)



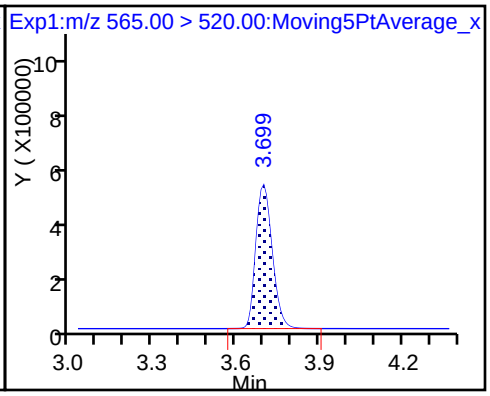
29 Perfluorodecane Sulfonic acid (ND)



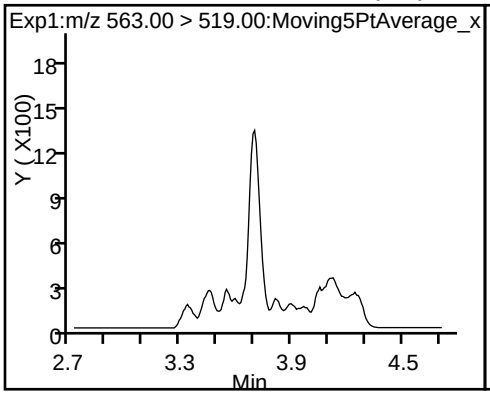
D 32 d5-NEtFOSAA



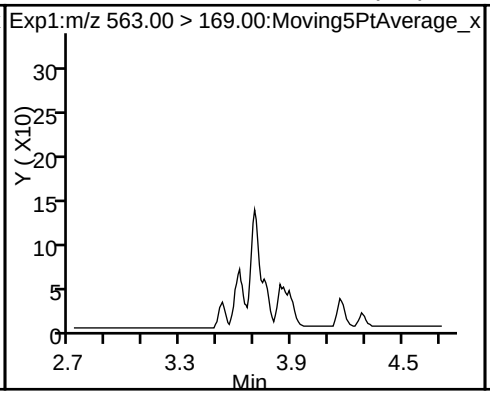
D 30 13C2 PFUnA



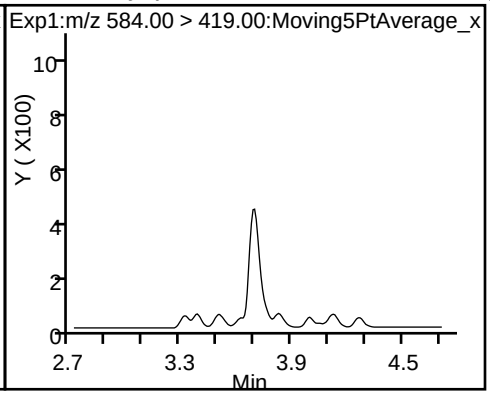
31 Perfluoroundecanoic acid (ND)



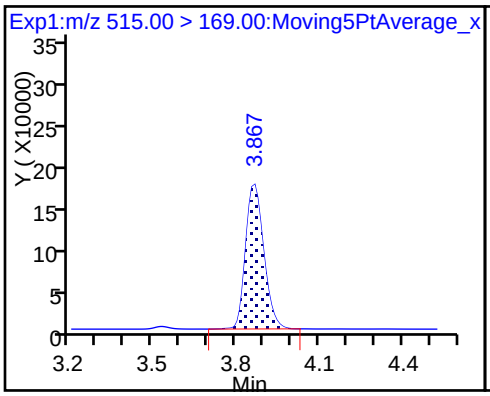
31 Perfluoroundecanoic acid (ND)



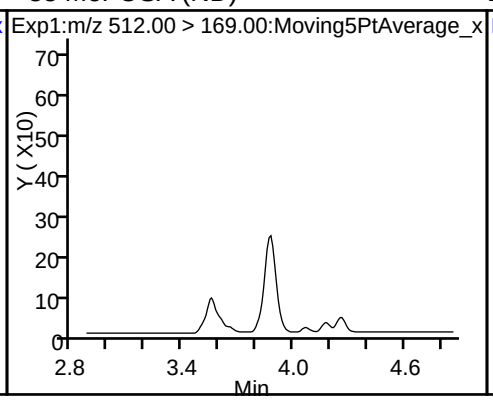
33 N-ethyl perfluorooctane sulfonamid (ND)



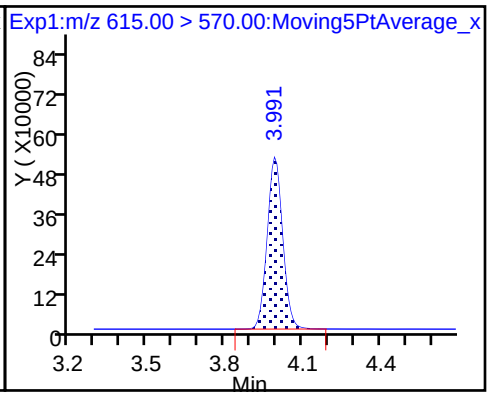
D 34 d-N-MeFOSA-M



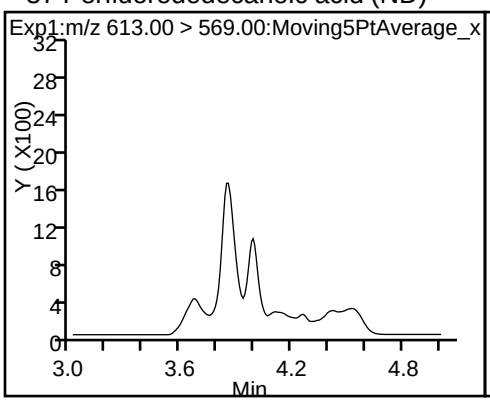
35 MeFOSA (ND)



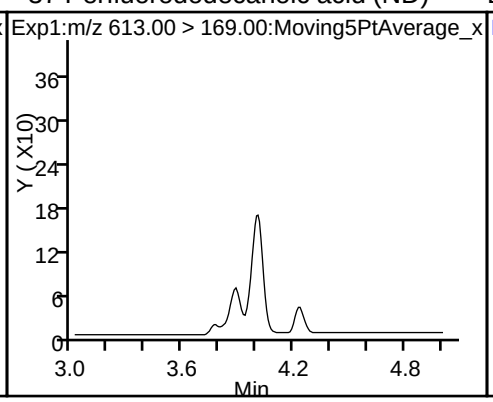
D 36 13C2 PFDoA



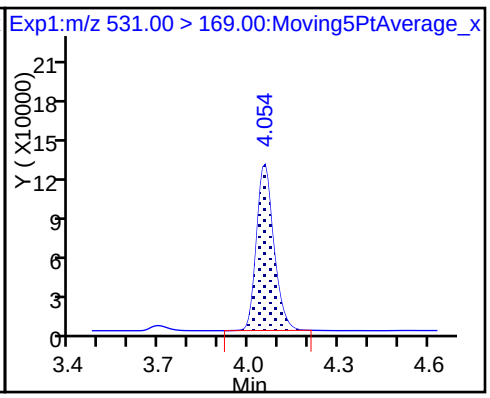
37 Perfluorododecanoic acid (ND)



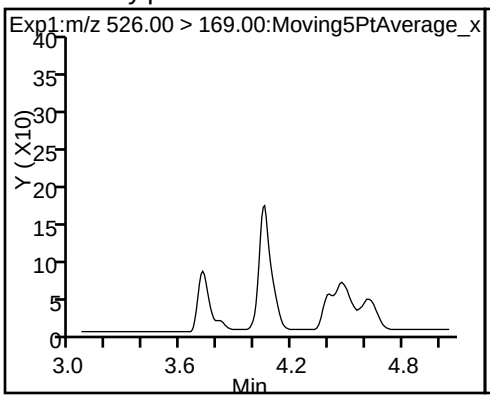
37 Perfluorododecanoic acid (ND)



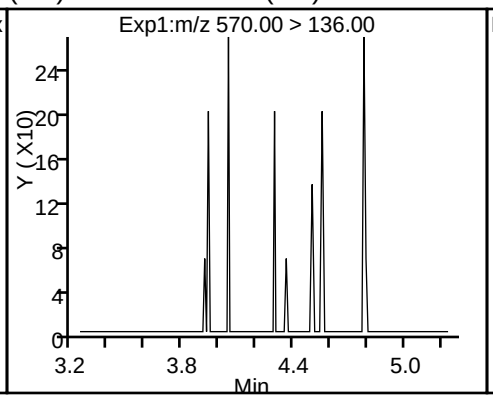
D 38 d-N-EtFOSA-M



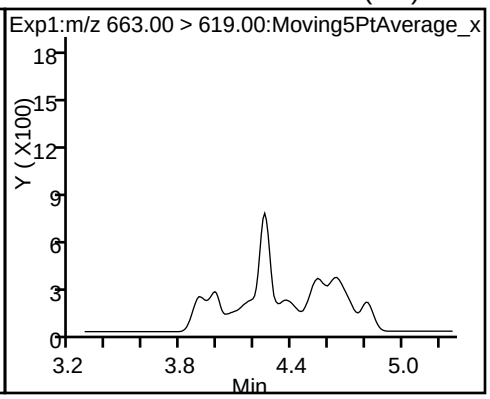
39 N-ethylperfluoro-1-octanesulfonami D (ND)



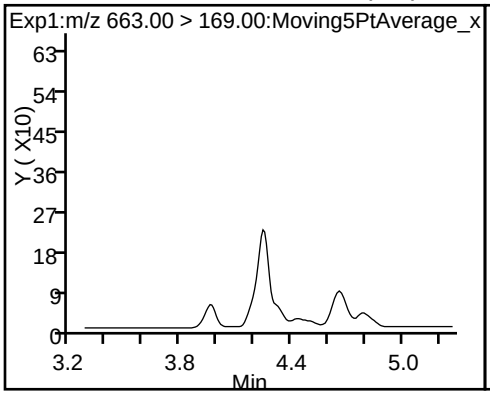
40 d-N-EtFOSE-M (ND)



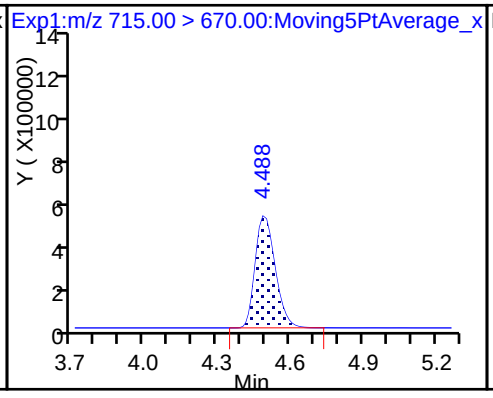
41 Perfluorotridecanoic acid (ND)



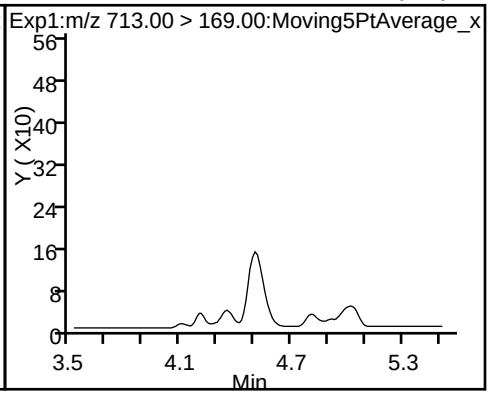
41 Perfluorotridecanoic acid (ND)



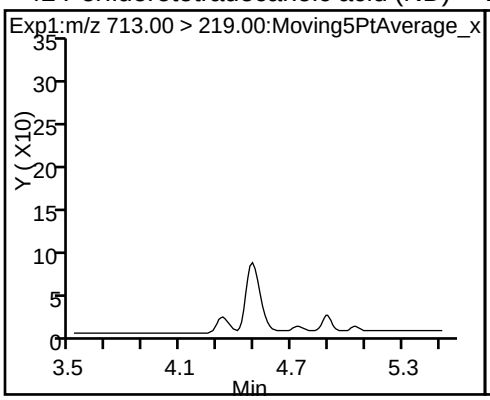
D 43 13C2-PFTeDA



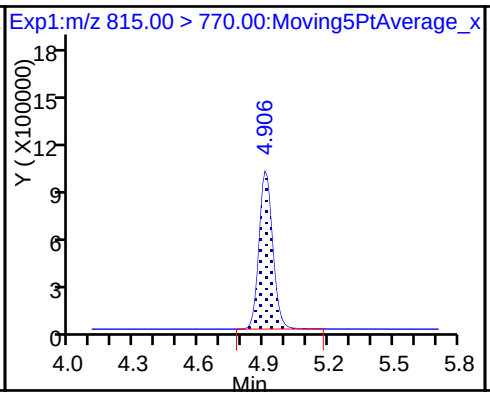
42 Perfluorotetradecanoic acid (ND)



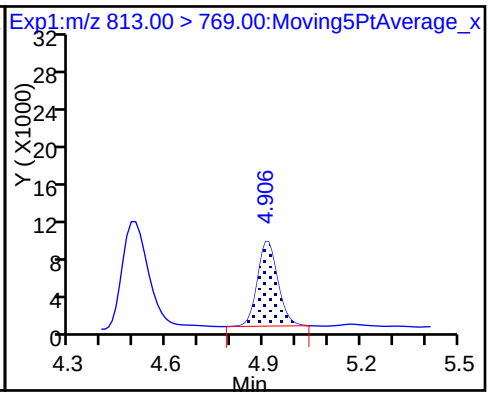
42 Perfluorotetradecanoic acid (ND)



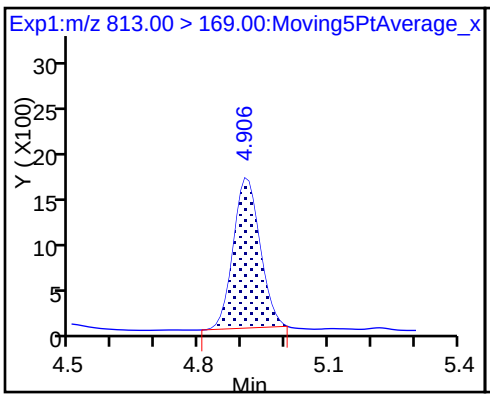
D 44 13C2-PFHxDA



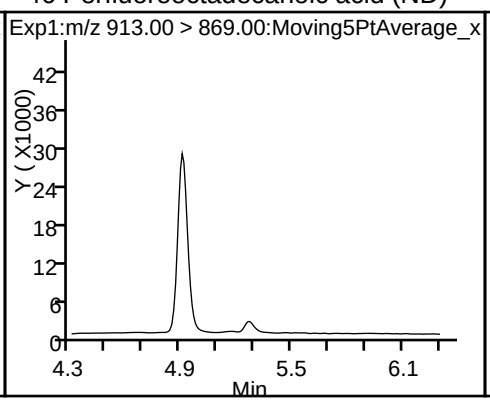
45 Perfluorohexadecanoic acid



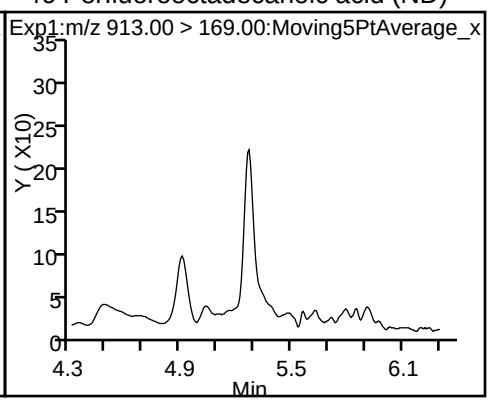
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid (ND)



46 Perfluorooctadecanoic acid (ND)



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

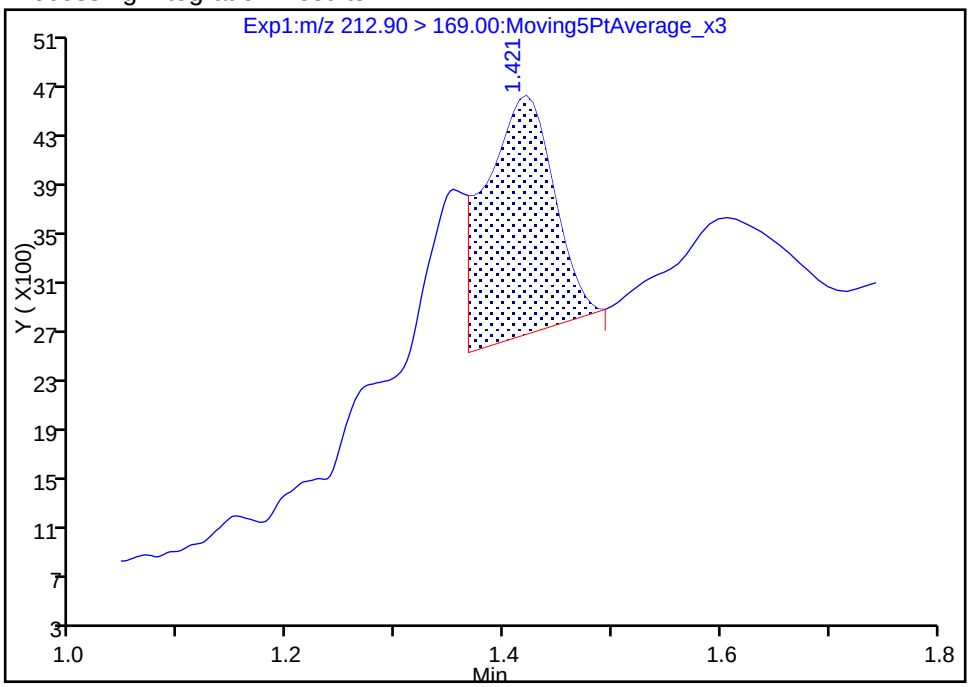
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_010.d
Injection Date: 22-Dec-2017 22:46:53 Instrument ID: A8_N
Lims ID: MB 320-201036/1-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 5 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

2 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

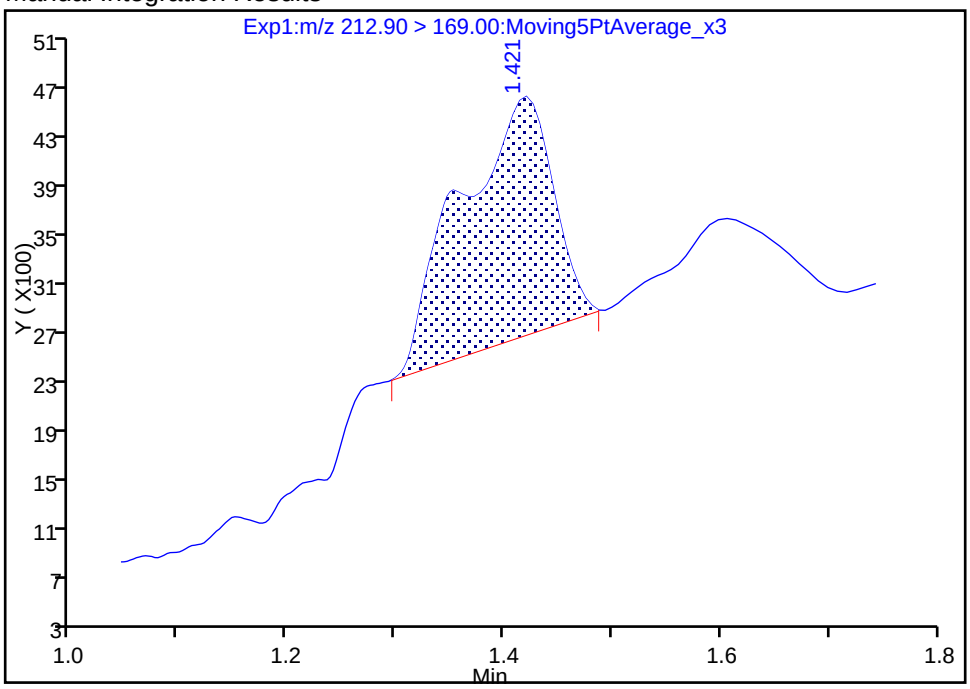
Processing Integration Results

RT: 1.42
Area: 8370
Amount: 0.003196
Amount Units: ng/ml



Manual Integration Results

RT: 1.42
Area: 11639
Amount: 0.004444
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:32:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

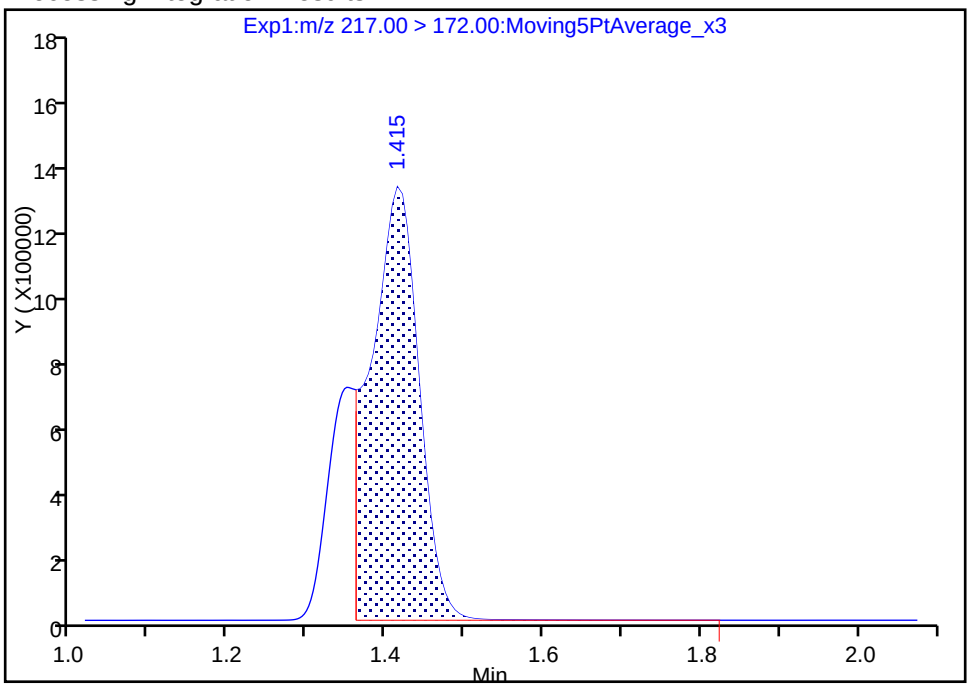
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_010.d
Injection Date: 22-Dec-2017 22:46:53 Instrument ID: A8_N
Lims ID: MB 320-201036/1-A
Client ID:
Operator ID: SACINSTLCMS01 ALS Bottle#: 5 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: A8_N Limit Group: LC PFC ICAL
Column: Detector EXP1

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

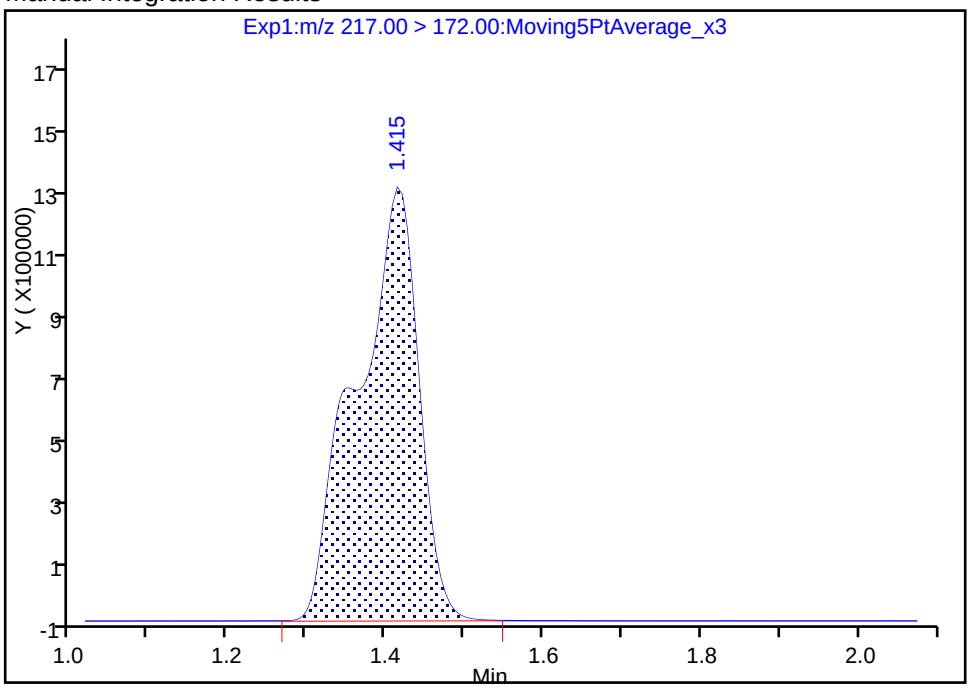
Processing Integration Results

RT: 1.41
Area: 5468902
Amount: 1.938324
Amount Units: ng/ml



Manual Integration Results

RT: 1.41
Area: 7146539
Amount: 2.532923
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 14:32:18
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-201042/1-A

Matrix: Water | Lab File ID: 2017.12.22LLB_037.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 250(mL) | Date Analyzed: 12/23/2017 02:18

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	U	2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.49	U	2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	0.58	U	2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.25	U	2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	0.85	U	2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	0.27	U	2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	0.31	U	2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.10	U	2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	0.55	U	2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	1.30	U	2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.345	J	2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.320	J	2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.19	U	2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	U	2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.32	U	2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.35	U	2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	3.10	U	20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.90	U	20.0	1.90
27619-97-2	6:2FTS	2.00	U	20.0	2.00
39108-34-4	8:2FTS	2.00	U	20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-201042/1-A

Matrix: Water | Lab File ID: 2017.12.22LLB_037.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 250(mL) | Date Analyzed: 12/23/2017 02:18

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	99		25-150
STL01893	13C5 PFPeA	100		25-150
STL00993	13C2 PFHxA	97		25-150
STL01892	13C4-PFHpA	100		25-150
STL00990	13C4 PFOA	91		25-150
STL00995	13C5 PFNA	97		25-150
STL00996	13C2 PFDA	97		25-150
STL00997	13C2 PFUnA	94		25-150
STL00998	13C2 PFDoA	89		25-150
STL02116	13C2-PFTeDA	115		25-150
STL02337	13C3-PFBS	98		25-150
STL00994	18O2 PFHxS	98		25-150
STL00991	13C4 PFOS	98		25-150
STL01056	13C8 FOSA	89		25-150
STL02118	d3-NMeFOSAA	83		25-150
STL02117	d5-NEtFOSAA	81		25-150
STL02279	M2-6:2FTS	39		25-150
STL02280	M2-8:2FTS	76		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_037.d
Lims ID: MB 320-201042/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Dec-2017 02:18:48 ALS Bottle#: 28 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-201042/1-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:43:43

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	6766772	2.46		98.5	18854	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	14028	0.005656			3.6	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4112521	2.50		100	34763	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.670	0.002	0.995	6511	0.003546			8.0	
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.646	79828	2.28		97.9	3223	
D 60 M2-4:2FTS										
329.00 > 81.00	1.876	1.943	-0.067	0.706	1066	0.005637		0.0	88.1	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4267253	2.43		97.2	39327	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.291	0.015	0.867	4051405	2.49		99.7	31574	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.291	0.015	1.000	6379	0.003763			10.3	
363.00 > 169.00	2.293	2.291	0.002	0.994	2612		2.44(1.13-3.40)		21.9	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	0.994	17264	0.007999			56.1	
399.00 > 99.00	2.306	2.304	0.002	0.994	4573		3.78(1.50-4.49)		25.3	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	4741986	2.31		97.8	50750	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.637	2.642	-0.005	1.000	9709	0.0211			260	
D 12 M2-6:2FTS										
429.00 > 81.00	2.637	2.642	-0.005	0.992	703625	0.9297		39.1	18415	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	4254920	2.28		91.1	48077	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4521052	2.50			42000	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.659	2.656	0.003	1.000	11789	0.006587			20.2	
413.00 > 169.00	2.659	2.656	0.003	1.000	6500		1.81(0.84-2.52)		56.3	
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.141	3161214	2.33		97.7	37967	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.141	3219294	2.43		97.0	36156	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.270	4082134	2.22		88.6	30573	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	10421	0.006654			273	
D 26 M2-8:2FTS										
529.00 > 81.00	3.385	3.377	0.008	1.273	768829	1.82		75.9	16729	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2667943	2.44		97.5	36965	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1219966	2.08		83.1	20743	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.552	3.548	0.004	1.002	6591	0.0126			75.0	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.715	3.712	0.003	1.397	1159923	2.02		80.8	10480	
D 30 13C2 PFUnA										
565.00 > 520.00	3.715	3.717	-0.002	1.397	1957311	2.35		93.9	26181	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.715	3.718	-0.003	1.000	9192	0.0128			62.8	
563.00 > 169.00	3.715	3.718	-0.003	1.000	1465		6.27(0.00-0.00)		150	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.715	3.720	-0.005	1.000	7041	0.0153			270	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.865	3.862	0.003	1.454	742045	1.41		56.6	2272	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	1999351	2.22		89.0	35539	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.013	4.011	0.002	1.000	10164	0.0128			60.2	
613.00 > 169.00	4.013	4.011	0.002	1.000	2079		4.89(2.13-6.40)		139	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.052	4.052	0.0	1.524	417390	0.8280		33.1	1167	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.698	2897051	2.88		115	27666	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.518	-0.004	1.000	2574	0.008619			119	
713.00 > 219.00	4.514	4.518	-0.004	1.000	2579		1.00(0.71-2.13)		163	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.940	4.939	0.001	1.858	3959850	2.17		86.6	13416	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.939	0.001	1.000	43686	0.008266			41.0	
813.00 > 169.00	4.931	4.939	-0.008	0.998	7207		6.06(2.86-8.58)		212	

Report Date: 26-Dec-2017 16:04:28 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_037.d

Injection Date: 23-Dec-2017 02:18:48 Instrument ID: A8_N

Lims ID: MB 320-201042/1-A

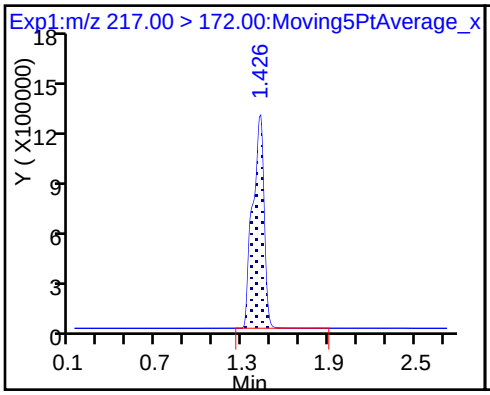
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Operator ID: SACINSTLCMS01 ALS Bottle#: 28 Worklist Smp#: 2

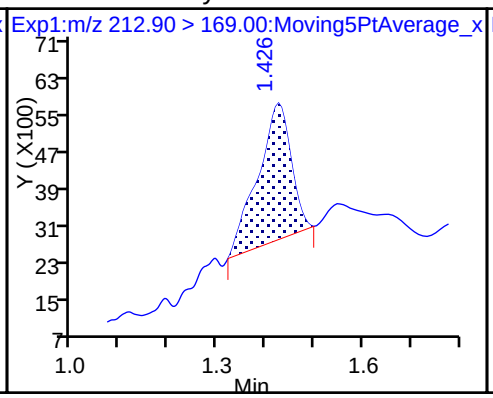
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

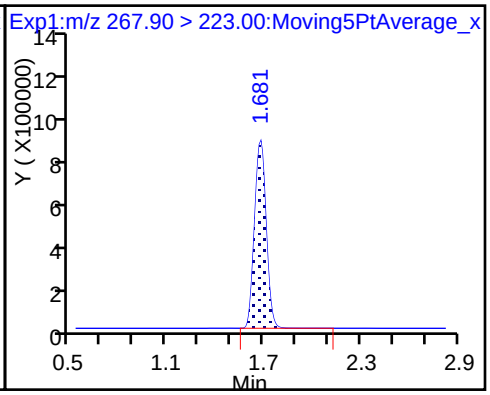
D 1 13C4 PFBA



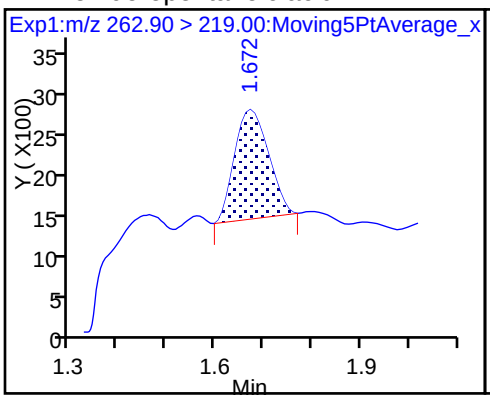
2 Perfluorobutyric acid



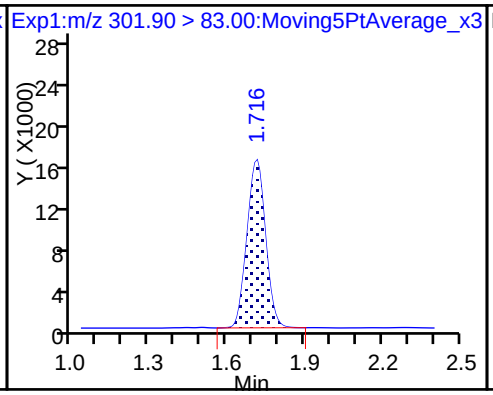
D 3 13C5-PFPeA



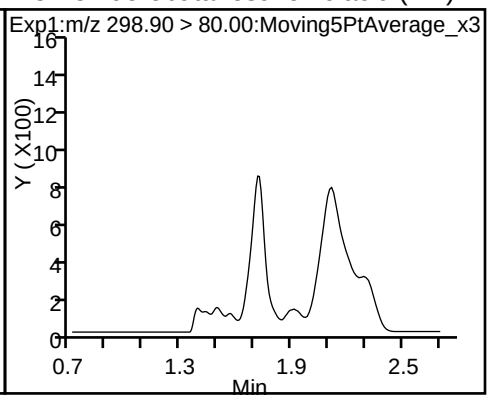
4 Perfluoropentanoic acid



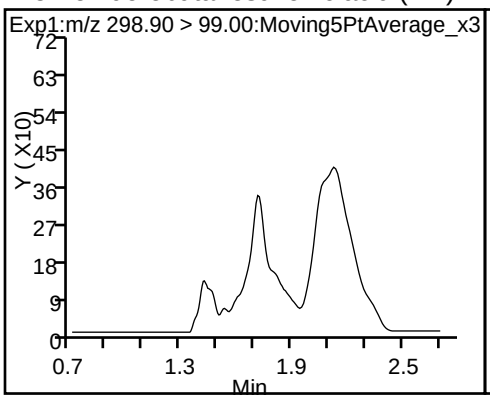
D 47 13C3-PFBS



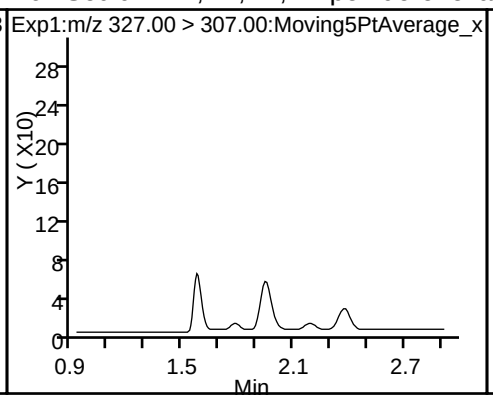
5 Perfluorobutanesulfonic acid (ND)



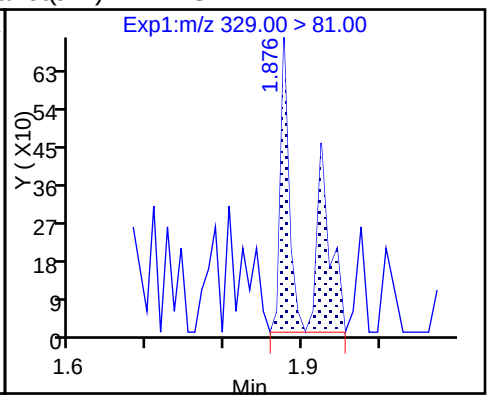
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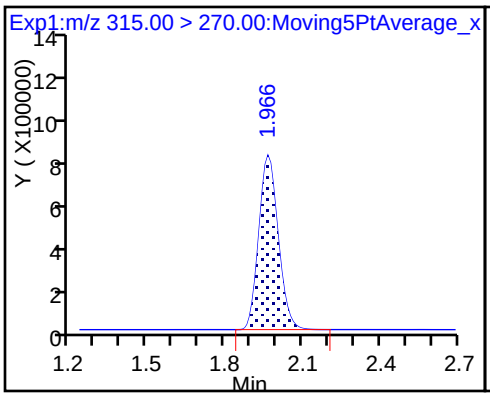
61 Sodium 1H,1H,2H,2H-perfluorohexanesulfonate



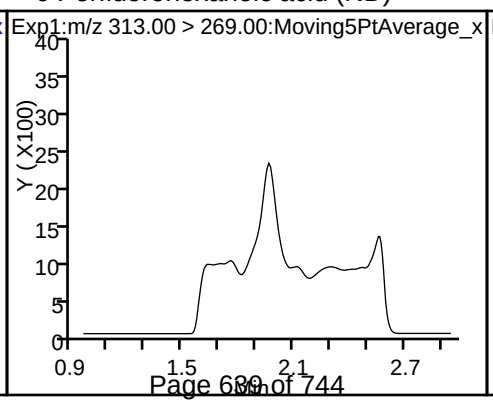
D 6 (ND) 2-4:2FTS



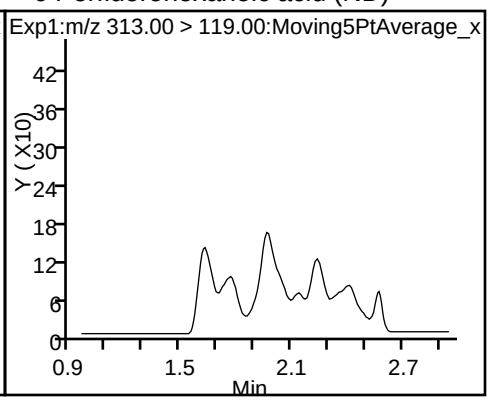
D 7 13C2 PFHxA



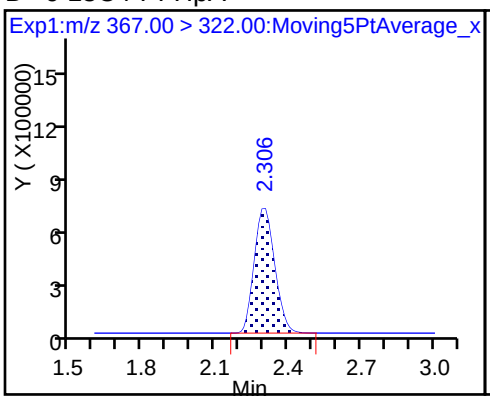
6 Perfluorohexanoic acid (ND)



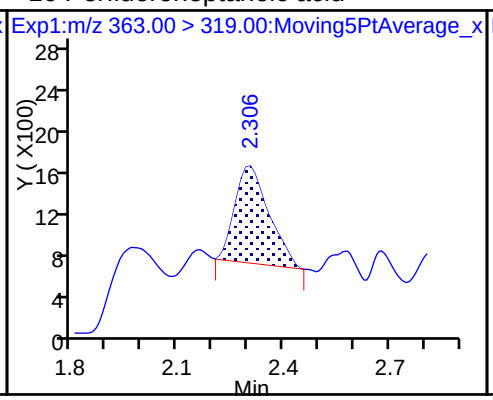
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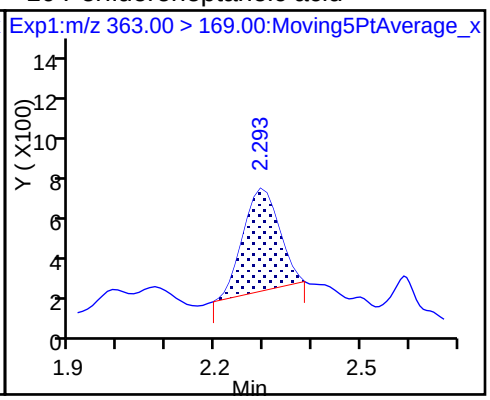
D 9 13C4-PFHpA



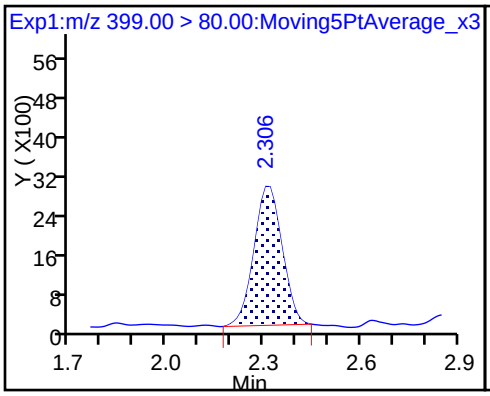
10 Perfluoroheptanoic acid



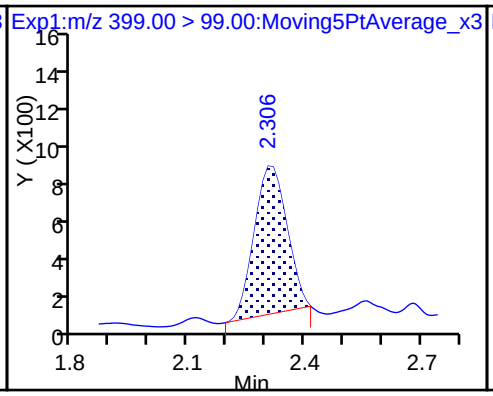
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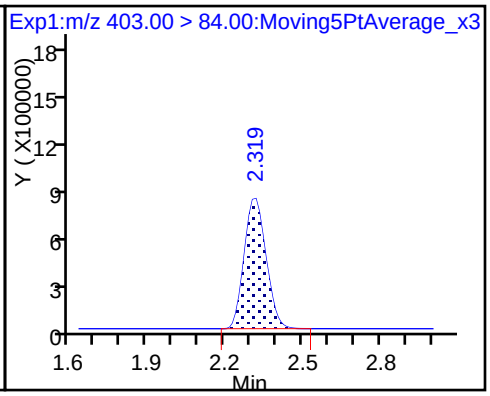
8 Perfluorohexanesulfonic acid



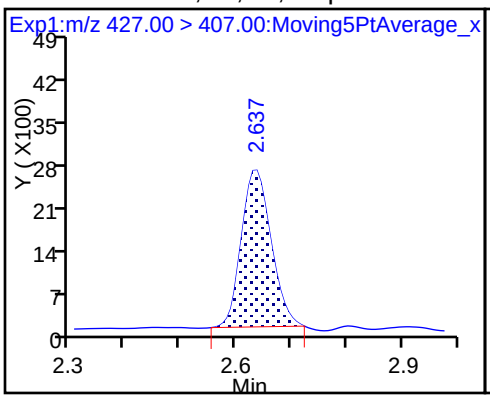
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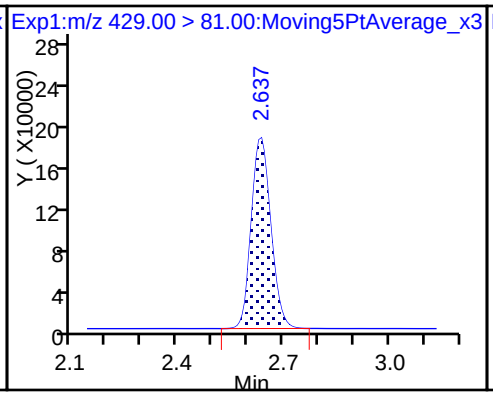
D 11 18O2 PFHxS



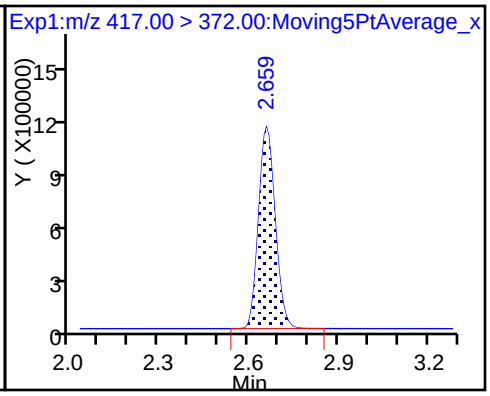
13 Sodium 1H,1H,2H,2H-perfluorooctane



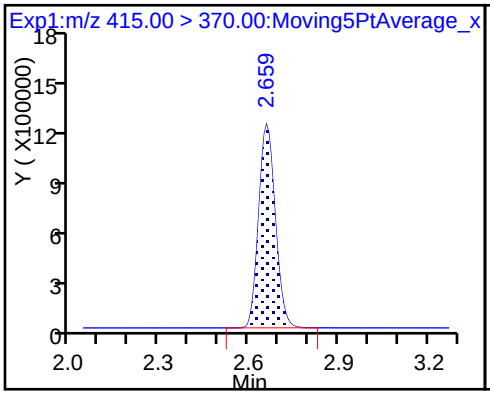
D 12 M2-6:2FTS



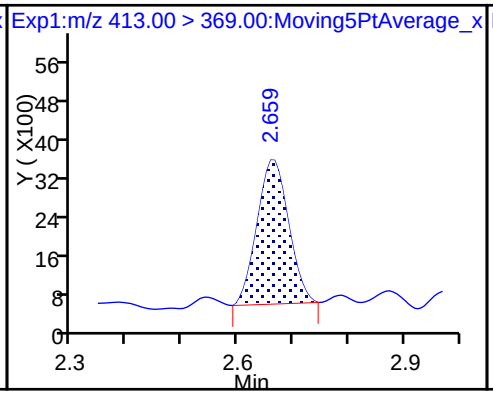
D 14 13C4 PFOA



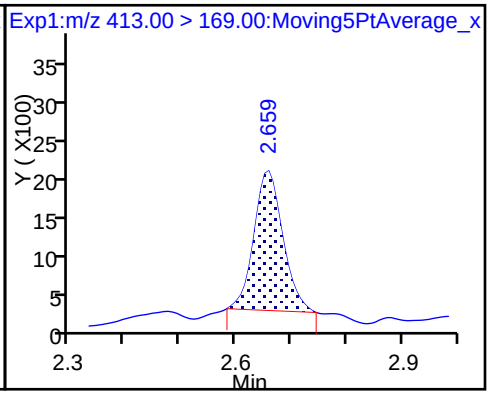
* 62 13C2-PFOA



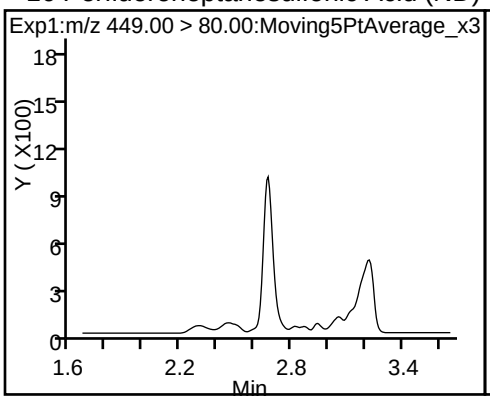
15 Perfluorooctanoic acid



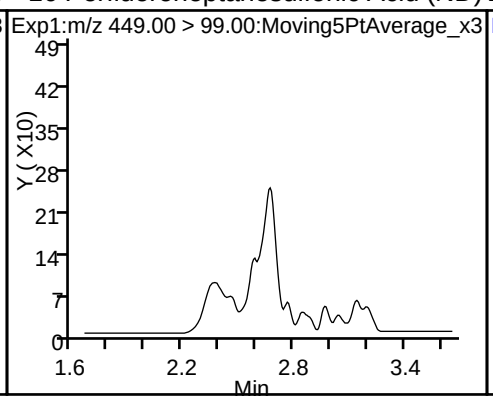
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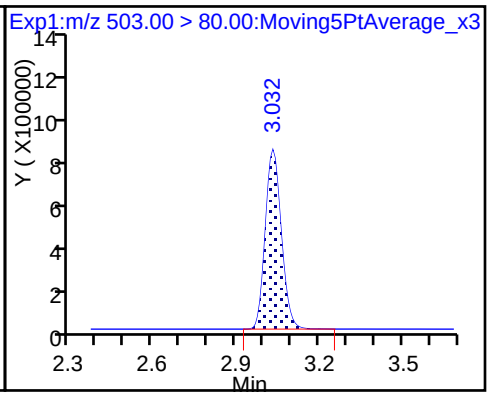
16 Perfluoroheptanesulfonic Acid (ND)



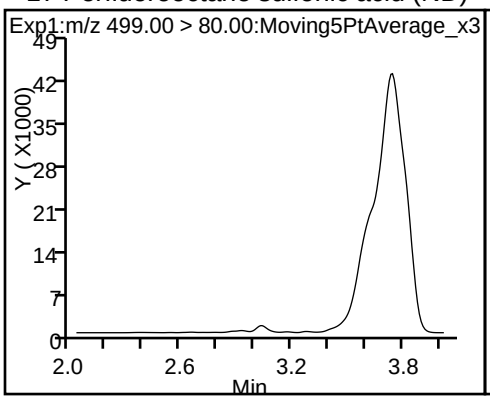
16 Perfluoroheptanesulfonic Acid (ND)



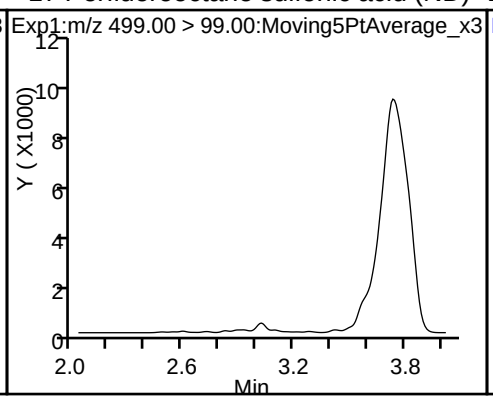
D 18 13C4 PFOS



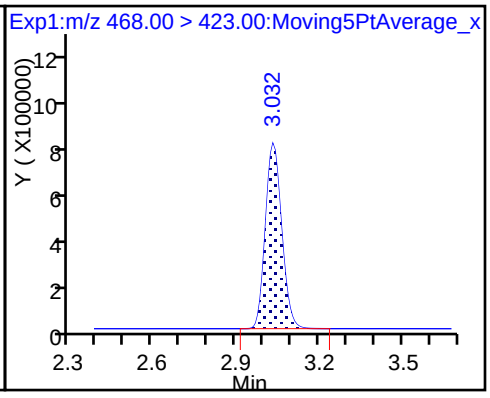
17 Perfluorooctane sulfonic acid (ND)



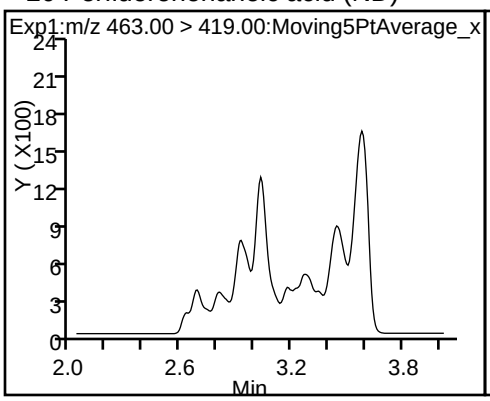
17 Perfluorooctane sulfonic acid (ND)



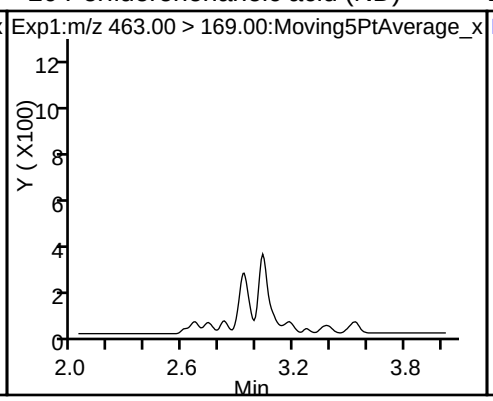
D 19 13C5 PFNA



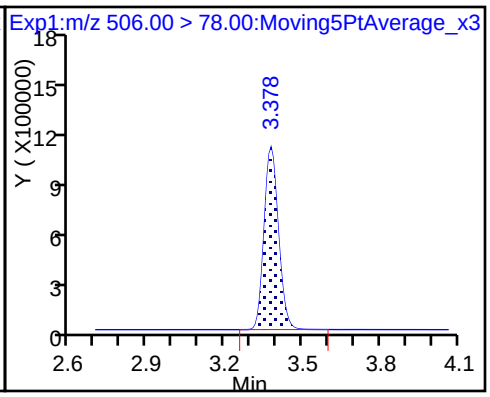
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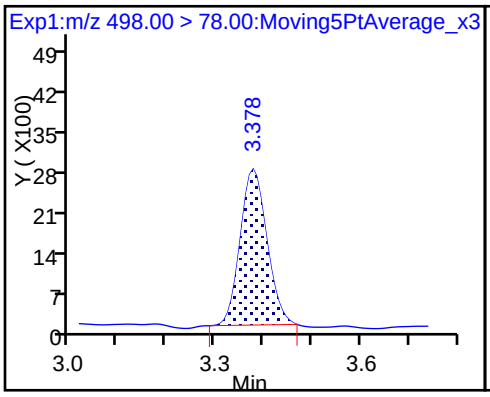
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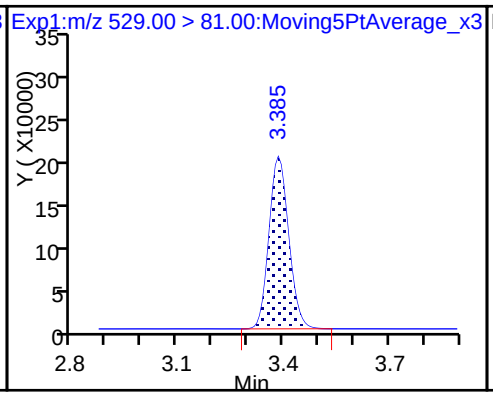
D 21 13C8 FOSA



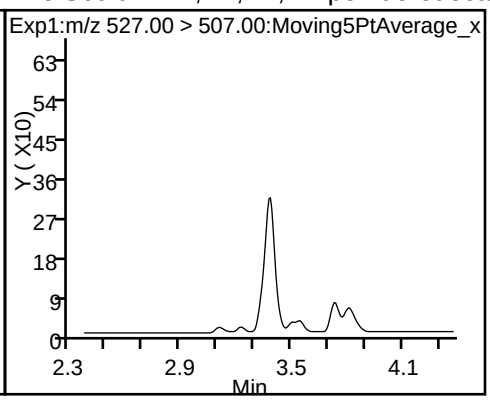
22 Perfluorooctane Sulfonamide



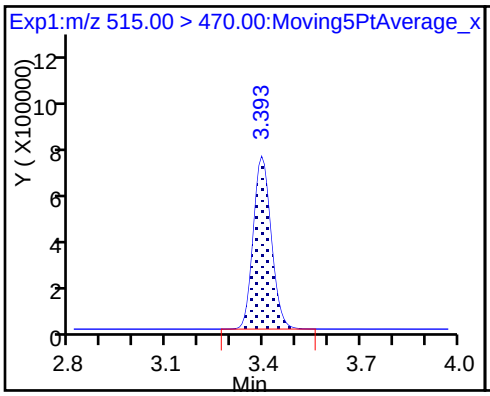
D 26 M2-8:2FTS



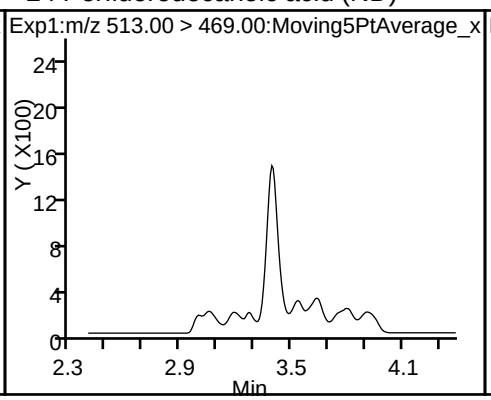
25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



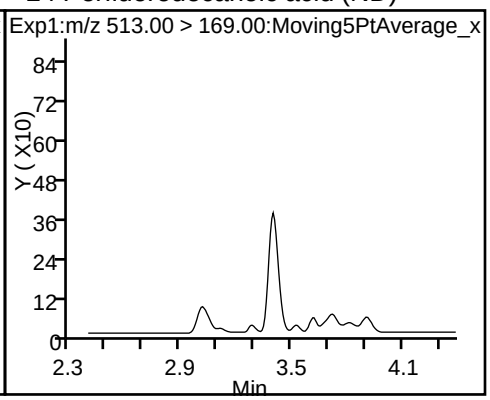
D 23 13C2 PFDA



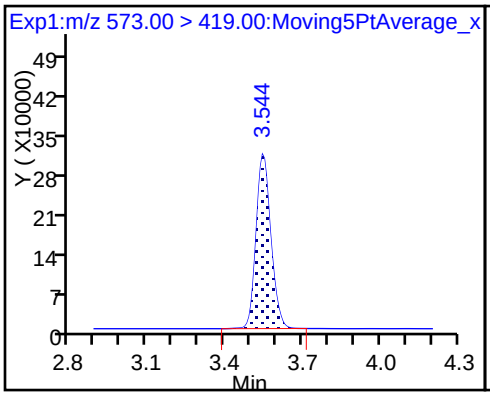
24 Perfluorodecanoic acid (ND)



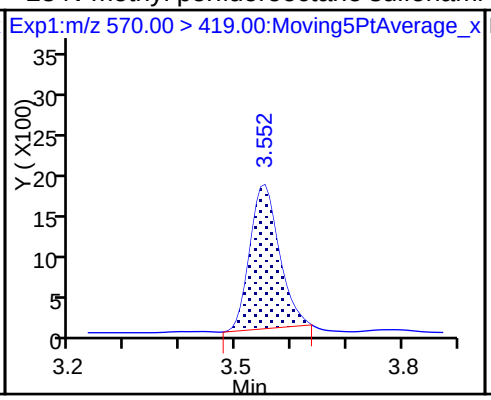
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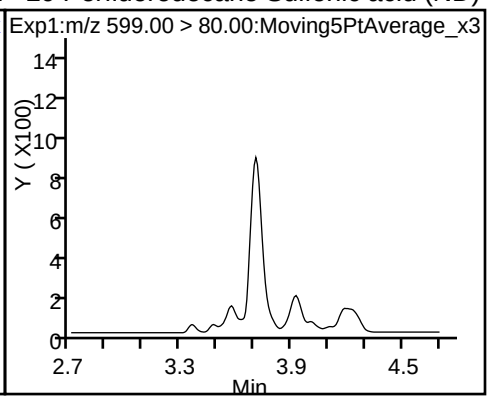
D 27 d3-NMeFOSAA



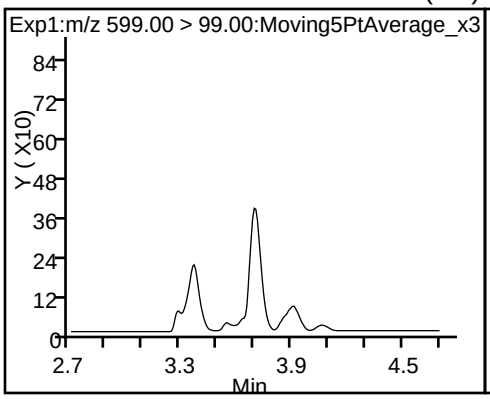
28 N-methyl perfluorooctane sulfonami



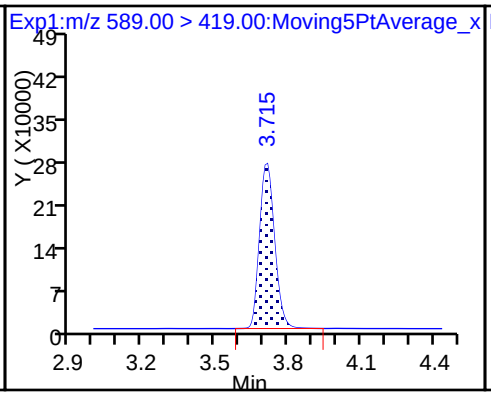
29 Perfluorodecane Sulfonic acid (ND)



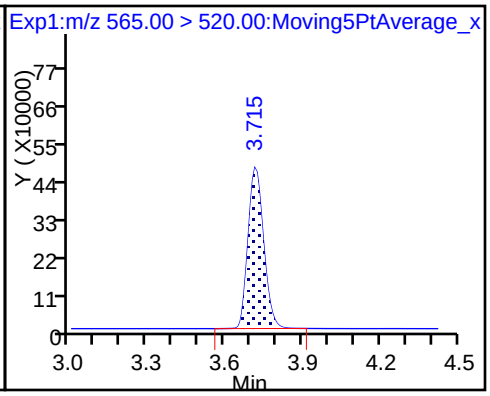
29 Perfluorodecane Sulfonic acid (ND)



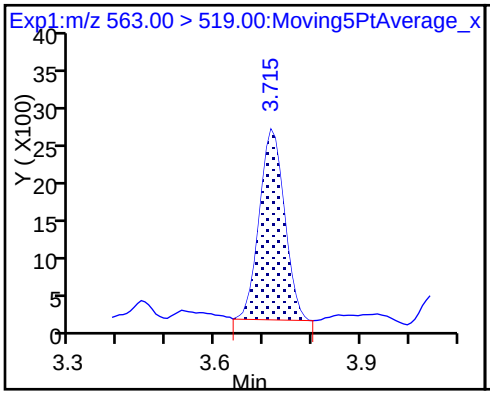
D 32 d5-NEtFOSAA



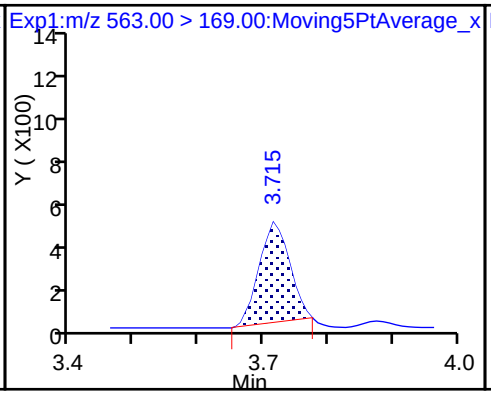
D 30 13C2 PFUnA



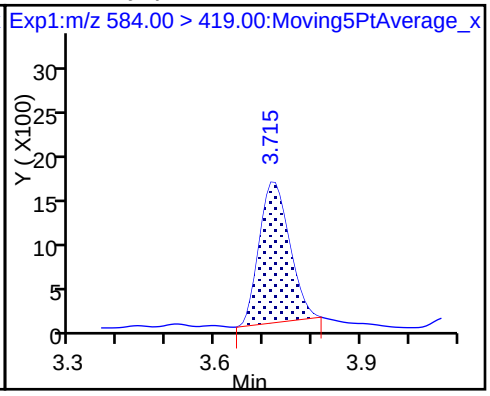
31 Perfluoroundecanoic acid



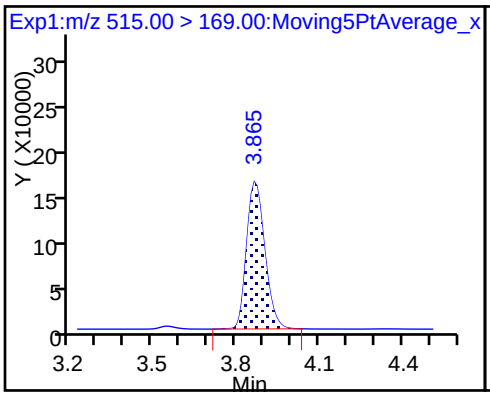
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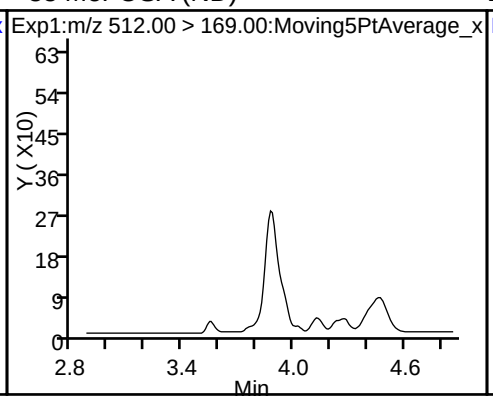
33 N-ethyl perfluorooctane sulfonamid



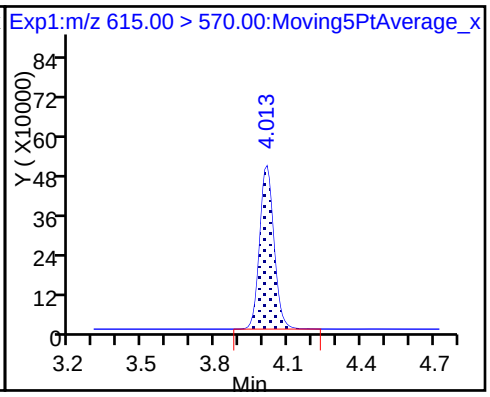
D 34 d-N-MeFOSA-M



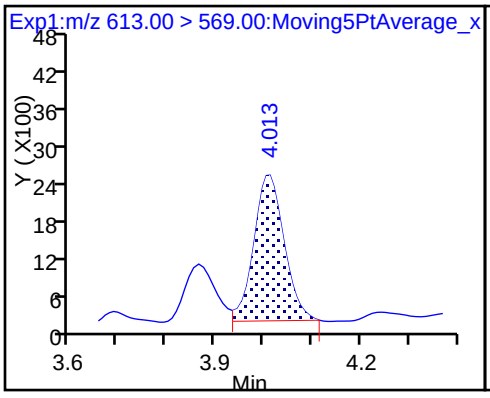
35 MeFOSA (ND)



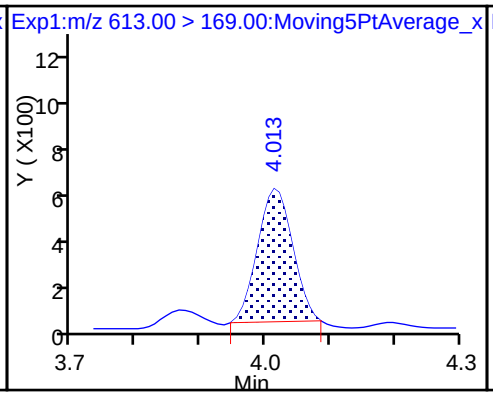
D 36 13C2 PFDoA



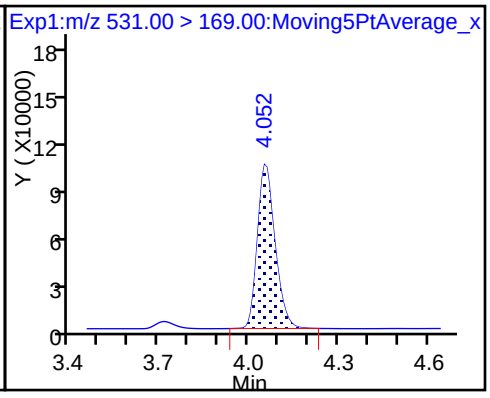
37 Perfluorododecanoic acid



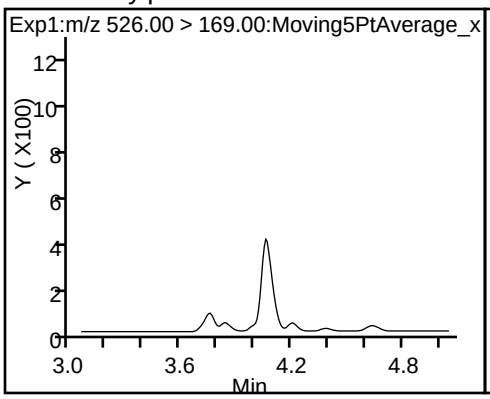
37 Perfluorododecanoic acid



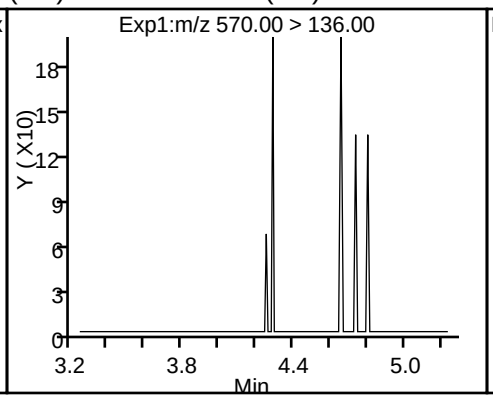
D 38 d-N-EtFOSA-M



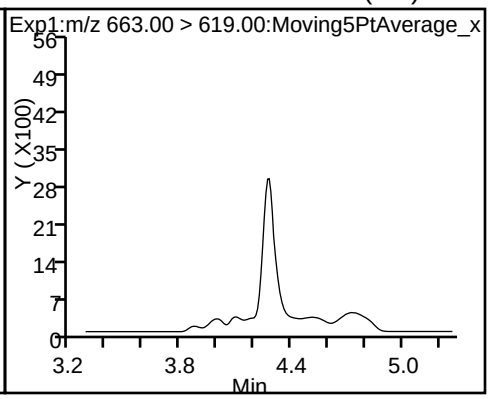
39 N-ethylperfluoro-1-octanesulfonami D (ND)



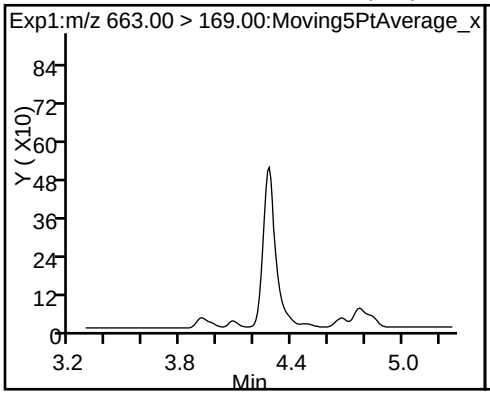
40 d-N-EtFOSE-M (ND)



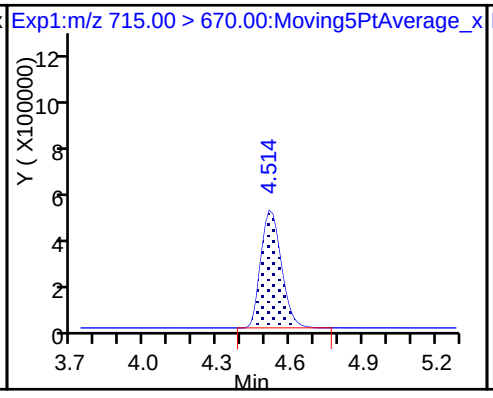
41 Perfluorotridecanoic acid (ND)



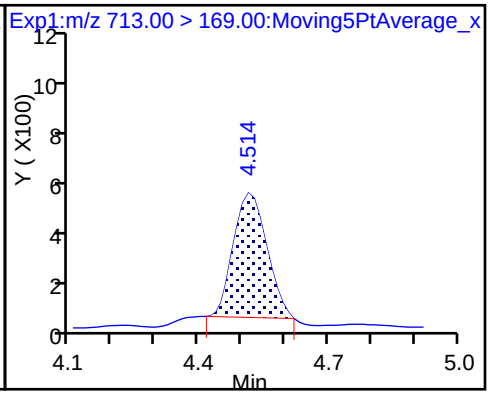
41 Perfluorotridecanoic acid (ND)



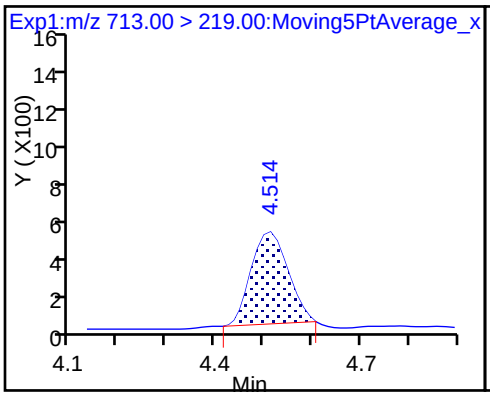
D 43 13C2-PFTeDA



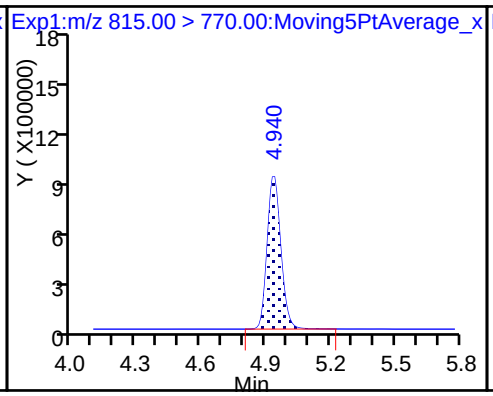
42 Perfluorotetradecanoic acid



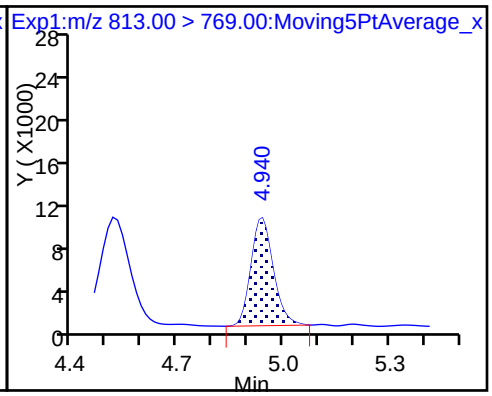
42 Perfluorotetradecanoic acid



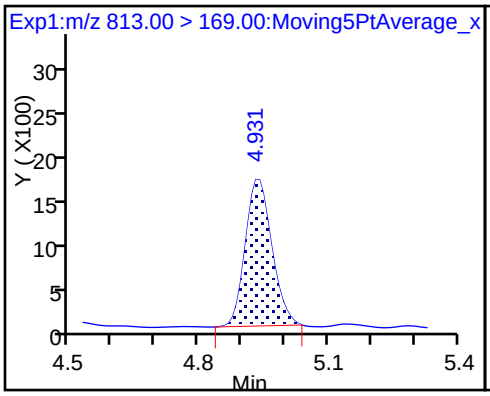
D 44 13C2-PFHxDA



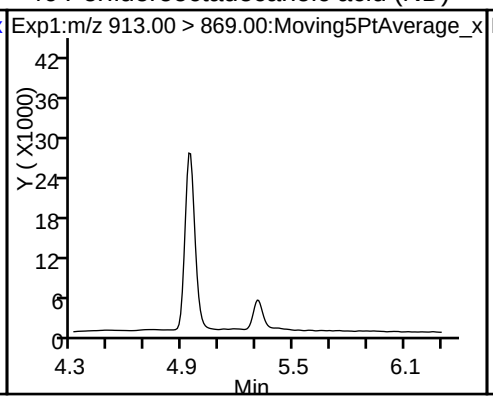
45 Perfluorohexadecanoic acid



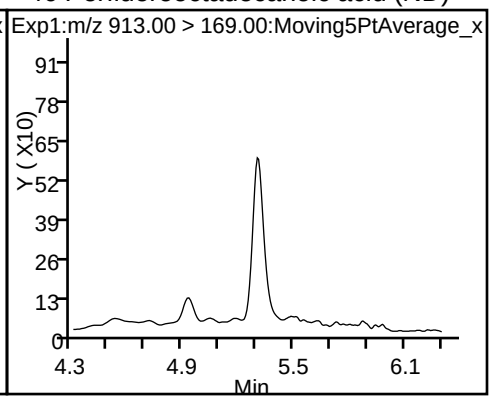
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid (ND)



46 Perfluorooctadecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-201036/2-A

Matrix: Water | Lab File ID: 2017.12.22LLB_011.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 250(mL) | Date Analyzed: 12/22/2017 22:54

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	37.81		2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	37.64		2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	37.72		2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	36.97		2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	35.74		2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	38.86		2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	43.41		2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	34.65		2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	40.50		2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	41.59		2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	37.30		2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	34.60		2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	36.28		2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	37.53		2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	35.51		2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	35.78		2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	38.81		2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	36.27		20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	34.12		20.0	1.90
27619-97-2	6:2FTS	35.58		20.0	2.00
39108-34-4	8:2FTS	34.05		20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-201036/2-A

Matrix: Water | Lab File ID: 2017.12.22LLB_011.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 250(mL) | Date Analyzed: 12/22/2017 22:54

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	107		25-150
STL01893	13C5 PFPeA	102		25-150
STL00993	13C2 PFHxA	102		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	97		25-150
STL00995	13C5 PFNA	98		25-150
STL00996	13C2 PFDA	94		25-150
STL00997	13C2 PFUnA	99		25-150
STL00998	13C2 PFDoA	91		25-150
STL02116	13C2-PFTeDA	128		25-150
STL02337	13C3-PFBS	106		25-150
STL00994	18O2 PFHxS	100		25-150
STL00991	13C4 PFOS	99		25-150
STL01056	13C8 FOSA	92		25-150
STL02118	d3-NMeFOSAA	84		25-150
STL02117	d5-NEtFOSAA	84		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	81		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_011.d
Lims ID: LCS 320-201036/2-A
Client ID:
Sample Type: LCS
Inject. Date: 22-Dec-2017 22:54:42 ALS Bottle#: 6 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-201036/2-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:34:15

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.421	1.419	0.001	0.536	7284165	2.66		107	20514	
2 Perfluorobutyric acid										
212.90 > 169.00	1.427	1.419	0.008	1.004	2523352	0.9452		94.5	538	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.634	4179205	2.55		102	38312	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.681	1.670	0.011	1.000	1755738	0.9409		94.1	2471	
D 47 13C3-PFBS										
301.90 > 83.00	1.708	1.705	0.003	0.644	85700	2.45		106	3426	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.717	1.707	0.010	1.005	2398710	0.8651		97.9	17357	
298.90 > 99.00	1.717	1.707	0.010	1.005	979595		2.45(1.25-3.74)		9447	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.925	1.920	0.005	1.000	452073	1.74		186	22256	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.741	4474274	2.56		102	44942	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.966	1.956	0.010	1.000	1689511	0.9429		94.3	4174	
313.00 > 119.00	1.966	1.956	0.010	1.000	160777		10.51(5.03-15.10)		5117	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.865	4217670	2.61		104	55980	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	1631347	0.9244		92.4	3316	
363.00 > 169.00	2.293	2.291	0.002	1.000	695532		2.35(1.13-3.40)		4809	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	1986882	0.9071		99.7	4799	
399.00 > 99.00	2.306	2.304	0.002	1.000	638686		3.11(1.50-4.49)		3710	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.870	4812402	2.36		99.6	43782	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.631	2.642	-0.011	1.000	436048	0.8896		93.8	11375	
D 12 M2-6:2FTS										
429.00 > 81.00	2.631	2.642	-0.011	0.992	751105	1.00		42.0	19499	
D 14 13C4 PFOA										
417.00 > 372.00	2.652	2.654	-0.002	1.000	4521973	2.43		97.2	46776	
* 62 13C2-PFOA										
415.00 > 370.00	2.652	2.656	-0.004		4501469	2.50			58944	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.652	2.656	-0.004	1.000	1699721	0.8936		89.4	2665	
413.00 > 169.00	2.652	2.656	-0.004	1.000	902657		1.88(0.84-2.52)		6917	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.659	2.662	-0.003	1.000	1637687	0.9384		98.6	21481	
449.00 > 99.00	2.659	2.662	-0.003	1.000	447905		3.66(1.94-5.82)		10669	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.141	3185307	2.36		98.9	30716	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.028	-0.003	1.000	1254174	0.8877		95.7	134	
499.00 > 99.00	3.025	3.028	-0.003	1.000	264989		4.73(2.31-6.93)		171	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.028	-0.003	1.141	3251897	2.46		98.4	33649	
20 Perfluorononanoic acid										
463.00 > 419.00	3.025	3.029	-0.004	1.000	1271657	0.9716		97.2	5002	
463.00 > 169.00	3.025	3.029	-0.004	1.000	304680		4.17(1.90-5.69)		4488	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.274	4232821	2.31		92.3	25639	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	1575615	0.9702		97.0	19729	
D 26 M2-8:2FTS										
529.00 > 81.00	3.378	3.377	0.001	1.274	817786	1.94		81.1	17735	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.378	3.377	0.001	1.000	353327	0.8512		88.9	13179	
D 23 13C2 PFDA										
515.00 > 470.00	3.386	3.389	-0.003	1.277	2552305	2.34		93.7	34963	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.386	3.390	-0.004	1.000	1071732	1.09		109	7374	
513.00 > 169.00	3.386	3.390	-0.004	1.000	174200		6.15(2.36-7.09)		2010	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.537	3.543	-0.006	1.334	1224007	2.09		83.7	20877	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.545	3.548	-0.003	1.002	476638	0.9068		90.7	3779	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.689	3.703	-0.014	1.000	736320	0.8945		92.8	15009	
599.00 > 99.00	3.689	3.703	-0.014	1.000	246741		2.98(1.39-4.16)		6079	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.706	3.712	-0.006	1.397	1201750	2.10		84.1	7420	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.706	3.717	-0.011	1.397	2054493	2.48		99.0	33067	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.706	3.718	-0.012	1.000	652152	0.8663		86.6	4683	
563.00 > 169.00	3.706	3.718	-0.012	1.000	156256		4.17(0.00-0.00)		8441	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.706	3.720	-0.014	1.000	407388	0.8530		85.3	9619	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.875	3.862	0.013	1.461	783141	1.50		59.9	2800	
35 MeFOSA										
512.00 > 169.00	3.875	3.872	0.003	1.000	311744	1.02		102	2088	
D 36 13C2 PFDoA										
615.00 > 570.00	4.005	4.011	-0.006	1.510	2030703	2.27		90.8	26368	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.005	4.011	-0.006	1.000	816272	1.01		101	4052	
613.00 > 169.00	4.005	4.011	-0.006	1.000	199855		4.08(2.13-6.40)		12269	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.060	4.052	0.008	1.531	503797	1.00		40.1	1412	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.068	4.058	0.010	1.002	216098	1.01		101	1821	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.261	4.277	-0.016	1.000	979325	1.04		104	5902	
663.00 > 169.00	4.261	4.277	-0.016	1.000	317970		3.08(1.25-3.76)		12137	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.500	4.518	-0.018	1.697	3203099	3.20		128	27731	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.500	4.518	-0.018	1.000	307952	0.9326		93.3	7608	
713.00 > 219.00	4.500	4.518	-0.018	1.000	205703		1.50(0.71-2.13)		6009	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.922	4.939	-0.017	1.856	4274994	2.35		93.9	16369	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.922	4.939	-0.017	1.000	1542587	1.03		103	1252	
813.00 > 169.00	4.922	4.939	-0.017	1.000	271572		5.68(2.86-8.58)		4867	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.282	5.306	-0.024	1.000	1948333	1.11		111	739	
913.00 > 169.00	5.282	5.306	-0.024	1.000	250244		7.79(0.00-0.00)		2008	

Report Date: 26-Dec-2017 15:09:57 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_011.d

Injection Date: 22-Dec-2017 22:54:42 Instrument ID: A8_N

Lims ID: LCS 320-201036/2-A

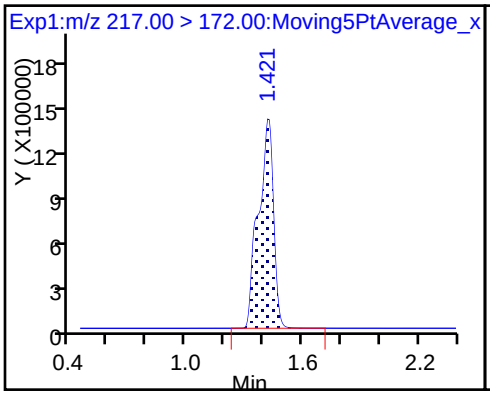
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 6 Worklist Smp#: 3

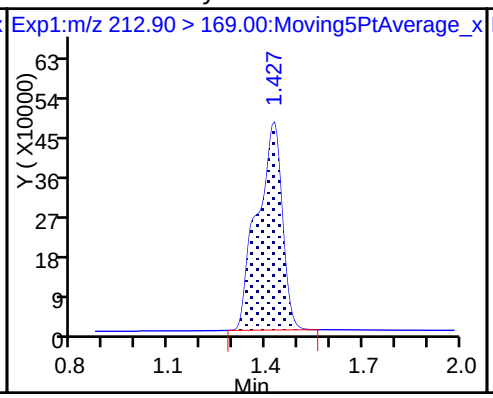
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

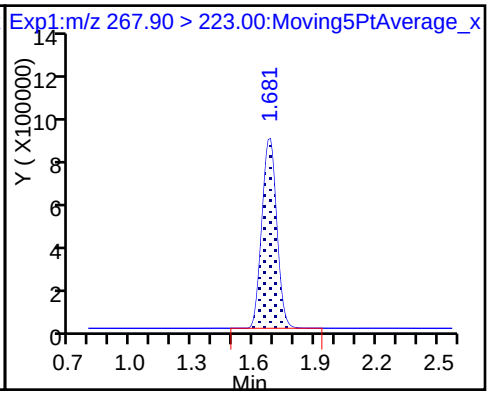
D 1 13C4 PFBA



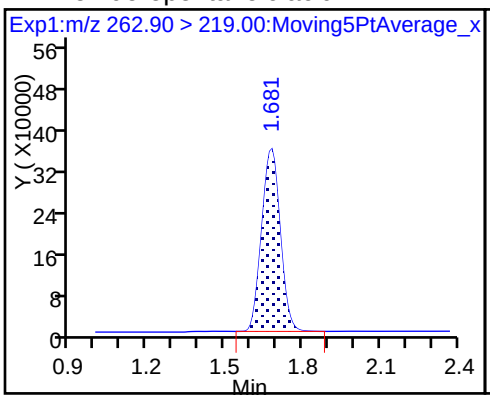
2 Perfluorobutyric acid



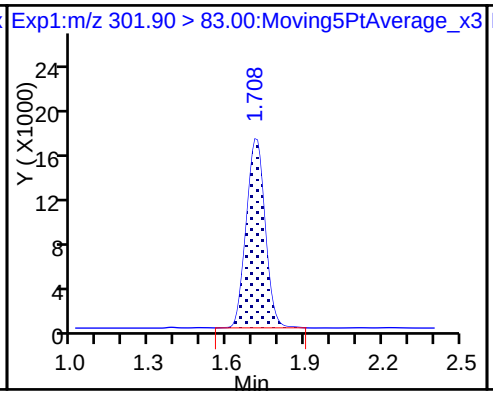
D 3 13C5-PFPeA



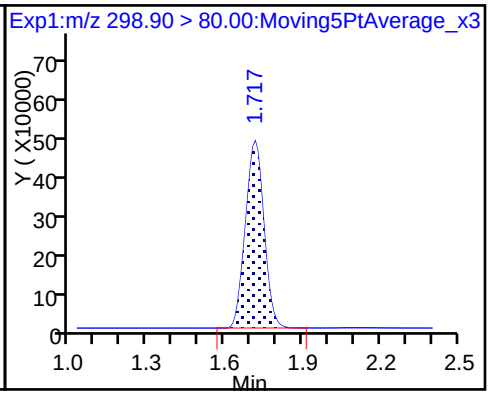
4 Perfluoropentanoic acid



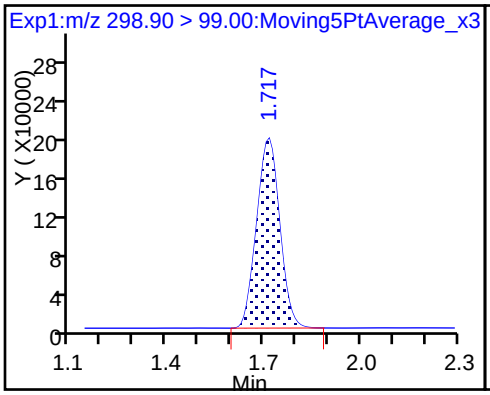
D 47 13C3-PFBS



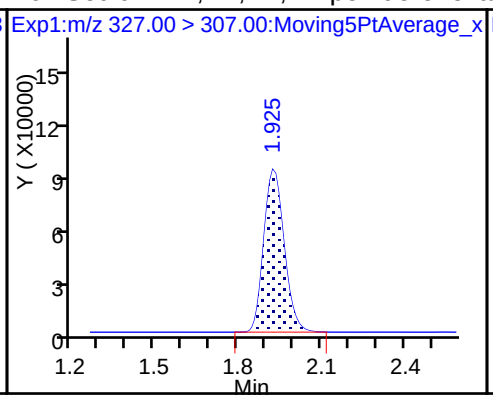
5 Perfluorobutanesulfonic acid



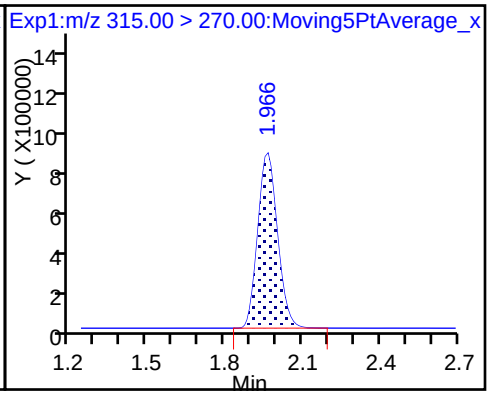
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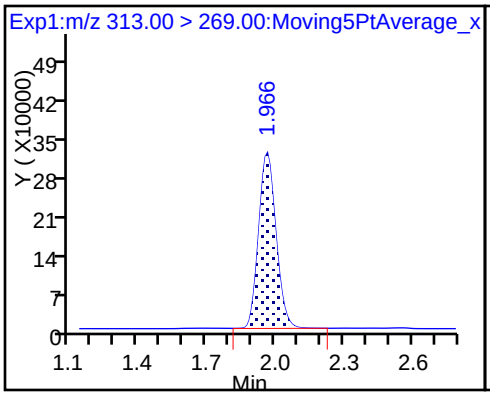
61 Sodium 1H,1H,2H,2H-perfluorohexa



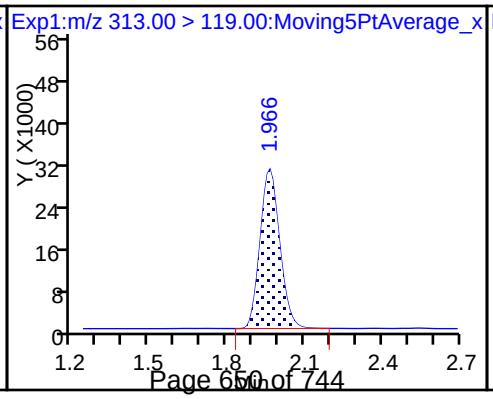
D 7 13C2 PFHxA



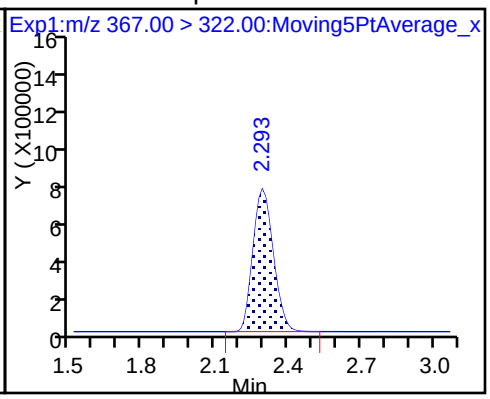
6 Perfluorohexanoic acid



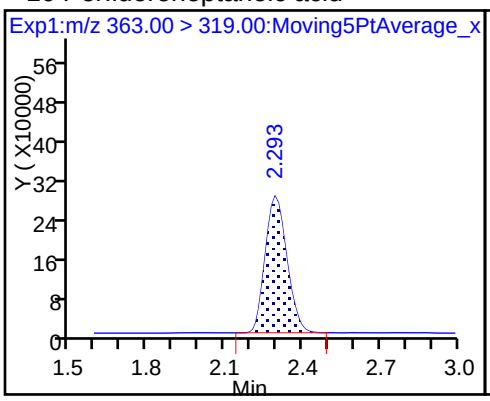
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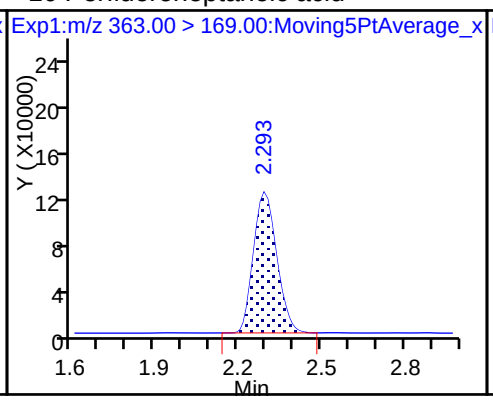
D 9 13C4-PFHpA



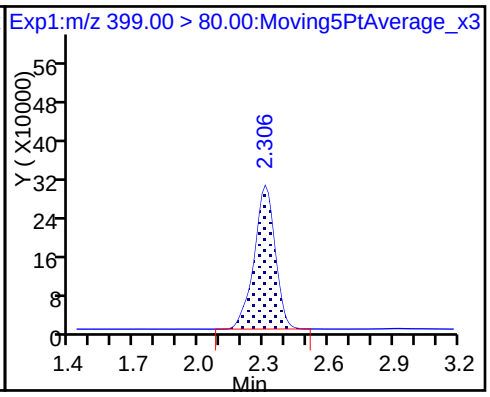
10 Perfluoroheptanoic acid



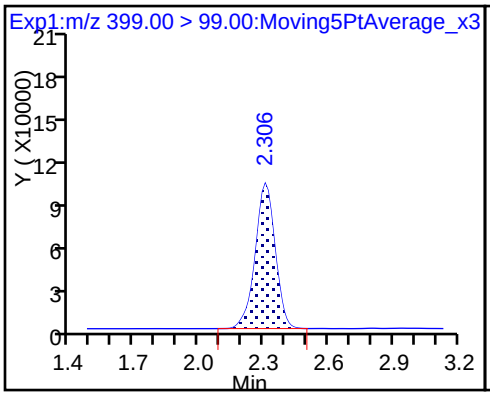
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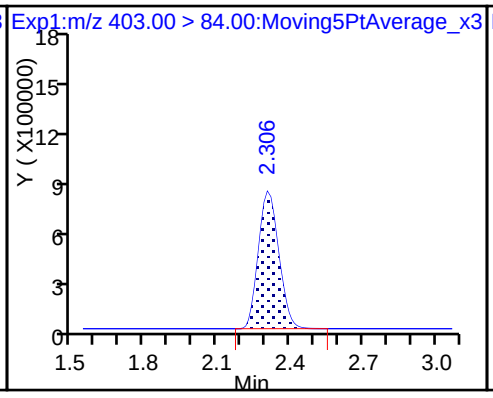
8 Perfluorohexanesulfonic acid



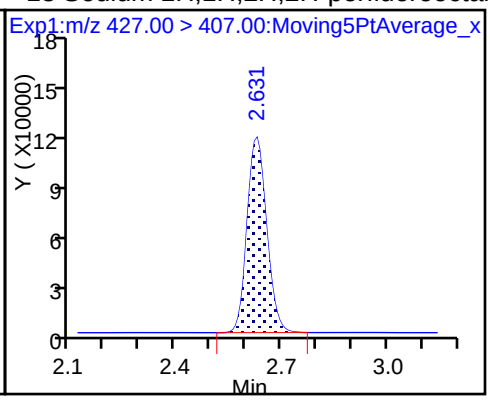
8 Perfluorohexanesulfonic acid



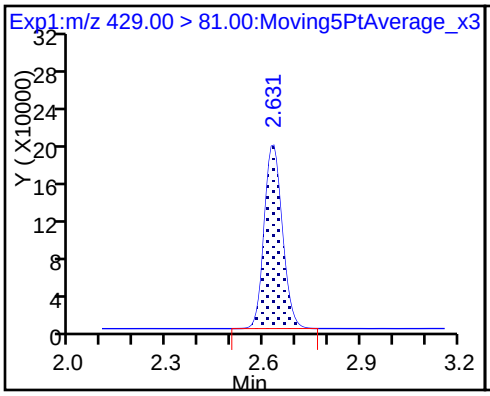
D 11 18O2 PFHxS



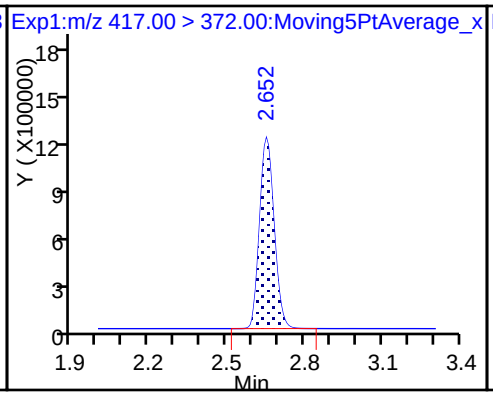
13 Sodium 1H,1H,2H,2H-perfluorooctane



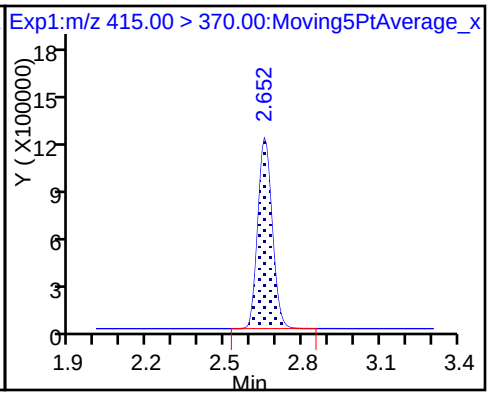
D 12 M2-6:2FTS



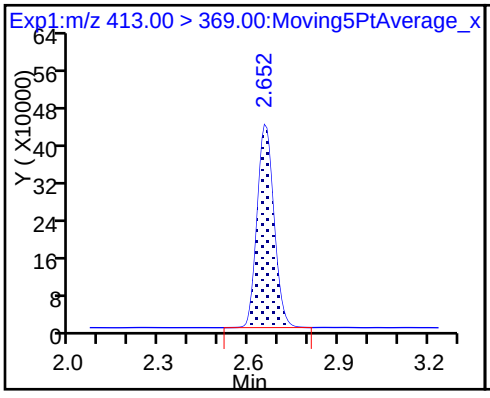
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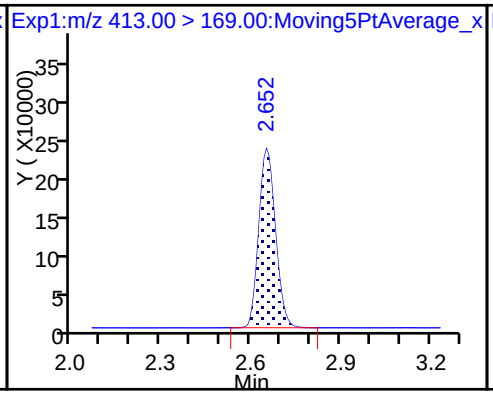
* 62 13C2-PFOA



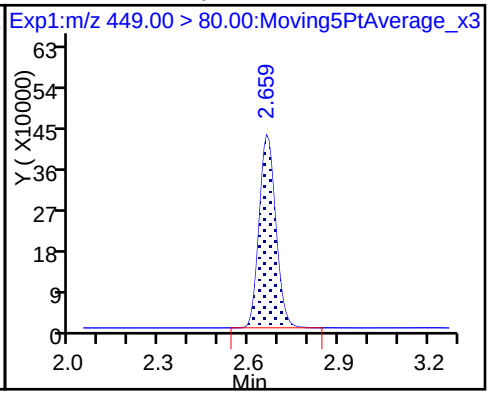
15 Perfluorooctanoic acid



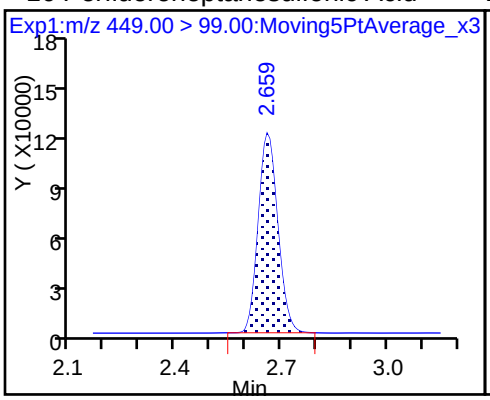
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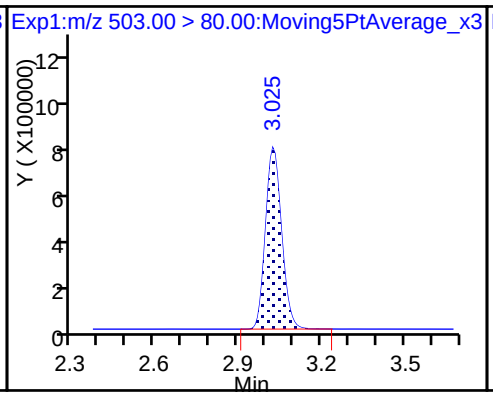
16 Perfluoroheptanesulfonic Acid



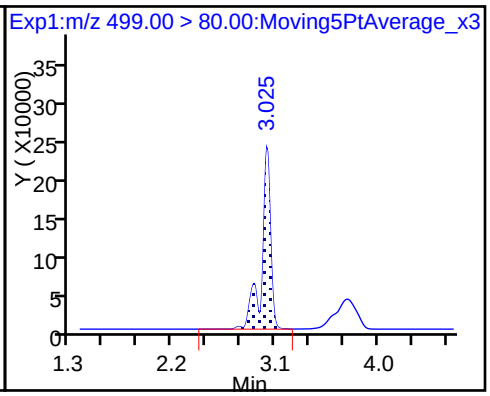
16 Perfluoroheptanesulfonic Acid



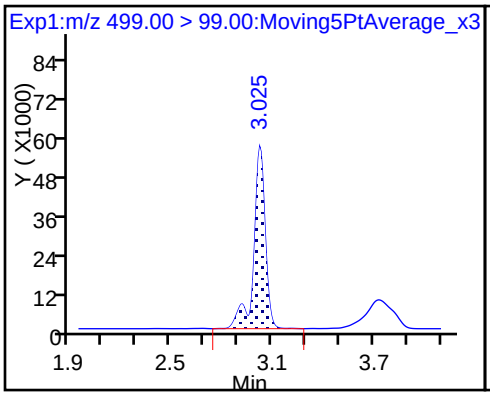
D 18 13C4 PFOS



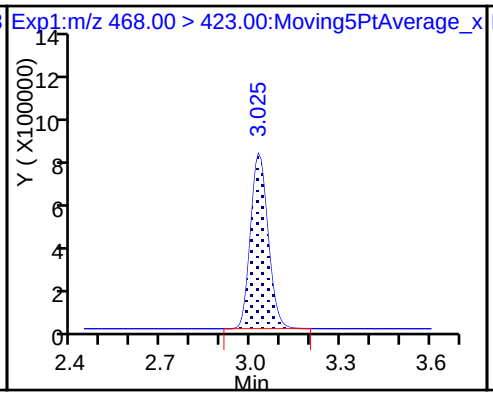
17 Perfluorooctane sulfonic acid



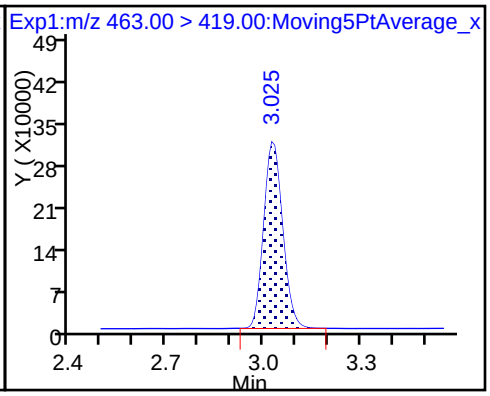
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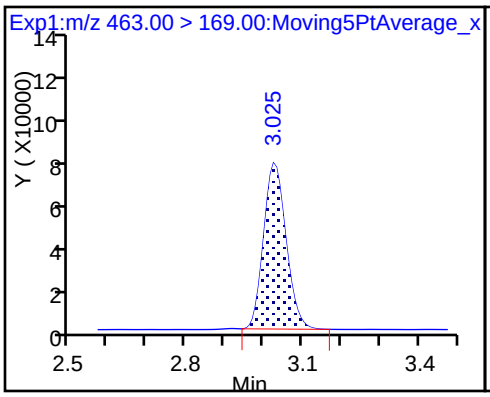
D 19 13C5 PFNA



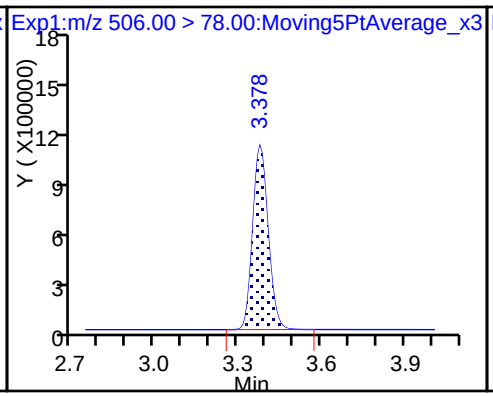
20 Perfluorononanoic acid



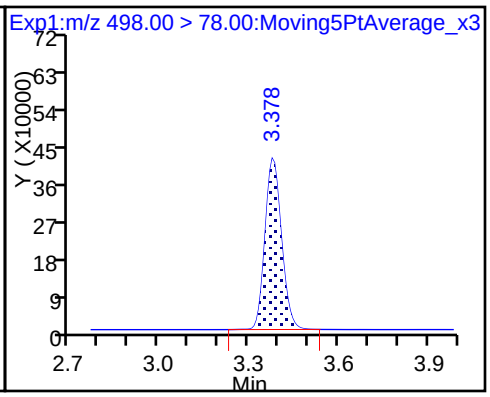
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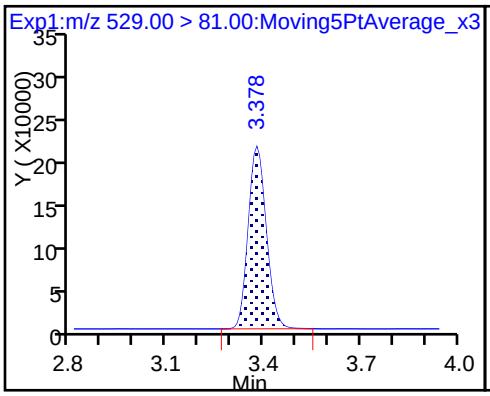
D 21 13C8 FOSA



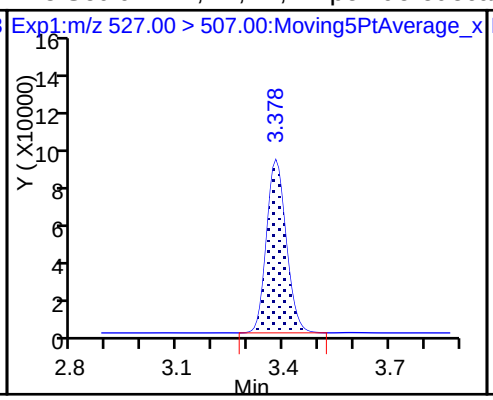
22 Perfluorooctane Sulfonamide



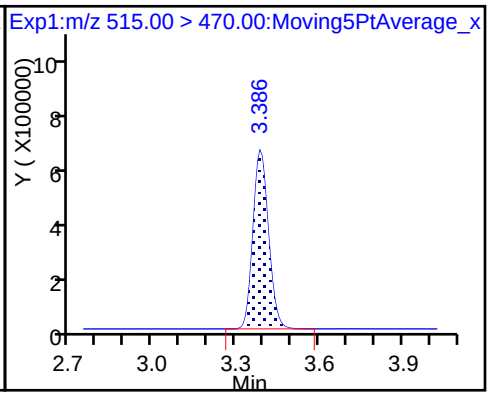
D 26 M2-8:2FTS



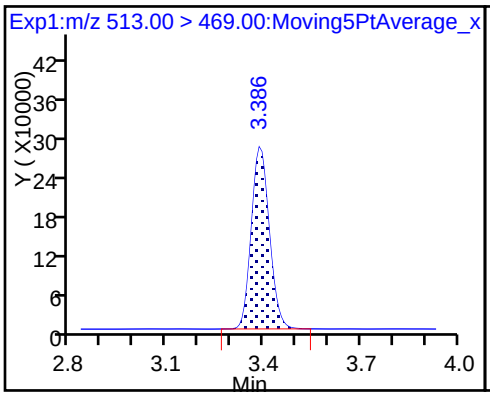
25 Sodium 1H,1H,2H,2H-perfluorodecane



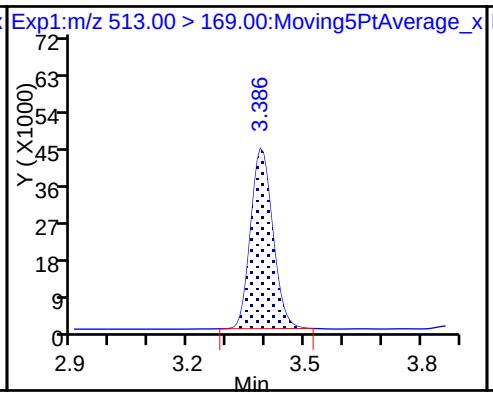
D 23 13C2 PFDA



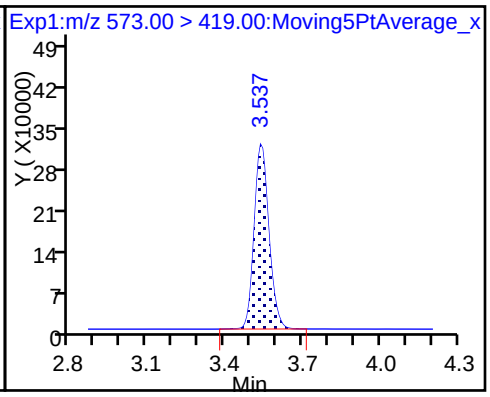
24 Perfluorodecanoic acid



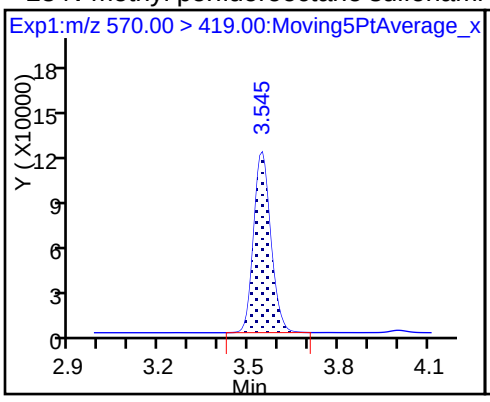
24 Perfluorodecanoic acid



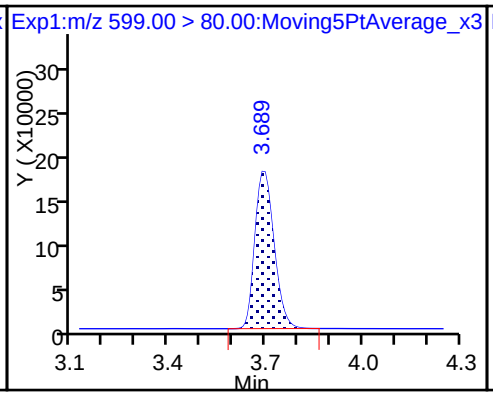
D 27 d3-NMeFOSAA



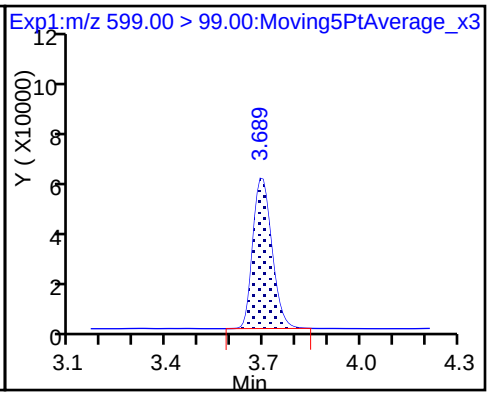
28 N-methyl perfluorooctane sulfonami



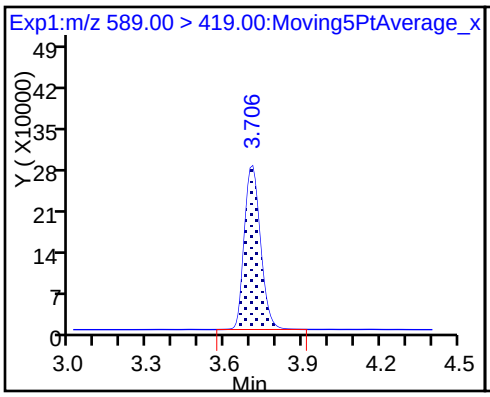
29 Perfluorodecane Sulfonic acid



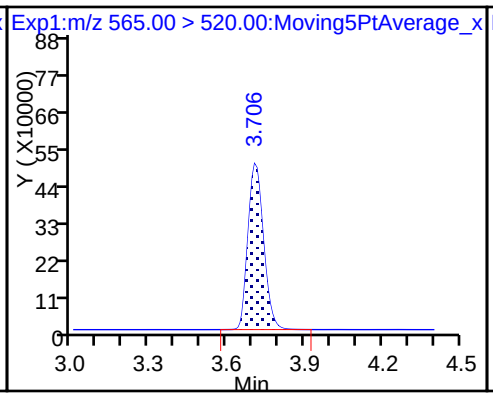
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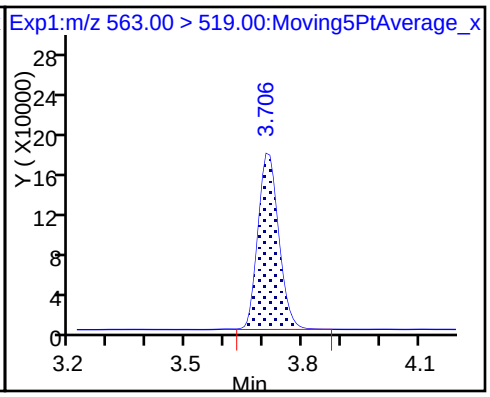
D 32 d5-NEtFOSAA



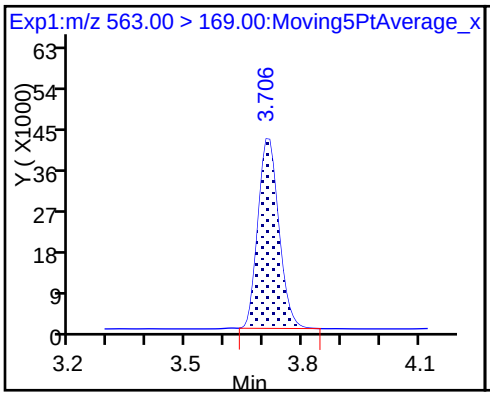
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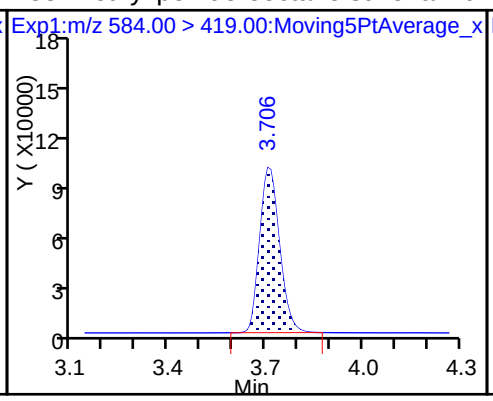
31 Perfluoroundecanoic acid



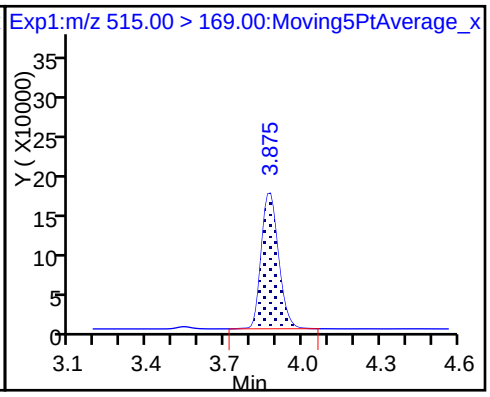
31 Perfluoroundecanoic acid



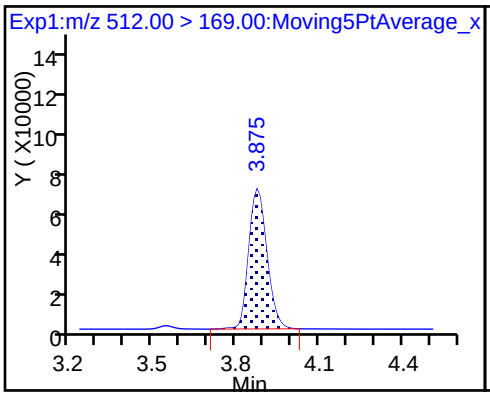
33 N-ethyl perfluorooctane sulfonamid



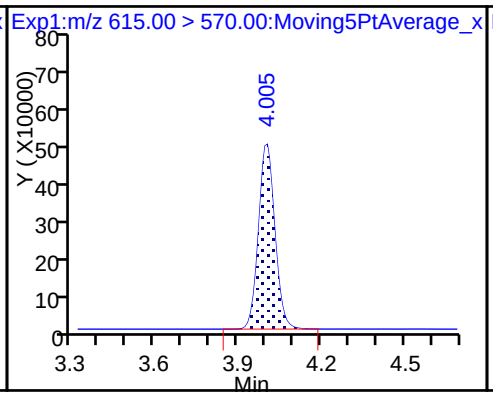
D 34 d-N-MeFOSA-M



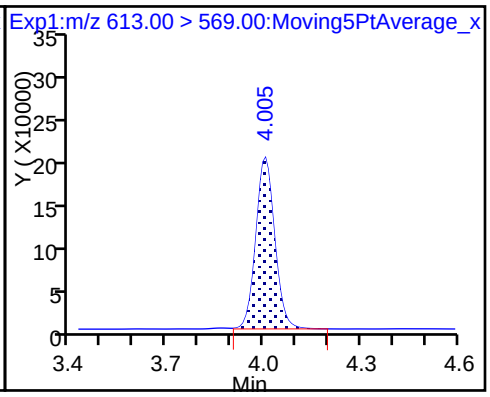
35 MeFOSA



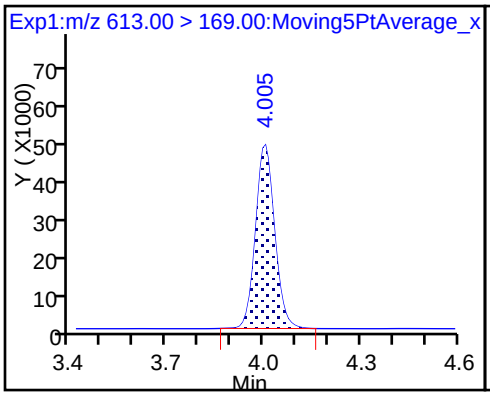
D 36 13C2 PFDoA



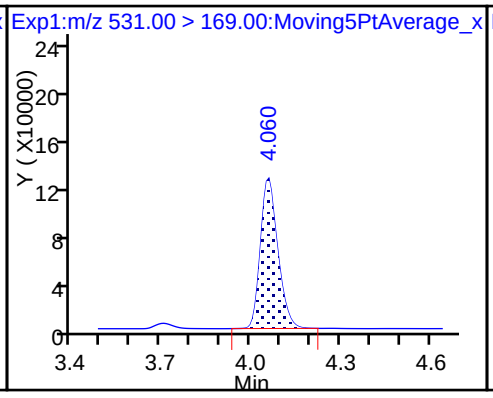
37 Perfluorododecanoic acid



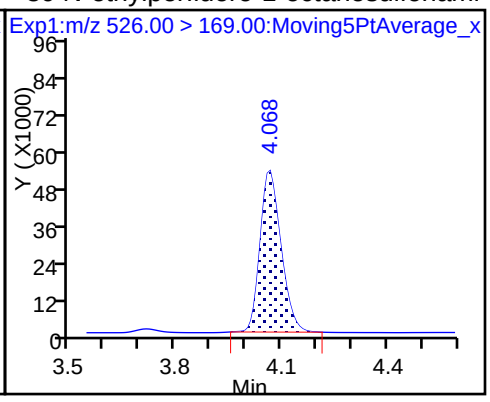
37 Perfluorododecanoic acid



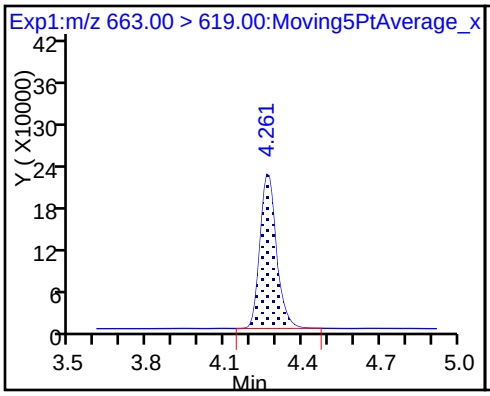
D 38 d-N-EtFOSA-M



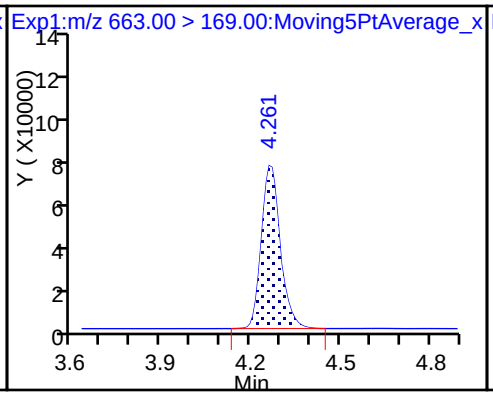
39 N-ethylperfluoro-1-octanesulfonami



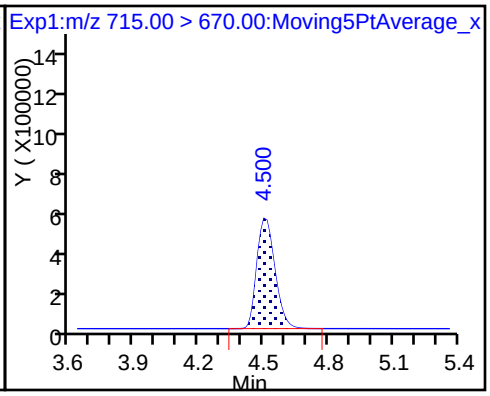
41 Perfluorotridecanoic acid



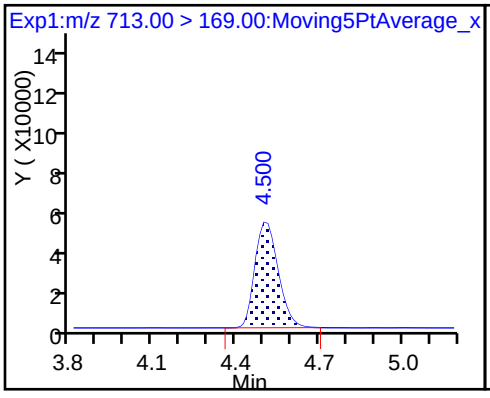
41 Perfluorotridecanoic acid



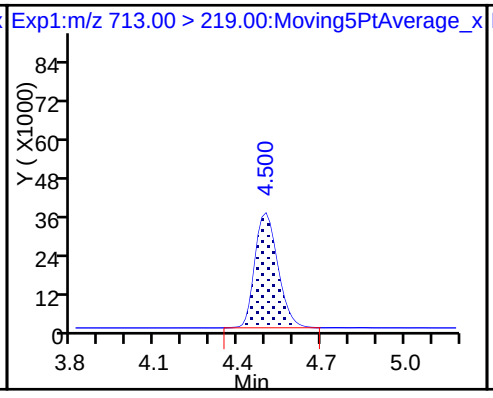
D 43 13C2-PFTeDA



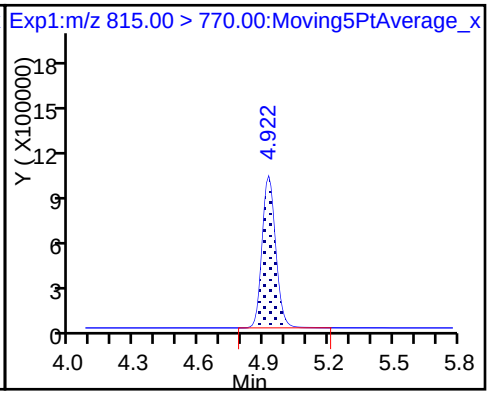
42 Perfluorotetradecanoic acid



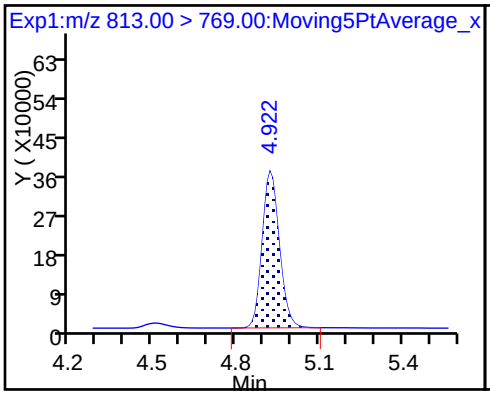
42 Perfluorotetradecanoic acid



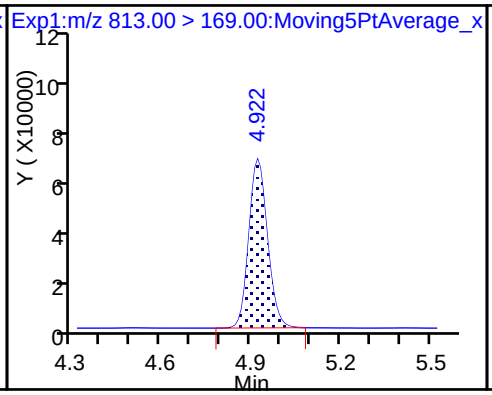
D 44 13C2-PFHxDA



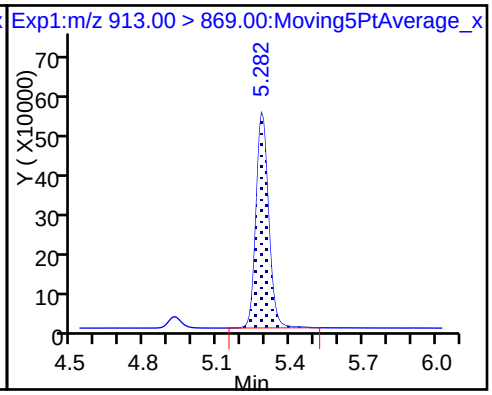
45 Perfluorohexadecanoic acid



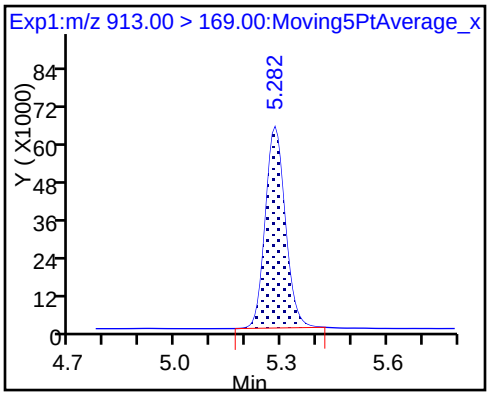
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-201042/2-A

Matrix: Water | Lab File ID: 2017.12.22LLB_038.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 250(mL) | Date Analyzed: 12/23/2017 02:26

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	38.95		2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	37.59		2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	38.41		2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	37.82		2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	34.75		2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	39.20		2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	38.57		2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	34.64		2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	39.05		2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	36.55		2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	38.46		2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	33.81		2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	32.77		2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	35.36		2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	34.56		2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	33.35		2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	37.19		2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	36.71		20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	35.27		20.0	1.90
27619-97-2	6:2FTS	37.70		20.0	2.00
39108-34-4	8:2FTS	36.88		20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-201042/2-A

Matrix: Water | Lab File ID: 2017.12.22LLB_038.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 250(mL) | Date Analyzed: 12/23/2017 02:26

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	104		25-150
STL01893	13C5 PFPeA	102		25-150
STL00993	13C2 PFHxA	101		25-150
STL01892	13C4-PFHpA	104		25-150
STL00990	13C4 PFOA	98		25-150
STL00995	13C5 PFNA	104		25-150
STL00996	13C2 PFDA	104		25-150
STL00997	13C2 PFUnA	97		25-150
STL00998	13C2 PFDoA	98		25-150
STL02116	13C2-PFTeDA	114		25-150
STL02337	13C3-PFBS	105		25-150
STL00994	18O2 PFHxS	104		25-150
STL00991	13C4 PFOS	107		25-150
STL01056	13C8 FOSA	96		25-150
STL02118	d3-NMeFOSAA	85		25-150
STL02117	d5-NEtFOSAA	91		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	80		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_038.d
Lims ID: LCS 320-201042/2-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Dec-2017 02:26:37 ALS Bottle#: 29 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-201042/2-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:44:44

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.421	1.419	0.001	0.537	7287681	2.59		104	18844	
2 Perfluorobutyric acid										
212.90 > 169.00	1.421	1.419	0.001	1.000	2600715	0.9737		97.4	582	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.632	4307846	2.55		102	30839	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.670	0.002	1.000	1807424	0.9397		94.0	2462	
D 47 13C3-PFBS										
301.90 > 83.00	1.708	1.705	0.003	0.646	88023	2.45		105	3649	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.708	1.707	0.001	1.000	2407043	0.8452		95.6	16657	
298.90 > 99.00	1.708	1.707	0.001	1.000	1032604		2.33(1.25-3.74)		8550	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.925	1.920	0.005	1.000	439537	1.59		171	22106	
D 7 13C2 PFHxA										
315.00 > 270.00	1.956	1.953	0.003	0.739	4548502	2.53		101	40120	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.956	1.956	0.0	1.000	1749093	0.9602		96.0	4770	
313.00 > 119.00	1.956	1.956	0.0	1.000	162488		10.76(5.03-15.10)		3447	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.867	4327016	2.60		104	37651	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	1711872	0.9455		94.5	4084	
363.00 > 169.00	2.293	2.291	0.002	1.000	690863		2.48(1.13-3.40)		5001	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.307	2.304	0.002	1.000	1924225	0.8193		90.0	5182	
399.00 > 99.00	2.307	2.304	0.002	1.000	673450		2.86(1.50-4.49)		570	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.307	2.304	0.002	0.872	5160084	2.45		104	50016	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.642	-0.018	1.000	490501	0.9426		99.4	12863	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.642	-0.018	0.992	797401	1.03		43.3	19181	
D 14 13C4 PFOA										
417.00 > 372.00	2.645	2.654	-0.009	1.000	4711520	2.46		98.4	49291	
* 62 13C2-PFOA										
415.00 > 370.00	2.645	2.656	-0.011		4634345	2.50			44631	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.652	2.656	-0.004	1.003	1721664	0.8687		86.9	2966	
413.00 > 169.00	2.645	2.656	-0.011	1.000	950023		1.81(0.84-2.52)		7753	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.659	2.662	-0.003	1.000	1719574	0.8841		92.9	20546	
449.00 > 99.00	2.652	2.662	-0.010	0.997	466489		3.69(1.94-5.82)		12227	
D 18 13C4 PFOS										
503.00 > 80.00	3.025	3.025	0.0	1.144	3550009	2.56		107	33086	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.025	3.028	-0.003	1.000	1360303	0.8639		93.1	155	
499.00 > 99.00	3.025	3.028	-0.003	1.000	305440		4.45(2.31-6.93)		212	
D 19 13C5 PFNA										
468.00 > 423.00	3.025	3.028	-0.003	1.144	3537249	2.60		104	48330	
20 Perfluorononanoic acid										
463.00 > 419.00	3.025	3.029	-0.004	1.000	1395186	0.9800		98.0	6533	
463.00 > 169.00	3.025	3.029	-0.004	1.000	338388		4.12(1.90-5.69)		7021	
D 21 13C8 FOSA										
506.00 > 78.00	3.372	3.370	0.002	1.275	4541412	2.40		96.2	27104	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.372	3.372	0.0	1.000	1620252	0.9299		93.0	22379	
D 26 M2-8:2FTS										
529.00 > 81.00	3.379	3.377	0.002	1.278	832278	1.92		80.2	19809	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.379	3.377	0.002	1.000	389466	0.9220		96.2	16741	
D 23 13C2 PFDA										
515.00 > 470.00	3.387	3.389	-0.002	1.280	2924347	2.61		104	33303	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.387	3.390	-0.003	1.000	1090994	0.9642		96.4	6666	
513.00 > 169.00	3.387	3.390	-0.003	1.000	198599		5.49(2.36-7.09)		3113	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.538	3.543	-0.005	1.338	1286705	2.14		85.5	16392	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.538	3.548	-0.010	1.000	507065	0.9177		91.8	5379	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.690	3.703	-0.013	1.000	764825	0.8337		86.5	17276	
599.00 > 99.00	3.690	3.703	-0.013	1.000	247078		3.10(1.39-4.16)		6074	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.712	-0.013	1.398	1343925	2.28		91.4	7677	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.707	3.717	-0.010	1.402	2064921	2.42		96.7	26308	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.707	3.718	-0.011	1.000	655161	0.8659		86.6	5701	
563.00 > 169.00	3.707	3.718	-0.011	1.000	151656		4.32(0.00-0.00)		10439	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.707	3.720	-0.013	1.002	470935	0.8817		88.2	10307	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.856	3.862	-0.006	1.458	717229	1.33		53.3	2280	
35 MeFOSA										
512.00 > 169.00	3.866	3.872	-0.006	1.003	283989	1.01		101	2335	
D 36 13C2 PFDoA										
615.00 > 570.00	3.998	4.011	-0.013	1.512	2252472	2.44		97.8	31382	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.006	4.011	-0.005	1.002	873108	0.9764		97.6	5012	
613.00 > 169.00	3.998	4.011	-0.013	1.000	215690		4.05(2.13-6.40)		8947	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.045	4.052	-0.007	1.529	376478	0.7286		29.1	1056	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.053	4.058	-0.005	1.002	167925	1.05		105	909	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.262	4.277	-0.015	1.000	954671	0.9137		91.4	7551	
663.00 > 169.00	4.262	4.277	-0.015	1.000	300577		3.18(1.25-3.76)		17211	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.707	2930726	2.85		114	26301	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.501	4.518	-0.017	0.997	290527	0.9616		96.2	8287	
713.00 > 219.00	4.501	4.518	-0.017	0.997	196834		1.48(0.71-2.13)		8624	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.932	4.939	-0.007	1.864	4353227	2.32		92.9	15106	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.932	4.939	-0.007	1.000	1603828	1.05		105	1250	
813.00 > 169.00	4.932	4.939	-0.007	1.000	292389		5.49(2.86-8.58)		4221	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.296	5.306	-0.010	1.000	1983089	1.11		111	698	
913.00 > 169.00	5.289	5.306	-0.017	0.999	253681		7.82(0.00-0.00)		1746	

Report Date: 26-Dec-2017 16:04:30 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_038.d

Injection Date: 23-Dec-2017 02:26:37 Instrument ID: A8_N

Lims ID: LCS 320-201042/2-A

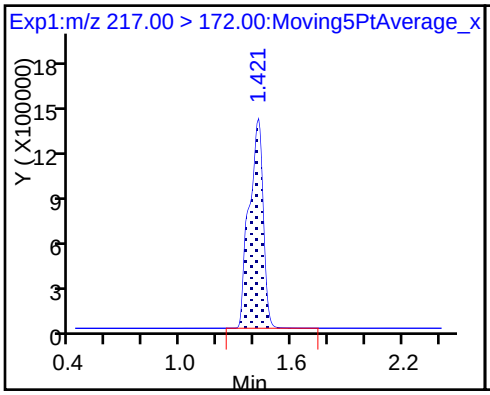
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 29 Worklist Smp#: 3

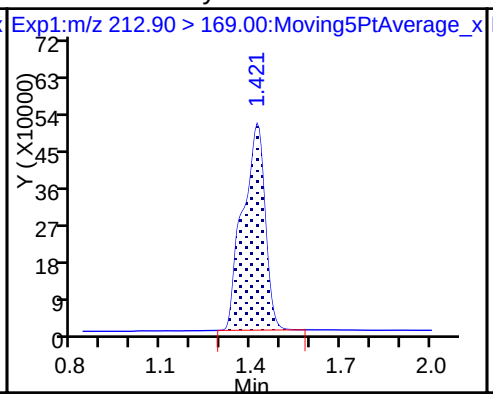
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

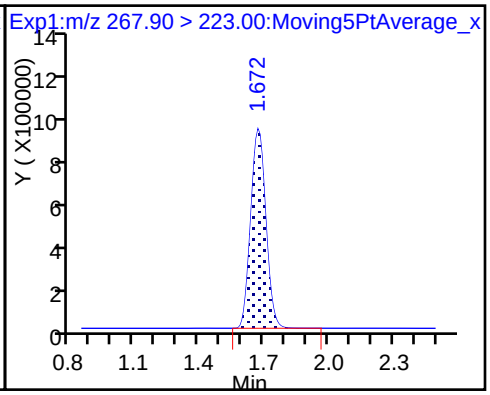
D 1 13C4 PFBA



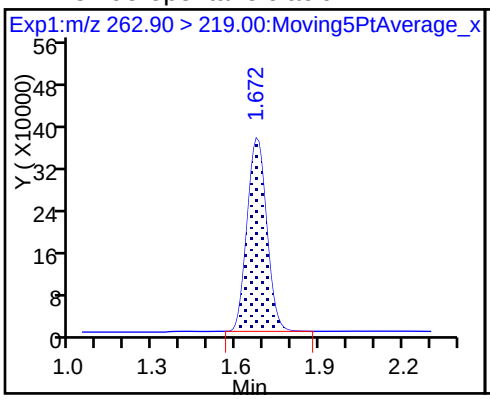
2 Perfluorobutyric acid



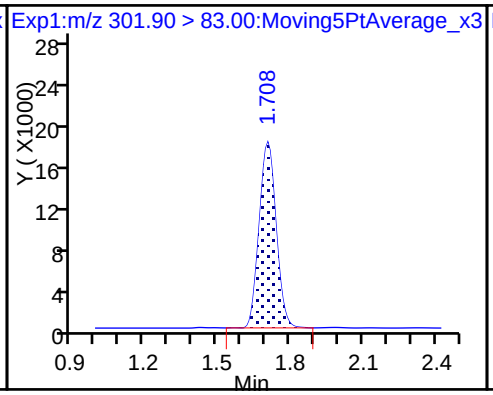
D 3 13C5-PFPeA



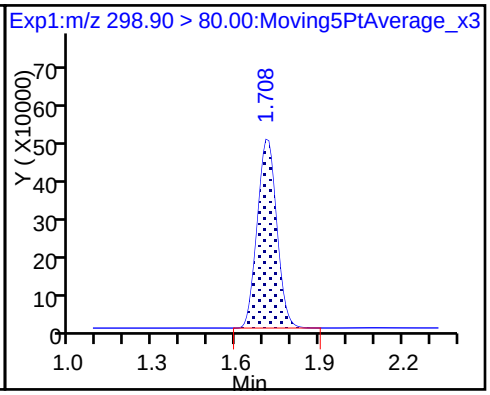
4 Perfluoropentanoic acid



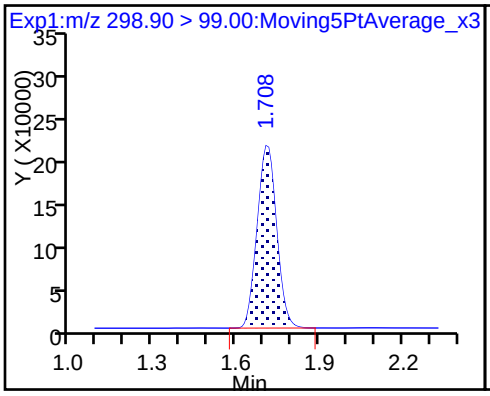
D 47 13C3-PFBS



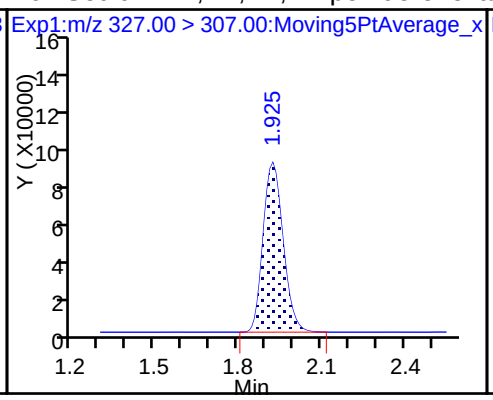
5 Perfluorobutanesulfonic acid



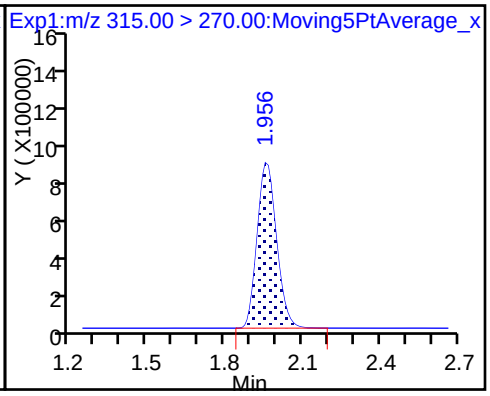
5 Perfluorobutanesulfonic acid



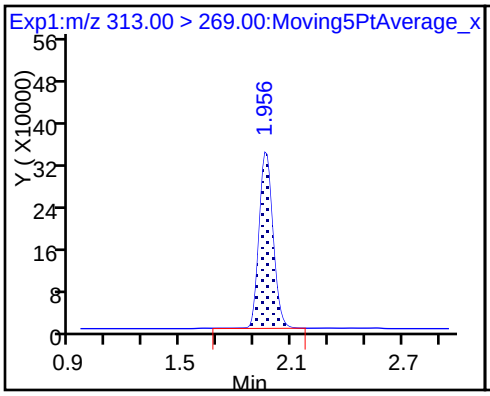
61 Sodium 1H,1H,2H,2H-perfluorohexa



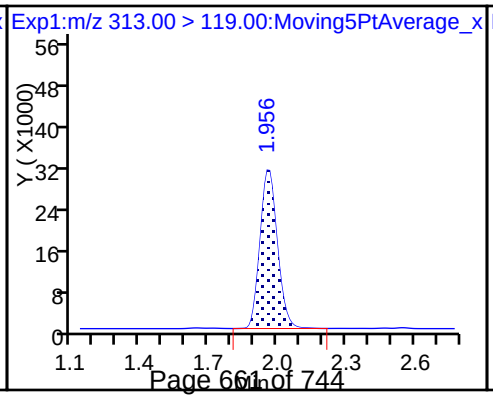
D 7 13C2 PFHxA



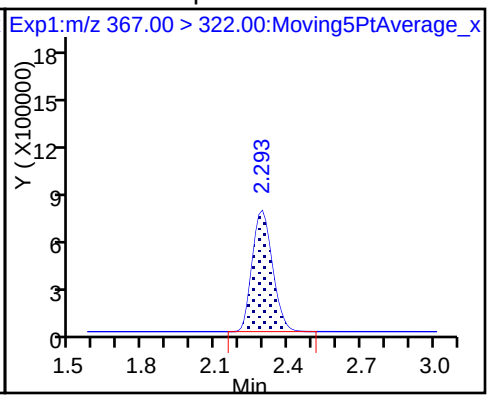
6 Perfluorohexanoic acid



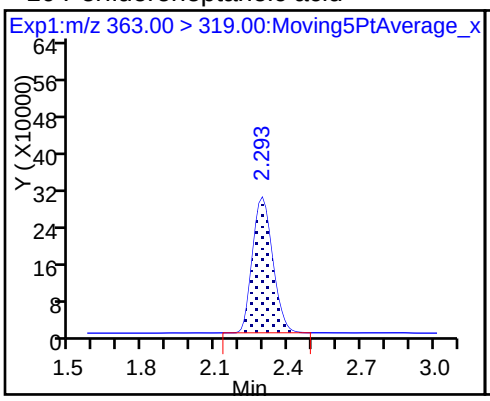
6 Perfluorohexanoic acid



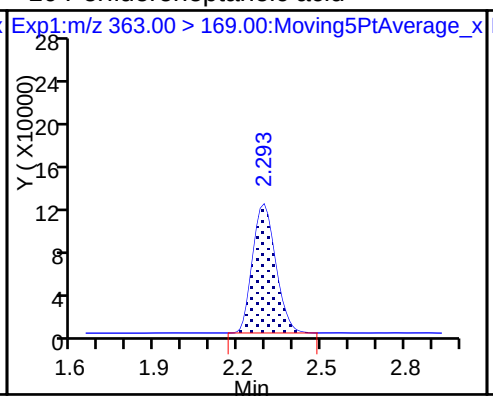
D 9 13C4-PFHpA



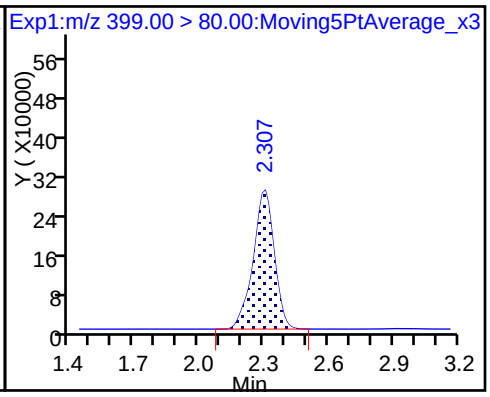
10 Perfluoroheptanoic acid



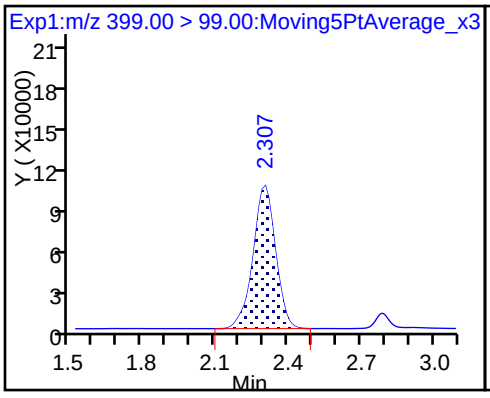
10 Perfluoroheptanoic acid



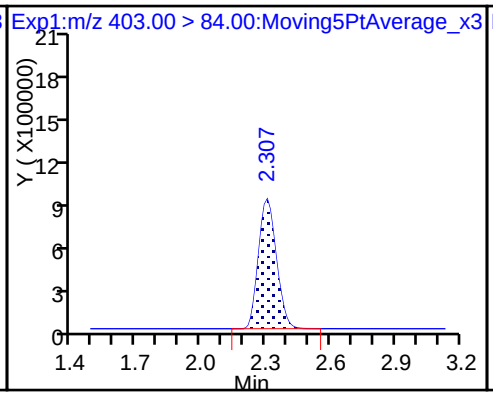
8 Perfluorohexanesulfonic acid



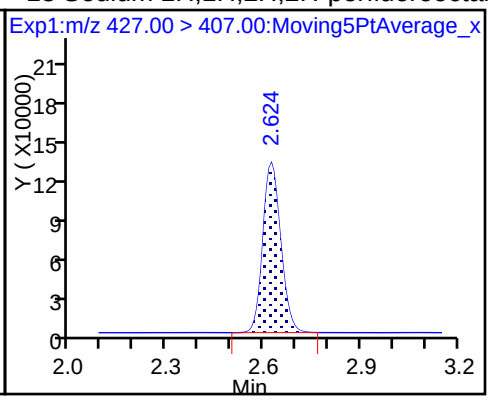
8 Perfluorohexanesulfonic acid



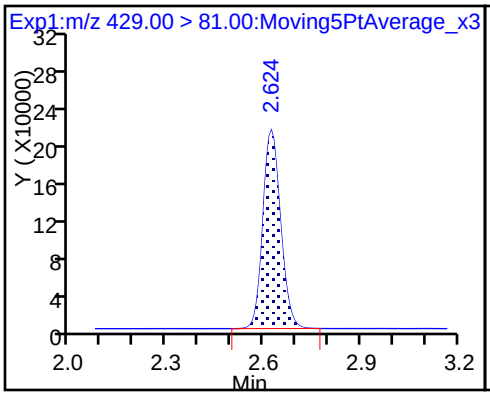
D 11 18O2 PFHxS



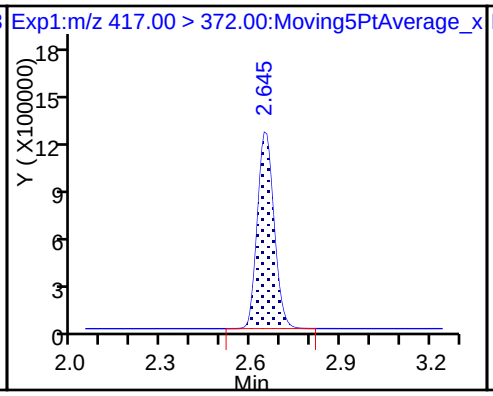
13 Sodium 1H,1H,2H,2H-perfluorooctane



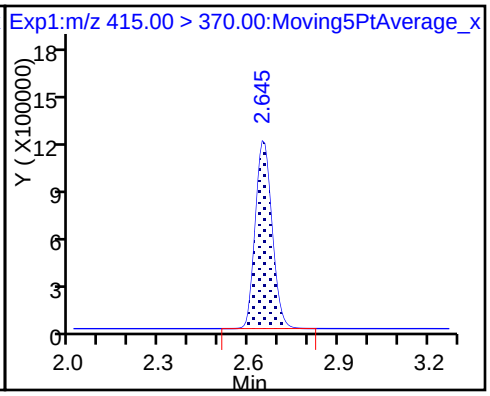
D 12 M2-6:2FTS



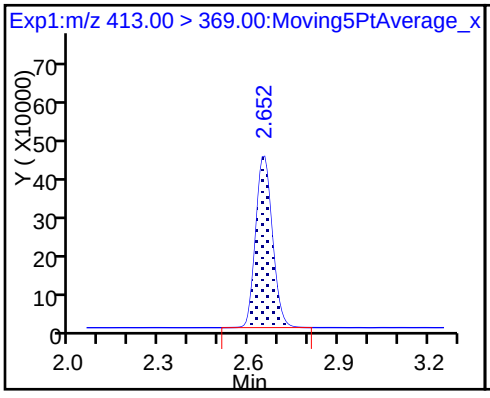
D 14 13C4 PFOA



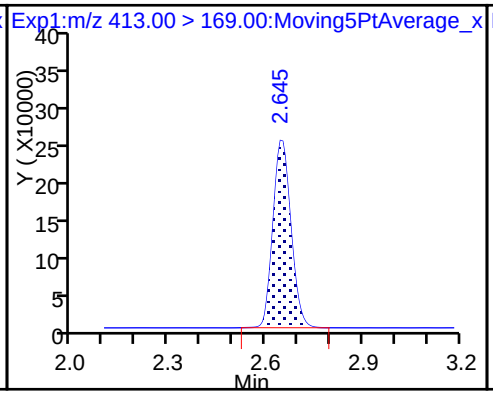
* 62 13C2-PFOA



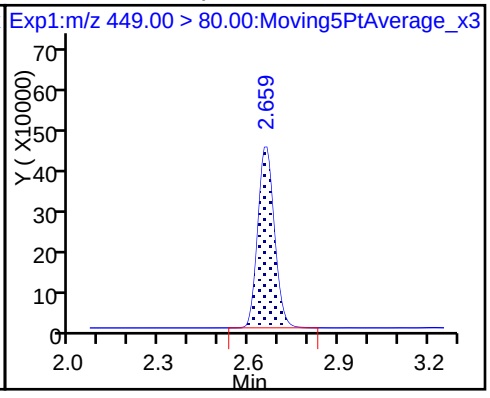
15 Perfluorooctanoic acid



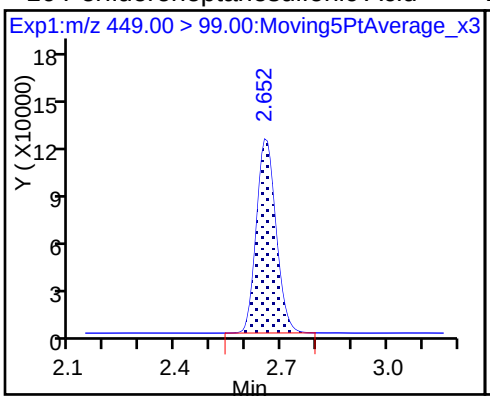
15 Perfluorooctanoic acid



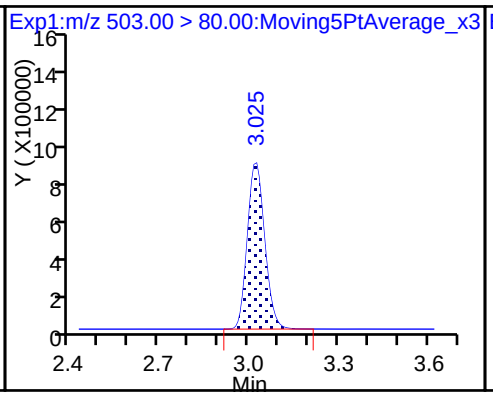
16 Perfluoroheptanesulfonic Acid



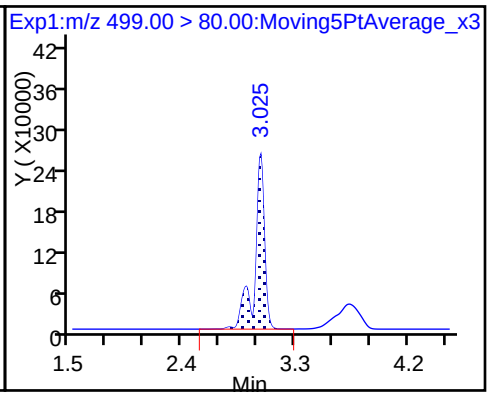
16 Perfluoroheptanesulfonic Acid



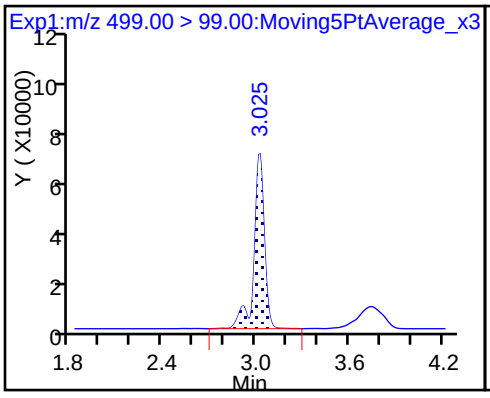
D 18 13C4 PFOS



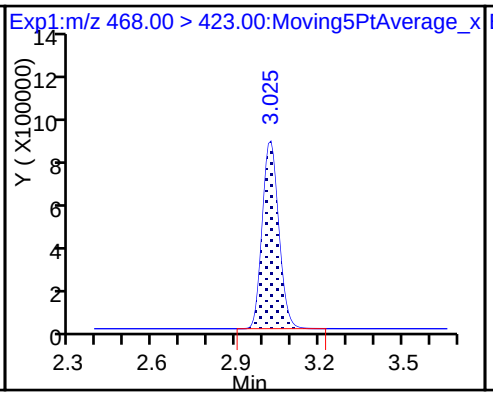
17 Perfluorooctane sulfonic acid



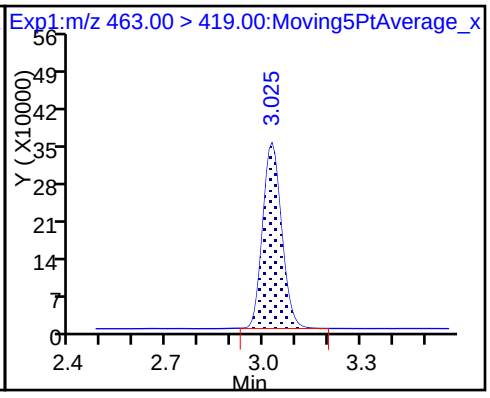
17 Perfluorooctane sulfonic acid



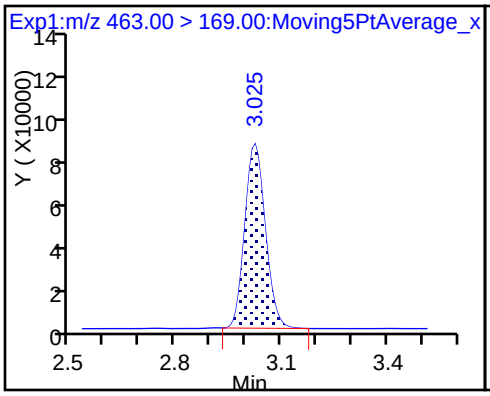
D 19 13C5 PFNA



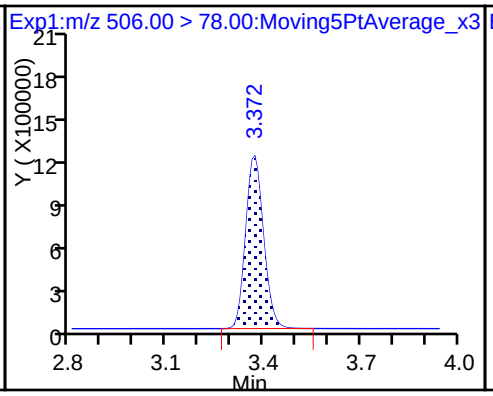
20 Perfluorononanoic acid



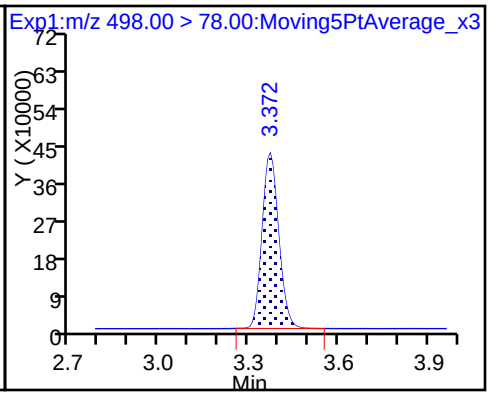
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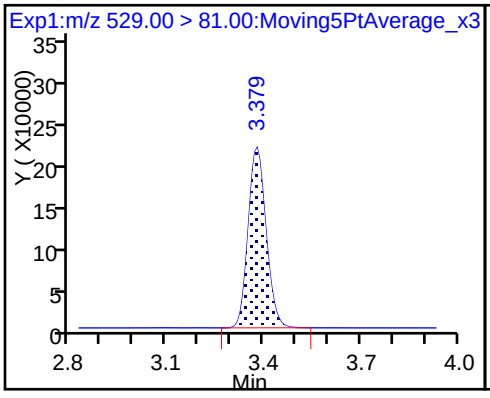
D 21 13C8 FOSA



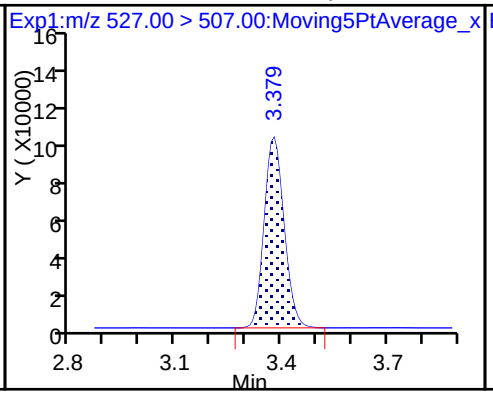
22 Perfluorooctane Sulfonamide



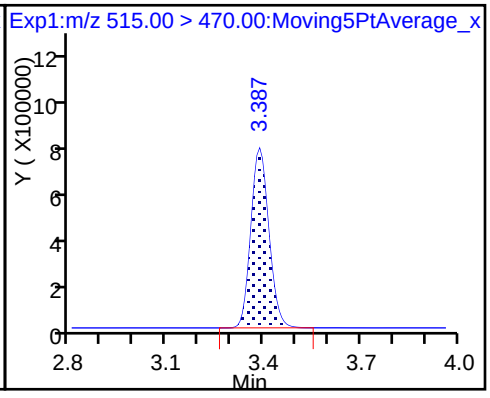
D 26 M2-8:2FTS



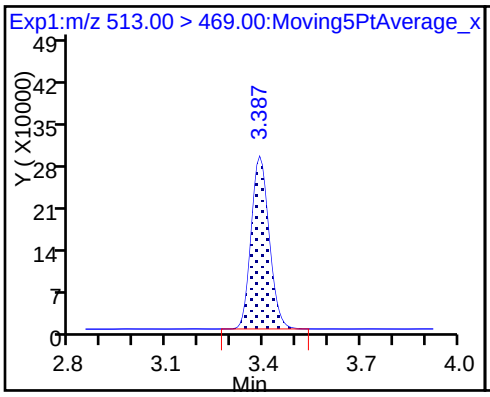
25 Sodium 1H,1H,2H,2H-perfluorodecane



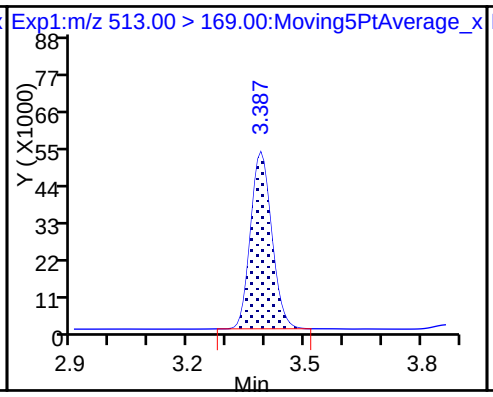
D 23 13C2 PFDA



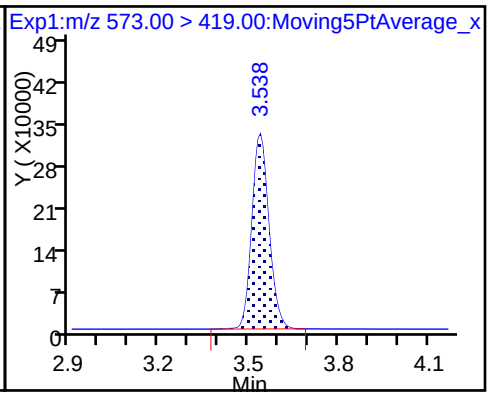
24 Perfluorodecanoic acid



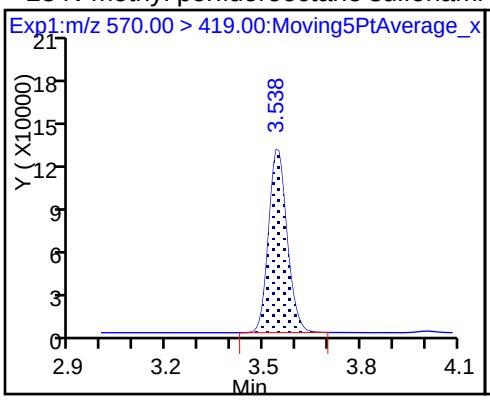
24 Perfluorodecanoic acid



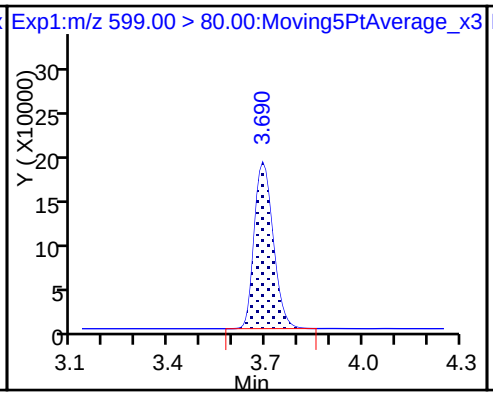
D 27 d3-NMeFOSAA



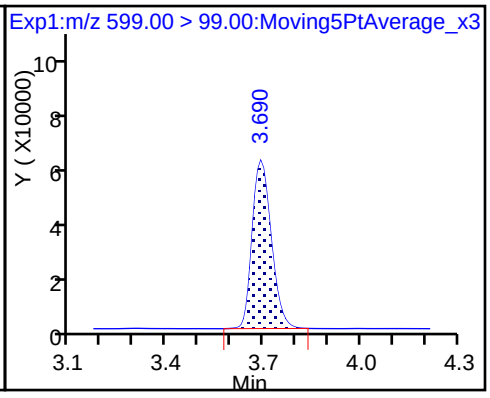
28 N-methyl perfluorooctane sulfonami



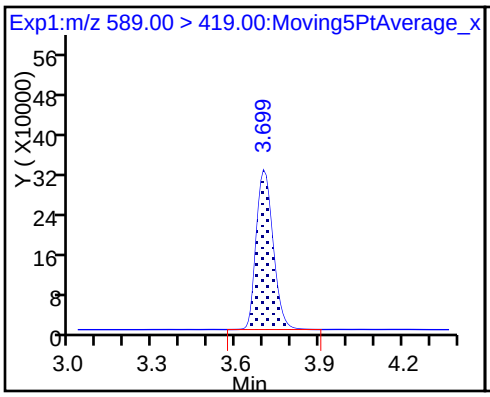
29 Perfluorodecane Sulfonic acid



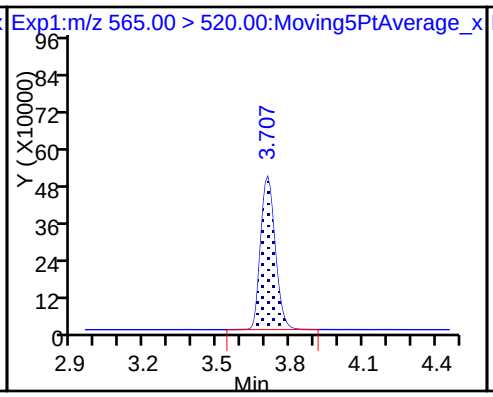
29 Perfluorodecane Sulfonic acid



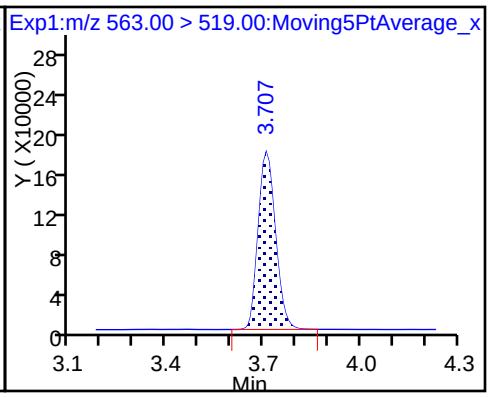
D 32 d5-NEtFOSAA



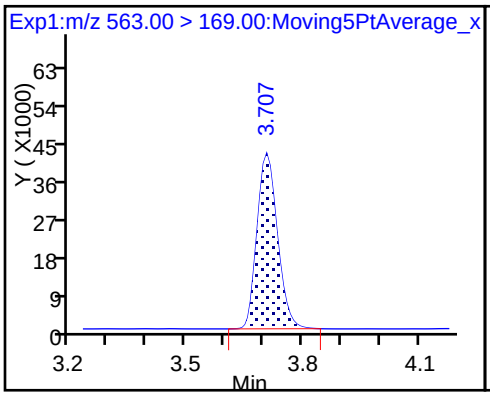
D 30 13C2 PFUnA



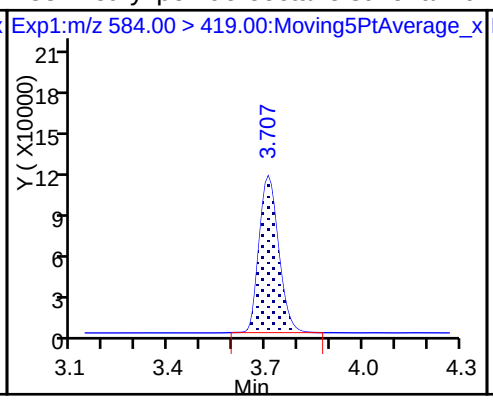
31 Perfluoroundecanoic acid



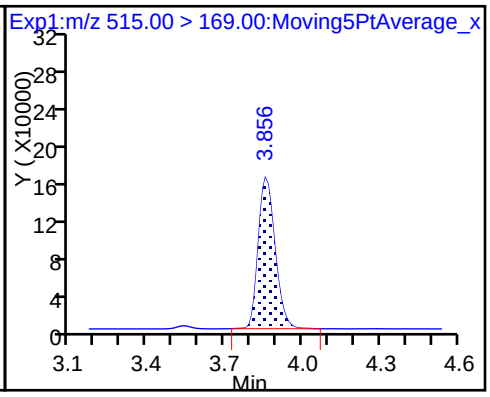
31 Perfluoroundecanoic acid



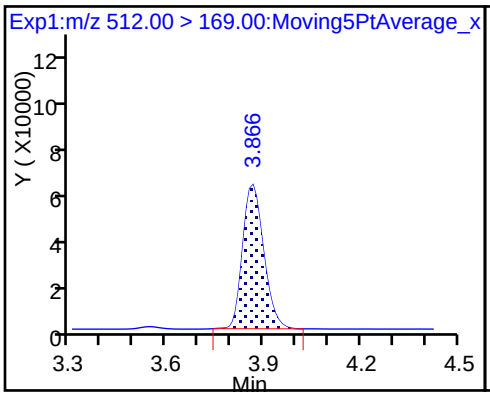
33 N-ethyl perfluorooctane sulfonamid



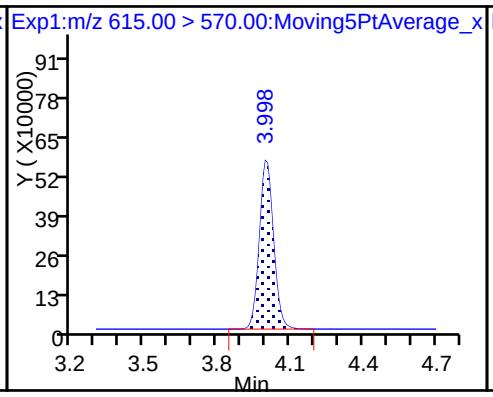
D 34 d-N-MeFOSA-M



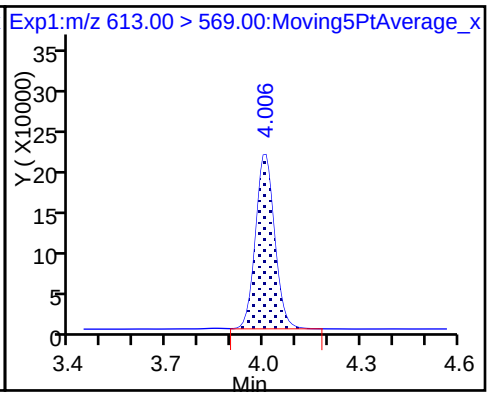
35 MeFOSA



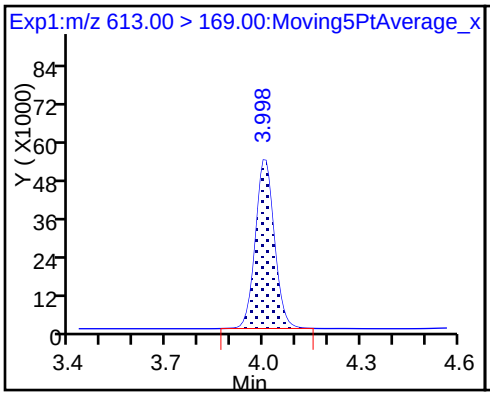
D 36 13C2 PFDoA



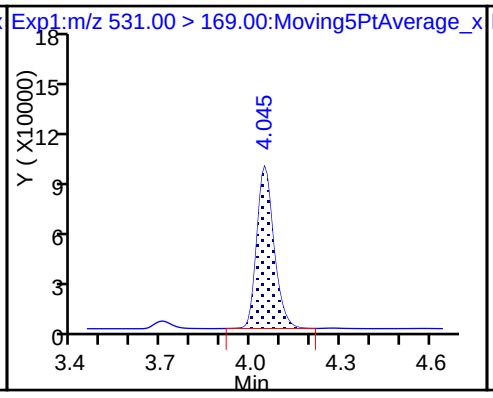
37 Perfluorododecanoic acid



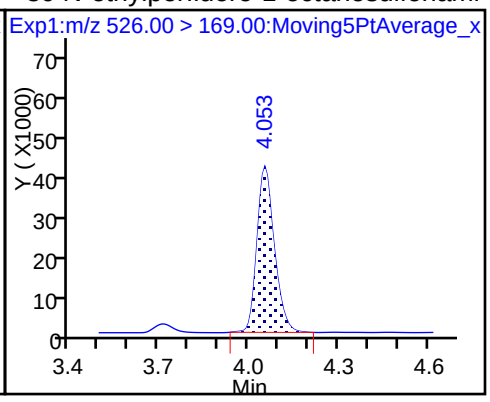
37 Perfluorododecanoic acid



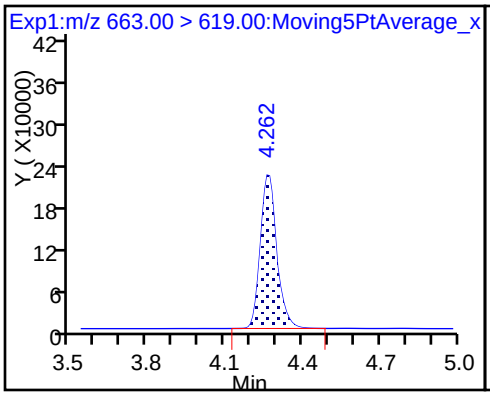
D 38 d-N-EtFOSA-M



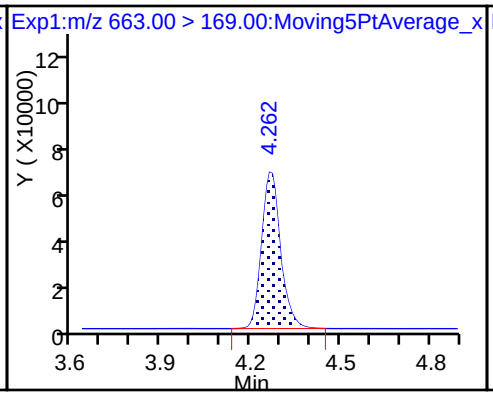
39 N-ethylperfluoro-1-octanesulfonami



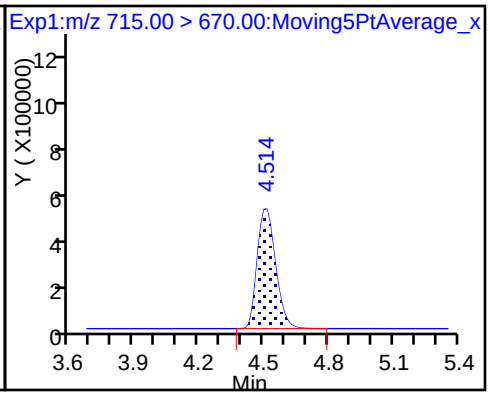
41 Perfluorotridecanoic acid



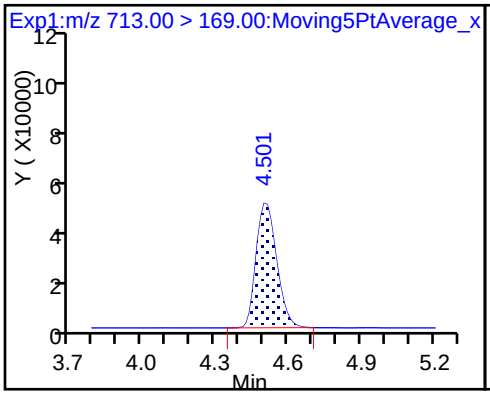
41 Perfluorotridecanoic acid



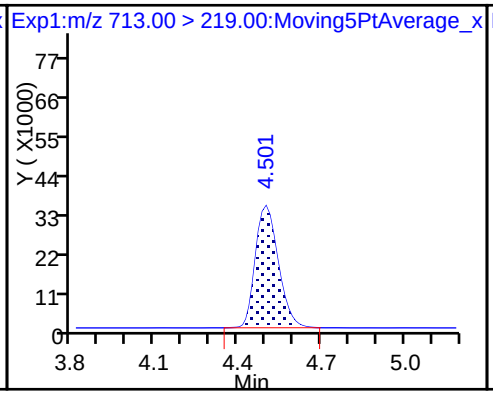
D 43 13C2-PFTeDA



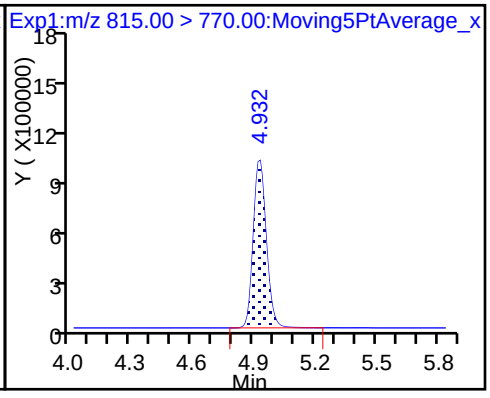
42 Perfluorotetradecanoic acid



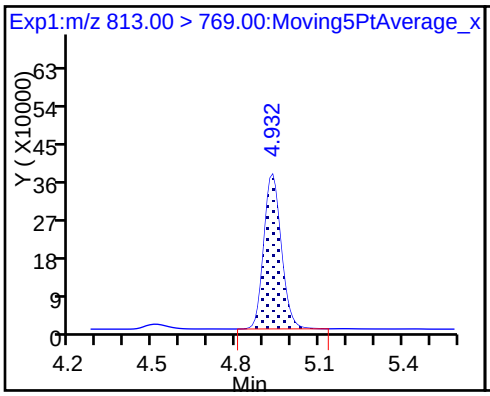
42 Perfluorotetradecanoic acid



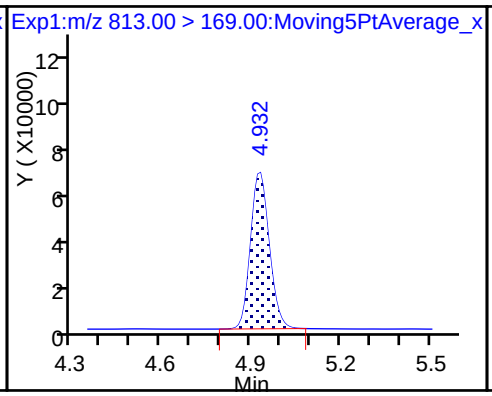
D 44 13C2-PFHxDA



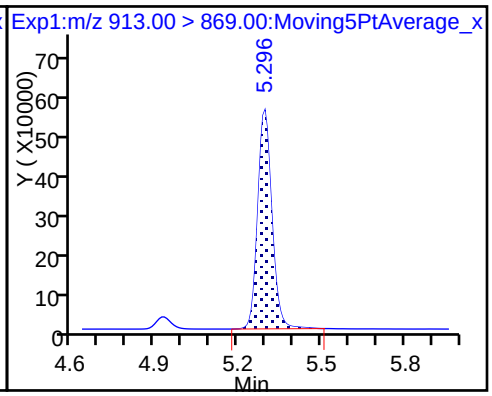
45 Perfluorohexadecanoic acid



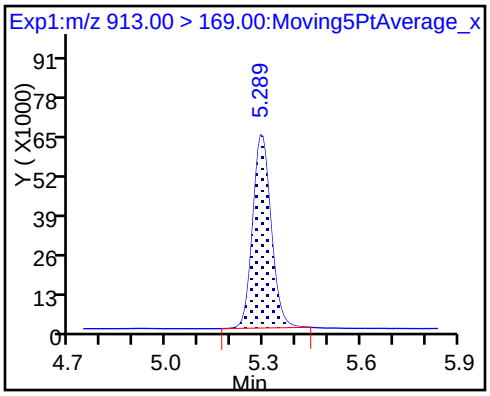
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 320-201036/3-A

Matrix: Water | Lab File ID: 2017.12.22LLB_012.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 250(mL) | Date Analyzed: 12/22/2017 23:02

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	39.36		2.00	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	40.96		2.00	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	39.52		2.00	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	36.12		2.00	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	38.13		2.00	0.85
375-95-1	Perfluorononanoic acid (PFNA)	40.06		2.00	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	38.68		2.00	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	37.99		2.00	1.10
307-55-1	Perfluorododecanoic acid (PFDoA)	39.74		2.00	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	37.31		2.00	1.30
376-06-7	Perfluorotetradecanoic acid (PFTeA)	38.70		2.00	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	39.70		2.00	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	34.88		2.00	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	40.53		2.00	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	36.97		2.00	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	37.50		2.00	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	39.51		2.00	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	39.94		20.0	3.10
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	38.01		20.0	1.90
27619-97-2	6:2FTS	37.63		20.0	2.00
39108-34-4	8:2FTS	36.70		20.0	2.00

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 320-201036/3-A

Matrix: Water | Lab File ID: 2017.12.22LLB_012.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:51

Sample wt/vol: 250(mL) | Date Analyzed: 12/22/2017 23:02

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201221 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	108		25-150
STL01893	13C5 PFPeA	102		25-150
STL00993	13C2 PFHxA	101		25-150
STL01892	13C4-PFHpA	110		25-150
STL00990	13C4 PFOA	95		25-150
STL00995	13C5 PFNA	100		25-150
STL00996	13C2 PFDA	106		25-150
STL00997	13C2 PFUnA	95		25-150
STL00998	13C2 PFDoA	100		25-150
STL02116	13C2-PFTeDA	116		25-150
STL02337	13C3-PFBS	99		25-150
STL00994	18O2 PFHxS	105		25-150
STL00991	13C4 PFOS	97		25-150
STL01056	13C8 FOSA	95		25-150
STL02118	d3-NMeFOSAA	83		25-150
STL02117	d5-NEtFOSAA	85		25-150
STL02279	M2-6:2FTS	43		25-150
STL02280	M2-8:2FTS	83		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_012.d
Lims ID: LCSD 320-201036/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 22-Dec-2017 23:02:32 ALS Bottle#: 7 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-201036/3-a
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 15:09:51 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 14:35:08

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.537	7443601	2.71		108	25164	
2 Perfluorobutyric acid										
212.90 > 169.00	1.420	1.419	0.001	1.000	2684558	0.9840		98.4	616	
D 3 13C5-PFPeA										
267.90 > 223.00	1.672	1.670	0.002	0.632	4197680	2.55		102	30604	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.672	1.670	0.002	1.000	1919281	1.02		102	2607	
D 47 13C3-PFBS										
301.90 > 83.00	1.707	1.705	0.002	0.645	80635	2.30		98.8	4045	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.707	1.707	0.0	1.000	2589239	0.99		112	18526	
298.90 > 99.00	1.707	1.707	0.0	1.000	1048747		2.47(1.25-3.74)		8313	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.924	1.920	0.004	1.000	447558	1.69		181	21815	
D 7 13C2 PFHxA										
315.00 > 270.00	1.955	1.953	0.002	0.739	4420568	2.52		101	40117	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.955	1.956	-0.001	1.000	1749272	0.9881		98.8	4138	
313.00 > 119.00	1.955	1.956	-0.001	1.000	154877		11.29(5.03-15.10)		4269	
D 9 13C4-PFHpA										
367.00 > 322.00	2.293	2.291	0.002	0.867	4478846	2.75		110	40332	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.293	2.291	0.002	1.000	1692380	0.9030		90.3	4070	
363.00 > 169.00	2.293	2.291	0.002	1.000	696873		2.43(1.13-3.40)		5416	
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	1.000	2031014	0.8721		95.8	5229	
399.00 > 99.00	2.306	2.304	0.002	1.000	662788		3.06(1.50-4.49)		2820	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 11 18O2 PFHxS										
403.00 > 84.00	2.306	2.304	0.002	0.872	5116990	2.49		105	44067	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.624	2.642	-0.018	1.000	469864	0.9407		99.2	12104	
D 12 M2-6:2FTS										
429.00 > 81.00	2.624	2.642	-0.018	0.992	765382	1.01		42.5	17774	
D 14 13C4 PFOA										
417.00 > 372.00	2.646	2.654	-0.008	1.000	4436151	2.37		94.9	46097	
* 62 13C2-PFOA										
415.00 > 370.00	2.646	2.656	-0.010		4524885	2.50			51449	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.646	2.656	-0.010	1.000	1778982	0.9533		95.3	3064	
413.00 > 169.00	2.646	2.656	-0.010	1.000	949397		1.87(0.84-2.52)		8073	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.653	2.662	-0.009	1.000	1738339	1.01		106	18886	
449.00 > 99.00	2.653	2.662	-0.009	1.000	464084		3.75(1.94-5.82)		11013	
D 18 13C4 PFOS										
503.00 > 80.00	3.019	3.025	-0.007	1.141	3131036	2.31		96.7	28983	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.019	3.028	-0.010	1.000	1283444	0.9242		99.6	145	
499.00 > 99.00	3.019	3.028	-0.010	1.000	290649		4.42(2.31-6.93)		199	
D 19 13C5 PFNA										
468.00 > 423.00	3.019	3.028	-0.010	1.141	3313501	2.49		99.8	40976	
20 Perfluorononanoic acid										
463.00 > 419.00	3.019	3.029	-0.011	1.000	1335775	1.00		100	5697	
463.00 > 169.00	3.019	3.029	-0.011	1.000	325250		4.11(1.90-5.69)		6771	
D 21 13C8 FOSA										
506.00 > 78.00	3.373	3.370	0.003	1.275	4389359	2.38		95.2	30791	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.373	3.372	0.001	1.000	1663413	0.9877		98.8	18919	
D 26 M2-8:2FTS										
529.00 > 81.00	3.373	3.377	-0.004	1.275	837481	1.98		82.6	18224	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.373	3.377	-0.004	1.000	390039	0.9176		95.8	16865	
D 23 13C2 PFDA										
515.00 > 470.00	3.380	3.389	-0.009	1.278	2900679	2.65		106	38122	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.380	3.390	-0.010	1.000	1085290	0.9670		96.7	6917	
513.00 > 169.00	3.380	3.390	-0.010	1.000	196507		5.52(2.36-7.09)		2333	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.533	3.543	-0.010	1.335	1214225	2.06		82.6	14869	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.540	3.548	-0.008	1.002	520605	1.00		99.8	4272	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.682	3.703	-0.021	1.000	758458	0.9374		97.2	13327	
599.00 > 99.00	3.682	3.703	-0.021	1.000	267009		2.84(1.39-4.16)		6564	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.699	3.712	-0.013	1.398	1226020	2.13		85.4	6786	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 30 13C2 PFUnA										
565.00 > 520.00	3.699	3.717	-0.018	1.398	1978645	2.37		94.9	32041	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.699	3.718	-0.019	1.000	688532	0.9497		95.0	4732	
563.00 > 169.00	3.699	3.718	-0.019	1.000	150601		4.57(0.00-0.00)		5894	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.699	3.720	-0.021	1.000	463020	0.9502		95.0	11062	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.867	3.862	0.005	1.461	745442	1.42		56.8	2143	
35 MeFOSA										
512.00 > 169.00	3.867	3.872	-0.005	1.000	316376	1.08		108	1936	
D 36 13C2 PFDoA										
615.00 > 570.00	3.999	4.011	-0.012	1.511	2258436	2.51		100	28039	
37 Perfluorododecanoic acid										
613.00 > 569.00	3.999	4.011	-0.012	1.000	890816	0.99		99.4	4685	
613.00 > 169.00	3.999	4.011	-0.012	1.000	225504		3.95(2.13-6.40)		11227	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.054	4.052	0.002	1.532	499596	0.99		39.6	1548	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.061	4.058	0.003	1.002	220612	1.04		104	1426	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.263	4.277	-0.014	1.000	977096	0.9327		93.3	7547	
663.00 > 169.00	4.263	4.277	-0.014	1.000	326332		2.99(1.25-3.76)		18808	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.501	4.518	-0.017	1.701	2919365	2.90		116	31911	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.501	4.518	-0.017	1.000	291192	0.9675		96.8	12733	
713.00 > 219.00	4.488	4.518	-0.030	0.997	202692		1.44(0.71-2.13)		8836	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.914	4.939	-0.025	1.857	4371086	2.39		95.5	13882	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.923	4.939	-0.016	1.002	1683083	1.10		110	1254	
813.00 > 169.00	4.914	4.939	-0.025	1.000	302736		5.56(2.86-8.58)		5408	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.276	5.306	-0.030	1.000	2085891	1.16		116	720	
913.00 > 169.00	5.276	5.306	-0.030	1.000	260765		8.00(0.00-0.00)		1820	

Report Date: 26-Dec-2017 15:09:59 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b\2017.12.22LLB_012.d

Injection Date: 22-Dec-2017 23:02:32 Instrument ID: A8_N

Lims ID: LCSD 320-201036/3-A

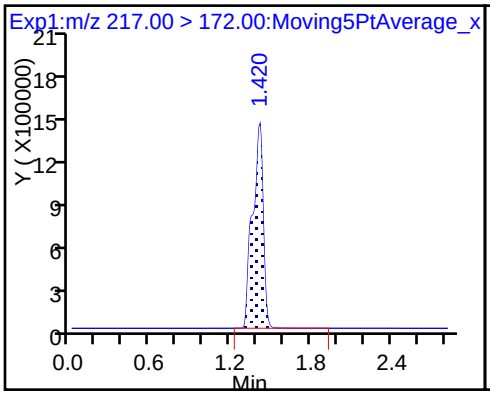
Client ID:

Operator ID: SACINSTLCMS01 ALS Bottle#: 7 Worklist Smp#: 4

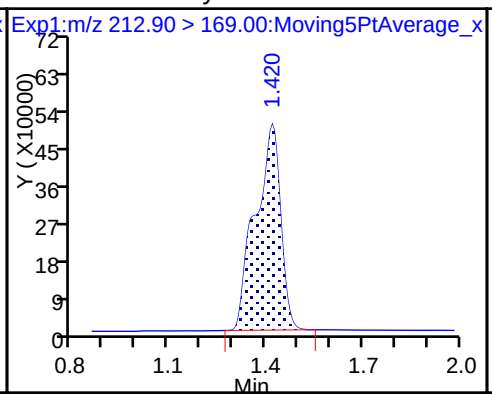
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

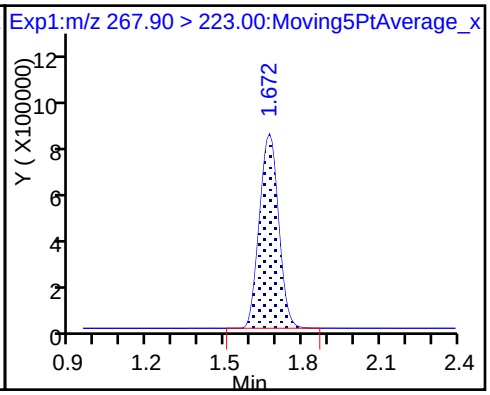
D 1 13C4 PFBA



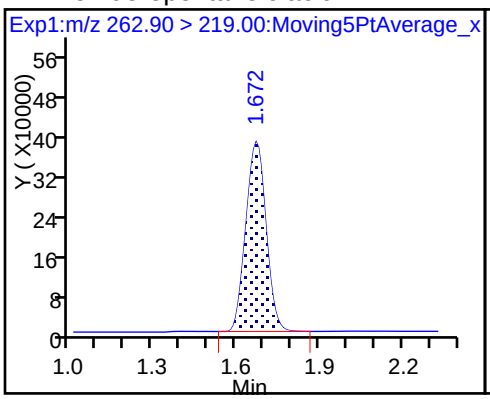
2 Perfluorobutyric acid



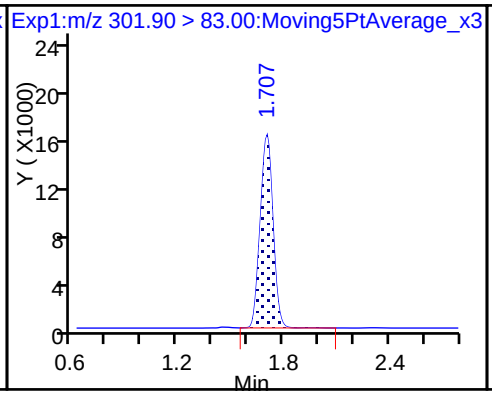
D 3 13C5-PFPeA



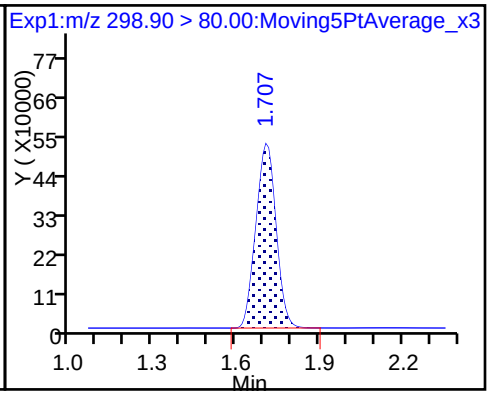
4 Perfluoropentanoic acid



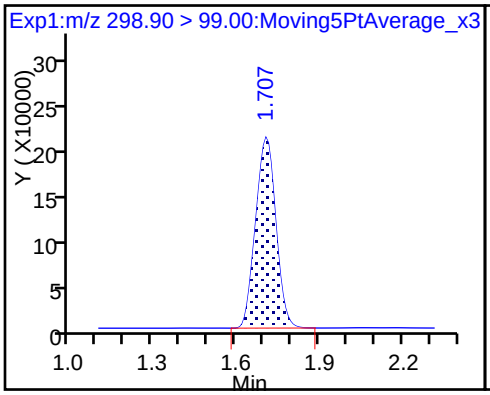
D 47 13C3-PFBS



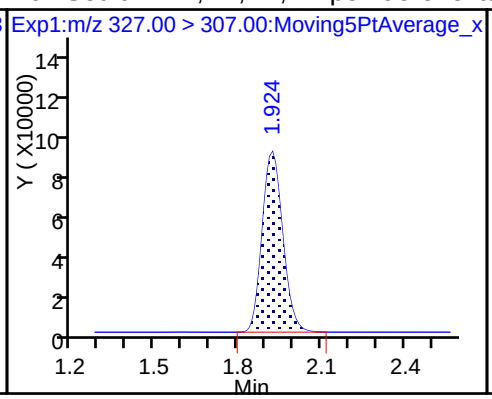
5 Perfluorobutanesulfonic acid



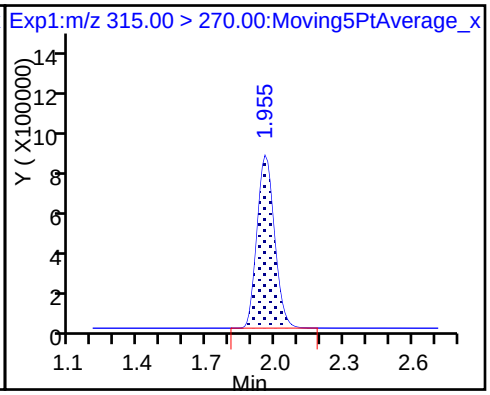
5 Perfluorobutanesulfonic acid



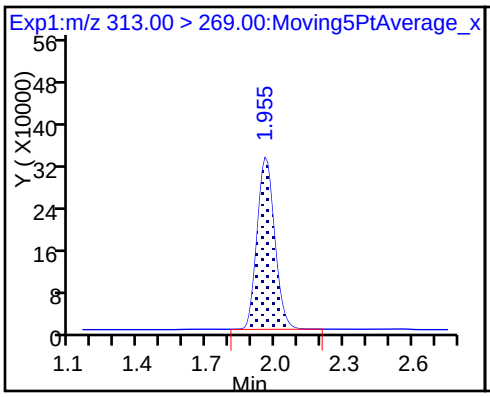
61 Sodium 1H,1H,2H,2H-perfluorohexa



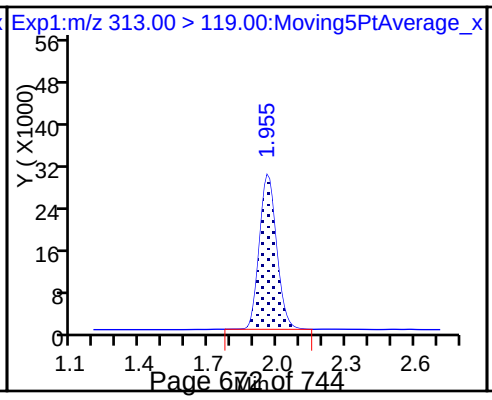
D 7 13C2 PFHxA



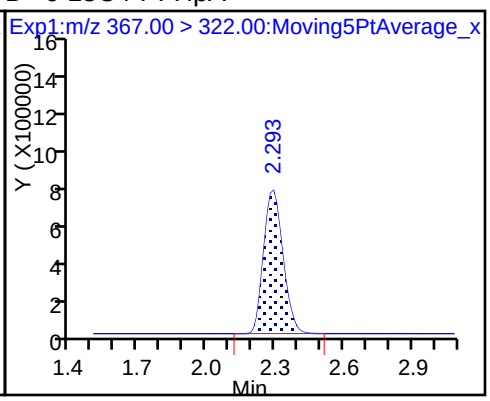
6 Perfluorohexanoic acid



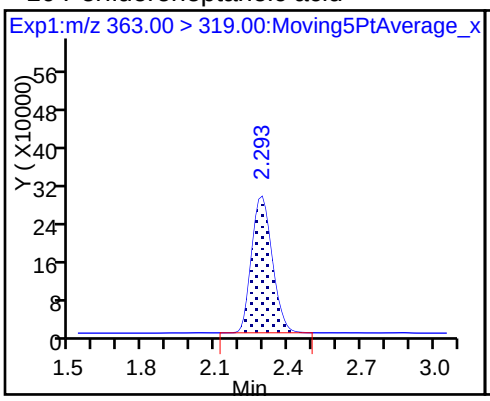
6 Perfluorohexanoic acid



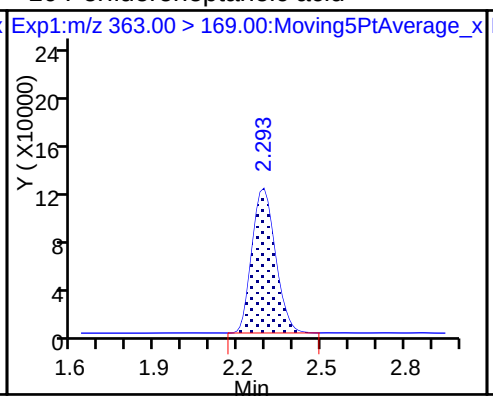
D 9 13C4-PFHpA



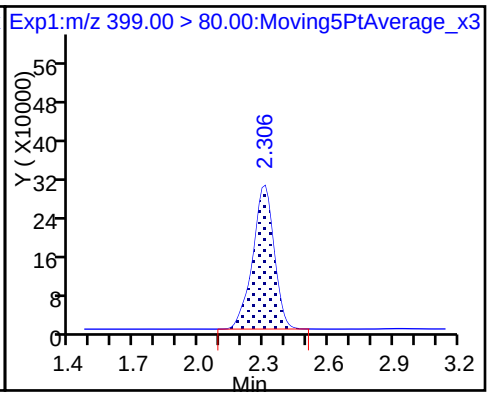
10 Perfluoroheptanoic acid



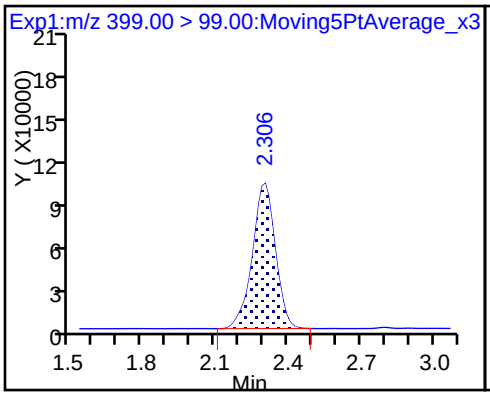
10 Perfluoroheptanoic acid



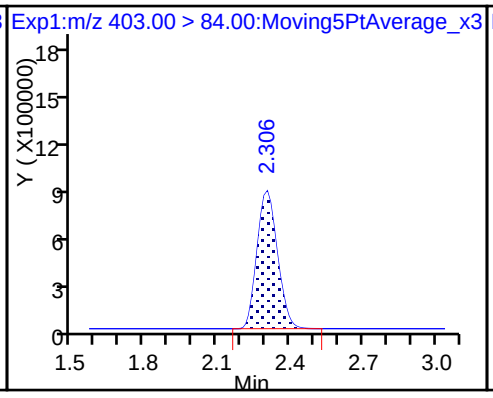
8 Perfluorohexanesulfonic acid



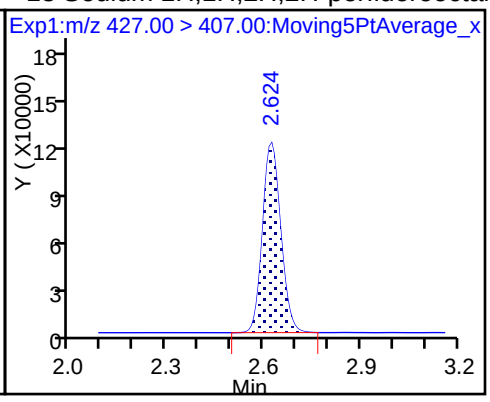
8 Perfluorohexanesulfonic acid



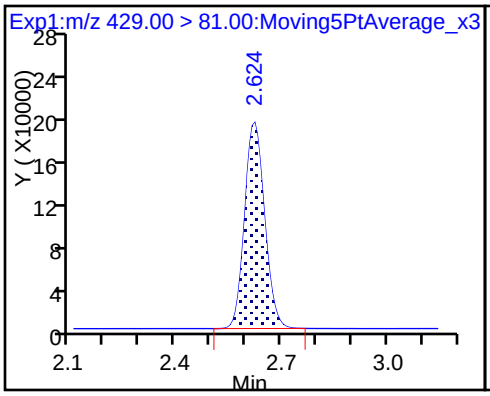
D 11 18O2 PFHxS



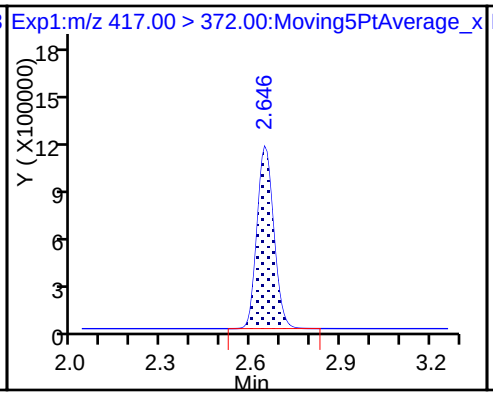
13 Sodium 1H,1H,2H,2H-perfluorooctane



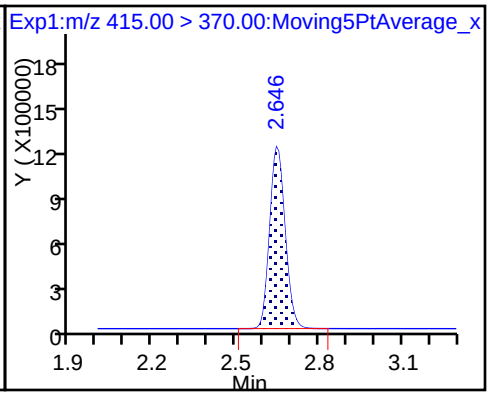
D 12 M2-6:2FTS



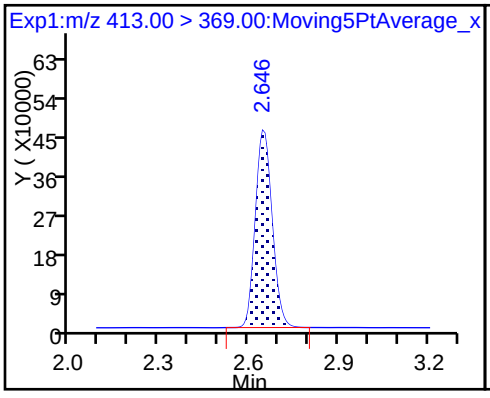
D 14 13C4 PFOA



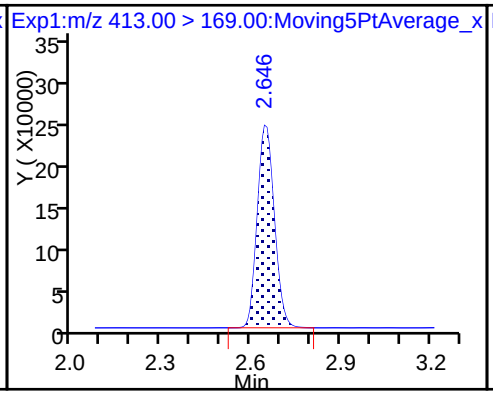
* 62 13C2-PFOA



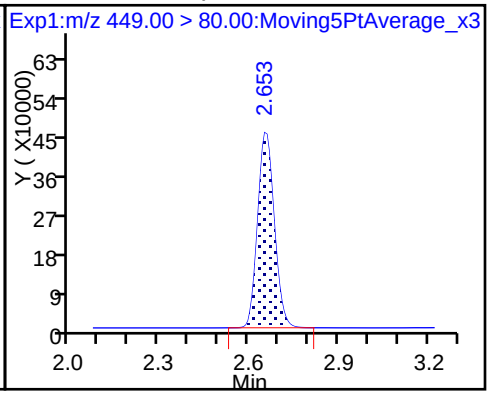
15 Perfluorooctanoic acid



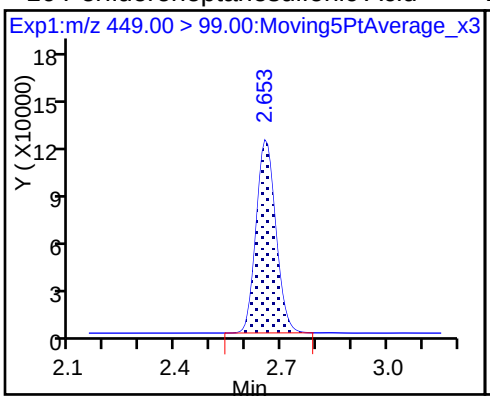
15 Perfluorooctanoic acid



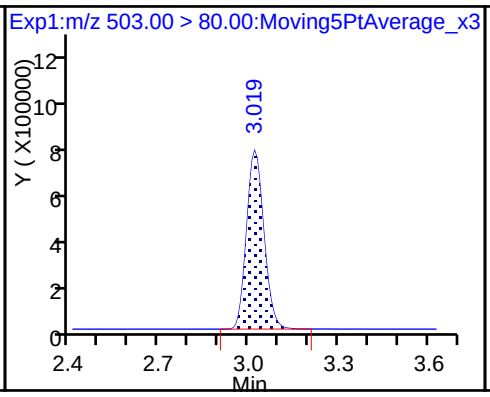
16 Perfluoroheptanesulfonic Acid



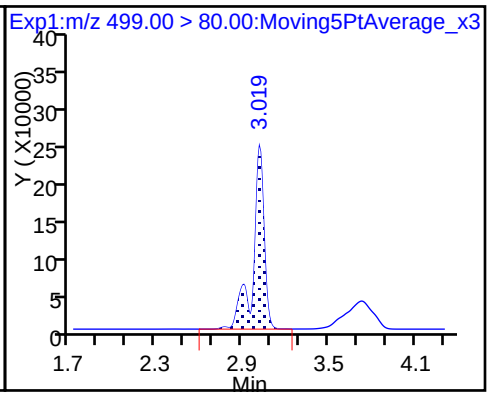
16 Perfluoroheptanesulfonic Acid



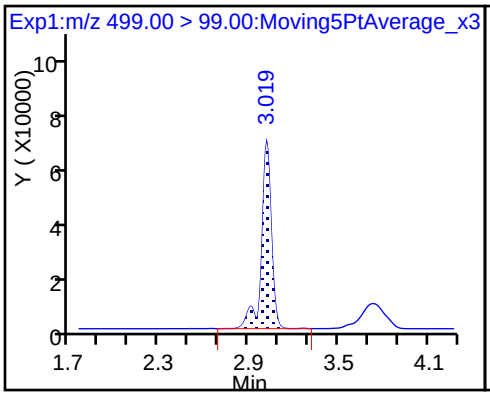
D 18 13C4 PFOS



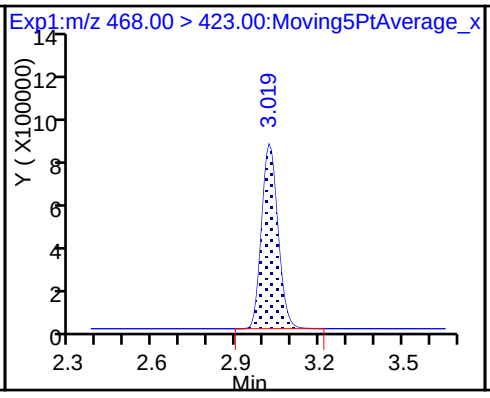
17 Perfluorooctane sulfonic acid



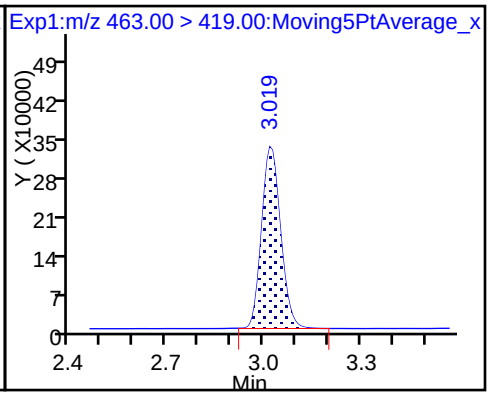
17 Perfluorooctane sulfonic acid



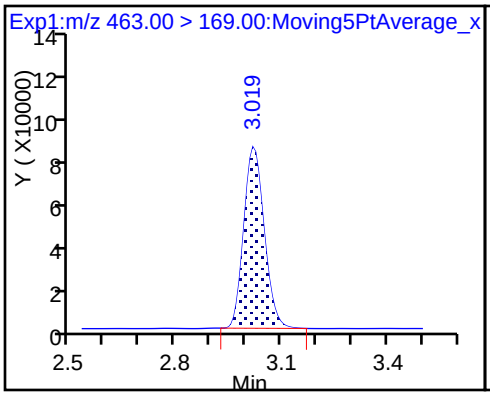
D 19 13C5 PFNA



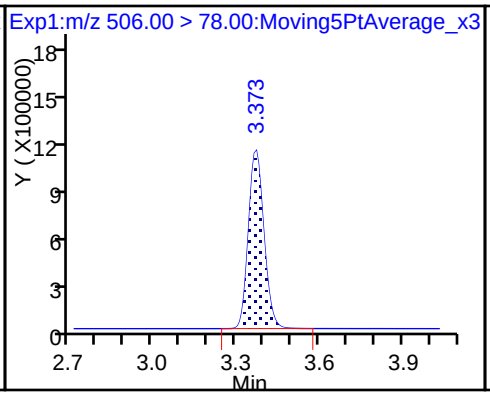
20 Perfluorononanoic acid



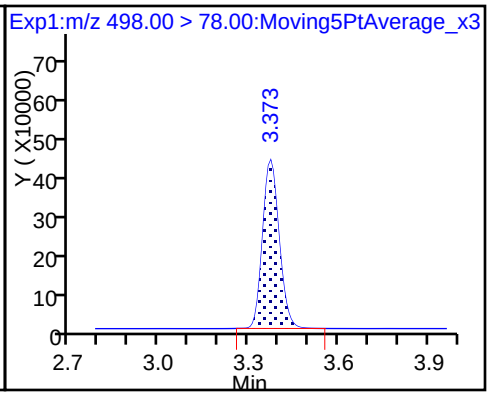
20 Perfluorononanoic acid



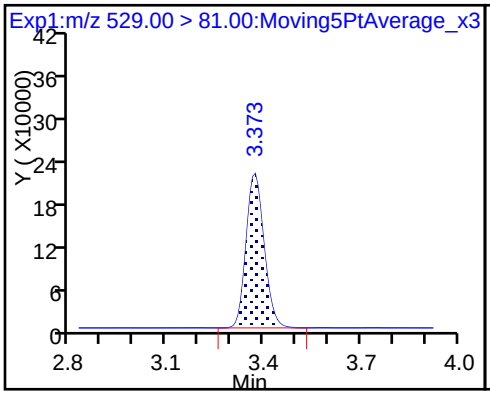
D 21 13C8 FOSA



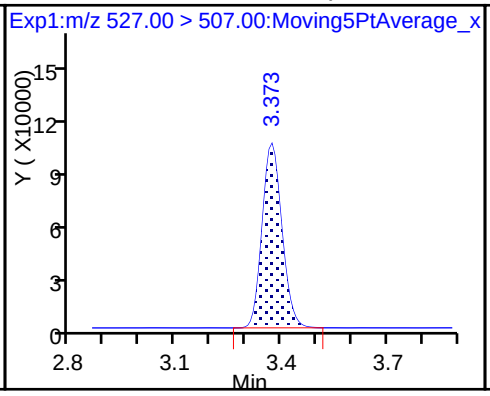
22 Perfluorooctane Sulfonamide



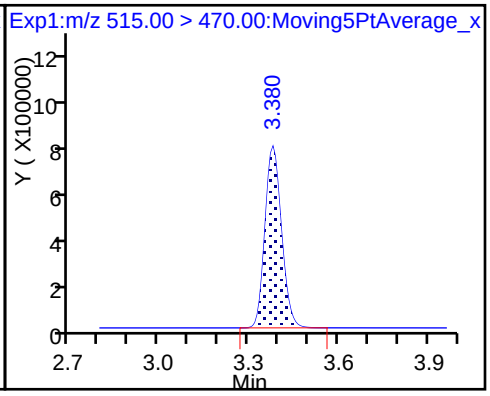
D 26 M2-8:2FTS



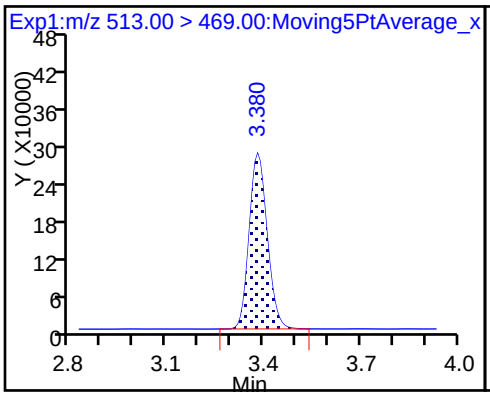
25 Sodium 1H,1H,2H,2H-perfluorodecane



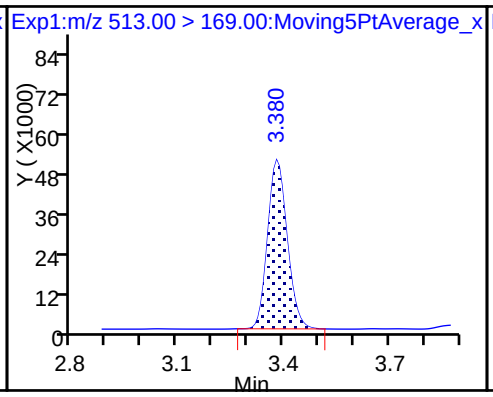
D 23 13C2 PFDA



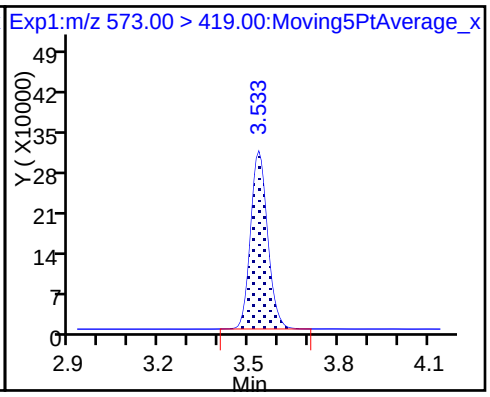
24 Perfluorodecanoic acid



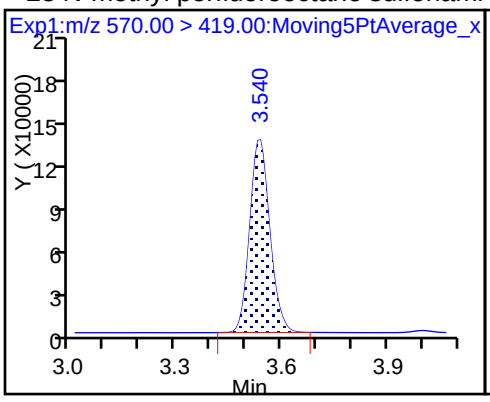
24 Perfluorodecanoic acid



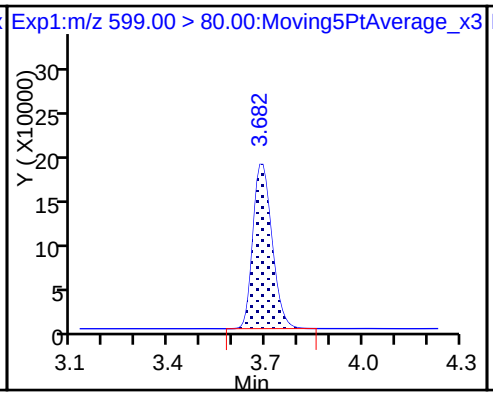
D 27 d3-NMeFOSAA



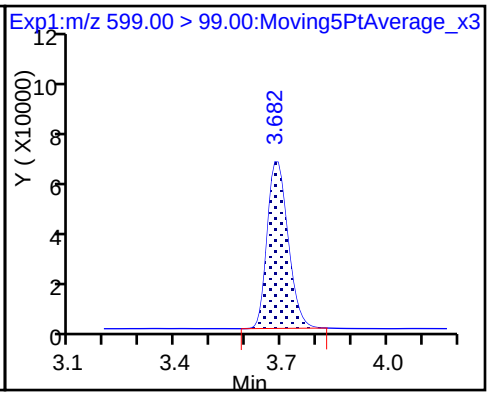
28 N-methyl perfluorooctane sulfonami



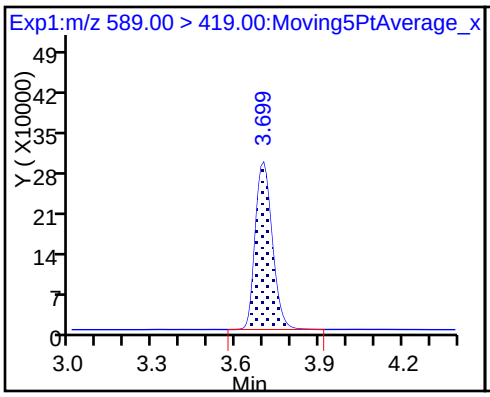
29 Perfluorodecane Sulfonic acid



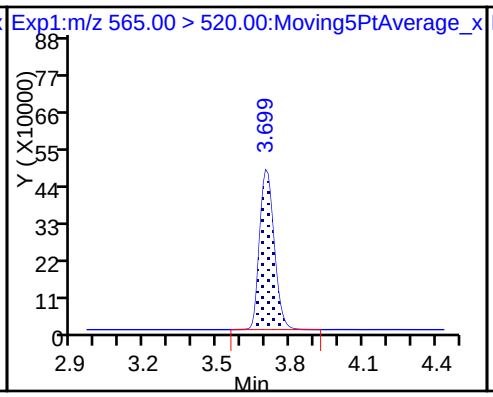
29 Perfluorodecane Sulfonic acid



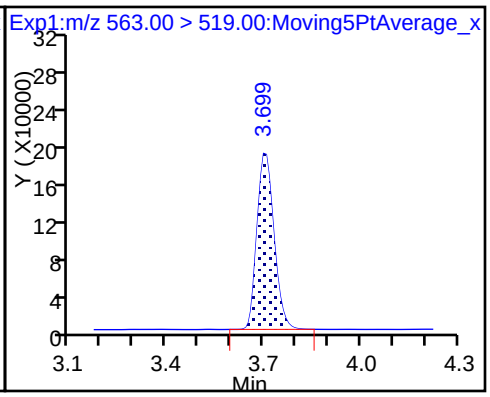
D 32 d5-NEtFOSAA



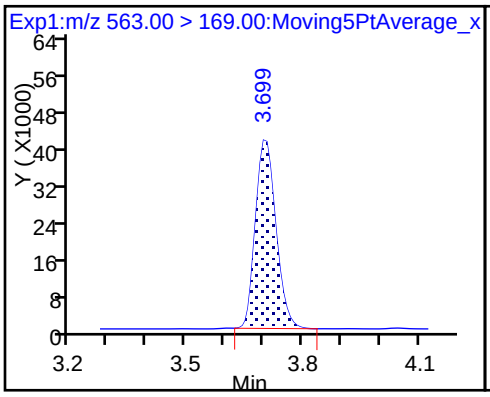
D 30 13C2 PFUnA



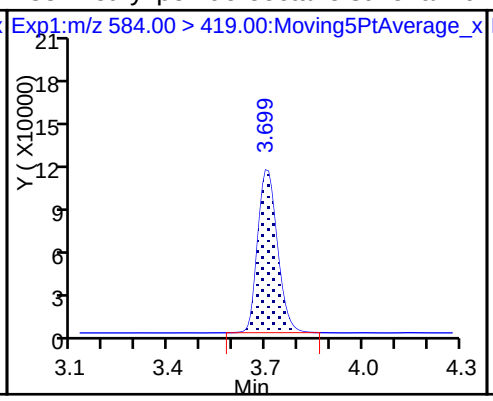
31 Perfluoroundecanoic acid



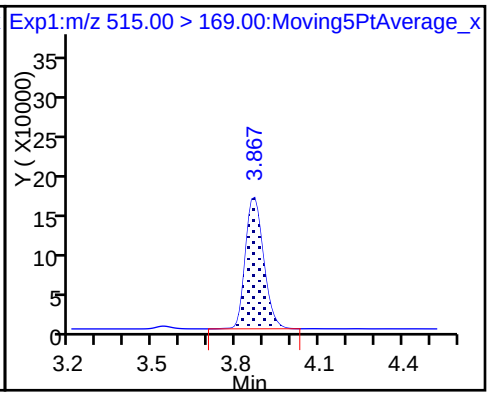
31 Perfluoroundecanoic acid



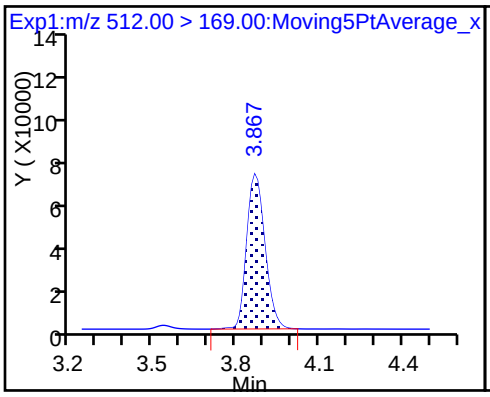
33 N-ethyl perfluorooctane sulfonamid



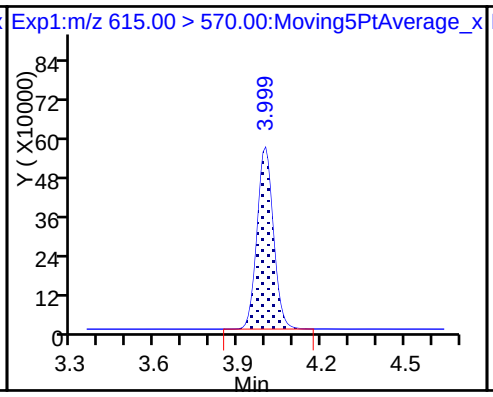
D 34 d-N-MeFOSA-M



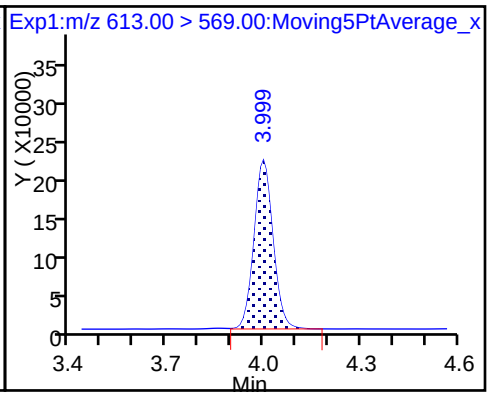
35 MeFOSA



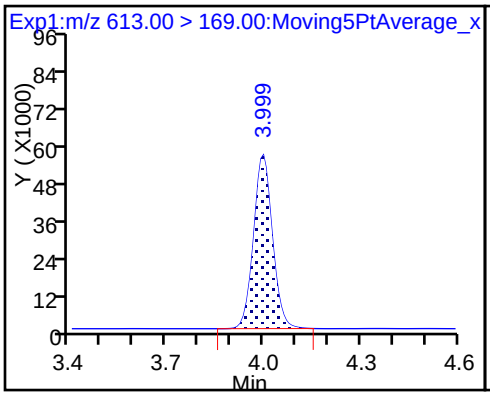
D 36 13C2 PFDoA



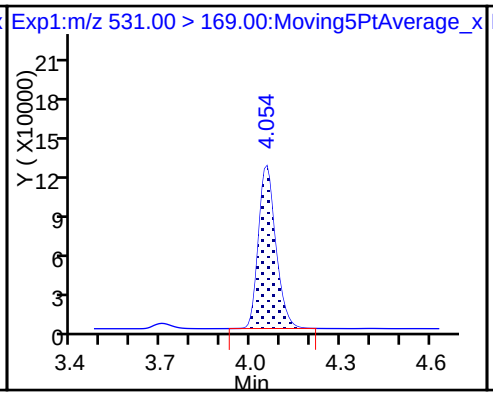
37 Perfluorododecanoic acid



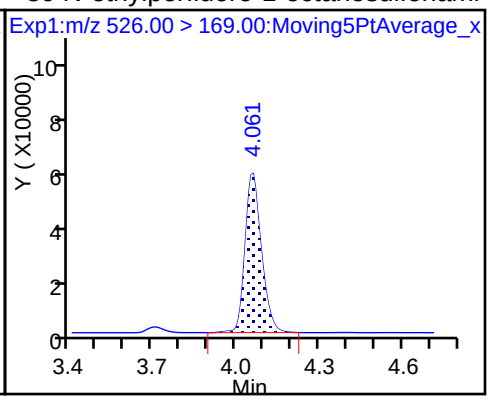
37 Perfluorododecanoic acid



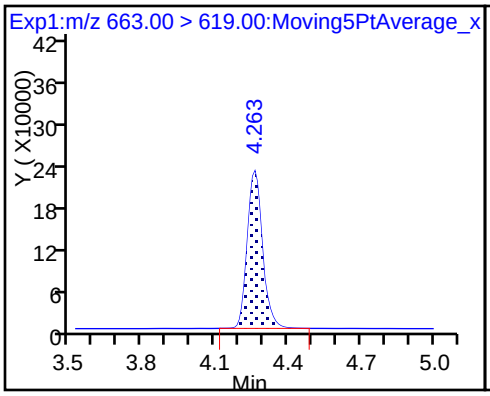
D 38 d-N-EtFOSA-M



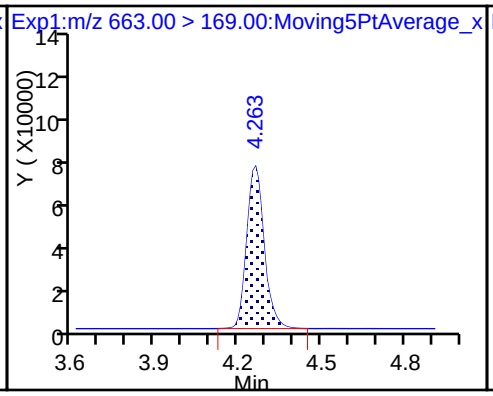
39 N-ethylperfluoro-1-octanesulfonami



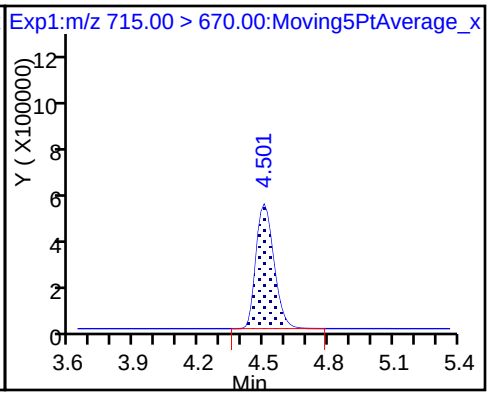
41 Perfluorotridecanoic acid



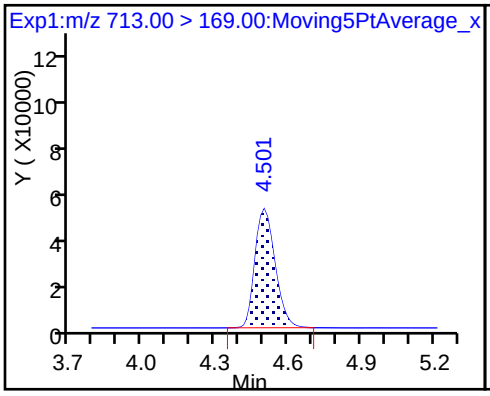
41 Perfluorotridecanoic acid



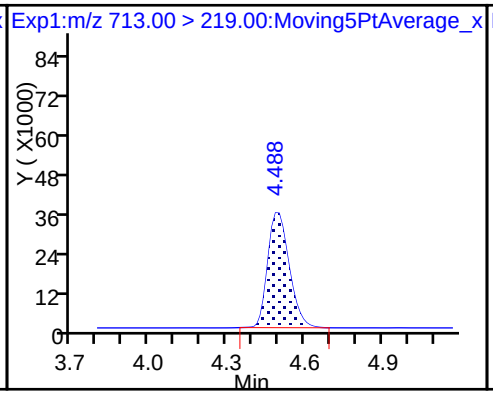
D 43 13C2-PFTeDA



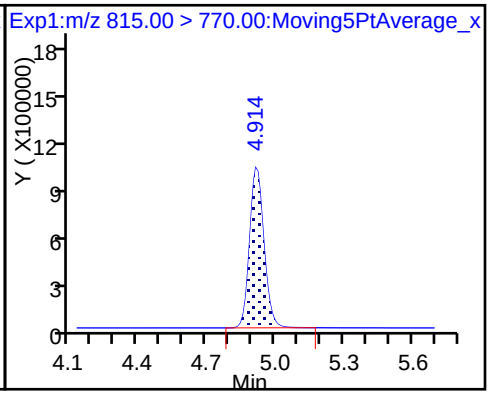
42 Perfluorotetradecanoic acid



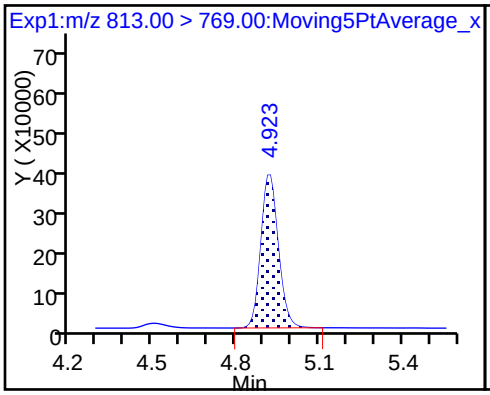
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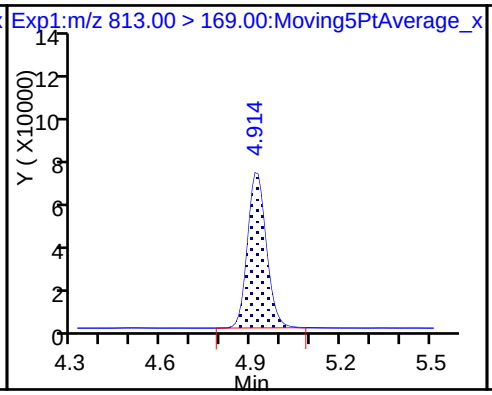
D 44 13C2-PFHxDA



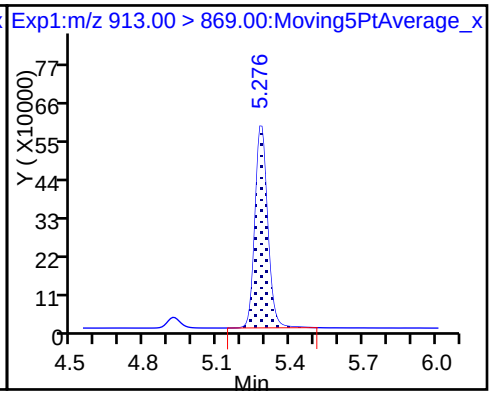
45 Perfluorohexadecanoic acid



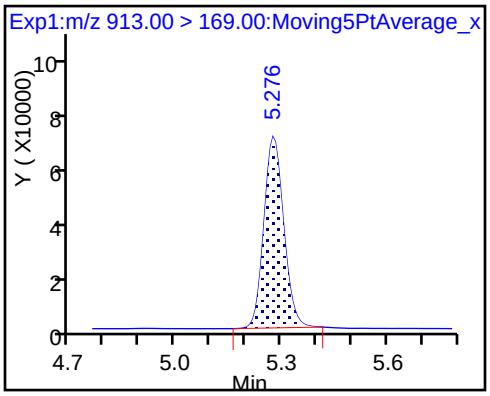
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-090-886-171211 MS | Lab Sample ID: 320-34425-28 MS

Matrix: Water | Lab File ID: 2017.12.22LLB_046.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 256.1(mL) | Date Analyzed: 12/23/2017 03:29

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	38.01		1.95	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	35.64		1.95	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	36.45		1.95	0.57
375-85-9	Perfluoroheptanoic acid (PFHpA)	35.07		1.95	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	33.19		1.95	0.83
375-95-1	Perfluorononanoic acid (PFNA)	34.46		1.95	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	40.14		1.95	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	34.72		1.95	1.07
307-55-1	Perfluorododecanoic acid (PFDoA)	38.50		1.95	0.54
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	38.15		1.95	1.27
376-06-7	Perfluorotetradecanoic acid (PFTeA)	33.66		1.95	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	36.06		1.95	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	32.51		1.95	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	35.59		1.95	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	34.62		1.95	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	33.45		1.95	0.31
754-91-6	Perfluorooctane Sulfonamide (FOSA)	37.23		1.95	0.34
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	35.34		19.5	3.03
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	33.99		19.5	1.85
27619-97-2	6:2FTS	37.59		19.5	1.95
39108-34-4	8:2FTS	34.74		19.5	1.95

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-090-886-171211 MS | Lab Sample ID: 320-34425-28 MS

Matrix: Water | Lab File ID: 2017.12.22LLB_046.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 256.1(mL) | Date Analyzed: 12/23/2017 03:29

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	109		25-150
STL01893	13C5 PFPeA	112		25-150
STL00993	13C2 PFHxA	106		25-150
STL01892	13C4-PFHpA	107		25-150
STL00990	13C4 PFOA	103		25-150
STL00995	13C5 PFNA	110		25-150
STL00996	13C2 PFDA	97		25-150
STL00997	13C2 PFUnA	98		25-150
STL00998	13C2 PFDoA	99		25-150
STL02116	13C2-PFTeDA	129		25-150
STL02337	13C3-PFBS	106		25-150
STL00994	18O2 PFHxS	106		25-150
STL00991	13C4 PFOS	103		25-150
STL01056	13C8 FOSA	98		25-150
STL02118	d3-NMeFOSAA	90		25-150
STL02117	d5-NEtFOSAA	93		25-150
STL02279	M2-6:2FTS	42		25-150
STL02280	M2-8:2FTS	80		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_046.d
Lims ID: 320-34425-A-28-B MS
Client ID: FM-34-090-886-171211
Sample Type: MS
Inject. Date: 23-Dec-2017 03:29:21 ALS Bottle#: 37 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-28-b ms
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:26 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:57:11

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.426	1.419	0.007	0.536	7518001	2.72		109	17799	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.000	2681937	0.9733		97.3	568	
D 3 13C5-PFPeA										
267.90 > 223.00	1.681	1.670	0.011	0.632	4644760	2.81		112	39281	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.681	1.670	0.011	1.000	1892861	0.9127		91.3	1100	M
D 47 13C3-PFBS										
301.90 > 83.00	1.716	1.705	0.011	0.645	86632	2.46		106	2491	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.716	1.707	0.009	1.000	2588099	0.9234		104	16073	
298.90 > 99.00	1.716	1.707	0.009	1.000	1077390		2.40(1.25-3.74)		8602	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.935	1.920	0.015	1.000	525112	1.97		211	20307	
D 60 M2-4:2FTS										
329.00 > 81.00	1.914	1.943	-0.029	0.720	1773	0.009320		0.0	67.1	
D 7 13C2 PFHxA										
315.00 > 270.00	1.966	1.953	0.013	0.739	4672998	2.65		106	42457	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.966	1.956	0.010	1.000	1746819	0.9334		93.3	1987	
313.00 > 119.00	1.966	1.956	0.010	1.000	161779		10.80(5.03-15.10)		2540	
D 9 13C4-PFHpA										
367.00 > 322.00	2.306	2.291	0.015	0.867	4375475	2.68		107	33912	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.306	2.291	0.015	1.000	1644171	0.8980		89.8	2732	
363.00 > 169.00	2.306	2.291	0.015	1.000	694026		2.37(1.13-3.40)		5649	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.306	2.304	0.002	0.994	1967101	0.8326		91.5	4984	
399.00 > 99.00	2.319	2.304	0.015	1.000	656877		2.99(1.50-4.49)		1634	
D 11 18O2 PFHxS										
403.00 > 84.00	2.319	2.304	0.015	0.872	5190566	2.52		106	59328	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.638	2.642	-0.004	1.000	482796	0.9627		102	8912	
D 12 M2-6:2FTS										
429.00 > 81.00	2.638	2.642	-0.004	0.992	768456	1.01		42.5	15270	
D 14 13C4 PFOA										
417.00 > 372.00	2.659	2.654	0.005	1.000	4824957	2.57		103	48495	
* 62 13C2-PFOA										
415.00 > 370.00	2.659	2.656	0.003		4548258	2.50			55648	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.659	2.656	0.003	1.000	1725377	0.8501		85.0	2442	
413.00 > 169.00	2.659	2.656	0.003	1.000	953763		1.81(0.84-2.52)		7468	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.666	2.662	0.004	1.000	1679325	0.9115		95.8	20597	
449.00 > 99.00	2.666	2.662	0.004	1.000	458504		3.66(1.94-5.82)		8525	
D 18 13C4 PFOS										
503.00 > 80.00	3.033	3.025	0.008	1.140	3362422	2.47		103	31969	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.033	3.028	0.005	1.000	1322111	0.8865		95.5	148	
499.00 > 99.00	3.033	3.028	0.005	1.000	285688		4.63(2.31-6.93)		197	
D 19 13C5 PFNA										
468.00 > 423.00	3.033	3.028	0.005	1.140	3674122	2.75		110	50791	
20 Perfluorononanoic acid										
463.00 > 419.00	3.033	3.029	0.004	1.000	1304953	0.8824		88.2	5480	
463.00 > 169.00	3.033	3.029	0.004	1.000	321167		4.06(1.90-5.69)		5666	
D 21 13C8 FOSA										
506.00 > 78.00	3.378	3.370	0.008	1.270	4552643	2.46		98.2	26384	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.378	3.372	0.006	1.000	1665305	0.9534		95.3	18100	
D 26 M2-8:2FTS										
529.00 > 81.00	3.386	3.377	0.009	1.273	810483	1.91		79.5	21168	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.386	3.377	0.009	1.000	366013	0.8897		92.9	15835	
D 23 13C2 PFDA										
515.00 > 470.00	3.393	3.389	0.004	1.276	2674241	2.43		97.1	40307	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.393	3.390	0.003	1.000	1063768	1.03		103	7613	
513.00 > 169.00	3.393	3.390	0.003	1.000	196670		5.41(2.36-7.09)		3370	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.552	3.543	0.009	1.336	1328968	2.25		89.9	22452	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.552	3.548	0.004	1.000	516543	0.9051		90.5	4002	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.706	3.703	0.003	1.000	744353	0.8567		88.9	14927	
599.00 > 99.00	3.706	3.703	0.003	1.000	254817		2.92(1.39-4.16)		6140	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.715	3.712	0.003	1.397	1345966	2.33		93.3	7386	
D 30 13C2 PFUnA										
565.00 > 520.00	3.715	3.717	-0.002	1.397	2062855	2.46		98.4	27093	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.723	3.718	0.005	1.002	672080	0.8892		88.9	4673	
563.00 > 169.00	3.723	3.718	0.005	1.002	153889		4.37(0.00-0.00)		6849	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.723	3.720	0.003	1.002	465652	0.8705		87.0	11944	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.865	3.862	0.003	1.454	731511	1.39		55.4	2257	
35 MeFOSA										
512.00 > 169.00	3.875	3.872	0.003	1.003	275252	0.9611		96.1	2170	
D 36 13C2 PFDoA										
615.00 > 570.00	4.013	4.011	0.002	1.509	2244331	2.48		99.3	31408	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.013	4.011	0.002	1.000	878485	0.9859		98.6	5847	
613.00 > 169.00	4.013	4.011	0.002	1.000	216864		4.05(2.13-6.40)		10957	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.052	4.052	0.0	1.524	515239	1.02		40.6	1195	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.060	4.058	0.002	1.002	205769	0.9378		93.8	1491	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.279	4.277	0.002	1.000	1017030	0.9769		97.7	7646	
663.00 > 169.00	4.279	4.277	0.002	1.000	325154		3.13(1.25-3.76)		14767	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.514	4.518	-0.004	1.698	3246441	3.21		129	25425	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.514	4.518	-0.004	1.000	288489	0.8620		86.2	9920	
713.00 > 219.00	4.514	4.518	-0.004	1.000	203216		1.42(0.71-2.13)		7077	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.940	4.939	0.001	1.858	4660190	2.53		101	14319	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.940	4.939	0.001	1.000	1642761	1.01		101	1230	
813.00 > 169.00	4.940	4.939	0.001	1.000	288268		5.70(2.86-8.58)		4474	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.303	5.306	-0.003	1.000	2023952	1.05		105	748	
913.00 > 169.00	5.303	5.306	-0.003	1.000	245868		8.23(0.00-0.00)		2015	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 26-Dec-2017 16:04:45 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_046.d

Injection Date: 23-Dec-2017 03:29:21 Instrument ID: A8_N

Lims ID: 320-34425-A-28-B MS

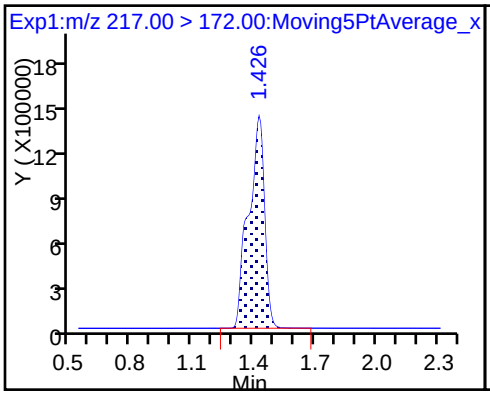
Client ID: FM-34-090-886-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 37 Worklist Smp#: 11

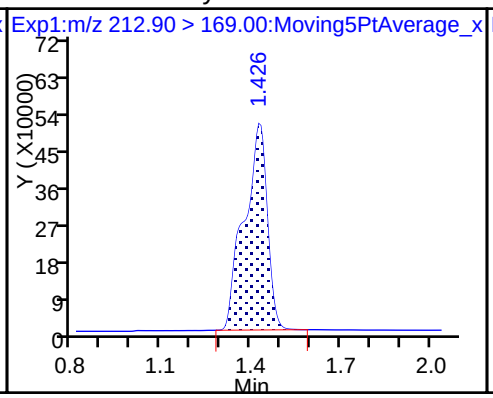
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

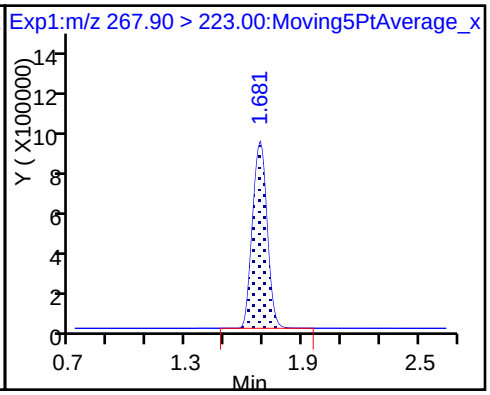
D 1 13C4 PFBA



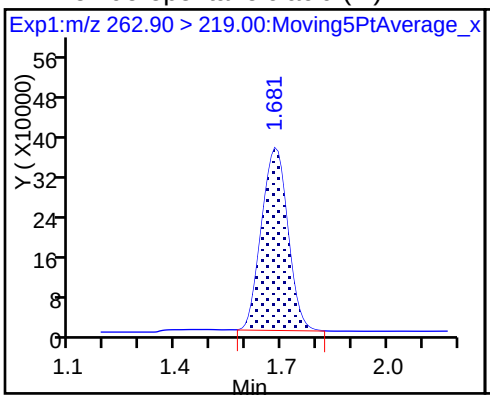
2 Perfluorobutyric acid



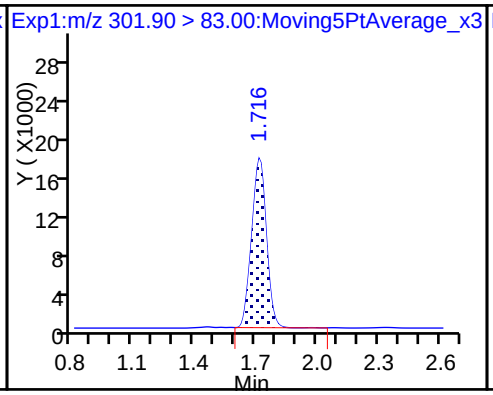
D 3 13C5-PFPeA



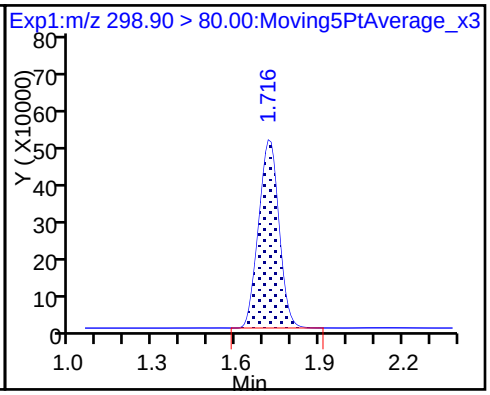
4 Perfluoropentanoic acid (M)



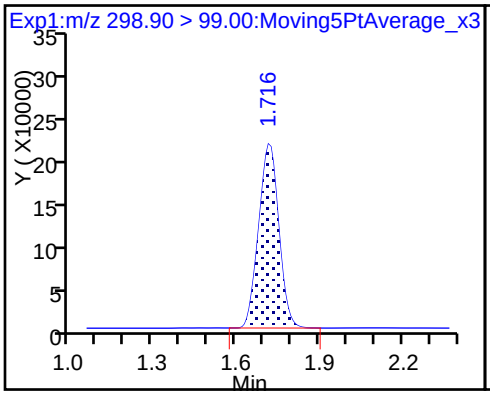
D 47 13C3-PFBS



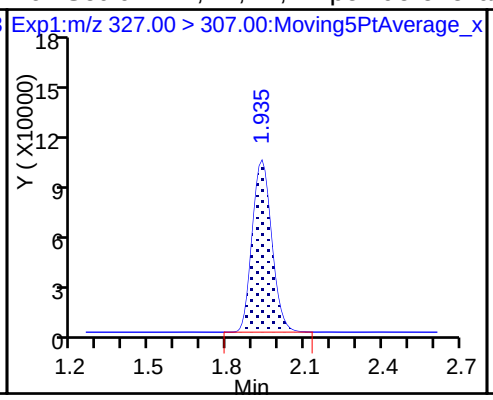
5 Perfluorobutanesulfonic acid



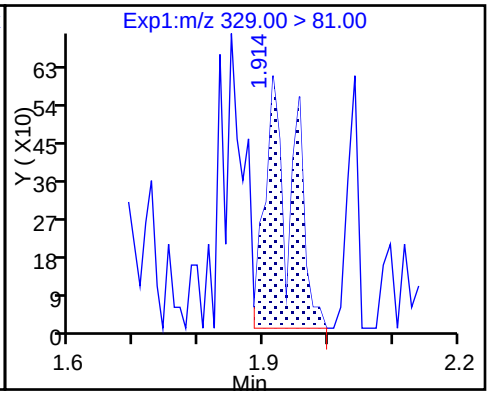
5 Perfluorobutanesulfonic acid



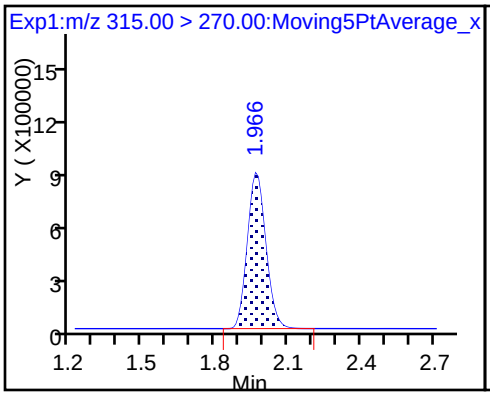
61 Sodium 1H,1H,2H,2H-perfluorohexa



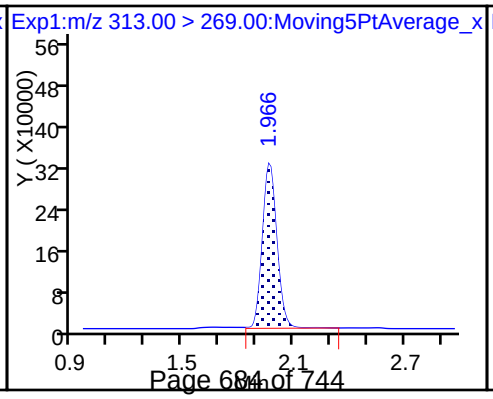
D 60 M2-4:2FTS



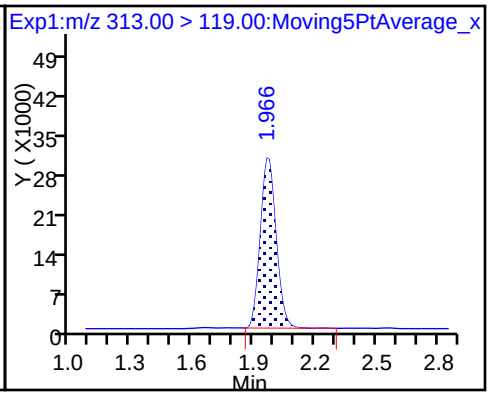
D 7 13C2 PFHxA



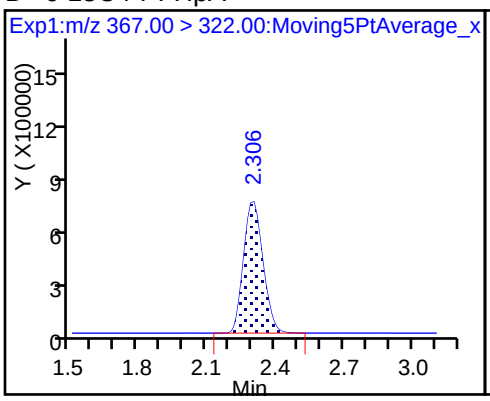
6 Perfluorohexanoic acid



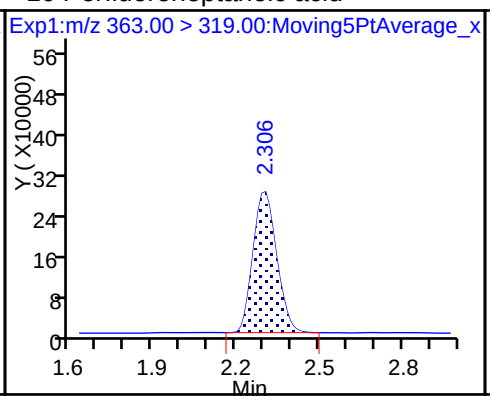
6 Perfluorohexanoic acid



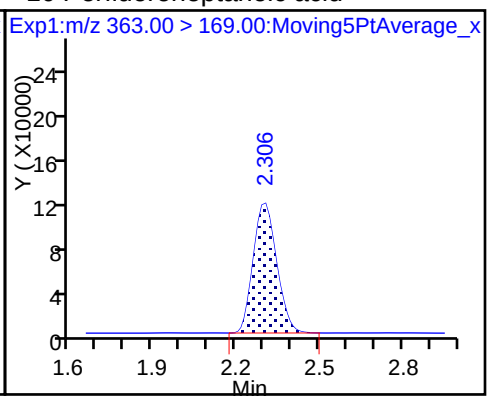
D 9 13C4-PFHpA



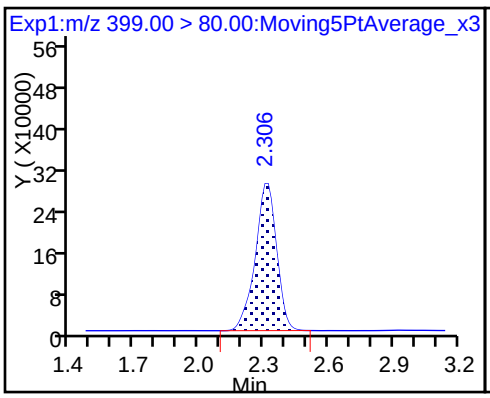
10 Perfluoroheptanoic acid



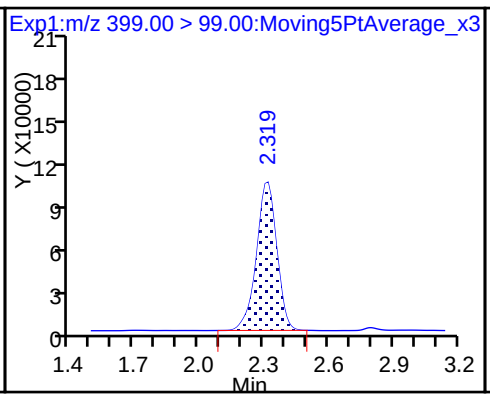
10 Perfluoroheptanoic acid



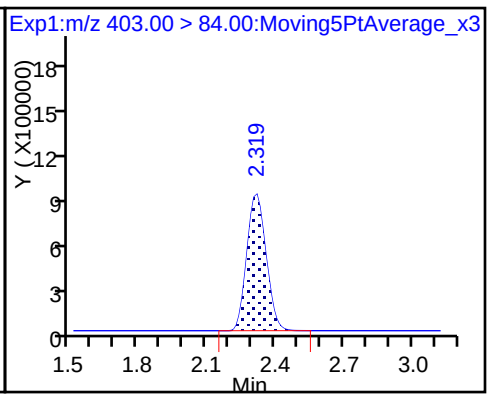
8 Perfluorohexanesulfonic acid



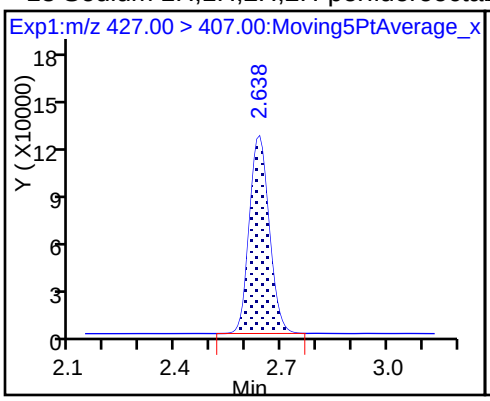
8 Perfluorohexanesulfonic acid



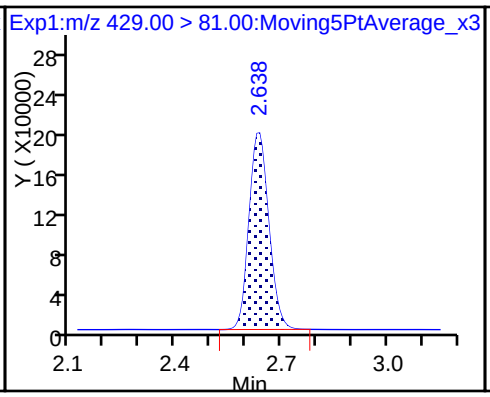
D 11 18O2 PFHxS



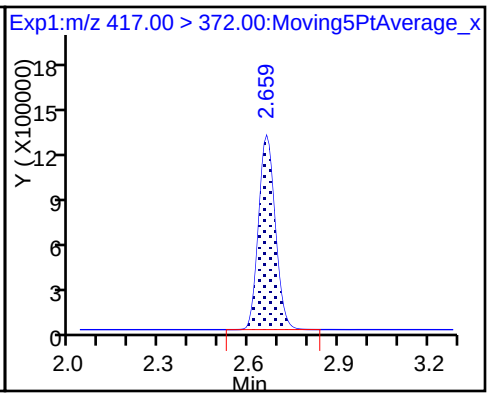
13 Sodium 1H,1H,2H,2H-perfluorooctane



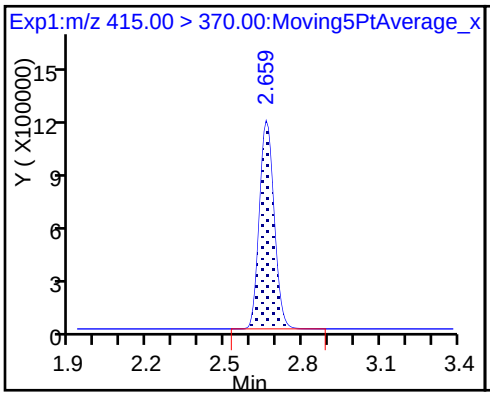
D 12 M2-6:2FTS



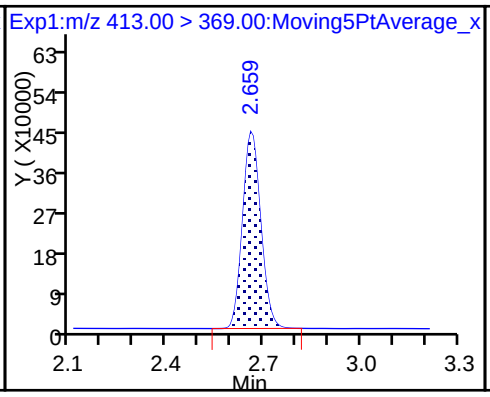
D 14 13C4 PFOA



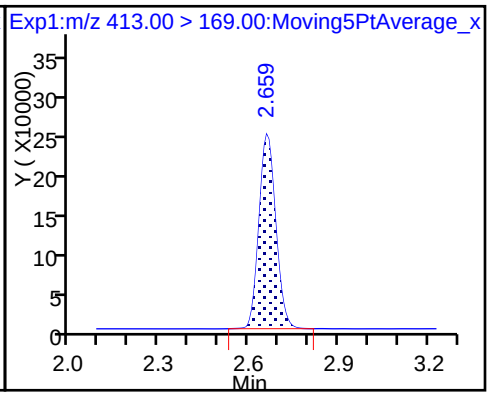
* 62 13C2-PFOA



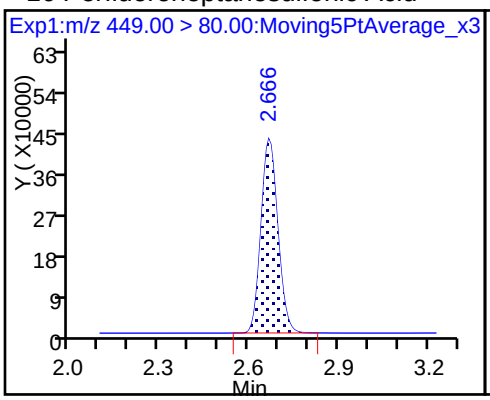
15 Perfluorooctanoic acid



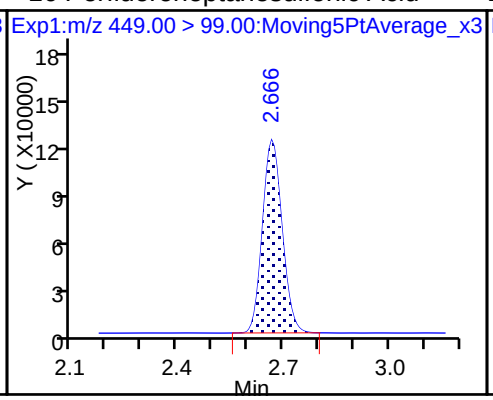
15 Perfluorooctanoic acid



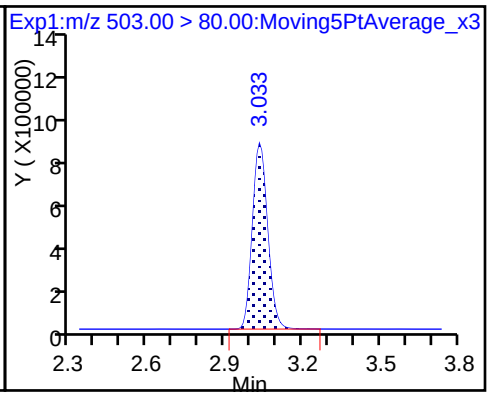
16 Perfluoroheptanesulfonic Acid



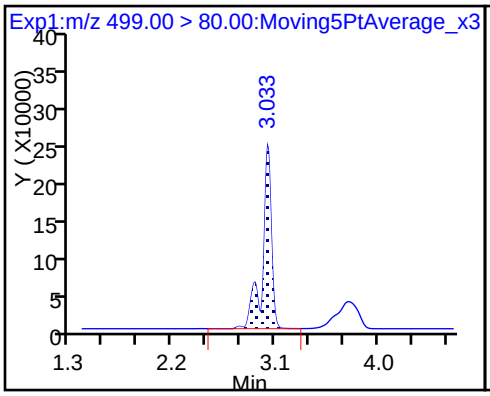
16 Perfluoroheptanesulfonic Acid



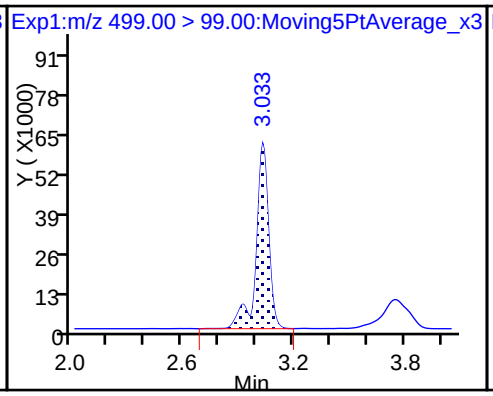
D 18 13C4 PFOS



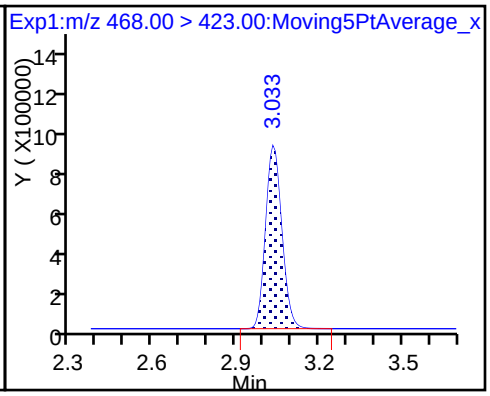
17 Perfluorooctane sulfonic acid



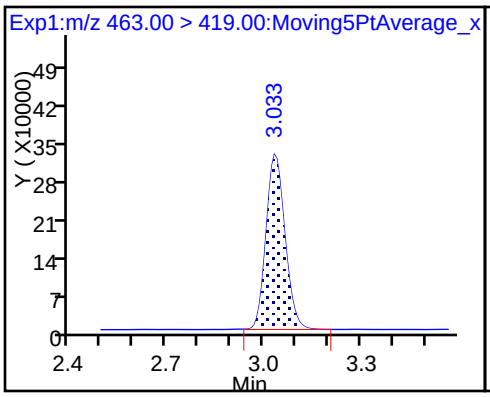
17 Perfluorooctane sulfonic acid



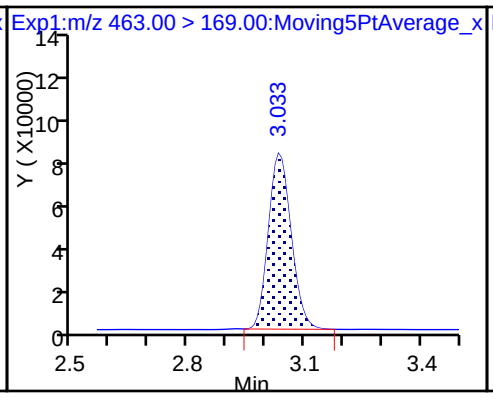
D 19 13C5 PFNA



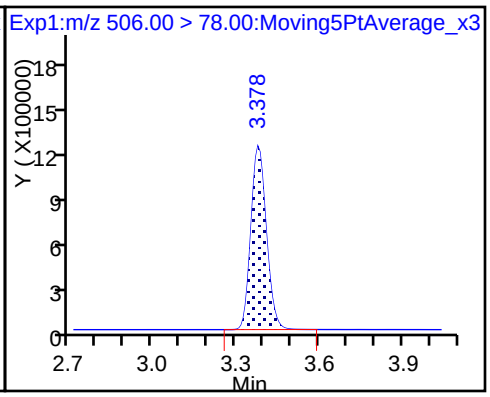
20 Perfluorononanoic acid



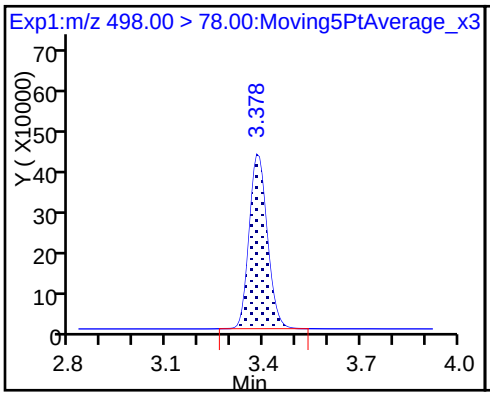
20 Perfluorononanoic acid



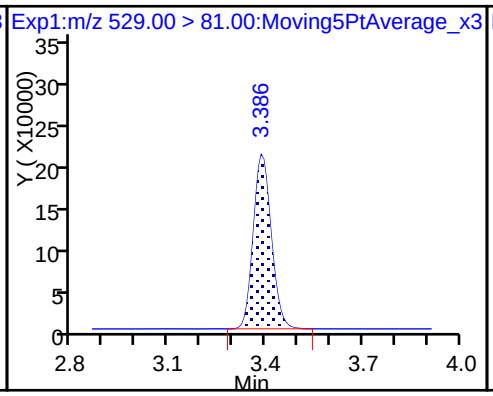
D 21 13C8 FOSA



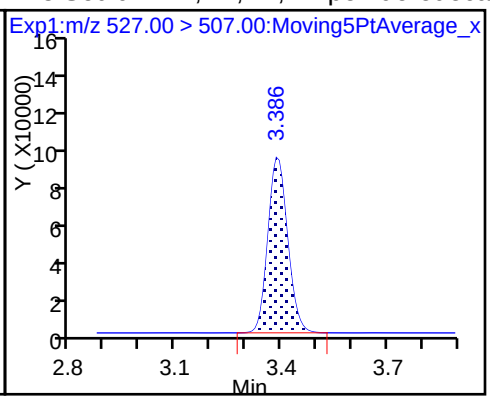
22 Perfluorooctane Sulfonamide



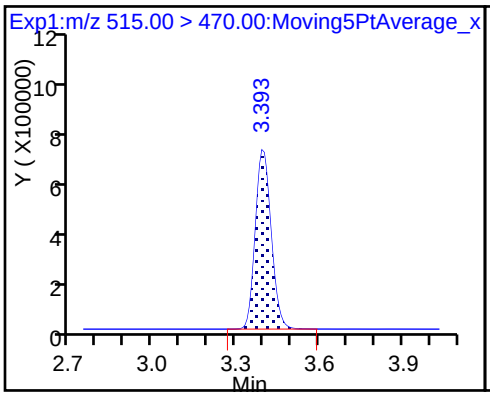
D 26 M2-8:2FTS



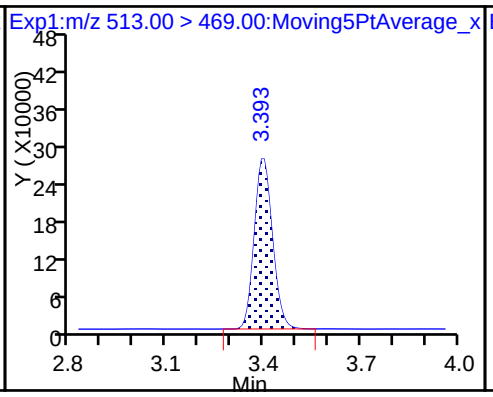
25 Sodium 1H,1H,2H,2H-perfluorodecane



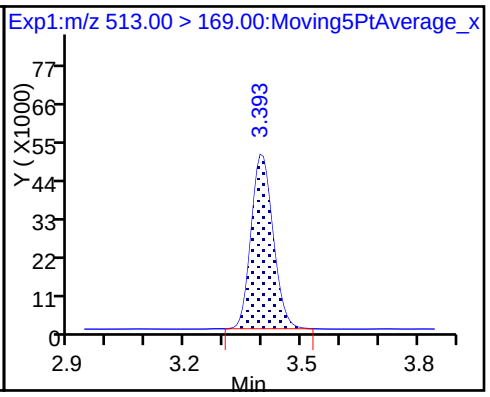
D 23 13C2 PFDA



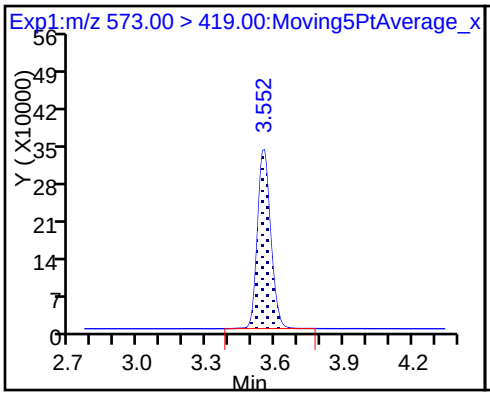
24 Perfluorodecanoic acid



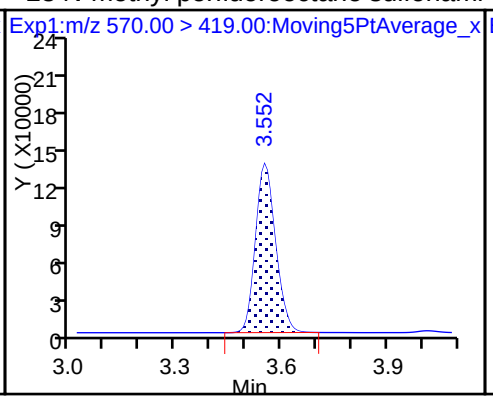
24 Perfluorodecanoic acid



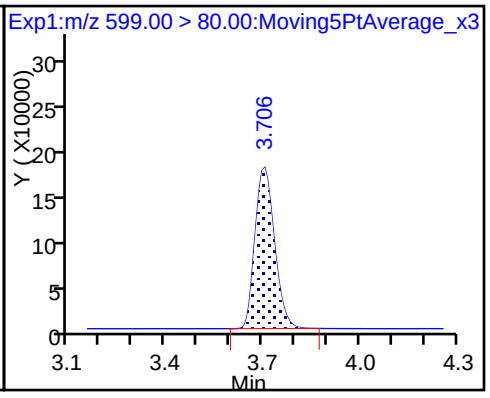
D 27 d3-NMeFOSAA



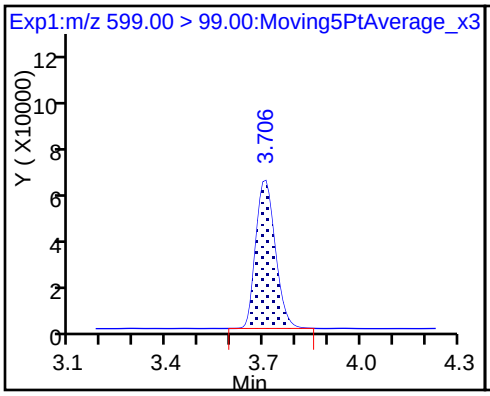
28 N-methyl perfluorooctane sulfonami



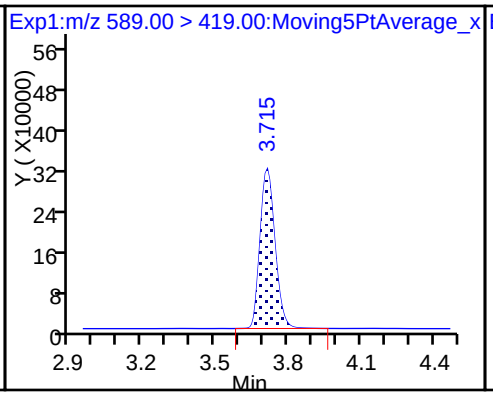
29 Perfluorodecane Sulfonic acid



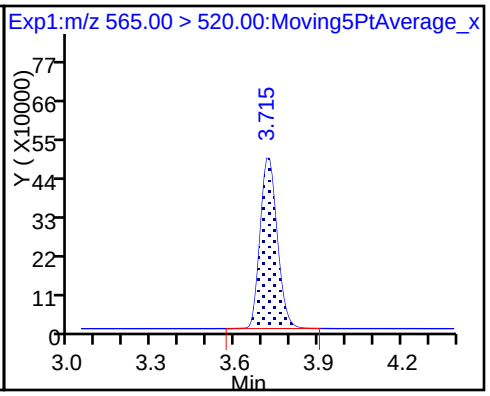
29 Perfluorodecane Sulfonic acid



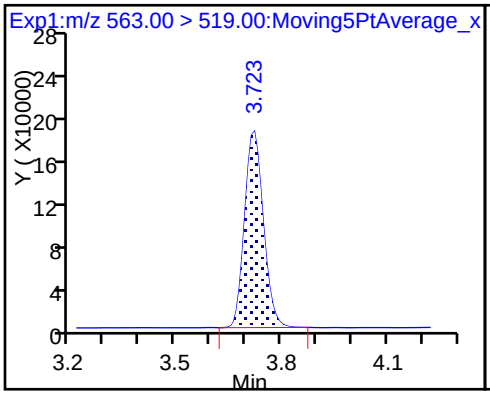
D 32 d5-NEtFOSAA



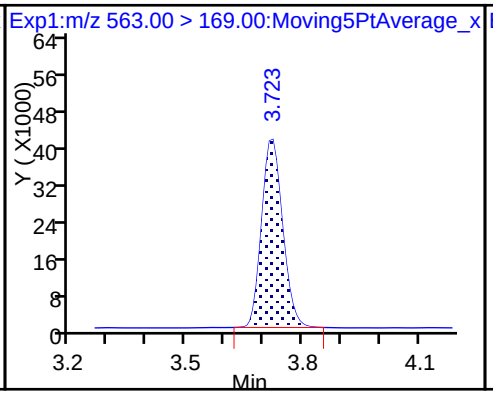
D 30 13C2 PFUnA



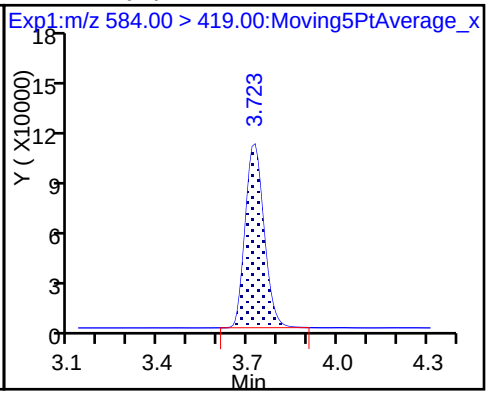
31 Perfluoroundecanoic acid



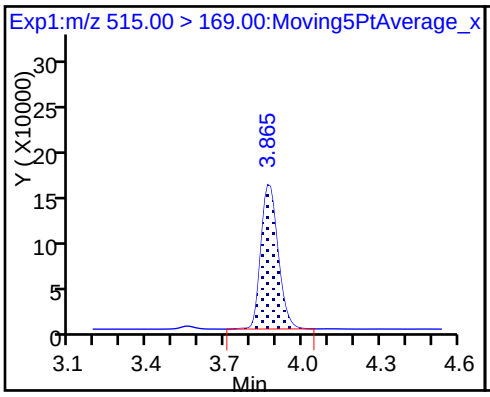
31 Perfluoroundecanoic acid



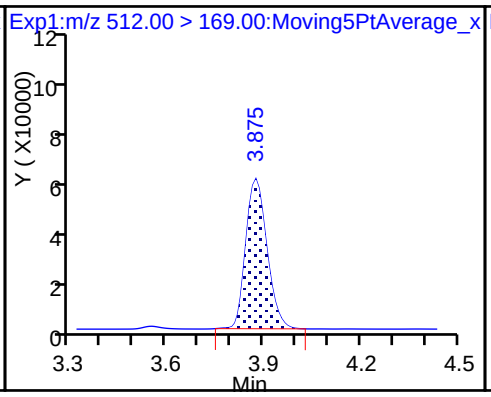
33 N-ethyl perfluorooctane sulfonamid



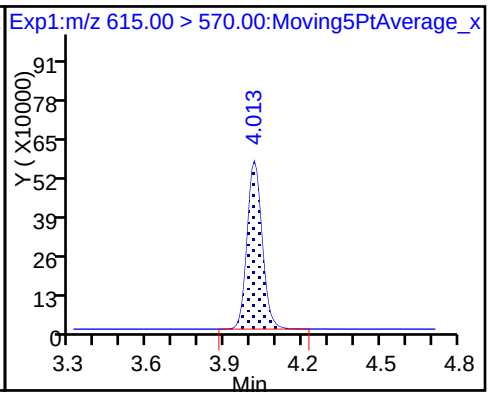
D 34 d-N-MeFOSA-M



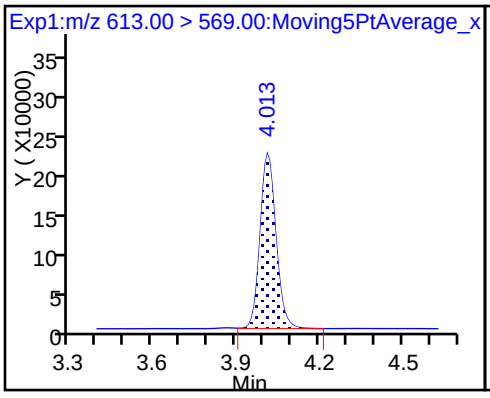
35 MeFOSA



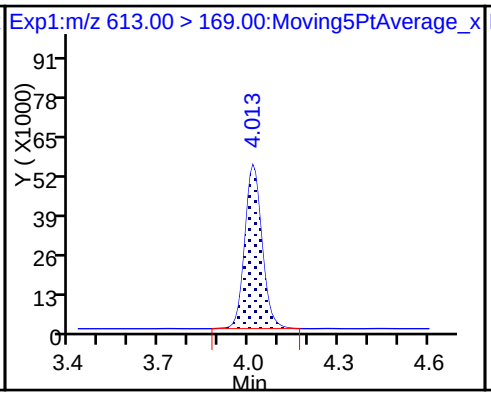
D 36 13C2 PFDoA



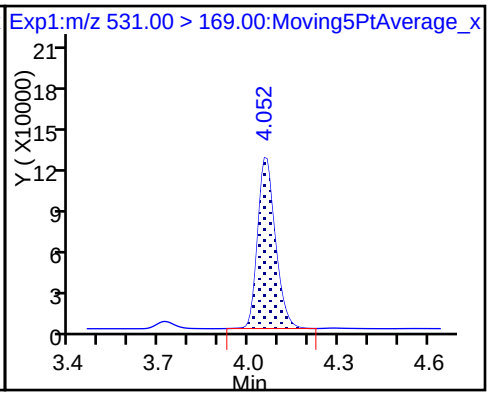
37 Perfluorododecanoic acid



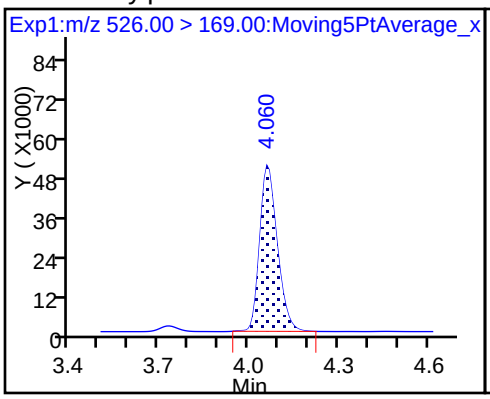
37 Perfluorododecanoic acid



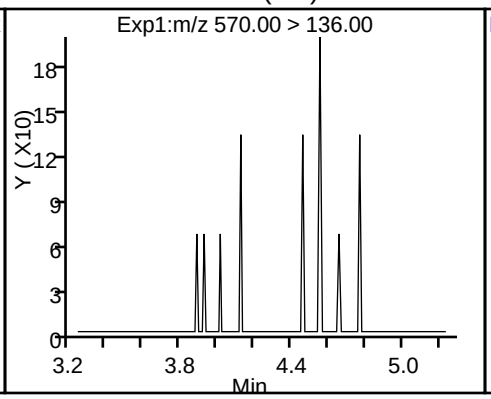
D 38 d-N-EtFOSA-M



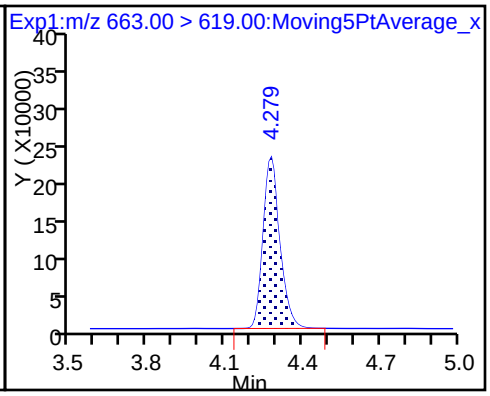
39 N-ethylperfluoro-1-octanesulfonami



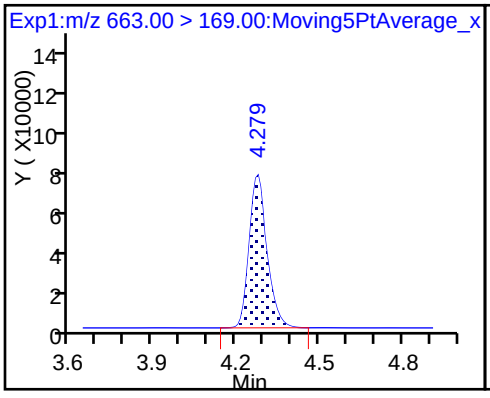
D 40 d-N-EtFOSE-M (ND)



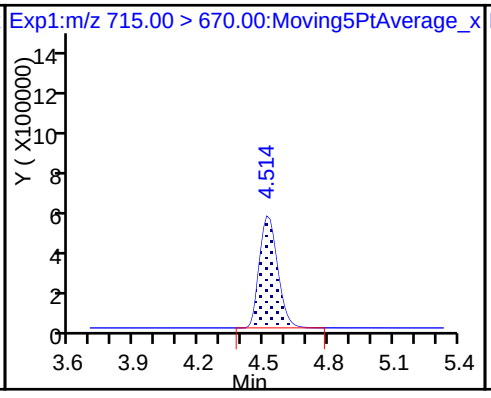
41 Perfluorotridecanoic acid



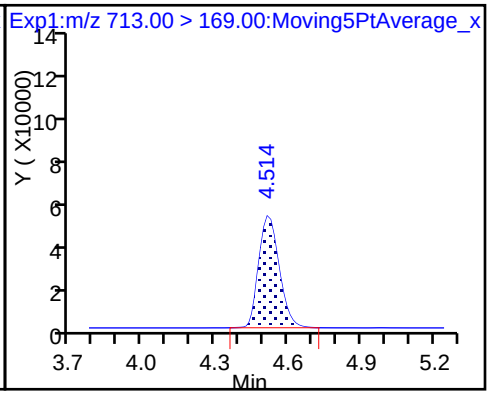
41 Perfluorotridecanoic acid



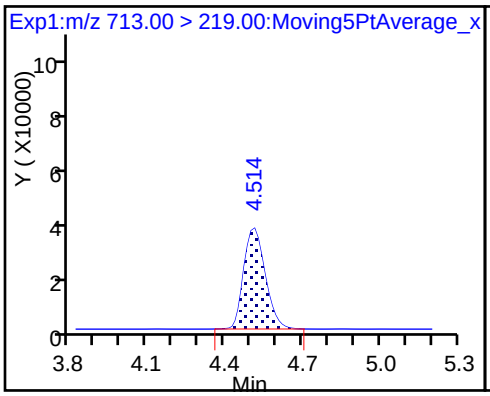
D 43 13C2-PFTeDA



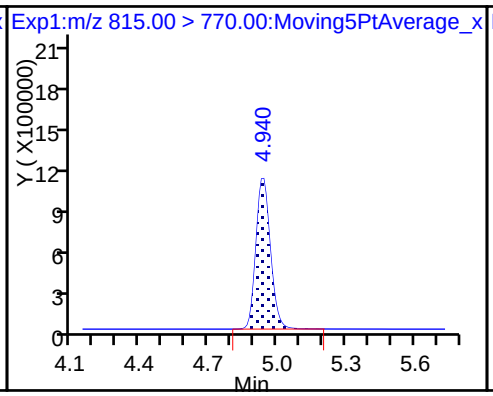
42 Perfluorotetradecanoic acid



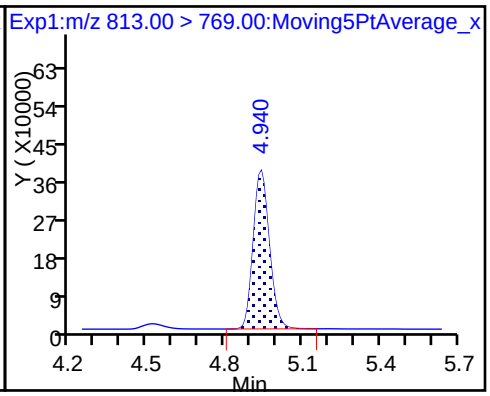
42 Perfluorotetradecanoic acid



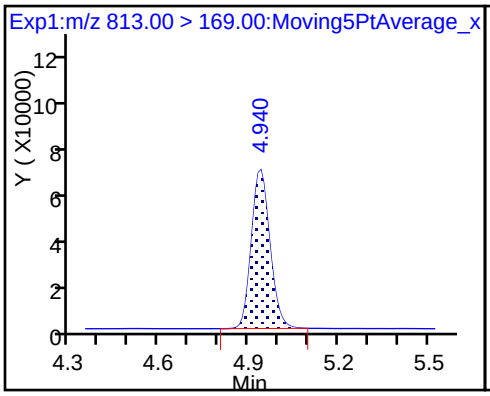
D 44 13C2-PFHxDA



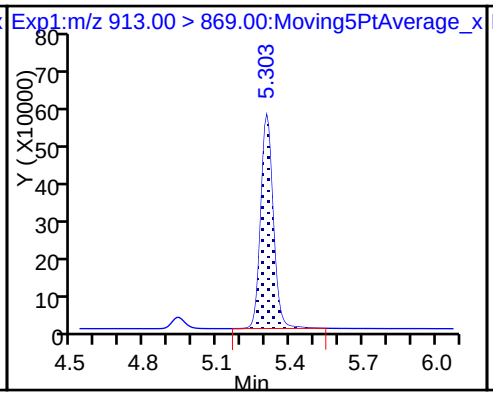
45 Perfluorohexadecanoic acid



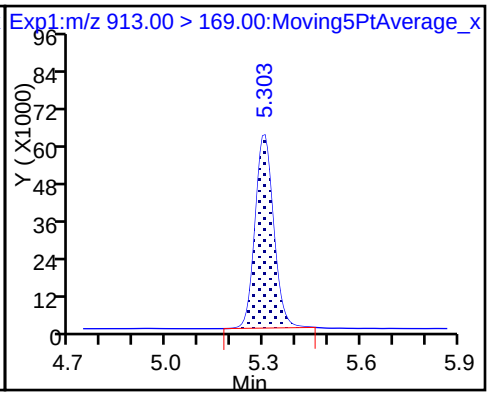
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

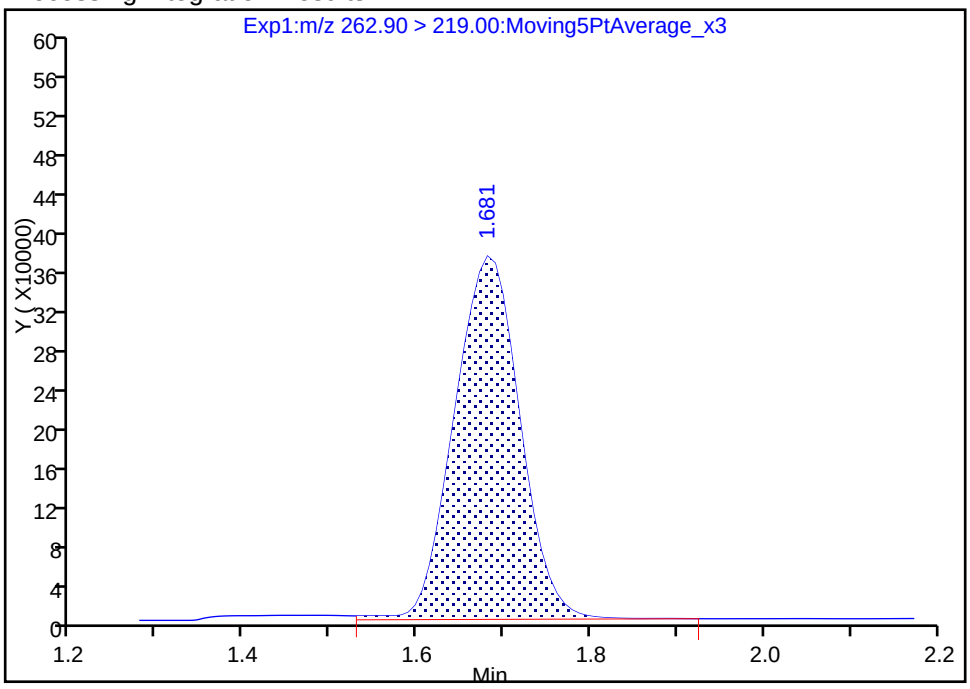
Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_046.d				
Injection Date:	23-Dec-2017 03:29:21	Instrument ID:	A8_N		
Lims ID:	320-34425-A-28-B MS				
Client ID:	FM-34-090-886-171211				
Operator ID:	SACINSTLCMS01	ALS Bottle#:	37	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	A8_N	Limit Group:	LC PFC ICAL		
Column:		Detector	EXP1		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

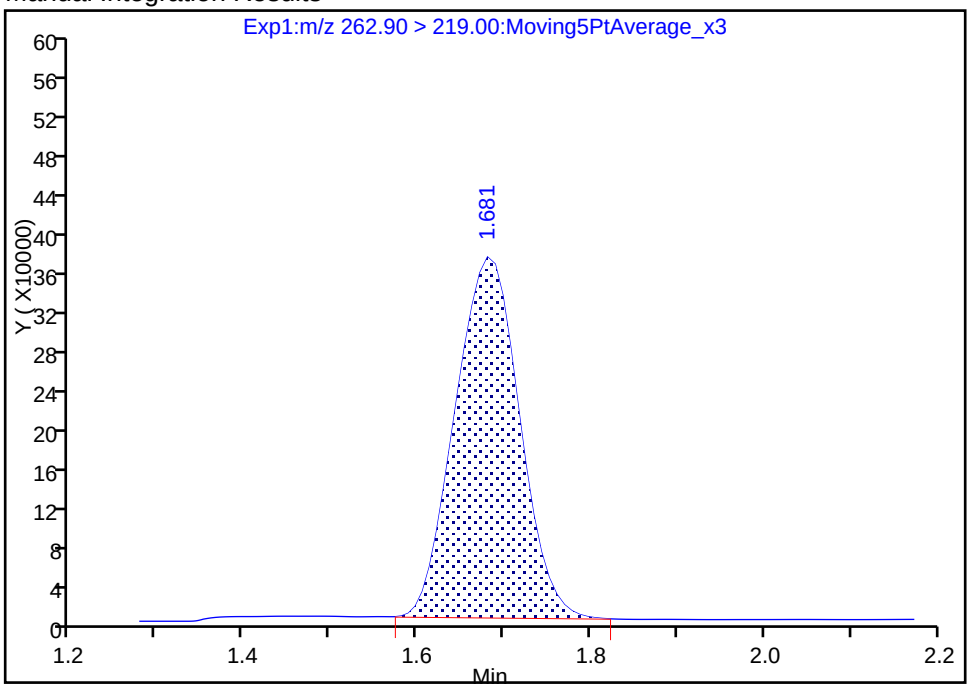
Processing Integration Results

RT: 1.68
Area: 1936979
Amount: 0.934001
Amount Units: ng/ml



Manual Integration Results

RT: 1.68
Area: 1892861
Amount: 0.912727
Amount Units: ng/ml



Reviewer: barnettj, 26-Dec-2017 15:56:05

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-090-886-171211 MSD | Lab Sample ID: 320-34425-28 MSD

Matrix: Water | Lab File ID: 2017.12.22LLB_048.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 244.5(mL) | Date Analyzed: 12/23/2017 03:44

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	40.34		2.04	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	38.16		2.04	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	41.17		2.04	0.59
375-85-9	Perfluoroheptanoic acid (PFHpA)	42.06		2.04	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	36.07		2.04	0.87
375-95-1	Perfluorononanoic acid (PFNA)	40.31		2.04	0.28
335-76-2	Perfluorodecanoic acid (PFDA)	39.88		2.04	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	38.04		2.04	1.12
307-55-1	Perfluorododecanoic acid (PFDoA)	42.40		2.04	0.56
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	44.09		2.04	1.33
376-06-7	Perfluorotetradecanoic acid (PFTeA)	38.83		2.04	0.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	34.92		2.04	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	33.38		2.04	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	38.63		2.04	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	38.32		2.04	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	37.40		2.04	0.33
754-91-6	Perfluorooctane Sulfonamide (FOSA)	39.41		2.04	0.36
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	36.30		20.4	3.17
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	35.42		20.4	1.94
27619-97-2	6:2FTS	37.64		20.4	2.04
39108-34-4	8:2FTS	40.23		20.4	2.04

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-34425-1

SDG No.:

Client Sample ID: FM-34-090-886-171211 MSD | Lab Sample ID: 320-34425-28 MSD

Matrix: Water | Lab File ID: 2017.12.22LLB_048.d

Analysis Method: 537 (modified) | Date Collected: 12/11/2017 13:05

Extraction Method: 3535 | Date Extracted: 12/22/2017 07:57

Sample wt/vol: 244.5(mL) | Date Analyzed: 12/23/2017 03:44

Con. Extract Vol.: 10.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 201222 | Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	112		25-150
STL01893	13C5 PFPeA	115		25-150
STL00993	13C2 PFHxA	106		25-150
STL01892	13C4-PFHpA	105		25-150
STL00990	13C4 PFOA	104		25-150
STL00995	13C5 PFNA	105		25-150
STL00996	13C2 PFDA	109		25-150
STL00997	13C2 PFUnA	107		25-150
STL00998	13C2 PFDoA	100		25-150
STL02116	13C2-PFTeDA	124		25-150
STL02337	13C3-PFBS	119		25-150
STL00994	18O2 PFHxS	115		25-150
STL00991	13C4 PFOS	103		25-150
STL01056	13C8 FOSA	100		25-150
STL02118	d3-NMeFOSAA	95		25-150
STL02117	d5-NEtFOSAA	97		25-150
STL02279	M2-6:2FTS	44		25-150
STL02280	M2-8:2FTS	80		25-150

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_048.d
Lims ID: 320-34425-A-28-C MSD
Client ID: FM-34-090-886-171211
Sample Type: MSD
Inject. Date: 23-Dec-2017 03:44:59 ALS Bottle#: 38 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-34425-a-28-c msd
Misc. Info.: Plate: 1 Rack: 4
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\A8_N.m
Limit Group: LC PFC ICAL
Last Update: 26-Dec-2017 16:04:47 Calib Date: 21-Dec-2017 16:08:29
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20171222-52066.b\2017.12.21ICALX_010.d

Column 1 : Det: EXP1
Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 15:57:53

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.420	1.419	0.001	0.534	7352215	2.79		112	21161	
2 Perfluorobutyric acid										
212.90 > 169.00	1.426	1.419	0.007	1.004	2657476	0.9862		98.6	597	
D 3 13C5-PFPeA										
267.90 > 223.00	1.679	1.670	0.009	0.632	4532047	2.88		115	37755	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.679	1.670	0.009	1.000	1888214	0.9331		93.3	1208	
D 47 13C3-PFBS										
301.90 > 83.00	1.715	1.705	0.010	0.645	93140	2.77		119	2826	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	1.715	1.707	0.008	1.000	2572896	0.8538		96.6	15129	
298.90 > 99.00	1.715	1.707	0.008	1.000	1065165		2.42(1.25-3.74)		8657	
61 Sodium 1H,1H,2H,2H-perfluorohexane										
327.00 > 307.00	1.933	1.920	0.013	1.000	531625	2.05		219	26436	
D 60 M2-4:2FTS										
329.00 > 81.00	1.943	1.943	0.0	0.731	1234	0.006812		0.0	58.8	
D 7 13C2 PFHxA										
315.00 > 270.00	1.964	1.953	0.011	0.739	4438082	2.64		106	39541	
6 Perfluorohexanoic acid										
313.00 > 269.00	1.964	1.956	0.008	1.000	1789201	1.01		101	2294	
313.00 > 119.00	1.964	1.956	0.008	1.000	169829		10.54(5.03-15.10)		3303	
D 9 13C4-PFHpA										
367.00 > 322.00	2.291	2.291	0.0	0.862	4085379	2.62		105	31899	
10 Perfluoroheptanoic acid										
363.00 > 319.00	2.304	2.291	0.013	1.006	1758008	1.03		103	3062	
363.00 > 169.00	2.304	2.291	0.013	1.006	654256		2.69(1.13-3.40)		4695	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
8 Perfluorohexanesulfonic acid										
399.00 > 80.00	2.304	2.304	0.0	0.994	1981607	0.8161		89.7	4758	
399.00 > 99.00	2.304	2.304	0.0	0.994	645064		3.07(1.50-4.49)		1806	
D 11 18O2 PFHxS										
403.00 > 84.00	2.317	2.304	0.013	0.872	5334628	2.71		115	48797	
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00	2.630	2.642	-0.012	1.000	450943	0.9202		97.1	11831	
D 12 M2-6:2FTS										
429.00 > 81.00	2.630	2.642	-0.012	0.989	750886	1.04		43.6	16506	
D 14 13C4 PFOA										
417.00 > 372.00	2.658	2.654	0.004	1.000	4671773	2.61		104	47381	
* 62 13C2-PFOA										
415.00 > 370.00	2.658	2.656	0.002		4331312	2.50			35420	
15 Perfluorooctanoic acid										
413.00 > 369.00	2.658	2.656	0.002	1.000	1733084	0.8819		88.2	2608	
413.00 > 169.00	2.658	2.656	0.002	1.000	914925		1.89(0.84-2.52)		6666	
16 Perfluoroheptanesulfonic Acid										
449.00 > 80.00	2.666	2.662	0.004	1.000	1651536	0.9445		99.2	16059	
449.00 > 99.00	2.666	2.662	0.004	1.000	448826		3.68(1.94-5.82)		10789	
D 18 13C4 PFOS										
503.00 > 80.00	3.032	3.025	0.007	1.141	3191260	2.46		103	27590	
17 Perfluorooctane sulfonic acid										
499.00 > 80.00	3.032	3.028	0.004	1.000	1326184	0.9369		101	161	
499.00 > 99.00	3.032	3.028	0.004	1.000	291359		4.55(2.31-6.93)		200	
D 19 13C5 PFNA										
468.00 > 423.00	3.032	3.028	0.004	1.141	3326398	2.62		105	37990	
20 Perfluorononanoic acid										
463.00 > 419.00	3.032	3.029	0.003	1.000	1319690	0.9857		98.6	5727	
463.00 > 169.00	3.032	3.029	0.003	1.000	313372		4.21(1.90-5.69)		6024	
D 21 13C8 FOSA										
506.00 > 78.00	3.370	3.370	0.0	1.268	4433133	2.51		100	23823	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.377	3.372	0.005	1.002	1638865	0.9635		96.4	21222	
D 26 M2-8:2FTS										
529.00 > 81.00	3.377	3.377	0.0	1.270	775675	1.91		79.9	14202	
25 Sodium 1H,1H,2H,2H-perfluorodecane										
527.00 > 507.00	3.377	3.377	0.0	1.000	387292	0.9837		103	14174	
D 23 13C2 PFDA										
515.00 > 470.00	3.392	3.389	0.003	1.276	2865587	2.73		109	32454	
24 Perfluorodecanoic acid										
513.00 > 469.00	3.392	3.390	0.002	1.000	1081222	0.9752		97.5	7201	
513.00 > 169.00	3.392	3.390	0.002	1.000	198508		5.45(2.36-7.09)		2859	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.544	3.543	0.001	1.333	1334976	2.37		94.9	28527	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.551	3.548	0.003	1.002	508745	0.8874		88.7	4017	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.696	3.703	-0.007	1.000	754115	0.9144		94.9	16698	
599.00 > 99.00	3.704	3.703	0.001	1.002	249073		3.03(1.39-4.16)		6759	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.713	3.712	0.001	1.397	1332023	2.42		96.9	6280	
D 30 13C2 PFUnA										
565.00 > 520.00	3.713	3.717	-0.004	1.397	2133820	2.67		107	28484	
31 Perfluoroundecanoic acid										
563.00 > 519.00	3.713	3.718	-0.005	1.000	727242	0.9301		93.0	7606	
563.00 > 169.00	3.713	3.718	-0.005	1.000	148702		4.89(0.00-0.00)		6746	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.713	3.720	-0.007	1.000	458449	0.8660		86.6	7687	
D 34 d-N-MeFOSA-M										
515.00 > 169.00	3.863	3.862	0.001	1.453	683449	1.36		54.4	2176	
35 MeFOSA										
512.00 > 169.00	3.873	3.872	0.001	1.003	279304	1.04		104	1814	
D 36 13C2 PFDoA										
615.00 > 570.00	4.012	4.011	0.001	1.509	2162363	2.51		100	34254	
37 Perfluorododecanoic acid										
613.00 > 569.00	4.012	4.011	0.001	1.000	890060	1.04		104	4589	
613.00 > 169.00	4.012	4.011	0.001	1.000	217324		4.10(2.13-6.40)		13818	
D 38 d-N-EtFOSA-M										
531.00 > 169.00	4.059	4.052	0.007	1.527	484464	1.00		40.1	1238	
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00	4.059	4.058	0.001	1.000	205418	1.00		99.6	1382	
D 40 d-N-EtFOSE-M										
570.00 > 136.00	4.233	4.240	-0.007	1.592	437	NC		0.0	2.5	
41 Perfluorotridecanoic acid										
663.00 > 619.00	4.278	4.277	0.001	1.000	1081366	1.08		108	10230	
663.00 > 169.00	4.278	4.277	0.001	1.000	344651		3.14(1.25-3.76)		12928	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.513	4.518	-0.005	1.698	2991950	3.11		124	24698	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.513	4.518	-0.005	1.000	292855	0.9495		94.9	8406	
713.00 > 219.00	4.513	4.518	-0.005	1.000	216559		1.35(0.71-2.13)		9226	
D 44 13C2-PFHxDA										
815.00 > 770.00	4.931	4.939	-0.008	1.855	4548431	2.60		104	15508	
45 Perfluorohexadecanoic acid										
813.00 > 769.00	4.939	4.939	0.0	1.002	1634392	1.03		103	1308	
813.00 > 169.00	4.931	4.939	-0.008	1.000	298768		5.47(2.86-8.58)		4951	
46 Perfluorooctadecanoic acid										
913.00 > 869.00	5.302	5.306	-0.004	1.000	2004246	1.07		107	680	
913.00 > 169.00	5.302	5.306	-0.004	1.000	257895		7.77(0.00-0.00)		1872	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Report Date: 26-Dec-2017 16:04:50 Chrom Revision: 2.2 08-Dec-2017 11:41:26

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b\2017.12.22LLB_048.d

Injection Date: 23-Dec-2017 03:44:59 Instrument ID: A8_N

Lims ID: 320-34425-A-28-C MSD

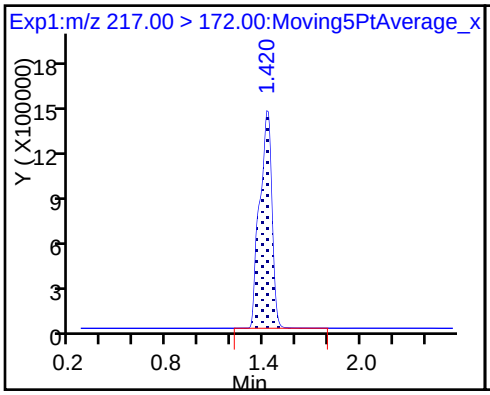
Client ID: FM-34-090-886-171211

Operator ID: SACINSTLCMS01 ALS Bottle#: 38 Worklist Smp#: 13

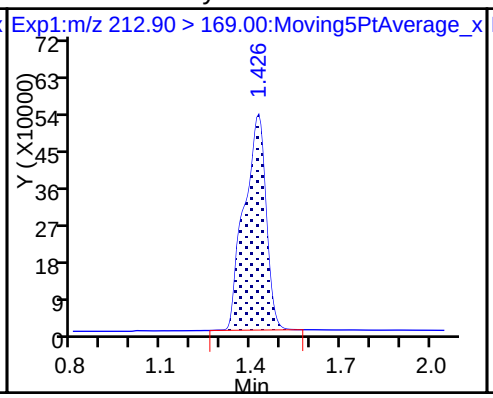
Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC ICAL

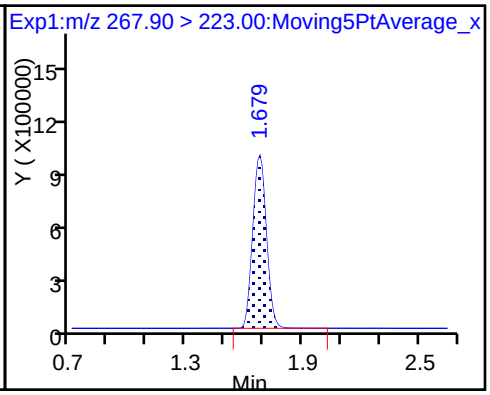
D 1 13C4 PFBA



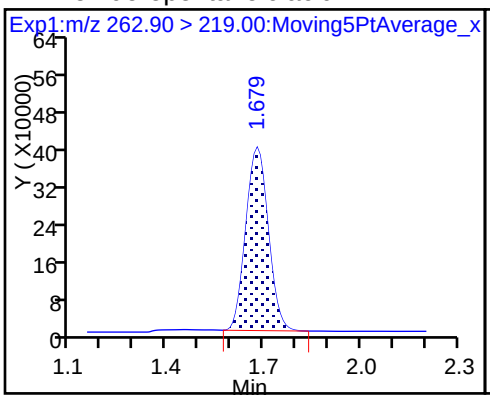
2 Perfluorobutyric acid



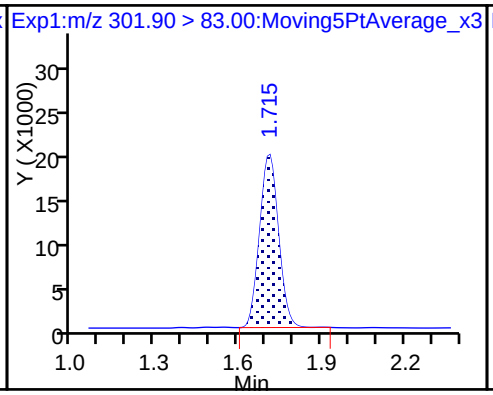
D 3 13C5-PFPeA



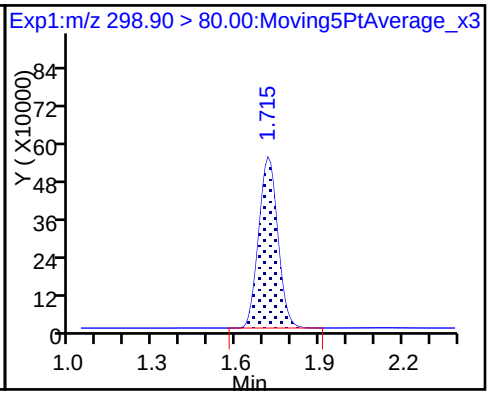
4 Perfluoropentanoic acid



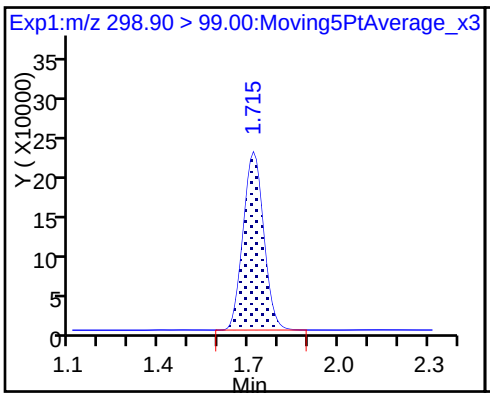
D 47 13C3-PFBS



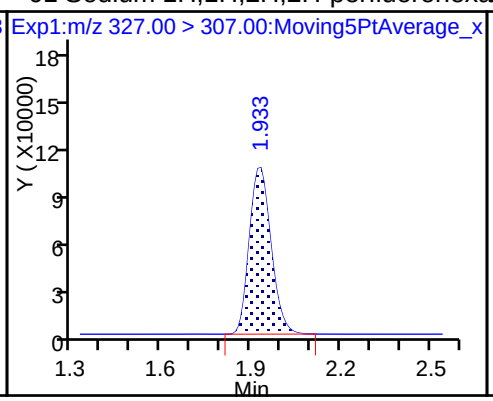
5 Perfluorobutanesulfonic acid



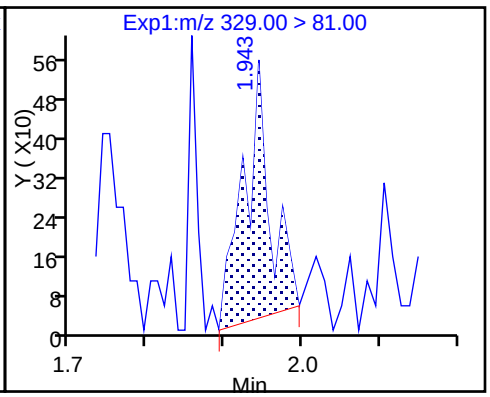
5 Perfluorobutanesulfonic acid



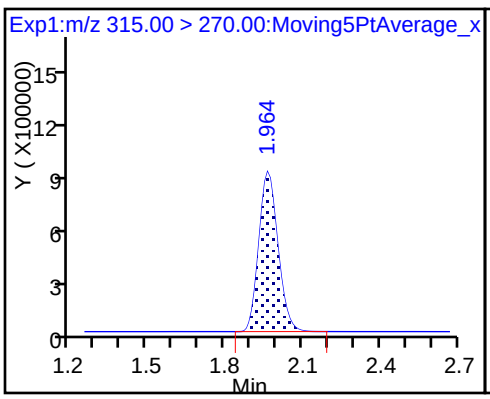
61 Sodium 1H,1H,2H,2H-perfluorohexane



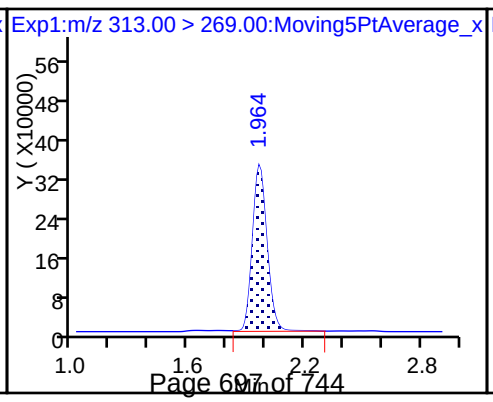
D 60 M2-4:2FTS



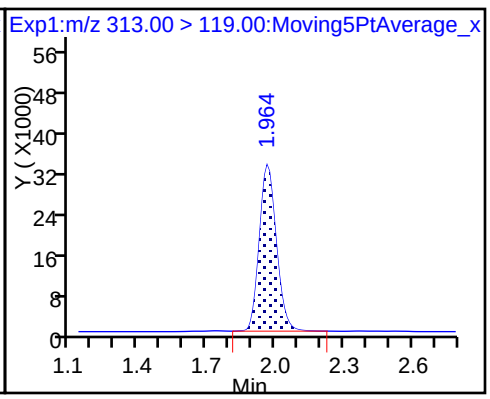
D 7 13C2 PFHxA



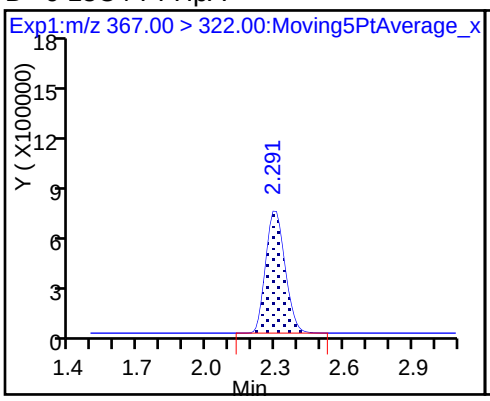
6 Perfluorohexanoic acid



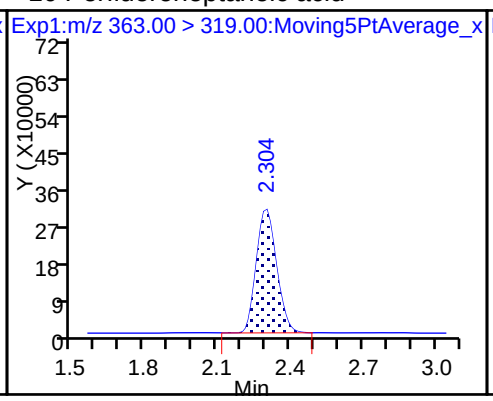
6 Perfluorohexanoic acid



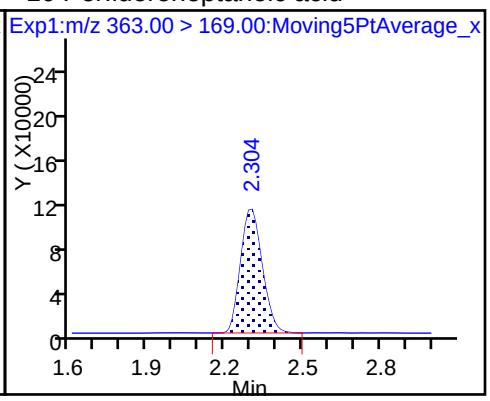
D 9 13C4-PFHpA



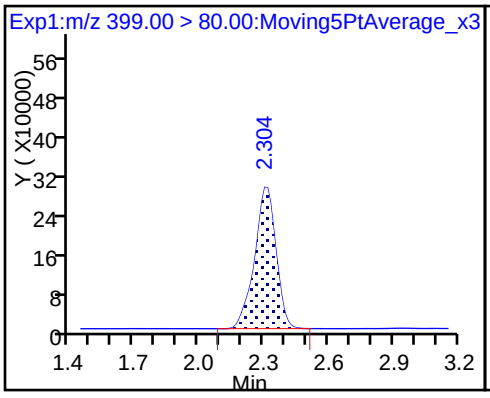
10 Perfluoroheptanoic acid



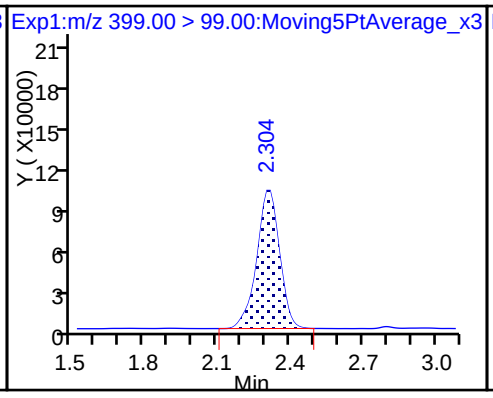
10 Perfluoroheptanoic acid



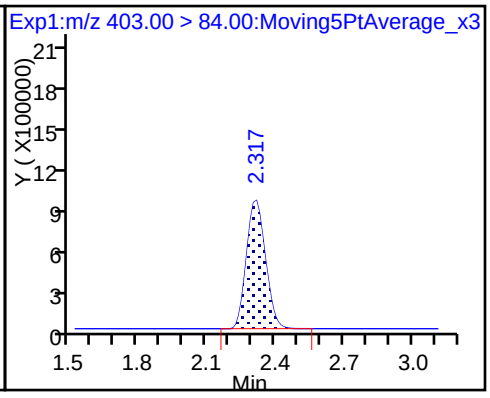
8 Perfluorohexanesulfonic acid



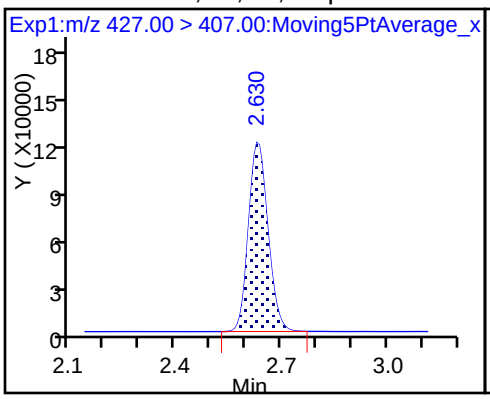
8 Perfluorohexanesulfonic acid



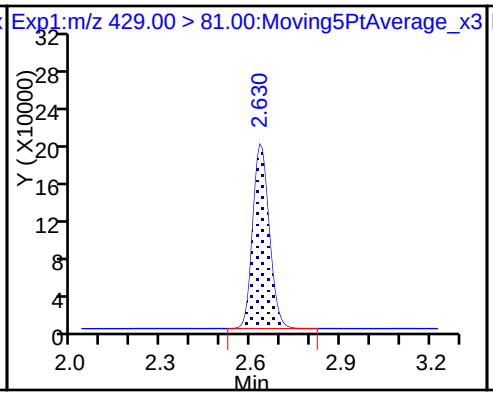
D 11 18O2 PFHxS



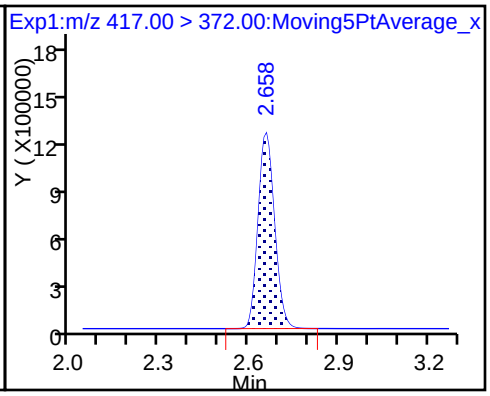
13 Sodium 1H,1H,2H,2H-perfluorooctane



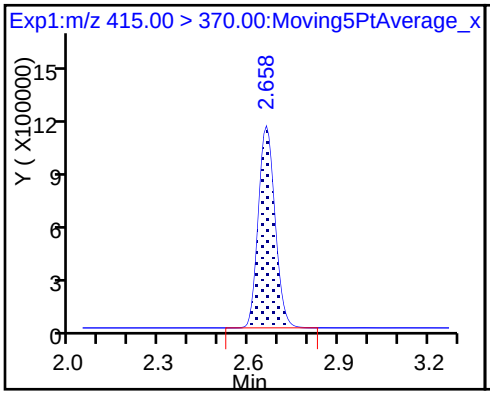
D 12 M2-6:2FTS



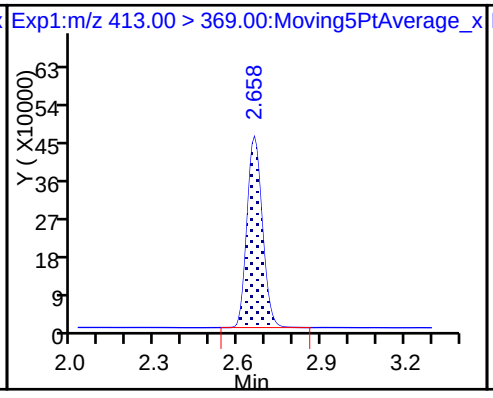
D 14 13C4 PFOA



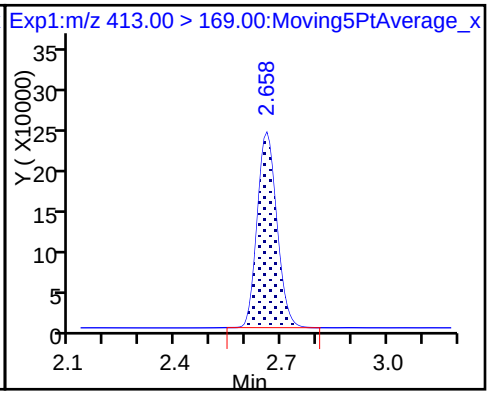
* 62 13C2-PFOA



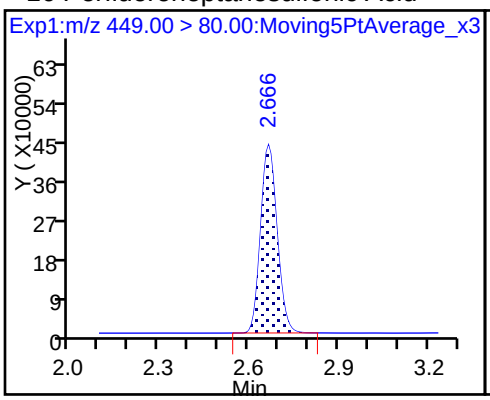
15 Perfluorooctanoic acid



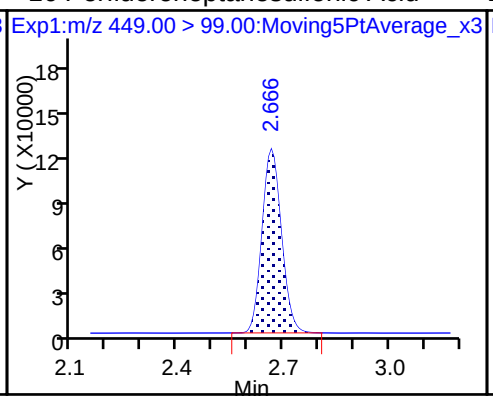
15 Perfluorooctanoic acid



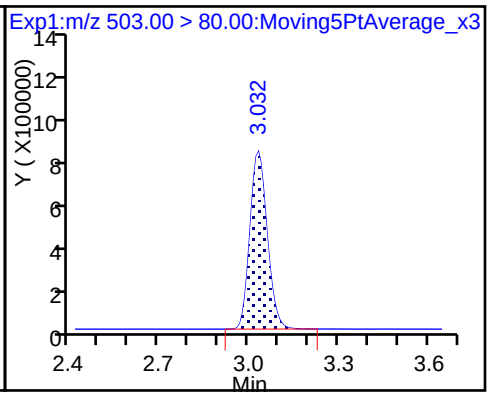
16 Perfluoroheptanesulfonic Acid



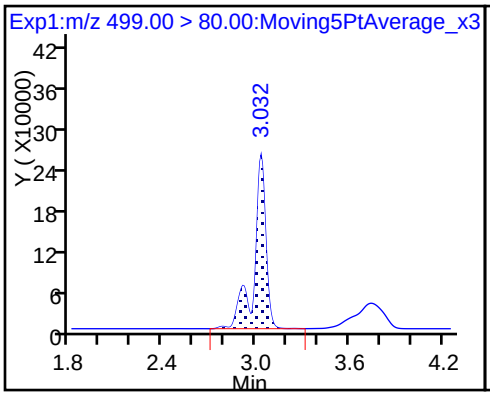
16 Perfluoroheptanesulfonic Acid



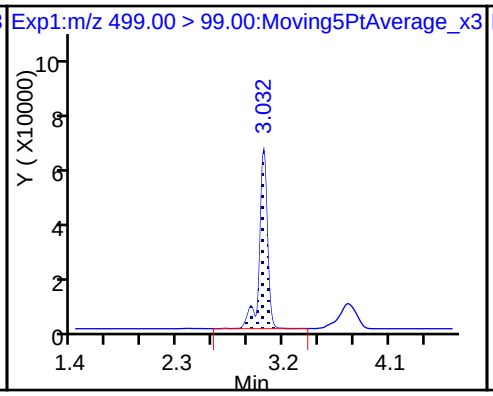
D 18 13C4 PFOS



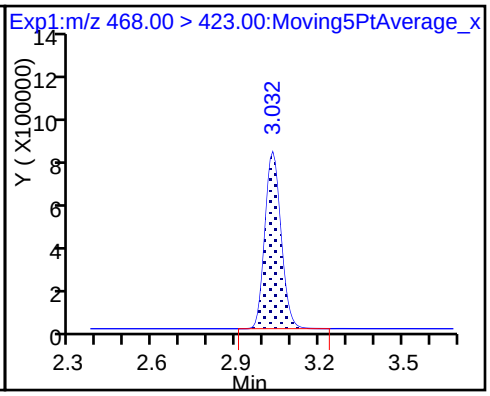
17 Perfluorooctane sulfonic acid



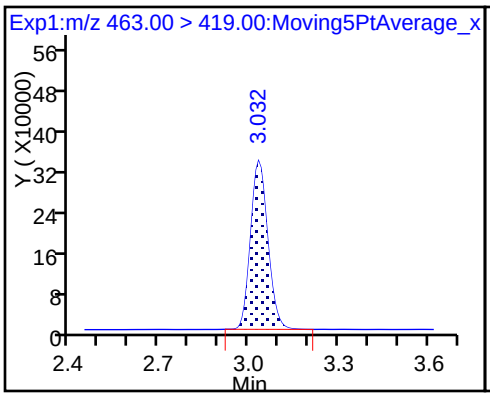
17 Perfluorooctane sulfonic acid



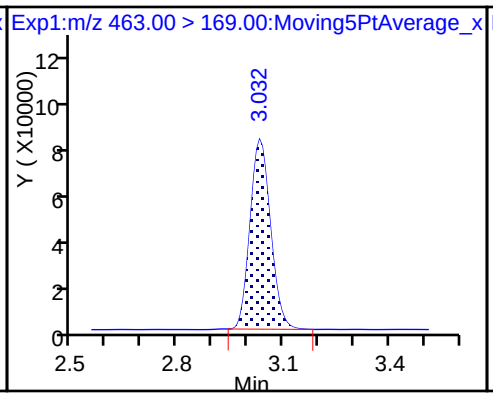
D 19 13C5 PFNA



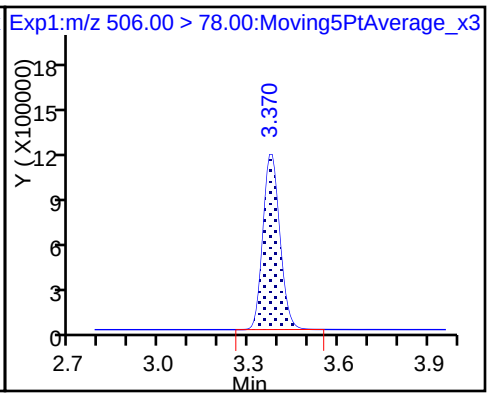
20 Perfluorononanoic acid



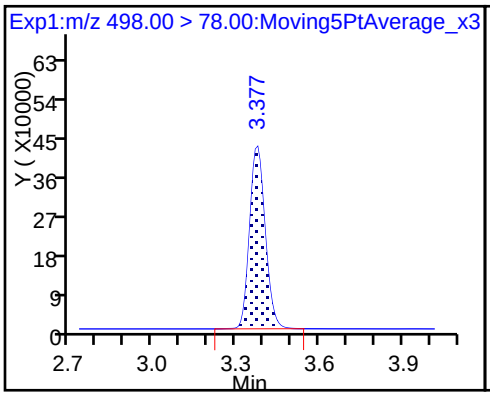
20 Perfluorononanoic acid



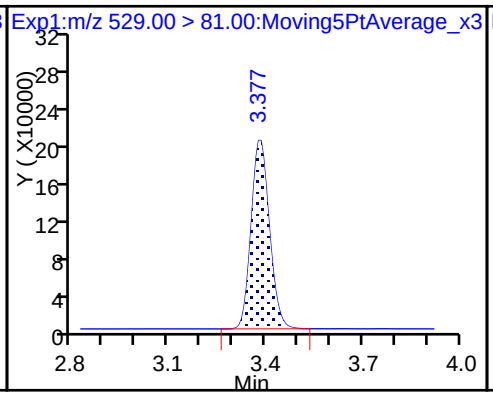
D 21 13C8 FOSA



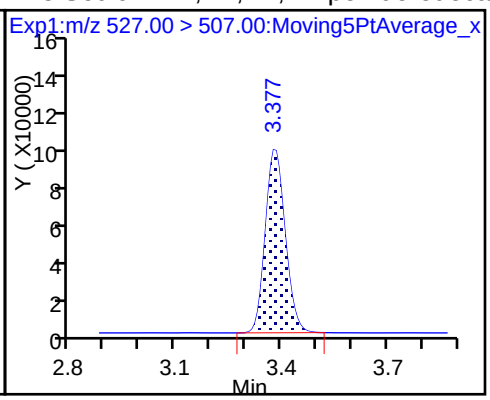
22 Perfluorooctane Sulfonamide



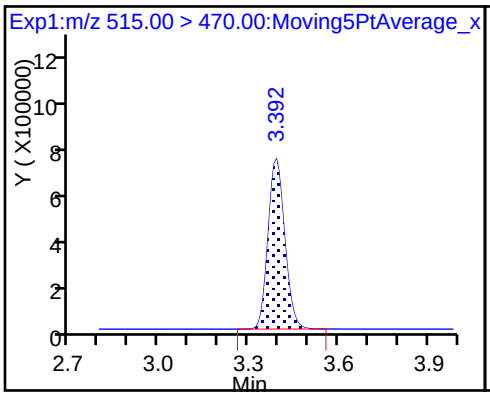
D 26 M2-8:2FTS



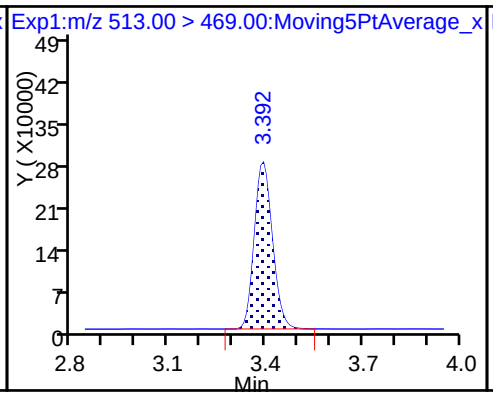
25 Sodium 1H,1H,2H,2H-perfluorodecane



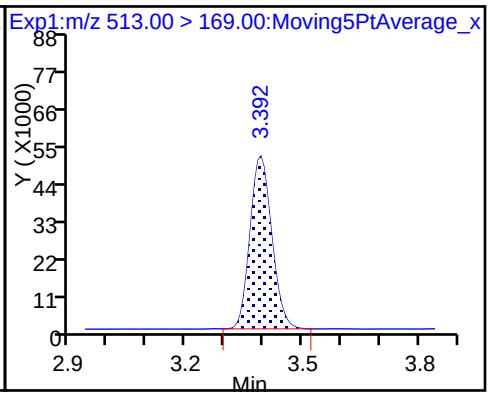
D 23 13C2 PFDA



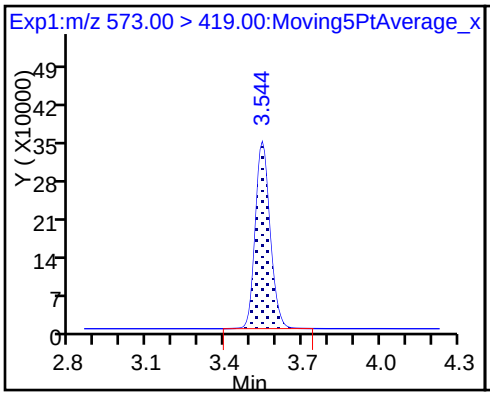
24 Perfluorodecanoic acid



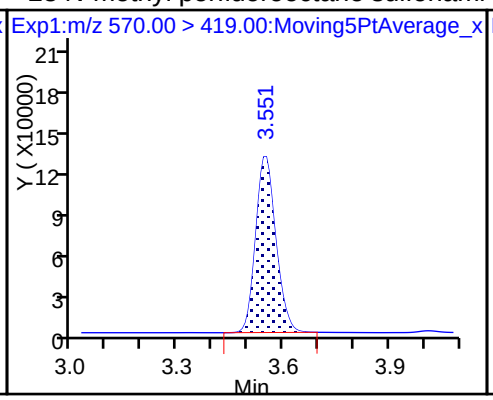
24 Perfluorodecanoic acid



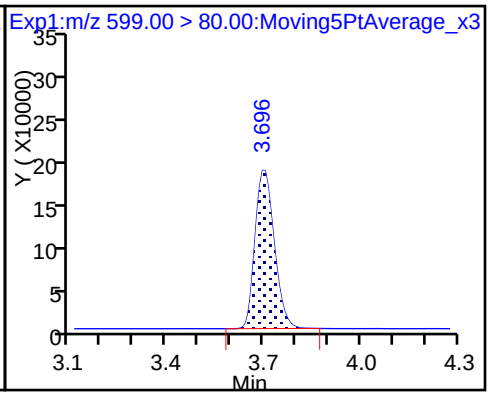
D 27 d3-NMeFOSAA



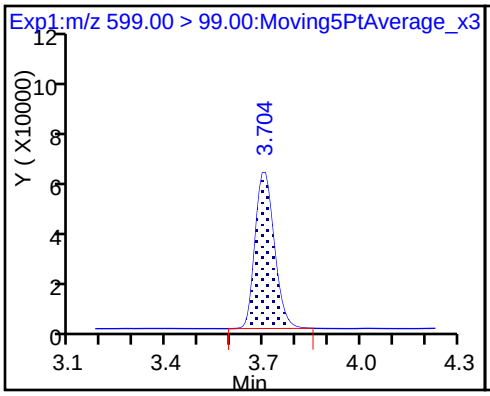
28 N-methyl perfluorooctane sulfonami



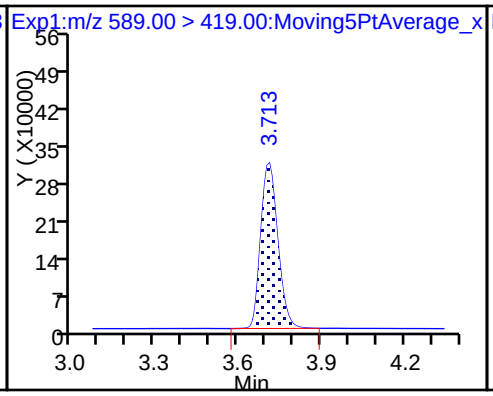
29 Perfluorodecane Sulfonic acid



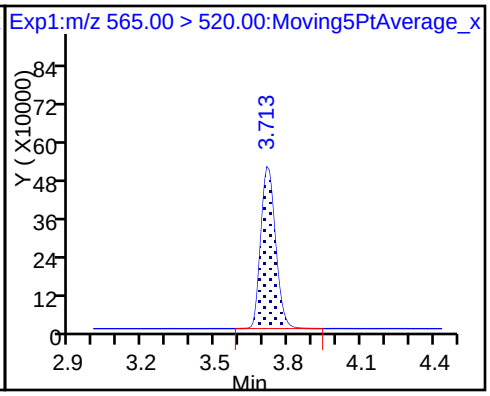
29 Perfluorodecane Sulfonic acid



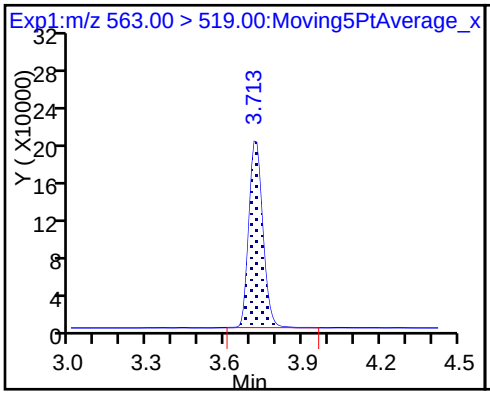
D 32 d5-NEtFOSAA



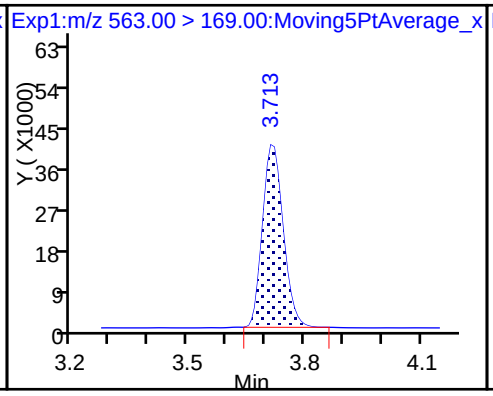
D 30 13C2 PFUnA



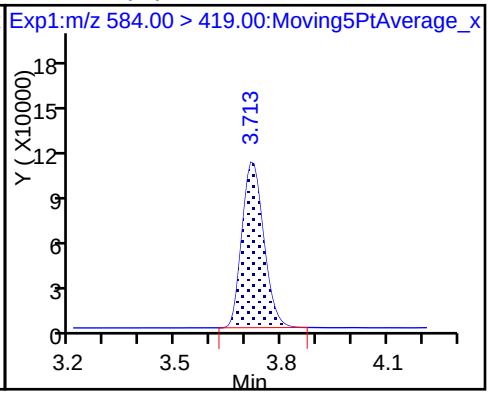
31 Perfluoroundecanoic acid



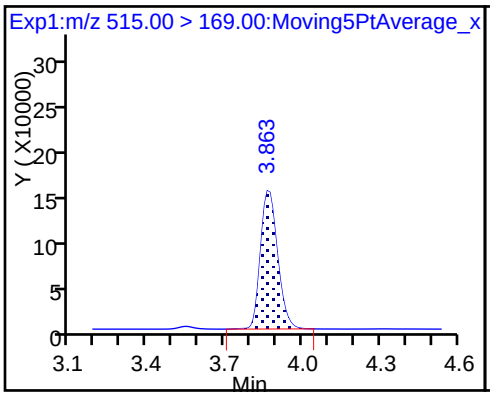
31 Perfluoroundecanoic acid



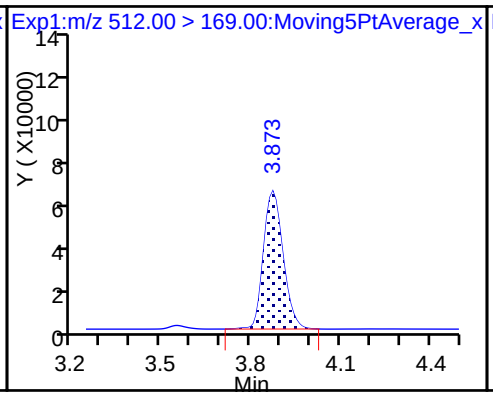
33 N-ethyl perfluorooctane sulfonamid



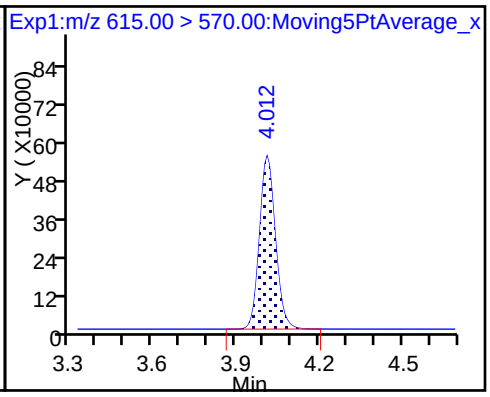
D 34 d-N-MeFOSA-M



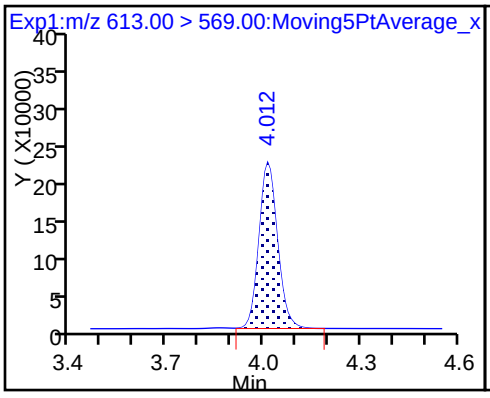
35 MeFOSA



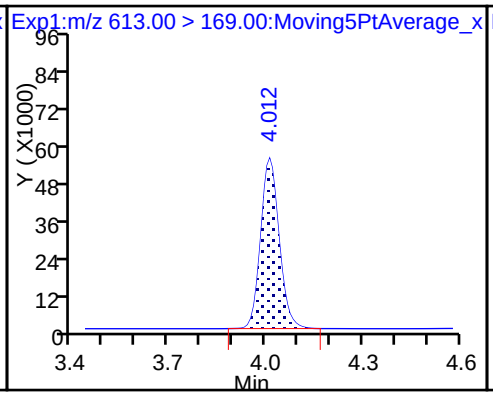
D 36 13C2 PFDoA



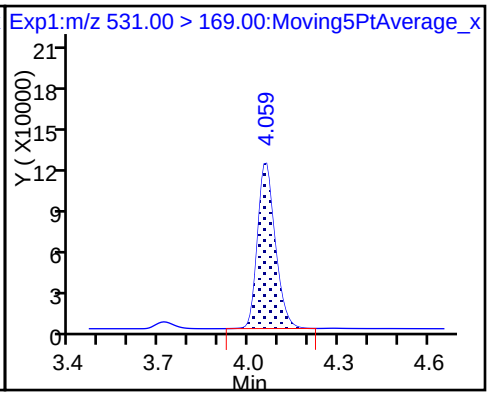
37 Perfluorododecanoic acid



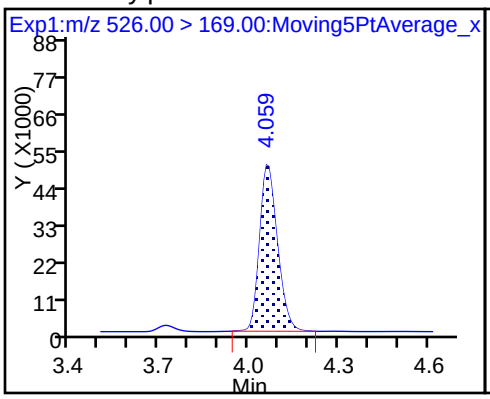
37 Perfluorododecanoic acid



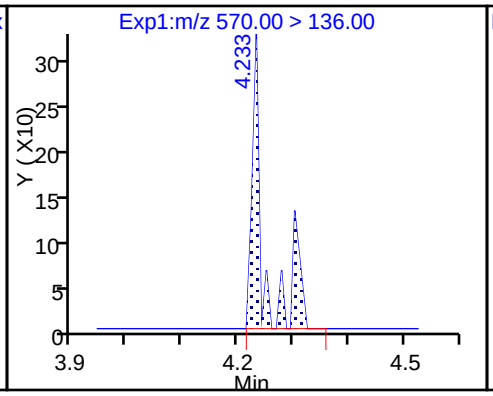
D 38 d-N-EtFOSA-M



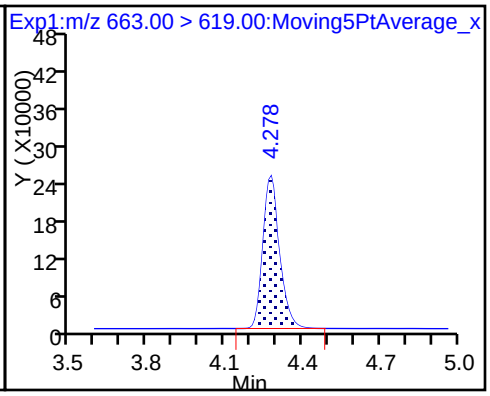
39 N-ethylperfluoro-1-octanesulfonami



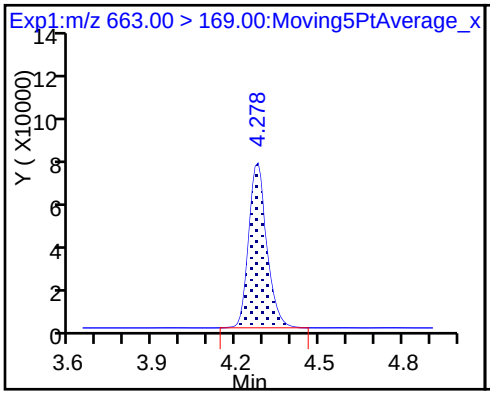
D 40 d-N-EtFOSE-M



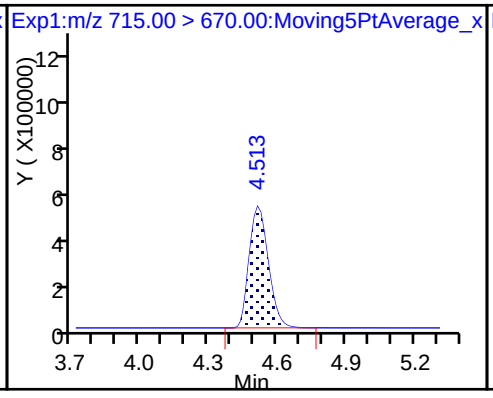
41 Perfluorotridecanoic acid



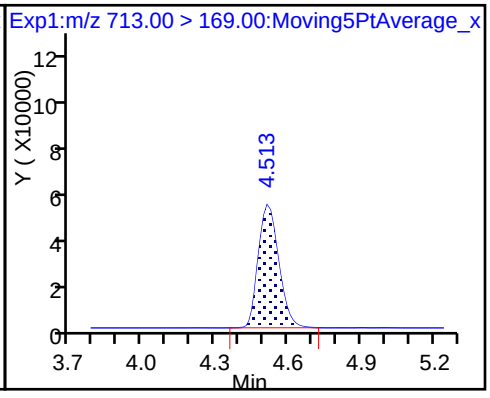
41 Perfluorotridecanoic acid



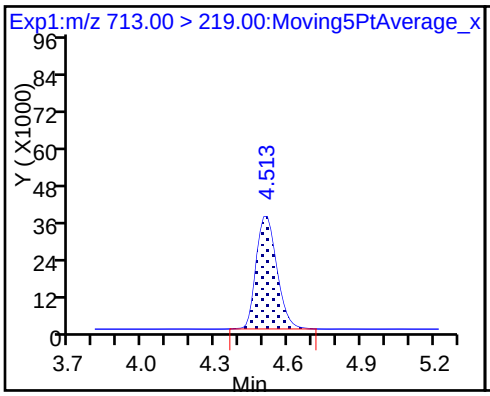
D 43 13C2-PFTeDA



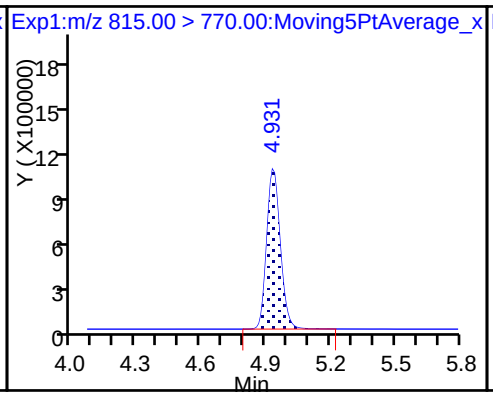
42 Perfluorotetradecanoic acid



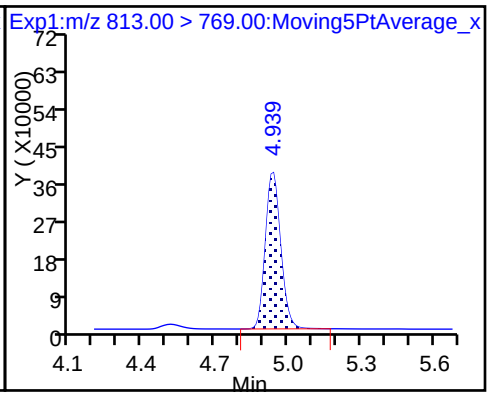
42 Perfluorotetradecanoic acid



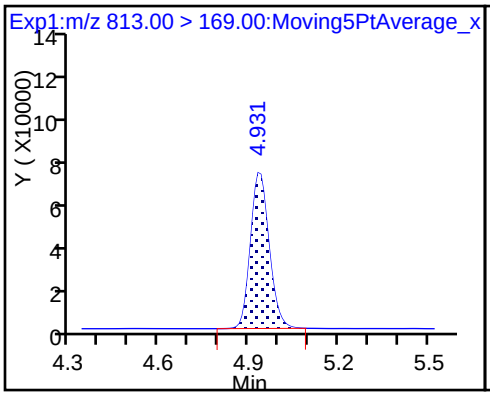
D 44 13C2-PFHxDA



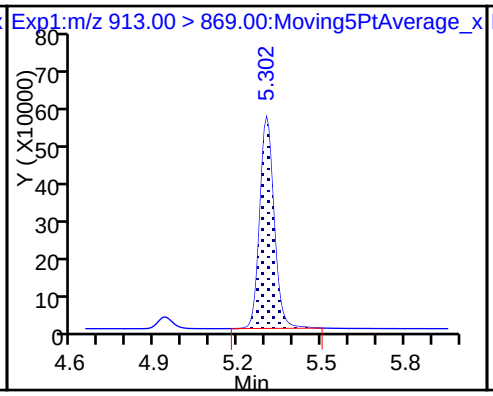
45 Perfluorohexadecanoic acid



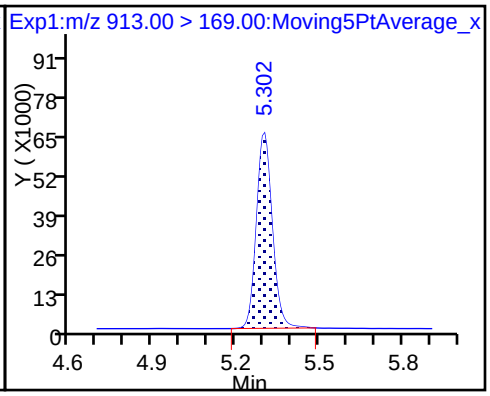
45 Perfluorohexadecanoic acid



46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Instrument ID: A8_N Start Date: 12/21/2017 15:05

Analysis Batch Number: 201053 End Date: 12/21/2017 16:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 320-201053/2		12/21/2017 15:05	1	2017.12.21ICALX 002.d	GeminiC18 3x100 3(mm)
IC 320-201053/3		12/21/2017 15:13	1	2017.12.21ICALX 003.d	GeminiC18 3x100 3(mm)
IC 320-201053/4		12/21/2017 15:21	1	2017.12.21ICALX 004.d	GeminiC18 3x100 3(mm)
IC 320-201053/5		12/21/2017 15:29	1	2017.12.21ICALX 005.d	GeminiC18 3x100 3(mm)
IC 320-201053/6		12/21/2017 15:37	1	2017.12.21ICALX 006.d	GeminiC18 3x100 3(mm)
IC 320-201053/7		12/21/2017 15:45	1	2017.12.21ICALX 007.d	GeminiC18 3x100 3(mm)
IC 320-201053/8		12/21/2017 15:52	1	2017.12.21ICALX 008.d	GeminiC18 3x100 3(mm)
IC 320-201053/9		12/21/2017 16:00	1	2017.12.21ICALX 009.d	GeminiC18 3x100 3(mm)
IC 320-201053/10		12/21/2017 16:08	1	2017.12.21ICALX 010.d	GeminiC18 3x100 3(mm)
ICB 320-201053/11		12/21/2017 16:16	1	2017.12.21ICALX 011.d	GeminiC18 3x100 3(mm)
ICV 320-201053/12		12/21/2017 16:24	1	2017.12.21ICALX 012.d	GeminiC18 3x100 3(mm)
ZZZZZ		12/21/2017 16:31	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/21/2017 16:39	1		GeminiC18 3x100 3(mm)
CCVL 320-201053/15		12/21/2017 16:47	1		GeminiC18 3x100 3(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Instrument ID: A8_N Start Date: 12/22/2017 22:39

Analysis Batch Number: 201221 End Date: 12/23/2017 02:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-201221/1		12/22/2017 22:39	1	2017.12.22LLB_009.d	GeminiC18 3x100 3(mm)
MB 320-201036/1-A		12/22/2017 22:46	1	2017.12.22LLB_010.d	GeminiC18 3x100 3(mm)
LCS 320-201036/2-A		12/22/2017 22:54	1	2017.12.22LLB_011.d	GeminiC18 3x100 3(mm)
LCSD 320-201036/3-A		12/22/2017 23:02	1	2017.12.22LLB_012.d	GeminiC18 3x100 3(mm)
320-34425-1		12/22/2017 23:10	1	2017.12.22LLB_013.d	GeminiC18 3x100 3(mm)
320-34425-2		12/22/2017 23:18	1	2017.12.22LLB_014.d	GeminiC18 3x100 3(mm)
320-34425-3		12/22/2017 23:26	1	2017.12.22LLB_015.d	GeminiC18 3x100 3(mm)
320-34425-4		12/22/2017 23:34	1	2017.12.22LLB_016.d	GeminiC18 3x100 3(mm)
320-34425-5		12/22/2017 23:41	1	2017.12.22LLB_017.d	GeminiC18 3x100 3(mm)
320-34425-6		12/22/2017 23:49	1	2017.12.22LLB_018.d	GeminiC18 3x100 3(mm)
320-34425-7		12/22/2017 23:57	1	2017.12.22LLB_019.d	GeminiC18 3x100 3(mm)
CCV 320-201221/12		12/23/2017 00:05	1	2017.12.22LLB_020.d	GeminiC18 3x100 3(mm)
320-34425-8		12/23/2017 00:13	1	2017.12.22LLB_021.d	GeminiC18 3x100 3(mm)
320-34425-9		12/23/2017 00:21	1	2017.12.22LLB_022.d	GeminiC18 3x100 3(mm)
320-34425-10		12/23/2017 00:28	1	2017.12.22LLB_023.d	GeminiC18 3x100 3(mm)
320-34425-11		12/23/2017 00:36	1	2017.12.22LLB_024.d	GeminiC18 3x100 3(mm)
320-34425-12		12/23/2017 00:44	1	2017.12.22LLB_025.d	GeminiC18 3x100 3(mm)
320-34425-13		12/23/2017 00:52	1	2017.12.22LLB_026.d	GeminiC18 3x100 3(mm)
320-34425-14		12/23/2017 01:00	1	2017.12.22LLB_027.d	GeminiC18 3x100 3(mm)
320-34425-15		12/23/2017 01:08	1	2017.12.22LLB_028.d	GeminiC18 3x100 3(mm)
320-34425-16		12/23/2017 01:16	1	2017.12.22LLB_029.d	GeminiC18 3x100 3(mm)
320-34425-17		12/23/2017 01:23	1	2017.12.22LLB_030.d	GeminiC18 3x100 3(mm)
CCV 320-201221/23		12/23/2017 01:31	1	2017.12.22LLB_031.d	GeminiC18 3x100 3(mm)
320-34425-18		12/23/2017 01:39	1	2017.12.22LLB_032.d	GeminiC18 3x100 3(mm)
320-34425-19		12/23/2017 01:47	1	2017.12.22LLB_033.d	GeminiC18 3x100 3(mm)
320-34425-21		12/23/2017 01:55	1	2017.12.22LLB_034.d	GeminiC18 3x100 3(mm)
CCV 320-201221/27		12/23/2017 02:03	1	2017.12.22LLB_035.d	GeminiC18 3x100 3(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Instrument ID: A8_N Start Date: 12/23/2017 02:11

Analysis Batch Number: 201222 End Date: 12/23/2017 04:24

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-201222/1		12/23/2017 02:11	1	2017.12.22LLB_036.d	GeminiC18 3x100 3(mm)
MB 320-201042/1-A		12/23/2017 02:18	1	2017.12.22LLB_037.d	GeminiC18 3x100 3(mm)
LCS 320-201042/2-A		12/23/2017 02:26	1	2017.12.22LLB_038.d	GeminiC18 3x100 3(mm)
320-34425-22		12/23/2017 02:34	1	2017.12.22LLB_039.d	GeminiC18 3x100 3(mm)
320-34425-23		12/23/2017 02:42	1	2017.12.22LLB_040.d	GeminiC18 3x100 3(mm)
320-34425-24		12/23/2017 02:50	1	2017.12.22LLB_041.d	GeminiC18 3x100 3(mm)
320-34425-25		12/23/2017 02:58	1	2017.12.22LLB_042.d	GeminiC18 3x100 3(mm)
320-34425-26		12/23/2017 03:05	1	2017.12.22LLB_043.d	GeminiC18 3x100 3(mm)
320-34425-27		12/23/2017 03:13	1	2017.12.22LLB_044.d	GeminiC18 3x100 3(mm)
320-34425-28		12/23/2017 03:21	1	2017.12.22LLB_045.d	GeminiC18 3x100 3(mm)
320-34425-28 MS		12/23/2017 03:29	1	2017.12.22LLB_046.d	GeminiC18 3x100 3(mm)
CCV 320-201222/12		12/23/2017 03:37	1	2017.12.22LLB_047.d	GeminiC18 3x100 3(mm)
320-34425-28 MSD		12/23/2017 03:44	1	2017.12.22LLB_048.d	GeminiC18 3x100 3(mm)
320-34425-29		12/23/2017 03:52	1	2017.12.22LLB_049.d	GeminiC18 3x100 3(mm)
320-34425-30		12/23/2017 04:00	1	2017.12.22LLB_050.d	GeminiC18 3x100 3(mm)
320-34425-31		12/23/2017 04:08	1	2017.12.22LLB_051.d	GeminiC18 3x100 3(mm)
320-34425-32		12/23/2017 04:16	1	2017.12.22LLB_052.d	GeminiC18 3x100 3(mm)
CCV 320-201222/18		12/23/2017 04:24	1	2017.12.22LLB_053.d	GeminiC18 3x100 3(mm)

537 (modified)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Batch Number: 201036 Batch Start Date: 12/22/17 07:51 Batch Analyst: Branscum, Cassie

Batch Method: 3535 Batch End Date: 12/22/17 14:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFC_ALL_SU 00027	LCPFC-IS 00016
MB 320-201036/1		3535, 537 (modified)				250 mL	10.0 mL	500 uL	500 uL
LCS 320-201036/2		3535, 537 (modified)				250 mL	10.0 mL	500 uL	500 uL
LCSD 320-201036/3		3535, 537 (modified)				250 mL	10.0 mL	500 uL	500 uL
320-34425-A-1	FB-816-171212 Field Blank	3535, 537 (modified)	T	291.81 g	28.28 g	263.5 mL	10.0 mL	500 uL	500 uL
320-34425-A-2	PB-816-171212 Pump Blank	3535, 537 (modified)	T	278.18 g	27.86 g	250.3 mL	10.0 mL	500 uL	500 uL
320-34425-A-3	FM-26-100-816-17 1211	3535, 537 (modified)	T	262.38 g	28.38 g	234 mL	10.0 mL	500 uL	500 uL
320-34425-A-4	FM-26-090-816-17 1211	3535, 537 (modified)	T	259.35 g	28.20 g	231.2 mL	10.0 mL	500 uL	500 uL
320-34425-A-5	FM-26-080-816-17 1211	3535, 537 (modified)	T	291.54 g	28.33 g	263.2 mL	10.0 mL	500 uL	500 uL
320-34425-A-6	FM-26-070-816-17 1211	3535, 537 (modified)	T	277.19 g	27.73 g	249.5 mL	10.0 mL	500 uL	500 uL
320-34425-A-7	FM-26-060-816-17 1211	3535, 537 (modified)	T	264.01 g	28.25 g	235.8 mL	10.0 mL	500 uL	500 uL
320-34425-A-8	FM-26-050-816-17 1211	3535, 537 (modified)	T	269.98 g	28.26 g	241.7 mL	10.0 mL	500 uL	500 uL
320-34425-A-9	FM-26-040-816-17 1211	3535, 537 (modified)	T	280.93 g	28.37 g	252.6 mL	10.0 mL	500 uL	500 uL
320-34425-A-10	FM-32-100-944-17 1211	3535, 537 (modified)	T	269.66 g	27.68 g	242 mL	10.0 mL	500 uL	500 uL
320-34425-A-11	DUP-1-944-171211	3535, 537 (modified)	T	274.15 g	28.36 g	245.8 mL	10.0 mL	500 uL	500 uL
320-34425-A-12	DUP-2-944-171211	3535, 537 (modified)	T	275.20 g	28.24 g	247 mL	10.0 mL	500 uL	500 uL
320-34425-A-13	FM-32-90-944-171 212	3535, 537 (modified)	T	283.51 g	28.05 g	255.5 mL	10.0 mL	500 uL	500 uL
320-34425-A-14	FM-32-80-944-171 212	3535, 537 (modified)	T	256.15 g	28.28 g	227.9 mL	10.0 mL	500 uL	500 uL
320-34425-A-15	FM-32-070-944-17 1213	3535, 537 (modified)	T	271.14 g	28.55 g	242.6 mL	10.0 mL	500 uL	500 uL
320-34425-A-16	FM-32-060-944-17 1213	3535, 537 (modified)	T	284.86 g	28.23 g	256.6 mL	10.0 mL	500 uL	500 uL
320-34425-A-17	FM-32-050-944-17 1213	3535, 537 (modified)	T	283.14 g	28.41 g	254.7 mL	10.0 mL	500 uL	500 uL
320-34425-A-18	Pump Blank PB-816-171211	3535, 537 (modified)	T	276.68 g	27.79 g	248.9 mL	10.0 mL	500 uL	500 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Batch Number: 201036 Batch Start Date: 12/22/17 07:51 Batch Analyst: Branscum, Cassie

Batch Method: 3535 Batch End Date: 12/22/17 14:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFC_ALL_SU 00027	LCPFC-IS 00016
320-34425-A-19	Field Blank FB-816-171211	3535, 537 (modified)	T	271.97 g	27.76 g	244.2 mL	10.0 mL	500 uL	500 uL
320-34425-A-21	FM-30-(85-90) -090-816-171213	3535, 537 (modified)	T	268.80 g	27.49 g	241.3 mL	10.0 mL	500 uL	500 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LCPFCSP 00118					
MB 320-201036/1		3535, 537 (modified)							
LCS 320-201036/2		3535, 537 (modified)		500 uL					
LCSD 320-201036/3		3535, 537 (modified)		500 uL					
320-34425-A-1	FB-816-171212 Field Blank	3535, 537 (modified)	T						
320-34425-A-2	PB-816-171212 Pump Blank	3535, 537 (modified)	T						
320-34425-A-3	FM-26-100-816-17 1211	3535, 537 (modified)	T						
320-34425-A-4	FM-26-090-816-17 1211	3535, 537 (modified)	T						
320-34425-A-5	FM-26-080-816-17 1211	3535, 537 (modified)	T						
320-34425-A-6	FM-26-070-816-17 1211	3535, 537 (modified)	T						
320-34425-A-7	FM-26-060-816-17 1211	3535, 537 (modified)	T						
320-34425-A-8	FM-26-050-816-17 1211	3535, 537 (modified)	T						
320-34425-A-9	FM-26-040-816-17 1211	3535, 537 (modified)	T						
320-34425-A-10	FM-32-100-944-17 1211	3535, 537 (modified)	T						
320-34425-A-11	DUP-1-944-171211	3535, 537 (modified)	T						
320-34425-A-12	DUP-2-944-171211	3535, 537 (modified)	T						
320-34425-A-13	FM-32-90-944-171 212	3535, 537 (modified)	T						
320-34425-A-14	FM-32-80-944-171 212	3535, 537 (modified)	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Batch Number: 201036 Batch Start Date: 12/22/17 07:51 Batch Analyst: Branscum, Cassie

Batch Method: 3535 Batch End Date: 12/22/17 14:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	LCPFCSP 00118					
320-34425-A-15	FM-32-070-944-17 1213	3535, 537 (modified)	T						
320-34425-A-16	FM-32-060-944-17 1213	3535, 537 (modified)	T						
320-34425-A-17	FM-32-050-944-17 1213	3535, 537 (modified)	T						
320-34425-A-18	Pump Blank PB-816-171211	3535, 537 (modified)	T						
320-34425-A-19	Field Blank FB-816-171211	3535, 537 (modified)	T						
320-34425-A-21	FM-30-(85-90) -090-816-171213	3535, 537 (modified)	T						

Batch Notes	
Analyst ID - Aliquot Step	CCB
Balance ID	QA-070
Analyst ID - Final Volume Step	CCB
H2O ID	12-19-17
Hexane ID	1095481
Internal Standard ID#	1105698
Manifold ID	2,11
Methanol ID	1118720
Sodium Hydroxide ID	1112059
Pipette ID	N32761F
Analyst ID - Reagent Drop	CCB
Analyst ID - IS Reagent Drop	CCB
Analyst ID - IS Reagent Drop Witness	VPM
Analyst ID - SU Reagent Drop	CCB
Analyst ID - SU Reagent Drop Witness	JNS
Solvent Lot #	1112263
Solvent Name	0.3% NH4OH/MeOH
SOP Number	WS-LC-0025
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003337172A

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Batch Number: 201036 Batch Start Date: 12/22/17 07:51 Batch Analyst: Branscum, Cassie

Batch Method: 3535 Batch End Date: 12/22/17 14:10

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Batch Number: 201042 Batch Start Date: 12/22/17 07:57 Batch Analyst: Branscum, Cassie

Batch Method: 3535 Batch End Date: 12/22/17 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFC_ALL_SU 00027	LCPFC-IS 00016
MB 320-201042/1		3535, 537 (modified)				250 mL	10.0 mL	500 uL	500 uL
LCS 320-201042/2		3535, 537 (modified)				250 mL	10.0 mL	500 uL	500 uL
320-34425-A-22	FM-30-(75-80) -080-816-171213	3535, 537 (modified)	T	273.07 g	28.28 g	244.8 mL	10.0 mL	500 uL	500 uL
320-34425-A-23	FM-30-(65-70) -070-816-171213	3535, 537 (modified)	T	266.21 g	27.56 g	238.7 mL	10.0 mL	500 uL	500 uL
320-34425-A-24	Field Blank FB-816-171213	3535, 537 (modified)	T	276.26 g	27.79 g	248.5 mL	10.0 mL	500 uL	500 uL
320-34425-A-25	Pump Blank PB-816-171213	3535, 537 (modified)	T	266.11 g	28.50 g	237.6 mL	10.0 mL	500 uL	500 uL
320-34425-A-26	FM-26-030-816-17 1212	3535, 537 (modified)	T	266.29 g	28.64 g	237.7 mL	10.0 mL	500 uL	500 uL
320-34425-A-27	FM-26-020-816-17 1212	3535, 537 (modified)	T	277.28 g	26.61 g	250.7 mL	10.0 mL	500 uL	500 uL
320-34425-A-28	FM-34-090-886-17 1211	3535, 537 (modified)	T	279.25 g	26.76 g	252.5 mL	10.0 mL	500 uL	500 uL
320-34425-A-28 MS	FM-34-090-886-17 1211	3535, 537 (modified)	T	282.81 g	26.70 g	256.1 mL	10.0 mL	500 uL	500 uL
320-34425-A-28 MSD	FM-34-090-886-17 1211	3535, 537 (modified)	T	271.45 g	26.94 g	244.5 mL	10.0 mL	500 uL	500 uL
320-34425-A-29	FM-34-080-886-17 1212	3535, 537 (modified)	T	255.05 g	28.35 g	226.7 mL	10.0 mL	500 uL	500 uL
320-34425-A-30	FM-34-070-886-17 1213	3535, 537 (modified)	T	256.76 g	28.31 g	228.5 mL	10.0 mL	500 uL	500 uL
320-34425-A-31	FM-34-060-886-17 1213	3535, 537 (modified)	T	265.91 g	28.58 g	237.3 mL	10.0 mL	500 uL	500 uL
320-34425-A-32	FM-34-050-886-17 1213	3535, 537 (modified)	T	270.51 g	27.63 g	242.9 mL	10.0 mL	500 uL	500 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LCPFCSP 00118
MB 320-201042/1		3535, 537 (modified)		
LCS 320-201042/2		3535, 537 (modified)		500 uL
320-34425-A-22	FM-30-(75-80) -080-816-171213	3535, 537 (modified)	T	
320-34425-A-23	FM-30-(65-70) -070-816-171213	3535, 537 (modified)	T	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Batch Number: 201042 Batch Start Date: 12/22/17 07:57 Batch Analyst: Branscum, Cassie

Batch Method: 3535 Batch End Date: 12/22/17 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	LCPFCSP 00118					
320-34425-A-24	Field Blank FB-816-171213	3535, 537 (modified)	T						
320-34425-A-25	Pump Blank PB-816-171213	3535, 537 (modified)	T						
320-34425-A-26	FM-26-030-816-171212	3535, 537 (modified)	T						
320-34425-A-27	FM-26-020-816-171212	3535, 537 (modified)	T						
320-34425-A-28	FM-34-090-886-171211	3535, 537 (modified)	T						
320-34425-A-28 MS	FM-34-090-886-171211	3535, 537 (modified)	T	500 uL					
320-34425-A-28 MSD	FM-34-090-886-171211	3535, 537 (modified)	T	500 uL					
320-34425-A-29	FM-34-080-886-171212	3535, 537 (modified)	T						
320-34425-A-30	FM-34-070-886-171213	3535, 537 (modified)	T						
320-34425-A-31	FM-34-060-886-171213	3535, 537 (modified)	T						
320-34425-A-32	FM-34-050-886-171213	3535, 537 (modified)	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34425-1

SDG No.:

Batch Number: 201042 Batch Start Date: 12/22/17 07:57 Batch Analyst: Branscum, Cassie

Batch Method: 3535 Batch End Date: 12/22/17 14:00

Batch Notes	
Analyst ID - Aliquot Step	CCB
Balance ID	QA-070
Analyst ID - Final Volume Step	CCB
H2O ID	12-19-17
Hexane ID	1095481
Internal Standard ID#	1105698
Manifold ID	11,6, nickita
Methanol ID	1118720
Sodium Hydroxide ID	1112059
Pipette ID	N32761F
Analyst ID - Reagent Drop	CCB
Analyst ID - IS Reagent Drop	CCB
Analyst ID - IS Reagent Drop Witness	VPM
Analyst ID - SU Reagent Drop	CCB
Analyst ID - SU Reagent Drop Witness	JNS
Solvent Lot #	1112263
Solvent Name	0.3% NH4OH/MeOH
SOP Number	WS-LC-0025
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003337172A

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

West Sacramento

HPLC/LCMS Data Review Checklist

Job Number(s): 34425 Work List ID(s): 52114

Extraction Batch: 201036 Analysis Batch(es): 201221

Delivery Rank 4 Due Date: 1-5-18

A. Calibration/Instrument Run QC	1st Level	2nd Level	N/A
1. ICAL locked in Chrom and TALS? ICAL Batch# 201053	✓	✓	
2. ICAL, CCV Frequency & Criteria met.	✓	✓	
• $RF_{average}$ criteria appropriate for the method.	✓	✓	
• Linear Regression criteria appropriate if required ($r \geq 0.995$).	✓	✓	
• Quadratic fit criteria appropriate if required ($r^2 \geq 0.990$).			✓
• For Linear Regression and Quadratic fit – Does the y-intercept support ½ the reporting limit as described in CA-Q-S-005?			✓
• All curve points show calculated concentrations.	✓	✓	
3. Peaks correctly ID'd by data system.	✓	✓	
5. Tune check frequency & criteria met and Tune check report attached.			✓
B. QA/QC			
1. Are all QC samples properly linked in TALS?	✓	✓	
2. Method blank, LCS/LCSD and MS/SD frequencies met.	✓	✓	
3. LCS/LCSD and MB data are within control limits. If not, NCM is present.	✓	✓	
4. Are MS/MSD recoveries and RPD within control limits?			✓
5. Holding Times were met for prep and analytical.	✓	✓	
6. IS/Surrogate recoveries meet criteria or properly noted. Ncm	✓	✓	
C. Sample Analysis			
1. Was correct analysis performed and were project instructions followed?	✓	✓	
2. If required, are compounds within RT windows?			✓
3. If required, are positive hits confirmed and >40% RPD flagged?			✓
4. Manual Integrations reviewed and appropriate.	✓	✓	
5. All analytes correctly reported. (Primary, secondary, acceptable status)	✓	✓	
6. Correct reporting limits used. (based on client request, prep factors, and dilutions)	✓	✓	
D. Documentation			
1. Are all non-conformances documented/attached? NCM# 111968	✓	✓	
2. Do results make sense (e.g. dilutions, etc.)?	✓	✓	
3. Have all flags been reviewed for appropriateness?	✓	✓	
4. For level 3 and 4 reports, have forms and raw data been reviewed?		✓	
5. Was QC Checker run for this job?	✓	✓	

**Upon completion of this checklist, the reviewer must scan and attach the checklist to the TALS job.*

1st Level (Analyst): JRB Date: 12-26-17

2nd Level Reviewer: [signature] Date: 12/27/2017

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 22DEC2017NCG_PFC Worklist Number: 52114
Instrument Name: A8_N Chrom Method: A8_N
Data Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b
QC Batching: Disabled Limit Group Batching: Enabled

QC Batch: 1	LC PFC ICAL Raw Batch: 201221
# 1 CCV L4	# 1 CCV L4
# 2 MB 320-201036/1-A	# 2 MB 320-201036/1-A
# 3 LCS 320-201036/2-A	# 3 LCS 320-201036/2-A
# 4 LCSD 320-201036/3-A	# 4 LCSD 320-201036/3-A
# 5 320-34425-A-1-A	# 5 320-34425-A-1-A
# 6 320-34425-A-2-A	# 6 320-34425-A-2-A
# 7 320-34425-A-3-A	# 7 320-34425-A-3-A
# 8 320-34425-A-4-A	# 8 320-34425-A-4-A
# 9 320-34425-A-5-A	# 9 320-34425-A-5-A
#10 320-34425-A-6-A	#10 320-34425-A-6-A
#11 320-34425-A-7-A	#11 320-34425-A-7-A
#12 CCV L5	#12 CCV L5
#13 320-34425-A-8-A	#13 320-34425-A-8-A
#14 320-34425-A-9-A	#14 320-34425-A-9-A
#15 320-34425-A-10-A	#15 320-34425-A-10-A
#16 320-34425-A-11-A	#16 320-34425-A-11-A
#17 320-34425-A-12-A	#17 320-34425-A-12-A
#18 320-34425-A-13-A	#18 320-34425-A-13-A
#19 320-34425-A-14-A	#19 320-34425-A-14-A
#20 320-34425-A-15-A	#20 320-34425-A-15-A
#21 320-34425-A-16-A	#21 320-34425-A-16-A
#22 320-34425-A-17-A	#22 320-34425-A-17-A
#23 CCV L4	#23 CCV L4
#24 320-34425-A-18-A	#24 320-34425-A-18-A
#25 320-34425-A-19-A	#25 320-34425-A-19-A
#26 320-34425-A-21-A	#26 320-34425-A-21-A
#27 CCV L5	#27 CCV L5

TestAmerica Laboratories
Worklist Run Log Report

Worklist Name: 22DEC2017NCG_PFC Worklist Num: 52114
Instrument: A8_N Method: A8_N
Batch Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52114.b
Anaylysis Type: SemiVOA Creator: Royce, Amani A
Inj Volume: 2.00 Inj Vol Units: ul

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Client ID	Fract
CCV L4	320-0052114-001	CCV	22-Dec-2017 22:39:05	2017.12.22LLB_009.d	13	1.0		sv
MB 320-201036/1-A	320-0052114-002	MB	22-Dec-2017 22:46:53	2017.12.22LLB_010.d	5	1.0		sv
LCS 320-201036/2-A	320-0052114-003	LCS	22-Dec-2017 22:54:42	2017.12.22LLB_011.d	6	1.0		sv
LCSD 320-201036/3-A	320-0052114-004	LCSD	22-Dec-2017 23:02:32	2017.12.22LLB_012.d	7	1.0		sv
320-34425-A-1-A	320-0052114-005	Client	22-Dec-2017 23:10:24	2017.12.22LLB_013.d	8	1.0	FB-816-171212 Field Blank	sv
320-34425-A-2-A	320-0052114-006	Client	22-Dec-2017 23:18:15	2017.12.22LLB_014.d	9	1.0	PB-816-171212 Pump Blank	sv
320-34425-A-3-A	320-0052114-007	Client	22-Dec-2017 23:26:09	2017.12.22LLB_015.d	10	1.0	FM-26-100-816-171211	sv
320-34425-A-4-A	320-0052114-008	Client	22-Dec-2017 23:34:01	2017.12.22LLB_016.d	11	1.0	FM-26-090-816-171211	sv
320-34425-A-5-A	320-0052114-009	Client	22-Dec-2017 23:41:50	2017.12.22LLB_017.d	12	1.0	FM-26-080-816-171211	sv
320-34425-A-6-A	320-0052114-010	Client	22-Dec-2017 23:49:42	2017.12.22LLB_018.d	13	1.0	FM-26-070-816-171211	sv
320-34425-A-7-A	320-0052114-011	Client	22-Dec-2017 23:57:35	2017.12.22LLB_019.d	14	1.0	FM-26-060-816-171211	sv
CCV L5	320-0052114-012	CCV	23-Dec-2017 00:05:27	2017.12.22LLB_020.d	14	1.0		sv
320-34425-A-8-A	320-0052114-013	Client	23-Dec-2017 00:13:17	2017.12.22LLB_021.d	15	1.0	FM-26-050-816-171211	sv
320-34425-A-9-A	320-0052114-014	Client	23-Dec-2017 00:21:07	2017.12.22LLB_022.d	16	1.0	FM-26-040-816-171211	sv
320-34425-A-10-A	320-0052114-015	Client	23-Dec-2017 00:28:56	2017.12.22LLB_023.d	17	1.0	FM-32-100-944-171211	sv
320-34425-A-11-A	320-0052114-016	Client	23-Dec-2017 00:36:45	2017.12.22LLB_024.d	18	1.0	DUP-1-944-171211	sv
320-34425-A-12-A	320-0052114-017	Client	23-Dec-2017 00:44:36	2017.12.22LLB_025.d	19	1.0	DUP-2-944-171211	sv
320-34425-A-13-A	320-0052114-018	Client	23-Dec-2017 00:52:29	2017.12.22LLB_026.d	20	1.0	FM-32-90-944-171212	sv
320-34425-A-14-A	320-0052114-019	Client	23-Dec-2017 01:00:21	2017.12.22LLB_027.d	21	1.0	FM-32-80-944-171212	sv
320-34425-A-15-A	320-0052114-020	Client	23-Dec-2017 01:08:14	2017.12.22LLB_028.d	22	1.0	FM-32-070-944-171213	sv
320-34425-A-16-A	320-0052114-021	Client	23-Dec-2017 01:16:04	2017.12.22LLB_029.d	23	1.0	FM-32-060-944-171213	sv
320-34425-A-17-A	320-0052114-022	Client	23-Dec-2017 01:23:56	2017.12.22LLB_030.d	24	1.0	FM-32-050-944-171213	sv
CCV L4	320-0052114-023	CCV	23-Dec-2017 01:31:49	2017.12.22LLB_031.d	13	1.0		sv
320-34425-A-18-A	320-0052114-024	Client	23-Dec-2017 01:39:40	2017.12.22LLB_032.d	25	1.0	Pump Blank PB-816-171211	sv
320-34425-A-19-A	320-0052114-025	Client	23-Dec-2017 01:47:31	2017.12.22LLB_033.d	26	1.0	Field Blank FB-816-171211	sv
320-34425-A-21-A	320-0052114-026	Client	23-Dec-2017 01:55:23	2017.12.22LLB_034.d	27	1.0	FM-30-(85-90)-090-816-171	sv
CCV L5	320-0052114-027	CCV	23-Dec-2017 02:03:12	2017.12.22LLB_035.d	14	1.0		sv

TestAmerica Laboratories
Worklist Run Log Report

Worklist Name: 22DEC2017NCA_PFC Worklist Num: 52091
Instrument: A8_N Method: A8_N
Batch Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52091.b
Anaylysis Type: SemiVOA Creator: Hannigan, Alyssa B
Inj Volume: 2.00 Inj Vol Units: ul

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Fract
CCVL	320-0052091-001	CCVL	22-Dec-2017 11:30:09	2017.12.22LLA_005.d	21	1.0	sv
CCV L4	320-0052091-002	CCV	22-Dec-2017 11:38:00	2017.12.22LLA_006.d	13	1.0	sv
MANIFOLD QC 8-1	320-0052091-003	Client	22-Dec-2017 11:45:49	2017.12.22LLA_007.d	20	1.0	sv
MANIFOLD QC 8-2	320-0052091-004	Client	22-Dec-2017 11:53:38	2017.12.22LLA_008.d	1	1.0	sv
MANIFOLD QC 8-3	320-0052091-005	Client	22-Dec-2017 12:01:27	2017.12.22LLA_009.d	2	1.0	sv
MANIFOLD QC 8-4	320-0052091-006	Client	22-Dec-2017 12:17:08	2017.12.22LLA_011.d	4	1.0	sv
MANIFOLD QC 8-5	320-0052091-007	Client	22-Dec-2017 12:24:58	2017.12.22LLA_012.d	5	1.0	sv
MANIFOLD QC 8-6	320-0052091-008	Client	22-Dec-2017 12:32:47	2017.12.22LLA_013.d	6	1.0	sv
MANIFOLD QC 8-7	320-0052091-009	Client	22-Dec-2017 12:40:35	2017.12.22LLA_014.d	7	1.0	sv
MANIFOLD QC 8-8	320-0052091-010	Client	22-Dec-2017 12:48:24	2017.12.22LLA_015.d	8	1.0	sv
MANIFOLD QC 8-9	320-0052091-011	Client	22-Dec-2017 12:56:13	2017.12.22LLA_016.d	9	1.0	sv
MANIFOLD QC 8-10	320-0052091-012	Client	22-Dec-2017 13:04:01	2017.12.22LLA_017.d	10	1.0	sv
CCV L5	320-0052091-013	CCV	22-Dec-2017 13:11:49	2017.12.22LLA_018.d	14	1.0	sv
MANIFOLD QC 8-11	320-0052091-014	Client	22-Dec-2017 13:19:39	2017.12.22LLA_019.d	11	1.0	sv
MANIFOLD QC 8-12	320-0052091-015	Client	22-Dec-2017 13:27:27	2017.12.22LLA_020.d	12	1.0	sv
CCV L4	320-0052091-016	CCV	22-Dec-2017 13:35:16	2017.12.22LLA_021.d	13	1.0	sv

NC Method

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

25

AB 12/22/17

Batch Number: 320-201036

Method Code: 320-3535_PFC-320

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Batch End: 12/22/2017 2:10:00PM

Solid-Phase Extraction (SPE)

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	GrossWt TareWt	InitAmnt FinAmnt	PHs Rcvd	PHs Adj1	PHs Adj2	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-201036/1 N/A	N/A		250 mL	na			N/A	N/A	N/A		MB 320-201036/1-A
				10.0 mL								
2	LCS~320-201036/2 N/A	N/A		250 mL	na			N/A	N/A	N/A		LCS 320-201036/2-A
				10.0 mL								
3	LCSD~320-201036/3 N/A	N/A		250 mL	na			N/A	N/A	N/A		LCSD 320-201036/3-A
				10.0 mL								
4	320-34425-A-1 (PFC_IDA)	N/A (320-34425-1)	291.81 g	263.5 mL	na			1/5/18	12_Days	4		320-34425-A-1-A
			28.28 g	10.0 mL								
5	320-34425-A-2 (PFC_IDA)	N/A (320-34425-1)	278.18 g	250.3 mL	na			1/5/18	12_Days	4		320-34425-A-2-A
			27.86 g	10.0 mL								
6	320-34425-A-3 (PFC_IDA)	N/A (320-34425-1)	262.38 g	234 mL	na			1/5/18	12_Days	4		320-34425-A-3-A
			28.38 g	10.0 mL								
7	320-34425-A-4 (PFC_IDA)	N/A (320-34425-1)	259.35 g	231.2 mL	na			1/5/18	12_Days	4		320-34425-A-4-A
			28.20 g	10.0 mL								
8	320-34425-A-5 (PFC_IDA)	N/A (320-34425-1)	291.54 g	263.2 mL	na			1/5/18	12_Days	4		320-34425-A-5-A
			28.33 g	10.0 mL								
9	320-34425-A-6 (PFC_IDA)	N/A (320-34425-1)	277.19 g	249.5 mL	na			1/5/18	12_Days	4		320-34425-A-6-A
			27.73 g	10.0 mL								
10	320-34425-A-7 (PFC_IDA)	N/A (320-34425-1)	264.01 g	235.8 mL	na			1/5/18	12_Days	4		320-34425-A-7-A
			28.25 g	10.0 mL								

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201036

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Method Code: 320-3535_PFC-320

Batch End: 12/22/2017 2:10:00PM

11	320-34425-A-8 (PFC_IDA)	N/A (320-34425-1)	269.98 g 28.26 g	241.7 mL 10.0 mL	na			1/5/18	12_Days	4	
12	320-34425-A-9 (PFC_IDA)	N/A (320-34425-1)	280.93 g 28.37 g	252.6 mL 10.0 mL	na			1/5/18	12_Days	4	
13	320-34425-A-10 (PFC_IDA)	N/A (320-34425-1)	269.66 g 27.68 g	242 mL 10.0 mL	na			1/5/18	12_Days	4	
14	320-34425-A-11 (PFC_IDA)	N/A (320-34425-1)	274.15 g 28.36 g	245.8 mL 10.0 mL	na			1/5/18	12_Days	4	
15	320-34425-A-12 (PFC_IDA)	N/A (320-34425-1)	275.20 g 28.24 g	247 mL 10.0 mL	na			1/5/18	12_Days	4	
16	320-34425-A-13 (PFC_IDA)	N/A (320-34425-1)	283.51 g 28.05 g	255.5 mL 10.0 mL	na			1/5/18	12_Days	4	
17	320-34425-A-14 (PFC_IDA)	N/A (320-34425-1)	256.15 g 28.28 g	227.9 mL 10.0 mL	na			1/5/18	12_Days	4	
18	320-34425-A-15 (PFC_IDA)	N/A (320-34425-1)	271.14 g 28.55 g	242.6 mL 10.0 mL	na			1/5/18	12_Days	4	
19	320-34425-A-16 (PFC_IDA)	N/A (320-34425-1)	284.86 g 28.23 g	256.6 mL 10.0 mL	na			1/5/18	12_Days	4	
20	320-34425-A-17 (PFC_IDA)	N/A (320-34425-1)	283.14 g 28.41 g	254.7 mL 10.0 mL	na			1/5/18	12_Days	4	
21	320-34425-A-18 (PFC_IDA)	N/A (320-34425-1)	276.68 g 27.79 g	248.9 mL 10.0 mL	na			1/5/18	12_Days	4	
22	320-34425-A-19 (PFC_IDA)	N/A (320-34425-1)	271.97 g 27.76 g	244.2 mL 10.0 mL	na			1/5/18	12_Days	4	

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201036

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Method Code: 320-3535_PFC-320

Batch End: 12/22/2017 2:10:00PM

23	320-34425-A-21 (PFC_IDA)	N/A (320-34425-1)	268.80 g 27.49 g	241.3 mL 10.0 mL	na			1/5/18	12_Days	4	

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201036

Method Code: 320-3535_PFC-320

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Batch End: 12/22/2017 2:10:00PM

Batch Notes

Manifold ID	2,11
Methanol ID	1118720
Hexane ID	1095481
Sodium Hydroxide ID	1112059
First Start time	NA
First End time	NA
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003337172A
Balance ID	QA-070
H2O ID	12-19-17
Pipette ID	N32761F
Solvent Name	0.3% NH4OH/MeOH
Solvent Lot #	1112263
Analyst ID - Reagent Drop	CCB
Analyst ID - SU Reagent Drop	CCB
Analyst ID - SU Reagent Drop Witness	JNS
Acid Name	NA
Acid ID	NA
Reagent ID	NA
Reagent Lot Number	NA
Analyst ID - IS Reagent Drop	CCB

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201036

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Method Code: 320-3535_PFC-320

Batch End: 12/22/2017 2:10:00PM

Analyst ID - IS Reagent Drop	VPM
Witness	
Internal Standard ID#	1105698
Analyst ID - Concentration	NA
Analyst ID - Aliquot Step	CCB
Analyst ID - Final Volume Step	CCB
SOP Number	WS-LC-0025
Batch Comment	NA

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201036

Method Code: 320-3535_PFC-320

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Batch End:

Batch Notes

Manifold ID	2, 11
Methanol ID	1118720
Hexane ID	1095456
Sodium Hydroxide ID	1112059
First Start time	NA
First End time	NA
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003337172A
Balance ID	QA-070
H2O ID	12-19-17
Pipette ID	N327CR1F
Solvent Name	0.3% NH4OH/MeOH
Solvent Lot #	1112263
Analyst ID - Reagent Drop	CCB
Analyst ID - SU Reagent Drop	CCB
Analyst ID - SU Reagent Drop Witness	JNS
Acid Name	NA
Acid ID	NA
Reagent ID	NA
Reagent Lot Number	NA
Analyst ID - IS Reagent Drop	CCB

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201036

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Method Code: 320-3535_PFC-320

Batch End:

Analyst ID - IS Reagent Drop Witness	VPM
Internal Standard ID#	11056958
Analyst ID - Concentration	NA
Analyst ID - Aliquot Step	CS
Analyst ID - Final Volume Step	CS
SOP Number	WS-LC-0025
Batch Comment	NA

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201036

Method Code: 320-3535_PFC-320

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Batch End:

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-201036/1	LCMPFC_ALL_SU_00027	500 uL	10.0 mL	CeB 122217	JNS 12/22/17
LCS 320-201036/2	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
LCS 320-201036/2	LCPFCSP_00118	500 uL	10.0 mL		
LCSD 320-201036/3	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
LCSD 320-201036/3	LCPFCSP_00118	500 uL	10.0 mL		
320-34425-A-1	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-2	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-3	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-4	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-5	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-6	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-7	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-8	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-9	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-10	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-11	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-12	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-13	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201036

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:51:00AM

Method Code: 320-3535_PFC-320

Batch End:

320-34425-A-14	LCMPFC_ALL_SU_00027	500 uL	10.0 mL	CB 12-22-17	JM 12/22/17
320-34425-A-15	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-16	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-17	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-18	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-19	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-21	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		

Other Reagents:

Reagent	Amount/Units	Lot#:

TestAmerica
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Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s) 320-201036 Test 3535-PFC

Earliest Holding Time 12-26-17

Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary batch information complete and entered into TALS correctly	✓	✓
BD, FV, and AL initials are transcribed into the batch comment	✓	✓
Sample List Tab	**1st Level Reviewer**	**2nd Level Reviewer**
Samples identified to the correct method	✓	✓
Holding time violation NCM filed	NA	NA
MS/MSD or MS/DU NCM filed	✓	✓
NCM for any anomalies filed	NA	NA
All NCMs include method code, matrix, and prep batch	✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Batch contains no more than 20 live samples	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	✓	✓
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and CI Check)	✓	✓
The pH is transcribed properly in TALS	NA	NA
All additional information is transcribed into TALS and is correct and raw data is attached	✓	✓
Comments/Observations are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and checked into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Internal Standard is added to the reagents	✓	✓
All units are correctly transcribed into TALS	✓	✓

1st Level Reviewer: CES Date: 12-22-17

2nd Level Reviewer: VPM Date: 12/22/17

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

West Sacramento

HPLC/LCMS Data Review Checklist

Job Number(s): 34425 Work List ID(s): 52115

Extraction Batch: 201042 Analysis Batch(es): 201222

Delivery Rank 4 Due Date: 1-5-18

A. Calibration/Instrument Run QC	1st Level	2nd Level	N/A
1. ICAL locked in Chrom and TALS? ICAL Batch# 201053	✓	✓	
2. ICAL, CCV Frequency & Criteria met.	✓	✓	
• $RF_{average}$ criteria appropriate for the method.	✓	✓	
• Linear Regression criteria appropriate if required ($r \geq 0.995$).			✓
• Quadratic fit criteria appropriate if required ($r^2 \geq 0.990$).			✓
• For Linear Regression and Quadratic fit – Does the y-intercept support ½ the reporting limit as described in CA-Q-S-005?			✓
• All curve points show calculated concentrations.	✓	✓	
3. Peaks correctly ID'd by data system.	✓		
5. Tune check frequency & criteria met and Tune check report attached.		✓	✓
B. QA/QC			
1. Are all QC samples properly linked in TALS?	✓	✓	
2. Method blank, LCS/LCSD and MS/SD frequencies met.	✓	✓	
3. LCS/LCSD and MB data are within control limits. If not, NCM is present.	✓	✓	
4. Are MS/MSD recoveries and RPD within control limits?	✓	✓	
5. Holding Times were met for prep and analytical.	✓	✓	
6. IS/Surrogate recoveries meet criteria or properly noted.	✓	✓	
C. Sample Analysis			
1. Was correct analysis performed and were project instructions followed?	✓	✓	
2. If required, are compounds within RT windows?			✓
3. If required, are positive hits confirmed and >40% RPD flagged?			✓
4. Manual Integrations reviewed and appropriate.	✓	✓	
5. All analytes correctly reported. (Primary, secondary, acceptable status)	✓	✓	
6. Correct reporting limits used. (based on client request, prep factors, and dilutions)	✓	✓	
D. Documentation			
1. Are all non-conformances documented/attached? NCM#			✓
2. Do results make sense (e.g. dilutions, etc.)?	✓	✓	
3. Have all flags been reviewed for appropriateness?	✓	✓	
4. For level 3 and 4 reports, have forms and raw data been reviewed?		✓	
5. Was QC Checker run for this job?	✓	✓	

**Upon completion of this checklist, the reviewer must scan and attach the checklist to the TALS job.*

1st Level (Analyst): JRB Date: 12-26-17

2nd Level Reviewer: Mwuy Date: 12/22/2017 12/22/2017

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 22DEC2017NCH_PFC Worklist Number: 52115
Instrument Name: A8_N Chrom Method: A8_N
Data Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b
QC Batching: Disabled Limit Group Batching: Enabled

QC Batch: 1	LC PFC ICAL Raw Batch: 201222
# 1 CCV L5	# 1 CCV L5
# 2 MB 320-201042/1-A	# 2 MB 320-201042/1-A
# 3 LCS 320-201042/2-A	# 3 LCS 320-201042/2-A
# 4 320-34425-A-22-A	# 4 320-34425-A-22-A
# 5 320-34425-A-23-A	# 5 320-34425-A-23-A
# 6 320-34425-A-24-A	# 6 320-34425-A-24-A
# 7 320-34425-A-25-A	# 7 320-34425-A-25-A
# 8 320-34425-A-26-A	# 8 320-34425-A-26-A
# 9 320-34425-A-27-A	# 9 320-34425-A-27-A
#10 320-34425-A-28-A	#10 320-34425-A-28-A
#11 320-34425-A-28-B MS	#11 320-34425-A-28-B MS
#12 CCV L4	#12 CCV L4
#13 320-34425-A-28-C MSD	#13 320-34425-A-28-C MSD
#14 320-34425-A-29-A	#14 320-34425-A-29-A
#15 320-34425-A-30-A	#15 320-34425-A-30-A
#16 320-34425-A-31-A	#16 320-34425-A-31-A
#17 320-34425-A-32-A	#17 320-34425-A-32-A
#18 CCV L5	#18 CCV L5

TestAmerica Laboratories
Worklist Run Log Report

Worklist Name: 22DEC2017NCA_PFC Worklist Num: 52091
Instrument: A8_N Method: A8_N
Batch Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171222-52091.b
Anaylysis Type: SemiVOA Creator: Hannigan, Alyssa B
Inj Volume: 2.00 Inj Vol Units: ul

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Fract
CCVL	320-0052091-001	CCVL	22-Dec-2017 11:30:09	2017.12.22LLA_005.d	21	1.0	sv
CCV L4	320-0052091-002	CCV	22-Dec-2017 11:38:00	2017.12.22LLA_006.d	13	1.0	sv
MANIFOLD QC 8-1	320-0052091-003	Client	22-Dec-2017 11:45:49	2017.12.22LLA_007.d	20	1.0	sv
MANIFOLD QC 8-2	320-0052091-004	Client	22-Dec-2017 11:53:38	2017.12.22LLA_008.d	1	1.0	sv
MANIFOLD QC 8-3	320-0052091-005	Client	22-Dec-2017 12:01:27	2017.12.22LLA_009.d	2	1.0	sv
MANIFOLD QC 8-4	320-0052091-006	Client	22-Dec-2017 12:17:08	2017.12.22LLA_011.d	4	1.0	sv
MANIFOLD QC 8-5	320-0052091-007	Client	22-Dec-2017 12:24:58	2017.12.22LLA_012.d	5	1.0	sv
MANIFOLD QC 8-6	320-0052091-008	Client	22-Dec-2017 12:32:47	2017.12.22LLA_013.d	6	1.0	sv
MANIFOLD QC 8-7	320-0052091-009	Client	22-Dec-2017 12:40:35	2017.12.22LLA_014.d	7	1.0	sv
MANIFOLD QC 8-8	320-0052091-010	Client	22-Dec-2017 12:48:24	2017.12.22LLA_015.d	8	1.0	sv
MANIFOLD QC 8-9	320-0052091-011	Client	22-Dec-2017 12:56:13	2017.12.22LLA_016.d	9	1.0	sv
MANIFOLD QC 8-10	320-0052091-012	Client	22-Dec-2017 13:04:01	2017.12.22LLA_017.d	10	1.0	sv
CCV L5	320-0052091-013	CCV	22-Dec-2017 13:11:49	2017.12.22LLA_018.d	14	1.0	sv
MANIFOLD QC 8-11	320-0052091-014	Client	22-Dec-2017 13:19:39	2017.12.22LLA_019.d	11	1.0	sv
MANIFOLD QC 8-12	320-0052091-015	Client	22-Dec-2017 13:27:27	2017.12.22LLA_020.d	12	1.0	sv
CCV L4	320-0052091-016	CCV	22-Dec-2017 13:35:16	2017.12.22LLA_021.d	13	1.0	sv

TestAmerica Laboratories
Worklist Run Log Report

Worklist Name: 22DEC2017NCH_PFC Worklist Num: 52115
Instrument: A8_N Method: A8_N
Batch Directory: \\ChromNa\Sacramento\ChromData\A8_N\20171223-52115.b
Anaylysis Type: SemiVOA Creator: Royce, Amani A
Inj Volume: 2.00 Inj Vol Units: ul

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Client ID	Fract
CCV L5	320-0052115-001	CCV	23-Dec-2017 02:11:00	2017.12.22LLB_036.d	14	1.0		sv
MB 320-201042/1-A	320-0052115-002	MB	23-Dec-2017 02:18:48	2017.12.22LLB_037.d	28	1.0		sv
LCS 320-201042/2-A	320-0052115-003	LCS	23-Dec-2017 02:26:37	2017.12.22LLB_038.d	29	1.0		sv
320-34425-A-22-A	320-0052115-004	Client	23-Dec-2017 02:34:28	2017.12.22LLB_039.d	30	1.0	FM-30-(75-80)-080-816-171	sv
320-34425-A-23-A	320-0052115-005	Client	23-Dec-2017 02:42:20	2017.12.22LLB_040.d	31	1.0	FM-30-(65-70)-070-816-171	sv
320-34425-A-24-A	320-0052115-006	Client	23-Dec-2017 02:50:13	2017.12.22LLB_041.d	32	1.0	Field Blank FB-816-171213	sv
320-34425-A-25-A	320-0052115-007	Client	23-Dec-2017 02:58:05	2017.12.22LLB_042.d	33	1.0	Pump Blank PB-816-171213	sv
320-34425-A-26-A	320-0052115-008	Client	23-Dec-2017 03:05:54	2017.12.22LLB_043.d	34	1.0	FM-26-030-816-171212	sv
320-34425-A-27-A	320-0052115-009	Client	23-Dec-2017 03:13:43	2017.12.22LLB_044.d	35	1.0	FM-26-020-816-171212	sv
320-34425-A-28-A	320-0052115-010	Client	23-Dec-2017 03:21:33	2017.12.22LLB_045.d	36	1.0	FM-34-090-886-171211	sv
320-34425-A-28-B MS	320-0052115-011	MS	23-Dec-2017 03:29:21	2017.12.22LLB_046.d	37	1.0	FM-34-090-886-171211	sv
CCV L4	320-0052115-012	CCV	23-Dec-2017 03:37:11	2017.12.22LLB_047.d	13	1.0		sv
320-34425-A-28-C MSD	320-0052115-013	MSD	23-Dec-2017 03:44:59	2017.12.22LLB_048.d	38	1.0	FM-34-090-886-171211	sv
320-34425-A-29-A	320-0052115-014	Client	23-Dec-2017 03:52:48	2017.12.22LLB_049.d	39	1.0	FM-34-080-886-171212	sv
320-34425-A-30-A	320-0052115-015	Client	23-Dec-2017 04:00:41	2017.12.22LLB_050.d	40	1.0	FM-34-070-886-171213	sv
320-34425-A-31-A	320-0052115-016	Client	23-Dec-2017 04:08:34	2017.12.22LLB_051.d	41	1.0	FM-34-060-886-171213	sv
320-34425-A-32-A	320-0052115-017	Client	23-Dec-2017 04:16:27	2017.12.22LLB_052.d	42	1.0	FM-34-050-886-171213	sv
CCV L5	320-0052115-018	CCV	23-Dec-2017 04:24:18	2017.12.22LLB_053.d	14	1.0		sv

NC Method

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

25

AS 12/22/17

Batch Number: 320-201042

Method Code: 320-3535_PFC-320

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:57:00AM

Batch End: 12/22/2017 2:00:00PM

Solid-Phase Extraction (SPE)

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	GrossWt TareWt	InitAmnt FinAmnt	PHs Rcvd	PHs Adj1	PHs Adj2	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-201042/1 N/A	N/A		250 mL	na			N/A	N/A	N/A		MB 320-201042/1-A
				10.0 mL								
2	LCS~320-201042/2 N/A	N/A		250 mL	na			N/A	N/A	N/A		LCS 320-201042/2-A
				10.0 mL								
3	320-34425-A-22 (PFC_IDA)	N/A (320-34425-1)	273.07 g	244.8 mL	na			1/5/18	12_Days	4		320-34425-A-22-A
			28.28 g	10.0 mL								
4	320-34425-A-23 (PFC_IDA)	N/A (320-34425-1)	266.21 g	238.7 mL	na			1/5/18	12_Days	4		320-34425-A-23-A
			27.56 g	10.0 mL								
5	320-34425-A-24 (PFC_IDA)	N/A (320-34425-1)	276.26 g	248.5 mL	na			1/5/18	12_Days	4		320-34425-A-24-A
			27.79 g	10.0 mL								
6	320-34425-A-25 (PFC_IDA)	N/A (320-34425-1)	266.11 g	237.6 mL	na			1/5/18	12_Days	4		320-34425-A-25-A
			28.50 g	10.0 mL								
7	320-34425-A-26 (PFC_IDA)	N/A (320-34425-1)	266.29 g	237.7 mL	na			1/5/18	12_Days	4		320-34425-A-26-A
			28.64 g	10.0 mL								
8	320-34425-A-27 (PFC_IDA)	N/A (320-34425-1)	277.28 g	250.7 mL	na			1/5/18	12_Days	4		320-34425-A-27-A
			26.61 g	10.0 mL								
9	320-34425-A-28 (PFC_IDA)	N/A (320-34425-1)	279.25 g	252.5 mL	na			1/5/18	12_Days	4		320-34425-A-28-A
			26.76 g	10.0 mL								
10	320-34425-A-28~MS (PFC_IDA)	N/A (320-34425-1)	282.81 g	256.1 mL	na			1/5/18	12_Days	4		320-34425-A-28-B MS
			26.70 g	10.0 mL								

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201042

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:57:00AM

Method Code: 320-3535_PFC-320

Batch End: 12/22/2017 2:00:00PM

11	320-34425-A-28~MSD (PFC_IDA)	N/A (320-34425-1)	271.45 g 26.94 g	244.5 mL 10.0 mL	na			1/5/18	12_Days	4	
12	320-34425-A-29 (PFC_IDA)	N/A (320-34425-1)	255.05 g 28.35 g	226.7 mL 10.0 mL	na			1/5/18	12_Days	4	
13	320-34425-A-30 (PFC_IDA)	N/A (320-34425-1)	256.76 g 28.31 g	228.5 mL 10.0 mL	na			1/5/18	12_Days	4	
14	320-34425-A-31 (PFC_IDA)	N/A (320-34425-1)	265.91 g 28.58 g	237.3 mL 10.0 mL	na			1/5/18	12_Days	4	
15	320-34425-A-32 (PFC_IDA)	N/A (320-34425-1)	270.51 g 27.63 g	242.9 mL 10.0 mL	na			1/5/18	12_Days	4	

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201042

Method Code: 320-3535_PFC-320

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:57:00AM

Batch End: 12/22/2017 2:00:00PM

Batch Notes

Manifold ID	11,6, nickita
Methanol ID	1118720
Hexane ID	1095481
Sodium Hydroxide ID	1112059
First Start time	NA
First End time	NA
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003337172A
Balance ID	QA-070
H2O ID	12-19-17
Pipette ID	N32761F
Solvent Name	0.3% NH4OH/MeOH
Solvent Lot #	1112263
Analyst ID - Reagent Drop	CCB
Analyst ID - SU Reagent Drop	CCB
Analyst ID - SU Reagent Drop Witness	JNS
Acid Name	NA
Acid ID	NA
Reagent ID	NA
Reagent Lot Number	NA
Analyst ID - IS Reagent Drop	CCB

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201042

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:57:00AM

Method Code: 320-3535_PFC-320

Batch End: 12/22/2017 2:00:00PM

Analyst ID - IS Reagent Drop Witness	VPM
Internal Standard ID#	1105698
Analyst ID - Concentration	NA
Analyst ID - Aliquot Step	CCB
Analyst ID - Final Volume Step	CCB
SOP Number	WS-LC-0025
Batch Comment	NA

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201042

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:57:00AM

Method Code: 320-3535_PFC-320

Batch End:

Batch Notes

Manifold ID	11,6, NICKITA
Methanol ID	1118720
Hexane ID	1095481
Sodium Hydroxide ID	1112059
First Start time	NA
First End time	NA
SPE Cartridge Type	WAX 500mg
Solid Phase Extraction Disk ID	003337172A
Balance ID	QA-070
H2O ID	12-19-17
Pipette ID	N32761F
Solvent Name	0.3% NH4OH/MeOH
Solvent Lot #	1122C3
Analyst ID - Reagent Drop	CCB
Analyst ID - SU Reagent Drop	CCB
Analyst ID - SU Reagent Drop Witness	JNS
Acid Name	NA
Acid ID	NA
Reagent ID	NA
Reagent Lot Number	NA
Analyst ID - IS Reagent Drop	CeJS

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201042

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:57:00AM

Method Code: 320-3535_PFC-320

Batch End:

Analyst ID - IS Reagent Drop Witness	VPM
Internal Standard ID#	11056988
Analyst ID - Concentration	NA
Analyst ID - Aliquot Step	CAB
Analyst ID - Final Volume Step	CAB
SOP Number	WS-LC-0025
Batch Comment	NA

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201042

Method Code: 320-3535_PFC-320

Analyst: Branscum, Cassie

Batch Open: 12/22/2017 7:57:00AM

Batch End:

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-201042/1	LCMPFC_ALL_SU_00027	500 uL	10.0 mL	CEB 12-22-17	JMS 12/22/17
LCS 320-201042/2	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
LCS 320-201042/2	LCPFCSP_00118	500 uL	10.0 mL		
320-34425-A-22	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-23	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-24	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-25	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-26	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-27	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-28	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-28 MS	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-28 MS	LCPFCSP_00118	500 uL	10.0 mL		
320-34425-A-28 MSD	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-28 MSD	LCPFCSP_00118	500 uL	10.0 mL		
320-34425-A-29	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-30	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-31	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		
320-34425-A-32	LCMPFC_ALL_SU_00027	500 uL	10.0 mL		

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THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s) 320-201042 Test 3535_PFC

Earliest Holding Time 12-26-17

Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary batch information complete and entered into TALS correctly	✓	✓
BD, FV, and AL initials are transcribed into the batch comment	✓	✓
Sample List Tab	**1st Level Reviewer**	**2nd Level Reviewer**
Samples identified to the correct method	✓	✓
Holding time violation NCM filed	NA	NA
MS/MSD or MS/DU NCM filed	NA	NA
NCM for any anomalies filed	✓	✓
All NCMs include method code, matrix, and prep batch	✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Batch contains no more than 20 live samples	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	✓	✓
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and CI Check)	✓	✓
The pH is transcribed properly in TALS	NA	NA
All additional information is transcribed into TALS and is correct and raw data is attached	✓	
Comments/Observations are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and checked into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Internal Standard is added to the reagents	✓	✓
All units are correctly transcribed into TALS	✓	✓

1st Level Reviewer: [signature] Date: 12-22-17

2nd Level Reviewer: VPM Date: 12/22/17

Comments: _____

Shipping and Receiving Documents

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Ryan Morley	Brian Pedersen	
Company: PWGC	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other:
		Regulatory Program: DKQP: ☐
Address: 630 Johnson Avenue, Suite #7	Analysis Turnaround Time: Standard ☐	ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)
City: Bohemia State: NY	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY: Project No: / Job No:
Phone: 631-589-6353 Fax:		

Sample Identification	Date	Time	Matrix	No. of Cont.	TFAS EPA 537 Modified	Sample Numbers
FB-816-171212 FieldBlank	12-12-17	745	GW	2	X	
PB-816-171212 PumpBlank	12-12-17	750	GW	2	X	
FM-26 100-816-171211	12-11-17	1100	GW	2	X	
FM-26 090-816-171211	12-11-17	1150	GW	2	X	
FM-26 080-816-171211	12-11-17	1242	GW	2	X	
FM-26 070-816-171211	12-11-17	1328	GW	2	X	
FM-26 060-816-171211	12-11-17	1410	GW	2	X	
FM-26 050-816-171212	12-12-17	839	GW	2	X	
FM-26 040-816-171212	12-12-17	927	GW	2	X	

320-34425 Chain of Custody

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other _____, 7 = Other _____ Soil: / Water:

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
Brian Pedersen	SCDOH	12/15/17 9:51	1)	TA 12/14/17 12:01
Relinquished by 2)	Company	Date / Time	Received by 2) 940	Company TALS 12/18/17
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

8.2

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0016 (0715)

Massachusetts (M-NJ312), North Carolina (No. 578)

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Ryan Morley	Francesca King	
Company: PWGC	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other:
		Regulatory Program: DKQP: ☐
Address: 630 Johnson Avenue, Suite #7	Analysis Turnaround Time: Standard ☐	
City: Bohemia State: NY	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: 631-589-6353 Fax:		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	PFAS EPA Method 537 Modified	LAB USE ONLY Project No: / Job No: / Sample Numbers
FM32-100-944-171211	12/11/17	14:00	GW	2	X	
DUP-1-944-171211	12/11/17	14:00	GW	1	X	
DUP-2-944-171211	12/11/17	14:00	GW	1	X	
FM32-090-944-171212	12/12/17	08:30	GW	2	X	
FM32-080-944-171212	12/12/17	09:30	GW	2	X	
FM32-070-944-171213	12/13/17	07:40	GW	2	X	
FM32-060-944-171213	12/13/17	08:30	GW	2	X	
FM32-050-944-171213	12/13/17	09:40	GW	2	X	

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other _____, 7 = Other _____ Soil: / Water:

Special Instructions

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Francesca King	SCDHS	12/15/17 9:51	1)	12/15/17 12:01 TA
2)			2)	TALS 12/18/17
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0715)

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Ryan Morley	Brian Pedersen	
Company: PWGC	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other:
		Regulatory Program: DKQP: ☐
Address: 630 Johnson Ave Suite #7	Analysis Turnaround Time: Standard ☐	
City: Bohemia State: NY	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: 631-589-5835 Fax: 6353		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST) — PFAS EPA 537 Modified

LAB USE ONLY — Project No: / Job No:

Sample Identification	Date	Time	Matrix	No. of Cont.	PFAS EPA 537 Modified	Sample Numbers
Pump Blank PB-816-171211	12-11-17	950	GW	2	X	
Field Blank FB-816-171211	12-11-17	950	GW	2	X	
* FM-30 (95-100) 100-816-171213	12-13-17	1007	GW	2	X	
FM-30 (85-90) 090-816-171213	12-13-17	1132	GW	2	X	
FM-30 (75-80) 080-816-171213	12-13-17	1225	GW	2	X	
FM-30 (65-70) 070-816-171213	12-13-17	1308	GW	2	X	
Field Blank FB-816-171213	12-13-17	900	GW	2	X	
Pump Blank PB-816-171213	12-13-17	903	GW	2	X	
FM-26 030-816-171212	12-12-17	1035	GW	2	X	
FM-26 020-816-171212	12-12-17	1140	GW	2	X	

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil: / Water:
6 = Other _____, 7 = Other _____

Special Instructions — Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
Brian Pedersen	SCDOT	12/15/17 9:51	1)	TA 12/16/17 12:20
Relinquished by 2)	Company	Date / Time	Received by 2)	Company TALS 12/16/17
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0016 (0715)

Massachusetts (M-NJ312), North Carolina (No. 578) * Received Bottles Empty. DH 12/16/17

Q-2

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Ryan Maley	Amanda Lesiewicz	
Company: PWGC	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other:
		Regulatory Program: DKQP: ☐
Address: 630 Johnson Ave Suite H7	Analysis Turnaround Time: Standard ☐	ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST)
City: Bohemia State: NY	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	PFAS EPA 537 Modified
Phone: 631-589-6353 Fax:		

Sample Identification	Date	Time	Matrix	No. of Cont.	Sample Numbers
MS/MSD (1) FM-34-090-886-171211	12/11/17	13:05	GW	6	
FM-34-040-886-171212	12/12/17	9:42	GW	2	
FM-34-070-886-171213	12/13/17	9:53	GW	2	
FM-34-060-886-171213	12/13/17	11:00	GW	2	
(1) FM-34-050-886-171213	12/13/17	12:39	GW	2	

LAB USE ONLY
Project No:
Job No:

(1) Did not mark which Tests to B 12/18/17

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
Amanda Lesiewicz	SCDOH	12/15/17 9:51	1)	TA 12/15/17 12:01
Relinquished by 2)	Company	Date / Time	Received by 2)	Company TAMS 12/16/17 8.2
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0715)

Login Sample Receipt Checklist

Client: PW Grosser Consulting

Job Number: 320-34425-1

Login Number: 34425
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	8.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC not relinquished.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Rec'd 2 bottles empty/Did not receive samples till monday 12/18/17
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	