



Emerging Contaminants Groundwater Sampling Report

Hartsdale Village Square LLC
Aristocrat Cleaners
Site Number: C360111

October 13, 2021

Submitted To:

**New York State Department of Environmental
Conservation
Division of Environmental Remediation
Remedial Bureau C, Section D
625 Broadway
Albany, New York 12233-7014
Attn: Mr. Danial R. Lanners, P.E.**

Prepared For:

**Hartsdale Village Square 2 LLC
2916 8th Avenue, Suite 3C
New York, New York 10039**

Prepared By:

**EnviroTrac Ltd.
5 Old Dock Road
Yaphank, NY 11980**

Table of Contents

1.0 INTRODUCTION 1

2.0 SAMPLING LOCATIONS AND RATIONALE..... 2

3.0 SAMPLING PROCEDURES..... 3

4.0 SAMPLE ANALSES AND QUALITY ASSURANCE 4

5.0 RESULTS 6

6.0 REFERENCES 7

FIGURES

- Figure 1 Site Location Map
- Figure 2 Summary of Groundwater Sampling Results

TABLES

- Table 1 Water Level Elevation Measurements
- Table 2 Groundwater Sampling Results

APPENDICES

- Appendix A Laboratory Report
- Appendix B Data Usability Summary Report

Emerging Contaminants Groundwater Sampling Report

Hartsdale Village Square LLC

Aristocrat Cleaners

Site Number C360111

“I, Tracy Wall, PG, certify that I am currently a Qualified Environmental Professional (QEP) as defined in 6 NYCRR Part 375 and that this Emerging Contaminants Groundwater Sampling Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.”



Tracy Wall, PG
Project Manager

October 13, 2021

Date

1.0 INTRODUCTION

Hartsdale Village Square LLC – Aristocrat Cleaners (Site #C360111), as a Volunteer, entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in January 2010 to investigate and remediate a 0.1-acre property (Site) located in the Hamlet of Hartsdale, Town of Greenburg, New York. The Site is located in the County of Westchester, New York and is identified as Block 8211 and Lot 8 on Greenburgh Tax Map #21.8211-6 (**Figure 1**).

The Site was remediated to commercial use and will continue to be used for its current purposes. A Certificate of Completion (COC) was granted by the NYSDEC in 2014 and a site management plan (SMP) is in place to monitor adherence to established institutional and engineering controls. The SMP does not provide any requirements pertaining to 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS).

In correspondence to Mr. Kenneth Shin dated June 21, 2018 the NYSDEC requested the submittal of a work plan pertaining to the testing of groundwater at the Site for 1,4-dioxane and PFAS. A work plan (Work Plan) dated July 23, 2018, prepared and submitted to the NYSDEC, was subsequently modified per NYSDEC comments provided in approval correspondence dated July 16, 2020.

2.0 SAMPLING LOCATIONS AND RATIONALE

The NYSDEC is undertaking a Statewide evaluation of remediation sites to better understand the risk posed to New Yorkers by 1,4-dioxane and PFAS. PFAS have historically not been evaluated at remediation sites, and 1,4-dioxane has not been evaluated at the levels that are now thought to represent a health concern. This initiative is being undertaken as a result of these "emerging contaminants" having been found in a number of drinking water supplies in New York. Accordingly, the NYSDEC is requiring the testing of site groundwater for these chemicals. To accommodate this requirement, the NYSDEC requested that a select number of existing monitoring wells, representative of the potential of the Site to be a source of these emerging contaminants, must be sampled and recommended that at least one (1) of these wells should be upgradient of the Site.

Figure 2 shows the locations of existing wells that were installed during the BCP investigation. Samples were collected on August 19, 2021 at MW-1, MW-4 and MW-8 to assess groundwater quality migrating onto the Site and that migrating off-Site. **Table 1** provides a summary of water level monitoring data and well construction information.

3.0 SAMPLING PROCEDURES

Groundwater sampling was implemented in accordance with procedures presented in the Work Plan. A low flow protocol using a peristaltic pump and dedicated (i.e., single use) silicon/HDPE tubing as described in the Work Plan. Using new nitrile gloves, the PFAS were collected first at each well, prior to collecting the 1,4-dioxane samples. This approach was employed to avoid contact with any other type of sample containers, bottles or package materials.

Purge water generated during sampling was drummed, labeled and staged on-Site pending future disposal.

4.0 SAMPLE ANALSES AND QUALITY ASSURANCE

Samples were transported via courier under chain of custody to SGS North America (SGS), Dayton, New Jersey for analyses.

The following constituents were analyzed in the laboratory:

- 1,4-Dioxane, EPA Method 8270-SIM; and
- PFAS Target Analyte List (TAL), EPA Method 537.

The PFAS TAL consists of the following compounds

Compound Name	Abbreviation	CAS #
Perfluorobutanesulfonic acid	PFBS	375-73-5
Perfluorohexanesulfonic acid	PFHxS	355-46-4
Perfluoroheptanesulfonic acid	PFHpS	375-92-8
Perfluorooctanesulfonic acid	PFOS	1763-23-1
Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorobutanoic acid	PFBA	375-22-4
Perfluoropentanoic acid	PFPeA	2706-90-3
Perfluorohexanoic acid	PFHxA	307-24-4
Perfluoroheptanoic acid	PFHpA	375-85-9
Perfluorooctanoic acid	PFOA	335-67-1
Perfluorononanoic acid	PFNA	375-95-1
Perfluorodecanoic acid	PFDA	335-76-2
Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
Perfluorododecanoic acid	PFDoA	307-55-1
Perfluorotridecanoic acid	PFTriA/PFTTrDA	72629-94-8
Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctanesulfonamide	FOSA	754-91-6
N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

Quality assurance samples included:

- A blind duplicate field sample collected at location MW-1;
- A matrix spike sample (MS) and a matrix spike duplicate (MSD) sample; and
- An equipment blank was collected for PFAS testing.

Reporting of results from the laboratory were provided in a Category B (CAT B) deliverable package as defined in the ASP and DER-10 Appendix 2B, and electronic data deliverables (EDD) that comply with the NYSDEC's Electronic Data Warehouse Standards (EDWS) or as otherwise directed by DER.

Third party data validation of the CAT B laboratory report and preparation of a Data Usability Summary Report (DUSR) were conducted by Environmental Data Services, Inc. (EDS), Palm Beach Gardens, Florida.

Sampling location, sampling analytical and validation results and other pertinent site information was provided electronically to the NYSDEC in an EDD using the database software application EQulS™ (EQulS) from EarthSoft® Inc. (EarthSoft) that is utilized by the NYSDEC's Environmental Information Management System (EIMS).

5.0 RESULTS

Per- and Polyfluoroalkyl Substances (PFAS) are a group of chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. Fluoropolymer coatings are blends of resins and lubricants used in products such as water-repellent clothing, furniture, adhesives, paint and varnish, food packaging, heat-resistant non-stick cooking surfaces and insulation of electrical wires. Chemicals in this group include perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). The NYSDEC has established maximum concentration limits (MCLs) for these two (2) constituents at 10 nanograms per liter (ng/l).

1,4-dioxane is a chemical that has been used as a stabilizer in solvents, paint strippers, greases, and wax. An MCL for 1,4-dioxane has been set at that standard at 1 microgram per liter (ug/l). Results for 1,4-dioxane samples collected on August 21, 2021 were all non-detect.

Chemical constituent laboratory results are provided in **Table 2**.

Depth to water measurements were recorded at the sampled wells and at other existing monitoring wells. The general direction of groundwater flow on August 19, 2021 was southerly, consistent with prior remedial investigation findings. A slight upward vertical flow potential was noted based on groundwater elevation measurements recorded at wells MW-2 and MW-D. **Figure 2** presents summarized analytical results and a depiction of general horizontal flow direction.

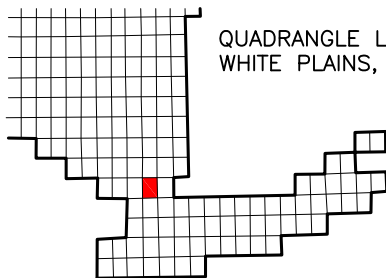
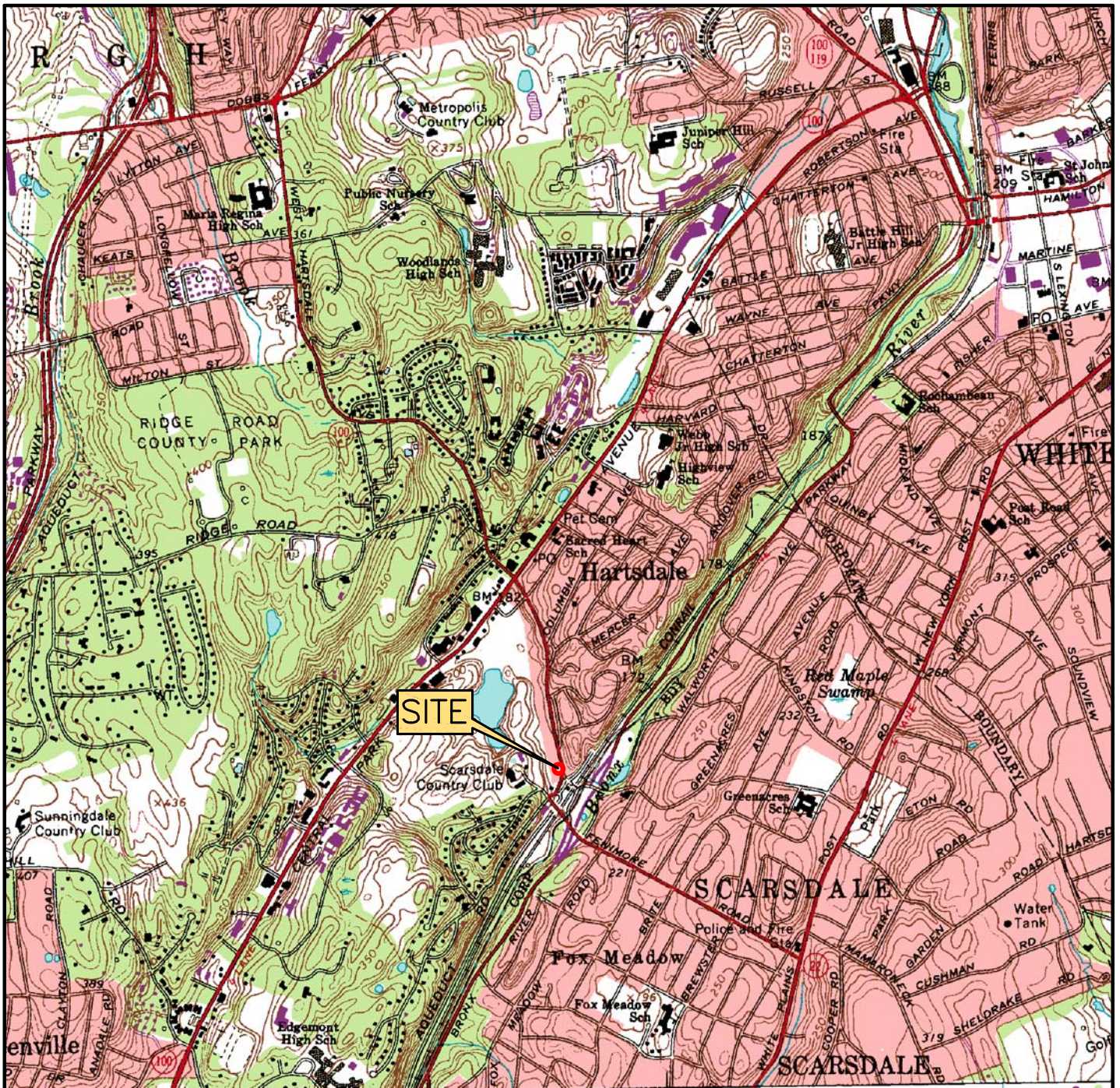
6.0 REFERENCES

New York State Department of Environmental Conservation (May 3, 2010). Final Program Policy DER-10 - Technical Guidance for Site Investigation and Remediation.

EnviroTrac Ltd. (July 23, 2018). Emerging Compounds Groundwater Sampling Work Plan.

New York State Department of Environmental Conservation (July 16, 2020). Letter approving the Emerging Compounds Groundwater Sampling Work Plan dated July 23, 2018, with modifications.

FIGURES



QUADRANGLE LOCATION:
WHITE PLAINS, NEW YORK

APPROXIMATE ELEVATION:
175-180 FT.

SOURCE:
USGS 7.5 MINUTE SERIES

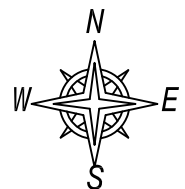


FIGURE #

1

SITE LOCATION MAP

ARISTOCRAT CLEANERS
212 E. HARTSDALE AVENUE
HARTSDALE, NEW YORK

DRAWN BY: B.S.

REVISION DATE:
8/27/2021

EnviroTrac
ENVIRONMENTAL SERVICES

5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
PHONE: (631)924-3001 FAX: (631)924-5001

WT ELEV	161.20
1,4-DIOXANE	0.097 U
PFOA	52.3
PFOS	42.6
TOTAL PFAS	149

WT ELEV	159.75
1,4-DIOXANE	0.096 U
PFOA	33.2
PFOS	22.2
TOTAL PFAS	116

WT ELEV 159.68

WT ELEV 159.77

WT ELEV 159.54

WT ELEV 159.66

WT ELEV	159.38
1,4-DIOXANE	0.097 U
PFOA	15.9
PFOS	11.6
TOTAL PFAS	71

LEGEND:

- ☒ SUMP
 - ⊕ MONITORING WELL
 - SOIL SAMPLE
 - ⊗ SOIL SAMPLE/SOIL VAPOR LOCATION
 - WT ELEV WATER TABLE ELEVATION (FEET MSL)
 - 1,4-DIOXANE IN $\mu\text{g/L}$
 - PFAS COMPOUNDS IN ng/L
 - U NOT DETECTED AT INDICATED REPORTING LIMIT
 - ➡ GENERAL DIRECTION OF GROUNDWATER FLOW
- SAMPLING CONDUCTED AUGUST 19, 2021

TABLES

Table 1: Water Level Elevation Measurements

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

WELL NO.	MW-1			MW-2			MW-2D			MW-3			MW-4		
LOCATION	Outdoor			Basement			Basement			Basement			Basement		
BOREHOLE DIAMETER (in.)	2			2			3			2			2		
CASING/SCREEN DIAMETER (in.)	1			1			1.25			1			1		
TOTAL WELL DEPTH (ft.)	18.5			10.5			18.0			10.5			10.5		
SCREEN INTERVAL (ft.)	8.5 - 18.5			0.5 - 10.5			13 - 18			0.5 - 10.5			0.5 - 10.5		
MP ELEVATION (ft./msl.)	169.15			162.70			161.86			162.54			162.71		
SCREEN INTERVAL (ft./msl.)	151-161			152-162			144-149			152-162			152-162		
SAMPLING DATE	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV
8/12/2008 (2)	9.40	0.00	159.75	0.50	0.00	162.20	NA			0.50	0.00	162.04	0.50	0.00	162.21
10/11/2011	8.70	0.00	160.45	1.33	0.00	161.37	NA			1.85	0.00	160.69	2.29	0.00	160.42
2/6/2013	8.61	0.00	160.54	2.70	0.00	160.00	2.01	0.00	159.85	2.50	0.00	160.04	2.91	0.00	159.80
2/27/2013	8.39	0.00	160.76	2.05	0.00	160.65	1.55	0.00	160.31	NM	-	-	2.48	0.00	160.23
11/12/2013	10.02	0.00	159.13	3.77	0.00	158.93	2.78	0.00	159.08	3.50	0.00	159.04	3.73	0.00	158.98
2/26/2014	NM	-	-	2.86	0.00	159.84	3.65	0.00	158.21	3.53	0.00	159.01	3.81	0.00	158.90
8/19/2021	7.95	0.00	161.20	3.02	0.00	159.68	2.09	0.00	159.77	NM	0.00	-	2.96	0.00	159.75

WELL NO.	MW-5			MW-6			MW-7			MW-8		
LOCATION	Outdoor			Basement			Basement			Basement (1)		
BOREHOLE DIAMETER (in.)	2			2			2			3		
CASING/SCREEN DIAMETER (in.)	1			1			1			2		
TOTAL WELL DEPTH (ft.)	18.5			10.5			10.5			8.0		
SCREEN INTERVAL (ft.)	8.5 - 18.5			0.5 - 10.5			0.5 - 10.5			3 - 8		
MP ELEVATION (ft./msl.)	169.50			162.88			162.87			160.91		
SCREEN INTERVAL (ft./msl.)	151-161			152-162			152-162			153-158		
SAMPLING DATE	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV
8/12/2008 (2)	10.25	0.00	159.25	0.50	0.00	162.38	0.50	0.00	162.37	NA		
10/11/2011	9.47	0.00	160.03	2.69	0.00	160.19	2.59	0.00	160.28	NA		
2/6/2013	9.95	0.00	159.55	3.25	0.00	159.63	3.17	0.00	159.70	1.81	0.00	159.10
2/27/2013	9.18	0.00	160.32	NM	-	-	NM	-	-	1.06	0.00	159.85
11/12/2013	10.77	0.00	158.73	4.11	0.00	158.77	4.02	0.00	158.85	2.26	0.00	158.65
2/26/2014	NM	-	-	4.24	0.00	158.64	2.29	0.00	160.58	2.24	0.00	158.67
8/19/2021	9.84	0.00	159.66	NM	-	-	3.33	0.00	159.54	1.53	0.00	159.38

Notes:

MP: Top of well casing measuring point

DTW: Depth to water below measuring point (ft.)

LNAPL: Light non-aqueous phase liquid thickness (ft.)

ELEV: Groundwater elevation (ft./msl)

(1): Liquor store - all other "Basement" samples are located in the dry cleaner

(2): Measurements recorded by Tapash, Hammonton, NY

NA: Not applicable, well not installed

NM: Not measured.

Table 2: Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

Well Name		MW-1	DUPLICATE (1)	MW-4	MW-8	Field Blank
Compound	AWQS (ug/l)					
1,4-Dioxane	1	0.097 U	0.11 U	0.096 U	0.097 U	NA
PFAS	AWQS (ng/l)					
6:2 Fluorotelomer sulfonate	No Criteria	7.1 U	7.1 U	7.1 U	7.1 U	7.1 U
8:2 Fluorotelomer sulfonate		7.1 U	7.1 U	7.1 U	7.1 U	7.1 U
EtFOSAA		3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
MeFOSAA		3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
Perfluorobutanesulfonic acid		9.1	9.4	5.8	1.8 U	1.8 U
Perfluorobutanoic acid		5.6	5.7	9.2	5.2	3.6 U
Perfluorodecanesulfonic acid		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Perfluorodecanoic acid		2.4	1.5 J	1.8 U	3.5	1.8 U
Perfluorododecanoic acid		1.8 U	1.8 U	1.8 U	8.9 U	1.8 U
Perfluoroheptanesulfonic acid		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Perfluoroheptanoic acid		11.1	11.6	18.1	15.3	1.8 U
Perfluorohexanesulfonic acid		1.5 J	1.4 J	3.0	1.8 U	1.8 U
Perfluorohexanoic acid		9.2	9.2	9.7	8.4	1.8 U
Perfluorononanoic acid		5.6	5.1	4.2	3.1	1.8 U
Perfluorooctanesulfonic acid	10	42.6	32.5	22.2	11.6	1.8 U
Perfluorooctanoic acid	10	52.3	55.6	33.2	15.9	1.8 U
Perfluoropentanoic acid	No Criteria	9.2	9.3	10.2	7.8	1.8 U
Perfluorotetradecanoic acid		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Perfluorotridecanoic acid		1.8 U	1.8 U	1.8 U	8.9 U	1.8 U
Perfluoroundecanoic acid		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
PFOSA		3.6 U	3.6 U	18 U	18 U	3.6 U
Total PFAS		149	141	116	71	ND

Notes:

ug/l: micrograms per liter.

ng/l: nanograms per liter.

(1): Duplicate of sample MW-1

AWQS: Ambient Water Quality Standard or Guidance Value (TOGS 1.1.1).

Result exceeds the specified criteria.

U qualifier: Not detected relative to the noted laboratory reporting limit.

J qualifier: Estimated value.

NA: Not applicable.

ND: Not detected.

APPENDICES

APPENDIX A

Laboratory Report

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

EnviroTrac Ltd.

Aristocrat Cleaners, Hartsdale NY

SGS Job Number: JD30371A

Sampling Date: 08/19/21

Report to:

Envirotrac
5 Old Dock Road
Yaphank, NY 11980
peteb@envirotrac.com

ATTN: Peter Breen

Total number of pages in report: 719



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Mike Earp".

Mike Earp
General Manager

Client Service contact: Victoria Pushkova 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	4
Section 2: Case Narrative/Conformance Summary	6
Section 3: Summary of Hits	8
Section 4: Sample Results	10
4.1: JD30371-1A: MW#1 210819	11
4.2: JD30371-1B: MW#1 210819	13
4.3: JD30371-6A: MW#8 210819	14
4.4: JD30371-6B: MW#8 210819	16
4.5: JD30371-7A: DUPLICATE #1210819	17
4.6: JD30371-7B: DUPLICATE #1210819	19
4.7: JD30371-8A: MW#4 210819	20
4.8: JD30371-8B: MW#4 210819	22
4.9: JD30371-9: FIELD BLANK	23
Section 5: Misc. Forms	25
5.1: Chain of Custody	26
5.2: Sample Tracking Chronicle	30
5.3: Internal Chain of Custody	32
Section 6: MS Semi-volatiles - QC Data Summaries	37
6.1: Method Blank Summary	38
6.2: Blank Spike/Blank Spike Duplicate Summary	39
6.3: Matrix Spike/Matrix Spike Duplicate Summary	40
6.4: Instrument Performance Checks (DFTPP)	41
6.5: Injection/Internal Standard Area Summaries	46
6.6: Isotope Dilution Standard/Surrogate Recovery Summaries	49
6.7: Initial and Continuing Calibration Summaries	50
6.8: Run Sequence Reports	58
Section 7: MS Semi-volatiles - Raw Data	61
7.1: Samples	62
7.2: Method Blanks	70
7.3: Blank Spike/Blank Spike Duplicates	76
7.4: Matrix Spike/Matrix Spike Duplicates	86
7.5: Instrument Performance Checks (DFTPP)	96
7.6: Initial and Continuing Calibrations	114
7.7: Instrument Run Logs	179
7.8: Prep Logs	186
Section 8: Misc. Forms (SGS Orlando, FL)	187
8.1: Chain of Custody	188
8.2: Sample Tracking Chronicle	190
Section 9: MS Semi-volatiles - QC Data (SGS Orlando, FL)	191
9.1: Method Blank Summary	192
9.2: Blank Spike Summary	198
9.3: Matrix Spike/Matrix Spike Duplicate Summary	200

Table of Contents

-2-

9.4: Isotope Dilution Standard Recovery Summaries	202
9.5: Initial and Continuing Calibration Summaries	205
9.6: Run Sequence Reports	234
Section 10: MS Semi-volatiles - Raw Data (SGS Orlando, FL)	244
10.1: Samples	245
10.2: Method Blanks	318
10.3: Blank Spikes	344
10.4: Matrix Spike/Matrix Spike Duplicates	360
10.5: Initial and Continuing Calibrations	392
10.6: Instrument Run Logs	707
10.7: Prep Logs	719



Sample Summary

EnviroTrac Ltd.

Job No: JD30371A

Aristocrat Cleaners, Hartsdale NY

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

JD30371-1A	08/19/21	10:12 MA	08/20/21	AQ	Ground Water	MW#1 210819
JD30371-1AD	08/19/21	10:12 MA	08/20/21	AQ	Water Dup/MSD	MW#1 210819 MSD
JD30371-1AS	08/19/21	10:12 MA	08/20/21	AQ	Water Matrix Spike	MW#1 210819 MS
JD30371-1B	08/19/21	10:12 MA	08/20/21	AQ	Ground Water	MW#1 210819
JD30371-1DB	08/19/21	10:12 MA	08/20/21	AQ	Water Dup/MSD	MW#1 210819 MSD
JD30371-1SB	08/19/21	10:12 MA	08/20/21	AQ	Water Matrix Spike	MW#1 210819 MS
JD30371-6A	08/19/21	14:30 MA	08/20/21	AQ	Ground Water	MW#8 210819
JD30371-6B	08/19/21	14:30 MA	08/20/21	AQ	Ground Water	MW#8 210819
JD30371-7A	08/19/21	10:38 MA	08/20/21	AQ	Ground Water	DUPLICATE #1210819
JD30371-7B	08/19/21	10:38 MA	08/20/21	AQ	Ground Water	DUPLICATE #1210819
JD30371-8A	08/19/21	13:51 MA	08/20/21	AQ	Ground Water	MW#4 210819
JD30371-8B	08/19/21	13:51 MA	08/20/21	AQ	Ground Water	MW#4 210819



Sample Summary
(continued)

EnviroTrac Ltd.

Job No: JD30371A

Aristocrat Cleaners, Hartsdale NY

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JD30371-9	08/19/21	10:20 MA	08/20/21	AQ	Field Blank Water	FIELD BLANK

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: EnviroTrac Ltd.

Job No JD30371A

Site: Aristocrat Cleaners, Hartsdale NY

Report Date 9/3/2021 3:46:27 PM

On 08/20/2021, 4 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 4.1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD30371A was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ

Batch ID: F:OP86997

- The data for EPA 537M BY ID meets quality control requirements.
- JD30371-1A: Analysis performed at SGS Orlando, FL.
- JD30371-6A: Analysis performed at SGS Orlando, FL.
- JD30371-6A: Dilution required due to matrix interference (ID recovery standard failure). Analysis performed at SGS Orlando, FL.
- JD30371-7A: Analysis performed at SGS Orlando, FL.
- JD30371-8A: Analysis performed at SGS Orlando, FL.
- JD30371-8A: Dilution required due to matrix interference (ID recovery standard failure). Analysis performed at SGS Orlando, FL.
- JD30371-9: Analysis performed at SGS Orlando, FL.

MS Semi-volatiles By Method SW846 8270E BY SIM

Matrix: AQ

Batch ID: OP35053A

- All samples were extracted within the recommended method holding time.
- Sample(s) JD30371-1BMS, JD30371-1BMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Friday, September 03, 2021

Page 1 of 1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Dayton, NJ

Job No: JD30371A

Site: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Report Date: 9/3/2021 2:42:03 PM

On 08/24/2021, 4 Sample(s) were received at SGS North America Inc. at a maximum corrected temperature of 5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD30371A was Assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ

Batch ID: OP86997

Sample(s) JD30371-1AMS, JD30371-1AMSD were used as the QC samples indicated.

Matrix Spike Duplicate Recovery(s) for Perfluorotridecanoic acid are outside control limits. Probable cause is due to matrix interference.

Sample(s) JD30371-6A, JD30371-8A have surrogates outside control limits.

JD30371-6A for 13C2-PFDoDA: Outside control limits.

JD30371-6A for 13C8-FOSA: Outside control limits.

JD30371-6A: Dilution required due to matrix interference (ID recovery standard failure).

JD30371-8A for 13C8-FOSA: Outside control limits.

JD30371-8A: Dilution required due to matrix interference (ID recovery standard failure).

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

Kim Benham, Client Services (*Signature on File*)

Summary of Hits

Job Number: JD30371A
Account: EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY
Collected: 08/19/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method

JD30371-1A MW#1 210819

Perfluorobutanoic acid ^a	5.6	3.6	1.8	ng/l	EPA 537M BY ID
Perfluoropentanoic acid ^a	9.2	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorohexanoic acid ^a	9.2	1.8	0.89	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid ^a	11.1	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorooctanoic acid ^a	52.3	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorononanoic acid ^a	5.6	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorodecanoic acid ^a	2.4	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid ^a	9.1	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid ^a	1.5 J	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid ^a	42.6	1.8	0.89	ng/l	EPA 537M BY ID

JD30371-1B MW#1 210819

No hits reported in this sample.

JD30371-6A MW#8 210819

Perfluorobutanoic acid ^a	5.2	3.6	1.8	ng/l	EPA 537M BY ID
Perfluoropentanoic acid ^a	7.8	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorohexanoic acid ^a	8.4	1.8	0.89	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid ^a	15.3	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorooctanoic acid ^a	15.9	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorononanoic acid ^a	3.1	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorodecanoic acid ^a	3.5	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid ^a	11.6	1.8	0.89	ng/l	EPA 537M BY ID

JD30371-6B MW#8 210819

No hits reported in this sample.

JD30371-7A DUPLICATE #1210819

Perfluorobutanoic acid ^a	5.7	3.6	1.8	ng/l	EPA 537M BY ID
Perfluoropentanoic acid ^a	9.3	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorohexanoic acid ^a	9.2	1.8	0.89	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid ^a	11.6	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorooctanoic acid ^a	55.6	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorononanoic acid ^a	5.1	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorodecanoic acid ^a	1.5 J	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid ^a	9.4	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid ^a	1.4 J	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid ^a	32.5	1.8	0.89	ng/l	EPA 537M BY ID

Summary of Hits

Job Number: JD30371A
Account: EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY
Collected: 08/19/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method

JD30371-7B DUPLICATE #1210819

No hits reported in this sample.

JD30371-8A MW#4 210819

Perfluorobutanoic acid ^a	9.2	3.6	1.8	ng/l	EPA 537M BY ID
Perfluoropentanoic acid ^a	10.2	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorohexanoic acid ^a	9.7	1.8	0.89	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid ^a	18.1	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorooctanoic acid ^a	33.2	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorononanoic acid ^a	4.2	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid ^a	5.8	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid ^a	3.0	1.8	0.89	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid ^a	22.2	1.8	0.89	ng/l	EPA 537M BY ID

JD30371-8B MW#4 210819

No hits reported in this sample.

JD30371-9 FIELD BLANK

No hits reported in this sample.

(a) Analysis performed at SGS Orlando, FL.



Dayton, NJ

Section 4

4

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	MW#1 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-1A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q43990.D	1	08/31/21 19:12	AFL	08/26/21 09:00	F:OP86997	F:S3Q638
Run #2							

Run	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	5.6	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	9.2	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	9.2	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	11.1	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	52.3	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	5.6	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	2.4	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND	1.8	0.89	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	

PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	9.1	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.5	1.8	0.89	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	42.6	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA	ND	3.6	1.8	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	

FLUOROTELOMER SULFONATES

27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW#1 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-1A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	85%		35-135%
	13C5-PFPeA	86%		50-150%
	13C5-PFHxA	82%		50-150%
	13C4-PFHpA	84%		50-150%
	13C8-PFOA	88%		50-150%
	13C9-PFNA	84%		50-150%
	13C6-PFDA	82%		50-150%
	13C7-PFUnDA	72%		40-140%
	13C2-PFDoDA	59%		40-140%
	13C2-PFTeDA	36%		30-130%
	13C3-PFBS	88%		50-150%
	13C3-PFHxS	85%		50-150%
	13C8-PFOS	79%		50-150%
	13C8-FOSA	45%		30-130%
	d3-MeFOSAA	57%		40-140%
	d5-EtFOSAA	54%		40-140%
	13C2-6:2FTS	88%		50-150%
	13C2-8:2FTS	84%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW#1 210819	
Lab Sample ID:	JD30371-1B	Date Sampled: 08/19/21
Matrix:	AQ - Ground Water	Date Received: 08/20/21
Method:	SW846 8270E BY SIM SW846 3510C	Percent Solids: n/a
Project:	Aristocrat Cleaners, Hartsdale NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M101879.D	1	08/25/21 23:38	KLS	08/25/21 08:50	OP35053A	E4M4749
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.097	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		21-121%
321-60-8	2-Fluorobiphenyl	68%		27-107%
1718-51-0	Terphenyl-d14	42%		25-118%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	MW#8 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-6A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q44086.D	1	09/01/21 22:22	AFL	08/26/21 09:00	F:OP86997	F:S3Q639
Run #2 ^b	3Q44093.D	5	09/02/21 00:17	AFL	08/26/21 09:00	F:OP86997	F:S3Q639

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2	280 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	5.2	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	7.8	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	8.4	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	15.3	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	15.9	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	3.1	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	3.5	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND ^c	8.9	4.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND ^c	8.9	4.5	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	

PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	ND	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	1.8	0.89	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	11.6	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	

PERFLUOROCTANESULFONAMIDES

754-91-6	PFOSA	ND ^c	18	8.9	ng/l	

PERFLUOROCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	

FLUOROTELOMER SULFONATES

27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW#8 210819	Date Sampled: 08/19/21
Lab Sample ID: JD30371-6A	Date Received: 08/20/21
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 537M BY ID EPA 537 MOD	
Project: Aristocrat Cleaners, Hartsdale NY	

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	62%	75%	35-135%
	13C5-PFPeA	70%	83%	50-150%
	13C5-PFHxA	68%	82%	50-150%
	13C4-PFHpA	71%	84%	50-150%
	13C8-PFOA	76%	88%	50-150%
	13C9-PFNA	76%	89%	50-150%
	13C6-PFDA	75%	88%	50-150%
	13C7-PFUnDA	51%	78%	40-140%
	13C2-PFDoDA	26% ^d	70%	40-140%
	13C2-PFTeDA	56%	54%	30-130%
	13C3-PFBS	73%	87%	50-150%
	13C3-PFHxS	77%	91%	50-150%
	13C8-PFOS	69%	90%	50-150%
	13C8-FOSA	27% ^d	39%	30-130%
	d3-MeFOSAA	73%	73%	40-140%
	d5-EtFOSAA	64%	64%	40-140%
	13C2-6:2FTS	84%	90%	50-150%
	13C2-8:2FTS	84%	91%	50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Dilution required due to matrix interference (ID recovery standard failure). Analysis performed at SGS Orlando, FL.

(c) Result is from Run# 2

(d) Outside control limits.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW#8 210819	
Lab Sample ID:	JD30371-6B	Date Sampled: 08/19/21
Matrix:	AQ - Ground Water	Date Received: 08/20/21
Method:	SW846 8270E BY SIM SW846 3510C	Percent Solids: n/a
Project:	Aristocrat Cleaners, Hartsdale NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M101899.D	1	08/26/21 14:19	KLS	08/25/21 08:50	OP35053A	E4M4750
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.097	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		21-121%
321-60-8	2-Fluorobiphenyl	65%		27-107%
1718-51-0	Terphenyl-d14	33%		25-118%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	DUPLICATE #1210819	
Lab Sample ID:	JD30371-7A	Date Sampled: 08/19/21
Matrix:	AQ - Ground Water	Date Received: 08/20/21
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids: n/a
Project:	Aristocrat Cleaners, Hartsdale NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q44087.D	1	09/01/21 22:38	AFL	08/26/21 09:00	F:OP86997	F:S3Q639
Run #2							

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
375-22-4	Perfluorobutanoic acid	5.7	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	9.3	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	9.2	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	11.6	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	55.6	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	5.1	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	1.5	1.8	0.89	ng/l	J
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND	1.8	0.89	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	9.4	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.4	1.8	0.89	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	32.5	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	
PERFLUOROCTANESULFONAMIDES						
754-91-6	PFOSA	ND	3.6	1.8	ng/l	
PERFLUOROCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	
FLUOROTELOMER SULFONATES						
27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUPLICATE #1210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-7A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	70%		35-135%
	13C5-PFPeA	72%		50-150%
	13C5-PFHxA	68%		50-150%
	13C4-PFHpA	70%		50-150%
	13C8-PFOA	75%		50-150%
	13C9-PFNA	73%		50-150%
	13C6-PFDA	71%		50-150%
	13C7-PFUnDA	63%		40-140%
	13C2-PFDoDA	58%		40-140%
	13C2-PFTeDA	56%		30-130%
	13C3-PFBS	73%		50-150%
	13C3-PFHxS	74%		50-150%
	13C8-PFOS	66%		50-150%
	13C8-FOSA	40%		30-130%
	d3-MeFOSAA	62%		40-140%
	d5-EtFOSAA	59%		40-140%
	13C2-6:2FTS	82%		50-150%
	13C2-8:2FTS	75%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	DUPLICATE #1210819	
Lab Sample ID:	JD30371-7B	Date Sampled: 08/19/21
Matrix:	AQ - Ground Water	Date Received: 08/20/21
Method:	SW846 8270E BY SIM SW846 3510C	Percent Solids: n/a
Project:	Aristocrat Cleaners, Hartsdale NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M101900.D	1	08/26/21 14:40	KLS	08/25/21 08:50	OP35053A	E4M4750
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.11	0.054	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		21-121%
321-60-8	2-Fluorobiphenyl	61%		27-107%
1718-51-0	Terphenyl-d14	32%		25-118%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	MW#4 210819	
Lab Sample ID:	JD30371-8A	Date Sampled: 08/19/21
Matrix:	AQ - Ground Water	Date Received: 08/20/21
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids: n/a
Project:	Aristocrat Cleaners, Hartsdale NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q44088.D	1	09/01/21 22:55	AFL	08/26/21 09:00	F:OP86997	F:S3Q639
Run #2 ^b	3Q44095.D	5	09/02/21 00:51	AFL	08/26/21 09:00	F:OP86997	F:S3Q639

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2	280 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	9.2	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	10.2	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	9.7	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	18.1	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	33.2	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	4.2	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	ND	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND	1.8	0.89	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	

PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	5.8	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	3.0	1.8	0.89	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	22.2	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA	ND ^c	18	8.9	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	

FLUOROTELOMER SULFONATES

27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW#4 210819	Date Sampled: 08/19/21
Lab Sample ID: JD30371-8A	Date Received: 08/20/21
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 537M BY ID EPA 537 MOD	
Project: Aristocrat Cleaners, Hartsdale NY	

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	67%	77%	35-135%
	13C5-PFPeA	71%	80%	50-150%
	13C5-PFHxA	67%	77%	50-150%
	13C4-PFHpA	69%	80%	50-150%
	13C8-PFOA	74%	84%	50-150%
	13C9-PFNA	71%	80%	50-150%
	13C6-PFDA	71%	79%	50-150%
	13C7-PFUnDA	64%	69%	40-140%
	13C2-PFDoDA	62%	60%	40-140%
	13C2-PFTeDA	59%	45%	30-130%
	13C3-PFBS	72%	83%	50-150%
	13C3-PFHxS	73%	79%	50-150%
	13C8-PFOS	66%	74%	50-150%
	13C8-FOSA	27% ^d	31%	30-130%
	d3-MeFOSAA	61%	59%	40-140%
	d5-EtFOSAA	56%	54%	40-140%
	13C2-6:2FTS	79%	85%	50-150%
	13C2-8:2FTS	75%	80%	50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Dilution required due to matrix interference (ID recovery standard failure). Analysis performed at SGS Orlando, FL.

(c) Result is from Run# 2

(d) Outside control limits.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW#4 210819	
Lab Sample ID:	JD30371-8B	Date Sampled: 08/19/21
Matrix:	AQ - Ground Water	Date Received: 08/20/21
Method:	SW846 8270E BY SIM SW846 3510C	Percent Solids: n/a
Project:	Aristocrat Cleaners, Hartsdale NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M101911.D	1	08/26/21 18:41	KLS	08/25/21 08:50	OP35053A	E4M4750
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.096	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		21-121%
321-60-8	2-Fluorobiphenyl	68%		27-107%
1718-51-0	Terphenyl-d14	44%		25-118%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	FIELD BLANK	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-9	Date Received:	08/20/21
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q44008.D	1	09/01/21 00:10	AFL	08/26/21 09:00	F:OP86997	F:S3Q638
Run #2							

Run	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
375-22-4	Perfluorobutanoic acid	ND	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	ND	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	ND	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	ND	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	ND	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND	1.8	0.89	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	ND	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	1.8	0.89	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	
PERFLUOROCTANESULFONAMIDES						
754-91-6	PFOSA	ND	3.6	1.8	ng/l	
PERFLUOROCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	
FLUOROTELOMER SULFONATES						
27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FIELD BLANK	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-9	Date Received:	08/20/21
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	92%		35-135%
	13C5-PFPeA	93%		50-150%
	13C5-PFHxA	94%		50-150%
	13C4-PFHpA	95%		50-150%
	13C8-PFOA	95%		50-150%
	13C9-PFNA	95%		50-150%
	13C6-PFDA	92%		50-150%
	13C7-PFUnDA	86%		40-140%
	13C2-PFDoDA	85%		40-140%
	13C2-PFTeDA	76%		30-130%
	13C3-PFBS	94%		50-150%
	13C3-PFHxS	95%		50-150%
	13C8-PFOS	90%		50-150%
	13C8-FOSA	86%		30-130%
	d3-MeFOSAA	70%		40-140%
	d5-EtFOSAA	65%		40-140%
	13C2-6:2FTS	88%		50-150%
	13C2-8:2FTS	90%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



6W
WFO
WTB

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

PN
F

EHSA-QAC-0023-04-FORM-Standard COC

PED-EX Tracking #	Bottle Order Control #
SGS Quote #	SGS Job #
	VP-081021-249
	JD30371

Client / Reporting Information		Project Information		Requested Analysis										Matrix Codes					
Company Name: ENV.101 LLC LTD		Project Name: AC. 5000000 CLEANERS HURTSVILLE NY		VOC'S & SVOC'S TO 1000 DSCR Ind. Parameters										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank					
Street Address: 5 Old Dock Rd		Street: 212 E. HURTSVILLE A.																	
City/State/Zip: HURTSVILLE NY 11980		City/State/Zip: HURTSVILLE NY																	
Project Contact: PETE GREEN PETE@ENV101LLC.COM		Project #:																	
Phone #:		Client Purchase Order #:																	
Sampler(s) Name(s):		Phone #:		Project Manager:		Attention:		City:		State:		Zip:							
Collection		Number of preserved Bottles										pH Check (Lab Use Only)							
SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Grab (G) Comp (C)	Source (S) (Y/N)	Matrix	# of bottles	HCl	NH4	HNO3	H2SO4	NH4OH	DI Water	MEOH	ENCORE	LAB USE ONLY	
1	MW#1 MS/MSD 210819		8/19/21	12:30	MA	G	GW	9	X									X	
2F	MW#2 210819		8/19/21	12:30	MA	G	GW	3	X									X	SUB
3	MW#3 210819		8/19/21	12:30	MA	G	GW	3	X									X	EFBR
4	MW#5 210819		8/19/21	9:30	MA	G	GW	3	X									X	VLM
5	MW#7 210819		8/19/21	13:30	MA	G	GW	3	X									X	A32
6	MW#8 210819		8/19/21	14:30	MA	G	GW	3	X									X	CLM
7	DUPLICATE #1 210819		8/19/21	10:30	MA	G	GW	3	X									X	19LS
10	R.P. BLANK		8/19/21	8:00				7B	2	X								X	
2F	MW#2 210819		8/19/21	12:40	MA	G	GW	12	X	X	X	X						X	
Turn Around Time (Business Days)		Approved By (SGS PM) / Date:		Deliverable										Comments / Special Instructions					
☐ 10 Business Days ☐ 5 Business Days ☐ 3 Business Days ☐ 2 Business Days ☐ 1 Business Day ☐ Other _____ All data available via LabLink		_____		☐ Commercial "A" (Level 1) ☐ Commercial "B" (Level 2) ☐ NJ Reduced (Level 3) ☐ Full Tier 1 (Level 4) ☐ Commercial "C" ☐ NJ DKQP ☐ NYASP Category A ☒ NYASP Category B ☐ MA MCP Criteria ☐ CT RCP Criteria ☐ State Forms ☐ EDD Format Commercial "A" = Results only, Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data										☐ DOD-QSMS http://www.sgs.com/en/terms-and-conditions					
Sample Custody must be documented below each time samples change possession, including courier delivery.																			
Relinquished by:	Date / Time:	Received By:	Relinquished by:	Date / Time:	Received By:	Relinquished by:	Date / Time:	Received By:	Relinquished by:	Date / Time:	Received By:	Relinquished by:	Date / Time:	Received By:	Relinquished by:	Date / Time:	Received By:		
1	8/19/21 12:40	1	2	8/20/21 8:20	2	3	8/20/21 8:20	3	4	8/20/21 8:20	4	5	8/20/21 8:20	5					
Custody Seal #		☐ Intact ☐ Not Intact		☐ Absent		Therm ID:		On Ice		Cooler Temp. °C									

JD30371A: Chain of Custody

Page 1 of 4





SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
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Page 1 of 1

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5.1

Page 2 of 4



SGS Sample Receipt Summary

Job Number: JD30371

Client: ENVIROTRAC

Project: ARISTOCRAT CLEANERS, HARTSDALE NY

Date / Time Received: 8/20/2021 7:01:00 PM

Delivery Method: Other Courier

Airbill #s:

Cooler Temps (Raw Measured) °C: Cooler 1: (2.7); Cooler 2: (4.0); Cooler 3: (5.0);

Cooler Temps (Corrected) °C: Cooler 1: (1.8); Cooler 2: (3.1); Cooler 3: (4.1);

<u>Cooler Security</u>		<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	☒		☐		3. COC Present:	☒		☐
2. Custody Seals Intact:	☒		☐		4. Smpl Dates/Time OK	☒		☐

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	☒		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	3		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	☒		☐	☐
2. Trip Blank listed on COC:	☒		☐	☐
3. Samples preserved properly:	☒		☐	
4. VOCs headspace free:	☒		☐	☐

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	☒		☐
2. Container labeling complete:	☒		☐
3. Sample container label / COC agree:	☐		☒

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	☒		☐
2. All containers accounted for:	☒		☐
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	☒		☐	
2. Bottles received for unspecified tests	☐		☒	
3. Sufficient volume recvd for analysis:	☒		☐	
4. Compositing instructions clear:	☐		☐	☒
5. Filtering instructions clear:	☐		☐	☒

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify)

Comments

- 1) -2: Rec'd 6 voa vials, coc states 3.
- 2) -6: 1 Extraction bottle and 1 PFA bottle have ID on label MW#4 210815 that doesn't match coc MW#8 210815, dates and times match.
- 3) -8: Times on labels 13:51 don't match coc 12:58, ID and date match.

SM089-02 Rev. Date 12/1/16

JD30371A: Chain of Custody

Page 3 of 4

Responded to by: VP

Response Date: 8/23

- 1) -2: Should be 6 vials: one set for 8260 and another one for VRSK
- 2) -6: Correct ID should be MW#8
- 3) -8: Correct time is 13:51

All above per Mike Alliegro

5.1

5

JD30371A: Chain of Custody
Page 4 of 4

Internal Sample Tracking Chronicle

EnviroTrac Ltd.

Job No: JD30371A

Aristocrat Cleaners, Hartsdale NY

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD30371-9	Collected: 19-AUG-21 10:20	By: MA	Received: 20-AUG-21	By: DDH		
FIELD BLANK						
JD30371-9	EPA 537M BY ID	01-SEP-21 00:10	AFL	26-AUG-21		LCID537NY21
JD30371-1A	Collected: 19-AUG-21 10:12	By: MA	Received: 20-AUG-21	By: DDH		
MW#1 210819						
JD30371-1A	EPA 537M BY ID	31-AUG-21 19:12	AFL	26-AUG-21		LCID537NY21
JD30371-1B	Collected: 19-AUG-21 10:12	By: MA	Received: 20-AUG-21	By: DDH		
MW#1 210819						
JD30371-1B	SW846 8270E BY SIM	25-AUG-21 23:38	KLS	25-AUG-21 NT		B8270SIM14DIOX
JD30371-6A	Collected: 19-AUG-21 14:30	By: MA	Received: 20-AUG-21	By: DDH		
MW#8 210819						
JD30371-6A	EPA 537M BY ID	01-SEP-21 22:22	AFL	26-AUG-21		LCID537NY21
JD30371-6A	EPA 537M BY ID	02-SEP-21 00:17	AFL	26-AUG-21		LCID537NY21
JD30371-6B	Collected: 19-AUG-21 14:30	By: MA	Received: 20-AUG-21	By: DDH		
MW#8 210819						
JD30371-6B	SW846 8270E BY SIM	26-AUG-21 14:19	KLS	25-AUG-21 NT		B8270SIM14DIOX
JD30371-7A	Collected: 19-AUG-21 10:38	By: MA	Received: 20-AUG-21	By: DDH		
DUPLICATE #1210819						
JD30371-7A	EPA 537M BY ID	01-SEP-21 22:38	AFL	26-AUG-21		LCID537NY21
JD30371-7B	Collected: 19-AUG-21 10:38	By: MA	Received: 20-AUG-21	By: DDH		
DUPLICATE #1210819						
JD30371-7B	SW846 8270E BY SIM	26-AUG-21 14:40	KLS	25-AUG-21 NT		B8270SIM14DIOX
JD30371-8A	Collected: 19-AUG-21 13:51	By: MA	Received: 20-AUG-21	By: DDH		
MW#4 210819						
JD30371-8A	EPA 537M BY ID	01-SEP-21 22:55	AFL	26-AUG-21		LCID537NY21

Internal Sample Tracking Chronicle

EnviroTrac Ltd.

Job No: JD30371A

Aristocrat Cleaners, Hartsdale NY

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD30371-8A	EPA 537M BY ID	02-SEP-21 00:51	AFL	26-AUG-21		LCID537NY21
JD30371-8B	Collected: 19-AUG-21 13:51 By: MA Received: 20-AUG-21 By: DDH MW#4 210819					
JD30371-8B	SW846 8270E BY SIM	26-AUG-21 18:41	KLS	25-AUG-21 NT		B8270SIM14DIOX

SGS Internal Chain of Custody

Page 1 of 5

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY
Received: 08/20/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD30371-1.1	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.2	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.3	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.4	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.4	Fernando Tatem	Secured Staging Area	08/24/21 20:22	Return to Storage
JD30371-1.4	Secured Staging Area	Taylor Gorman	08/25/21 06:30	Retrieve from Storage
JD30371-1.4	Taylor Gorman		08/27/21 05:25	Depleted
JD30371-1.4.1	Taylor Gorman	Organics Prep	08/25/21 06:43	Extract from JD30371-1.4
JD30371-1.4.1	Organics Prep	Naisha Torres	08/25/21 16:37	Extract from JD30371-1.4
JD30371-1.4.1	Naisha Torres	Extract Storage	08/25/21 16:37	Return to Storage
JD30371-1.4.1	Extract Storage	Kristi Schollenberger	08/25/21 18:42	Retrieve from Storage
JD30371-1.4.1	Kristi Schollenberger	GCMS4M	08/25/21 18:42	Load on Instrument
JD30371-1.4.1	GCMS4M	Kristi Schollenberger	08/26/21 12:15	Unload from Instrument
JD30371-1.4.1	Kristi Schollenberger	Extract Freezer	08/26/21 12:15	Return to Storage
JD30371-1.5	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.5	Fernando Tatem	Secured Staging Area	08/24/21 20:22	Return to Storage
JD30371-1.5	Secured Staging Area	Taylor Gorman	08/25/21 06:30	Retrieve from Storage
JD30371-1.5	Taylor Gorman		08/27/21 05:25	Depleted
JD30371-1.5.1	Taylor Gorman	Organics Prep	08/25/21 06:43	Extract from JD30371-1.5
JD30371-1.5.1	Organics Prep	Naisha Torres	08/25/21 16:37	Extract from JD30371-1.5
JD30371-1.5.1	Naisha Torres	Extract Storage	08/25/21 16:37	Return to Storage
JD30371-1.5.1	Extract Storage	Kristi Schollenberger	08/25/21 18:42	Retrieve from Storage
JD30371-1.5.1	Kristi Schollenberger	GCMS4M	08/25/21 18:42	Load on Instrument
JD30371-1.5.1	GCMS4M	Kristi Schollenberger	08/26/21 12:15	Unload from Instrument
JD30371-1.5.1	Kristi Schollenberger	Extract Freezer	08/26/21 12:15	Return to Storage
JD30371-1.6	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.6	Fernando Tatem	Secured Staging Area	08/24/21 20:22	Return to Storage
JD30371-1.6	Secured Staging Area	Taylor Gorman	08/25/21 06:30	Retrieve from Storage
JD30371-1.6	Taylor Gorman		08/27/21 05:25	Depleted
JD30371-1.6.1	Taylor Gorman	Organics Prep	08/25/21 06:43	Extract from JD30371-1.6
JD30371-1.6.1	Organics Prep	Naisha Torres	08/25/21 16:37	Extract from JD30371-1.6
JD30371-1.6.1	Naisha Torres	Extract Storage	08/25/21 16:37	Return to Storage
JD30371-1.6.1	Extract Storage	Kristi Schollenberger	08/25/21 18:42	Retrieve from Storage

SGS Internal Chain of Custody

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY
Received: 08/20/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD30371-1.6.1	Kristi Schollenberger	GCMS4M	08/25/21 18:42	Load on Instrument
JD30371-1.6.1	GCMS4M	Kristi Schollenberger	08/26/21 12:15	Unload from Instrument
JD30371-1.6.1	Kristi Schollenberger	Extract Freezer	08/26/21 12:15	Return to Storage
JD30371-1.7	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.7 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-1.8	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.8 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-1.9	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.9 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-1.10	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.10 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-1.11	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.11 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-1.12	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-1.12 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-1.15	Secured Storage	Eddie Huang	08/31/21 15:21	Retrieve from Storage
JD30371-1.15	Eddie Huang	GCMS2V	08/31/21 15:21	Load on Instrument
JD30371-1.15	GCMS2V	Edward Durner	09/01/21 08:55	Unload from Instrument
JD30371-1.15	Edward Durner	Secured Storage	09/01/21 08:56	Return to Storage
JD30371-1.16	Secured Storage	Eddie Huang	08/31/21 15:21	Retrieve from Storage
JD30371-1.16	Eddie Huang	GCMS2V	08/31/21 15:21	Load on Instrument
JD30371-1.16	GCMS2V	Edward Durner	09/01/21 08:55	Unload from Instrument
JD30371-1.16	Edward Durner	Secured Storage	09/01/21 08:56	Return to Storage
JD30371-1.23	Secured Storage	Eddie Huang	08/31/21 12:26	Retrieve from Storage
JD30371-1.23	Eddie Huang	GCMS2V	08/31/21 12:26	Load on Instrument
JD30371-1.23	GCMS2V	Edward Durner	09/01/21 08:55	Unload from Instrument
JD30371-1.23	Edward Durner	Secured Storage	09/01/21 08:56	Return to Storage
JD30371-6.1	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage

SGS Internal Chain of Custody

Page 3 of 5

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY
Received: 08/20/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD30371-6.1 stage	Fernando Tatem	Secured Staging Area	08/24/21 20:22	Return to Storage
JD30371-6.1	Secured Staging Area	Taylor Gorman	08/25/21 06:30	Retrieve from Storage
JD30371-6.1	Taylor Gorman		08/27/21 05:25	Depleted
JD30371-6.1.1	Taylor Gorman	Organics Prep	08/25/21 06:43	Extract from JD30371-6.1
JD30371-6.1.1	Organics Prep	Naisha Torres	08/25/21 16:37	Extract from JD30371-6.1
JD30371-6.1.1	Naisha Torres	Extract Storage	08/25/21 16:37	Return to Storage
JD30371-6.1.1	Extract Storage	Kristi Schollenberger	08/26/21 12:17	Retrieve from Storage
JD30371-6.1.1	Kristi Schollenberger	GCMS4M	08/26/21 12:18	Load on Instrument
JD30371-6.1.1	GCMS4M	Kristi Schollenberger	08/30/21 11:15	Unload from Instrument
JD30371-6.1.1	Kristi Schollenberger	Extract Freezer	08/30/21 11:15	Return to Storage
JD30371-6.2	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-6.3	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-6.3 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-6.4	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-6.4 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-6.5	Secured Storage	Edward Durner	09/01/21 12:03	Retrieve from Storage
JD30371-6.5	Edward Durner	GCMS1A	09/01/21 12:03	Load on Instrument
JD30371-6.5	GCMS1A	Edward Durner	09/02/21 10:37	Unload from Instrument
JD30371-6.5	Edward Durner	Secured Storage	09/02/21 10:37	Return to Storage
JD30371-6.6	Secured Storage	Eddie Huang	08/31/21 12:13	Retrieve from Storage
JD30371-6.6	Eddie Huang	GCMS2V	08/31/21 12:14	Load on Instrument
JD30371-6.6	GCMS2V	Edward Durner	09/01/21 08:55	Unload from Instrument
JD30371-6.6	Edward Durner	Secured Storage	09/01/21 08:56	Return to Storage
JD30371-7.1	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-7.2	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-7.2 stage	Fernando Tatem	Secured Staging Area	08/24/21 20:22	Return to Storage
JD30371-7.2	Secured Staging Area	Taylor Gorman	08/25/21 06:30	Retrieve from Storage
JD30371-7.2	Taylor Gorman		08/27/21 05:25	Depleted
JD30371-7.2.1	Taylor Gorman	Organics Prep	08/25/21 06:43	Extract from JD30371-7.2
JD30371-7.2.1	Organics Prep	Naisha Torres	08/25/21 16:37	Extract from JD30371-7.2
JD30371-7.2.1	Naisha Torres	Extract Storage	08/25/21 16:37	Return to Storage

SGS Internal Chain of Custody

Page 4 of 5

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY
Received: 08/20/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD30371-7.2.1	Extract Storage	Kristi Schollenberger	08/26/21 12:17	Retrieve from Storage
JD30371-7.2.1	Kristi Schollenberger	GCMS4M	08/26/21 12:18	Load on Instrument
JD30371-7.2.1	GCMS4M	Kristi Schollenberger	08/30/21 11:15	Unload from Instrument
JD30371-7.2.1	Kristi Schollenberger	Extract Freezer	08/30/21 11:15	Return to Storage
JD30371-7.3	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-7.3 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-7.4	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-7.4 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-7.6	Secured Storage	Eddie Huang	08/31/21 12:13	Retrieve from Storage
JD30371-7.6	Eddie Huang	GCMS2V	08/31/21 12:14	Load on Instrument
JD30371-7.6	GCMS2V	Edward Durner	09/01/21 08:55	Unload from Instrument
JD30371-7.6	Edward Durner	Secured Storage	09/01/21 08:56	Return to Storage
JD30371-8.1	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-8.1 stage	Fernando Tatem	Secured Staging Area	08/24/21 20:22	Return to Storage
JD30371-8.1	Secured Staging Area	Taylor Gorman	08/25/21 06:30	Retrieve from Storage
JD30371-8.1	Taylor Gorman		08/27/21 05:25	Depleted
JD30371-8.1.1	Taylor Gorman	Organics Prep	08/25/21 06:43	Extract from JD30371-8.1
JD30371-8.1.1	Organics Prep	Naisha Torres	08/25/21 16:37	Extract from JD30371-8.1
JD30371-8.1.1	Naisha Torres	Extract Storage	08/25/21 16:37	Return to Storage
JD30371-8.1.1	Extract Storage	Kristi Schollenberger	08/26/21 12:17	Retrieve from Storage
JD30371-8.1.1	Kristi Schollenberger	GCMS4M	08/26/21 12:18	Load on Instrument
JD30371-8.1.1	GCMS4M	Kristi Schollenberger	08/30/21 11:15	Unload from Instrument
JD30371-8.1.1	Kristi Schollenberger	Extract Freezer	08/30/21 11:15	Return to Storage
JD30371-8.2	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-8.3	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-8.3 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-8.4	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-8.4 sub	Tyler Strong		08/23/21 16:44	Subcontract
JD30371-9.1	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-9.1	Tyler Strong		08/23/21 16:44	Subcontract

SGS Internal Chain of Custody

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY
Received: 08/20/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason

sub

JD30371-9.2	James Kwon	Secured Storage	08/21/21 16:47	Return to Storage
JD30371-9.2	Tyler Strong		08/23/21 16:44	Subcontract

sub

5.3
5

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Injection/Internal Standard Area Summaries
- Isotope Dilution Standard/Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35053A-MB1	4M101865.D	1	08/25/21	KLS	08/25/21	OP35053A	E4M4749

The QC reported here applies to the following samples: Method: SW846 8270E BY SIM
JD30371-1B, JD30371-6B, JD30371-7B, JD30371-8B

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	34% 0-94%
4165-62-2	Phenol-d5	25% 10-102%
118-79-6	2,4,6-Tribromophenol	97% 30-132%
4165-60-0	Nitrobenzene-d5	87% 21-121%
321-60-8	2-Fluorobiphenyl	85% 27-107%
1718-51-0	Terphenyl-d14	77% 25-118%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35053A-BS12	4M101868.D	1	08/25/21	KLS	08/25/21	OP35053A	E4M4749
OP35053A-BSD12	4M101869.D	1	08/25/21	KLS	08/25/21	OP35053A	E4M4749

The QC reported here applies to the following samples: Method: SW846 8270E BY SIM

JD30371-1B, JD30371-6B, JD30371-7B, JD30371-8B

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
123-91-1	1,4-Dioxane	1	0.402	40	0.347	35	15	10-112/44

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	38%	30%	0-94%
4165-62-2	Phenol-d5	28%	21%	10-102%
118-79-6	2,4,6-Tribromophenol	85%	58%	30-132%
4165-60-0	Nitrobenzene-d5	86%	82%	21-121%
321-60-8	2-Fluorobiphenyl	84%	81%	27-107%
1718-51-0	Terphenyl-d14	86%	85%	25-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35053A-MSA	4M101880.D	1	08/25/21	KLS	08/25/21	OP35053A	E4M4749
OP35053A-MSDA	4M101881.D	1	08/26/21	KLS	08/25/21	OP35053A	E4M4749
JD30371-1B	4M101879.D	1	08/25/21	KLS	08/25/21	OP35053A	E4M4749

The QC reported here applies to the following samples: Method: SW846 8270E BY SIM

JD30371-1B, JD30371-6B, JD30371-7B, JD30371-8B

CAS No.	Compound	JD30371-1B ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
123-91-1	1,4-Dioxane	ND	0.952	0.335	35	0.952	0.283	30	17	10-114/69

CAS No.	Surrogate Recoveries	MS	MSD	JD30371-1B	Limits
367-12-4	2-Fluorophenol	33%	29%		0-94%
4165-62-2	Phenol-d5	24%	21%		10-102%
118-79-6	2,4,6-Tribromophenol	99%	107%		30-132%
4165-60-0	Nitrobenzene-d5	68%	66%	80%	21-121%
321-60-8	2-Fluorobiphenyl	75%	75%	68%	27-107%
1718-51-0	Terphenyl-d14	61%	64%	42%	25-118%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Page 1 of 1

Job Number: JD30371A**Account:** ENVTRAC EnviroTrac Ltd.**Project:** Aristocrat Cleaners, Hartsdale NY**Sample:** E4M4670-DFTPP**Injection Date:** 05/28/21**Lab File ID:** 4M100251.D**Injection Time:** 10:42**Instrument ID:** GCMS4M

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	39341	45.2	Pass
68	Less than 2.0% of mass 69	612	0.70 (1.33) ^a	Pass
69	Mass 69 relative abundance	46037	52.9	Pass
70	Less than 2.0% of mass 69	309	0.35 (0.67) ^a	Pass
127	40.0 - 60.0% of mass 198	40939	47.0	Pass
197	Less than 1.0% of mass 198	181	0.21	Pass
198	Base peak, 100% relative abundance	87043	100.0	Pass
199	5.0 - 9.0% of mass 198	6454	7.41	Pass
275	10.0 - 30.0% of mass 198	21264	24.4	Pass
365	1.0 - 100.0% of mass 198	2611	3.00	Pass
441	Present, but less than mass 443	7831	9.00 (76.0) ^b	Pass
442	40.0 - 100.0% of mass 198	52132	59.9	Pass
443	17.0 - 23.0% of mass 442	10306	11.8 (19.8) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E4M4670-IC4670	4M100252.D	05/28/21	10:57	00:15	Initial cal 5
E4M4670-IC4670	4M100253.D	05/28/21	11:18	00:36	Initial cal 2.5
E4M4670-ICC4670	4M100254.D	05/28/21	11:39	00:57	Initial cal 1
E4M4670-IC4670	4M100255.D	05/28/21	12:00	01:18	Initial cal 0.5
E4M4670-IC4670	4M100256.D	05/28/21	12:21	01:39	Initial cal 0.2
E4M4670-IC4670	4M100257.D	05/28/21	12:42	02:00	Initial cal 0.1
E4M4670-IC4670	4M100258.D	05/28/21	13:02	02:20	Initial cal 0.05
E4M4670-IC4670	4M100259.D	05/28/21	13:23	02:41	Initial cal 0.02
E4M4670-IC4670	4M100260.D	05/28/21	13:44	03:02	Initial cal 0.01
E4M4670-ICV4670	4M100261.D	05/28/21	14:05	03:23	Initial cal verification 1

Instrument Performance Check (DFTPP)

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4749-DFTPP
Lab File ID: 4M101861.D
Instrument ID: GCMS4M
Injection Date: 08/25/21
Injection Time: 17:16

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	30939	42.5	Pass
68	Less than 2.0% of mass 69	154	0.21 (0.42) ^a	Pass
69	Mass 69 relative abundance	36982	50.9	Pass
70	Less than 2.0% of mass 69	126	0.17 (0.34) ^a	Pass
127	40.0 - 60.0% of mass 198	32829	45.1	Pass
197	Less than 1.0% of mass 198	583	0.80	Pass
198	Base peak, 100% relative abundance	72720	100.0	Pass
199	5.0 - 9.0% of mass 198	5189	7.14	Pass
275	10.0 - 30.0% of mass 198	19234	26.4	Pass
365	1.0 - 100.0% of mass 198	2383	3.28	Pass
441	Present, but less than mass 443	7343	10.1 (85.7) ^b	Pass
442	40.0 - 100.0% of mass 198	49093	67.5	Pass
443	17.0 - 23.0% of mass 442	8565	11.8 (17.4) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E4M4749-CC4670	4M101863.D	08/25/21	17:59	00:43	Continuing cal 1
OP35048A-MB1	4M101864.D	08/25/21	18:22	01:06	Method Blank
OP35053A-MB1	4M101865.D	08/25/21	18:46	01:30	Method Blank
OP35048A-BS12	4M101866.D	08/25/21	19:07	01:51	Blank Spike
OP35048A-BS12	4M101867.D	08/25/21	19:28	02:12	Blank Spike Duplicate
OP35053A-BS12	4M101868.D	08/25/21	19:48	02:32	Blank Spike
OP35053A-BS12	4M101869.D	08/25/21	20:09	02:53	Blank Spike Duplicate
ZZZZZZ	4M101870.D	08/25/21	20:30	03:14	(unrelated sample)
ZZZZZZ	4M101871.D	08/25/21	20:51	03:35	(unrelated sample)
ZZZZZZ	4M101874.D	08/25/21	21:54	04:38	(unrelated sample)
ZZZZZZ	4M101875.D	08/25/21	22:15	04:59	(unrelated sample)
ZZZZZZ	4M101876.D	08/25/21	22:36	05:20	(unrelated sample)
ZZZZZZ	4M101877.D	08/25/21	22:57	05:41	(unrelated sample)
ZZZZZZ	4M101878.D	08/25/21	23:17	06:01	(unrelated sample)
JD30371-1B	4M101879.D	08/25/21	23:38	06:22	MW#1 210819
OP35053A-MSA	4M101880.D	08/25/21	23:59	06:43	Matrix Spike
OP35053A-MSDA	4M101881.D	08/26/21	00:20	07:04	Matrix Spike Duplicate
ZZZZZZ	4M101882.D	08/26/21	00:41	07:25	(unrelated sample)
ZZZZZZ	4M101885.D	08/26/21	01:43	08:27	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample:	E4M4749-DFTPP	Injection Date:	08/25/21
Lab File ID:	4M101861.D	Injection Time:	17:16
Instrument ID:	GCMS4M		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	4M101886.D	08/26/21	02:04	08:48	(unrelated sample)
ZZZZZZ	4M101887.D	08/26/21	02:25	09:09	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4750-DFTPP	Injection Date: 08/26/21
Lab File ID: 4M101889.D	Injection Time: 10:26
Instrument ID: GCMS4M	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	31325	43.9	Pass
68	Less than 2.0% of mass 69	503	0.70 (1.34) ^a	Pass
69	Mass 69 relative abundance	37463	52.5	Pass
70	Less than 2.0% of mass 69	188	0.26 (0.50) ^a	Pass
127	40.0 - 60.0% of mass 198	31181	43.7	Pass
197	Less than 1.0% of mass 198	245	0.34	Pass
198	Base peak, 100% relative abundance	71411	100.0	Pass
199	5.0 - 9.0% of mass 198	5008	7.01	Pass
275	10.0 - 30.0% of mass 198	16933	23.7	Pass
365	1.0 - 100.0% of mass 198	2290	3.21	Pass
441	Present, but less than mass 443	7517	10.5 (82.9) ^b	Pass
442	40.0 - 100.0% of mass 198	48051	67.3	Pass
443	17.0 - 23.0% of mass 442	9070	12.7 (18.9) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E4M4750-CC4670	4M101890.D	08/26/21	10:55	00:29	Continuing cal 0.5
OP35078A-MB1	4M101891.D	08/26/21	11:26	01:00	Method Blank
OP35051A-MB1	4M101892.D	08/26/21	11:47	01:21	Method Blank
OP35051A-BS12	4M101893.D	08/26/21	12:13	01:47	Blank Spike
OP35078A-BS12	4M101894.D	08/26/21	12:34	02:08	Blank Spike
OP35078A-BSD12	4M101895.D	08/26/21	12:55	02:29	Blank Spike Duplicate
ZZZZZZ	4M101896.D	08/26/21	13:16	02:50	(unrelated sample)
ZZZZZZ	4M101897.D	08/26/21	13:37	03:11	(unrelated sample)
ZZZZZZ	4M101898.D	08/26/21	13:58	03:32	(unrelated sample)
JD30371-6B	4M101899.D	08/26/21	14:19	03:53	MW#8 210819
JD30371-7B	4M101900.D	08/26/21	14:40	04:14	DUPLICATE #1210819
ZZZZZZ	4M101901.D	08/26/21	15:01	04:35	(unrelated sample)
ZZZZZZ	4M101902.D	08/26/21	15:22	04:56	(unrelated sample)
ZZZZZZ	4M101903.D	08/26/21	15:43	05:17	(unrelated sample)
ZZZZZZ	4M101904.D	08/26/21	16:04	05:38	(unrelated sample)
ZZZZZZ	4M101905.D	08/26/21	16:25	05:59	(unrelated sample)
JD30342-1	4M101906.D	08/26/21	16:46	06:20	(used for QC only; not part of job JD30371A)
ZZZZZZ	4M101907.D	08/26/21	17:07	06:41	(unrelated sample)
ZZZZZZ	4M101908.D	08/26/21	17:28	07:02	(unrelated sample)

Instrument Performance Check (DFTPP)

Page 2 of 2

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample:	E4M4750-DFTPP	Injection Date:	08/26/21
Lab File ID:	4M101889.D	Injection Time:	10:26
Instrument ID:	GCMS4M		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	4M101909.D	08/26/21	17:49	07:23	(unrelated sample)
ZZZZZZ	4M101910A.D	08/26/21	18:20	07:54	(unrelated sample)
JD30371-8B	4M101911.D	08/26/21	18:41	08:15	MW#4 210819
ZZZZZZ	4M101912.D	08/26/21	19:03	08:37	(unrelated sample)
ZZZZZZ	4M101913.D	08/26/21	19:24	08:58	(unrelated sample)
OP35051A-MSA	4M101914.D	08/26/21	19:45	09:19	Matrix Spike
OP35051A-MSDA	4M101915.D	08/26/21	20:06	09:40	Matrix Spike Duplicate
ZZZZZZ	4M101916.D	08/26/21	20:27	10:01	(unrelated sample)
ZZZZZZ	4M101917.D	08/26/21	20:48	10:22	(unrelated sample)
JD30342-1	4M101918.D	08/26/21	21:09	10:43	(used for QC only; not part of job JD30371A)
ZZZZZZ	4M101919.D	08/26/21	21:30	11:04	(unrelated sample)
ZZZZZZ	4M101920.D	08/26/21	21:51	11:25	(unrelated sample)
ZZZZZZ	4M101921.D	08/26/21	22:12	11:46	(unrelated sample)

6.4.3

6

Internal Standard Area Summary

Page 1 of 1

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Check Std: E4M4749-CC4670	Injection Date: 08/25/21
Lab File ID: 4M101863.D	Injection Time: 17:59
Instrument ID: GCMS4M	Method: SW846 8270E BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	25796	6.50	33989	7.95	67264	10.05	49744	12.70
Upper Limit ^a	51592	7.00	67978	8.45	134528	10.55	99488	13.20
Lower Limit ^b	12898	6.00	16995	7.45	33632	9.55	24872	12.20

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
OP35048A-MB1	23586	6.50	32812	7.95	65000	10.04	47059	12.69
OP35053A-MB1	24741	6.50	34181	7.95	67759	10.05	48261	12.69
OP35048A-BS12	23998	6.50	34509	7.95	68459	10.04	53207	12.69
OP35048A-BSD12	24251	6.50	33738	7.95	67274	10.04	46997	12.69
OP35053A-BS12	23506	6.50	31814	7.95	62976	10.05	46008	12.69
OP35053A-BSD12	24100	6.50	33000	7.95	64740	10.05	44285	12.69
ZZZZZZ	25319	6.50	34979	7.95	65716	10.04	43381	12.69
ZZZZZZ	27231	6.50	37187	7.95	73317	10.05	51372	12.68
ZZZZZZ	27792	6.50	37140	7.95	68773	10.05	51962	12.69
ZZZZZZ	31444	6.52	54711	7.99	103003	10.09	37559	12.69
ZZZZZZ	22189	6.51	32977	7.96	59592	10.05	42006	12.69
ZZZZZZ	27910	6.50	33403	7.95	77999	10.05	45290	12.69
ZZZZZZ	24980	6.51	34060	7.95	60716	10.05	43561	12.69
JD30371-1B	22484	6.50	31903	7.95	71483	10.04	50875	12.69
OP35053A-MSA	22845	6.50	35893	7.95	57848	10.05	40037	12.69
OP35053A-MSDA	26499	6.50	30851	7.95	72244	10.04	51297	12.69
ZZZZZZ	28085	6.50	37649	7.95	73294	10.04	43592	12.68
ZZZZZZ	23013	6.50	30618	7.95	59712	10.04	39915	12.69
ZZZZZZ	25548	6.50	34422	7.95	70172	10.05	48083	12.69
ZZZZZZ	23533	6.50	31493	7.95	61251	10.04	41584	12.69

IS 1 = 1-Methylnaphthalene-d10

IS 2 = Fluorene-d10

IS 3 = Fluoranthene-d10

IS 4 = Benzo(a)pyrene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Internal Standard Area Summary

Page 1 of 2

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Check Std: E4M4750-CC4670	Injection Date: 08/26/21
Lab File ID: 4M101890.D	Injection Time: 10:55
Instrument ID: GCMS4M	Method: SW846 8270E BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	27566	6.50	35451	7.95	68105	10.04	48520	12.69
Upper Limit ^a	55132	7.00	70902	8.45	136210	10.54	97040	13.19
Lower Limit ^b	13783	6.00	17726	7.45	34053	9.54	24260	12.19

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
OP35078A-MB1	25836	6.50	34146	7.95	64506	10.04	44807	12.70
OP35051A-MB1	29495	6.50	37257	7.94	67487	10.04	42901	12.69
OP35051A-BS12	31132	6.50	41417	7.95	66017	10.04	43332	12.70
OP35078A-BS12	25900	6.50	34287	7.95	64466	10.04	44369	12.69
OP35078A-BSD12	29285	6.50	39496	7.95	66800	10.04	46515	12.69
ZZZZZZ	24788	6.50	32888	7.95	62131	10.04	42447	12.69
ZZZZZZ	26384	6.50	34917	7.95	66964	10.04	47944	12.70
ZZZZZZ	25948	6.50	33300	7.95	59432	10.04	44291	12.70
JD30371-6B	26644	6.50	38432	7.95	69470	10.04	45443	12.69
JD30371-7B	24945	6.50	32423	7.95	61711	10.04	42274	12.69
ZZZZZZ	25699	6.50	31484	7.95	60013	10.04	45944	12.69
ZZZZZZ	27279	6.50	34662	7.95	66889	10.04	48778	12.69
ZZZZZZ	29265	6.50	38741	7.95	70201	10.04	51232	12.70
ZZZZZZ	26297	6.50	33681	7.95	64003	10.04	43367	12.69
ZZZZZZ	24965	6.50	33361	7.95	66369	10.04	46250	12.70
JD30342-1	30479	6.50	39314	7.95	71645	10.04	48409	12.69
ZZZZZZ	31574	6.50	39709	7.95	71261	10.04	46334	12.69
ZZZZZZ	27529	6.50	34368	7.95	62680	10.04	41077	12.69
ZZZZZZ	31320	6.50	38449	7.95	66840	10.04	46213	12.69
ZZZZZZ	29250	6.50	36420	7.95	65619	10.04	43667	12.70
JD30371-8B	27755	6.50	36332	7.95	68693	10.04	47258	12.69
ZZZZZZ	31573	6.50	38655	7.95	78922	10.04	44294	12.69
ZZZZZZ	26912	6.50	33555	7.95	57319	10.04	38382	12.69
OP35051A-MSA	26677	6.50	34623	7.95	62912	10.04	40009	12.69
OP35051A-MSDA	26425	6.50	33976	7.95	60620	10.04	40786	12.69
ZZZZZZ	25566	6.50	33360	7.95	63383	10.04	43521	12.69
ZZZZZZ	25619	6.50	43743	7.95	60205	10.04	40887	12.69
JD30342-1	25712	6.50	32450	7.95	63457	10.04	42733	12.69
ZZZZZZ	26196	6.50	34031	7.95	65008	10.04	44810	12.69
ZZZZZZ	29165	6.50	39363	7.95	77684	10.04	52249	12.68
ZZZZZZ	25151	6.50	31889	7.95	62007	10.04	41310	12.68

IS 1 = 1-Methylnaphthalene-d10
IS 2 = Fluorene-d10
IS 3 = Fluoranthene-d10

Internal Standard Area Summary

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Check Std:	E4M4750-CC4670	Injection Date:	08/26/21
Lab File ID:	4M101890.D	Injection Time:	10:55
Instrument ID:	GCMS4M	Method:	SW846 8270E BY SIM

Lab	IS 1		IS 2		IS 3		IS 4	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT

IS 4 = Benzo(a)pyrene-d12

- (a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.5.2
6

Surrogate Recovery Summary

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Method: SW846 8270E BY SIM	Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JD30371-1B	4M101879.D	80	68	42
JD30371-6B	4M101899.D	66	65	33
JD30371-7B	4M101900.D	66	61	32
JD30371-8B	4M101911.D	69	68	44
OP35053A-BS12	4M101868.D	86	84	86
OP35053A-BSD124	4M101869.D	82	81	85
OP35053A-MB1	4M101865.D	87	85	77
OP35053A-MSA	4M101880.D	68	75	61
OP35053A-MSDA	4M101881.D	66	75	64

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	21-121%
S2 = 2-Fluorobiphenyl	27-107%
S3 = Terphenyl-d14	25-118%

6.6.1
6

Initial Calibration Summary

Job Number: JD30371A

Account: ENVTRAC EnviroTrac Ltd.

Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4670-ICC4670

Lab FileID: 4M100254.D

Page 1 of 2

Response Factor Report GCMS4M											
Method : C:\msdchem\1\METHODS\M4M4670SIM.M (RTE Integrator) Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um Last Update : Fri May 28 14:46:32 2021 Response via : Initial Calibration											
Calibration Files 0.05=4m100258.D .2 =4m100256.D 2.5 =4m100253.D .02 =4m100259.D .1 =4m100257.D 1 =4m100254.D .01 =4m100260.D .5 =4m100255.D 5 =4m100252.D = = =											
Compound	0.05	.2	2.5	.02	.1	1	.01	.5	5	Avg	%RSD

1) I 1-Methylnaphthalene-d	-----ISTD-----										
2) 2-Fluorophenol	0.646	0.620	0.531	0.596	0.616	0.572	0.683	0.588	0.488	0.593	9.86
3) Phenol-d5	0.858	0.824	0.700	0.787	0.821	0.747	0.901	0.785	0.646	0.786	10.00
4) Phenol	0.945	0.904	0.846	0.847	0.904	0.873	1.016	0.893	0.790	0.891	7.26
5) bis(2-Chloroethyl)ether										0.000#	-1.00
6) Nitrobenzene-d5	0.752	0.734	0.651	0.668	0.727	0.687	0.804	0.712	0.599	0.704	8.61
7) Naphthalene	2.197	2.105	2.082	1.999	2.083	2.061	2.632	2.076	1.994	2.136	9.14
8) Hexachlorobutadiene	0.556	0.533	0.525	0.535	0.532	0.520	0.699	0.525	0.507	0.548	10.60
9) 2-Methylnaphthalene	1.429	1.376	1.426	1.306	1.365	1.406	1.856	1.408	1.401	1.442	11.10
10) Hexachlorocyclopentadiene	0.203	0.205	0.242	0.189	0.190	0.227	0.235	0.212	0.252	0.217	10.48
11) 2-Fluorobiphenyl	1.602	1.434	1.142		1.498	1.241		1.335	1.048	1.329	14.91
12) I Fluorene-d10	-----ISTD-----										
13) Acenaphthylene	1.701	1.644	1.690	1.577	1.590	1.689	2.019	1.668	1.690	1.696	7.61
14) Acenaphthene	1.216	1.177	1.129	1.087	1.174	1.181	1.431	1.158	1.125	1.187	8.37
15) Dibenzofuran										0.000#	-1.00
16) Fluorene	1.440	1.333	1.333	1.287	1.329	1.342	1.505	1.359	1.337	1.363	4.91
17) 2,4,6-Tribromophenol	0.163	0.173	0.176	0.137	0.162	0.182	0.168	0.180	0.171	0.168	7.94
18) Hexachlorobenzene	0.566	0.534	0.512	0.499	0.533	0.521	0.679	0.524	0.508	0.542	10.14
19) Pentachlorophenol	0.186	0.200	0.275		0.178	0.259		0.233	0.295	0.232	19.74
20) Phenanthrene	2.115	1.972	2.011	1.938	1.957	1.991		1.974	2.021	1.997	2.74
21) Anthracene	1.898	1.869	2.011	1.603	1.779	1.961	2.202	1.901	2.041	1.918	8.79
22) I Fluoranthene-d10	-----ISTD-----										
23) Fluoranthene											

Initial Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4670-ICC4670
Lab FileID: 4M100254.D

	1.470	1.363	1.314	1.349	1.379	1.334		1.344	1.271	1.353	4.25
24) Pyrene											
	1.343	1.286	1.344	1.260	1.254	1.330		1.300	1.331	1.306	2.78
25) Terphenyl-d14											
	0.730	0.686	0.561	0.625	0.694	0.613		0.650		0.651	8.77
26) Benzo[a]anthracene											
	1.056	1.053	1.204	0.831	1.013	1.156		1.122	1.201	1.080	11.37
27) Chrysene											
	1.140	1.132	1.236	0.930	1.115	1.216	1.216	1.198	1.207	1.154	8.19
28) I Benzo(a)pyrene-d12	-----ISTD-----										
29) Benzo[b]fluoranthene											
	1.490	1.565	1.632	1.326	1.471	1.648	1.605	1.599	1.672	1.556	7.06
30) Benzo[k]fluoranthene											
	1.404	1.504	1.612	1.235	1.440	1.641	1.506	1.632	1.560	1.504	8.67
31) Benzo[a]pyrene											
	1.586	1.725	1.579	1.462	1.617	1.641		1.671	1.542	1.603	5.04
32) Indeno[1,2,3-cd]pyrene											
	1.501	1.609	1.779	1.379	1.493	1.754	1.696	1.727	1.739	1.631	8.73
33) Dibenz[a,h]anthracene											
	1.218	1.328	1.500	1.079	1.193	1.479	1.406	1.399	1.460	1.340	10.95
34) Benzo[g,h,i]perylene											
	1.483	1.469	1.575	1.355	1.441	1.571	1.961	1.533	1.538	1.547	10.99
35) I 1-Methylnaphthalene-d	-----ISTD-----										
36) 1,4-Dioxane											
	0.340	0.295	0.291	0.278	0.254	0.297		0.288	0.284	0.291	8.29
37) 1-Methylnaphthalene											
	1.422	1.326	1.325	1.285	1.347	1.299	1.714	1.328	1.274	1.369	9.97
38) I Fluorene-d10a	-----ISTD-----										
39) 4,6-dinitro-2-methylphenol											
	0.047	0.060	0.133		0.052	0.093		0.074	0.176	0.091	52.83
	---- Quadratic regression ---- Coefficient = 0.9991										
	Response Ratio = -0.00328 + 0.07860 *A + 0.01587 *A^2										

(#) = Out of Range ### Number of calibration levels exceeded format ###

M4M4670SIM.M Fri May 28 14:50:30 2021

6.7.1
6

Initial Calibration Verification

Page 1 of 2

Job Number: JD30371A
 Account: ENVTRAC EnviroTrac Ltd.
 Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4670-ICV4670
 Lab FileID: 4M100261.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E4M4670\4m100261.D Vial: 11
 Acq On : 28 May 2021 2:05 pm Operator: hennys
 Sample : icv4670-1 Inst : GCMS4M
 Misc : op30792a,e4m4670,1000,,,1,1 Multiplr: 1.00
 MS Integration Params: lscint.p

Method : C:\msdchem\1\METHODS\M4M4670SIM.M (RTE Integrator)
 Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 Last Update : Fri May 28 14:46:32 2021
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1-Methylnaphthalene-d10	1.000	1.000	0.0	126	0.00	7.08
4 t	Phenol	0.891	0.792	11.1	114	0.00	4.76
7 t	Naphthalene	2.136	1.775	16.9	108	0.00	6.33
8 t	Hexachlorobutadiene	0.548	0.479	12.6	116	0.00	6.48
9 t	2-Methylnaphthalene	1.442	1.205	16.4	108	0.00	7.02
10 t	Hexachlorocyclopentadiene	0.217	0.412	-89.9#	229#	0.00	7.19
12 I	Fluorene-d10	1.000	1.000	0.0	125	0.00	8.54
13 t	Acenaphthylene	1.696	1.344	20.8	100	0.00	7.89
14 t	Acenaphthene	1.187	0.948	20.1	101	0.00	8.06
16 t	Fluorene	1.363	1.131	17.0	106	0.00	8.57
18 t	Hexachlorobenzene	0.542	0.463	14.6	111	0.00	9.12
19 t	Pentachlorophenol	0.232	0.256	-10.3	124	0.00	9.31
20 t	Phenanthrene	1.997	1.701	14.8	107	0.00	9.50
21 t	Anthracene	1.918	1.602	16.5	103	0.00	9.56
22 I	Fluoranthene-d10	1.000	1.000	0.0	121	0.00	10.66
23 t	Fluoranthene	1.353	1.102	18.6	100	0.00	10.68
24 t	Pyrene	1.306	1.071	18.0	97	0.00	10.90
26 t	Benzo[a]anthracene	1.080	0.869	19.5	91	0.00	12.09
27 t	Chrysene	1.154	0.959	16.9	95	0.00	12.12
28 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	107	0.00	13.36
29 t	Benzo[b]fluoranthene	1.556	1.458	6.3	95	0.00	13.09
30 t	Benzo[k]fluoranthene	1.504	1.430	4.9	93	0.00	13.12
31 t	Benzo[a]pyrene	1.603	1.325	17.3	86	0.00	13.37
32 t	Indeno[1,2,3-cd]pyrene	1.631	1.249	23.4	76	0.00	14.54
33 t	Dibenz[a,h]anthracene	1.340	1.074	19.9	78	0.00	14.56
34 t	Benzo[g,h,i]perylene	1.547	1.155	25.9	79	0.02	14.85
35 I	1-Methylnaphthalene-d10a	1.000	1.000	0.0	126	0.00	7.08
36 t	1,4-Dioxane	0.291	0.283	2.7	120	0.03	2.18
37 t	1-Methylnaphthalene	1.369	1.122	18.0	109	0.00	7.11
38 I	Fluorene-d10a	1.000	1.000	0.0	125	0.00	8.54

----- True Calc. % Drift -----

Initial Calibration Verification

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4670-ICV4670
Lab FileID: 4M100261.D

39 t	4,6-dinitro-2-methylpheno	5.000	4.490	10.2	113	0.00	8.62

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4m100254.D M4M4670SIM.M Fri May 28 14:49:57 2021

6.7.2
6

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A
 Account: ENVTRAC EnviroTrac Ltd.
 Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4749-CC4670
 Lab FileID: 4M101863.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\altheam\e4m4749\4m101863.d Vial: 2
 Acq On : 25 Aug 2021 5:59 pm Operator: kristis
 Sample : cc4670-1 Inst : GCMS4M
 Misc : op34845a,e4m4749,30.0,,,1,1 Multiplr: 1.00
 MS Integration Params: lscint.p

Method : C:\msdchem\1\METHODS\M4M4670SIM.M (RTE Integrator)
 Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 Last Update : Thu Aug 26 04:27:21 2021
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1-Methylnaphthalene-d10	1.000	1.000	0.0	76	0.00	6.50
2 S	2-Fluorophenol	0.593	0.525	11.5	70	0.00	3.26
3 S	Phenol-d5	0.786	0.720	8.4	73	0.00	4.23
4 t	Phenol	0.891	0.786	11.8	68	0.00	4.24
6 S	Nitrobenzene-d5	0.704	0.698	0.9	77	0.00	5.05
7 t	Naphthalene	2.136	1.816	15.0	67	0.00	5.76
8 t	Hexachlorobutadiene	0.548	0.474	13.5	69	0.00	5.91
9 t	2-Methylnaphthalene	1.442	1.330	7.8	72	0.00	6.44
10 t	Hexachlorocyclopentadiene	0.217	0.210	3.2	70	0.00	6.61
11 S	2-Fluorobiphenyl	1.329	1.311	1.4	80	0.00	6.82
12 I	Fluorene-d10	1.000	1.000	0.0	83	0.00	7.95
13 t	Acenaphthylene	1.696	1.552	8.5	76	0.00	7.30
14 t	Acenaphthene	1.187	1.078	9.2	76	0.00	7.47
16 t	Fluorene	1.363	1.238	9.2	76	0.00	7.98
17 S	2,4,6-Tribromophenol	0.168	0.199	-18.5	91	0.00	8.21
18 t	Hexachlorobenzene	0.542	0.521	3.9	83	0.00	8.52
19 t	Pentachlorophenol	0.232	0.309	-33.2#	99	0.00	8.72
20 t	Phenanthrene	1.997	1.939	2.9	81	0.00	8.90
21 t	Anthracene	1.918	1.933	-0.8	82	0.00	8.95
22 I	Fluoranthene-d10	1.000	1.000	0.0	93	0.00	10.05
23 t	Fluoranthene	1.353	1.237	8.6	86	0.00	10.06
24 t	Pyrene	1.306	1.239	5.1	87	0.00	10.28
25 S	Terphenyl-d14	0.651	0.628	3.5	95	0.00	10.47
26 t	Benzo[a]anthracene	1.080	1.200	-11.1	96	0.00	11.46
27 t	Chrysene	1.154	1.181	-2.3	90	0.00	11.49
28 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	102	0.00	12.70
29 t	Benzo[b]fluoranthene	1.556	1.541	1.0	95	0.00	12.44
30 t	Benzo[k]fluoranthene	1.504	1.528	-1.6	95	0.00	12.47
31 t	Benzo[a]pyrene	1.603	1.441	10.1	89	0.00	12.72
32 t	Indeno[1,2,3-cd]pyrene	1.631	1.686	-3.4	98	0.00	13.63
33 t	Dibenz[a,h]anthracene	1.340	1.410	-5.2	97	0.00	13.65
34 t	Benzo[g,h,i]perylene	1.547	1.473	4.8	95	0.00	13.86
35 I	1-Methylnaphthalene-d10a	1.000	1.000	0.0	76	0.00	6.50
36 t	1,4-Dioxane	0.291	0.241	17.2	62	0.00	1.51
37 t	1-Methylnaphthalene	1.369	1.197	12.6	70	0.00	6.53
38 I	Fluorene-d10a	1.000	1.000	0.0	83	0.00	7.95

Continuing Calibration Summary

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4749-CC4670
Lab FileID: 4M101863.D

		True	Calc.	% Drift			
39 t	4,6-dinitro-2-methylpheno	5.000	9.138	-82.8#	183	0.00	8.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4m101863.d M4M4670SIM.M Thu Aug 26 04:27:35 2021

6.7.3
6

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A
 Account: ENVTRAC EnviroTrac Ltd.
 Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4750-CC4670
 Lab FileID: 4M101890.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E4M4750\4m101890.D Vial: 2
 Acq On : 26 Aug 2021 10:55 am Operator: kristis
 Sample : cc4670-0.5 Inst : GCMS4M
 Misc : op34845a,e4m4750,30.0,,,1,1 Multiplr: 1.00
 MS Integration Params: lscint.p

Method : C:\msdchem\1\METHODS\M4M4670SIM.M (RTE Integrator)
 Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 Last Update : Tue Aug 24 15:44:29 2021
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1-Methylnaphthalene-d10	1.000	1.000	0.0	79	-0.01	6.50
2 S	2-Fluorophenol	0.593	0.567	4.4	76	0.00	3.27
3 S	Phenol-d5	0.786	0.767	2.4	77	0.00	4.23
4 t	Phenol	0.891	0.825	7.4	73	0.00	4.24
6 S	Nitrobenzene-d5	0.704	0.738	-4.8	82	0.00	5.05
7 t	Naphthalene	2.136	1.870	12.5	71	0.00	5.76
8 t	Hexachlorobutadiene	0.548	0.499	8.9	75	0.00	5.91
9 t	2-Methylnaphthalene	1.442	1.408	2.4	79	0.00	6.44
10 t	Hexachlorocyclopentadiene	0.217	0.176	18.9	65	0.00	6.61
11 S	2-Fluorobiphenyl	1.329	1.400	-5.3	83	0.00	6.81
12 I	Fluorene-d10	1.000	1.000	0.0	83	0.00	7.95
13 t	Acenaphthylene	1.696	1.560	8.0	77	0.00	7.30
14 t	Acenaphthene	1.187	1.096	7.7	78	0.00	7.47
16 t	Fluorene	1.363	1.252	8.1	76	-0.01	7.97
17 S	2,4,6-Tribromophenol	0.168	0.193	-14.9	88	0.00	8.21
18 t	Hexachlorobenzene	0.542	0.530	2.2	83	-0.02	8.52
19 t	Pentachlorophenol	0.232	0.191	17.7	68	-0.02	8.71
20 t	Phenanthrene	1.997	1.920	3.9	80	-0.02	8.90
21 t	Anthracene	1.918	1.837	4.2	80	-0.02	8.95
22 I	Fluoranthene-d10	1.000	1.000	0.0	89	-0.02	10.04
23 t	Fluoranthene	1.353	1.242	8.2	82	-0.02	10.06
24 t	Pyrene	1.306	1.236	5.4	85	-0.02	10.27
25 S	Terphenyl-d14	0.651	0.669	-2.8	92	-0.03	10.46
26 t	Benzo[a]anthracene	1.080	1.150	-6.5	91	-0.03	11.45
27 t	Chrysene	1.154	1.175	-1.8	87	-0.03	11.48
28 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	93	-0.04	12.69
29 t	Benzo[b]fluoranthene	1.556	1.572	-1.0	91	-0.04	12.44
30 t	Benzo[k]fluoranthene	1.504	1.472	2.1	84	-0.04	12.46
31 t	Benzo[a]pyrene	1.603	1.497	6.6	83	-0.04	12.71
32 t	Indeno[1,2,3-cd]pyrene	1.631	1.653	-1.3	89	-0.05	13.63
33 t	Dibenz[a,h]anthracene	1.340	1.328	0.9	88	-0.05	13.65
34 t	Benzo[g,h,i]perylene	1.547	1.456	5.9	88	-0.06	13.86
35 I	1-Methylnaphthalene-d10a	1.000	1.000	0.0	79	-0.01	6.50
36 t	1,4-Dioxane	0.291	0.239	17.9	66	0.00	1.52
37 t	1-Methylnaphthalene	1.369	1.235	9.8	73	0.00	6.53

Continuing Calibration Summary

Job Number: JD30371A
Account: ENVTRAC EnviroTrac Ltd.
Project: Aristocrat Cleaners, Hartsdale NY

Sample: E4M4750-CC4670
Lab FileID: 4M101890.D

38 I	Fluorene-d10a	1.000	1.000	0.0	83	0.00	7.95
	-----	True	Calc.	% Drift	-----		
39 t	4,6-dinitro-2-methylpheno	2.500	1.759	29.6#	62	0.00	8.05

(#) = Out of Range
4m101848.D M4M4670SIM.M

SPCC's out = 0 CCC's out = 0
Thu Aug 26 15:39:01 2021

6.7.4
6

Run Sequence Report

Page 1 of 1

Job Number: JD30371A**Account:** ENVTRAC EnviroTrac Ltd.**Project:** Aristocrat Cleaners, Hartsdale NY**Run ID:** E4M4670 **Method:** SW846 8270E BY SIM **Instrument ID:** GCMS4M

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
E4M4670-DFTPP	4M100251.D	05/28/21 10:42	n/a	DFTPP Tune
E4M4670-IC4670	4M100252.D	05/28/21 10:57	n/a	Initial cal 5
E4M4670-IC4670	4M100253.D	05/28/21 11:18	n/a	Initial cal 2.5
E4M4670-ICC4670	4M100254.D	05/28/21 11:39	n/a	Initial cal 1
E4M4670-IC4670	4M100255.D	05/28/21 12:00	n/a	Initial cal 0.5
E4M4670-IC4670	4M100256.D	05/28/21 12:21	n/a	Initial cal 0.2
E4M4670-IC4670	4M100257.D	05/28/21 12:42	n/a	Initial cal 0.1
E4M4670-IC4670	4M100258.D	05/28/21 13:02	n/a	Initial cal 0.05
E4M4670-IC4670	4M100259.D	05/28/21 13:23	n/a	Initial cal 0.02
E4M4670-IC4670	4M100260.D	05/28/21 13:44	n/a	Initial cal 0.01
E4M4670-ICV4670	4M100261.D	05/28/21 14:05	n/a	Initial cal verification 1

6.8.1

6

Run Sequence Report

Page 1 of 1

Job Number: JD30371A

Account: ENVTRAC EnviroTrac Ltd.

Project: Aristocrat Cleaners, Hartsdale NY

Run ID: E4M4749	Method: SW846 8270E BY SIM	Instrument ID: GCMS4M

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
E4M4749-DFTPP	4M101861.D	08/25/21 17:16	n/a	DFTPP Tune
E4M4749-CC4670	4M101863.D	08/25/21 17:59	n/a	Continuing cal 1
OP35048A-MB1	4M101864.D	08/25/21 18:22	OP35048A	Method Blank
OP35053A-MB1	4M101865.D	08/25/21 18:46	OP35053A	Method Blank
OP35048A-BS12	4M101866.D	08/25/21 19:07	OP35048A	Blank Spike
OP35048A-BSD12	4M101867.D	08/25/21 19:28	OP35048A	Blank Spike Duplicate
OP35053A-BS12	4M101868.D	08/25/21 19:48	OP35053A	Blank Spike
OP35053A-BSD12	4M101869.D	08/25/21 20:09	OP35053A	Blank Spike Duplicate
ZZZZZZ	4M101870.D	08/25/21 20:30	OP35053A	(unrelated sample)
ZZZZZZ	4M101871.D	08/25/21 20:51	OP35053A	(unrelated sample)
ZZZZZZ	4M101874.D	08/25/21 21:54	OP35053A	(unrelated sample)
ZZZZZZ	4M101875.D	08/25/21 22:15	OP35053A	(unrelated sample)
ZZZZZZ	4M101876.D	08/25/21 22:36	OP35053A	(unrelated sample)
ZZZZZZ	4M101877.D	08/25/21 22:57	OP35053A	(unrelated sample)
ZZZZZZ	4M101878.D	08/25/21 23:17	OP35053A	(unrelated sample)
JD30371-1B	4M101879.D	08/25/21 23:38	OP35053A	MW#1 210819
OP35053A-MSA	4M101880.D	08/25/21 23:59	OP35053A	Matrix Spike
OP35053A-MSDA	4M101881.D	08/26/21 00:20	OP35053A	Matrix Spike Duplicate
ZZZZZZ	4M101882.D	08/26/21 00:41	OP35048A	(unrelated sample)
ZZZZZZ	4M101885.D	08/26/21 01:43	OP35048A	(unrelated sample)
ZZZZZZ	4M101886.D	08/26/21 02:04	OP35048A	(unrelated sample)
ZZZZZZ	4M101887.D	08/26/21 02:25	OP35048A	(unrelated sample)

6.8.2

6

Run Sequence Report

Job Number: JD30371A

Account: ENVTRAC EnviroTrac Ltd.

Project: Aristocrat Cleaners, Hartsdale NY

Run ID: E4M4750	Method: SW846 8270E BY SIM	Instrument ID: GCMS4M

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
E4M4750-DFTPP	4M101889.D	08/26/21 10:26	n/a	DFTPP Tune
E4M4750-CC4670	4M101890.D	08/26/21 10:55	n/a	Continuing cal 0.5
OP35078A-MB1	4M101891.D	08/26/21 11:26	OP35078A	Method Blank
OP35051A-MB1	4M101892.D	08/26/21 11:47	OP35051A	Method Blank
OP35051A-BS12	4M101893.D	08/26/21 12:13	OP35051A	Blank Spike
OP35078A-BS12	4M101894.D	08/26/21 12:34	OP35078A	Blank Spike
OP35078A-BSD12	4M101895.D	08/26/21 12:55	OP35078A	Blank Spike Duplicate
ZZZZZZ	4M101896.D	08/26/21 13:16	OP35078A	(unrelated sample)
ZZZZZZ	4M101897.D	08/26/21 13:37	OP35078A	(unrelated sample)
ZZZZZZ	4M101898.D	08/26/21 13:58	OP35037A	(unrelated sample)
JD30371-6B	4M101899.D	08/26/21 14:19	OP35053A	MW#8 210819
JD30371-7B	4M101900.D	08/26/21 14:40	OP35053A	DUPLICATE #1210819
ZZZZZZ	4M101901.D	08/26/21 15:01	OP35053A	(unrelated sample)
ZZZZZZ	4M101902.D	08/26/21 15:22	OP35053A	(unrelated sample)
ZZZZZZ	4M101903.D	08/26/21 15:43	OP35053A	(unrelated sample)
ZZZZZZ	4M101904.D	08/26/21 16:04	OP35053A	(unrelated sample)
ZZZZZZ	4M101905.D	08/26/21 16:25	OP35053A	(unrelated sample)
JD30342-1	4M101906.D	08/26/21 16:46	OP35051A	(used for QC only; not part of job JD30371A)
ZZZZZZ	4M101907.D	08/26/21 17:07	OP35051A	(unrelated sample)
ZZZZZZ	4M101908.D	08/26/21 17:28	OP35051A	(unrelated sample)
ZZZZZZ	4M101909.D	08/26/21 17:49	OP35051A	(unrelated sample)
ZZZZZZ	4M101910A.D	08/26/21 18:20	OP35051A	(unrelated sample)
JD30371-8B	4M101911.D	08/26/21 18:41	OP35053A	MW#4 210819
ZZZZZZ	4M101912.D	08/26/21 19:03	OP35051A	(unrelated sample)
ZZZZZZ	4M101913.D	08/26/21 19:24	OP35051A	(unrelated sample)
OP35051A-MSA	4M101914.D	08/26/21 19:45	OP35051A	Matrix Spike
OP35051A-MSDA	4M101915.D	08/26/21 20:06	OP35051A	Matrix Spike Duplicate
ZZZZZZ	4M101916.D	08/26/21 20:27	OP35048A	(unrelated sample)
ZZZZZZ	4M101917.D	08/26/21 20:48	OP35048A	(unrelated sample)
JD30342-1	4M101918.D	08/26/21 21:09	OP35051A	(used for QC only; not part of job JD30371A)
ZZZZZZ	4M101919.D	08/26/21 21:30	OP35051A	(unrelated sample)
ZZZZZZ	4M101920.D	08/26/21 21:51	OP35051A	(unrelated sample)
ZZZZZZ	4M101921.D	08/26/21 22:12	OP35051A	(unrelated sample)



MS Semi-volatiles

Raw Data

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
 Data File : 4m101879.d
 Acq On : 25 Aug 2021 11:38 pm
 Operator : kristis
 Sample : jd30371-1b Inst : GCMS4M
 Misc : op35053a,e4m4749,1030,,,1,1
 ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Results File: M4M4670SIM.RES
 Quant Time: Aug 26 05:11:23 2021
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 26 04:27:21 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	22484	4.00	ppm	0.00
12) Fluorene-d10	7.949	176	31903	4.00	ppm	0.00
22) Fluoranthene-d10	10.044	212	71483	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.686	264	50875	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	22484	4.00	ppm	0.00
38) Fluorene-d10a	7.949	176	31903	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	40116	12.03	ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery =	24.06%		
3) Phenol-d5	4.231	99	41207	9.33	ppm	0.00
Spiked Amount 50.000			Recovery =	18.66%		
6) Nitrobenzene-d5	5.055	82	157544	39.83	ppm	0.00
Spiked Amount 50.000			Recovery =	79.66%		
11) 2-Fluorobiphenyl	6.817	172	254434	34.07	ppm	0.00
Spiked Amount 50.000			Recovery =	68.14%		
17) 2,4,6-Tribromophenol	8.213	330	57918	43.21	ppm	0.00
Spiked Amount 50.000			Recovery =	86.42%		
25) Terphenyl-d14	10.468	244	245078	21.06	ppm	0.00
Spiked Amount 50.000			Recovery =	42.12%		

Target Compounds Qvalue

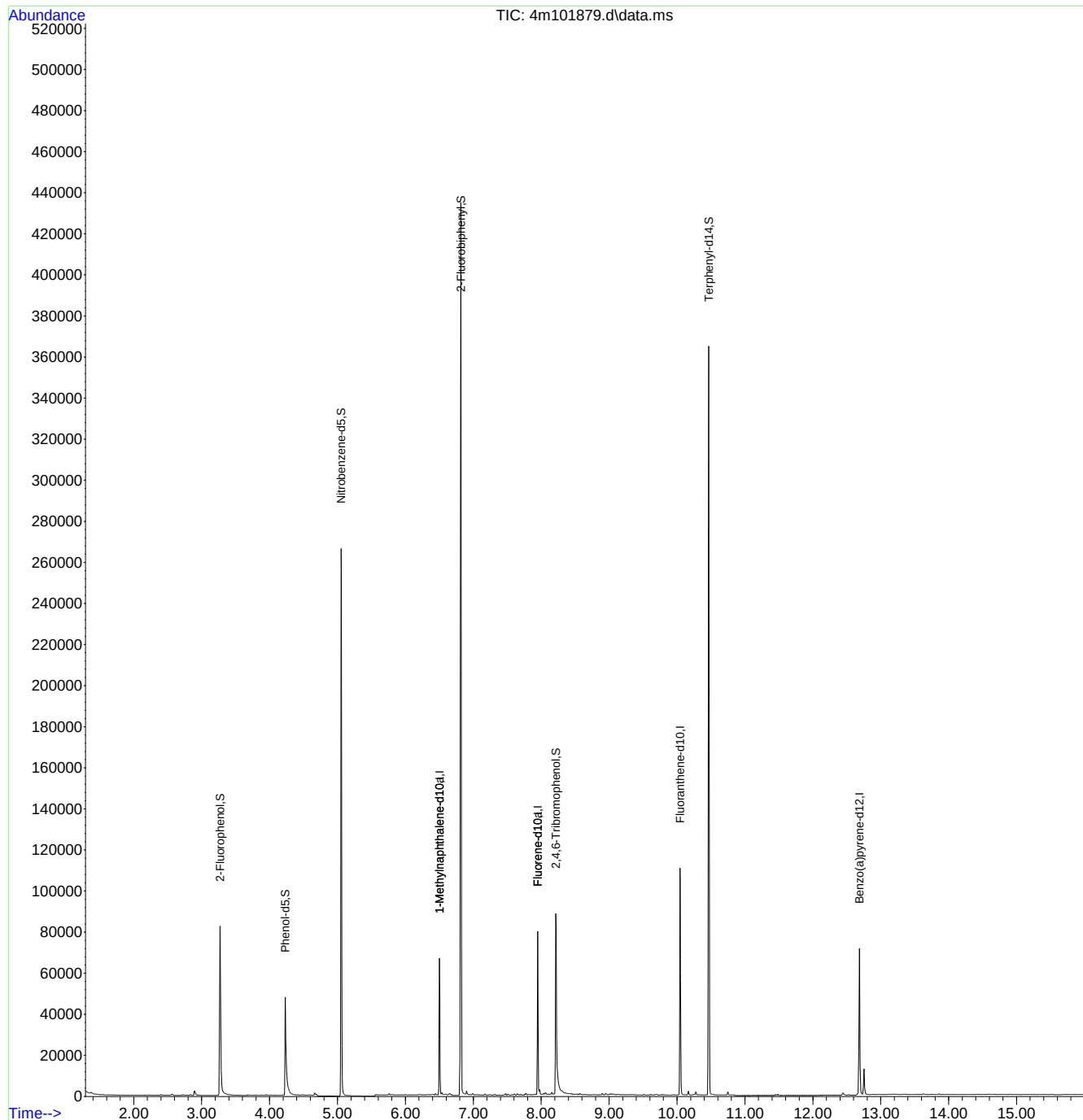
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101879.d
Acq On : 25 Aug 2021 11:38 pm
Operator : kristis
Sample : jd30371-1b
Misc : op35053a,e4m4749,1030,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 05:11:23 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4750\
 Data File : 4m101899.D
 Acq On : 26 Aug 2021 2:19 pm
 Operator : kristis
 Sample : jd30371-6b
 Misc : op35053a,e4m4750,1030,,,1,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 26 15:53:45 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 26 15:42:22 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	26644	4.00	ppm	0.00
12) Fluorene-d10	7.949	176	38432	4.00	ppm	0.00
22) Fluoranthene-d10	10.044	212	69470	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.686	264	45443	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	26644	4.00	ppm	0.00
38) Fluorene-d10a	7.949	176	38432	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	50282	12.72	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	25.44%
3) Phenol-d5	4.231	99	49590	9.48	ppm	0.00
Spiked Amount	50.000			Recovery	=	18.96%
6) Nitrobenzene-d5	5.055	82	155289	33.13	ppm	0.00
Spiked Amount	50.000			Recovery	=	66.26%
11) 2-Fluorobiphenyl	6.810	172	288334	32.58	ppm	0.00
Spiked Amount	50.000			Recovery	=	65.16%
17) 2,4,6-Tribromophenol	8.213	330	64259	39.80	ppm	0.00
Spiked Amount	50.000			Recovery	=	79.60%
25) Terphenyl-d14	10.464	244	189412	16.75	ppm	0.00
Spiked Amount	50.000			Recovery	=	33.50%

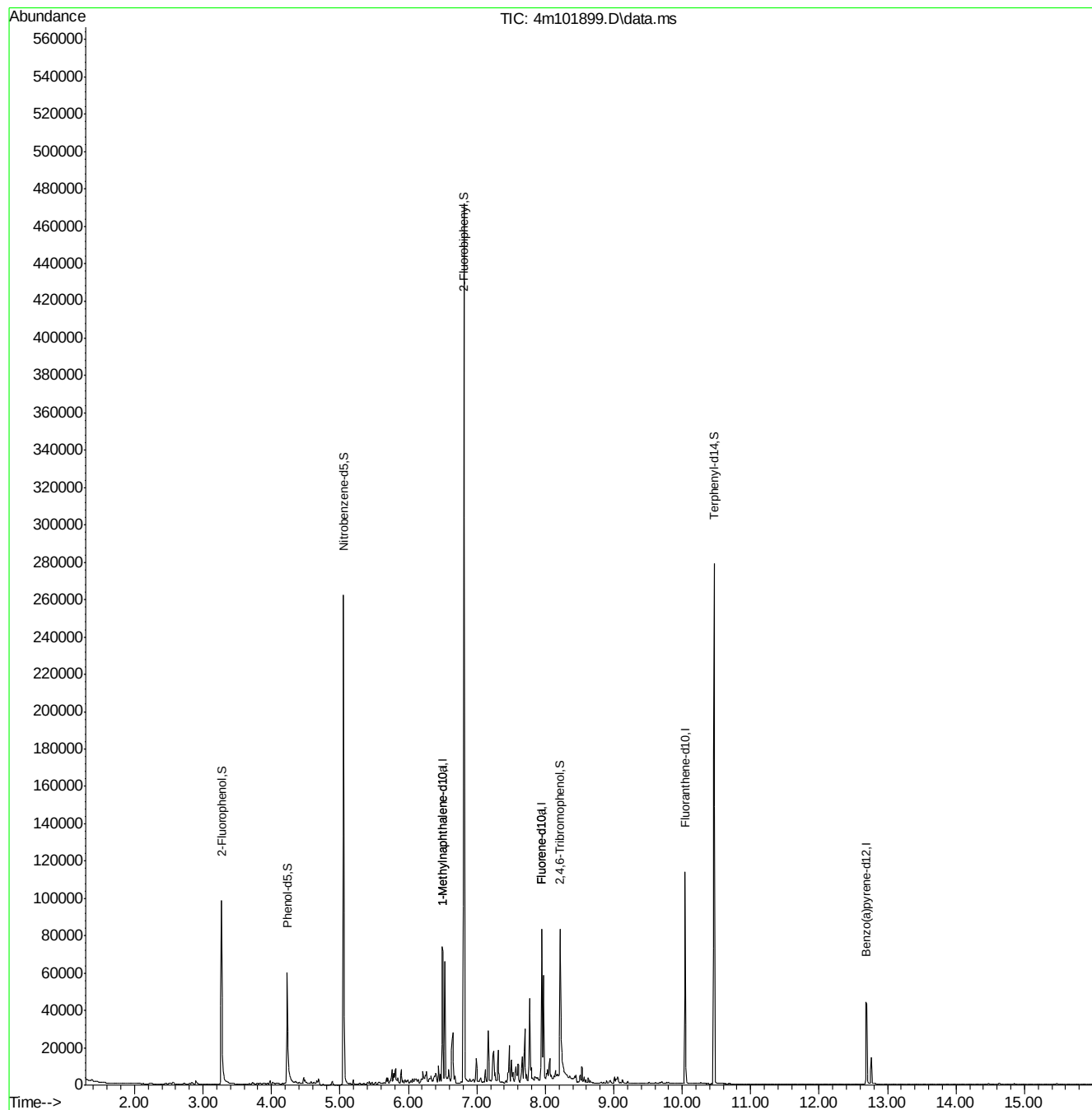
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101899.D
Acq On : 26 Aug 2021 2:19 pm
Operator : kristis
Sample : jd30371-6b
Misc : op35053a,e4m4750,1030,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 26 15:53:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 15:42:22 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4750\
 Data File : 4m101900.D
 Acq On : 26 Aug 2021 2:40 pm
 Operator : kristis
 Sample : jd30371-7b
 Misc : op35053a,e4m4750,920,,,1,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 26 15:54:32 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 26 15:42:22 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	24945	4.00	ppm	0.00
12) Fluorene-d10	7.949	176	32423	4.00	ppm	0.00
22) Fluoranthene-d10	10.044	212	61711	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.686	264	42274	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	24945	4.00	ppm	0.00
38) Fluorene-d10a	7.949	176	32423	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	41626	11.25	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	22.50%
3) Phenol-d5	4.231	99	39599	8.08	ppm	0.00
Spiked Amount	50.000			Recovery	=	16.16%
6) Nitrobenzene-d5	5.051	82	144017	32.82	ppm	0.00
Spiked Amount	50.000			Recovery	=	65.64%
11) 2-Fluorobiphenyl	6.810	172	250837	30.27	ppm	0.00
Spiked Amount	50.000			Recovery	=	60.54%
17) 2,4,6-Tribromophenol	8.214	330	50492	37.07	ppm	0.00
Spiked Amount	50.000			Recovery	=	74.14%
25) Terphenyl-d14	10.464	244	163236	16.25	ppm	0.00
Spiked Amount	50.000			Recovery	=	32.50%

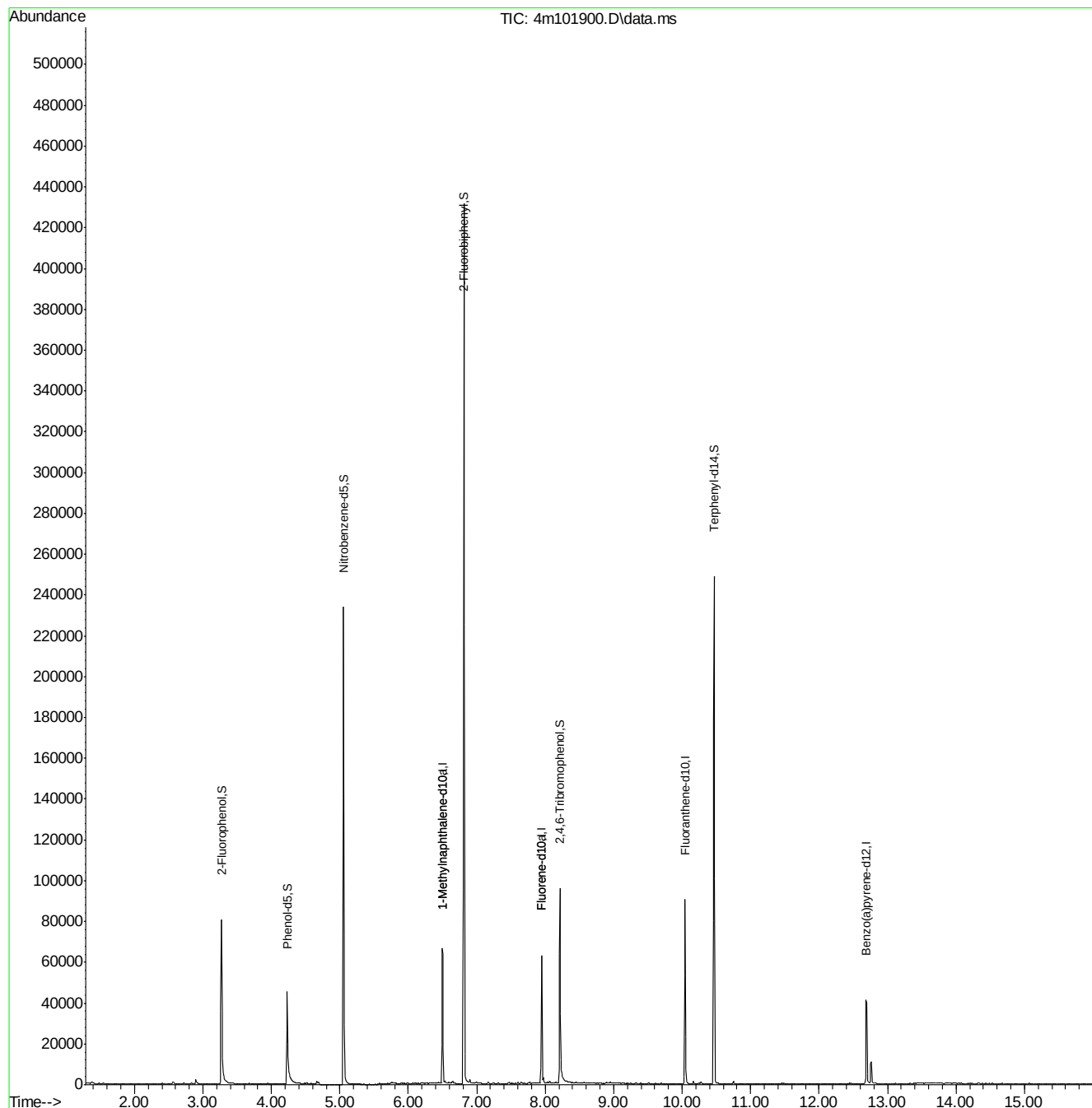
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101900.D
Acq On : 26 Aug 2021 2:40 pm
Operator : kristis
Sample : jd30371-7b
Misc : op35053a,e4m4750,920,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 26 15:54:32 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 15:42:22 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\4m4750\
 Data File : 4m101911.d
 Acq On : 26 Aug 2021 6:41 pm
 Operator : brandonl
 Sample : jd30371-8b Inst : GCMS4M
 Misc : op35053a,e4m4750,1040,,,1,1
 ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Results File: M4M4670SIM.RES
 Quant Time: Aug 27 01:00:01 2021
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri Aug 27 00:42:04 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	27755	4.00	ppm	0.00
12) Fluorene-d10	7.948	176	36332	4.00	ppm	0.00
22) Fluoranthene-d10	10.044	212	68693	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.686	264	47258	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	27755	4.00	ppm	# 0.00
38) Fluorene-d10a	7.948	176	36332	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	64978	15.78	ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery =	31.56%		
3) Phenol-d5	4.231	99	61867	11.35	ppm	0.00
Spiked Amount 50.000			Recovery =	22.70%		
6) Nitrobenzene-d5	5.054	82	169064	34.62	ppm	0.00
Spiked Amount 50.000			Recovery =	69.24%		
11) 2-Fluorobiphenyl	6.809	172	314909	34.16	ppm	0.00
Spiked Amount 50.000			Recovery =	68.32%		
17) 2,4,6-Tribromophenol	8.213	330	74259	48.65	ppm	0.00
Spiked Amount 50.000			Recovery =	97.30%		
25) Terphenyl-d14	10.467	244	245789	21.98	ppm	0.00
Spiked Amount 50.000			Recovery =	43.96%		

Target Compounds Qvalue

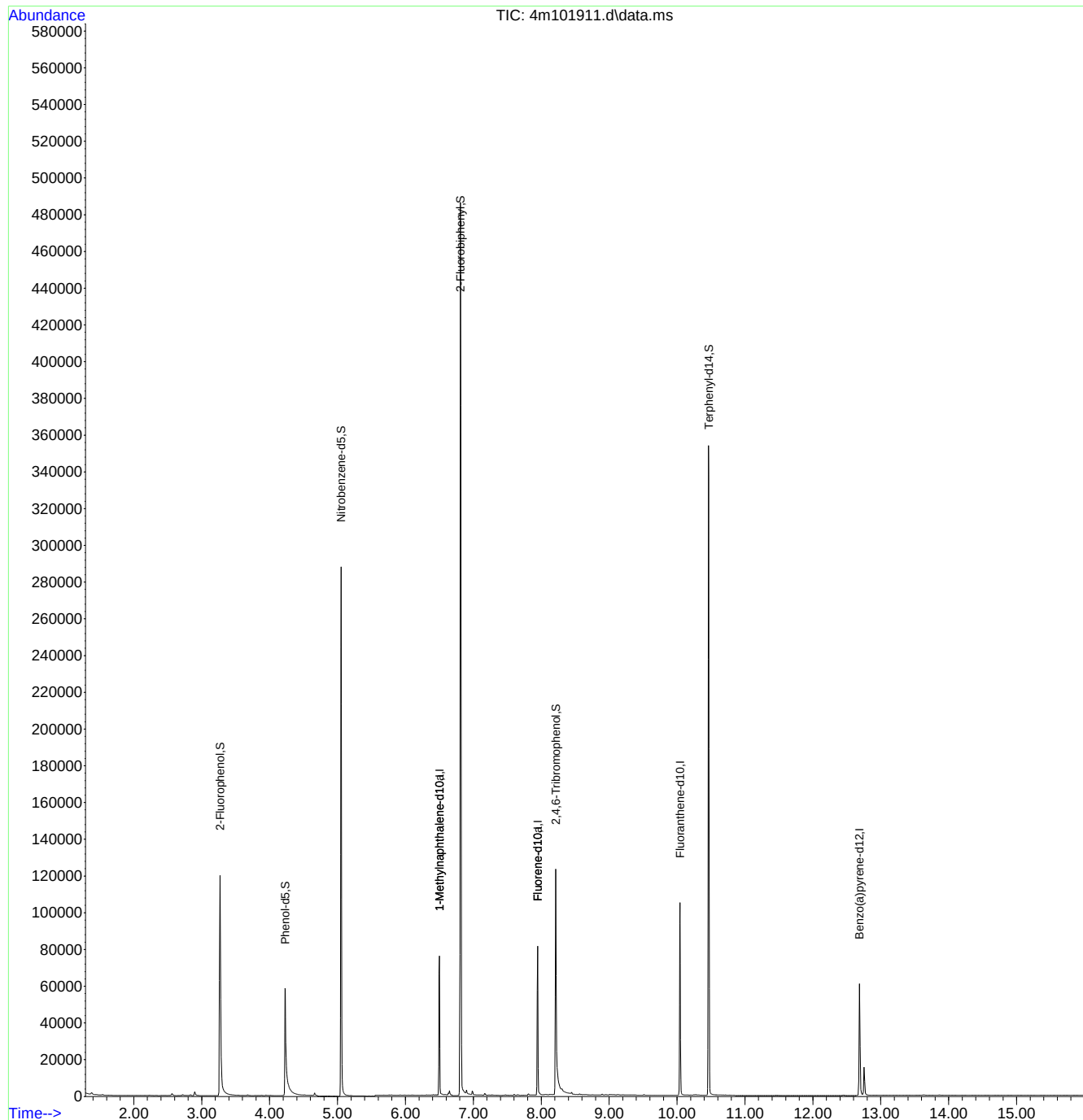
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4750\
Data File : 4m101911.d
Acq On : 26 Aug 2021 6:41 pm
Operator : brandonl
Sample : jd30371-8b
Misc : op35053a,e4m4750,1040,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 27 01:00:01 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri Aug 27 00:42:04 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
 Data File : 4m101865.d
 Acq On : 25 Aug 2021 6:46 pm
 Operator : kristis
 Sample : op35053a-mb1 Inst : GCMS4M
 Misc : op35053a,e4m4749,1000,,,1,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Results File: M4M4670SIM.RES
 Quant Time: Aug 26 04:39:21 2021
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 26 04:27:21 2021
 Response via : Initial Calibration

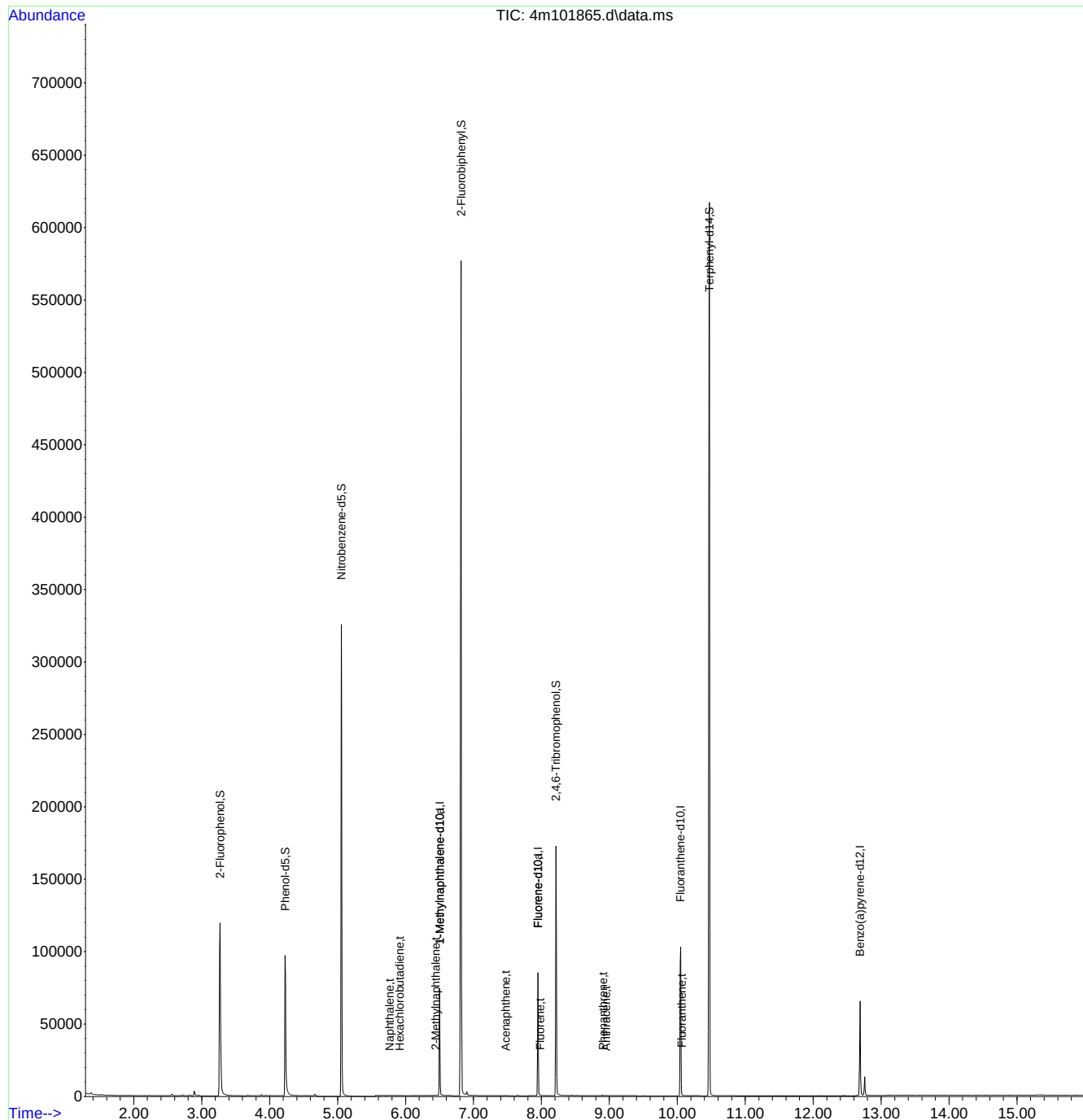
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	24741	4.00	ppm	0.00
12) Fluorene-d10	7.949	176	34181	4.00	ppm	0.00
22) Fluoranthene-d10	10.048	212	67759	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.689	264	48261	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	24741	4.00	ppm	0.00
38) Fluorene-d10a	7.949	176	34181	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	63168	17.21	ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery =	34.42%		
3) Phenol-d5	4.227	99	61181	12.59	ppm	0.00
Spiked Amount 50.000			Recovery =	25.18%		
6) Nitrobenzene-d5	5.055	82	188534	43.32	ppm	0.00
Spiked Amount 50.000			Recovery =	86.64%		
11) 2-Fluorobiphenyl	6.817	172	348655	42.42	ppm	0.00
Spiked Amount 50.000			Recovery =	84.84%		
17) 2,4,6-Tribromophenol	8.213	330	69773	48.59	ppm	0.00
Spiked Amount 50.000			Recovery =	97.18%		
25) Terphenyl-d14	10.471	244	425425	38.57	ppm	0.00
Spiked Amount 50.000			Recovery =	77.14%		
Target Compounds						
7) Naphthalene	5.764	128	170	0.01	ppm	99
8) Hexachlorobutadiene	5.912	225	26	0.01	ppm	92
9) 2-Methylnaphthalene	6.440	142	125	0.01	ppm	93
14) Acenaphthene	7.471	153	73	0.01	ppm	97
16) Fluorene	7.977	166	134	0.01	ppm	93
20) Phenanthrene	8.904	178	305	0.02	ppm	97
21) Anthracene	8.949	178	120	0.01	ppm	96
23) Fluoranthene	10.063	202	126	0.01	ppm	75

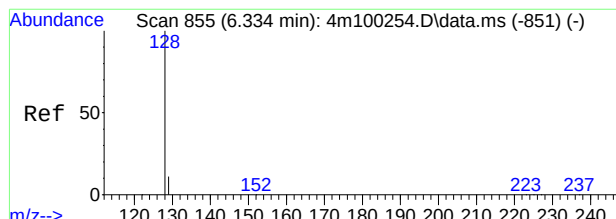
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101865.d
Acq On : 25 Aug 2021 6:46 pm
Operator : kristis
Sample : op35053a-mb1 Inst : GCMS4M
Misc : op35053a,e4m4749,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

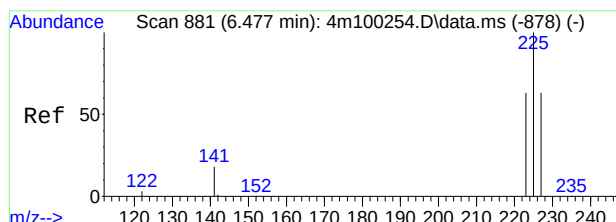
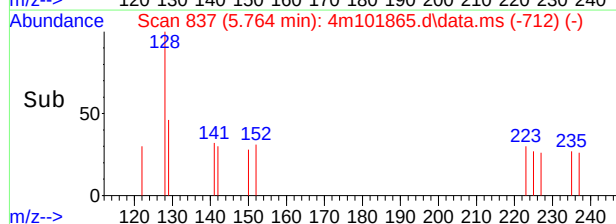
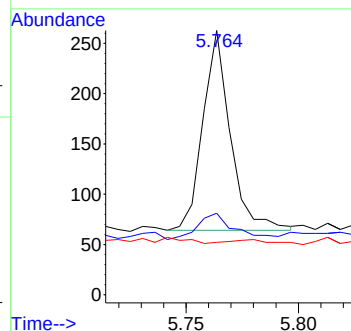
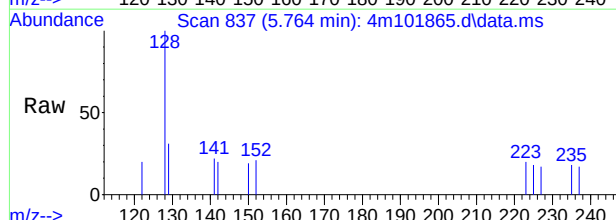
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:39:21 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration





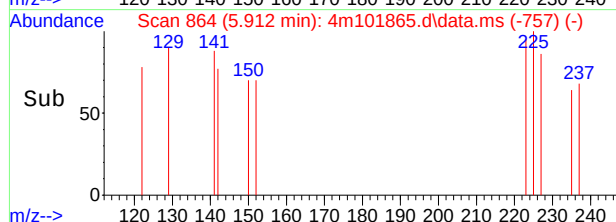
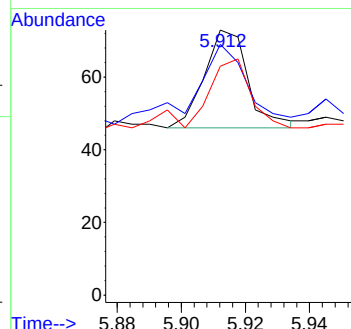
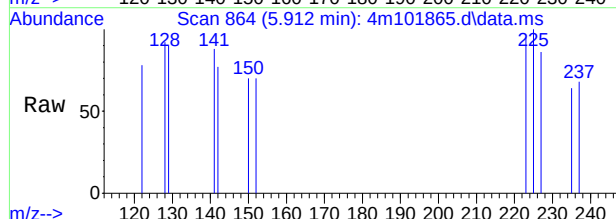
#7
Naphthalene
Concen: 0.01 ppm
RT: 5.764 min Scan# 837
Delta R.T. 0.000 min
Lab File: 4m101865.d
Acq: 25 Aug 2021 6:46 pm

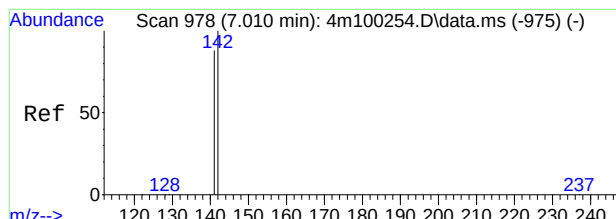
Tgt	Ion:128	Resp:	170
Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	41.2
122	0.0	0.0	30.2



#8
Hexachlorobutadiene
Concen: 0.01 ppm
RT: 5.912 min Scan# 864
Delta R.T. 0.000 min
Lab File: 4m101865.d
Acq: 25 Aug 2021 6:46 pm

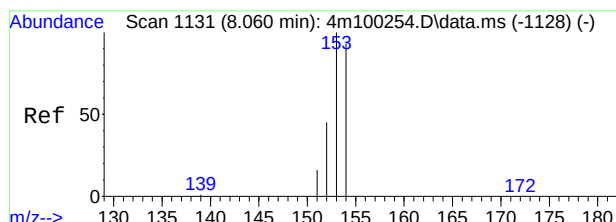
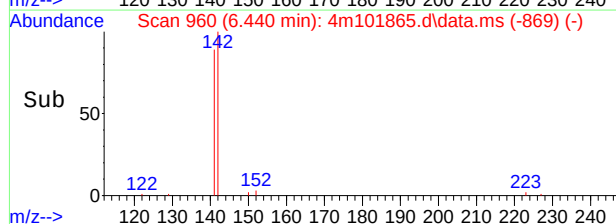
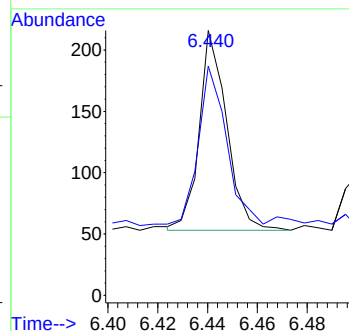
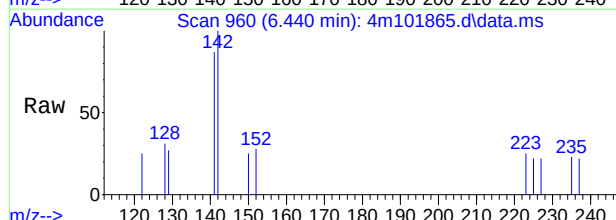
Tgt	Ion:225	Resp:	26
Ion	Ratio	Lower	Upper
225	100		
223	69.2	34.0	94.0
227	55.8	33.3	93.3





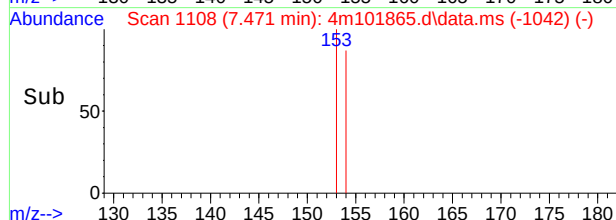
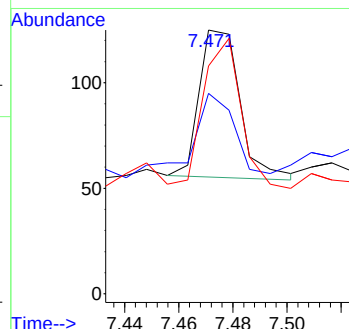
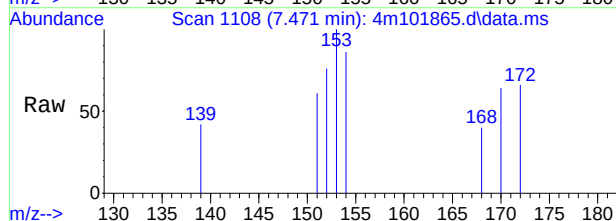
#9
2-Methylnaphthalene
Concen: 0.01 ppm
RT: 6.440 min Scan# 960
Delta R.T. 0.000 min
Lab File: 4m101865.d
Acq: 25 Aug 2021 6:46 pm

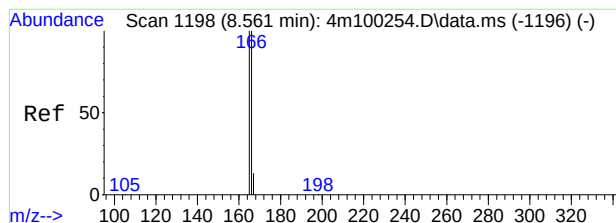
Tgt Ion:142 Resp: 125
Ion Ratio Lower Upper
142 100
141 78.6 55.4 115.4



#14
Acenaphthene
Concen: 0.01 ppm
RT: 7.471 min Scan# 1108
Delta R.T. 0.000 min
Lab File: 4m101865.d
Acq: 25 Aug 2021 6:46 pm

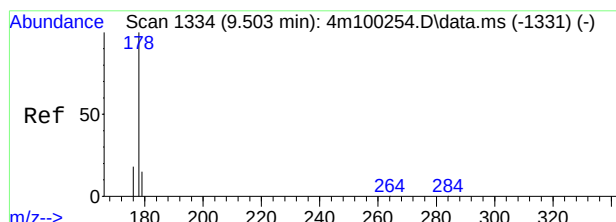
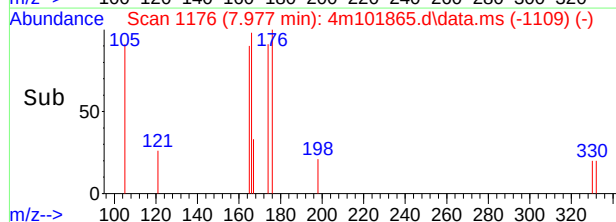
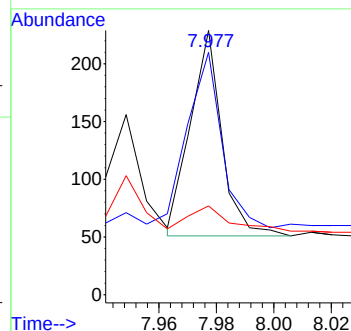
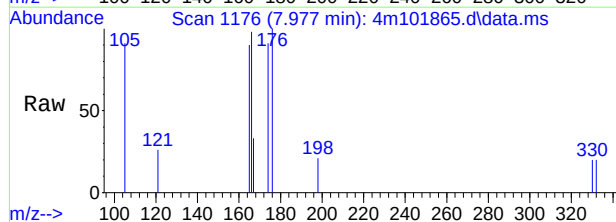
Tgt Ion:153 Resp: 73
Ion Ratio Lower Upper
153 100
152 48.9 19.9 79.9
154 83.2 50.2 110.2





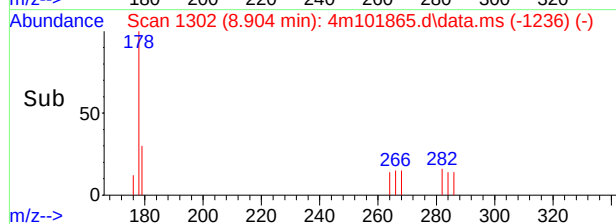
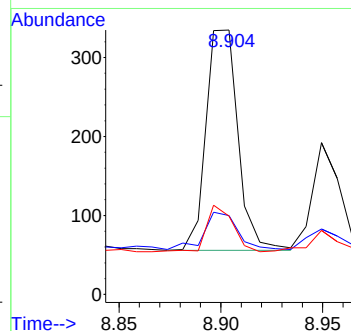
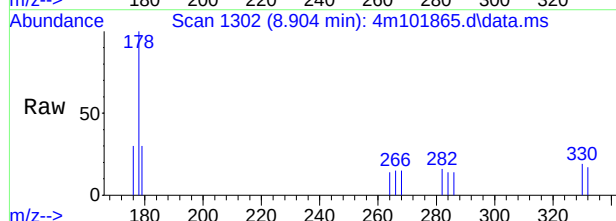
#16
Fluorene
Concen: 0.01 ppm
RT: 7.977 min Scan# 1176
Delta R.T. 0.000 min
Lab File: 4m101865.d
Acq: 25 Aug 2021 6:46 pm

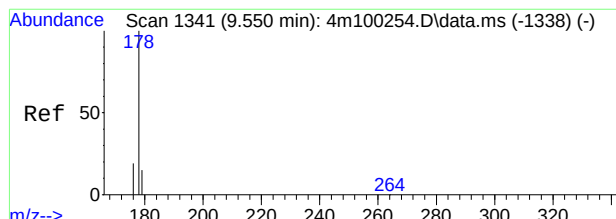
Tgt Ion	Ratio	Lower	Upper
166	100		
165	82.8	60.1	120.1
167	12.0	0.0	43.6



#20
Phenanthrene
Concen: 0.02 ppm
RT: 8.904 min Scan# 1302
Delta R.T. 0.000 min
Lab File: 4m101865.d
Acq: 25 Aug 2021 6:46 pm

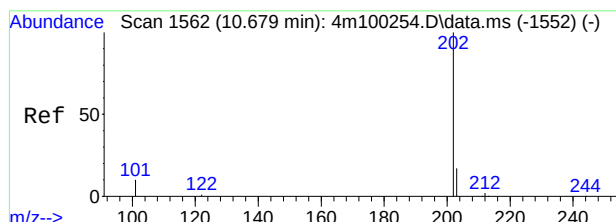
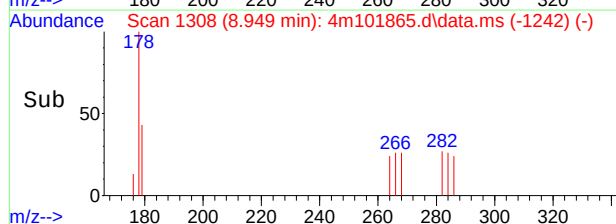
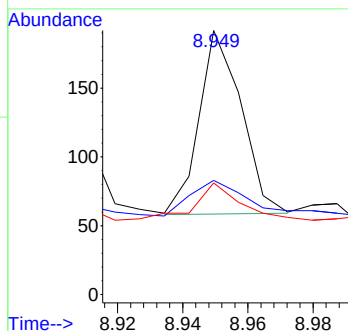
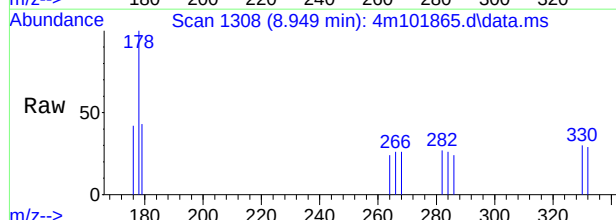
Tgt Ion	Ratio	Lower	Upper
178	100		
179	15.5	0.0	45.5
176	15.1	0.0	47.2





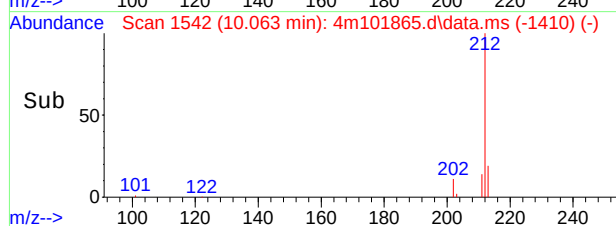
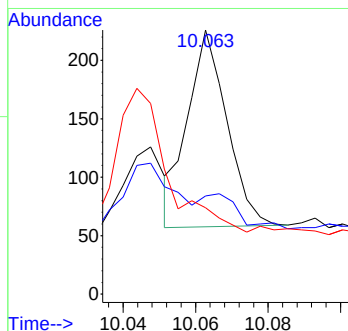
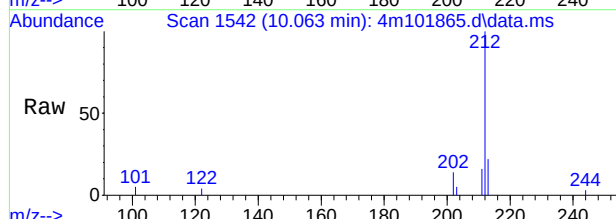
#21
 Anthracene
 Concen: 0.01 ppm
 RT: 8.949 min Scan# 1308
 Delta R.T. 0.000 min
 Lab File: 4m101865.d
 Acq: 25 Aug 2021 6:46 pm

Tgt Ion	Ratio	Lower	Upper
178	100		
179	18.1	0.0	45.2
176	17.7	0.0	48.2



#23
 Fluoranthene
 Concen: 0.01 ppm
 RT: 10.063 min Scan# 1542
 Delta R.T. 0.000 min
 Lab File: 4m101865.d
 Acq: 25 Aug 2021 6:46 pm

Tgt Ion	Ratio	Lower	Upper
202	100		
203	6.8	0.0	46.9
101	0.0	0.0	39.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\4m4749\
 Data File : 4m101868.d
 Acq On : 25 Aug 2021 7:48 pm
 Operator : kristis
 Sample : op35053a-bs12 Inst : GCMS4M
 Misc : op35053a,4m4749,1000,,,1,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Results File: M4M4670SIM.RES
 Quant Time: Aug 26 04:42:17 2021
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 26 04:27:21 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	23506	4.00	ppm	0.00
12) Fluorene-d10	7.948	176	31814	4.00	ppm	0.00
22) Fluoranthene-d10	10.047	212	62976	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.689	264	46008	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	23506	4.00	ppm	0.00
38) Fluorene-d10a	7.948	176	31814	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	65794	18.87	ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery =	37.74%		
3) Phenol-d5	4.231	99	64229	13.91	ppm	0.00
Spiked Amount 50.000			Recovery =	27.82%		
6) Nitrobenzene-d5	5.055	82	177871	43.01	ppm	0.00
Spiked Amount 50.000			Recovery =	86.02%		
11) 2-Fluorobiphenyl	6.817	172	328431	42.06	ppm	0.00
Spiked Amount 50.000			Recovery =	84.12%		
17) 2,4,6-Tribromophenol	8.213	330	56725	42.44	ppm	0.00
Spiked Amount 50.000			Recovery =	84.88%		
25) Terphenyl-d14	10.471	244	439847	42.90	ppm	0.00
Spiked Amount 50.000			Recovery =	85.80%		
Target Compounds						
					Qvalue	
4) Phenol	4.242	94	7317	1.40	ppm	93
7) Naphthalene	5.763	128	9554	0.76	ppm	99
8) Hexachlorobutadiene	5.912	225	2364	0.73	ppm	97
9) 2-Methylnaphthalene	6.440	142	7419	0.88	ppm	98
10) Hexachlorocyclopentadiene	6.616	237	2736	2.14	ppm	92
13) Acenaphthylene	7.304	152	9149	0.68	ppm	98
14) Acenaphthene	7.478	153	7023	0.74	ppm	78
16) Fluorene	7.977	166	8584	0.79	ppm	99
18) Hexachlorobenzene	8.525	284	3448	0.80	ppm	79
19) Pentachlorophenol	8.722	266	9662	5.23	ppm	99
20) Phenanthrene	8.896	178	13765	0.87	ppm	97
21) Anthracene	8.949	178	12619	0.83	ppm	99
23) Fluoranthene	10.063	202	15459	0.73	ppm	99
24) Pyrene	10.278	202	15296	0.74	ppm	99
26) Benzo[a]anthracene	11.455	228	12447	0.73	ppm	99
27) Chrysene	11.487	228	12891	0.71	ppm	98
29) Benzo[b]fluoranthene	12.443	252	11148	0.62	ppm	97
30) Benzo[k]fluoranthene	12.467	252	9891	0.57	ppm	98
31) Benzo[a]pyrene	12.708	252	9287	0.50	ppm	95
32) Indeno[1,2,3-cd]pyrene	13.630	276	7961	0.42	ppm	97
33) Dibenzo[a,h]anthracene	13.649	278	7111	0.46	ppm	99
34) Benzo[g,h,i]perylene	13.861	276	7176	0.40	ppm	100
36) 1,4-Dioxane	1.521	88	688m	0.40	ppm	
39) 4,6-dinitro-2-methylph...	8.049	198	6273	7.42	ppm	93

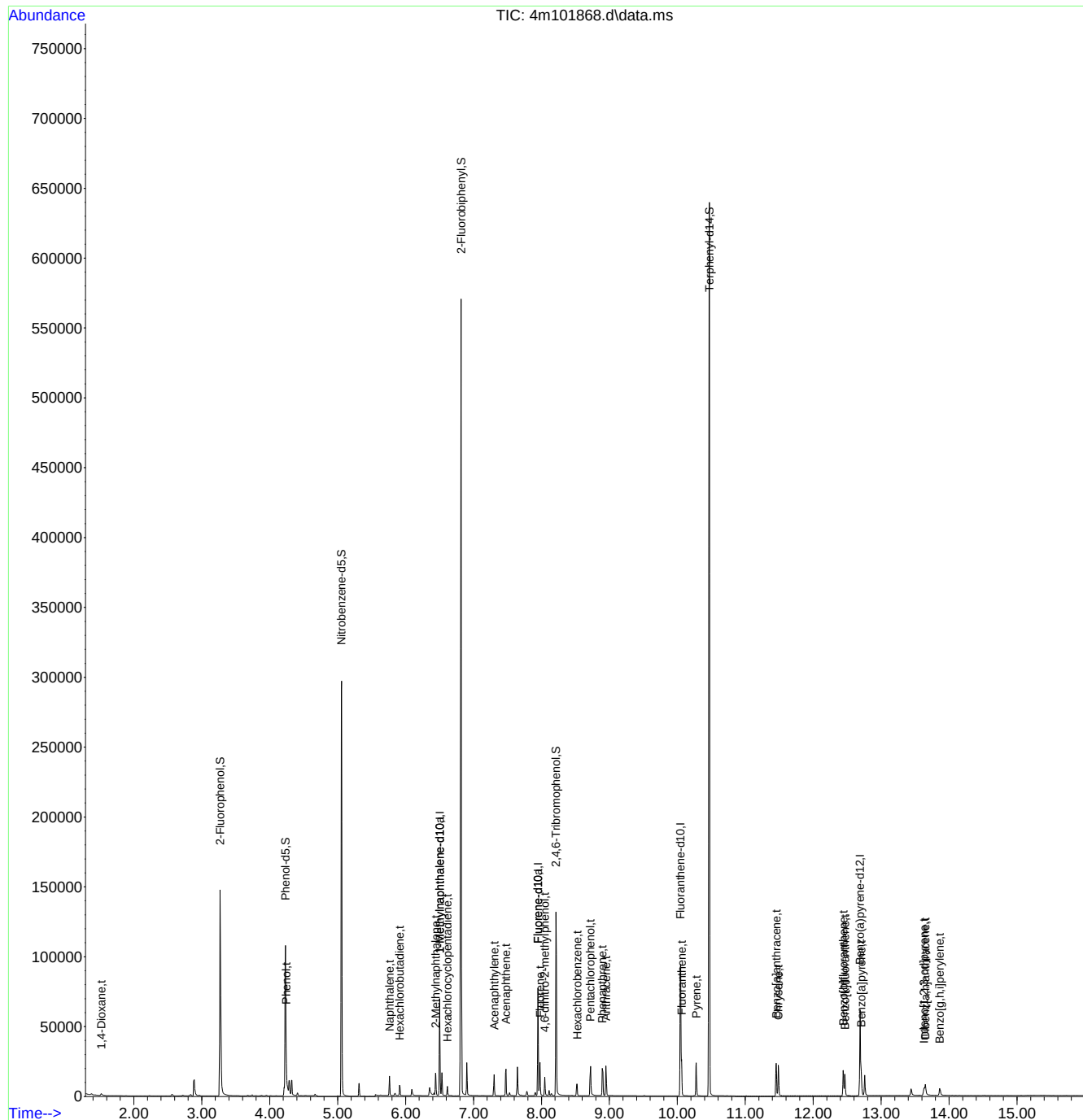
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101868.d
Acq On : 25 Aug 2021 7:48 pm
Operator : kristis
Sample : op35053a-bs12
Misc : op35053a,e4m4749,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:42:17 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: OP35053A-BS12

Method: SW846 8270E BY SIM

Lab FileID: 4M101868.D

Analyst approved: 08/26/21 05:31 Althea Mae Medina

Injection Time: 08/25/21 19:48

Supervisor approved: 08/26/21 10:17 Nina Pandya

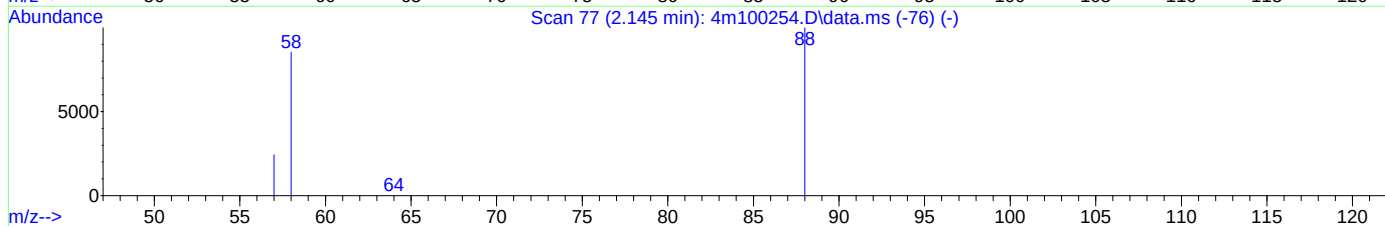
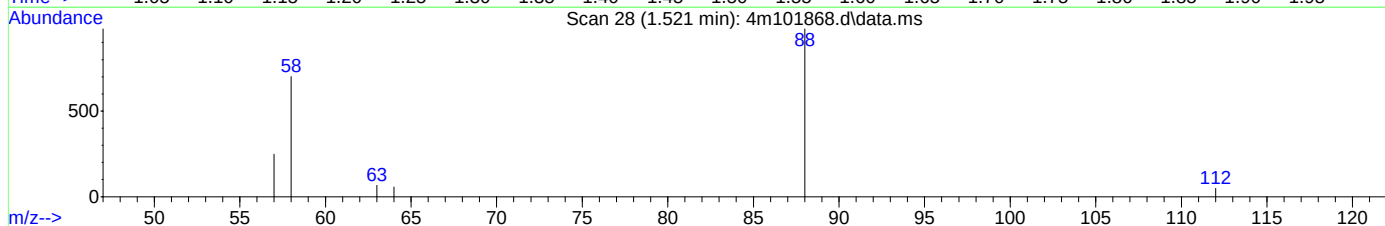
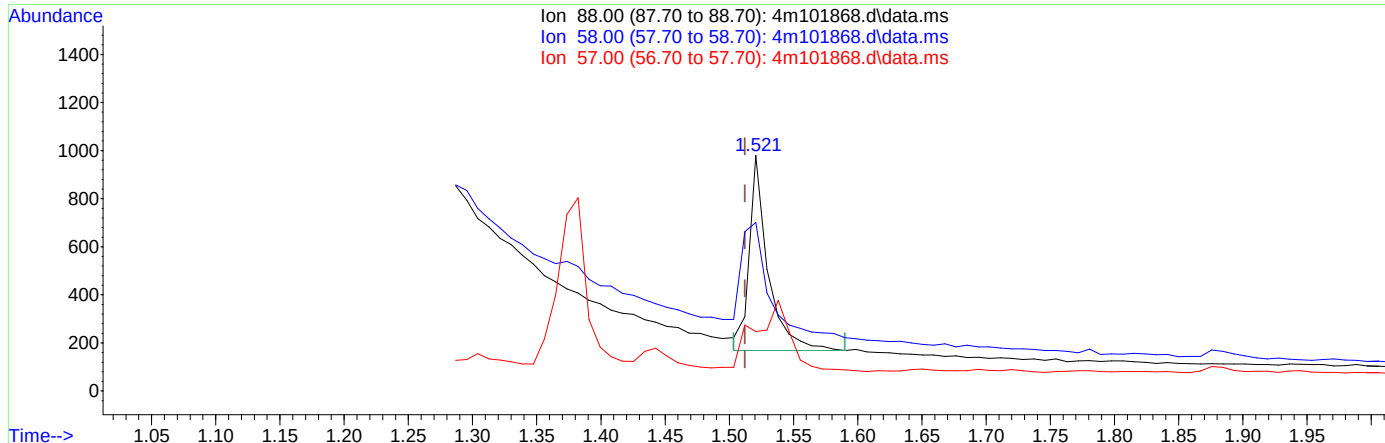
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		1.52	Poor instrument integration

7.3.1.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101868.d
Acq On : 25 Aug 2021 7:48 pm
Operator : kristis
Sample : op35053a-bs12
Misc : op35053a,e4m4749,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1
Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:29:09 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



TIC: 4m101868.d\data.ms

(36) 1,4-Dioxane (t)

1.521min (+0.009) 0.48ppm

response 823

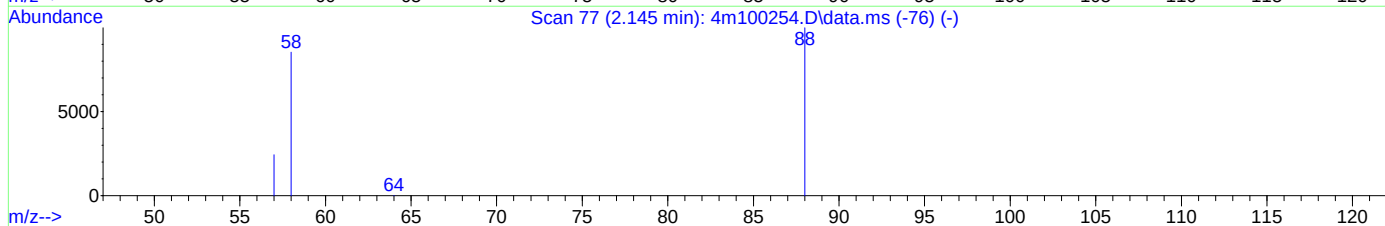
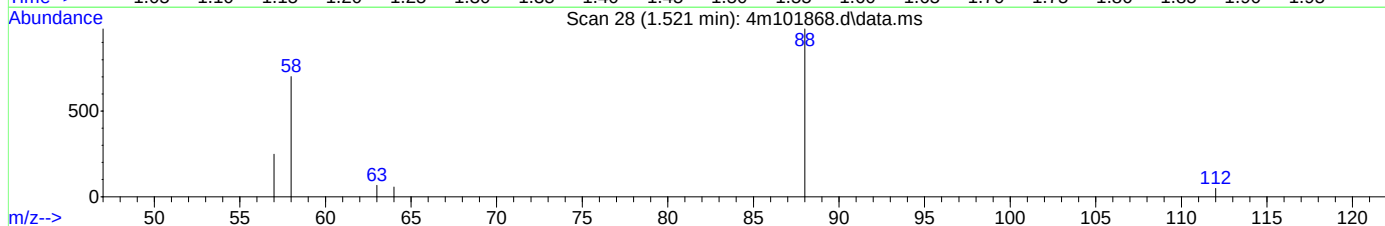
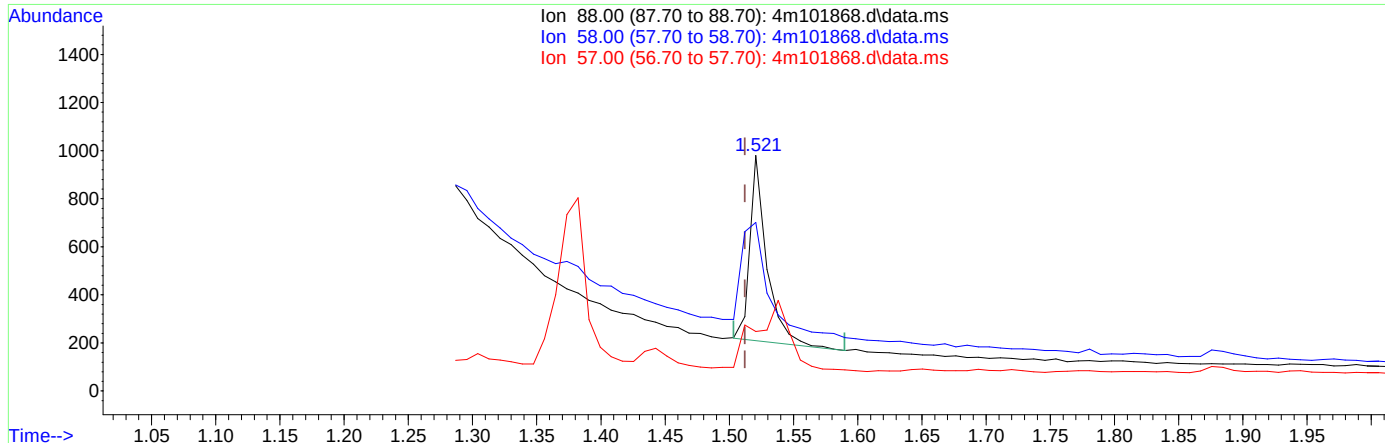
Ion	Exp%	Act%
88.00	100	100
58.00	54.70	56.18
57.00	21.80	19.75
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101868.d
Acq On : 25 Aug 2021 7:48 pm
Operator : kristis
Sample : op35053a-bs12
Misc : op35053a,e4m4749,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:29:09 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



TIC: 4m101868.d\data.ms

(36) 1,4-Dioxane (t)

1.521min (+0.009) 0.40ppm m

response 688

Ion	Exp%	Act%
88.00	100	100
58.00	54.70	71.53
57.00	21.80	25.31
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\4m4749\
 Data File : 4m101869.d
 Acq On : 25 Aug 2021 8:09 pm
 Operator : kristis
 Sample : op35053a-bsd12 Inst : GCMS4M
 Misc : op35053a,4m4749,1000,,,1,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Results File: M4M4670SIM.RES
 Quant Time: Aug 26 04:43:15 2021
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 26 04:27:21 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	24100	4.00	ppm	0.00
12) Fluorene-d10	7.948	176	33000	4.00	ppm	0.00
22) Fluoranthene-d10	10.047	212	64740	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.686	264	44285	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	24100	4.00	ppm	0.00
38) Fluorene-d10a	7.948	176	33000	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	52840	14.78	ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery =	29.56%		
3) Phenol-d5	4.231	99	49361	10.43	ppm	0.00
Spiked Amount 50.000			Recovery =	20.86%		
6) Nitrobenzene-d5	5.055	82	173729	40.98	ppm	0.00
Spiked Amount 50.000			Recovery =	81.96%		
11) 2-Fluorobiphenyl	6.817	172	322296	40.26	ppm	0.00
Spiked Amount 50.000			Recovery =	80.52%		
17) 2,4,6-Tribromophenol	8.213	330	40461	29.18	ppm	0.00
Spiked Amount 50.000			Recovery =	58.36%		
25) Terphenyl-d14	10.471	244	446418	42.36	ppm	0.00
Spiked Amount 50.000			Recovery =	84.72%		
Target Compounds						
					Qvalue	
4) Phenol	4.242	94	5236	0.98	ppm	89
7) Naphthalene	5.763	128	8776	0.68	ppm	99
8) Hexachlorobutadiene	5.912	225	1846	0.56	ppm	96
9) 2-Methylnaphthalene	6.440	142	6393	0.74	ppm	99
10) Hexachlorocyclopentadiene	6.616	237	2148	1.64	ppm	91
13) Acenaphthylene	7.304	152	8978	0.64	ppm	98
14) Acenaphthene	7.471	153	6691	0.68	ppm	99
16) Fluorene	7.977	166	8311	0.74	ppm	98
18) Hexachlorobenzene	8.517	284	3397	0.76	ppm	98
19) Pentachlorophenol	8.722	266	7048	3.68	ppm	99
20) Phenanthrene	8.896	178	14069	0.85	ppm	96
21) Anthracene	8.949	178	12713	0.80	ppm	99
23) Fluoranthene	10.063	202	16802	0.77	ppm	98
24) Pyrene	10.278	202	16598	0.79	ppm	99
26) Benzo[a]anthracene	11.455	228	15260	0.87	ppm	99
27) Chrysene	11.487	228	14844	0.79	ppm	99
29) Benzo[b]fluoranthene	12.443	252	13841	0.80	ppm	97
30) Benzo[k]fluoranthene	12.467	252	13266	0.80	ppm	99
31) Benzo[a]pyrene	12.705	252	11833	0.67	ppm	92
32) Indeno[1,2,3-cd]pyrene	13.627	276	12532	0.69	ppm	100
33) Dibenz[a,h]anthracene	13.646	278	10930	0.74	ppm	97
34) Benzo[g,h,i]perylene	13.858	276	11476	0.67	ppm	100
36) 1,4-Dioxane	1.521	88	609m	0.35	ppm	
39) 4,6-dinitro-2-methylph...	8.049	198	4288	5.34	ppm	99

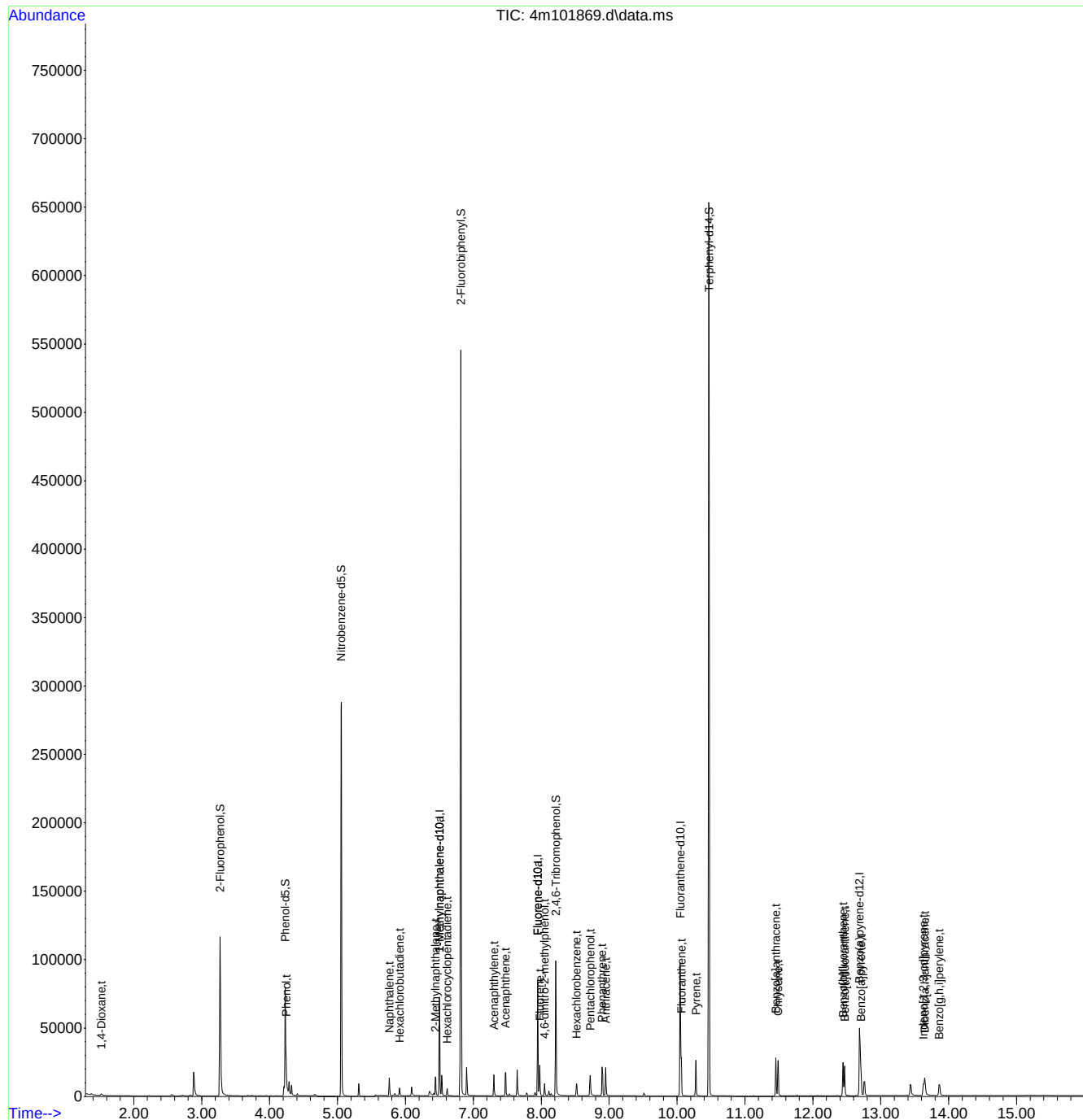
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101869.d
Acq On : 25 Aug 2021 8:09 pm
Operator : kristis
Sample : op35053a-bsd12
Misc : op35053a,e4m4749,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:43:15 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:

OP35053A-BSD12

Method:

SW846 8270E BY SIM

Lab FileID:

4M101869.D

Analyst approved:

08/26/21 05:31 Althea Mae Medina

Injection Time:

08/25/21 20:09

Supervisor approved:

08/26/21 10:17 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		1.52	Poor instrument integration

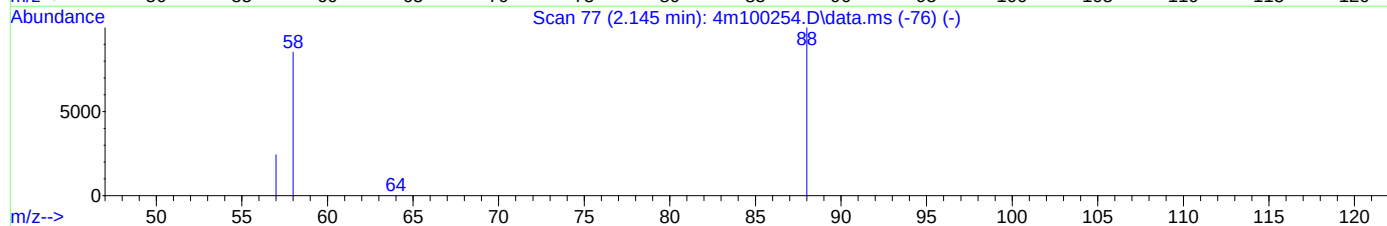
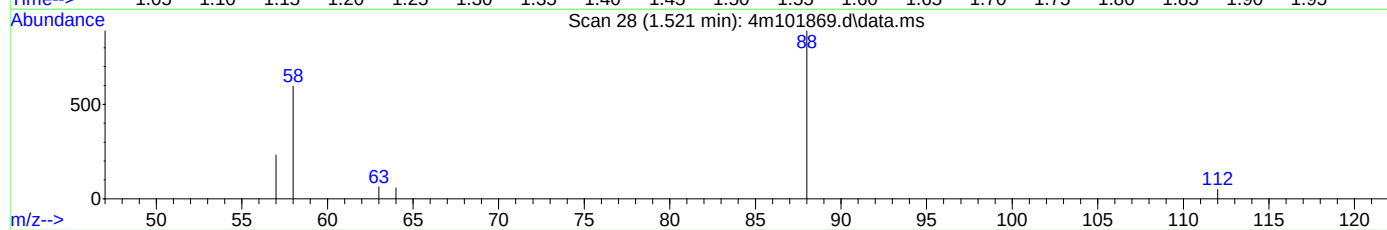
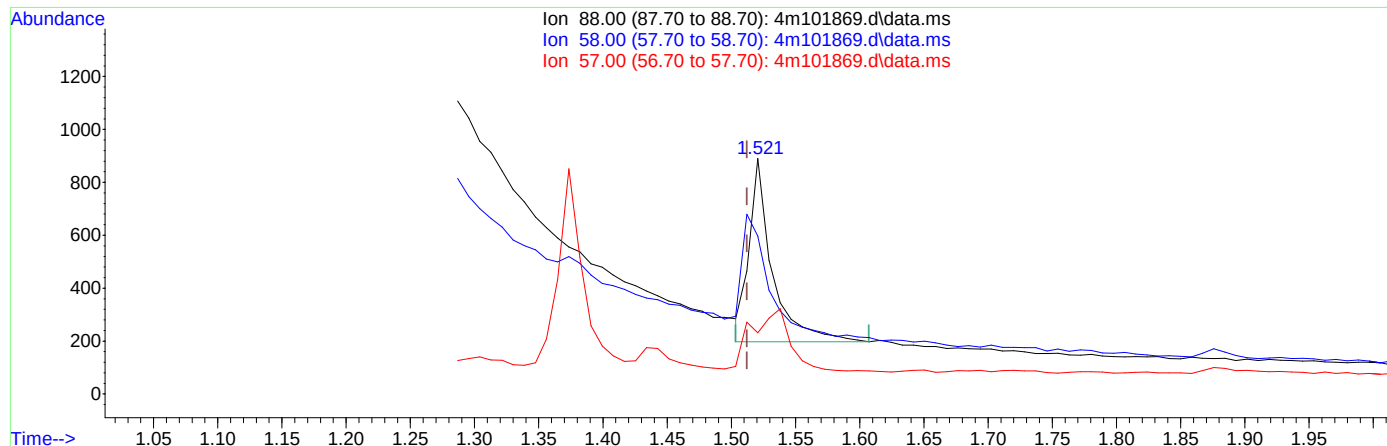
7.3.2.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101869.d
Acq On : 25 Aug 2021 8:09 pm
Operator : kristis
Sample : op35053a-bsd12
Misc : op35053a,e4m4749,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:29:14 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



TIC: 4m101869.d\data.ms

(36) 1,4-Dioxane (t)

1.521min (+0.009) 0.49ppm

response 864

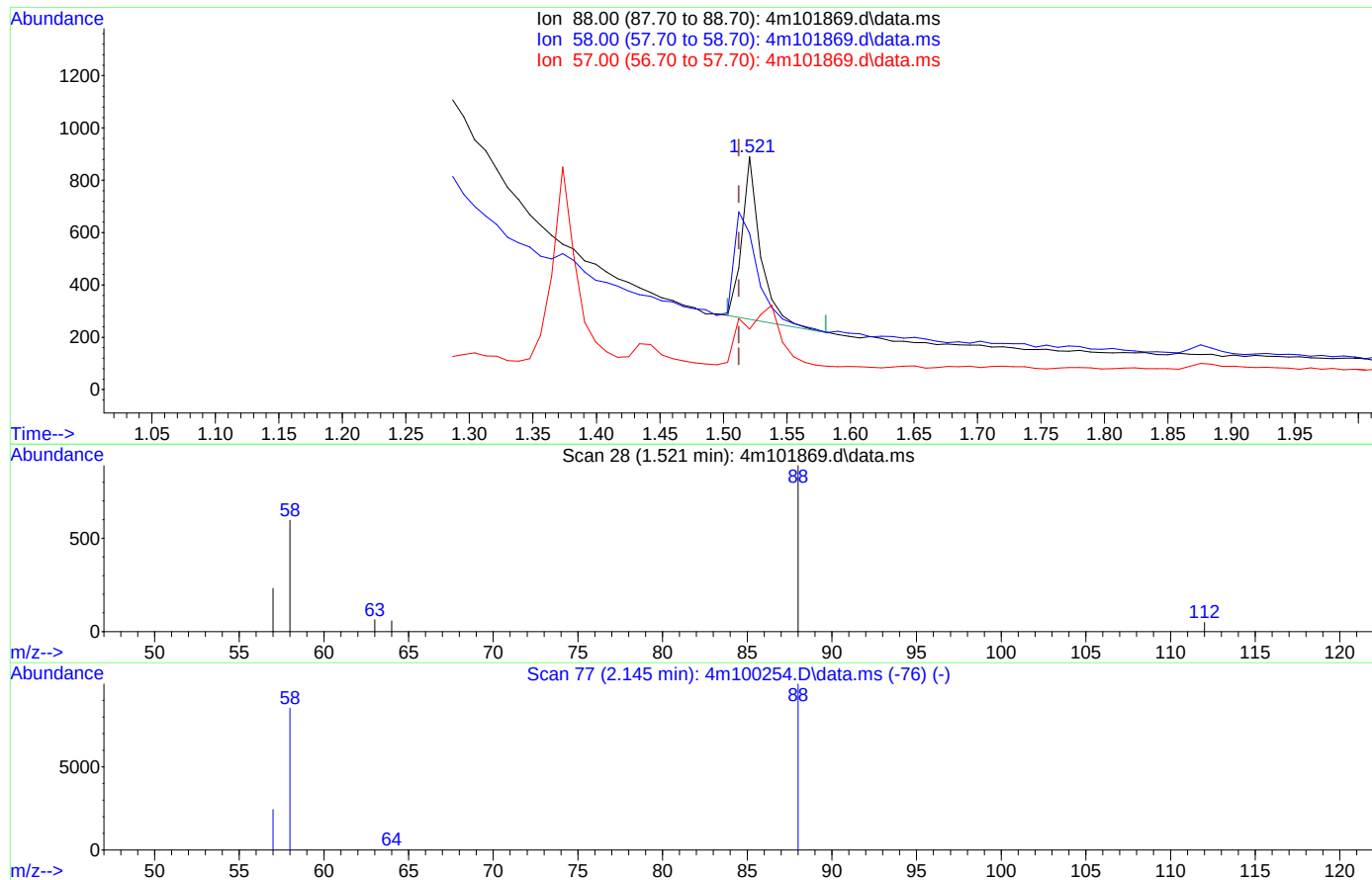
Ion	Exp%	Act%
88.00	100	100
58.00	54.70	52.93
57.00	21.80	20.88
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101869.d
Acq On : 25 Aug 2021 8:09 pm
Operator : kristis
Sample : op35053a-bsd12
Misc : op35053a,e4m4749,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:29:14 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



TIC: 4m101869.d\data.ms

(36) 1,4-Dioxane (t)

1.521min (+0.009) 0.35ppm m

response 609

Ion	Exp%	Act%
88.00	100	100
58.00	54.70	67.08
57.00	21.80	25.96
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\4m4749\
 Data File : 4m101880.d
 Acq On : 25 Aug 2021 11:59 pm
 Operator : kristis
 Sample : op35033a-msa Inst : GCMS4M
 Misc : op35053a,4m4749,1050,,,1,1
 ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Results File: M4M4670SIM.RES
 Quant Time: Aug 26 05:12:32 2021
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 26 04:27:21 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	22845	4.00	ppm	0.00
12) Fluorene-d10	7.948	176	35893	4.00	ppm	0.00
22) Fluoranthene-d10	10.047	212	57848	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.686	264	40037	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	22845	4.00	ppm	0.00
38) Fluorene-d10a	7.948	176	35893	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	55684	16.43	ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery =	32.86%		
3) Phenol-d5	4.231	99	53157	11.85	ppm	0.00
Spiked Amount 50.000			Recovery =	23.70%		
6) Nitrobenzene-d5	5.055	82	137276	34.16	ppm	0.00
Spiked Amount 50.000			Recovery =	68.32%		
11) 2-Fluorobiphenyl	6.817	172	283305	37.33	ppm	0.00
Spiked Amount 50.000			Recovery =	74.66%		
17) 2,4,6-Tribromophenol	8.213	330	74570	49.45	ppm	0.00
Spiked Amount 50.000			Recovery =	98.90%		
25) Terphenyl-d14	10.468	244	286719	30.45	ppm	0.00
Spiked Amount 50.000			Recovery =	60.90%		
Target Compounds						
					Qvalue	
4) Phenol	4.242	94	6347	1.25	ppm	89
7) Naphthalene	5.763	128	7863	0.64	ppm	97
8) Hexachlorobutadiene	5.912	225	1542	0.49	ppm	96
9) 2-Methylnaphthalene	6.440	142	6693	0.81	ppm	97
10) Hexachlorocyclopentadiene	6.616	237	1614	1.30	ppm	95
13) Acenaphthylene	7.304	152	9186	0.60	ppm	98
14) Acenaphthene	7.478	153	7650	0.72	ppm	76
16) Fluorene	7.977	166	10412	0.85	ppm	98
18) Hexachlorobenzene	8.517	284	3407	0.70	ppm	97
19) Pentachlorophenol	8.737	266	12631	6.06	ppm	93
20) Phenanthrene	8.896	178	11627	0.65	ppm	97
21) Anthracene	8.949	178	11662	0.68	ppm	99
23) Fluoranthene	10.063	202	13225	0.68	ppm	98
24) Pyrene	10.278	202	14156	0.75	ppm	98
26) Benzo[a]anthracene	11.452	228	12320	0.79	ppm	98
27) Chrysene	11.484	228	12463	0.75	ppm	99
29) Benzo[b]fluoranthene	12.438	252	8629	0.55	ppm	98
30) Benzo[k]fluoranthene	12.461	252	7969	0.53	ppm	98
31) Benzo[a]pyrene	12.705	252	7391	0.46	ppm	99
32) Indeno[1,2,3-cd]pyrene	13.618	276	7087	0.43	ppm	97
33) Dibenz[a,h]anthracene	13.637	278	5953	0.44	ppm	90
34) Benzo[g,h,i]perylene	13.858	276	6300	0.41	ppm	98
36) 1,4-Dioxane	1.521	88	584m	0.35	ppm	
39) 4,6-dinitro-2-methylph...	8.049	198	6870	7.25	ppm	99

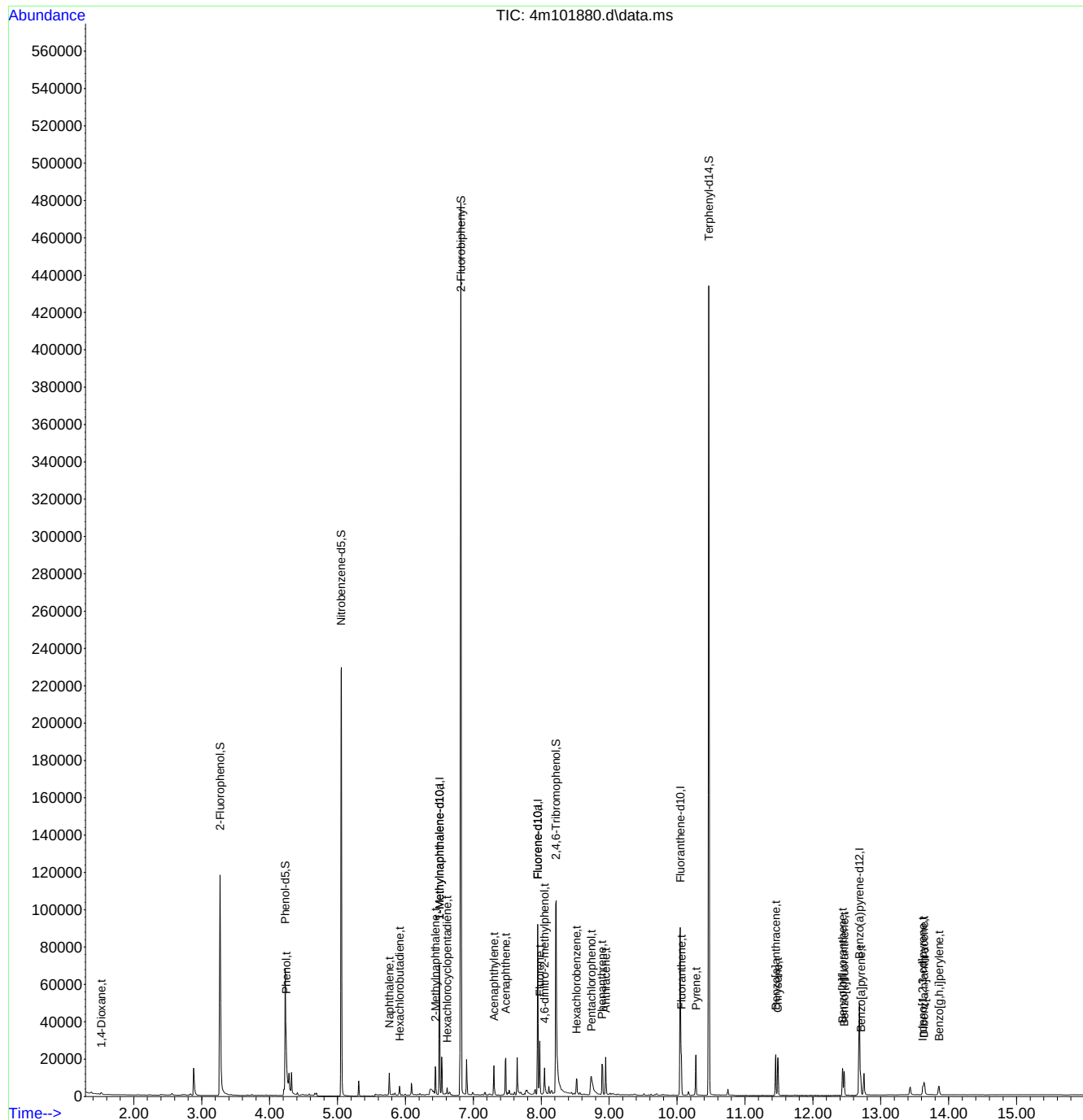
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101880.d
Acq On : 25 Aug 2021 11:59 pm
Operator : kristis
Sample : op35033a-msa
Misc : op35053a,e4m4749,1050,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 05:12:32 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:

OP35053A-MSA

Method:

SW846 8270E BY SIM

Lab FileID:

4M101880.D

Analyst approved:

08/26/21 11:00 Nina Pandya

Injection Time:

08/25/21 23:59

Supervisor approved:

08/26/21 11:03 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		1.52	Poor instrument integration

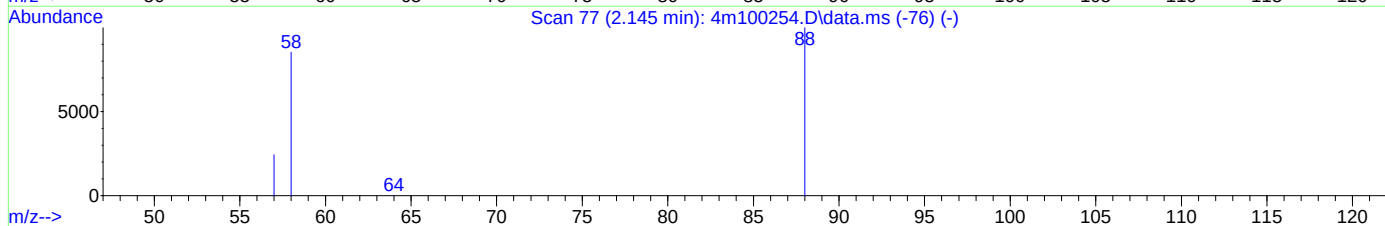
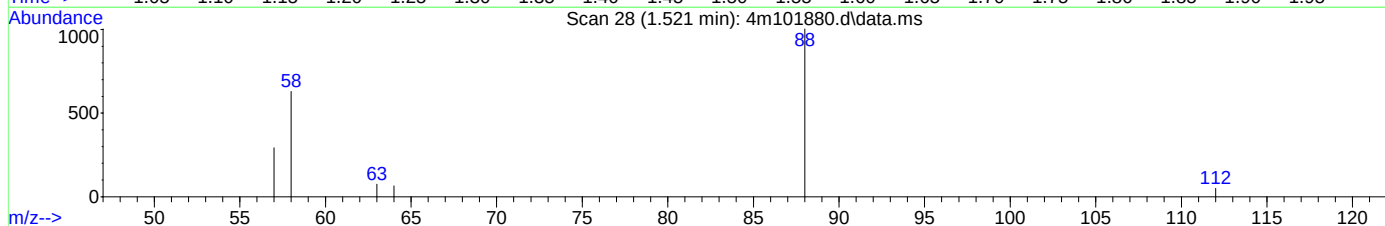
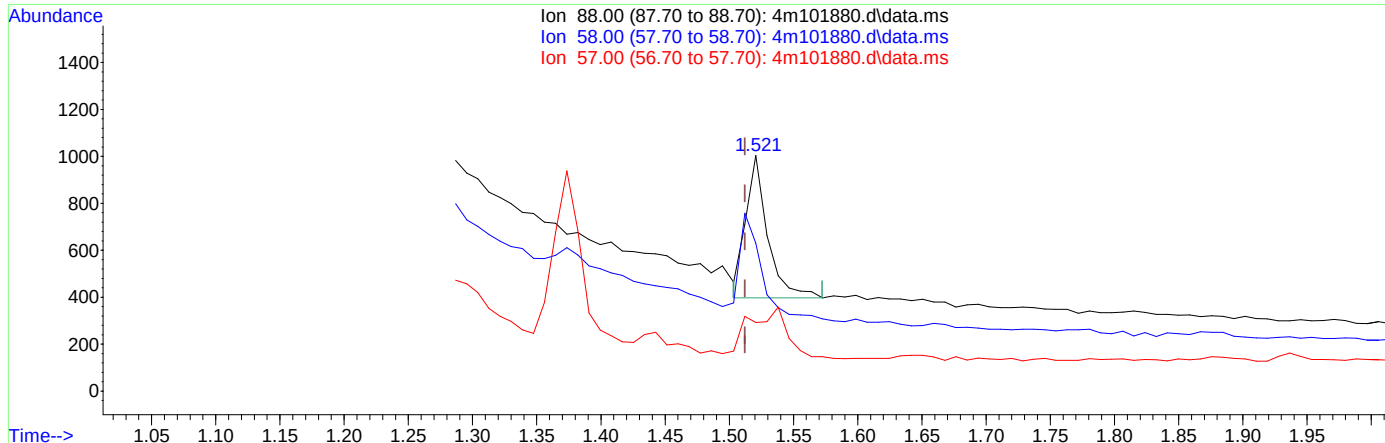
7.4.1.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101880.d
Acq On : 25 Aug 2021 11:59 pm
Operator : kristis
Sample : op35033a-msa
Misc : op35053a,e4m4749,1050,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:29:58 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



TIC: 4m101880.d\data.ms

(36) 1,4-Dioxane (t)

1.521min (+0.009) 0.43ppm

response 717

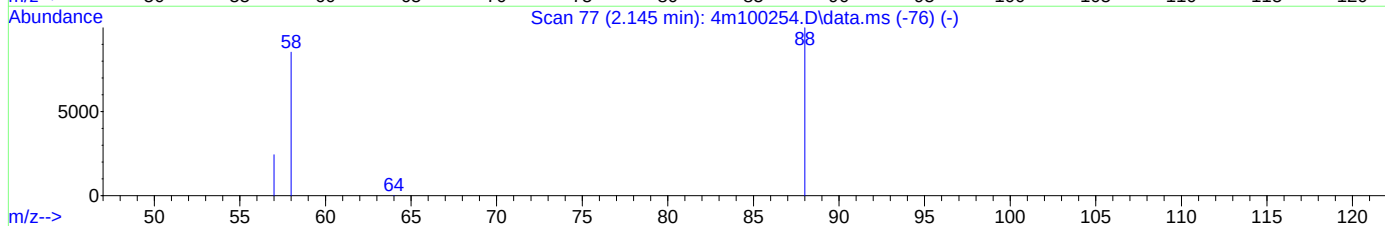
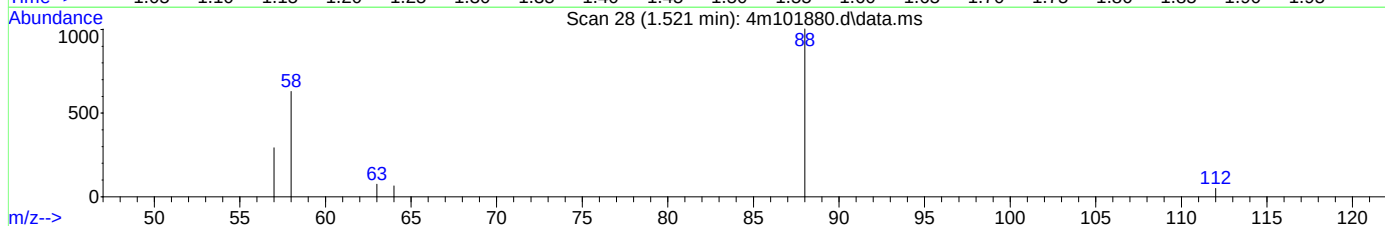
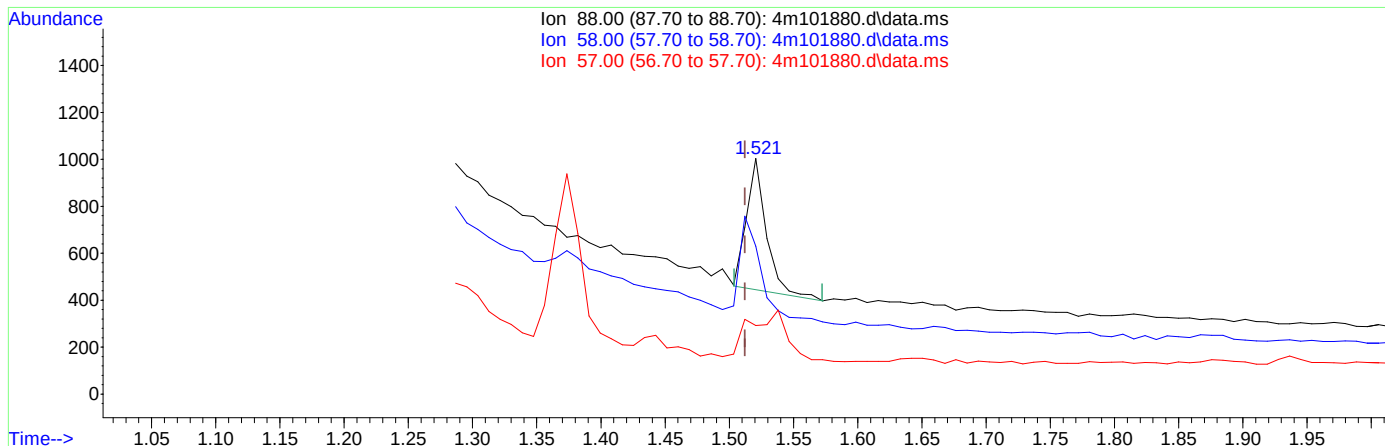
Ion	Exp%	Act%
88.00	100	100
58.00	54.70	50.22
57.00	21.80	23.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101880.d
Acq On : 25 Aug 2021 11:59 pm
Operator : kristis
Sample : op35033a-msa
Misc : op35053a,e4m4749,1050,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:29:58 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



TIC: 4m101880.d\data.ms

(36) 1,4-Dioxane (t)

1.521min (+0.009) 0.35ppm m

response 584

Ion	Exp%	Act%
88.00	100	100
58.00	54.70	62.75
57.00	21.80	29.08
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\4m4749\
 Data File : 4m101881.d
 Acq On : 26 Aug 2021 12:20 am
 Operator : kristis
 Sample : op35033a-msda Inst : GCMS4M
 Misc : op35053a,4m4749,1050,,,1,1
 ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Results File: M4M4670SIM.RES
 Quant Time: Aug 26 05:13:06 2021
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 26 04:27:21 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	26499	4.00	ppm	0.00
12) Fluorene-d10	7.948	176	30851	4.00	ppm	0.00
22) Fluoranthene-d10	10.044	212	72244	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	12.686	264	51297	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	6.501	152	26499	4.00	ppm	0.00
38) Fluorene-d10a	7.948	176	30851	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.270	112	57944	14.74	ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery =	29.48%		
3) Phenol-d5	4.231	99	53953	10.37	ppm	0.00
Spiked Amount 50.000			Recovery =	20.74%		
6) Nitrobenzene-d5	5.054	82	153654	32.96	ppm	0.00
Spiked Amount 50.000			Recovery =	65.92%		
11) 2-Fluorobiphenyl	6.817	172	329751	37.46	ppm	0.00
Spiked Amount 50.000			Recovery =	74.92%		
17) 2,4,6-Tribromophenol	8.213	330	69158	53.36	ppm	0.00
Spiked Amount 50.000			Recovery =	106.72%		
25) Terphenyl-d14	10.467	244	379074	32.23	ppm	0.00
Spiked Amount 50.000			Recovery =	64.46%		
Target Compounds						
						Qvalue
4) Phenol	4.246	94	5232	0.89	ppm	73
7) Naphthalene	5.763	128	7343	0.52	ppm	98
8) Hexachlorobutadiene	5.912	225	1502	0.41	ppm	96
9) 2-Methylnaphthalene	6.440	142	6667	0.70	ppm	95
10) Hexachlorocyclopentadiene	6.616	237	2006	1.39	ppm	90
13) Acenaphthylene	7.304	152	7969	0.61	ppm	98
14) Acenaphthene	7.478	153	6241	0.68	ppm	78
16) Fluorene	7.977	166	9052	0.86	ppm	99
18) Hexachlorobenzene	8.517	284	3164	0.76	ppm	98
19) Pentachlorophenol	8.737	266	11864	6.62	ppm	96
20) Phenanthrene	8.896	178	13194	0.86	ppm	97
21) Anthracene	8.949	178	13272	0.90	ppm	99
23) Fluoranthene	10.059	202	17038	0.70	ppm	99
24) Pyrene	10.274	202	16965	0.72	ppm	98
26) Benzo[a]anthracene	11.449	228	15691	0.80	ppm	99
27) Chrysene	11.484	228	15052	0.72	ppm	98
29) Benzo[b]fluoranthene	12.438	252	14660	0.73	ppm	98
30) Benzo[k]fluoranthene	12.458	252	13026	0.68	ppm	98
31) Benzo[a]pyrene	12.705	252	12123	0.59	ppm	99
32) Indeno[1,2,3-cd]pyrene	13.618	276	9950	0.48	ppm	100
33) Dibenzo[a,h]anthracene	13.637	278	8051	0.47	ppm	94
34) Benzo[g,h,i]perylene	13.858	276	9129	0.46	ppm	99
36) 1,4-Dioxane	1.521	88	572m	0.30	ppm	
39) 4,6-dinitro-2-methylph...	8.049	198	7009	8.27	ppm	98

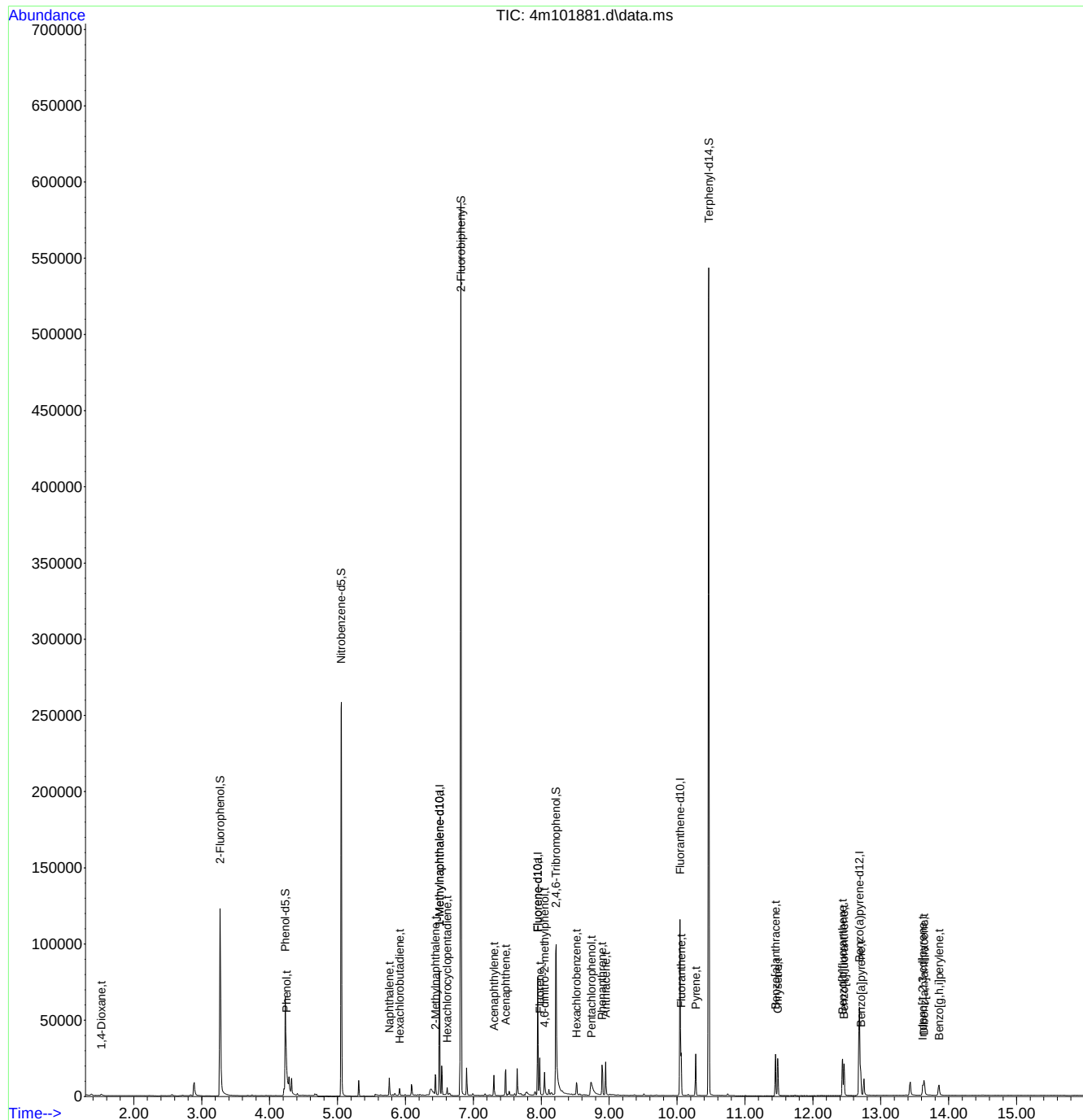
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101881.d
Acq On : 26 Aug 2021 12:20 am
Operator : kristis
Sample : op35033a-msda
Misc : op35053a,e4m4749,1050,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 05:13:06 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: OP35053A-MSDA

Method: SW846 8270E BY SIM

Lab FileID: 4M101881.D

Analyst approved: 08/26/21 11:00 Nina Pandya

Injection Time: 08/26/21 00:20

Supervisor approved: 08/26/21 11:03 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		1.52	Poor instrument integration

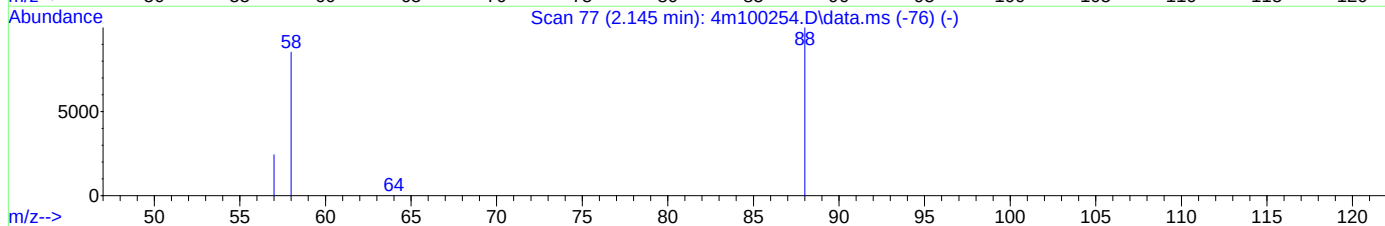
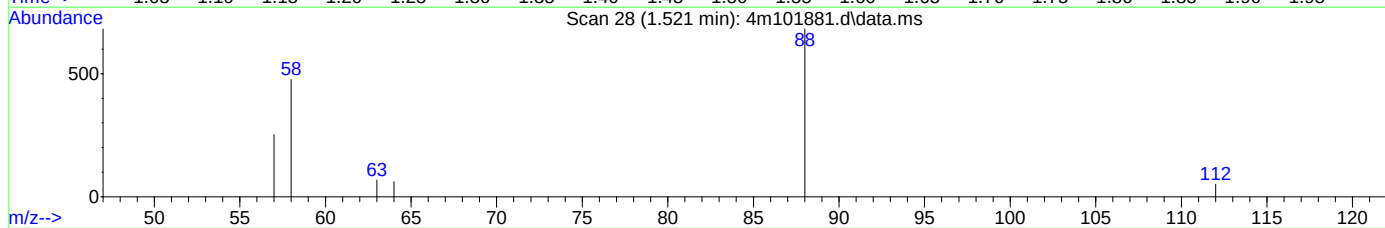
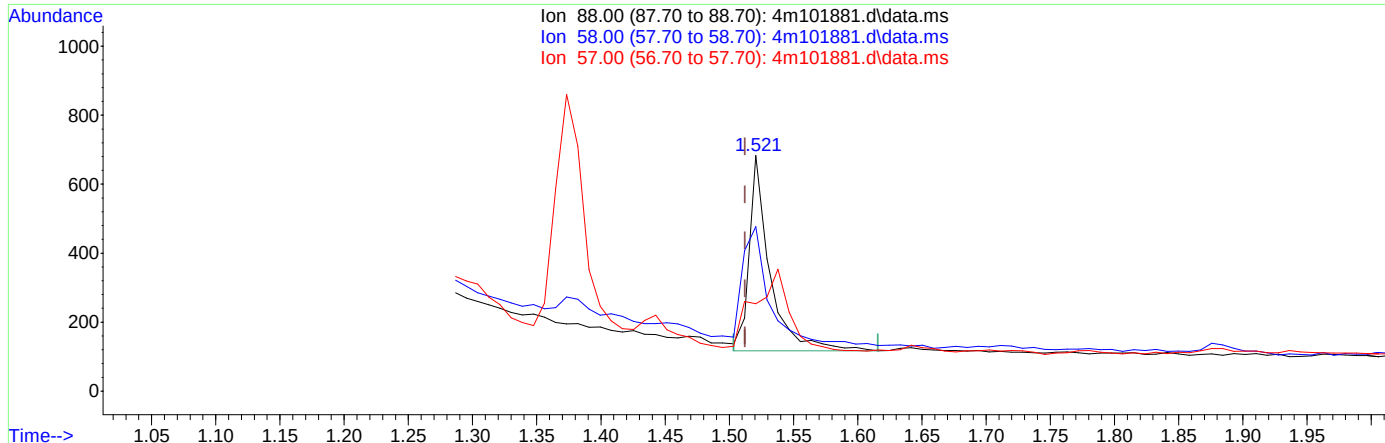
7.4.2.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101881.d
Acq On : 26 Aug 2021 12:20 am
Operator : kristis
Sample : op35033a-msda
Misc : op35053a,e4m4749,1050,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:30:02 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



TIC: 4m101881.d\data.ms

(36) 1,4-Dioxane (t)

1.521min (+0.009) 0.33ppm

response 630

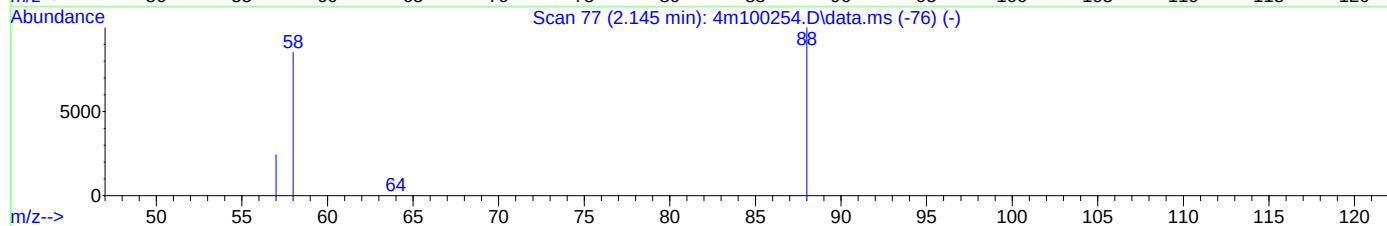
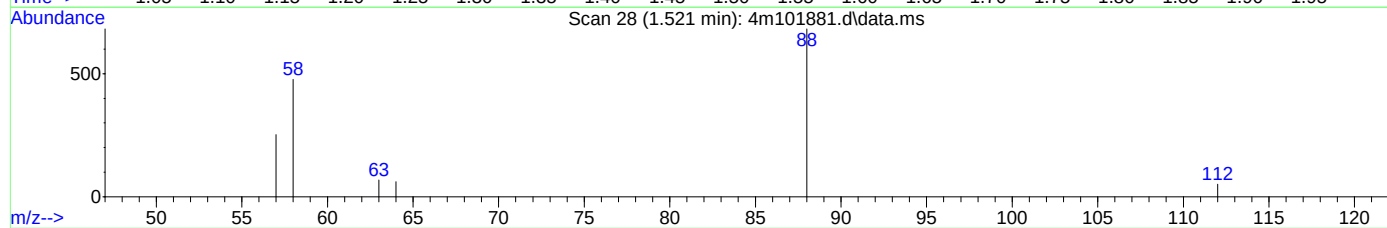
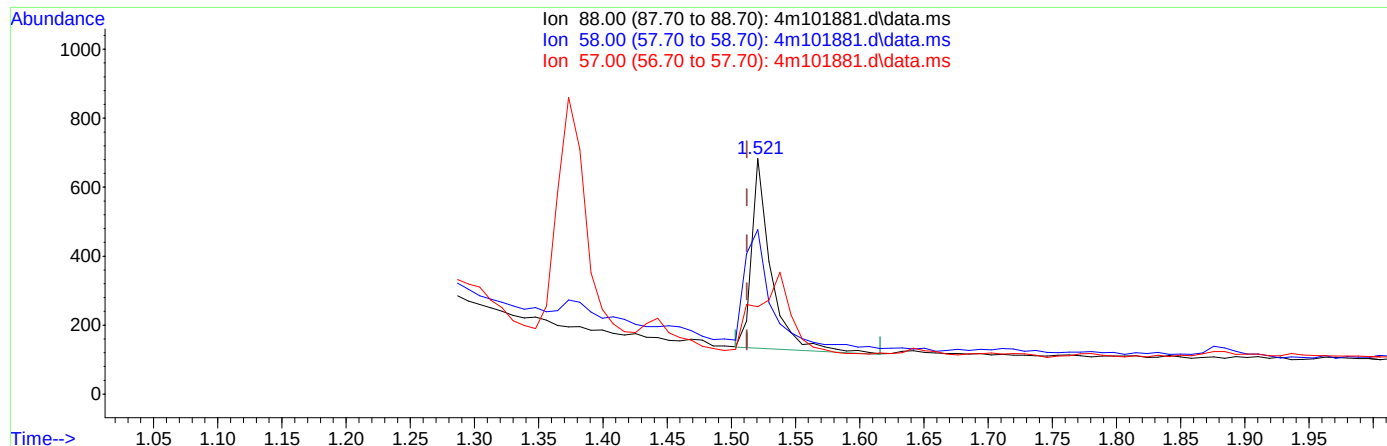
Ion	Exp%	Act%
88.00	100	100
58.00	54.70	59.80
57.00	21.80	23.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101881.d
Acq On : 26 Aug 2021 12:20 am
Operator : kristis
Sample : op35033a-msda
Misc : op35053a,e4m4749,1050,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:30:02 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 26 04:27:21 2021
Response via : Initial Calibration



TIC: 4m101881.d\data.ms

(36) 1,4-Dioxane (t)

1.521min (+0.009) 0.30ppm m

response 572

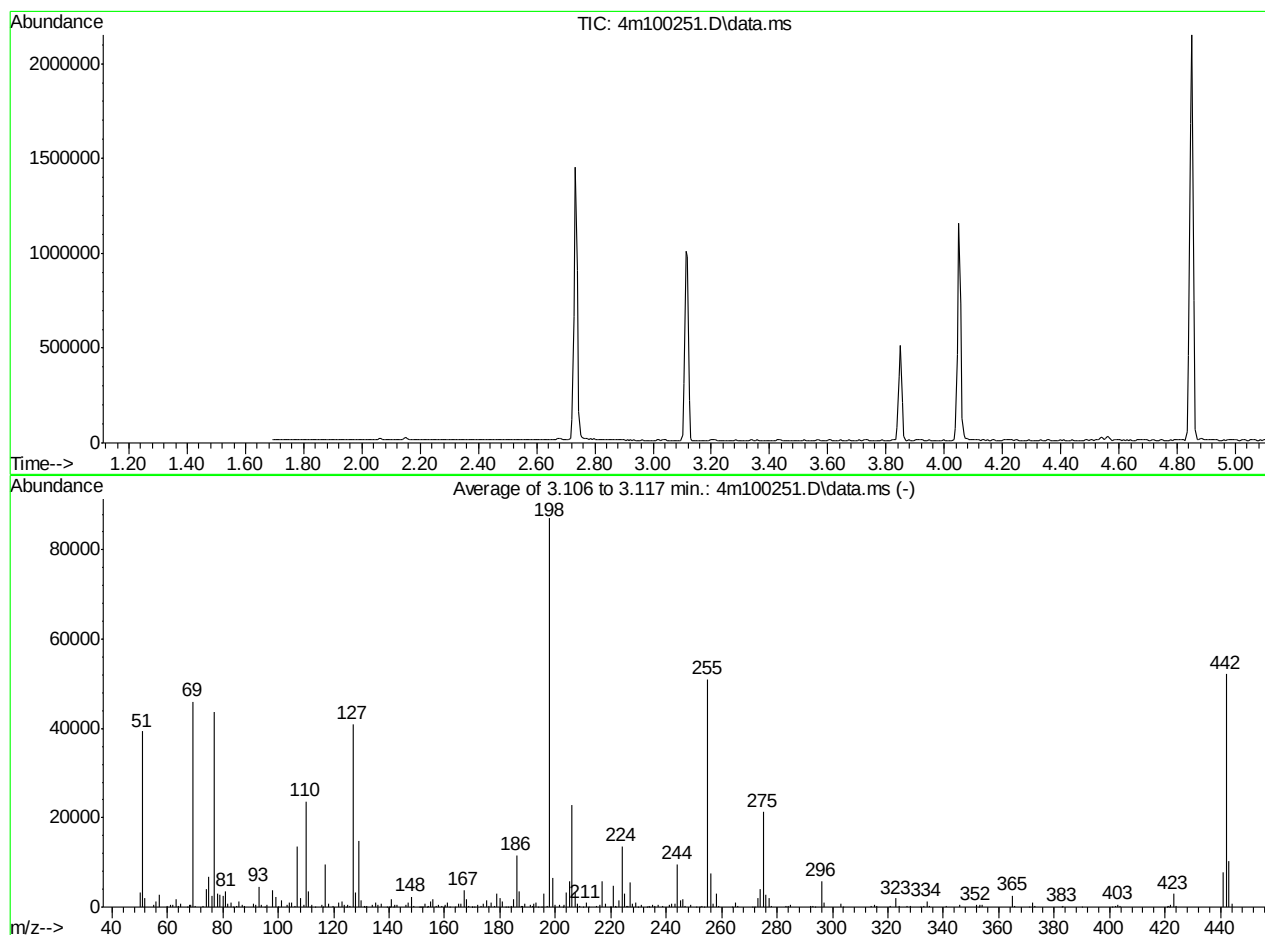
Ion	Exp%	Act%
88.00	100	100
58.00	54.70	69.84
57.00	21.80	37.04
0.00	0.00	0.00

DFTPP

Data File : C:\msdchem\1\DATA\E4M4670\4m100251.D
 Acq On : 28 May 2021 10:42 am
 Sample : dftpp
 Misc : op30792a,e4m4670,1000,,,1,1
 MS Integration Params: rteint.p

Vial: 1
 Operator: hennys
 Inst : GCMS4M
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M (RTE Integrator)
 Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um



AutoFind: Scans 248, 249, 250; Background Corrected with Scan 244

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	45.2	39341	PASS
68	69	0.00	2	1.3	612	PASS
69	198	0.00	100	52.9	46037	PASS
70	69	0.00	2	0.7	309	PASS
127	198	40	60	47.0	40939	PASS
197	198	0.00	1	0.2	181	PASS
198	198	100	100	100.0	87043	PASS
199	198	5	9	7.4	6454	PASS
275	198	10	30	24.4	21264	PASS
365	198	1	100	3.0	2611	PASS
441	443	0.01	100	76.0	7831	PASS
442	198	40	100	59.9	52132	PASS
443	442	17	23	19.8	10306	PASS

Average of 3.106 to 3.117 min.: 4m100251.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
50.00	3229	64.95	811	78.05	2943	91.00	742
51.00	39341	67.20	70	79.00	2731	91.95	615
52.00	2079	67.90	612	79.95	2440	93.00	4621
55.05	390	68.20	426	81.00	3644	93.95	492
55.95	1278	69.00	46037	81.90	813	94.90	75
57.00	2828	70.00	309	82.95	943	96.00	392
60.05	155	73.00	305	83.95	120	98.00	3661
60.95	630	74.05	4070	84.90	384	98.95	2339
62.05	633	75.00	6820	85.90	1195	99.80	73
63.00	1661	76.05	2584	86.95	436	100.00	87
63.95	185	77.00	43723	87.90	242	101.00	1565

Average of 3.106 to 3.117 min.: 4m100251.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.05	542	113.10	85	126.00	194	137.05	720
103.95	1009	115.85	568	127.00	40939	139.10	85
104.95	1056	116.10	116	128.00	3264	139.90	124
106.15	332	117.00	9540	129.00	14776	140.20	77
107.00	13528	117.95	683	129.95	1552	140.95	1870
108.00	1892	119.95	187	130.90	236	141.80	78
109.05	507	121.90	922	131.10	106	141.95	481
110.00	23669	122.95	1276	132.00	202	143.00	561
111.00	3638	124.00	413	133.95	445	145.95	417
111.80	109	124.80	98	135.00	1127	146.95	1042
112.05	451	124.95	513	135.95	550	147.95	2296

Average of 3.106 to 3.117 min.: 4m100251.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
148.80	382	157.90	439	168.90	283	179.00	3103
151.00	102	159.00	348	169.80	92	180.05	2132
151.30	103	159.90	79	170.00	80	181.00	1183
151.70	111	160.05	585	170.80	76	182.00	81
152.00	128	161.00	976	171.95	445	182.90	68
153.00	657	162.00	118	173.05	341	184.00	150
153.80	126	164.00	103	174.00	812	184.95	1816
154.10	348	164.90	795	175.05	1566	186.00	11603
155.00	1161	166.00	637	176.00	361	187.00	3630
155.95	1659	167.00	3866	177.00	931	187.90	191
157.00	241	168.00	1698	177.85	236	188.10	221

Average of 3.106 to 3.117 min.: 4m100251.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
189.00	835	199.95	548	211.00	979	223.05	1454
191.05	417	201.45	440	212.00	122	224.00	13670
191.80	225	202.70	128	214.95	293	225.00	3089
192.00	808	203.00	582	216.05	518	225.85	228
192.95	974	204.00	3373	216.95	5771	226.10	234
193.80	91	205.00	5809	217.95	825	227.00	5506
194.90	93	206.00	22835	219.70	68	227.90	832
196.00	2897	207.10	3347	220.20	67	228.90	959
196.90	181	207.95	676	221.00	4829	229.80	85
198.00	87043	208.95	174	221.70	123	231.05	499
198.90	6454	209.80	130	221.90	335	233.10	72

Average of 3.106 to 3.117 min.: 4m100251.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
233.70	71	245.95	1879	258.95	354	277.95	357
233.95	357	246.90	337	263.80	77	283.05	205
234.95	416	248.95	418	264.95	908	284.00	186
236.00	257	250.80	70	265.95	231	285.00	443

237.00	412	251.90	73	271.10	68	292.00	138
238.80	169	252.90	219	271.90	134	292.95	380
240.95	395	253.60	95	273.00	1927	293.80	79
241.95	884	255.00	51053	274.00	3918	296.00	5876
243.05	738	256.00	7583	275.00	21264	297.00	1032
244.05	9584	257.05	640	276.00	2717	303.00	694
245.05	1538	258.00	3133	277.00	2049	304.00	134

Average of 3.106 to 3.117 min.: 4m100251.D\data.ms

dftpp

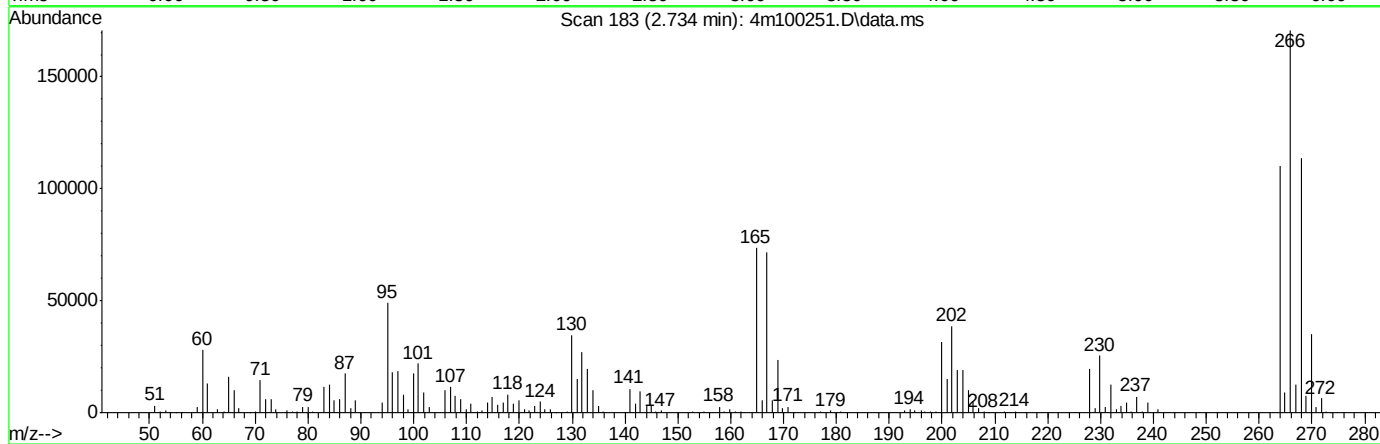
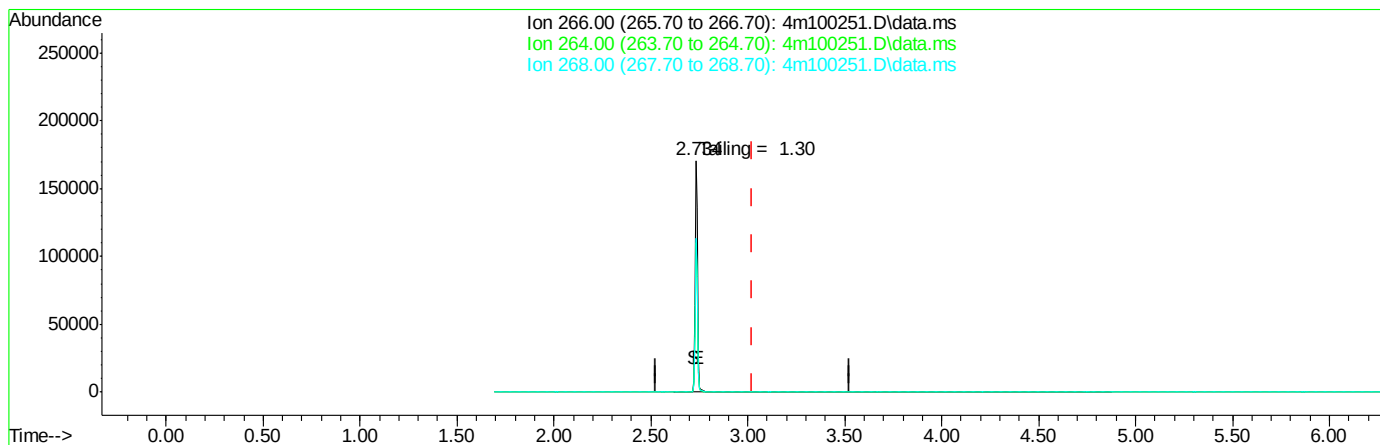
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
314.00	264	335.05	265	372.90	212	422.05	470
315.00	632	341.00	263	382.80	88	423.00	2998
315.95	334	345.90	481	383.00	202	423.95	370
320.85	215	351.95	484	389.80	73	441.00	7831
323.00	1975	352.60	104	401.00	86	442.05	52132
323.95	346	353.05	453	402.00	290	443.05	10306
326.95	260	354.05	444	403.00	630	444.00	775
327.90	149	364.95	2611	403.85	253		
331.80	68	365.85	353	420.70	105		
333.00	166	370.90	89	421.00	327		
334.00	1336	372.00	1100	421.40	73		

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100251.D
Acq On : 28 May 2021 10:42 am
Operator : hennys
Sample : dftpp
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 10:49:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Sun Apr 05 12:14:16 2020
Response via : Initial Calibration



(1) pentachlorophenol (t)

2.734min (-0.293) 8.79ng m

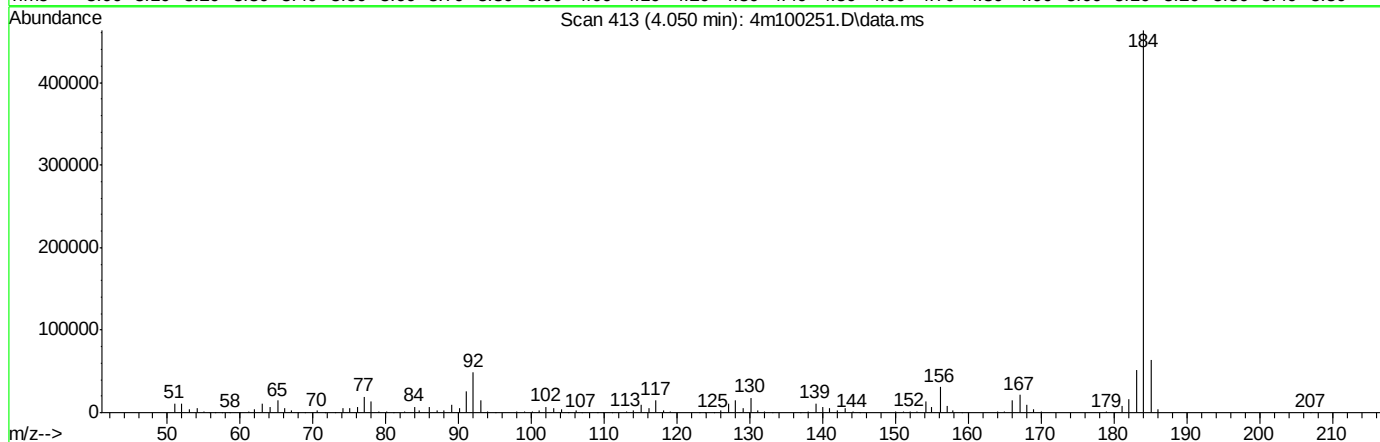
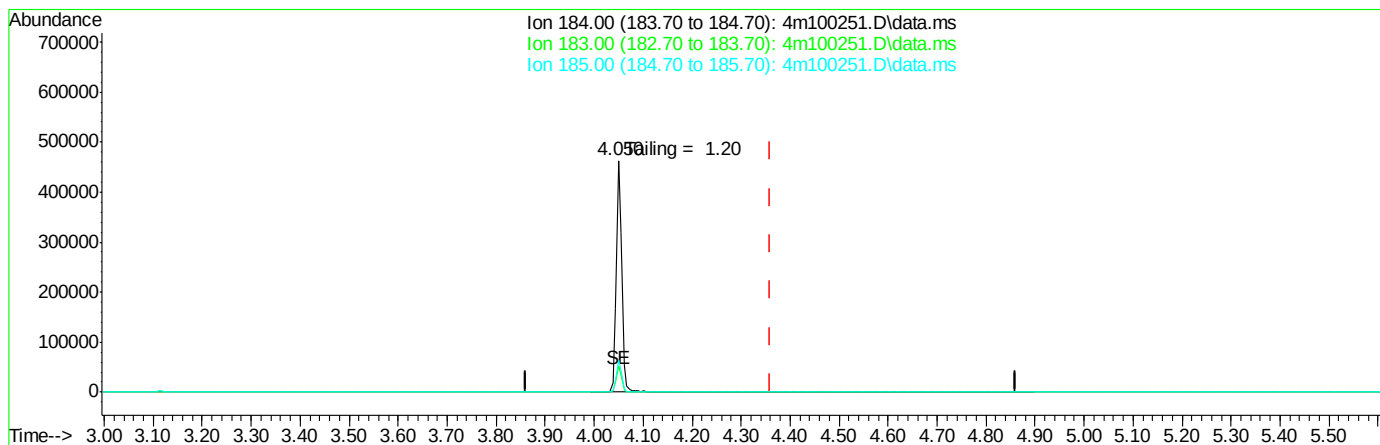
response 145070

Ion	Exp%	Act%
266.00	100	100
264.00	66.80	0.00#
268.00	69.50	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100251.D
Acq On : 28 May 2021 10:42 am
Operator : hennys
Sample : dftpp
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 10:49:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Sun Apr 05 12:14:16 2020
Response via : Initial Calibration



TIC: 4m100251.D\data.ms

(2) benzidine (t)

4.050min (-0.311) 6.14ng m

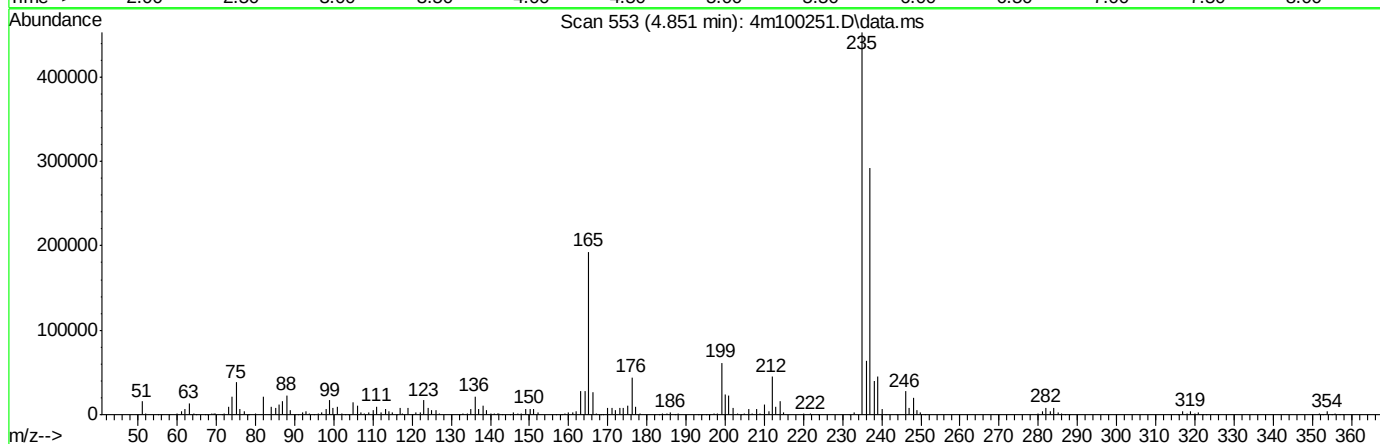
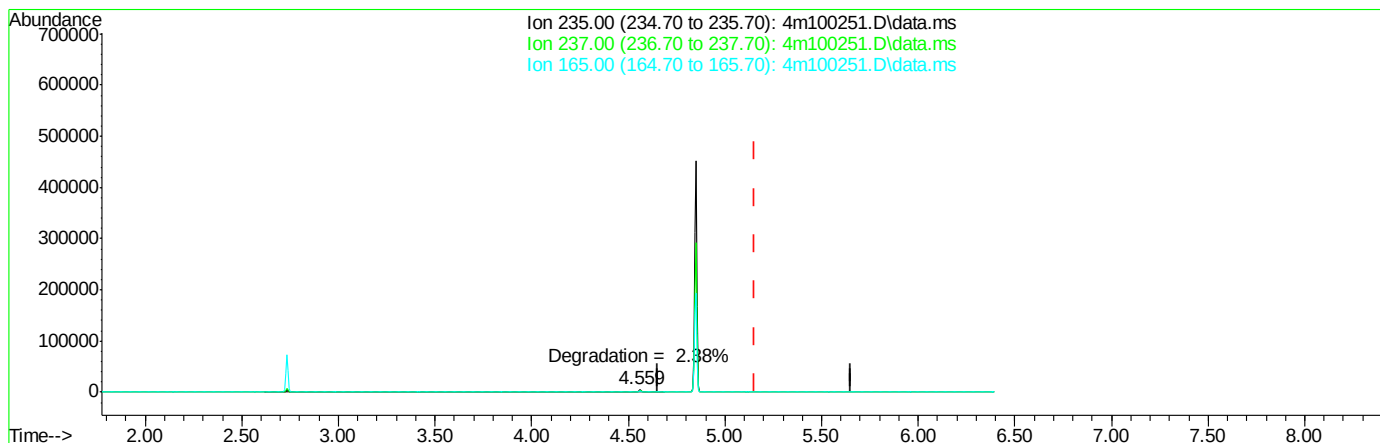
response 366739

Ion	Exp%	Act%
184.00	100	100
183.00	11.80	0.00#
185.00	13.50	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100251.D
Acq On : 28 May 2021 10:42 am
Operator : hennys
Sample : dftpp
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 10:49:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Sun Apr 05 12:14:16 2020
Response via : Initial Calibration



TIC: 4m100251.D\data.ms

(3) ddt (t)

4.851min (-0.305) 12.73ng m

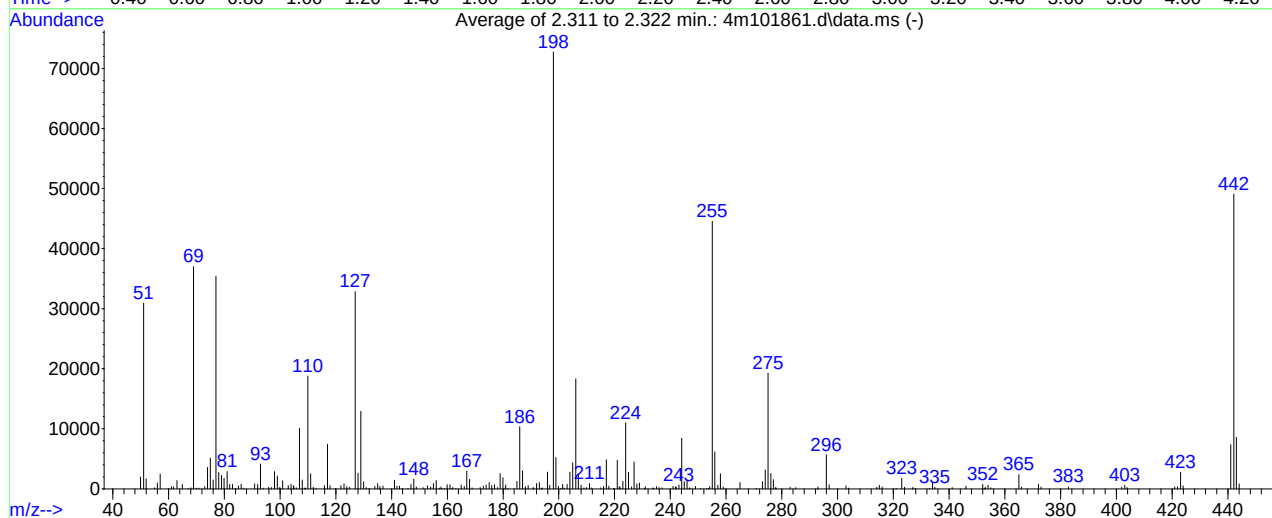
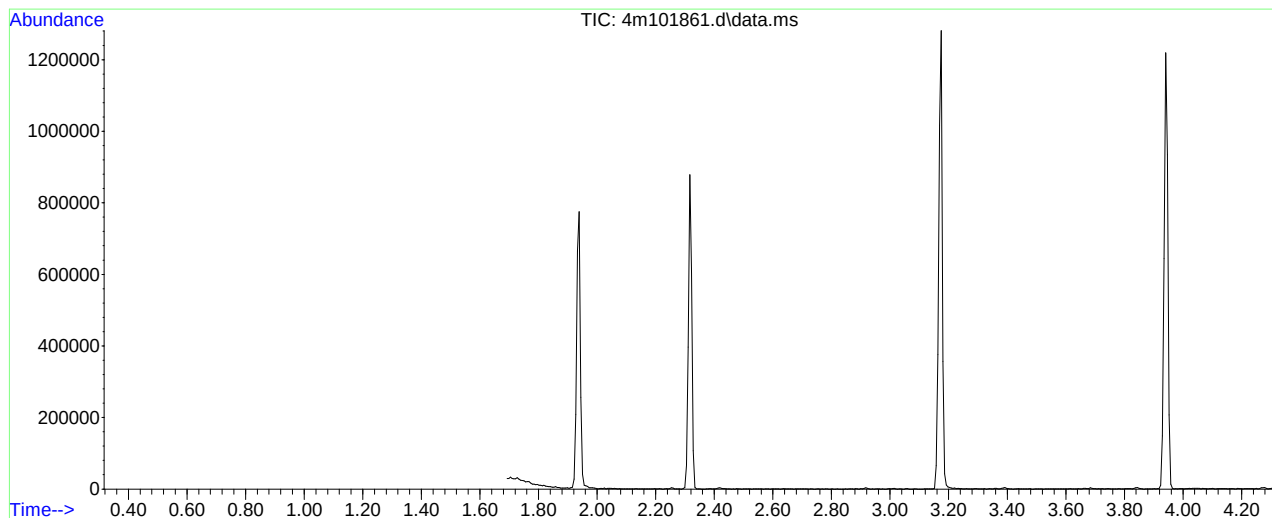
response 352197

Ion	Exp%	Act%
235.00	100	100
237.00	65.90	0.00#
165.00	44.70	0.00#
0.00	0.00	0.00

DFTPP

Data File : C:\msdchem\1\data\altheam\e4m4749\4m101861.d Vial: 1
 Acq On : 25 Aug 2021 5:16 pm Operator: kristis
 Sample : dftpp Inst : GCMS4M
 Misc : op34845a,e4m4749,30.0,,,1,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M (RTE Integrator)
 Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um



AutoFind: Scans 109, 110, 111; Background Corrected with Scan 104

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.5	30939	PASS
68	69	0.00	2	0.4	154	PASS
69	198	0.00	100	50.9	36982	PASS
70	69	0.00	2	0.3	126	PASS
127	198	40	60	45.1	32829	PASS
197	198	0.00	1	0.8	583	PASS
198	198	100	100	100.0	72720	PASS
199	198	5	9	7.1	5189	PASS
275	198	10	30	26.4	19234	PASS
365	198	1	100	3.3	2383	PASS
441	443	0.01	100	85.7	7343	PASS
442	198	40	100	67.5	49093	PASS
443	442	17	23	17.4	8565	PASS

Average of 2.311 to 2.322 min.: 4m101861.d\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
50.00	1974	67.00	93	79.00	2219	93.00	4112
51.05	30939	68.10	154	79.90	1744	94.00	115
52.00	1639	68.95	36982	81.00	2859	95.95	242
54.95	184	70.00	126	81.95	704	96.95	198
55.95	965	70.90	108	82.95	751	98.00	2869
57.00	2464	73.00	360	84.00	74	99.00	2143
59.90	71	74.00	3578	85.00	488	99.95	251
61.00	359	75.00	5114	86.05	790	100.95	1318
61.85	313	76.05	1460	87.00	96	102.95	528
63.00	1390	77.05	35424	90.90	796	103.95	771
64.90	713	78.05	2754	92.00	736	104.85	523

Average of 2.311 to 2.322 min.: 4m101861.d\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
105.10	190	117.00	7392	130.90	198	146.95	745
105.90	159	117.95	547	132.00	94	147.95	1616
107.00	10046	119.90	68	134.00	381	148.90	289
107.95	1459	121.85	525	135.00	878	151.25	192
108.90	143	122.95	824	135.85	391	152.95	489
109.10	114	123.95	346	136.95	443	154.00	302
110.00	18791	124.95	271	141.00	1443	155.00	890
110.95	2515	127.00	32829	141.90	434	156.00	1388
111.90	271	127.95	2573	142.85	465	157.10	142
112.90	87	129.00	12927	143.90	93	157.75	289
115.95	558	129.95	1162	145.90	68	158.00	73

Average of 2.311 to 2.322 min.: 4m101861.d\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
158.90	91	171.85	208	181.80	86	194.00	152
159.90	670	172.95	452	185.00	1217	195.95	2761
160.90	666	173.95	644	186.00	10352	196.75	583
161.70	87	175.00	1038	187.00	3034	198.00	72720
162.00	214	175.95	527	187.95	348	198.95	5189
163.10	68	176.95	678	189.00	541	199.90	380
164.95	628	178.05	207	190.80	221	200.70	89
166.05	379	178.95	2551	191.00	110	201.40	720
166.95	2972	179.95	1855	192.00	852	201.90	114
167.95	1573	180.80	146	193.05	1074	202.95	730
168.90	170	180.95	638	193.80	68	204.00	2793

Average of 2.311 to 2.322 min.: 4m101861.d\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
205.00	4333	217.95	462	228.95	977	243.05	635
206.05	18338	219.70	72	230.80	70	244.05	8432
207.00	2442	221.00	4750	231.05	339	245.00	1200
207.95	612	221.70	423	233.70	158	246.00	1438
208.95	159	222.00	227	234.00	92	246.80	87
209.95	214	222.95	1243	235.05	347	246.95	170
211.00	870	224.00	10973	235.95	207	249.00	417
211.80	172	225.00	2755	237.00	171	250.90	69
215.00	171	226.05	327	241.00	413	253.00	89
216.00	423	227.00	4447	241.90	342	253.70	73
217.00	4822	228.00	824	242.10	284	254.10	390

Average of 2.311 to 2.322 min.: 4m101861.d\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
255.00	44557	276.95	1506	314.00	272	334.90	249
255.95	6147	277.80	195	314.95	604	341.05	228
257.00	598	278.00	139	315.95	329	346.00	432
257.95	2511	282.95	256	321.00	85	352.00	721
258.95	290	285.00	202	322.95	1739	352.70	93
264.95	1049	292.80	87	323.95	275	352.95	244
270.80	88	292.95	296	326.80	69	354.00	571
273.00	1173	296.00	5675	327.00	238	355.00	172
274.00	3142	296.95	680	327.90	82	365.00	2383
275.00	19234	303.00	503	333.00	69	365.95	326
276.00	2534	303.90	110	334.05	1065	372.05	767

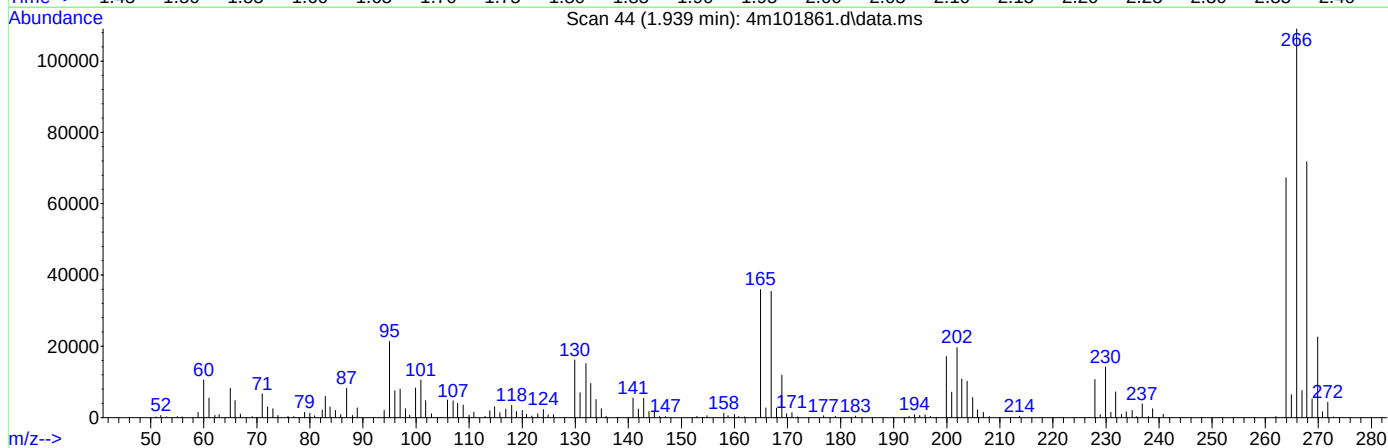
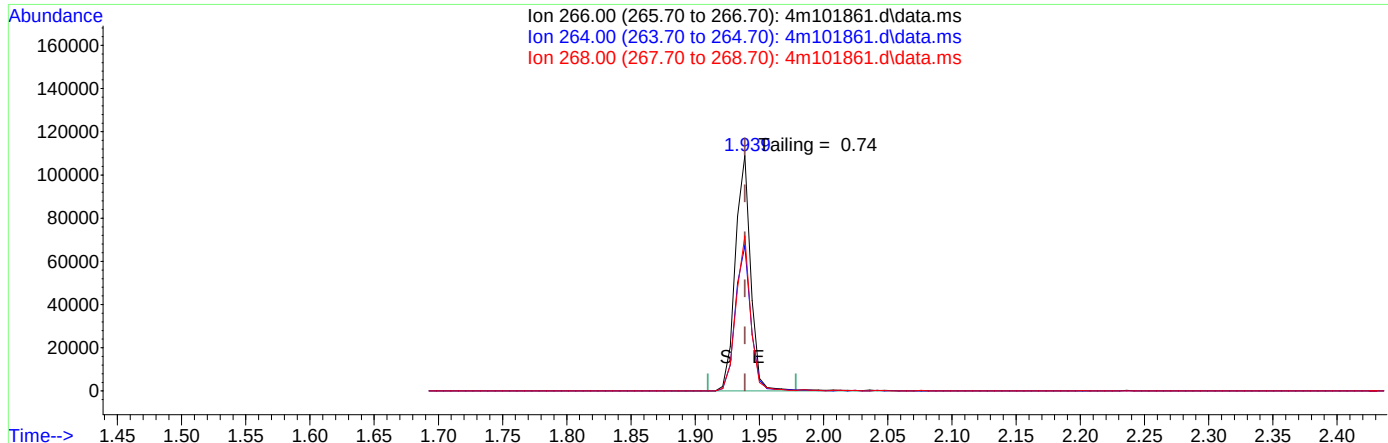
Average of 2.311 to 2.322 min.: 4m101861.d\data.ms

dftpp							
Modified: subtracted							
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
373.00	293	443.00	8565				
382.85	330	444.00	831				
401.90	255						
403.00	590						
403.85	204						
420.90	324						
421.95	347						
423.00	2727						
423.95	504						
441.05	7343						
442.10	49093						

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101861.d
Acq On : 25 Aug 2021 5:16 pm
Operator : kristis
Sample : dftpp
Misc : op34845a,e4m4749,30.0,,,1,1
ALS Vial : 1 Sample Multiplier: 1
Inst : GCMS4M

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Results File: DFTPP4M.RES
Quant Time: Aug 26 04:02:11 2021
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Thu Aug 26 04:02:07 2021
Response via : Initial Calibration



TIC: 4m101861.d\data.ms

(1) pentachlorophenol (t)

1.939min (0.000) 5.52ppb

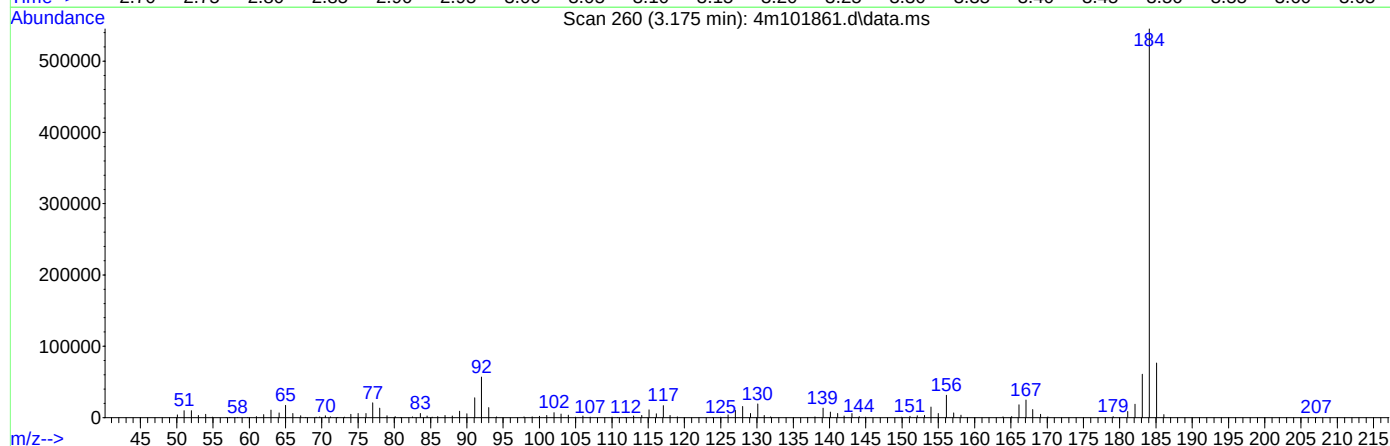
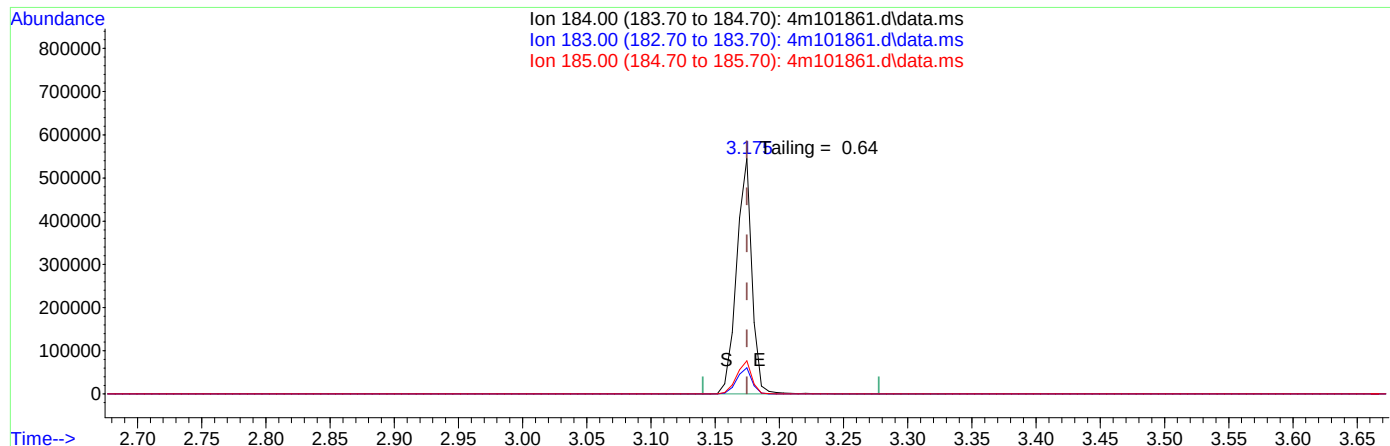
response 91096

Ion	Exp%	Act%
266.00	100	100
264.00	61.70	62.91
268.00	65.80	62.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101861.d
Acq On : 25 Aug 2021 5:16 pm
Operator : kristis
Sample : dftpp
Misc : op34845a,e4m4749,30.0,,,1,1
ALS Vial : 1 Sample Multiplier: 1
Inst : GCMS4M

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Results File: DFTPP4M.RES
Quant Time: Aug 26 04:02:11 2021
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Thu Aug 26 04:02:07 2021
Response via : Initial Calibration



TIC: 4m101861.d\data.ms

(2) benzidine (t)

3.175min (0.000) 7.63ppb

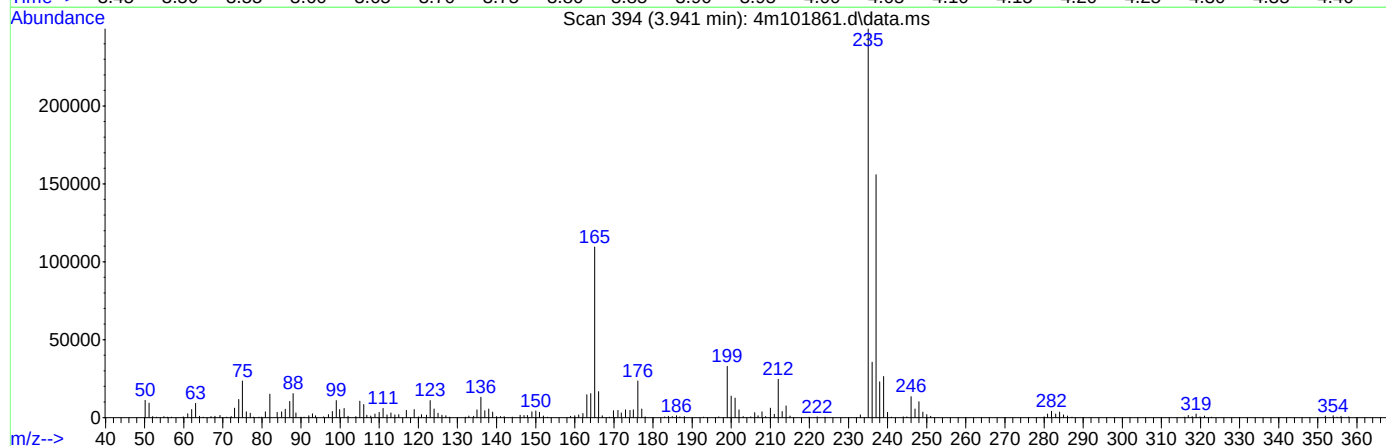
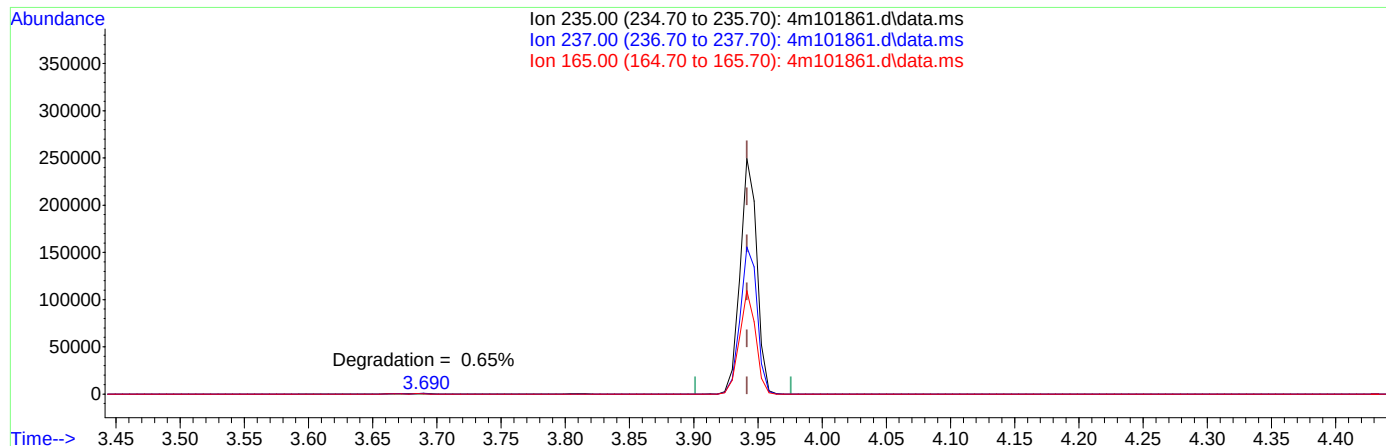
response 455399

Ion	Exp%	Act%
184.00	100	100
183.00	11.10	10.96
185.00	14.10	13.97
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101861.d
Acq On : 25 Aug 2021 5:16 pm
Operator : kristis
Sample : dftpp
Misc : op34845a,e4m4749,30.0,,,1,1
ALS Vial : 1 Sample Multiplier: 1
Inst : GCMS4M

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Results File: DFTPP4M.RES
Quant Time: Aug 26 04:02:11 2021
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Thu Aug 26 04:02:07 2021
Response via : Initial Calibration



TIC: 4m101861.d\data.ms

(3) ddt (t)

3.941min (0.000) 8.19ppb

response 226549

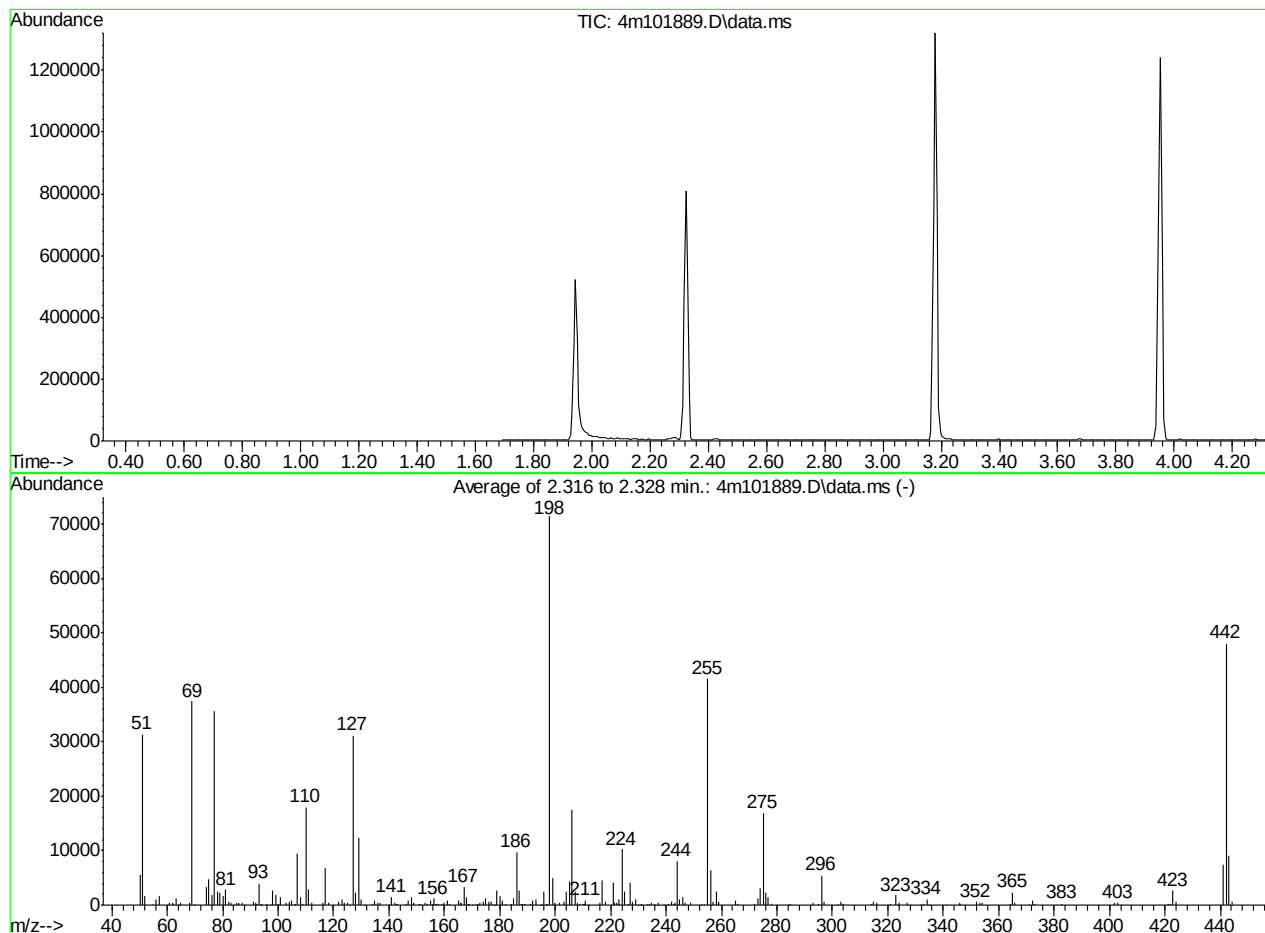
Ion	Exp%	Act%
235.00	100	100
237.00	62.50	63.59
165.00	43.90	42.46
0.00	0.00	0.00

DFTPP

Data File : C:\msdchem\1\DATA\E4M4750\4m101889.D
 Acq On : 26 Aug 2021 10:26 am
 Sample : dftpp
 Misc : op34845a,e4m4750,30.0,,,1,1
 MS Integration Params: rteint.p

Vial: 1
 Operator: kristis
 Inst : GCMS4M
 Multipl: 1.00

Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M (RTE Integrator)
 Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um



AutoFind: Scans 110, 111, 112; Background Corrected with Scan 105

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	43.9	31325	PASS
68	69	0.00	2	1.3	503	PASS
69	198	0.00	100	52.5	37463	PASS
70	69	0.00	2	0.5	188	PASS
127	198	40	60	43.7	31181	PASS
197	198	0.00	1	0.3	245	PASS
198	198	100	100	100.0	71411	PASS
199	198	5	9	7.0	5008	PASS
275	198	10	30	23.7	16933	PASS
365	198	1	100	3.2	2290	PASS
441	443	0.01	100	82.9	7517	PASS
442	198	40	100	67.3	48051	PASS
443	442	17	23	18.9	9070	PASS

Average of 2.316 to 2.328 min.: 4m101889.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
50.05	5664	64.95	517	81.00	2803	93.00	3958
50.95	31325	67.95	503	82.00	631	93.80	81
52.00	1749	69.00	37463	83.00	382	94.00	126
54.80	73	69.90	188	83.95	1	95.95	165
56.00	1028	74.00	3335	84.95	327	97.10	81
57.00	1631	75.00	4658	85.90	403	98.00	2667
60.90	424	76.05	1762	87.00	342	99.00	1929
61.80	105	77.00	35613	87.85	67	99.80	74
61.95	355	78.00	2538	90.95	669	100.00	115
63.00	1297	79.00	2199	91.95	412	100.95	1351
64.10	107	80.00	1651	92.20	148	102.95	489

Average of 2.316 to 2.328 min.: 4m101889.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.90	589	117.00	6869	131.00	78	146.95	845
105.00	740	118.00	473	133.90	307	147.95	1448
105.90	71	121.90	592	134.95	886	148.95	385
106.20	141	123.00	1096	135.95	351	150.95	189
107.00	9557	124.05	409	136.95	430	151.50	73
107.95	1483	125.00	519	140.00	95	152.95	499
109.00	222	125.70	73	140.95	1535	153.90	210
110.00	18003	127.00	31181	141.95	517	154.95	935
111.00	2989	128.00	2369	142.80	131	155.90	304
112.00	322	128.95	12398	142.95	314	156.05	1151
116.00	386	130.05	1088	145.95	178	156.85	208

Average of 2.316 to 2.328 min.: 4m101889.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
157.10	237	168.70	78	177.60	83	188.10	160
157.85	270	168.95	234	178.00	110	188.80	289
158.95	141	170.10	89	178.90	2602	189.00	292
159.90	378	171.10	105	180.00	1638	190.95	205
161.00	922	171.80	164	180.95	793	191.95	904
161.70	114	172.00	67	182.05	251	192.95	1131
165.00	745	172.90	394	184.00	238	194.80	70
165.85	316	173.95	574	184.95	1281	195.00	104
166.10	346	174.95	1280	186.00	9740	196.00	2427
167.00	3358	176.05	563	187.00	2616	196.60	109
168.05	1529	176.90	565	187.90	154	197.10	245

Average of 2.316 to 2.328 min.: 4m101889.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
198.00	71411	210.00	257	222.90	256	233.00	84
199.00	5008	210.40	131	223.05	989	233.75	198
199.95	373	210.70	202	224.00	10230	234.85	405
201.55	438	211.00	853	225.05	2540	235.95	263
202.95	618	212.00	73	226.05	206	236.95	347
204.00	2568	215.95	475	227.00	4141	239.10	83
205.00	4427	216.90	4588	227.95	641	240.90	120
206.00	17440	217.95	593	229.00	1043	241.95	594
207.00	2415	220.95	4174	229.90	75	242.90	121
207.95	497	221.50	415	230.90	70	243.05	501
208.90	123	222.10	392	231.05	266	244.00	8105

Average of 2.316 to 2.328 min.: 4m101889.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
245.00	1109	264.85	875	292.95	372	323.05	1809
245.95	1549	265.80	222	295.15	207	323.80	79
246.90	417	272.10	118	296.00	5364	324.05	341
248.90	475	272.95	1256	297.00	702	326.90	389

252.90	115	273.95	3137	302.00	72	328.00	71
253.70	99	275.00	16933	303.05	635	331.90	70
255.00	41576	276.00	2307	303.95	142	333.00	118
256.00	6412	276.95	1358	314.05	212	334.05	1032
256.85	568	278.00	190	314.95	533	335.00	69
258.00	2524	283.90	67	315.95	346	341.00	71
258.95	541	285.05	249	321.05	172	345.80	71

Average of 2.316 to 2.328 min.: 4m101889.D\data.ms

dftpp

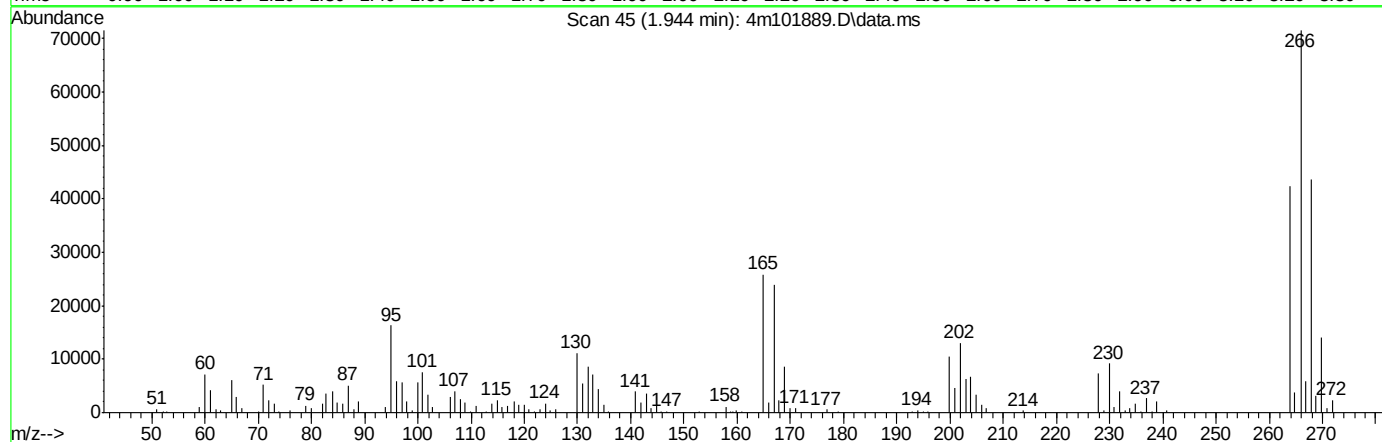
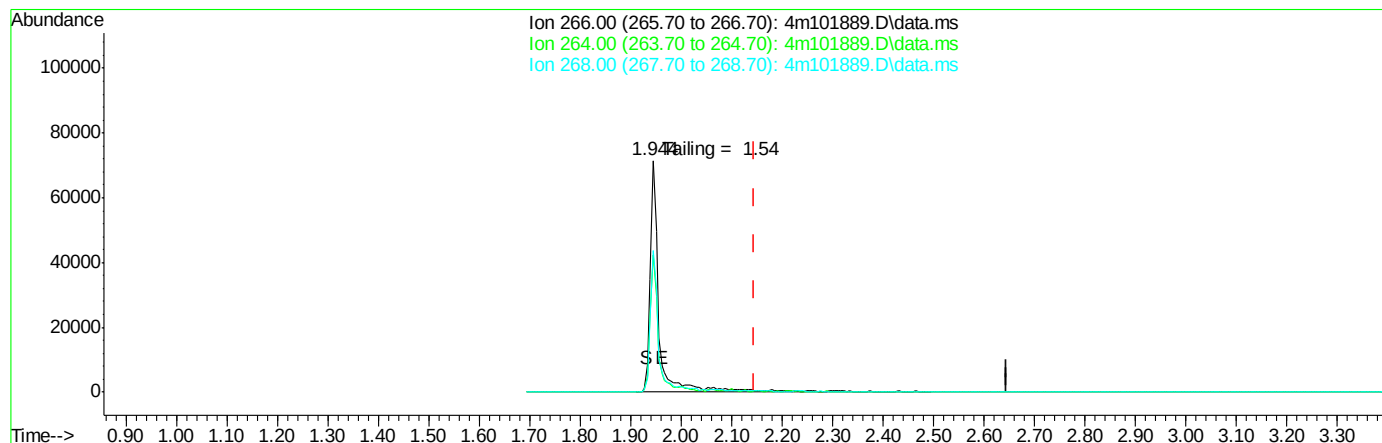
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
345.95	391	401.85	328	444.05	690		
352.00	575	403.00	407				
353.05	328	404.10	73				
353.95	503	421.00	301				
364.10	137	421.90	156				
365.00	2290	422.15	191				
365.95	391	423.00	2670				
370.90	82	424.00	660				
372.05	807	441.05	7517				
373.10	179	442.05	48051				
382.95	221	443.05	9070				

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101889.D
Acq On : 26 Aug 2021 10:26 am
Operator : kristis
Sample : dftpp
Misc : op34845a,e4m4750,30.0,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 10:32:41 2021
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Wed Aug 11 09:54:06 2021
Response via : Initial Calibration



TIC: 4m101889.D\data.ms

(1) pentachlorophenol (t)

1.944min (-0.201) 5.30ng m

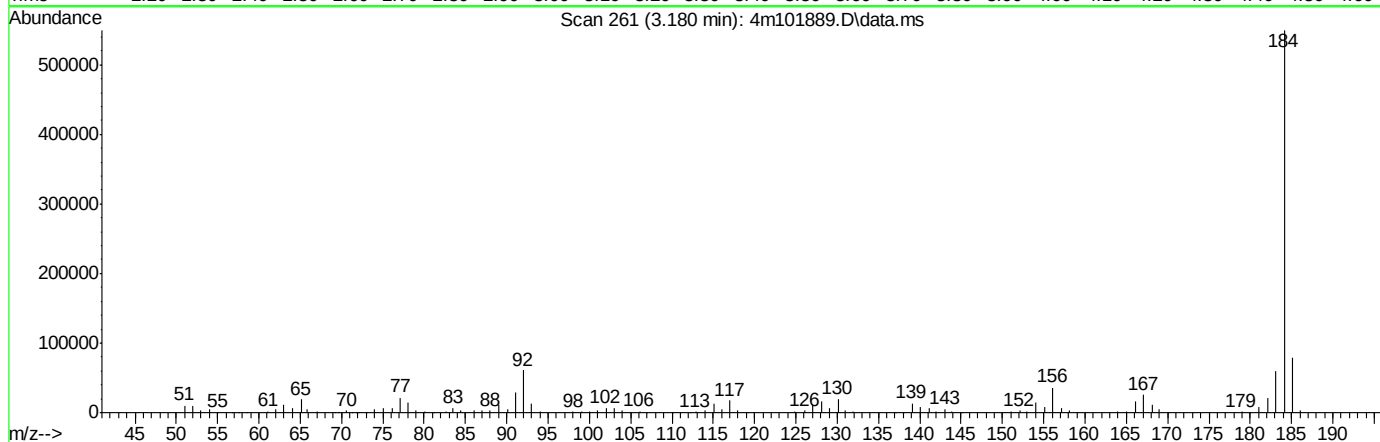
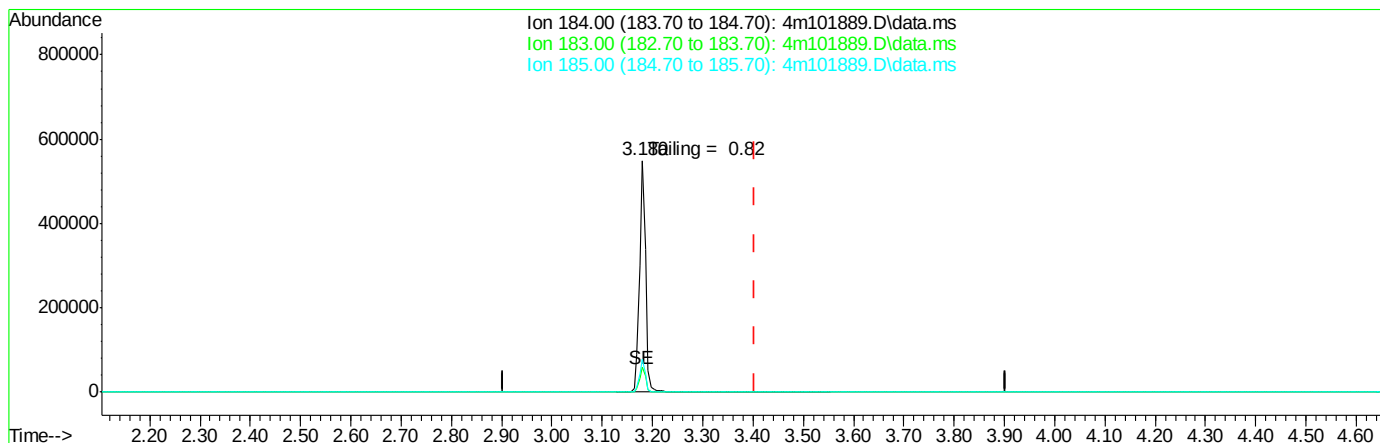
response 87446

Ion	Exp%	Act%
266.00	100	100
264.00	66.80	0.00#
268.00	69.50	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101889.D
Acq On : 26 Aug 2021 10:26 am
Operator : kristis
Sample : dftpp
Misc : op34845a,e4m4750,30.0,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 10:32:41 2021
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Wed Aug 11 09:54:06 2021
Response via : Initial Calibration



TIC: 4m101889.D\data.ms

(2) benzidine (t)

3.180min (-0.223) 7.94ng m

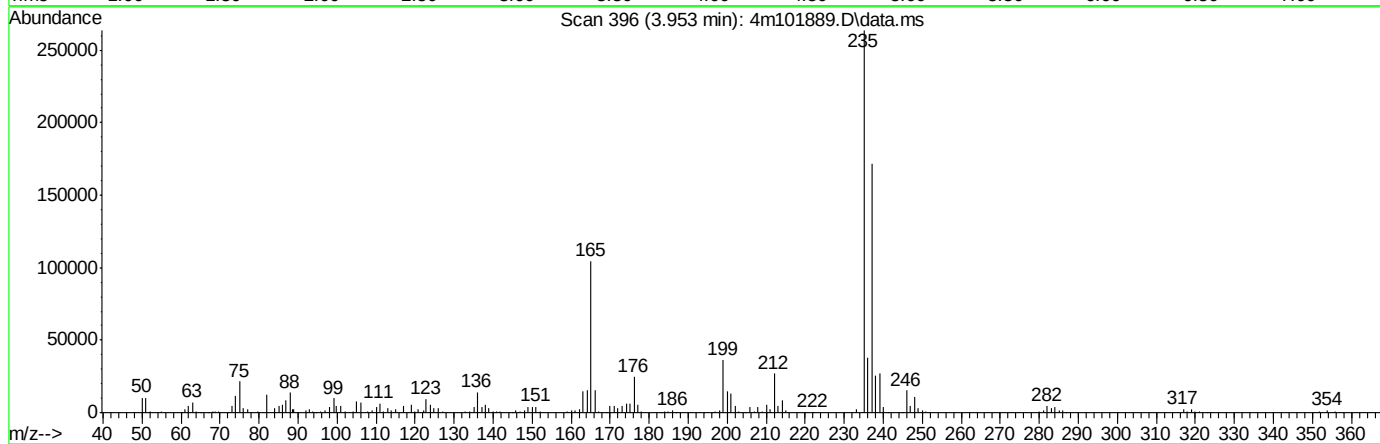
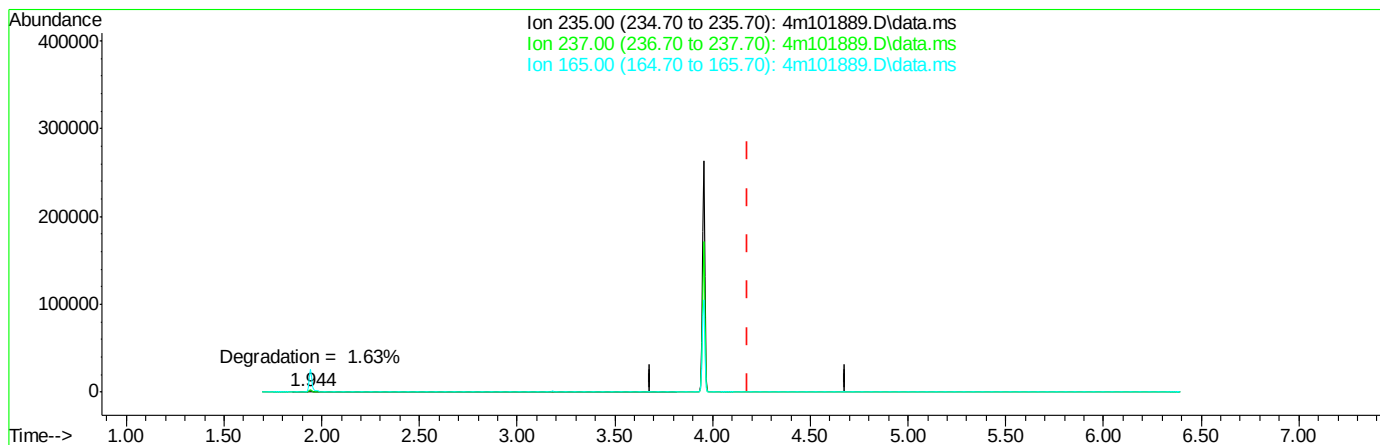
response 474174

Ion	Exp%	Act%
184.00	100	100
183.00	11.80	0.00#
185.00	13.50	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101889.D
Acq On : 26 Aug 2021 10:26 am
Operator : kristis
Sample : dftpp
Misc : op34845a,e4m4750,30.0,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 10:32:41 2021
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP4M.M
Quant Title : Semi Volatile GC/MS,zb-5 30m x .25mm x .50um
QLast Update : Wed Aug 11 09:54:06 2021
Response via : Initial Calibration



TIC: 4m101889.D\data.ms

(3) ddt (t)

3.953min (-0.229) 8.18ng m

response 226415

Ion	Exp%	Act%
235.00	100	100
237.00	65.90	0.00#
165.00	44.70	0.00#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100252.D
 Acq On : 28 May 2021 10:57 am
 Operator : hennys
 Sample : ic4670-5
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 28 12:44:25 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 12:43:31 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	34988	4.00	ppm	0.00
12) Fluorene-d10	8.539	176	42029	4.00	ppm	0.00
22) Fluoranthene-d10	10.660	212	75685	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.345	264	52834	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	34988	4.00	ppm	0.00
38) Fluorene-d10a	8.539	176	42029	4.00	ppm	0.00

System Monitoring Compounds

2) 2-Fluorophenol	3.834	112	427190	85.45	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	170.90%#
3) Phenol-d5	4.754	99	565477	86.49	ppm	0.00
Spiked Amount	50.000			Recovery	=	172.98%
6) Nitrobenzene-d5	5.619	82	523879	87.21	ppm	0.00
Spiked Amount	50.000			Recovery	=	174.42%
11) 2-Fluorobiphenyl	7.383	172	917015	84.47	ppm	0.00
Spiked Amount	50.000			Recovery	=	168.94%
17) 2,4,6-Tribromophenol	8.804	330	179327	94.03	ppm	0.00
Spiked Amount	50.000			Recovery	=	188.06%
25) Terphenyl-d14	11.072	244	964830	83.17	ppm	0.00
Spiked Amount	50.000			Recovery	=	166.34%

Target Compounds

						Qvalue
4) Phenol	4.765	94	172665	22.61	ppm	86
7) Naphthalene	6.333	128	87186	4.84	ppm	98
8) Hexachlorobutadiene	6.476	225	22188	4.87	ppm	99
9) 2-Methylnaphthalene	7.010	142	61270	4.98	ppm	95
10) Hexachlorocyclopentadiene	7.186	237	22045	11.13	ppm	99
13) Acenaphthylene	7.885	152	88775	5.00	ppm	99
14) Acenaphthene	8.060	153	59079	4.76	ppm	99
16) Fluorene	8.568	166	70218	4.98	ppm	84
18) Hexachlorobenzene	9.120	284	26666	4.87	ppm	97
19) Pentachlorophenol	9.308	266	77519	28.49	ppm	78
20) Phenanthrene	9.503	178	106200	5.08	ppm	99
21) Anthracene	9.550	178	107210	5.20	ppm	99
23) Fluoranthene	10.679	202	120253	4.77	ppm	97
24) Pyrene	10.898	202	125884	5.00	ppm	97
26) Benzo[a]anthracene	12.082	228	113641	5.19	ppm	99
27) Chrysene	12.116	228	114161	4.96	ppm	98
29) Benzo[b]fluoranthene	13.081	252	110421	5.07	ppm	98
30) Benzo[k]fluoranthene	13.108	252	103023	4.75	ppm	97
31) Benzo[a]pyrene	13.365	252	101812	4.70	ppm	97
32) Indeno[1,2,3-cd]pyrene	14.517	276	114849	4.96	ppm	67
33) Dibenz[a,h]anthracene	14.546	278	96421	4.94	ppm	93
34) Benzo[g,h,i]perylene	14.834	276	101543	4.89	ppm	99
36) 1,4-Dioxane	2.145	88	12433	4.78	ppm	# 73
37) 1-Methylnaphthalene	7.109	142	55727	4.90	ppm	98
39) 4,6-dinitro-2-methylph...	8.618	198	46230	47.06	ppm	# 61

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100252.D
Acq On : 28 May 2021 10:57 am
Operator : hennys
Sample : ic4670-5
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 28 12:44:25 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

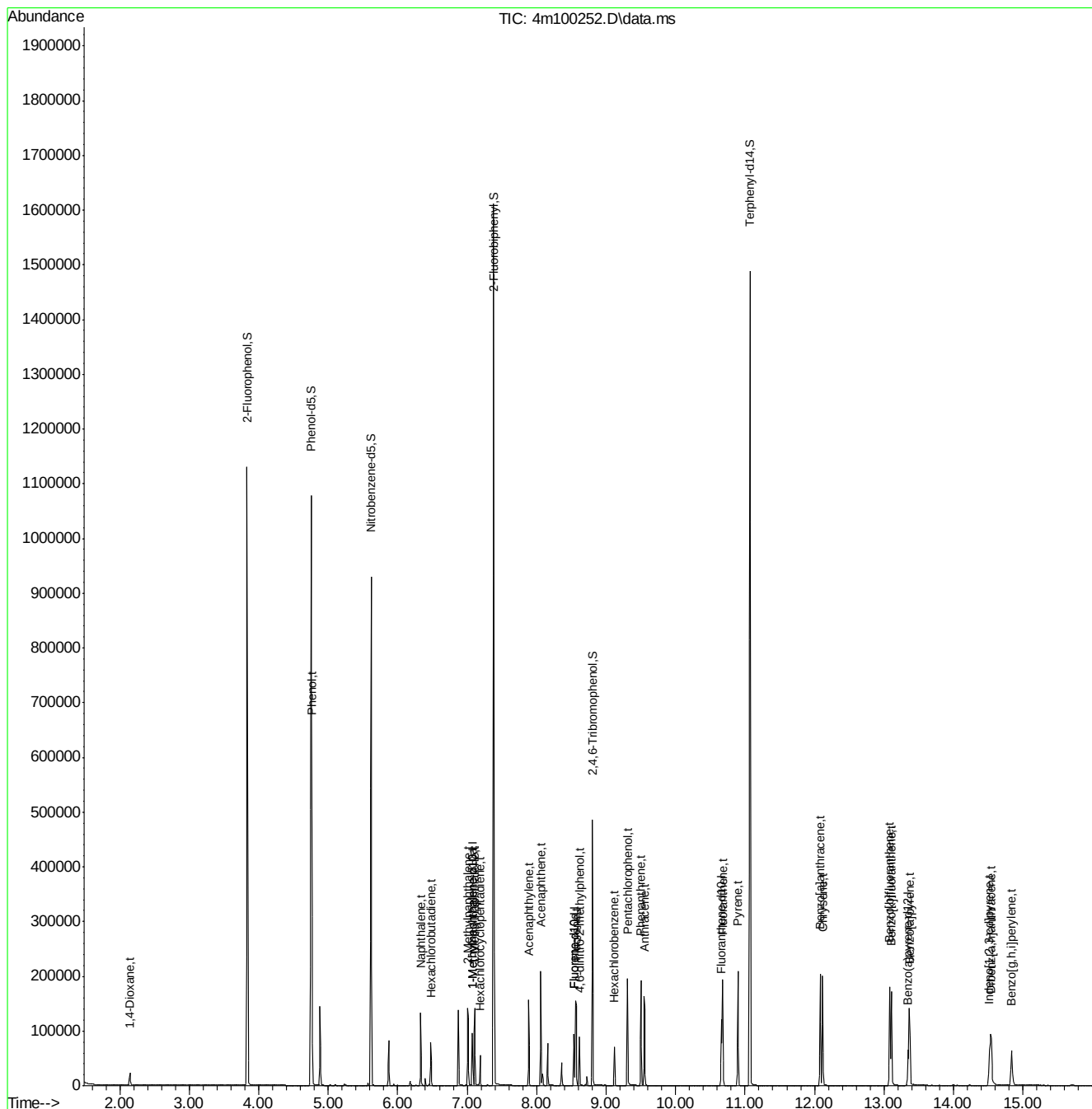
7.6.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100252.D
Acq On : 28 May 2021 10:57 am
Operator : hennys
Sample : ic4670-5
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 28 12:44:25 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100253.D
 Acq On : 28 May 2021 11:18 am
 Operator : hennys
 Sample : ic4670-2.5
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 28 12:45:14 2021

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M

Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um

QLast Update : Fri May 28 12:43:31 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	32973	4.00	ppm	0.00
12) Fluorene-d10	8.539	176	41231	4.00	ppm	0.00
22) Fluoranthene-d10	10.663	212	72459	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.355	264	50417	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	32973	4.00	ppm	0.00
38) Fluorene-d10a	8.539	176	41231	4.00	ppm	0.00

System Monitoring Compounds

2) 2-Fluorophenol	3.834	112	218860	46.45	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	92.90%#
3) Phenol-d5	4.750	99	288679	46.85	ppm	0.00
Spiked Amount	50.000			Recovery	=	93.70%
6) Nitrobenzene-d5	5.616	82	268282	47.39	ppm	0.00
Spiked Amount	50.000			Recovery	=	94.78%
11) 2-Fluorobiphenyl	7.383	172	470888	46.03	ppm	0.00
Spiked Amount	50.000			Recovery	=	92.06%
17) 2,4,6-Tribromophenol	8.804	330	90747	48.50	ppm	0.00
Spiked Amount	50.000			Recovery	=	97.00%
25) Terphenyl-d14	11.072	244	507689	45.71	ppm	0.00
Spiked Amount	50.000			Recovery	=	91.42%

Target Compounds

						Qvalue
4) Phenol	4.761	94	87121	12.10	ppm	90
7) Naphthalene	6.333	128	42905	2.53	ppm	99
8) Hexachlorobutadiene	6.476	225	10813	2.52	ppm	99
9) 2-Methylnaphthalene	7.010	142	29383	2.53	ppm	99
10) Hexachlorocyclopentadiene	7.186	237	9974	5.34	ppm	99
13) Acenaphthylene	7.885	152	43541	2.50	ppm	99
14) Acenaphthene	8.060	153	29101	2.39	ppm	98
16) Fluorene	8.568	166	34362	2.48	ppm	87
18) Hexachlorobenzene	9.120	284	13200	2.46	ppm	97
19) Pentachlorophenol	9.308	266	35388	13.26	ppm	81
20) Phenanthrene	9.503	178	51818	2.53	ppm	99
21) Anthracene	9.556	178	51820	2.56	ppm	96
23) Fluoranthene	10.679	202	59502	2.46	ppm	99
24) Pyrene	10.902	202	60851	2.53	ppm	99
26) Benzo[a]anthracene	12.087	228	54548	2.60	ppm	99
27) Chrysene	12.122	228	55983	2.54	ppm	98
29) Benzo[b]fluoranthene	13.090	252	51433	2.48	ppm	99
30) Benzo[k]fluoranthene	13.113	252	50810	2.46	ppm	99
31) Benzo[a]pyrene	13.374	252	49770	2.41	ppm	96
32) Indeno[1,2,3-cd]pyrene	14.526	276	56067	2.54	ppm	67
33) Dibenz[a,h]anthracene	14.555	278	47281	2.54	ppm	95
34) Benzo[g,h,i]perylene	14.843	276	49617	2.51	ppm	100
36) 1,4-Dioxane	2.145	88	5992	2.44	ppm	77
37) 1-Methylnaphthalene	7.109	142	27302	2.55	ppm	100
39) 4,6-dinitro-2-methylph...	8.618	198	17136	17.78	ppm #	60

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100253.D
Acq On : 28 May 2021 11:18 am
Operator : hennys
Sample : ic4670-2.5
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 28 12:45:14 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration

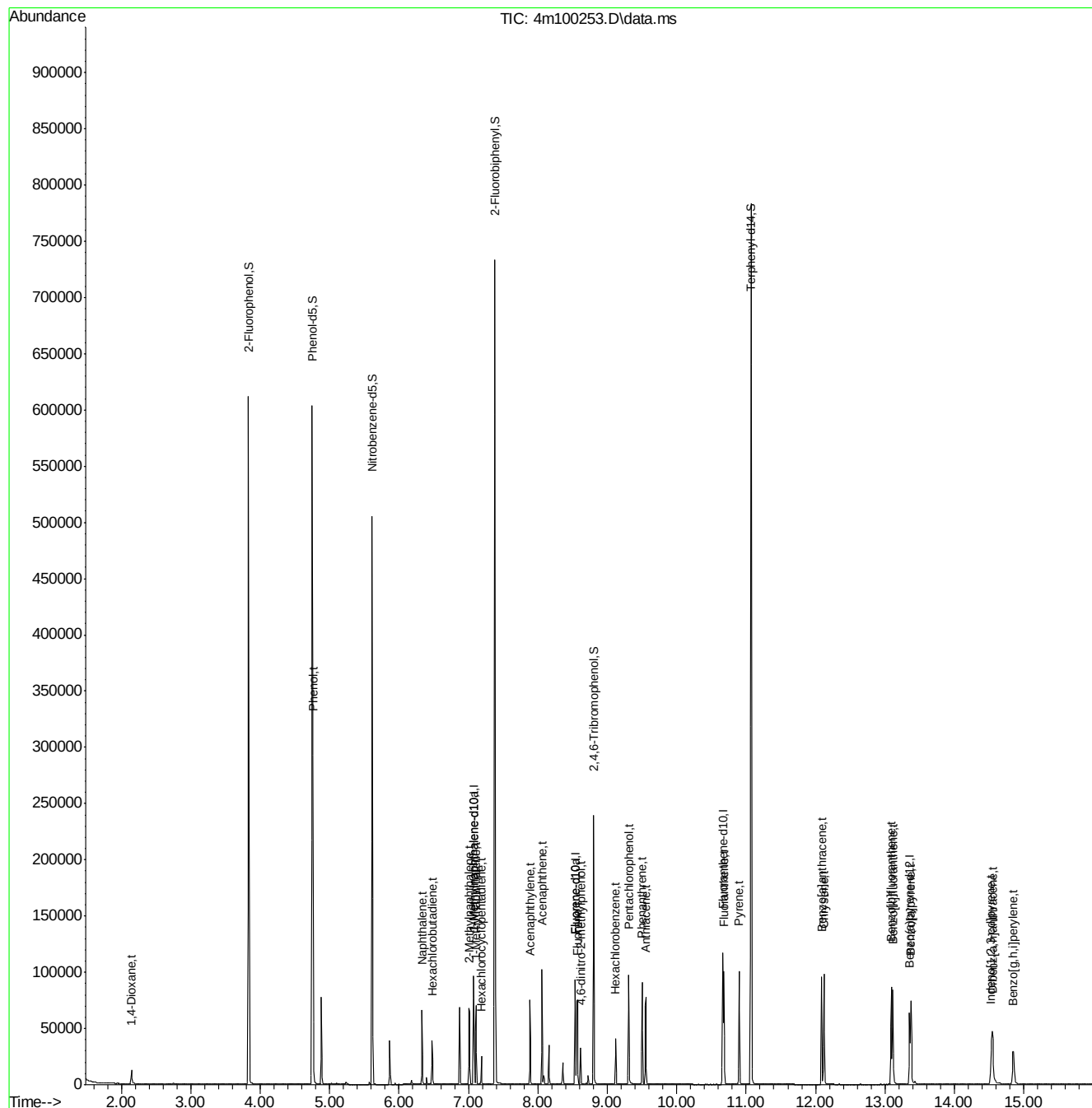
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100253.D
Acq On : 28 May 2021 11:18 am
Operator : hennys
Sample : ic4670-2.5
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 28 12:45:14 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100254.D
 Acq On : 28 May 2021 11:39 am
 Operator : hennys
 Sample : icc4670-1
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 12:42:48 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 10:34:35 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	34020	4.00	ppm	-0.01
12) Fluorene-d10	8.539	176	41079	4.00	ppm	-0.01
22) Fluoranthene-d10	10.660	212	72400	4.00	ppm	-0.02
28) Benzo(a)pyrene-d12	13.345	264	48870	4.00	ppm	-0.02
35) 1-Methylnaphthalene-d10a	7.076	152	34020	4.00	ppm	-0.01
38) Fluorene-d10a	8.539	176	41079	4.00	ppm	-0.01
System Monitoring Compounds						
2) 2-Fluorophenol	3.834	112	97221	21.15	ppm	-0.02
Spiked Amount 50.000	Range 11 - 58		Recovery =	42.30%		
3) Phenol-d5	4.750	99	127149	20.98	ppm	0.00
Spiked Amount 50.000			Recovery =	41.96%		
6) Nitrobenzene-d5	5.616	82	116821	24.83	ppm	-0.01
Spiked Amount 50.000			Recovery =	49.66%		
11) 2-Fluorobiphenyl	7.383	172	211117	17.61	ppm	0.00
Spiked Amount 50.000			Recovery =	35.22%		
17) 2,4,6-Tribromophenol	8.804	330	37281	29.70	ppm	-0.01
Spiked Amount 50.000			Recovery =	59.40%		
25) Terphenyl-d14	11.069	244	221938	18.65	ppm	-0.02
Spiked Amount 50.000			Recovery =	37.30%		
Target Compounds						
					Qvalue	
4) Phenol	4.761	94	37133	5.46	ppm	83
7) Naphthalene	6.334	128	17529	1.00	ppm	99
8) Hexachlorobutadiene	6.477	225	4426	0.93	ppm	94
9) 2-Methylnaphthalene	7.010	142	11962	1.03	ppm	94
10) Hexachlorocyclopentadiene	7.186	237	3853	2.88	ppm	96
13) Acenaphthylene	7.885	152	17349	1.09	ppm	99
14) Acenaphthene	8.060	153	12128	1.04	ppm	99
16) Fluorene	8.561	166	13784	1.00	ppm	90
18) Hexachlorobenzene	9.120	284	5351	0.94	ppm	96
19) Pentachlorophenol	9.301	266	13295	7.95	ppm	84
20) Phenanthrene	9.503	178	20442	0.99	ppm	99
21) Anthracene	9.550	178	20136	1.13	ppm	97
23) Fluoranthene	10.679	202	24141	0.91	ppm	99
24) Pyrene	10.898	202	24064	1.05	ppm	99
26) Benzo[a]anthracene	12.082	228	20932	1.38	ppm	99
27) Chrysene	12.116	228	22018	1.13	ppm	99
29) Benzo[b]fluoranthene	13.084	252	20131	1.25	ppm	97
30) Benzo[k]fluoranthene	13.108	252	20044	1.06	ppm	99
31) Benzo[a]pyrene	13.365	252	20054	0.89	ppm	98
32) Indeno[1,2,3-cd]pyrene	14.526	276	21432	1.60	ppm	66
33) Dibenz[a,h]anthracene	14.546	278	18068	1.90	ppm	73
34) Benzo[g,h,i]perylene	14.834	276	19191	1.42	ppm	100
36) 1,4-Dioxane	2.145	88	2529m	0.96	ppm	
37) 1-Methylnaphthalene	7.109	142	11050	0.98	ppm	94
39) 4,6-dinitro-2-methylph...	8.611	198	4801	5.76	ppm	90

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100254.D
Acq On : 28 May 2021 11:39 am
Operator : hennys
Sample : icc4670-1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 12:42:48 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 10:34:35 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

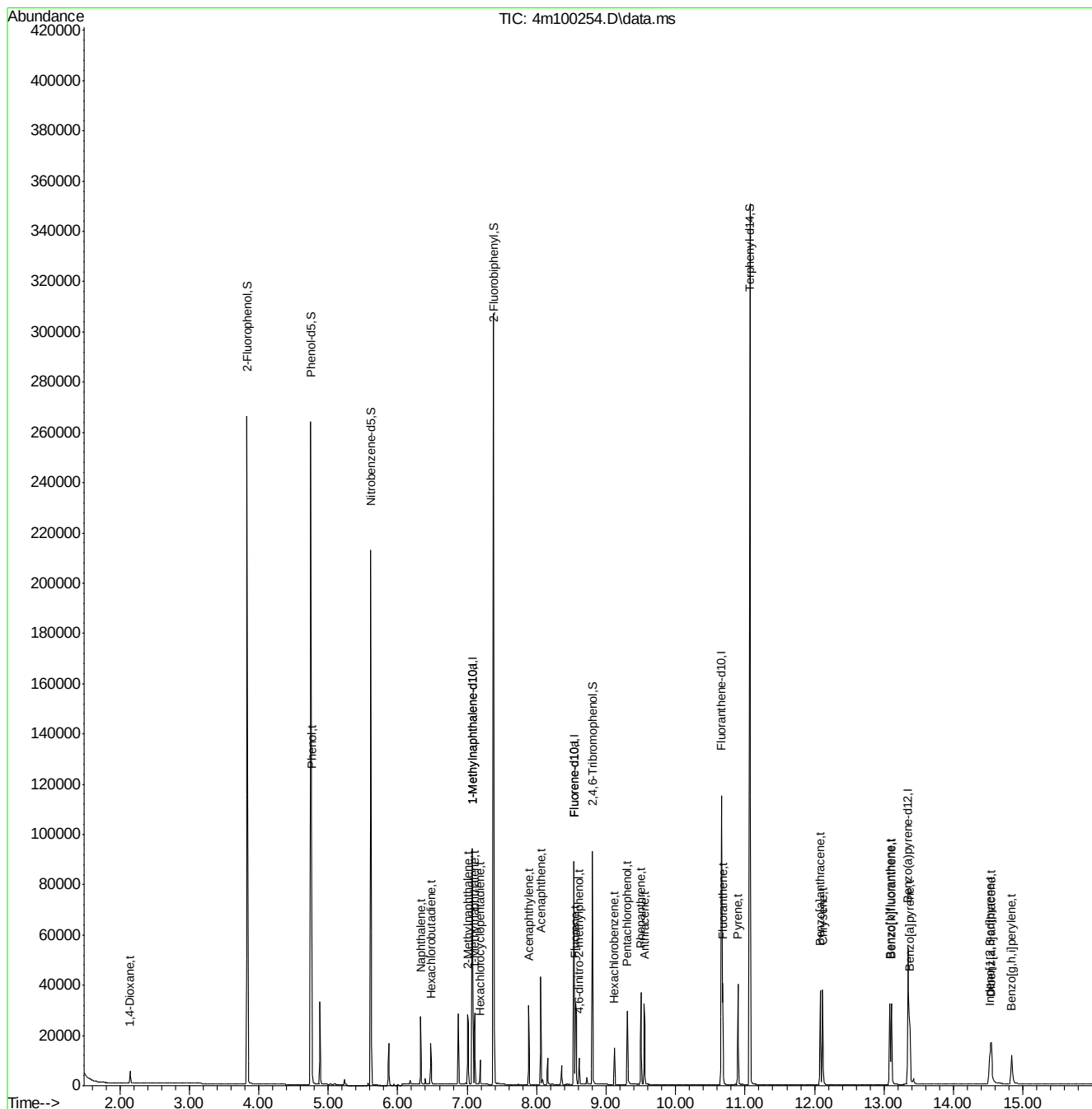
7.6.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100254.D
Acq On : 28 May 2021 11:39 am
Operator : hennys
Sample : icc4670-1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 12:42:48 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 10:34:35 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: E4M4670-ICC4670

Method: SW846 8270E BY SIM

Lab FileID: 4M100254.D

Analyst approved: 05/28/21 15:33 Ying Li

Injection Time: 05/28/21 11:39

Supervisor approved: 05/28/21 16:54 Nina Pandya

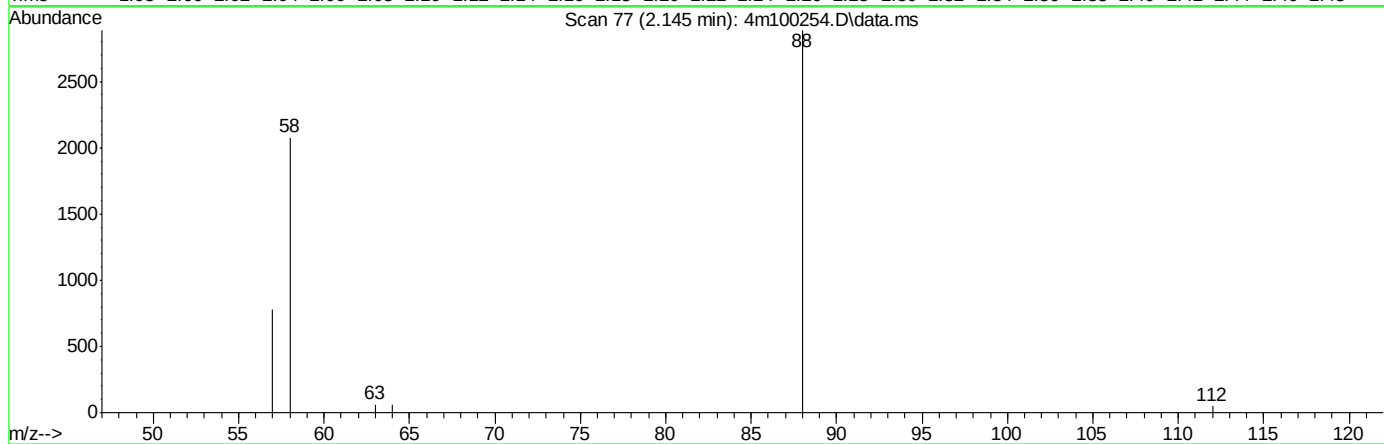
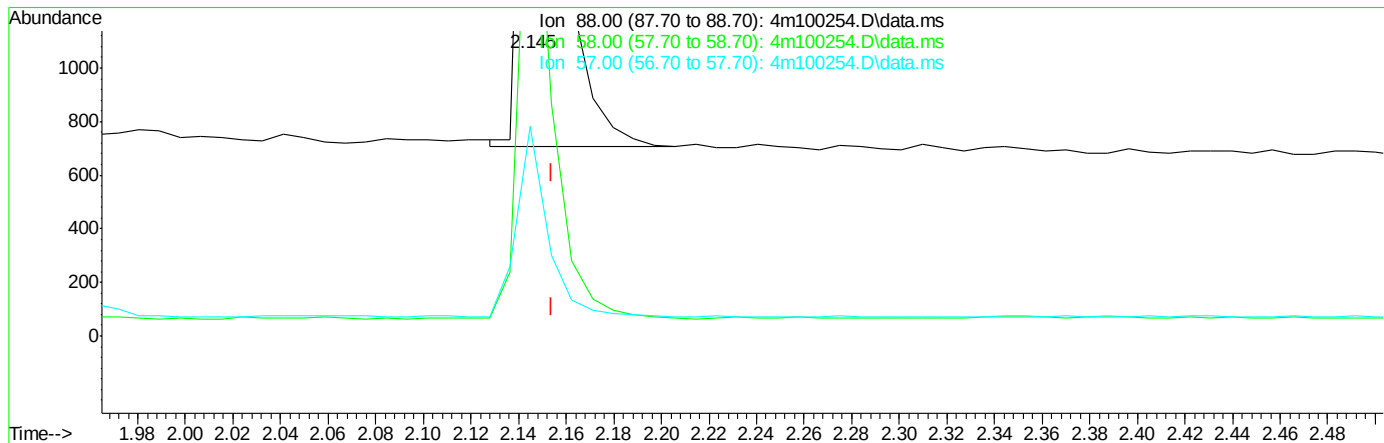
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		2.15	Poor instrument integration

7.6.3.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100254.D
Acq On : 28 May 2021 11:39 am
Operator : hennys
Sample : icc4670-1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 12:40:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 10:34:35 2021
Response via : Initial Calibration



TIC: 4m100254.D\data.ms

(36) 1,4-Dioxane (t)

2.145min (-0.009) 0.98ppm

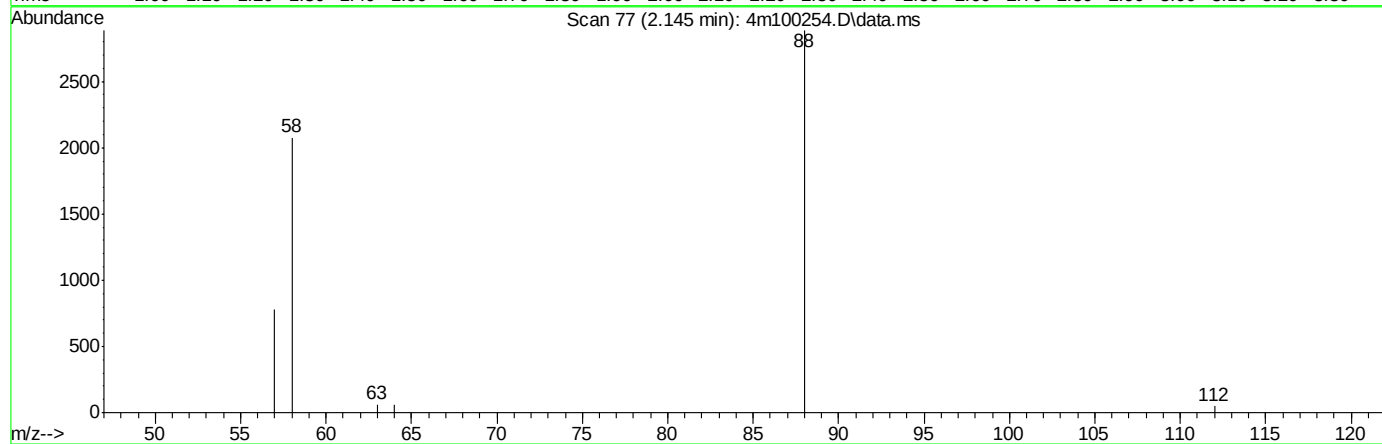
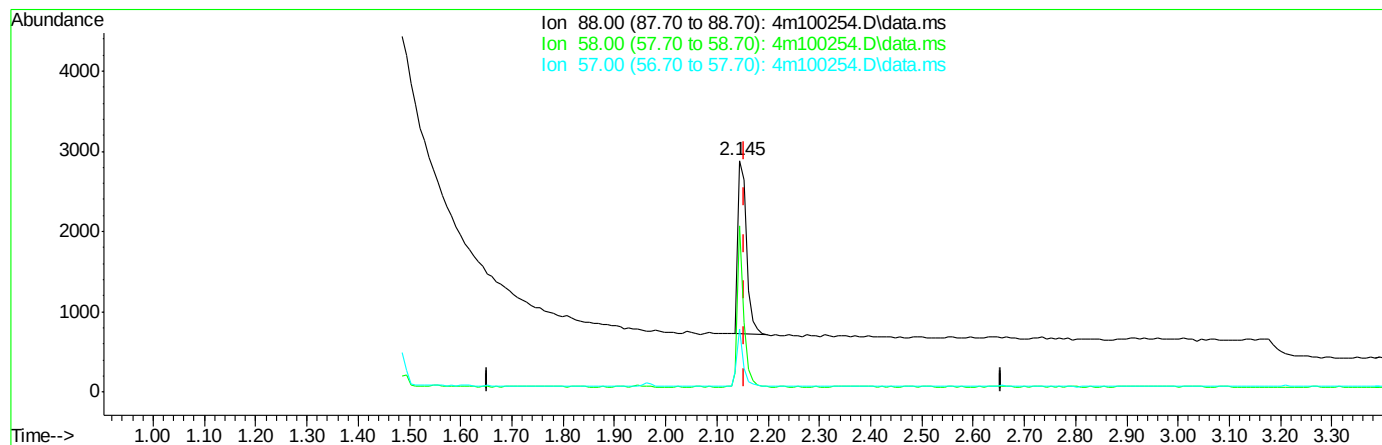
response 2588

Ion	Exp%	Act%
88.00	100	100
58.00	66.00	92.75#
57.00	22.60	32.69
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100254.D
Acq On : 28 May 2021 11:39 am
Operator : hennys
Sample : icc4670-1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 12:40:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 10:34:35 2021
Response via : Initial Calibration



TIC: 4m100254.D\data.ms

(36) 1,4-Dioxane (t)

2.145min (-0.009) 0.96ppm m

response 2529

Ion	Exp%	Act%
88.00	100	100
58.00	66.00	71.97
57.00	22.60	27.06
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100255.D
 Acq On : 28 May 2021 12:00 pm
 Operator : hennys
 Sample : ic4670-0.5
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 28 12:46:42 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 12:43:31 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	34982	4.00	ppm	0.00
12) Fluorene-d10	8.540	176	42940	4.00	ppm	0.00
22) Fluoranthene-d10	10.660	212	76458	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.345	264	52287	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	34982	4.00	ppm	0.00
38) Fluorene-d10a	8.540	176	42940	4.00	ppm	0.00

System Monitoring Compounds

2) 2-Fluorophenol	3.834	112	51437	10.29	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	20.58%
3) Phenol-d5	4.750	99	68642	10.50	ppm	0.00
Spiked Amount	50.000			Recovery	=	21.00%
6) Nitrobenzene-d5	5.616	82	62259	10.37	ppm	0.00
Spiked Amount	50.000			Recovery	=	20.74%
11) 2-Fluorobiphenyl	7.376	172	116769	10.76	ppm	0.00
Spiked Amount	50.000			Recovery	=	21.52%
17) 2,4,6-Tribromophenol	8.804	330	19368	9.94	ppm	0.00
Spiked Amount	50.000			Recovery	=	19.88%
25) Terphenyl-d14	11.065	244	124231	10.60	ppm	0.00
Spiked Amount	50.000			Recovery	=	21.20%

Target Compounds

						Qvalue
4) Phenol	4.761	94	19527	2.56	ppm	97
7) Naphthalene	6.334	128	9076	0.50	ppm	99
8) Hexachlorobutadiene	6.477	225	2295	0.50	ppm	99
9) 2-Methylnaphthalene	7.010	142	6159	0.50	ppm	99
10) Hexachlorocyclopentadiene	7.186	237	1851	0.93	ppm	98
13) Acenaphthylene	7.885	152	8952	0.49	ppm	99
14) Acenaphthene	8.060	153	6218	0.49	ppm	99
16) Fluorene	8.561	166	7292	0.51	ppm	99
18) Hexachlorobenzene	9.114	284	2815	0.50	ppm	81
19) Pentachlorophenol	9.301	266	6251	2.25	ppm	98
20) Phenanthrene	9.503	178	10594	0.50	ppm	100
21) Anthracene	9.550	178	10203	0.48	ppm	99
23) Fluoranthene	10.675	202	12843	0.50	ppm	99
24) Pyrene	10.898	202	12426	0.49	ppm	99
26) Benzo[a]anthracene	12.082	228	10722	0.49	ppm	98
27) Chrysene	12.117	228	11454	0.49	ppm	98
29) Benzo[b]fluoranthene	13.081	252	10453	0.49	ppm	99
30) Benzo[k]fluoranthene	13.105	252	10664	0.50	ppm	99
31) Benzo[a]pyrene	13.365	252	10920	0.51	ppm	97
32) Indeno[1,2,3-cd]pyrene	14.517	276	11287	0.49	ppm	71
33) Dibenz[a,h]anthracene	14.536	278	9141	0.47	ppm	81
34) Benzo[g,h,i]perylene	14.834	276	10021	0.49	ppm	100
36) 1,4-Dioxane	2.154	88	1258m	0.48	ppm	
37) 1-Methylnaphthalene	7.109	142	5809	0.51	ppm	99
39) 4,6-dinitro-2-methylph...	8.611	198	1980	1.97	ppm	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100255.D
Acq On : 28 May 2021 12:00 pm
Operator : hennys
Sample : ic4670-0.5
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 28 12:46:42 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

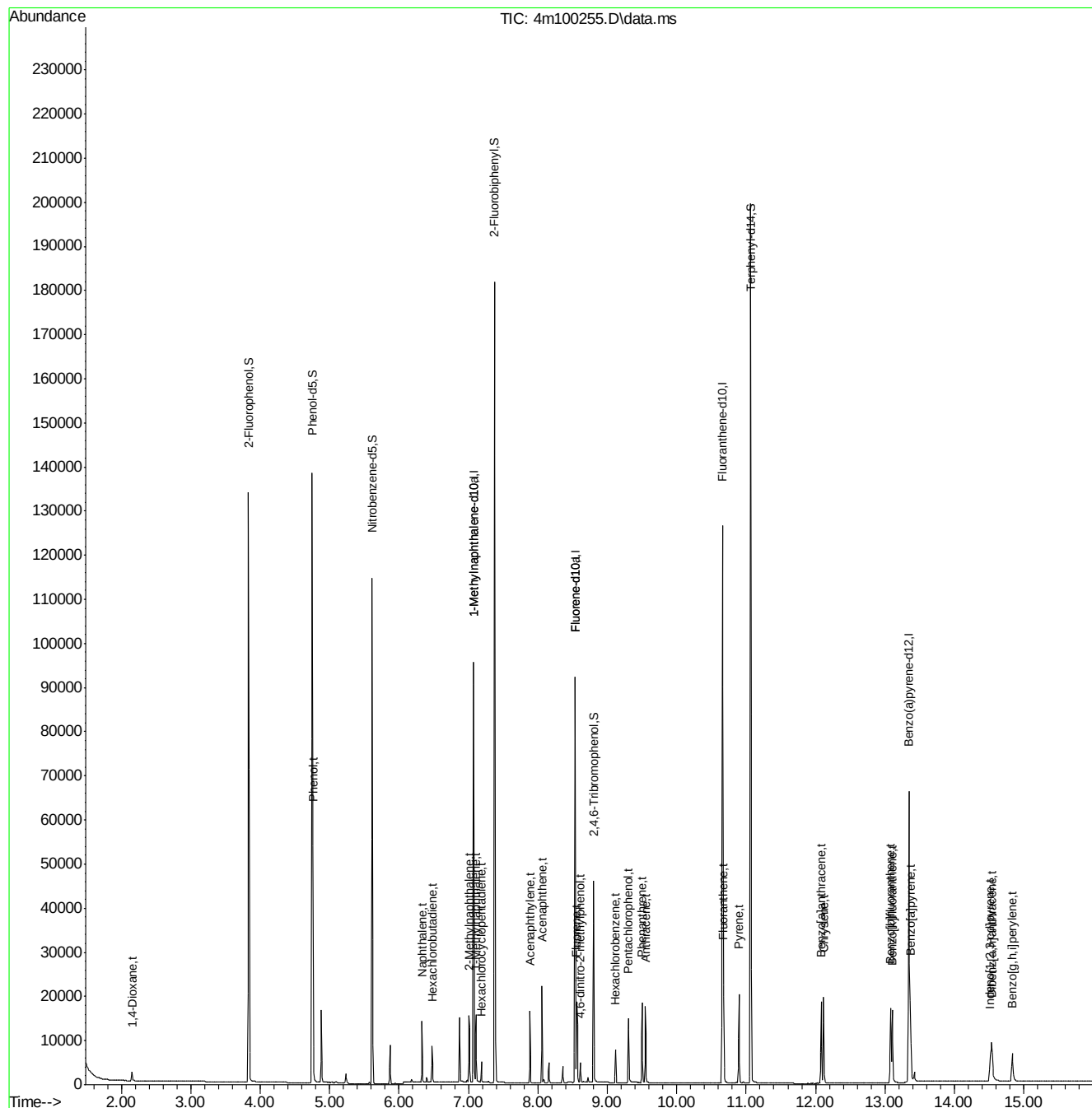
7.6.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100255.D
Acq On : 28 May 2021 12:00 pm
Operator : hennys
Sample : ic4670-0.5
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 28 12:46:42 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration



M4M4670SIM.M Fri May 28 15:33:12 2021

Page: 3

7.6.4

Manual Integration Approval Summary

Sample Number:

E4M4670-IC4670

Method:

SW846 8270E BY SIM

Lab FileID:

4M100255.D

Analyst approved:

05/28/21 15:33 Ying Li

Injection Time:

05/28/21 12:00

Supervisor approved:

05/28/21 16:54 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason

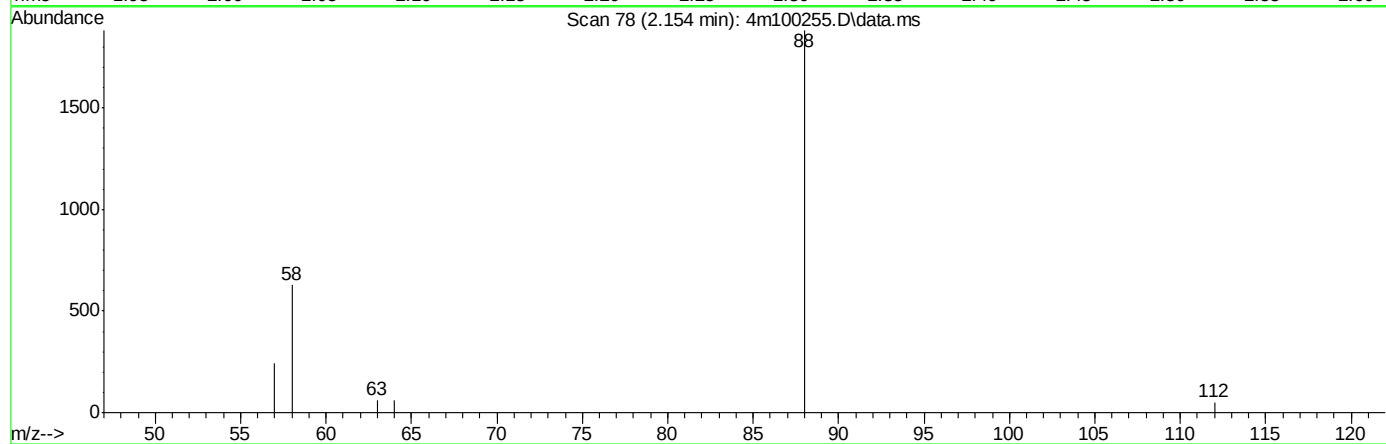
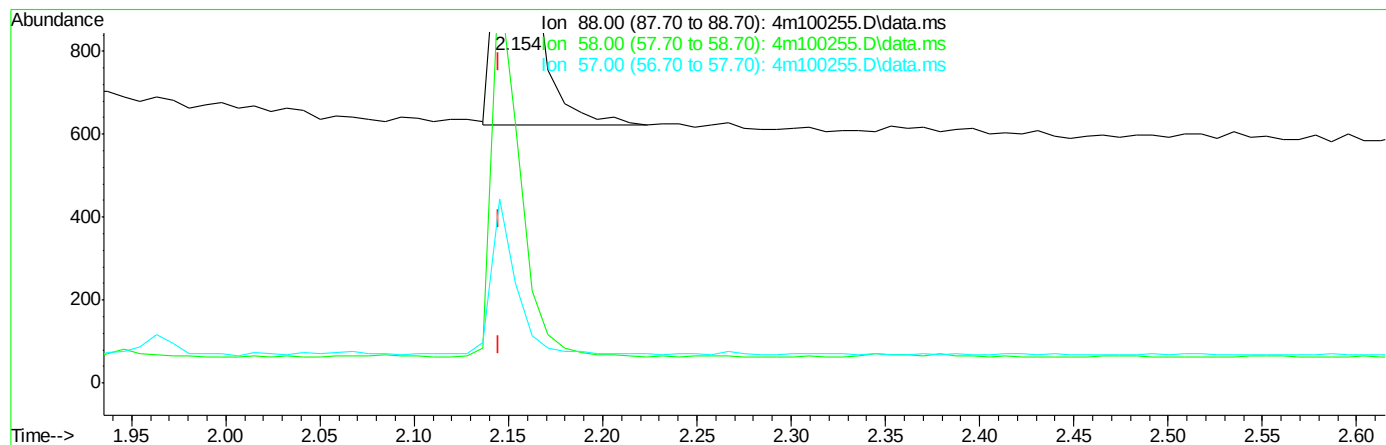
1,4-Dioxane	123-91-1		2.15	Poor instrument integration

7.6.4.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100255.D
Acq On : 28 May 2021 12:00 pm
Operator : hennys
Sample : ic4670-0.5
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 28 12:45:51 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration



TIC: 4m100255.D\data.ms

(36) 1,4-Dioxane (t)

2.154min (+0.009) 0.50ppm

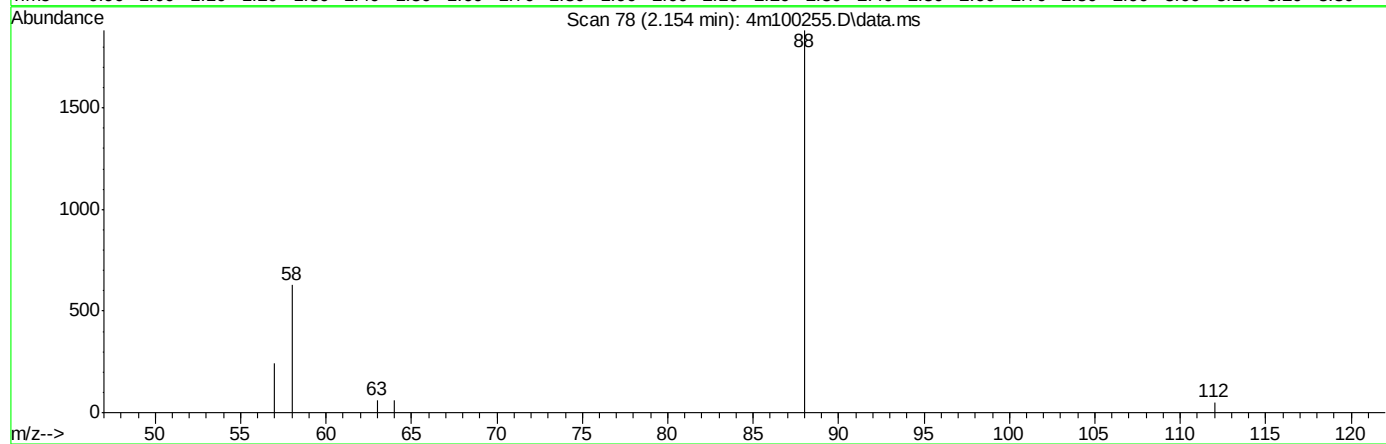
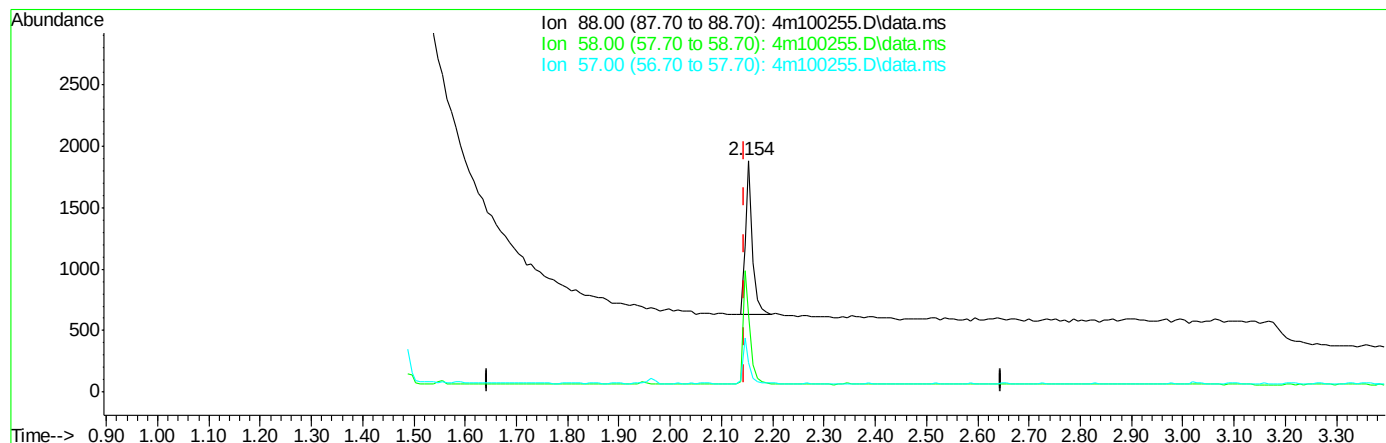
response 1299

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	44.13#
57.00	27.10	12.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100255.D
Acq On : 28 May 2021 12:00 pm
Operator : hennys
Sample : ic4670-0.5
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 28 12:45:51 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration



TIC: 4m100255.D\data.ms

(36) 1,4-Dioxane (t)

2.154min (+0.009) 0.48ppm m

response 1258

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	33.37#
57.00	27.10	12.81
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100256.D
 Acq On : 28 May 2021 12:21 pm
 Operator : hennys
 Sample : ic4670-0.2
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 28 12:48:10 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 12:43:31 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	36824	4.00	ppm	0.00
12) Fluorene-d10	8.540	176	44815	4.00	ppm	0.00
22) Fluoranthene-d10	10.660	212	79184	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.345	264	53091	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	36824	4.00	ppm	0.00
38) Fluorene-d10a	8.540	176	44815	4.00	ppm	0.00

System Monitoring Compounds

2) 2-Fluorophenol	3.843	112	22833	4.34	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	8.68%#
3) Phenol-d5	4.750	99	30356	4.41	ppm	0.00
Spiked Amount	50.000			Recovery	=	8.82%
6) Nitrobenzene-d5	5.616	82	27035	4.28	ppm	0.00
Spiked Amount	50.000			Recovery	=	8.56%
11) 2-Fluorobiphenyl	7.376	172	52790	4.62	ppm	0.00
Spiked Amount	50.000			Recovery	=	9.24%
17) 2,4,6-Tribromophenol	8.804	330	7748	3.81	ppm	0.00
Spiked Amount	50.000			Recovery	=	7.62%
25) Terphenyl-d14	11.069	244	54292	4.47	ppm	0.00
Spiked Amount	50.000			Recovery	=	8.94%

Target Compounds

						Qvalue
4) Phenol	4.761	94	8322	1.04	ppm	98
7) Naphthalene	6.334	128	3875	0.20	ppm	99
8) Hexachlorobutadiene	6.477	225	981	0.20	ppm	98
9) 2-Methylnaphthalene	7.010	142	2534	0.20	ppm	100
10) Hexachlorocyclopentadiene	7.186	237	755	0.36	ppm	99
13) Acenaphthylene	7.885	152	3684	0.19	ppm	99
14) Acenaphthene	8.060	153	2638	0.20	ppm	96
16) Fluorene	8.561	166	2986	0.20	ppm	99
18) Hexachlorobenzene	9.114	284	1197	0.21	ppm	80
19) Pentachlorophenol	9.301	266	2242	0.77	ppm	100
20) Phenanthrene	9.503	178	4418	0.20	ppm	100
21) Anthracene	9.550	178	4189	0.19	ppm	99
23) Fluoranthene	10.675	202	5395	0.20	ppm	99
24) Pyrene	10.898	202	5092	0.19	ppm	100
26) Benzo[a]anthracene	12.082	228	4171	0.18	ppm	99
27) Chrysene	12.117	228	4480	0.19	ppm	100
29) Benzo[b]fluoranthene	13.084	252	4154	0.19	ppm	99
30) Benzo[k]fluoranthene	13.105	252	3992	0.18	ppm	98
31) Benzo[a]pyrene	13.365	252	4579	0.21	ppm	99
32) Indeno[1,2,3-cd]pyrene	14.517	276	4272	0.18	ppm	67
33) Dibenz[a,h]anthracene	14.536	278	3525	0.18	ppm	# 64
34) Benzo[g,h,i]perylene	14.834	276	3899	0.19	ppm	100
36) 1,4-Dioxane	2.154	88	543m	0.20	ppm	
37) 1-Methylnaphthalene	7.109	142	2442	0.20	ppm	98
39) 4,6-dinitro-2-methylph...	8.611	198	667	0.64	ppm	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100256.D
Acq On : 28 May 2021 12:21 pm
Operator : hennys
Sample : ic4670-0.2
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 28 12:48:10 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

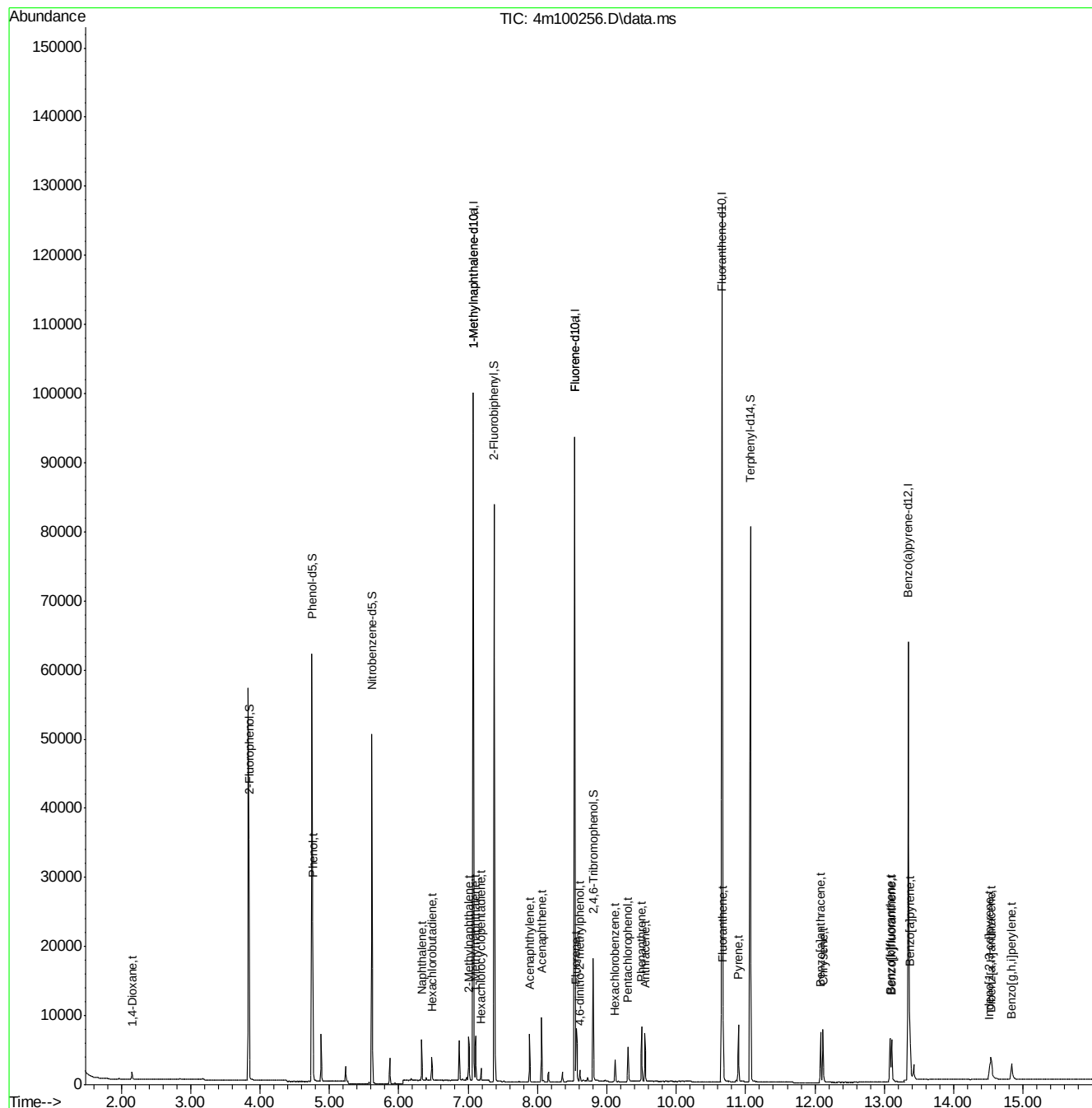
7.6.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100256.D
Acq On : 28 May 2021 12:21 pm
Operator : hennys
Sample : ic4670-0.2
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 28 12:48:10 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: E4M4670-IC4670

Method: SW846 8270E BY SIM

Lab FileID: 4M100256.D

Analyst approved: 05/28/21 15:33 Ying Li

Injection Time: 05/28/21 12:21

Supervisor approved: 05/28/21 16:54 Nina Pandya

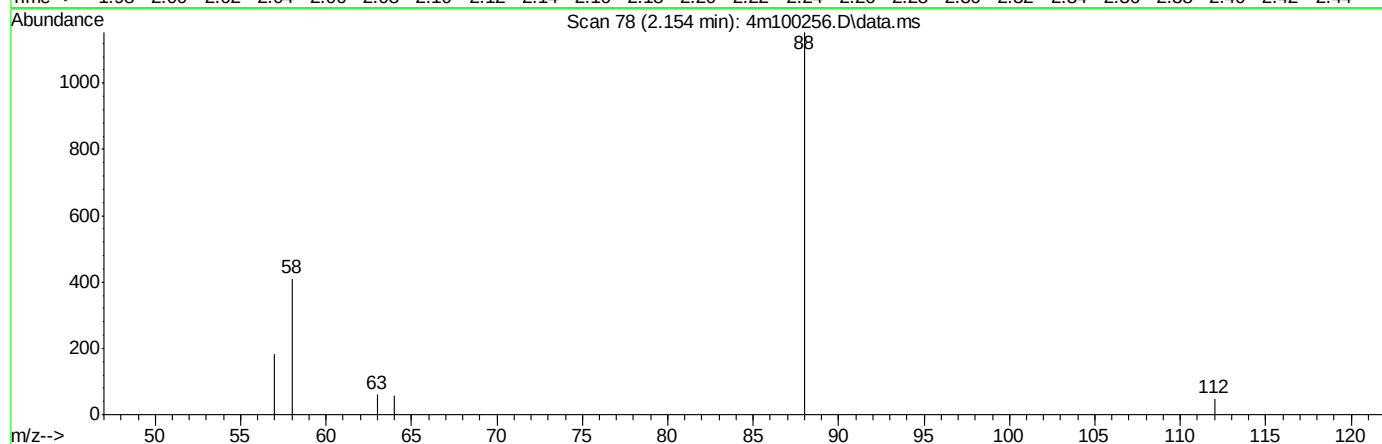
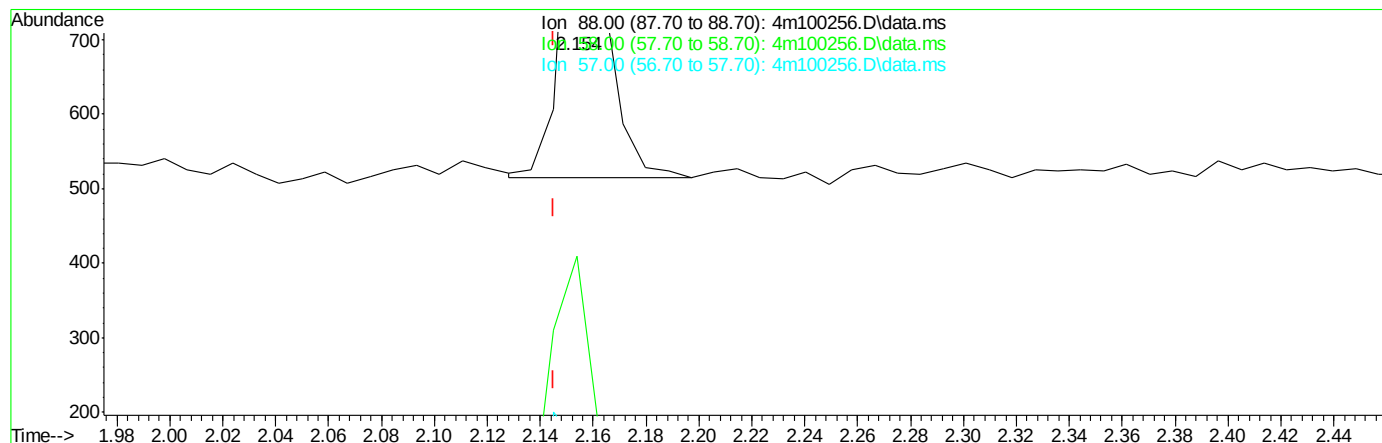
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		2.15	Poor instrument integration

7.6.5.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100256.D
Acq On : 28 May 2021 12:21 pm
Operator : hennys
Sample : ic4670-0.2
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 28 12:47:11 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration



TIC: 4m100256.D\data.ms

(36) 1,4-Dioxane (t)

2.154min (+0.009) 0.21ppm

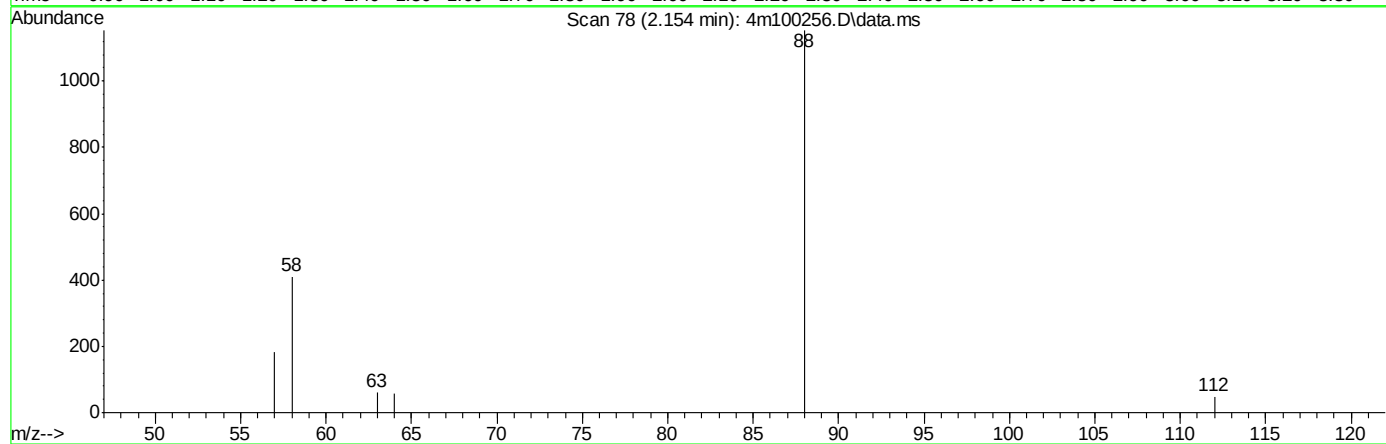
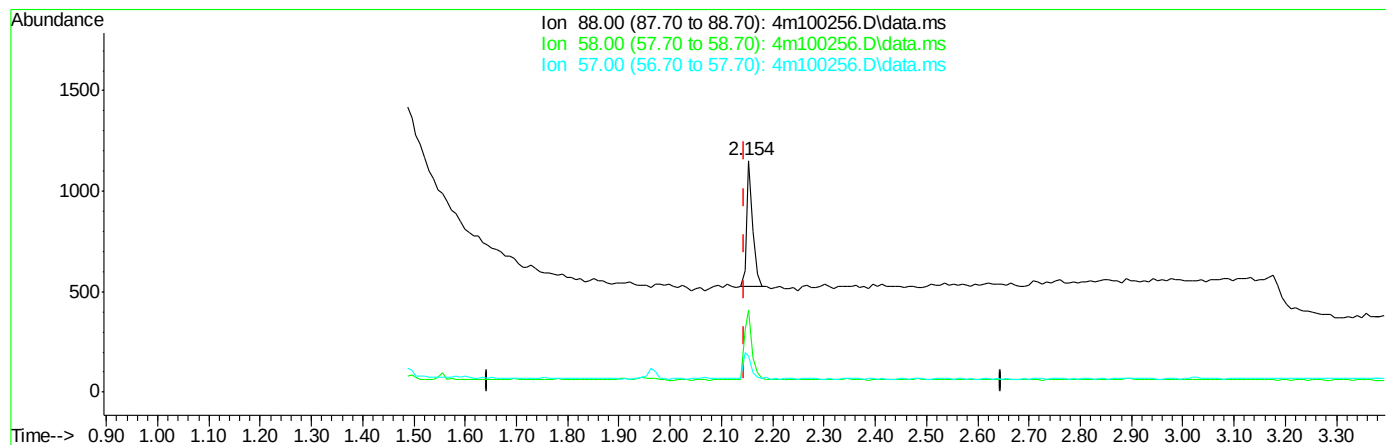
response 581

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	54.80
57.00	27.10	18.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100256.D
Acq On : 28 May 2021 12:21 pm
Operator : hennys
Sample : ic4670-0.2
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 28 12:47:11 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:43:31 2021
Response via : Initial Calibration



TIC: 4m100256.D\data.ms

(36) 1,4-Dioxane (t)

2.154min (+0.009) 0.20ppm m

response 543

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	35.56#
57.00	27.10	15.78
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100257.D
 Acq On : 28 May 2021 12:42 pm
 Operator : hennys
 Sample : ic4670-0.1
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 28 13:02:30 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 12:49:56 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	34457	4.00	ppm	0.00
12) Fluorene-d10	8.540	176	42548	4.00	ppm	0.00
22) Fluoranthene-d10	10.660	212	76280	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.345	264	51706	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	34457	4.00	ppm	0.00
38) Fluorene-d10a	8.540	176	42548	4.00	ppm	0.00

System Monitoring Compounds

2) 2-Fluorophenol	3.843	112	10608	2.20	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	4.40%#
3) Phenol-d5	4.750	99	14149	2.22	ppm	0.00
Spiked Amount	50.000			Recovery	=	4.44%
6) Nitrobenzene-d5	5.616	82	12524	2.15	ppm	0.00
Spiked Amount	50.000			Recovery	=	4.30%
11) 2-Fluorobiphenyl	7.376	172	25810	2.42	ppm	0.00
Spiked Amount	50.000			Recovery	=	4.84%
17) 2,4,6-Tribromophenol	8.797	330	3456	1.84	ppm	0.00
Spiked Amount	50.000			Recovery	=	3.68%
25) Terphenyl-d14	11.069	244	26474	2.30	ppm	0.00
Spiked Amount	50.000			Recovery	=	4.60%

Target Compounds

						Qvalue
4) Phenol	4.761	94	3893	0.52	ppm	100
7) Naphthalene	6.334	128	1794	0.10	ppm	99
8) Hexachlorobutadiene	6.477	225	458	0.10	ppm	99
9) 2-Methylnaphthalene	7.010	142	1176	0.10	ppm	96
10) Hexachlorocyclopentadiene	7.186	237	328	0.17	ppm	99
13) Acenaphthylene	7.885	152	1691	0.09	ppm	99
14) Acenaphthene	8.060	153	1249	0.10	ppm	99
16) Fluorene	8.561	166	1414	0.10	ppm	93
18) Hexachlorobenzene	9.120	284	567	0.10	ppm	99
19) Pentachlorophenol	9.301	266	947	0.35	ppm	100
20) Phenanthrene	9.503	178	2082	0.10	ppm	99
21) Anthracene	9.550	178	1892	0.09	ppm	97
23) Fluoranthene	10.679	202	2629	0.10	ppm	99
24) Pyrene	10.898	202	2392	0.10	ppm	97
26) Benzo[a]anthracene	12.082	228	1932	0.09	ppm	100
27) Chrysene	12.117	228	2126	0.09	ppm	98
29) Benzo[b]fluoranthene	13.084	252	1902	0.09	ppm	96
30) Benzo[k]fluoranthene	13.108	252	1862	0.09	ppm	97
31) Benzo[a]pyrene	13.365	252	2090	0.10	ppm	99
32) Indeno[1,2,3-cd]pyrene	14.527	276	1930	0.09	ppm	98
33) Dibenz[a,h]anthracene	14.546	278	1542	0.08	ppm	92
34) Benzo[g,h,i]perylene	14.843	276	1863	0.09	ppm	99
36) 1,4-Dioxane	2.154	88	219m	0.09	ppm	
37) 1-Methylnaphthalene	7.109	142	1160	0.10	ppm	100
39) 4,6-dinitro-2-methylph...	8.611	198	274	0.24	ppm	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100257.D
Acq On : 28 May 2021 12:42 pm
Operator : hennys
Sample : ic4670-0.1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 28 13:02:30 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:49:56 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

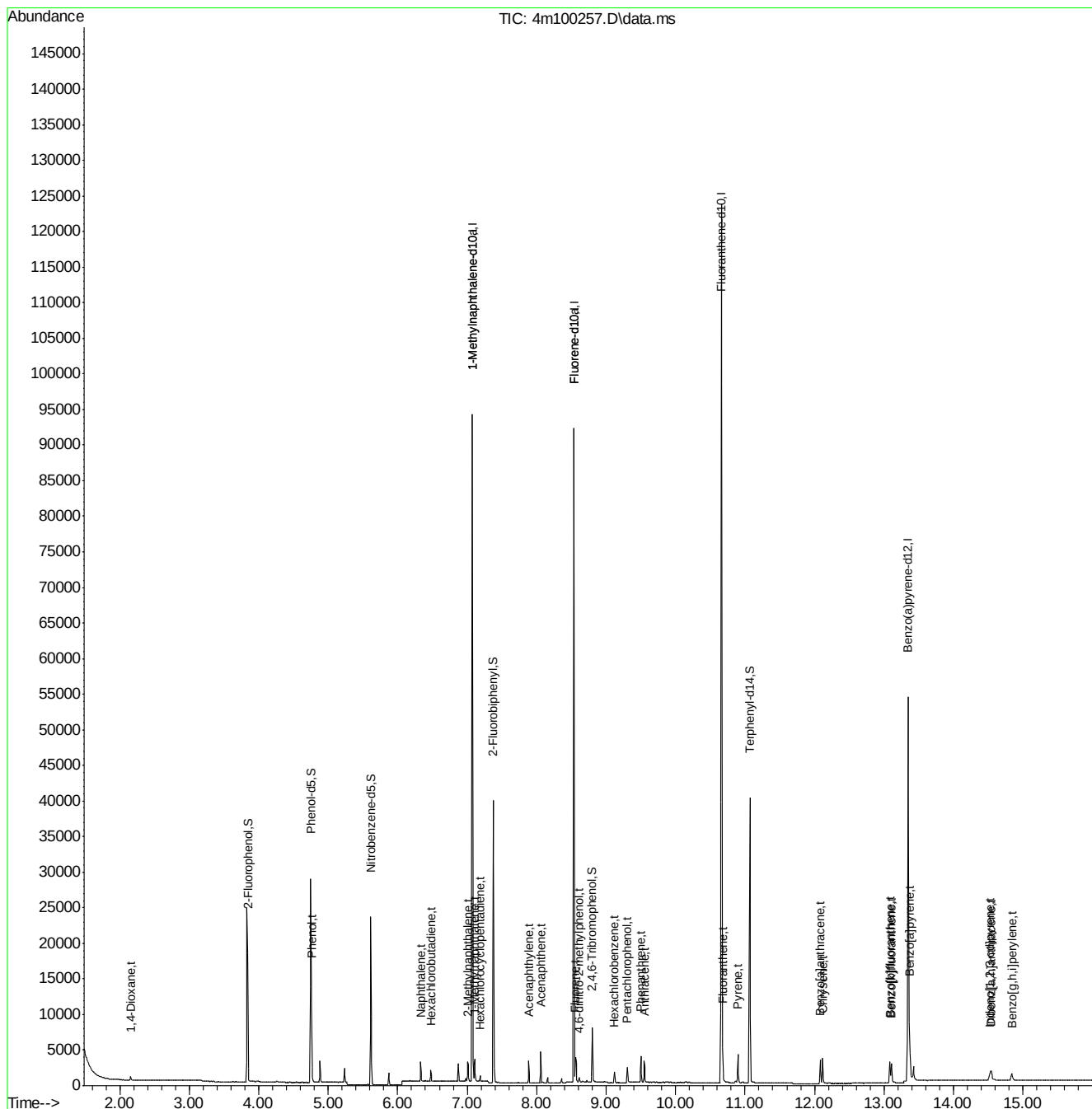
(#)=qualifier out of range (m)=manual integration (+)=signals summed						

7.6.6

7

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100257.D
Acq On : 28 May 2021 12:42 pm
Operator : hennys
Sample : ic4670-0.1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 28 13:02:30 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:49:56 2021
Response via : Initial Calibration



7.6.6

Manual Integration Approval Summary

Sample Number: E4M4670-IC4670

Method: SW846 8270E BY SIM

Lab FileID: 4M100257.D

Analyst approved: 05/28/21 15:33 Ying Li

Injection Time: 05/28/21 12:42

Supervisor approved: 05/28/21 16:54 Nina Pandya

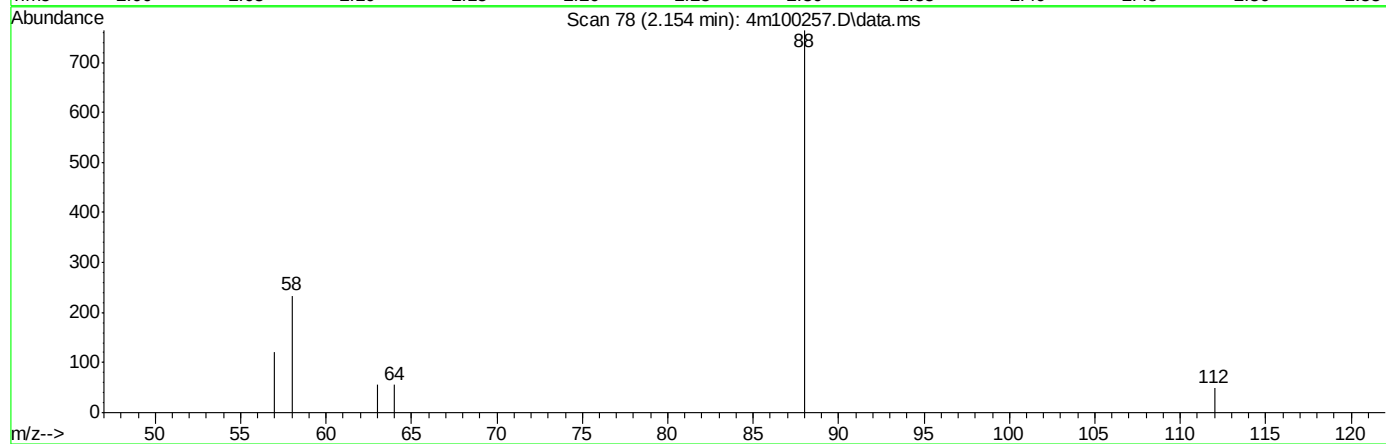
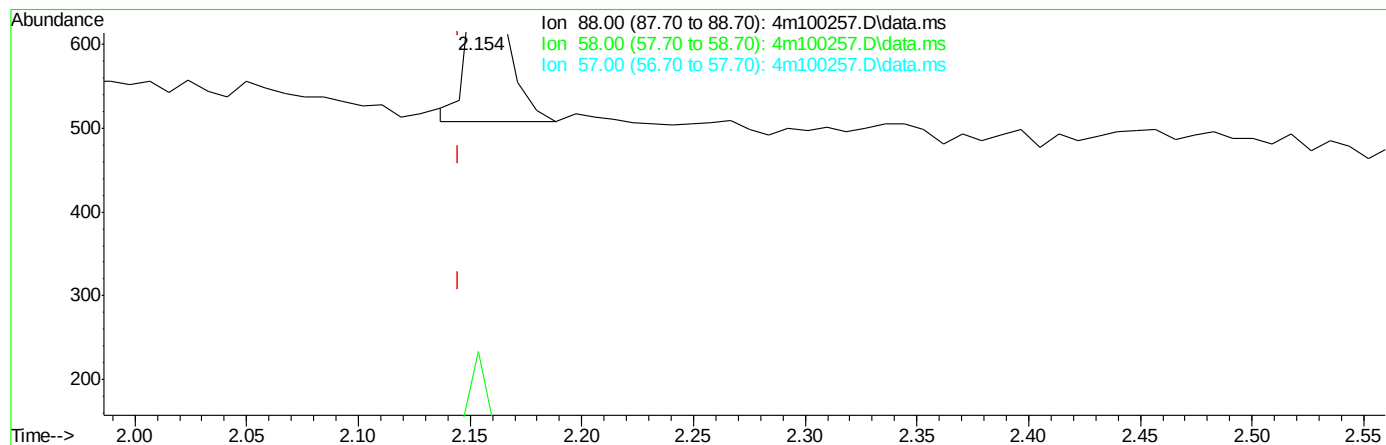
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		2.15	Poor instrument integration

7.6.6.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100257.D
Acq On : 28 May 2021 12:42 pm
Operator : hennys
Sample : ic4670-0.1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 28 13:01:38 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:49:56 2021
Response via : Initial Calibration



TIC: 4m100257.D\data.ms

(36) 1,4-Dioxane (t)

2.154min (+0.009) 0.11ppm

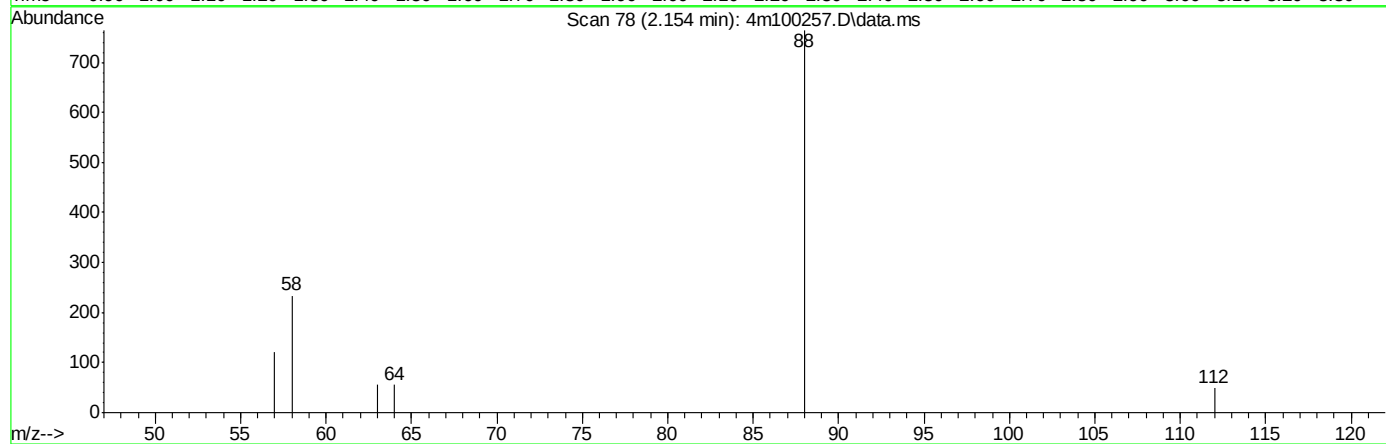
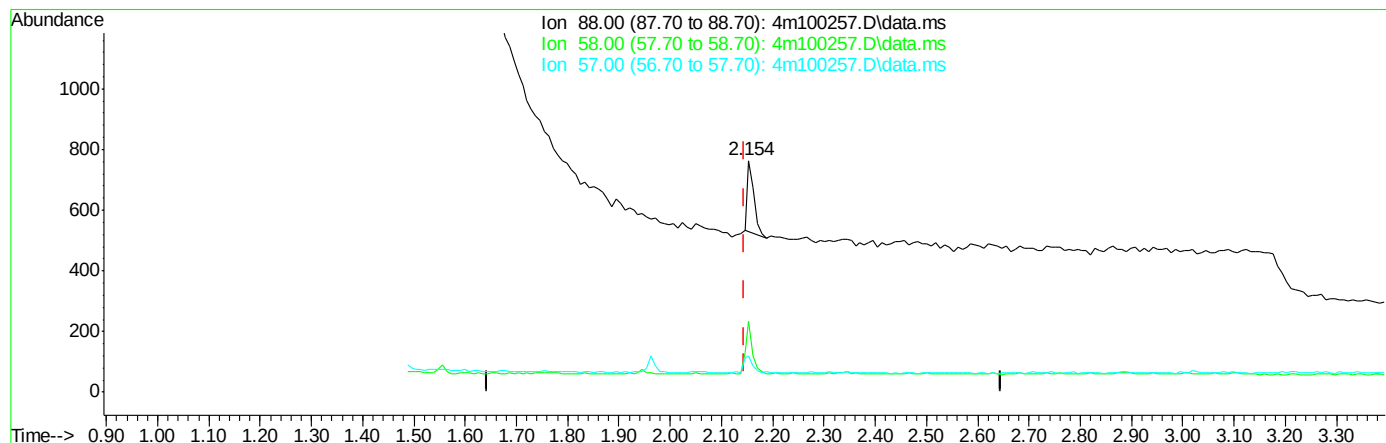
response 265

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	69.96
57.00	27.10	21.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100257.D
Acq On : 28 May 2021 12:42 pm
Operator : hennys
Sample : ic4670-0.1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 28 13:01:38 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 12:49:56 2021
Response via : Initial Calibration



TIC: 4m100257.D\data.ms

(36) 1,4-Dioxane (t)

2.154min (+0.009) 0.09ppm m

response 219

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	30.63#
57.00	27.10	15.71
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100258.D
 Acq On : 28 May 2021 1:02 pm
 Operator : hennys
 Sample : ic4670-0.05
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:23:33 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 13:02:55 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	34549	4.00	ppm	0.00
12) Fluorene-d10	8.539	176	41390	4.00	ppm	0.00
22) Fluoranthene-d10	10.660	212	74397	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.355	264	50592	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	34549	4.00	ppm	0.00
38) Fluorene-d10a	8.539	176	41390	4.00	ppm	0.00

System Monitoring Compounds

2) 2-Fluorophenol	3.843	112	5582	1.15	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	2.30%#
3) Phenol-d5	4.750	99	7412	1.16	ppm	0.00
Spiked Amount	50.000			Recovery	=	2.32%
6) Nitrobenzene-d5	5.616	82	6495	1.11	ppm	0.00
Spiked Amount	50.000			Recovery	=	2.22%
11) 2-Fluorobiphenyl	7.383	172	13841	1.29	ppm	0.00
Spiked Amount	50.000			Recovery	=	2.58%
17) 2,4,6-Tribromophenol	8.804	330	1688	0.93	ppm	0.00
Spiked Amount	50.000			Recovery	=	1.86%
25) Terphenyl-d14	11.068	244	13573	1.21	ppm	0.00
Spiked Amount	50.000			Recovery	=	2.42%

Target Compounds

						Qvalue
4) Phenol	4.761	94	2041	0.27	ppm	100
7) Naphthalene	6.333	128	949	0.05	ppm	100
8) Hexachlorobutadiene	6.476	225	240	0.05	ppm	95
9) 2-Methylnaphthalene	7.016	142	617	0.05	ppm	87
10) Hexachlorocyclopentadiene	7.186	237	175	0.09	ppm	100
13) Acenaphthylene	7.885	152	880	0.05	ppm	96
14) Acenaphthene	8.060	153	629	0.05	ppm	93
16) Fluorene	8.561	166	745	0.05	ppm	97
18) Hexachlorobenzene	9.120	284	293	0.05	ppm	98
19) Pentachlorophenol	9.308	266	480	0.18	ppm	83
20) Phenanthrene	9.503	178	1094	0.05	ppm	98
21) Anthracene	9.550	178	982	0.05	ppm	98
23) Fluoranthene	10.679	202	1367m	0.06	ppm	
24) Pyrene	10.898	202	1249	0.05	ppm	98
26) Benzo[a]anthracene	12.084	228	982	0.05	ppm	98
27) Chrysene	12.119	228	1060	0.05	ppm	99
29) Benzo[b]fluoranthene	13.087	252	942	0.05	ppm	96
30) Benzo[k]fluoranthene	13.108	252	888	0.04	ppm	99
31) Benzo[a]pyrene	13.374	252	1003m	0.05	ppm	
32) Indeno[1,2,3-cd]pyrene	14.526	276	949	0.04	ppm	75
33) Dibenz[a,h]anthracene	14.546	278	770	0.04	ppm	96
34) Benzo[g,h,i]perylene	14.843	276	938	0.05	ppm	99
36) 1,4-Dioxane	2.154	88	147m	0.06	ppm	
37) 1-Methylnaphthalene	7.109	142	614	0.05	ppm	99
39) 4,6-dinitro-2-methylph...	8.618	198	122	0.11	ppm #	67

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100258.D
Acq On : 28 May 2021 1:02 pm
Operator : hennys
Sample : ic4670-0.05
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:23:33 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

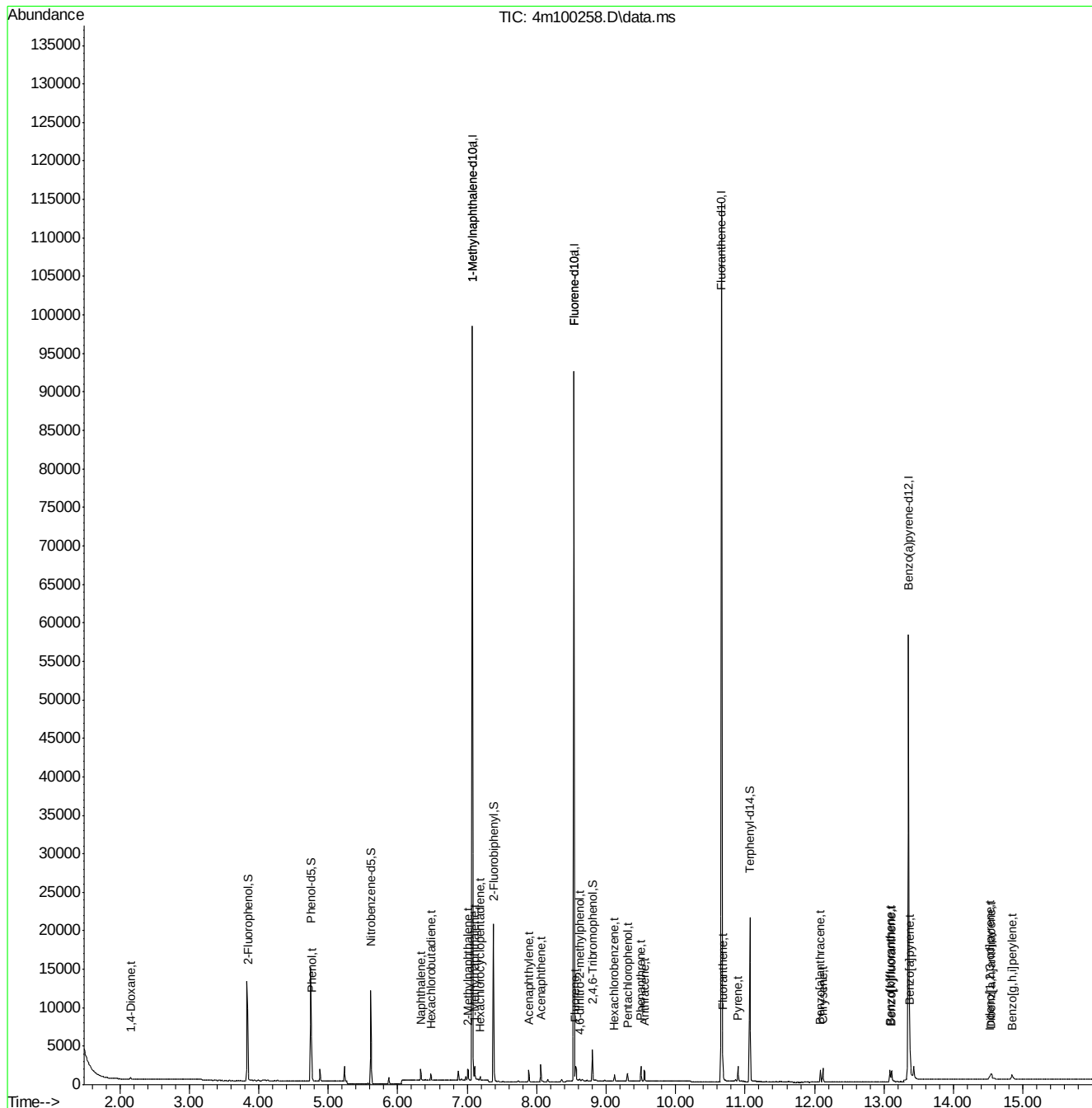
7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100258.D
Acq On : 28 May 2021 1:02 pm
Operator : hennys
Sample : ic4670-0.05
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:23:33 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: E4M4670-IC4670

Method: SW846 8270E BY SIM

Lab FileID: 4M100258.D

Analyst approved: 05/28/21 15:33 Ying Li

Injection Time: 05/28/21 13:02

Supervisor approved: 05/28/21 16:54 Nina Pandya

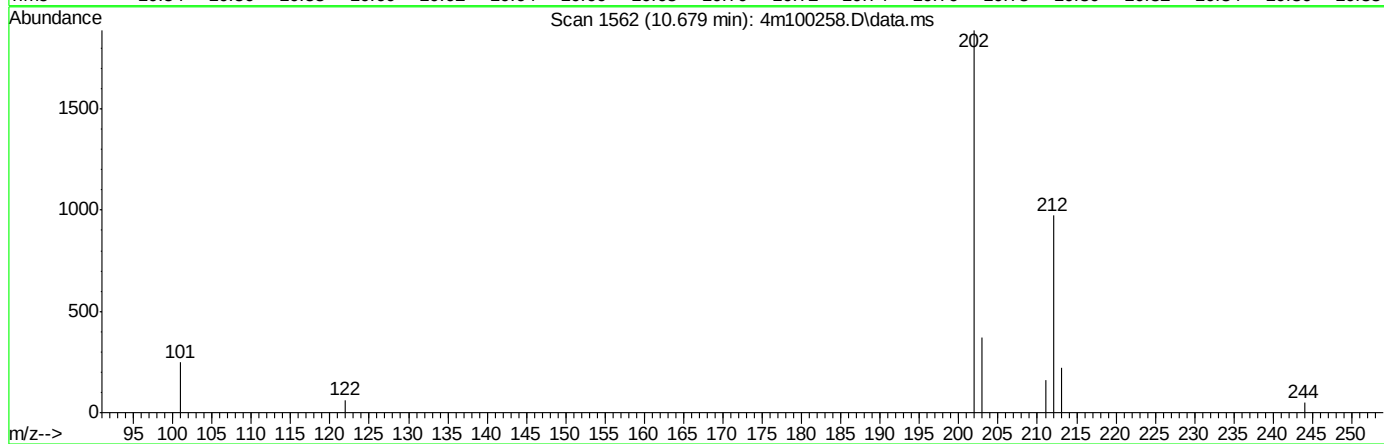
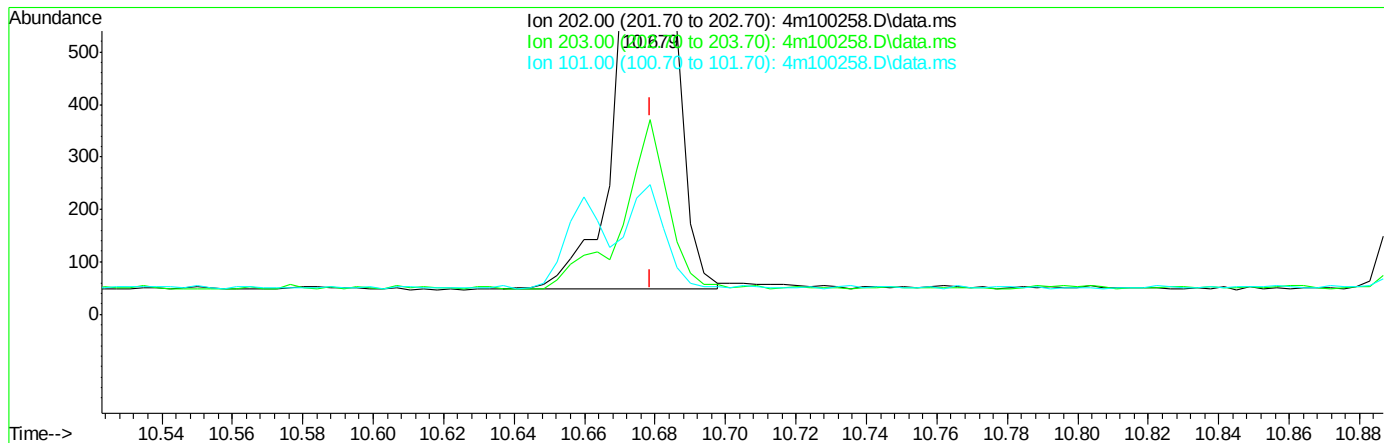
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		2.15	Poor instrument integration
Fluoranthene	206-44-0		10.68	Poor instrument integration
Benzo(a)pyrene	50-32-8		13.37	Poor instrument integration

7.6.7.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100258.D
Acq On : 28 May 2021 1:02 pm
Operator : hennys
Sample : ic4670-0.05
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:21:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100258.D\data.ms

(23) Fluoranthene (t)

10.679min (-0.000) 0.06ppm

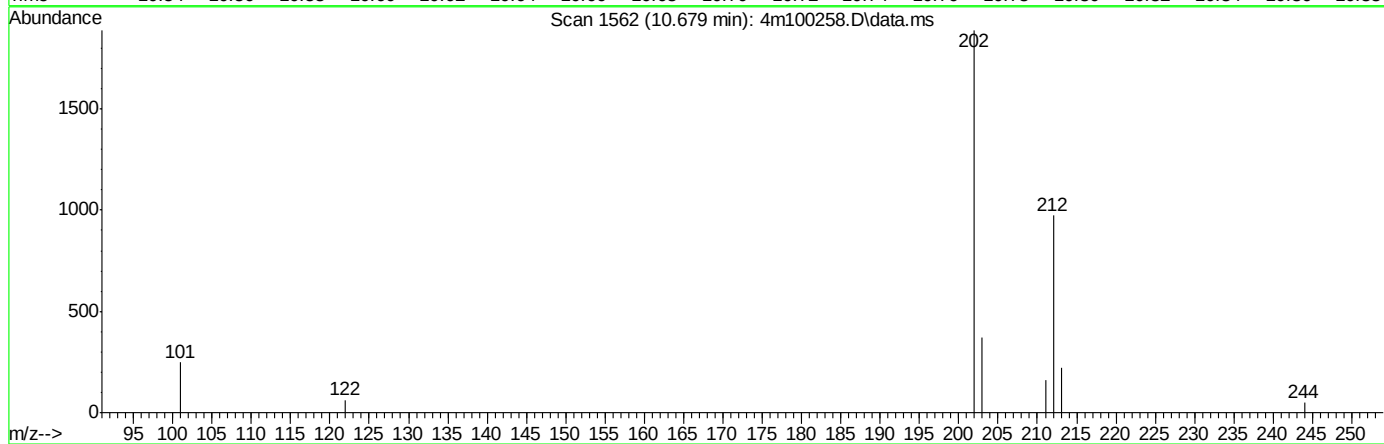
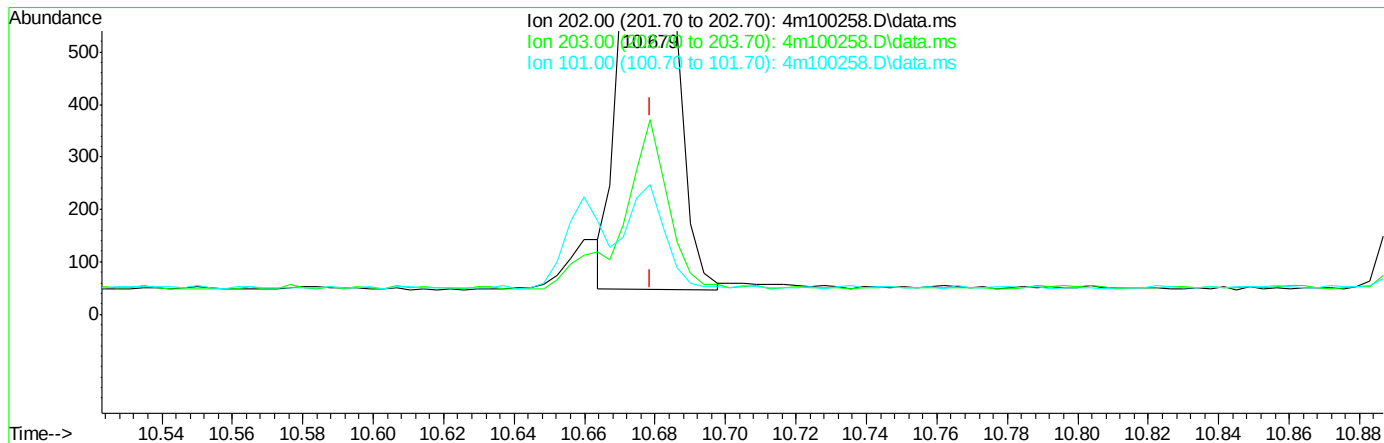
response 1432

Ion	Exp%	Act%
202.00	100	100
203.00	16.90	17.42
101.00	10.40	10.55
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100258.D
Acq On : 28 May 2021 1:02 pm
Operator : hennys
Sample : ic4670-0.05
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:21:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100258.D\data.ms

(23) Fluoranthene (t)

10.679min (-0.000) 0.06ppm m

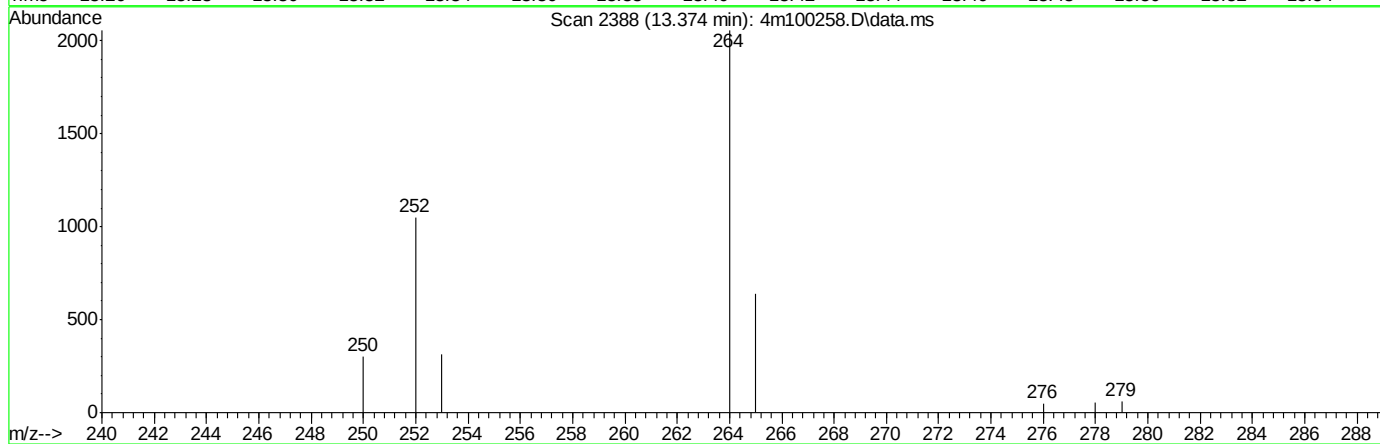
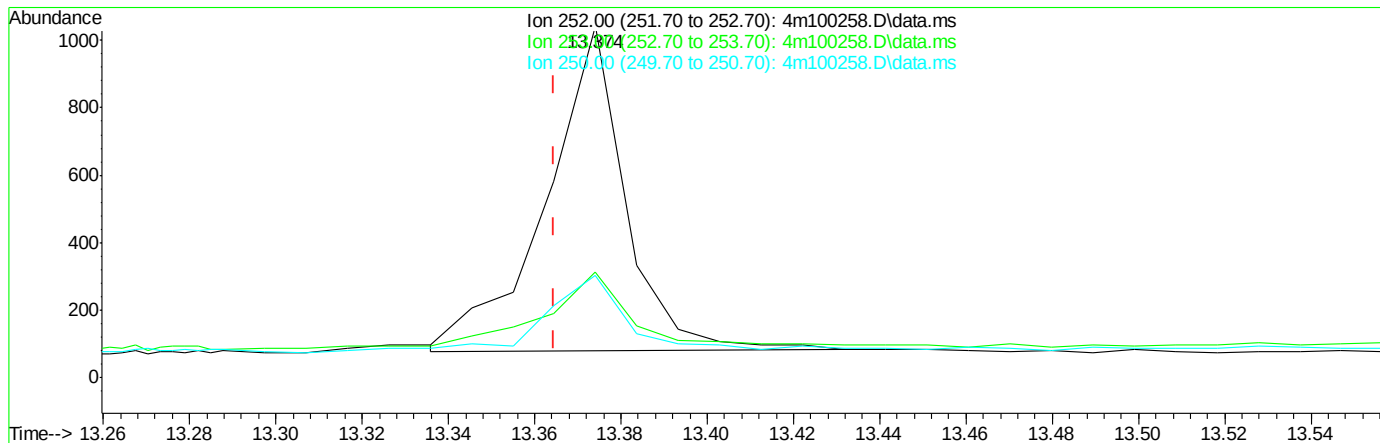
response 1367

Ion	Exp%	Act%
202.00	100	100
203.00	16.90	19.70
101.00	10.40	13.08
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100258.D
Acq On : 28 May 2021 1:02 pm
Operator : hennys
Sample : ic4670-0.05
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:21:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100258.D\data.ms

(31) Benzo[a]pyrene (t)

13.374min (+0.010) 0.06ppm

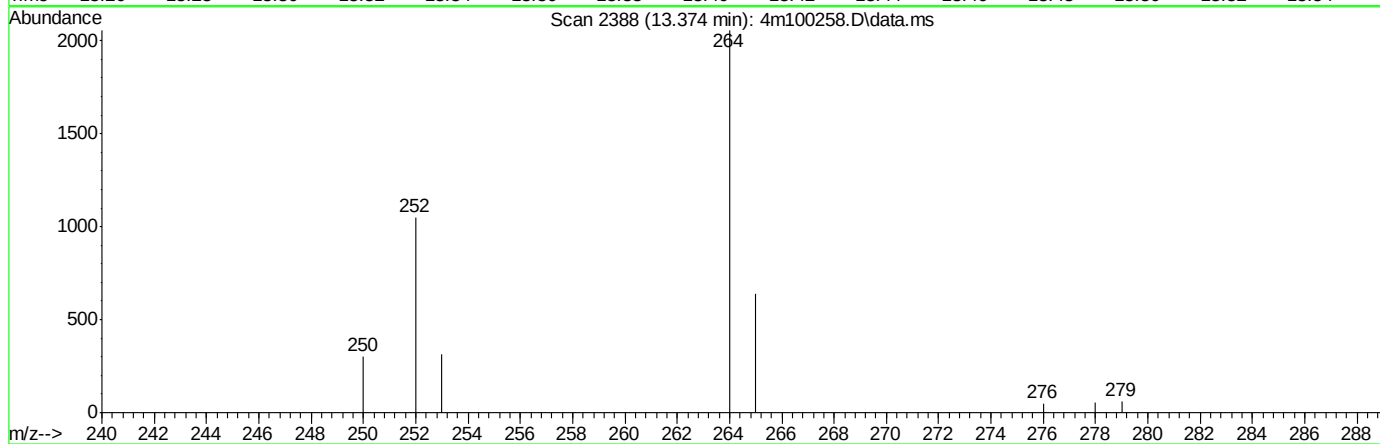
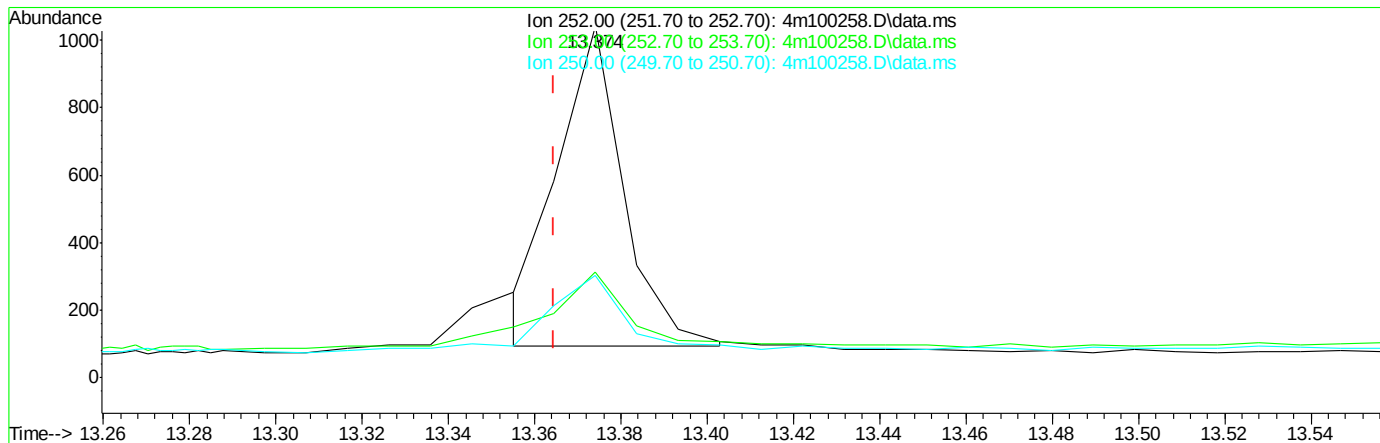
response 1236

Ion	Exp%	Act%
252.00	100	100
253.00	19.80	22.47
250.00	25.60	22.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100258.D
Acq On : 28 May 2021 1:02 pm
Operator : hennys
Sample : ic4670-0.05
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:21:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100258.D\data.ms

(31) Benzo[a]pyrene (t)

13.374min (+0.010) 0.05ppm m

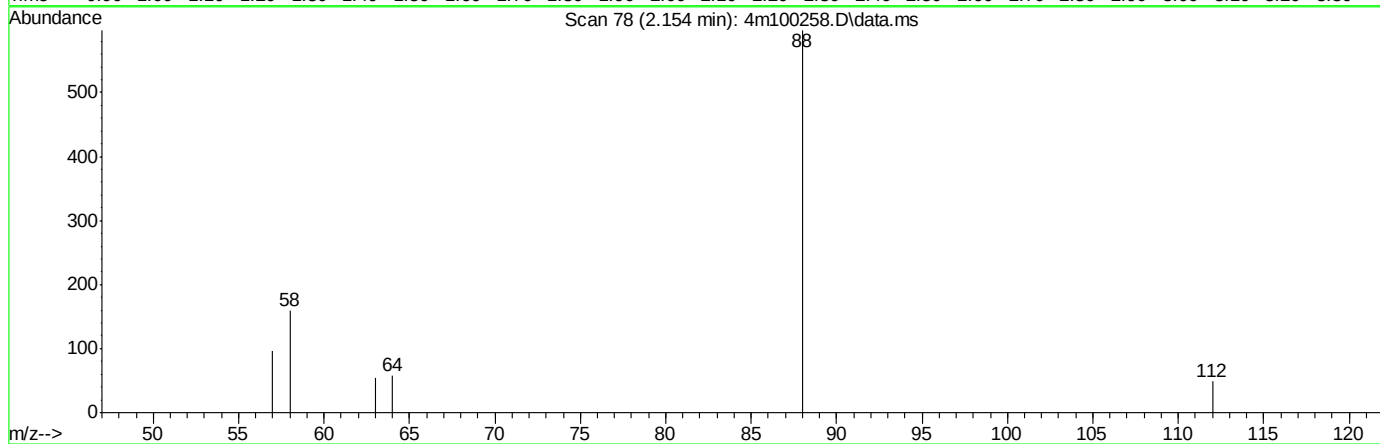
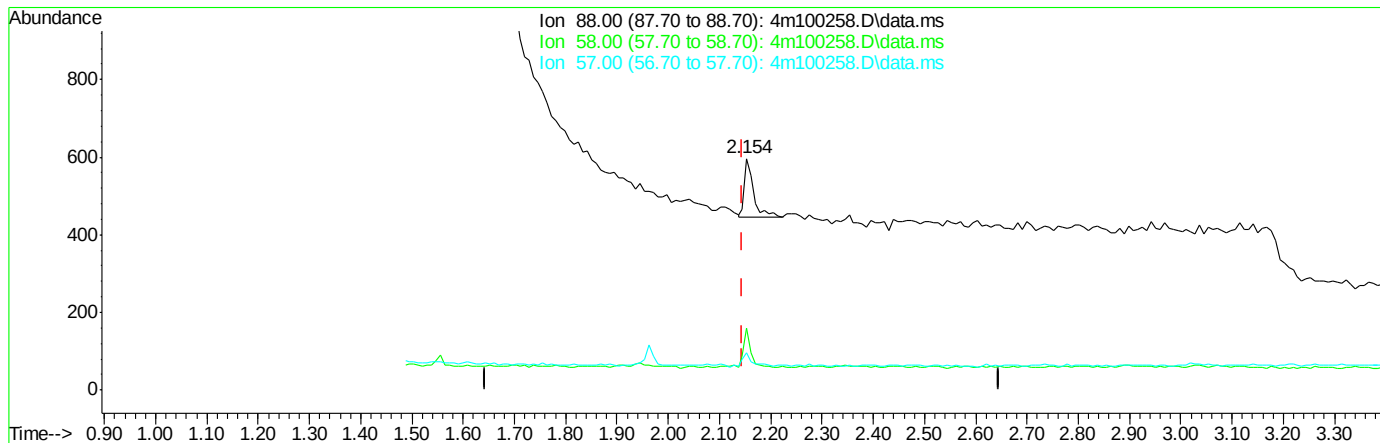
response 1003

Ion	Exp%	Act%
252.00	100	100
253.00	19.80	29.74
250.00	25.60	28.79
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100258.D
Acq On : 28 May 2021 1:02 pm
Operator : hennys
Sample : ic4670-0.05
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:21:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100258.D\data.ms

(36) 1,4-Dioxane (t)

2.154min (+0.009) 0.07ppm

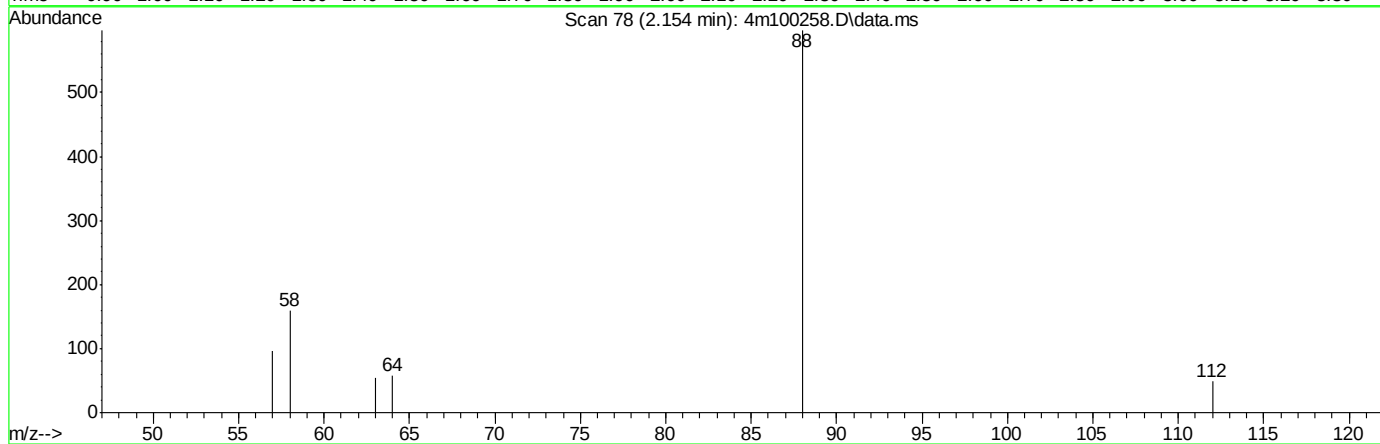
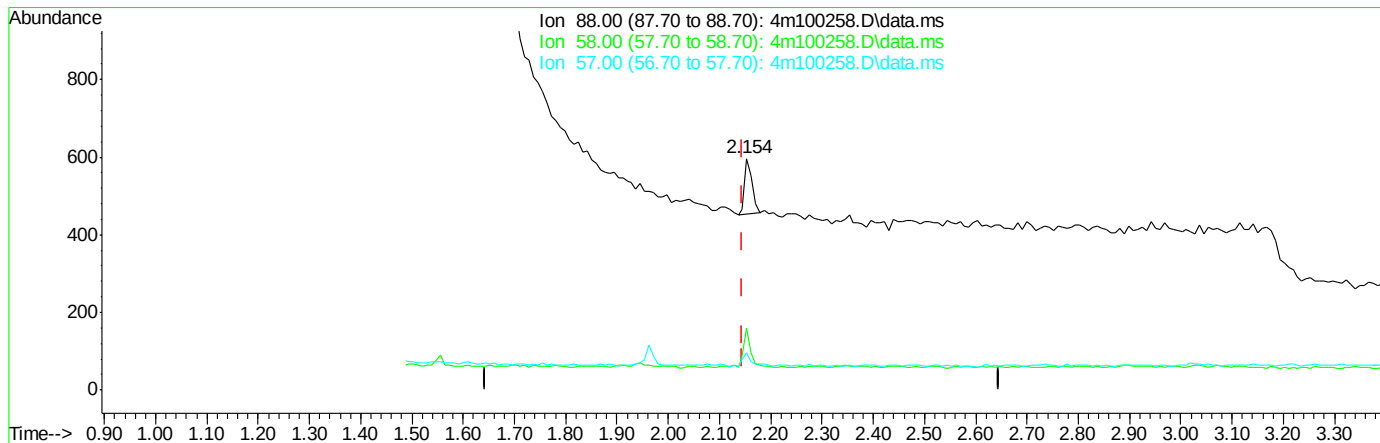
response 183

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	67.12
57.00	27.10	22.71
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100258.D
Acq On : 28 May 2021 1:02 pm
Operator : hennys
Sample : ic4670-0.05
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 14:21:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100258.D\data.ms

(36) 1,4-Dioxane (t)

2.154min (+0.009) 0.06ppm m

response 147

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	26.63#
57.00	27.10	16.08
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100259.D
 Acq On : 28 May 2021 1:23 pm
 Operator : hennys
 Sample : ic4670-0.02
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 14:25:04 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 13:02:55 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	38127	4.00	ppm	0.00
12) Fluorene-d10	8.539	176	44902	4.00	ppm	0.00
22) Fluoranthene-d10	10.664	212	76527	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.355	264	48577	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	38127	4.00	ppm	0.00
38) Fluorene-d10a	8.539	176	44902	4.00	ppm	0.00

System Monitoring Compounds						
2) 2-Fluorophenol	3.843	112	2273	0.43	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	0.86%#
3) Phenol-d5	4.750	99	3000	0.42	ppm	0.00
Spiked Amount	50.000			Recovery	=	0.84%
6) Nitrobenzene-d5	5.616	82	2545	0.39	ppm	0.00
Spiked Amount	50.000			Recovery	=	0.78%
11) 2-Fluorobiphenyl	7.383	172	5530	0.47	ppm	0.00
Spiked Amount	50.000			Recovery	=	0.94%
17) 2,4,6-Tribromophenol	8.804	330	617	0.31	ppm	0.00
Spiked Amount	50.000			Recovery	=	0.62%
25) Terphenyl-d14	11.072	244	4784	0.41	ppm	0.00
Spiked Amount	50.000			Recovery	=	0.82%

Target Compounds					Qvalue	
4) Phenol	4.761	94	807	0.10	ppm	93
7) Naphthalene	6.333	128	381	0.02	ppm	98
8) Hexachlorobutadiene	6.477	225	102	0.02	ppm	94
9) 2-Methylnaphthalene	7.016	142	249	0.02	ppm	93
10) Hexachlorocyclopentadiene	7.186	237	72	0.03	ppm	93
13) Acenaphthylene	7.885	152	354	0.02	ppm	98
14) Acenaphthene	8.060	153	244	0.02	ppm	94
16) Fluorene	8.568	166	289	0.02	ppm	85
18) Hexachlorobenzene	9.120	284	112	0.02	ppm	93
19) Pentachlorophenol	9.308	266	167	0.06	ppm	88
20) Phenanthrene	9.503	178	435	0.02	ppm	98
21) Anthracene	9.556	178	360	0.02	ppm	97
23) Fluoranthene	10.682	202	516	0.02	ppm	91
24) Pyrene	10.902	202	482	0.02	ppm	99
26) Benzo[a]anthracene	12.087	228	318	0.01	ppm	95
27) Chrysene	12.125	228	356	0.02	ppm	98
29) Benzo[b]fluoranthene	13.090	252	322	0.02	ppm	96
30) Benzo[k]fluoranthene	13.116	252	300	0.02	ppm	95
31) Benzo[a]pyrene	13.374	252	355m	0.02	ppm	
32) Indeno[1,2,3-cd]pyrene	14.536	276	335	0.02	ppm	79
33) Dibenz[a,h]anthracene	14.555	278	262	0.02	ppm	83
34) Benzo[g,h,i]perylene	14.853	276	329	0.02	ppm	99
36) 1,4-Dioxane	2.162	88	53m	0.02	ppm	
37) 1-Methylnaphthalene	7.109	142	245	0.02	ppm	88
39) 4,6-dinitro-2-methylph...	8.618	198	38	0.03	ppm #	74

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100259.D
Acq On : 28 May 2021 1:23 pm
Operator : hennys
Sample : ic4670-0.02
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 14:25:04 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

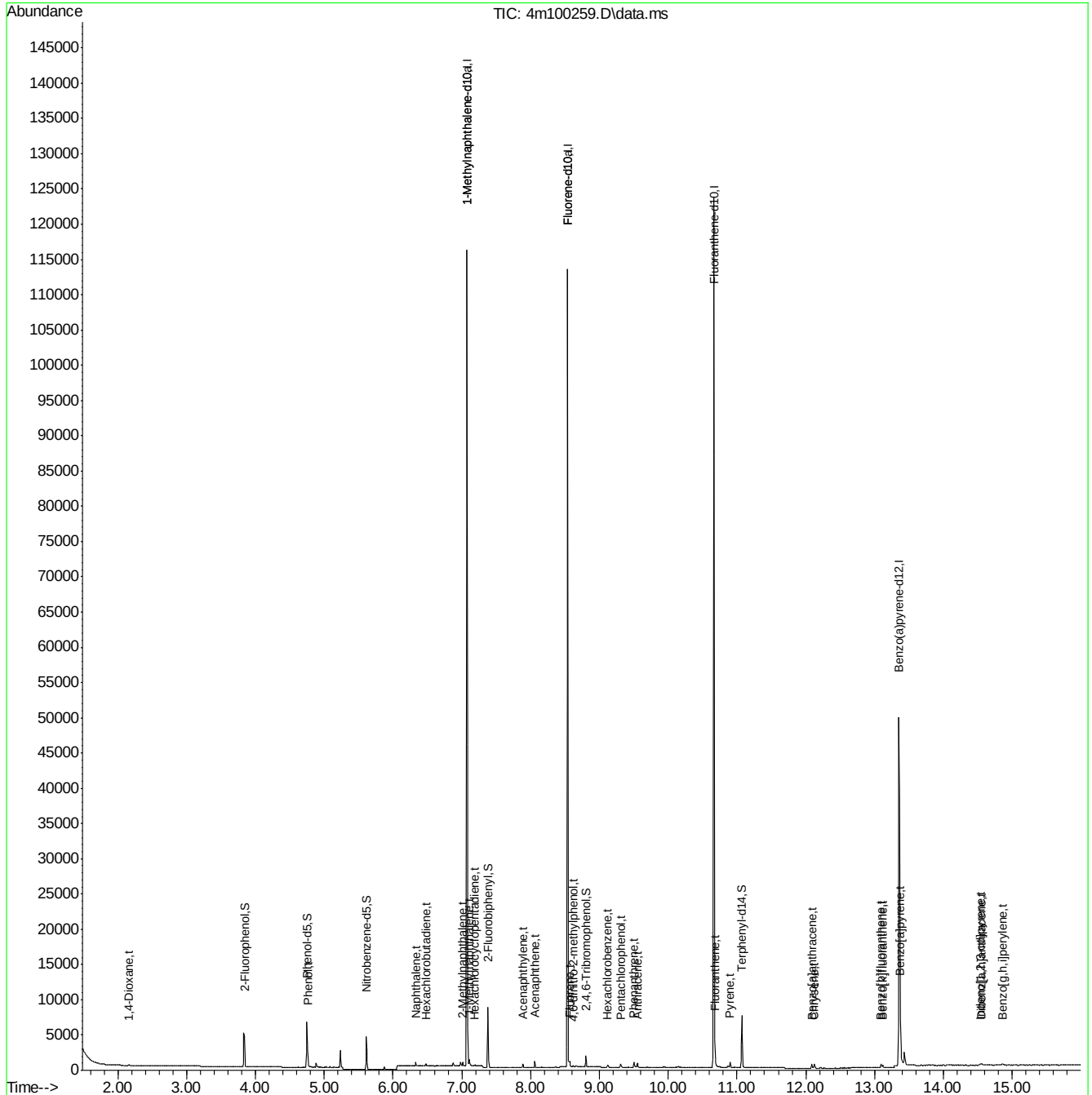
7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100259.D
Acq On : 28 May 2021 1:23 pm
Operator : hennys
Sample : ic4670-0.02
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 14:25:04 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: E4M4670-IC4670

Method: SW846 8270E BY SIM

Lab FileID: 4M100259.D

Analyst approved: 05/28/21 15:33 Ying Li

Injection Time: 05/28/21 13:23

Supervisor approved: 05/28/21 16:54 Nina Pandya

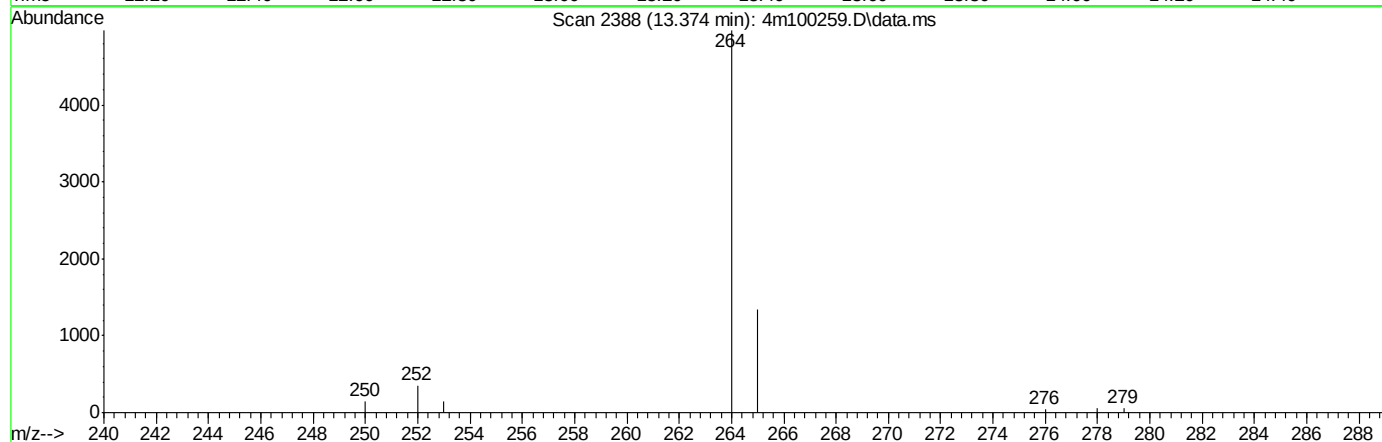
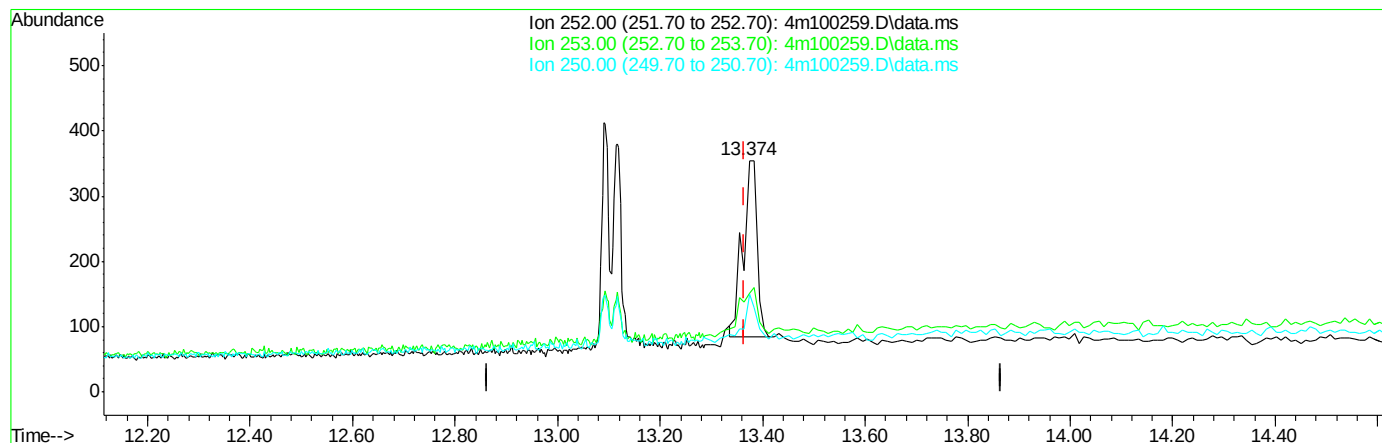
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		2.16	Poor instrument integration
Benzo(a)pyrene	50-32-8		13.37	Poor instrument integration

7.6.8.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100259.D
Acq On : 28 May 2021 1:23 pm
Operator : hennys
Sample : ic4670-0.02
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 14:23:57 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100259.D\data.ms

(31) Benzo[a]pyrene (t)

13.374min (+0.010) 0.03ppm

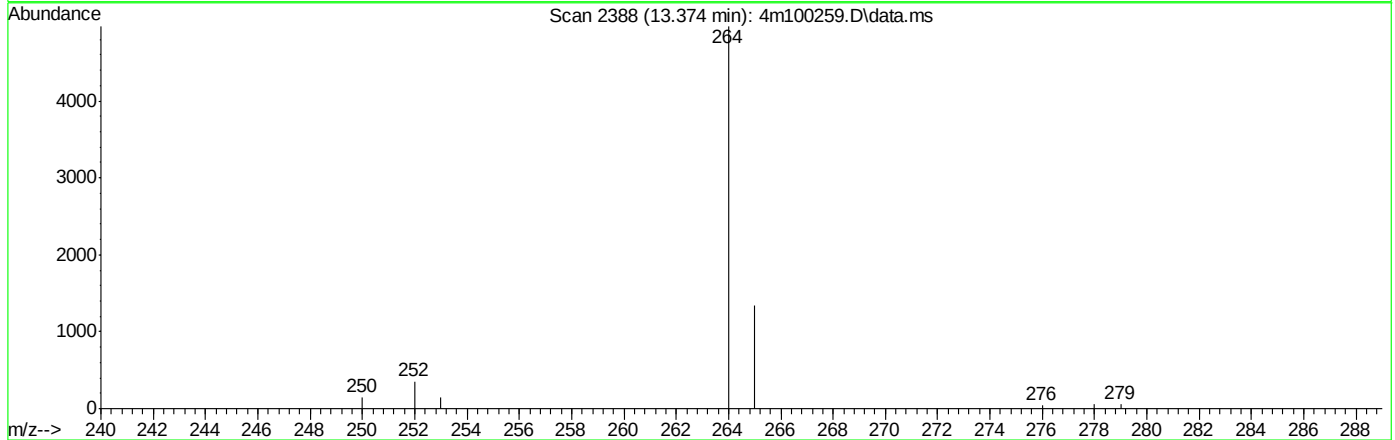
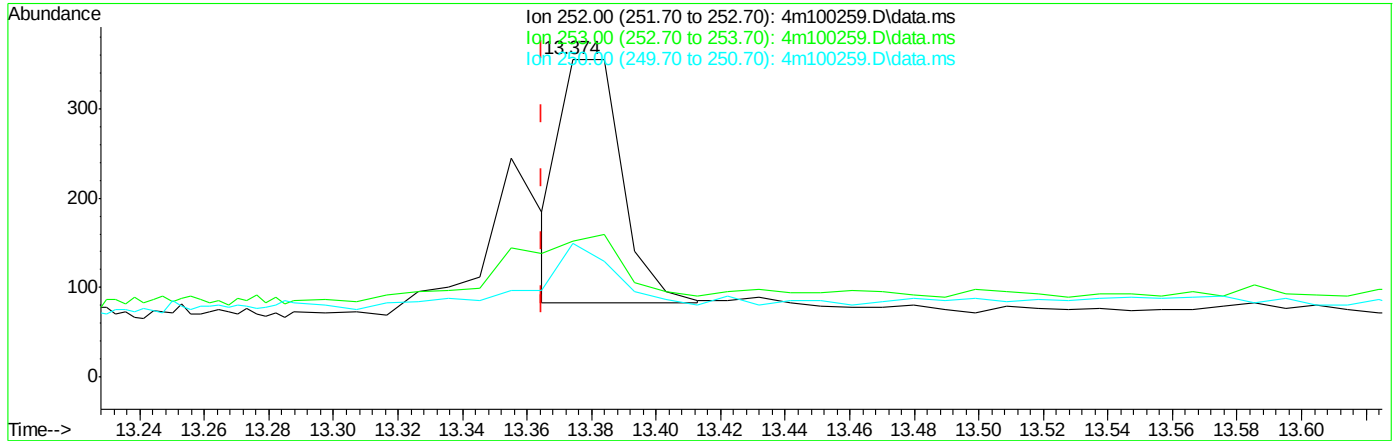
response 514

Ion	Exp%	Act%
252.00	100	100
253.00	19.80	22.33
250.00	25.60	24.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100259.D
Acq On : 28 May 2021 1:23 pm
Operator : hennys
Sample : ic4670-0.02
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 14:23:57 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100259.D\data.ms

(31) Benzo[a]pyrene (t)

13.374min (+0.010) 0.02ppm m

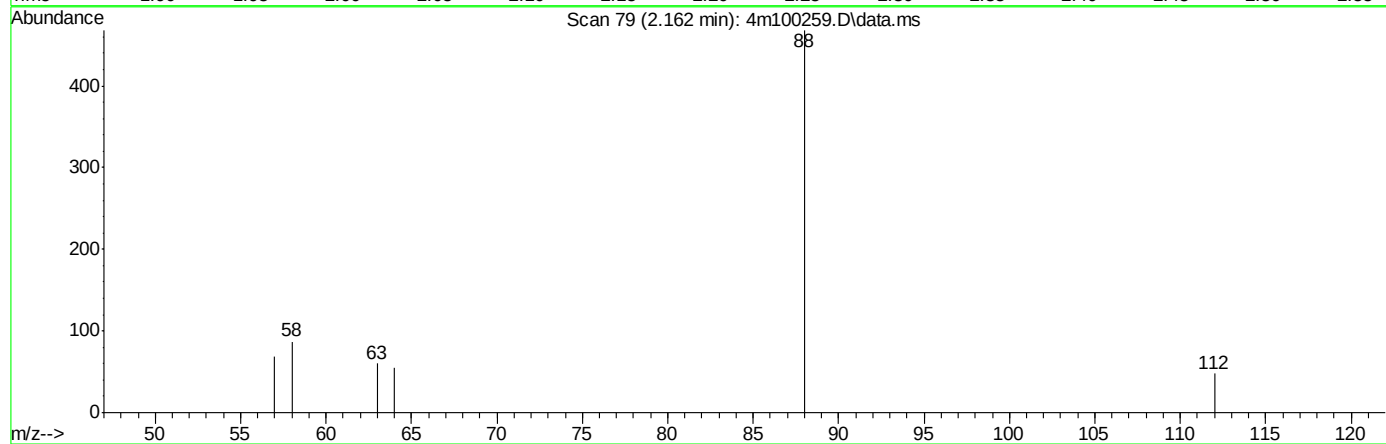
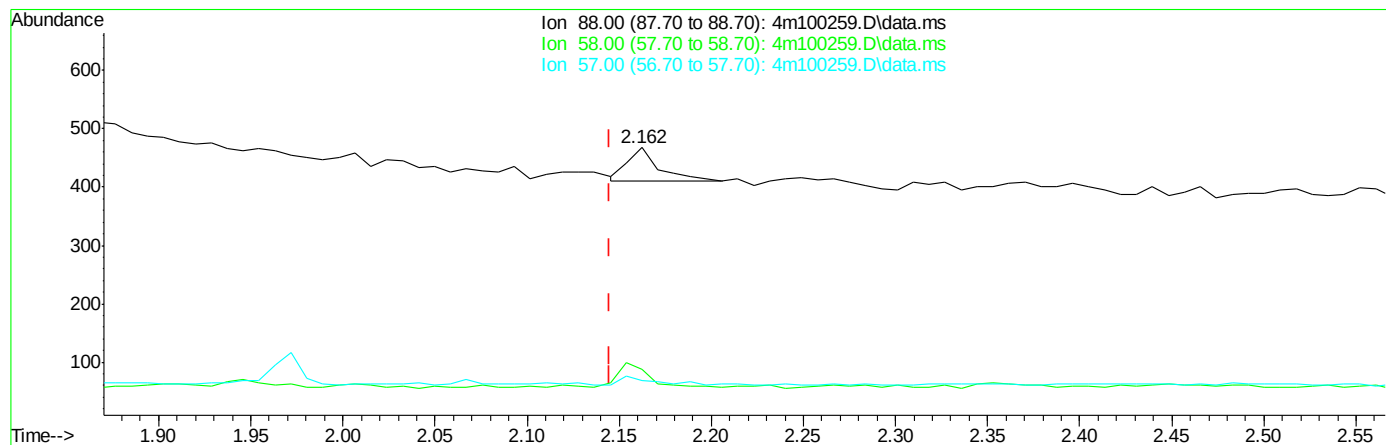
response 355

Ion	Exp%	Act%
252.00	100	100
253.00	19.80	42.82
250.00	25.60	41.97
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100259.D
Acq On : 28 May 2021 1:23 pm
Operator : hennys
Sample : ic4670-0.02
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 14:23:57 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100259.D\data.ms

(36) 1,4-Dioxane (t)

2.162min (+0.017) 0.02ppm

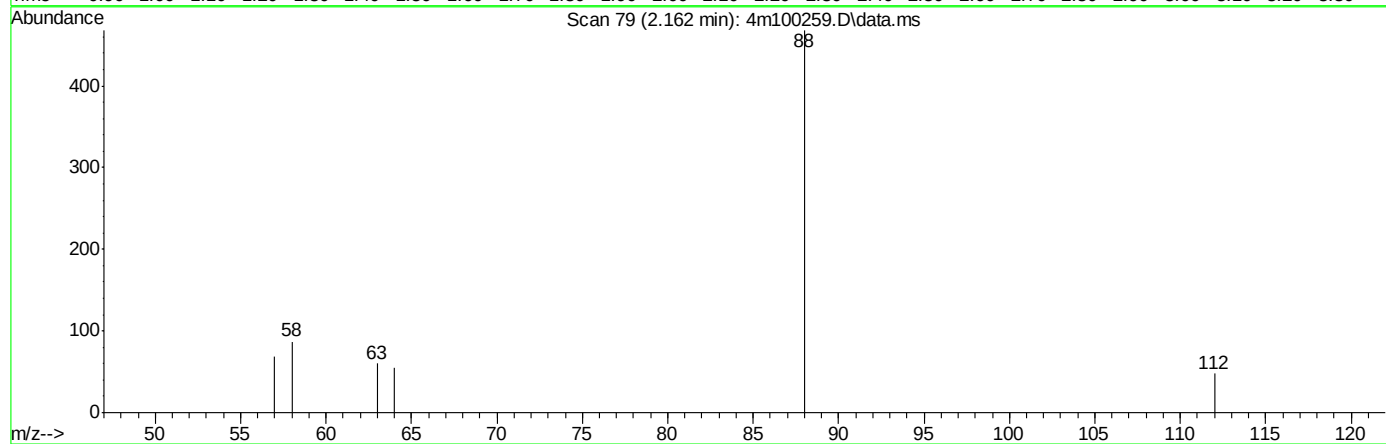
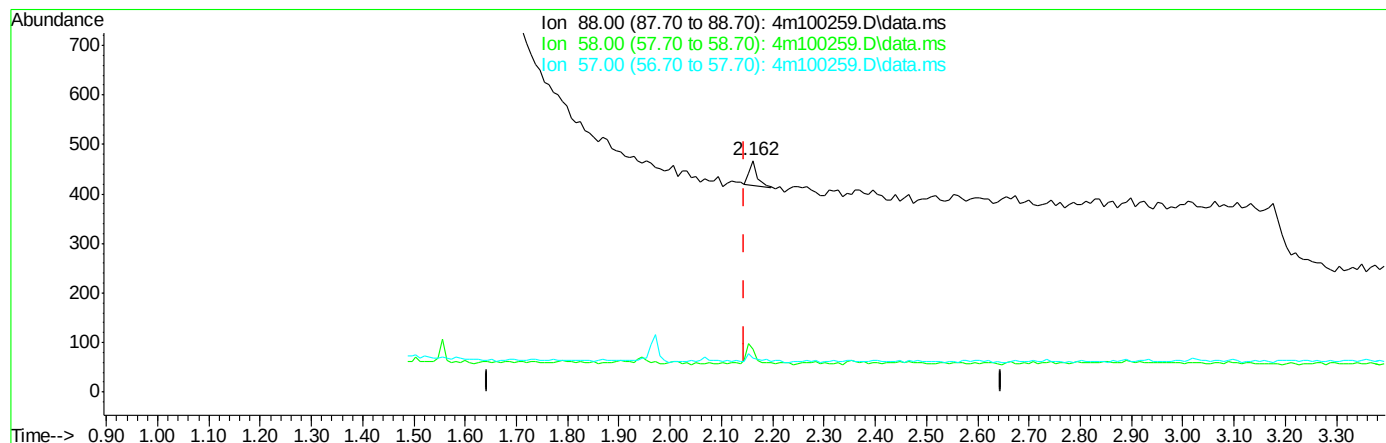
response 67

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	48.11#
57.00	27.10	13.21
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100259.D
Acq On : 28 May 2021 1:23 pm
Operator : hennys
Sample : ic4670-0.02
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 14:23:57 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



TIC: 4m100259.D\data.ms

(36) 1,4-Dioxane (t)

2.162min (+0.017) 0.02ppm m

response 53

Ion	Exp%	Act%
88.00	100	100
58.00	72.00	18.59#
57.00	27.10	14.74
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100260.D
 Acq On : 28 May 2021 1:44 pm
 Operator : hennys
 Sample : ic4670-0.01
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 28 14:26:25 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 13:02:55 2021
 Response via : Initial Calibration

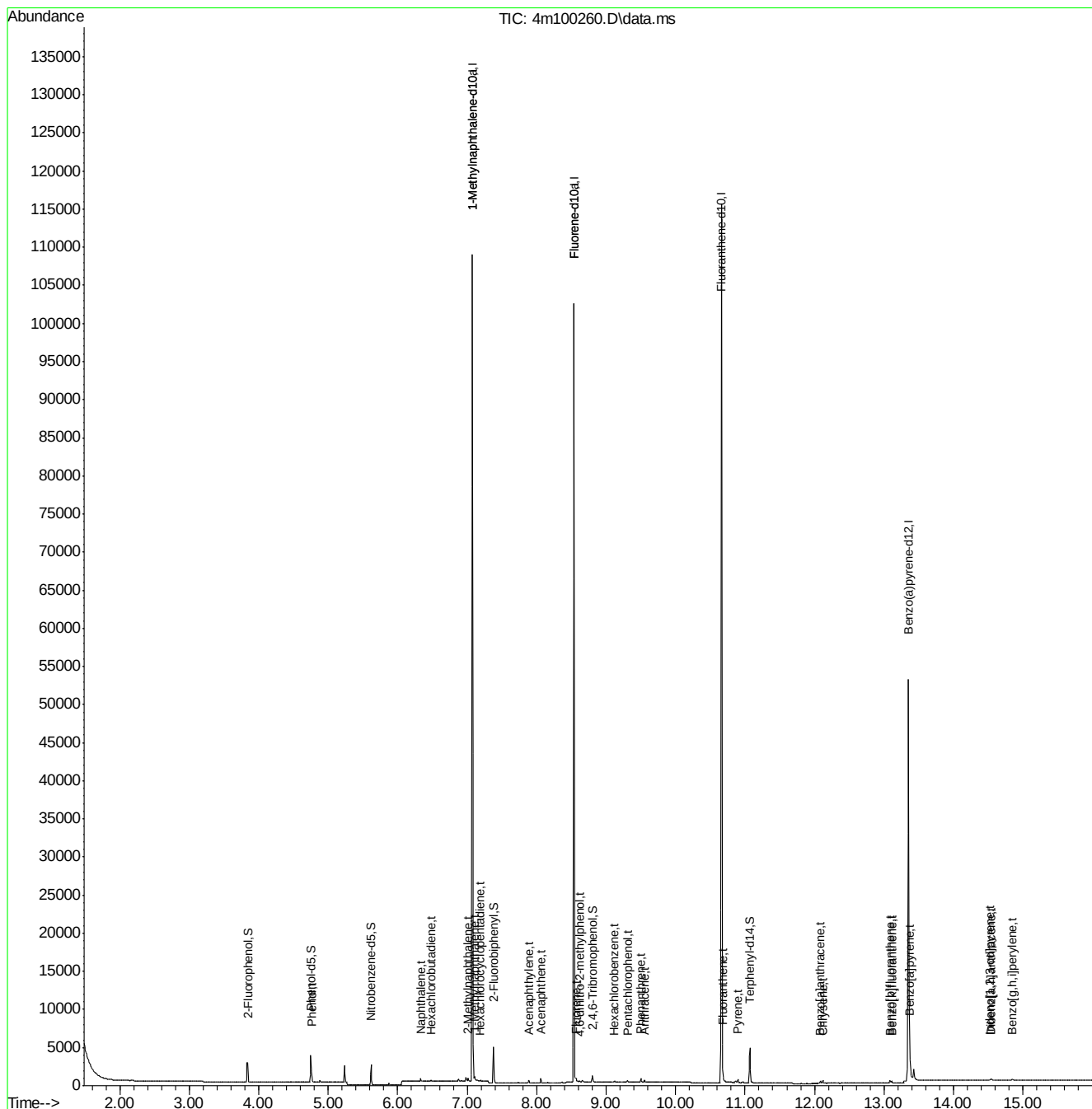
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	36630	4.00	ppm	0.00
12) Fluorene-d10	8.539	176	43596	4.00	ppm	0.00
22) Fluoranthene-d10	10.660	212	74039	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.355	264	48351	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	36630	4.00	ppm	0.00
38) Fluorene-d10a	8.539	176	43596	4.00	ppm	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	3.843	112	1250	0.24	ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery =	0.48%#		
3) Phenol-d5	4.750	99	1650	0.24	ppm	0.00
Spiked Amount 50.000			Recovery =	0.48%		
6) Nitrobenzene-d5	5.616	82	1473	0.24	ppm	0.00
Spiked Amount 50.000			Recovery =	0.48%		
11) 2-Fluorobiphenyl	7.383	172	3288	0.29	ppm	0.00
Spiked Amount 50.000			Recovery =	0.58%		
17) 2,4,6-Tribromophenol	8.804	330	366	0.19	ppm	0.00
Spiked Amount 50.000			Recovery =	0.38%		
25) Terphenyl-d14	11.068	244	2930	0.26	ppm	0.00
Spiked Amount 50.000			Recovery =	0.52%		
Target Compounds						
					Qvalue	
4) Phenol	4.761	94	465	0.06	ppm	87
7) Naphthalene	6.333	128	241	0.01	ppm	98
8) Hexachlorobutadiene	6.477	225	64	0.01	ppm	82
9) 2-Methylnaphthalene	7.016	142	170	0.01	ppm	95
10) Hexachlorocyclopentadiene	7.186	237	43	0.02	ppm	86
13) Acenaphthylene	7.885	152	220	0.01	ppm	98
14) Acenaphthene	8.060	153	156	0.01	ppm	98
16) Fluorene	8.568	166	164	0.01	ppm	89
18) Hexachlorobenzene	9.120	284	74	0.01	ppm	94
19) Pentachlorophenol	9.308	266	106	0.04	ppm	79
20) Phenanthrene	9.503	178	292	0.01	ppm	99
21) Anthracene	9.550	178	240	0.01	ppm	96
23) Fluoranthene	10.679	202	319	0.01	ppm	91
24) Pyrene	10.898	202	296	0.01	ppm	98
26) Benzo[a]anthracene	12.084	228	212	0.01	ppm	95
27) Chrysene	12.119	228	225	0.01	ppm	95
29) Benzo[b]fluoranthene	13.084	252	194	0.01	ppm	94
30) Benzo[k]fluoranthene	13.110	252	182	0.01	ppm	95
31) Benzo[a]pyrene	13.374	252	263	0.01	ppm	95
32) Indeno[1,2,3-cd]pyrene	14.526	276	205	0.01	ppm	70
33) Dibenz[a,h]anthracene	14.546	278	170	0.01	ppm	80
34) Benzo[g,h,i]perylene	14.843	276	237	0.01	ppm	97
37) 1-Methylnaphthalene	7.109	142	157	0.01	ppm	94
39) 4,6-dinitro-2-methylph...	8.618	198	24	0.02	ppm #	67

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100260.D
Acq On : 28 May 2021 1:44 pm
Operator : hennys
Sample : ic4670-0.01
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 28 14:26:25 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 13:02:55 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
 Data File : 4m100261.D
 Acq On : 28 May 2021 2:05 pm
 Operator : hennys
 Sample : icv4670-1
 Misc : op30792a,e4m4670,1000,,,1,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 28 14:48:45 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Fri May 28 14:46:32 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	7.076	152	42813	4.00	ppm	0.00
12) Fluorene-d10	8.539	176	51539	4.00	ppm	0.00
22) Fluoranthene-d10	10.664	212	87531	4.00	ppm	0.00
28) Benzo(a)pyrene-d12	13.355	264	52343	4.00	ppm	0.00
35) 1-Methylnaphthalene-d10a	7.076	152	42813	4.00	ppm	0.00
38) Fluorene-d10a	8.539	176	51539	4.00	ppm	0.00

System Monitoring Compounds

2) 2-Fluorophenol	0.000	112	0d	0.00	ppm	
Spiked Amount	50.000	Range	11 - 58	Recovery	=	0.00%#
3) Phenol-d5	0.000	99	0d	0.00	ppm	
Spiked Amount	50.000			Recovery	=	0.00%
6) Nitrobenzene-d5	0.000	82	0d	0.00	ppm	
Spiked Amount	50.000			Recovery	=	0.00%
11) 2-Fluorobiphenyl	0.000	172	0d	0.00	ppm	
Spiked Amount	50.000			Recovery	=	0.00%
17) 2,4,6-Tribromophenol	0.000	330	0d	0.00	ppm	
Spiked Amount	50.000			Recovery	=	0.00%
25) Terphenyl-d14	0.000	244	0d	0.00	ppm	
Spiked Amount	50.000			Recovery	=	0.00%

Target Compounds

						Qvalue
4) Phenol	4.761	94	42388	4.45	ppm	85
7) Naphthalene	6.334	128	19001	0.83	ppm	100
8) Hexachlorobutadiene	6.477	225	5131	0.87	ppm	98
9) 2-Methylnaphthalene	7.016	142	12898	0.84	ppm	92
10) Hexachlorocyclopentadiene	7.186	237	8820	3.80	ppm	99
13) Acenaphthylene	7.885	152	17315	0.79	ppm	97
14) Acenaphthene	8.060	153	12214	0.80	ppm	96
16) Fluorene	8.568	166	14567	0.83	ppm	89
18) Hexachlorobenzene	9.120	284	5961	0.85	ppm	95
19) Pentachlorophenol	9.308	266	16481	5.51	ppm	86
20) Phenanthrene	9.503	178	21912	0.85	ppm	99
21) Anthracene	9.556	178	20642	0.84	ppm	97
23) Fluoranthene	10.682	202	24123	0.81	ppm	98
24) Pyrene	10.902	202	23441	0.82	ppm	100
26) Benzo[a]anthracene	12.087	228	19011	0.80	ppm	99
27) Chrysene	12.122	228	20983	0.83	ppm	99
29) Benzo[b]fluoranthene	13.093	252	19074	0.94	ppm	97
30) Benzo[k]fluoranthene	13.116	252	18707	0.95	ppm	99
31) Benzo[a]pyrene	13.374	252	17338	0.83	ppm	99
32) Indeno[1,2,3-cd]pyrene	14.536	276	16343	0.77	ppm	74
33) Dibenz[a,h]anthracene	14.555	278	14054	0.80	ppm	84
34) Benzo[g,h,i]perylene	14.853	276	15113	0.75	ppm	99
36) 1,4-Dioxane	2.180	88	3024	0.97	ppm	85
37) 1-Methylnaphthalene	7.109	142	12010	0.82	ppm	97
39) 4,6-dinitro-2-methylph...	8.618	198	5409	4.49	ppm #	62

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100261.D
Acq On : 28 May 2021 2:05 pm
Operator : hennys
Sample : icv4670-1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 28 14:48:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 14:46:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

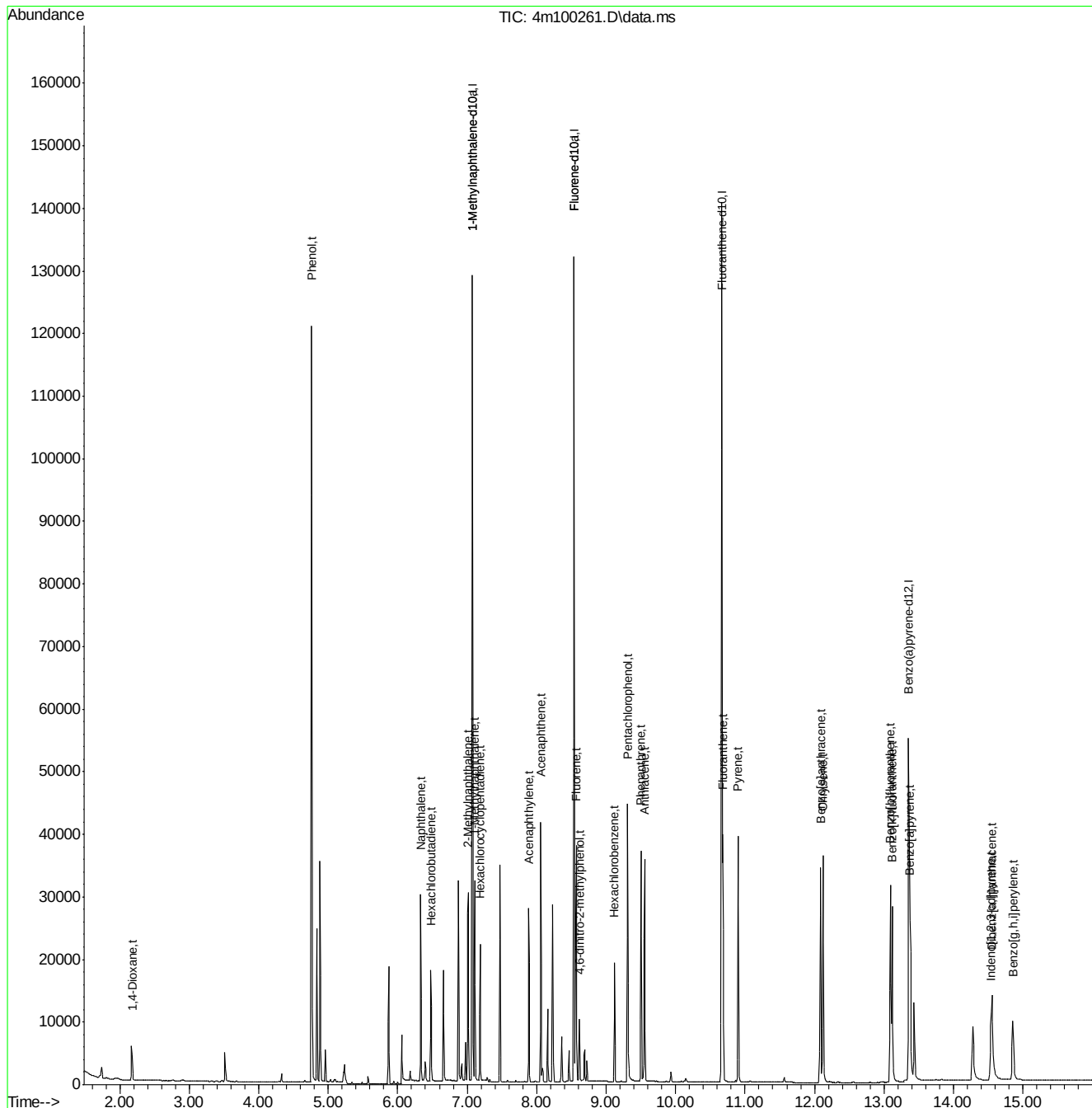
7.6.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100261.D
Acq On : 28 May 2021 2:05 pm
Operator : hennys
Sample : icv4670-1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

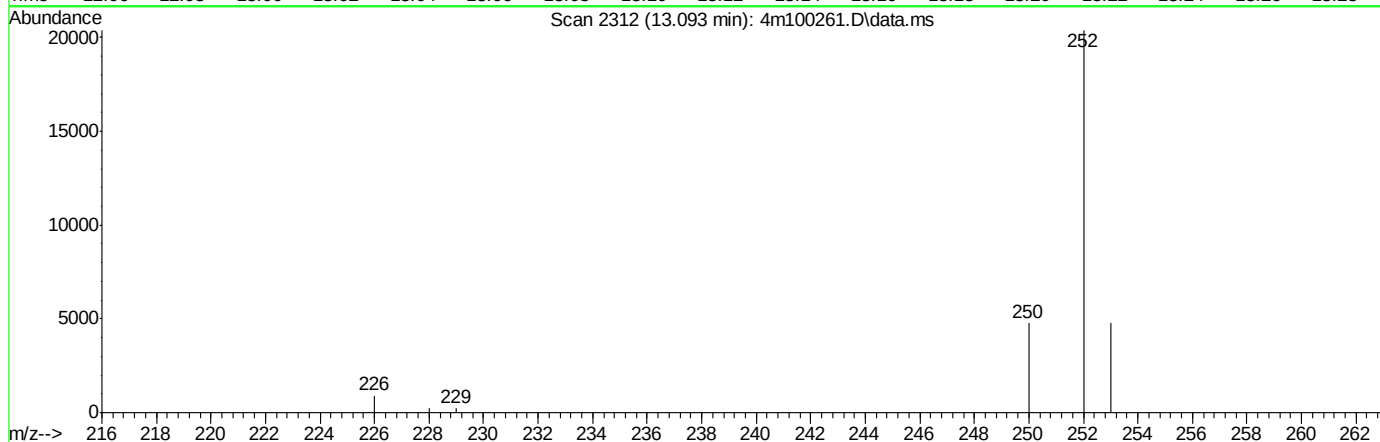
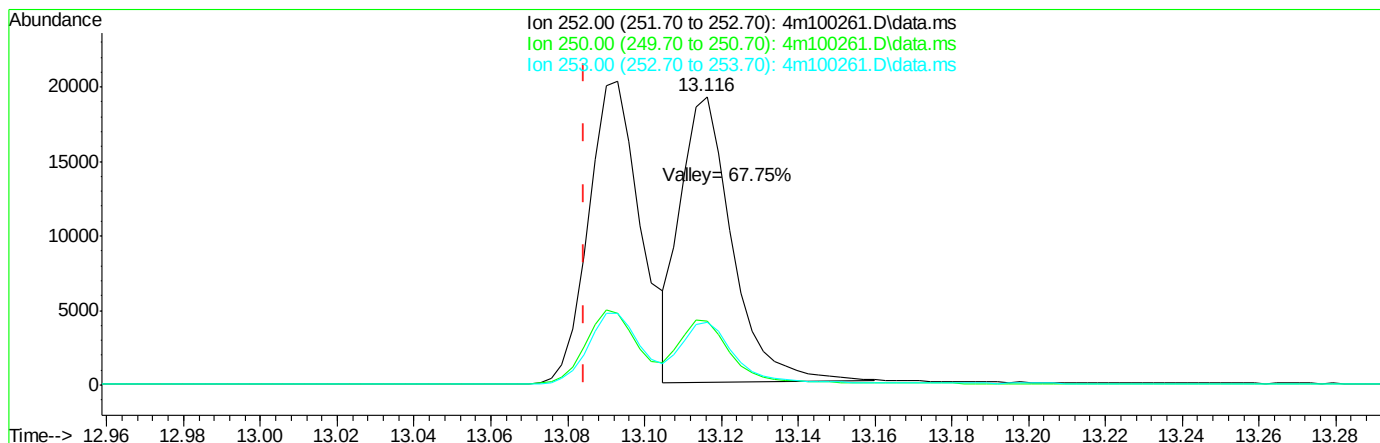
Quant Time: May 28 14:48:45 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 14:46:32 2021
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4670\
Data File : 4m100261.D
Acq On : 28 May 2021 2:05 pm
Operator : hennys
Sample : icv4670-1
Misc : op30792a,e4m4670,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 28 14:48:02 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Fri May 28 14:46:32 2021
Response via : Initial Calibration



TIC: 4m100261.D\data.ms

(29) Benzo[b]fluoranthene (t)

13.093min (+0.009) 0.94ppm

response 19074

Ion	Exp%	Act%
252.00	100	100
250.00	22.30	23.19
253.00	21.30	23.48
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\altheam\4m4749\
 Data File : 4m101863.d
 Acq On : 25 Aug 2021 5:59 pm
 Operator : kristis
 Sample : cc4670-1 Inst : GCMS4M
 Misc : op34845a,4m4749,30.0,,,1,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Results File: M4M4670SIM.RES
 Quant Time: Aug 26 04:26:48 2021
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Thu Aug 19 04:47:07 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.501	152	25796	4.00	ppm	-0.05
12) Fluorene-d10	7.949	176	33989	4.00	ppm	-0.05
22) Fluoranthene-d10	10.048	212	67264	4.00	ppm	-0.04
28) Benzo(a)pyrene-d12	12.696	264	49744	4.00	ppm	-0.04
35) 1-Methylnaphthalene-d10a	6.501	152	25796	4.00	ppm	-0.05
38) Fluorene-d10a	7.949	176	33989	4.00	ppm	-0.05
System Monitoring Compounds						
2) 2-Fluorophenol	3.262	112	67704	17.69	ppm	-0.06
Spiked Amount 50.000	Range 11 - 58		Recovery =	35.38%		
3) Phenol-d5	4.227	99	92922	18.34	ppm	-0.05
Spiked Amount 50.000			Recovery =	36.68%		
6) Nitrobenzene-d5	5.055	82	90041	19.84	ppm	-0.04
Spiked Amount 50.000			Recovery =	39.68%		
11) 2-Fluorobiphenyl	6.817	172	169117	19.74	ppm	-0.04
Spiked Amount 50.000			Recovery =	39.48%		
17) 2,4,6-Tribromophenol	8.213	330	33902	23.74	ppm	-0.05
Spiked Amount 50.000			Recovery =	47.48%		
25) Terphenyl-d14	10.468	244	211309	19.30	ppm	-0.04
Spiked Amount 50.000			Recovery =	38.60%		
Target Compounds						
					Qvalue	
4) Phenol	4.238	94	25343	4.41	ppm	95
7) Naphthalene	5.764	128	11713	0.85	ppm	99
8) Hexachlorobutadiene	5.912	225	3056	0.86	ppm	98
9) 2-Methylnaphthalene	6.440	142	8578	0.92	ppm	95
10) Hexachlorocyclopentadiene	6.611	237	2711	1.94	ppm	92
13) Acenaphthylene	7.304	152	13186	0.91	ppm	96
14) Acenaphthene	7.471	153	9164	0.91	ppm	83
16) Fluorene	7.977	166	10520	0.91	ppm	93
18) Hexachlorobenzene	8.517	284	4429	0.96	ppm	86
19) Pentachlorophenol	8.722	266	13140	6.66	ppm	93
20) Phenanthrene	8.904	178	16472	0.97	ppm	99
21) Anthracene	8.949	178	16426	1.01	ppm	100
23) Fluoranthene	10.063	202	20803	0.91	ppm	98
24) Pyrene	10.278	202	20836	0.95	ppm	100
26) Benzo[a]anthracene	11.455	228	20183	1.11	ppm	98
27) Chrysene	11.487	228	19853	1.02	ppm	99
29) Benzo[b]fluoranthene	12.444	252	19170	0.99	ppm	98
30) Benzo[k]fluoranthene	12.467	252	19005	1.02	ppm	100
31) Benzo[a]pyrene	12.715	252	17925	0.90	ppm	97
32) Indeno[1,2,3-cd]pyrene	13.627	276	20965	1.03	ppm	88
33) Dibenz[a,h]anthracene	13.646	278	17538	1.05	ppm	85
34) Benzo[g,h,i]perylene	13.858	276	18314	0.95	ppm	99
36) 1,4-Dioxane	1.512	88	1556m	0.83	ppm	
37) 1-Methylnaphthalene	6.534	142	7720	0.87	ppm	98
39) 4,6-dinitro-2-methylph...	8.049	198	8806	9.14	ppm	76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

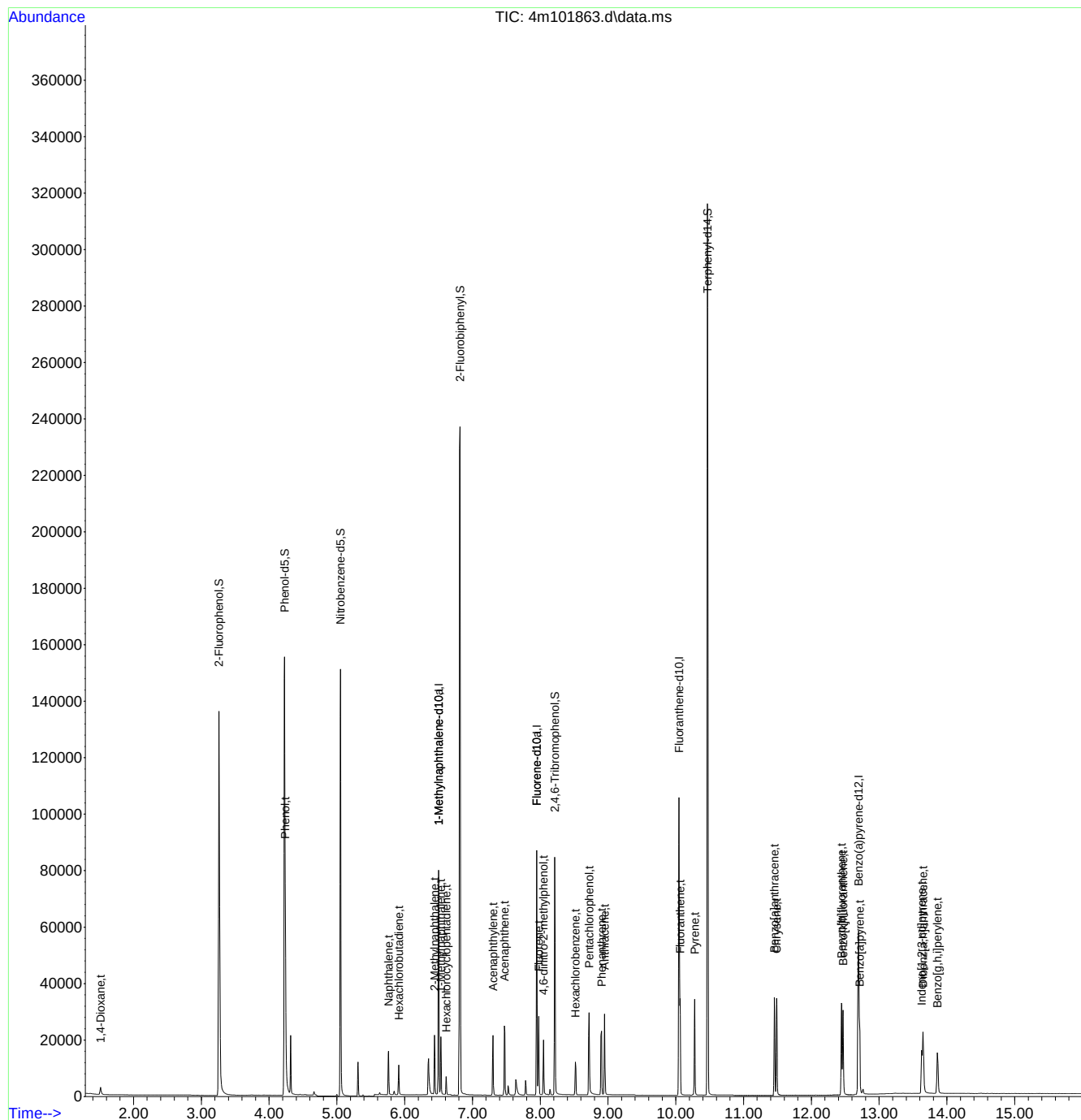
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Data Path   : C:\msdchem\1\data\altheam\e4m4749\
Data File   : 4m101863.d
Acq On      : 25 Aug 2021    5:59 pm
Operator    : kristis
Sample      : cc4670-1
Misc        : op34845a,e4m4749,30.0,,,1,1
ALS Vial    : 2      Sample Multiplier: 1

```

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:26:48 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 19 04:47:07 2021
Response via : Initial Calibration



7.6.11

Manual Integration Approval Summary

Sample Number:

E4M4749-CC4670

Method:

SW846 8270E BY SIM

Lab FileID:

4M101863.D

Analyst approved:

08/26/21 04:26 Althea Mae Medina

Injection Time:

08/25/21 17:59

Supervisor approved:

08/26/21 10:17 Nina Pandya

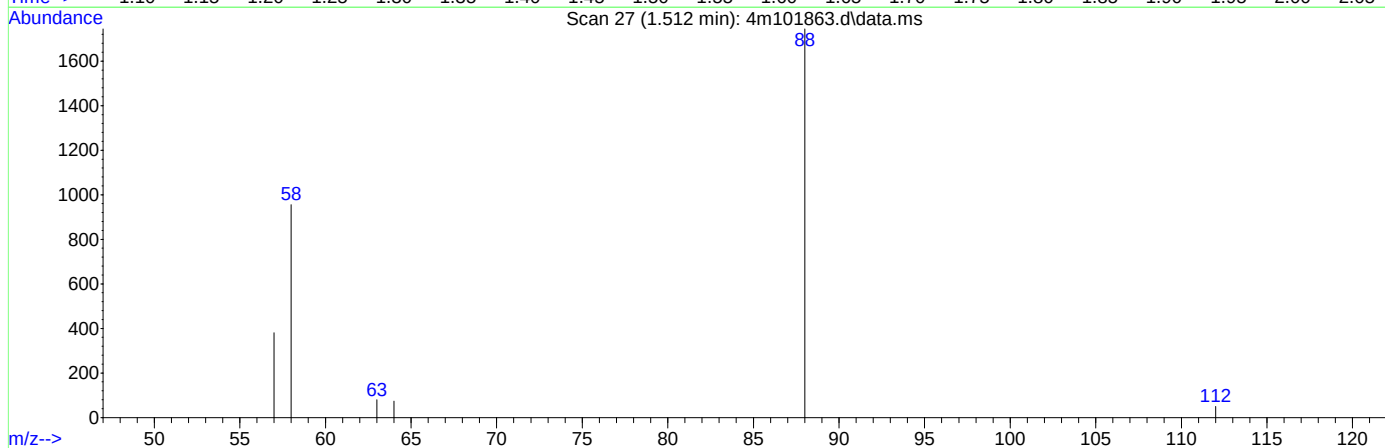
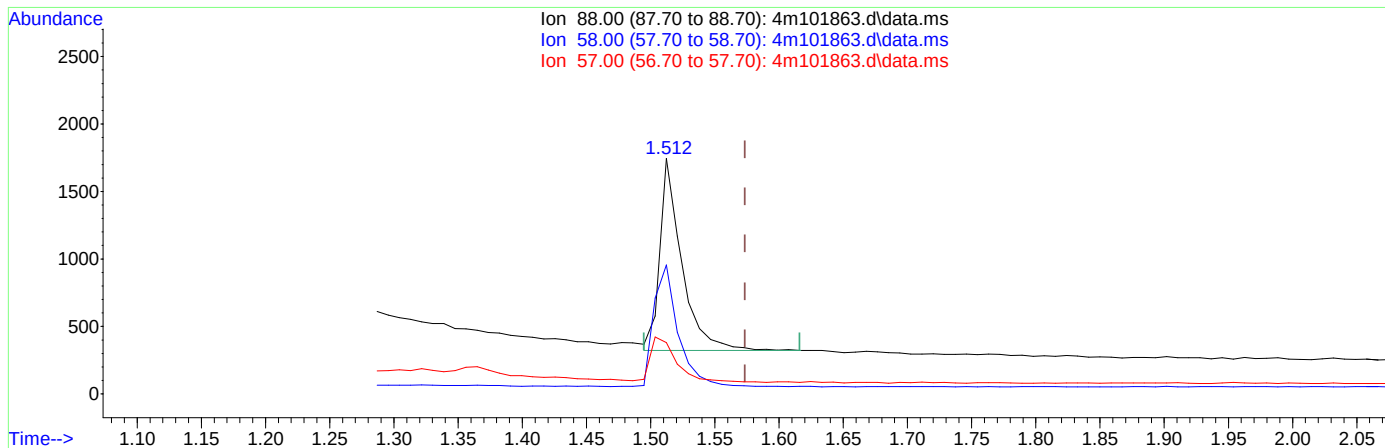
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		1.51	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101863.d
Acq On : 25 Aug 2021 5:59 pm
Operator : kristis
Sample : cc4670-1
Misc : op34845a,e4m4749,30.0,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:25:47 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 19 04:47:07 2021
Response via : Initial Calibration



TIC: 4m101863.d\data.ms

(36) 1,4-Dioxane (t)

1.512min (-0.061) 0.90ppm

response 1692

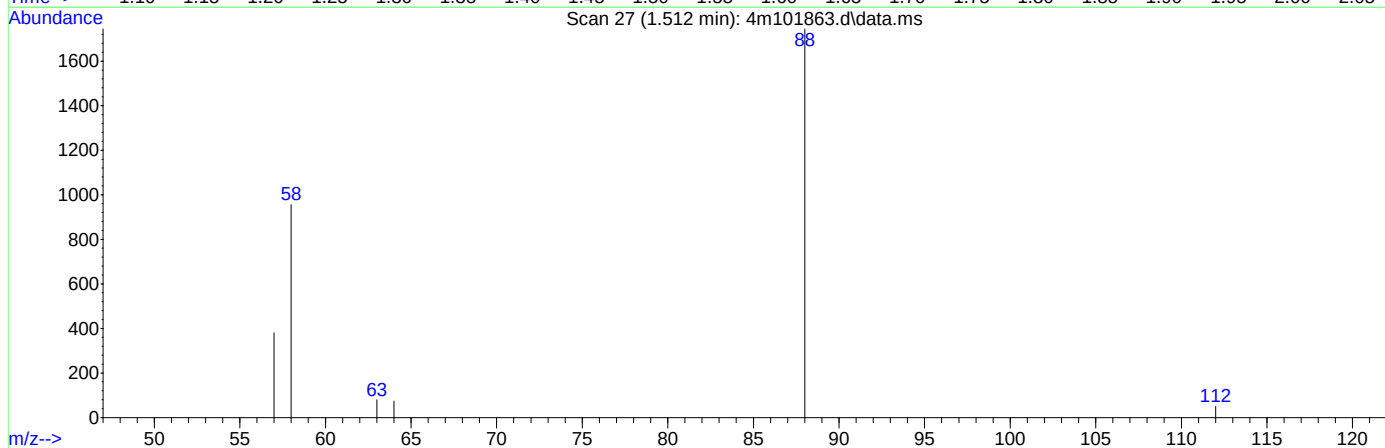
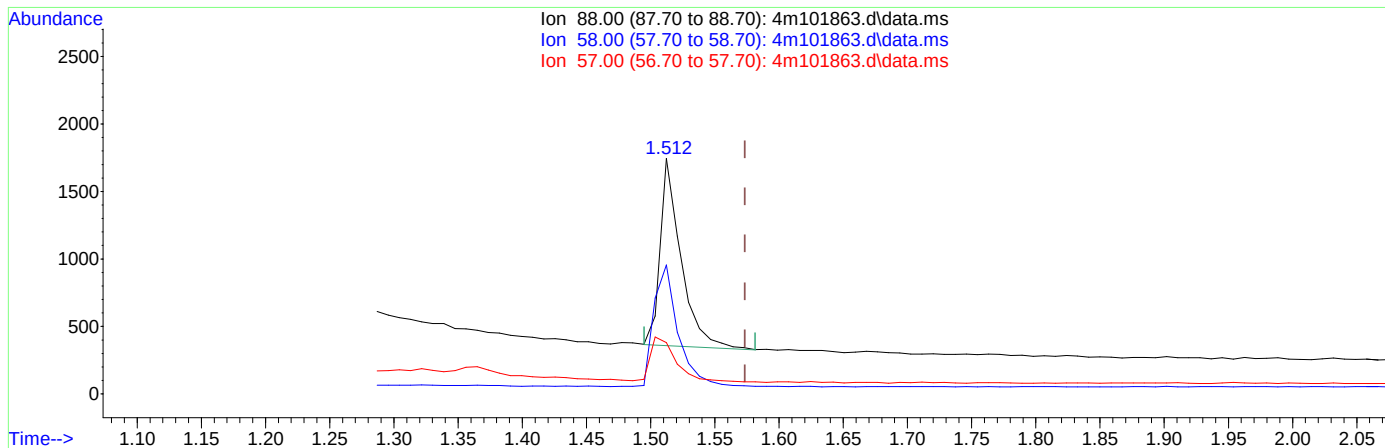
Ion	Exp%	Act%
88.00	100	100
58.00	47.50	63.96
57.00	25.20	20.32
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\altheam\e4m4749\
Data File : 4m101863.d
Acq On : 25 Aug 2021 5:59 pm
Operator : kristis
Sample : cc4670-1
Misc : op34845a,e4m4749,30.0,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Inst : GCMS4M

Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Results File: M4M4670SIM.RES
Quant Time: Aug 26 04:25:47 2021
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Thu Aug 19 04:47:07 2021
Response via : Initial Calibration



TIC: 4m101863.d\data.ms

(36) 1,4-Dioxane (t)

1.512min (-0.061) 0.83ppm m

response 1556

Ion	Exp%	Act%
88.00	100	100
58.00	47.50	54.73
57.00	25.20	21.83
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4750\
 Data File : 4m101890.D
 Acq On : 26 Aug 2021 10:55 am
 Operator : kristis
 Sample : cc4670-0.5
 Misc : op34845a,e4m4750,30.0,,,1,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:21:26 2021
 Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
 Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
 QLast Update : Tue Aug 24 15:44:29 2021
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1-Methylnaphthalene-d10	6.495	152	27566	4.00	ppm	-0.01
12) Fluorene-d10	7.948	176	35451	4.00	ppm	0.00
22) Fluoranthene-d10	10.040	212	68105	4.00	ppm	-0.02
28) Benzo(a)pyrene-d12	12.686	264	48520	4.00	ppm	-0.04
35) 1-Methylnaphthalene-d10a	6.495	152	27566	4.00	ppm	-0.01
38) Fluorene-d10a	7.948	176	35451	4.00	ppm	0.00

System Monitoring Compounds

2) 2-Fluorophenol	3.270	112	39075	9.56	ppm	0.00
Spiked Amount	50.000	Range	11 - 58	Recovery	=	19.12%
3) Phenol-d5	4.227	99	52828	9.76	ppm	0.00
Spiked Amount	50.000			Recovery	=	19.52%
6) Nitrobenzene-d5	5.051	82	50835	10.48	ppm	0.00
Spiked Amount	50.000			Recovery	=	20.96%
11) 2-Fluorobiphenyl	6.809	172	96452	10.53	ppm	0.00
Spiked Amount	50.000			Recovery	=	21.06%
17) 2,4,6-Tribromophenol	8.213	330	17095	11.48	ppm	0.00
Spiked Amount	50.000			Recovery	=	22.96%
25) Terphenyl-d14	10.464	244	113878	10.27	ppm	-0.03
Spiked Amount	50.000			Recovery	=	20.54%

Target Compounds

						Qvalue
4) Phenol	4.238	94	14216	2.32	ppm	98
7) Naphthalene	5.758	128	6442	0.44	ppm	97
8) Hexachlorobutadiene	5.912	225	1718	0.45	ppm	96
9) 2-Methylnaphthalene	6.440	142	4852	0.49	ppm	99
10) Hexachlorocyclopentadiene	6.611	237	1210	0.81	ppm	100
13) Acenaphthylene	7.296	152	6914	0.46	ppm	94
14) Acenaphthene	7.471	153	4858	0.46	ppm	93
16) Fluorene	7.970	166	5547	0.46	ppm	99
18) Hexachlorobenzene	8.517	284	2347	0.49	ppm	96
19) Pentachlorophenol	8.714	266	4229	2.06	ppm	93
20) Phenanthrene	8.896	178	8509	0.48	ppm	98
21) Anthracene	8.949	178	8140	0.48	ppm	99
23) Fluoranthene	10.059	202	10577	0.46	ppm	98
24) Pyrene	10.274	202	10522	0.47	ppm	94
26) Benzo[a]anthracene	11.452	228	9793	0.53	ppm	98
27) Chrysene	11.484	228	10005	0.51	ppm	98
29) Benzo[b]fluoranthene	12.440	252	9535	0.51	ppm	98
30) Benzo[k]fluoranthene	12.461	252	8930	0.49	ppm	93
31) Benzo[a]pyrene	12.705	252	9079	0.47	ppm	95
32) Indeno[1,2,3-cd]pyrene	13.627	276	10023	0.51	ppm	63
33) Dibenz[a,h]anthracene	13.646	278	8057	0.50	ppm	73
34) Benzo[g,h,i]perylene	13.858	276	8829	0.47	ppm	90
36) 1,4-Dioxane	1.521	88	825m	0.41	ppm	
37) 1-Methylnaphthalene	6.534	142	4254	0.45	ppm	94
39) 4,6-dinitro-2-methylph...	8.049	198	1218	1.76	ppm #	66

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101890.D
Acq On : 26 Aug 2021 10:55 am
Operator : kristis
Sample : cc4670-0.5
Misc : op34845a,e4m4750,30.0,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:21:26 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Tue Aug 24 15:44:29 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#)=qualifier out of range (m)=manual integration (+)=signals summed						

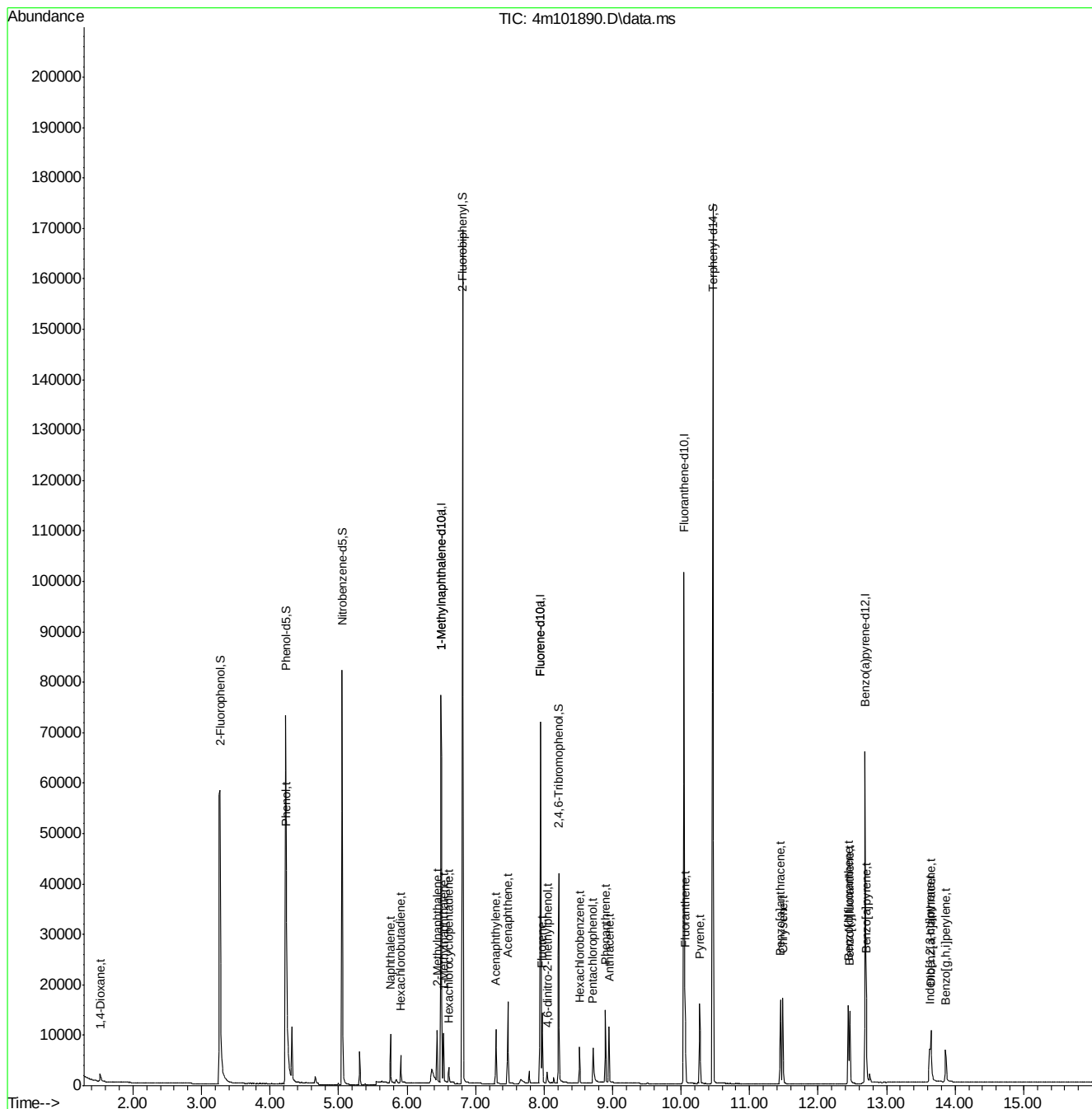
7.6.12

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101890.D
Acq On : 26 Aug 2021 10:55 am
Operator : kristis
Sample : cc4670-0.5
Misc : op34845a,e4m4750,30.0,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:21:26 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Tue Aug 24 15:44:29 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:

E4M4750-CC4670

Method:

SW846 8270E BY SIM

Lab FileID:

4M101890.D

Analyst approved:

08/26/21 15:39 Ying Li

Injection Time:

08/26/21 10:55

Supervisor approved:

08/26/21 18:09 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		1.52	Poor instrument integration

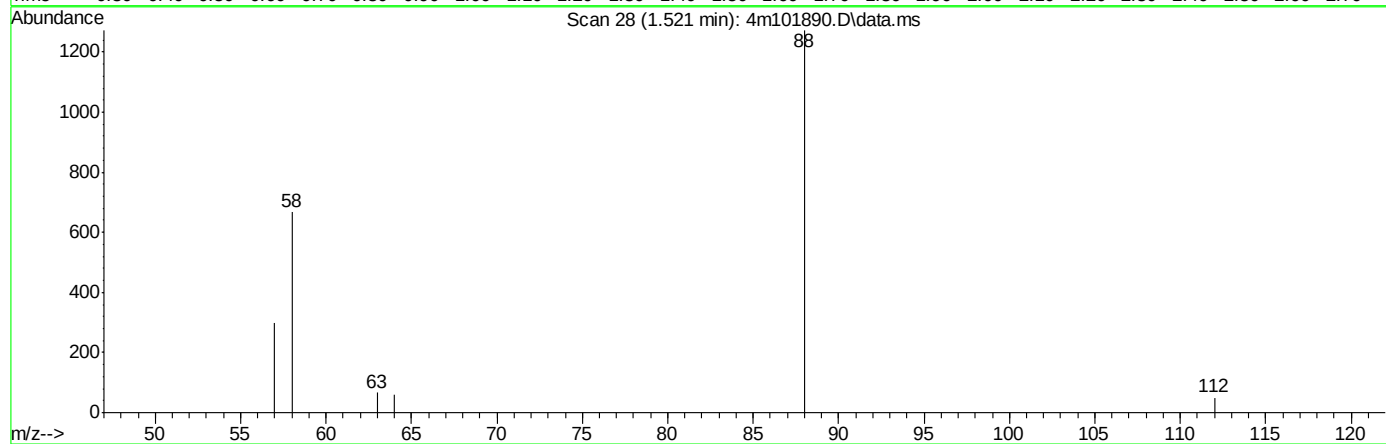
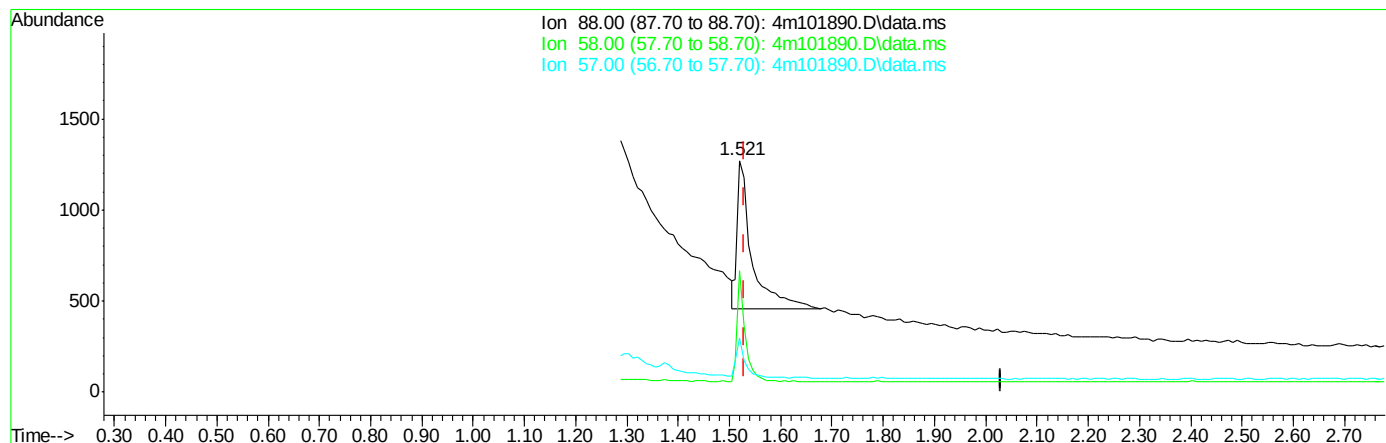
7.6.12.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101890.D
Acq On : 26 Aug 2021 10:55 am
Operator : kristis
Sample : cc4670-0.5
Misc : op34845a,e4m4750,30.0,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:20:40 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Tue Aug 24 15:44:29 2021
Response via : Initial Calibration



TIC: 4m101890.D\data.ms

(36) 1,4-Dioxane (t)

1.521min (-0.009) 0.81ppm

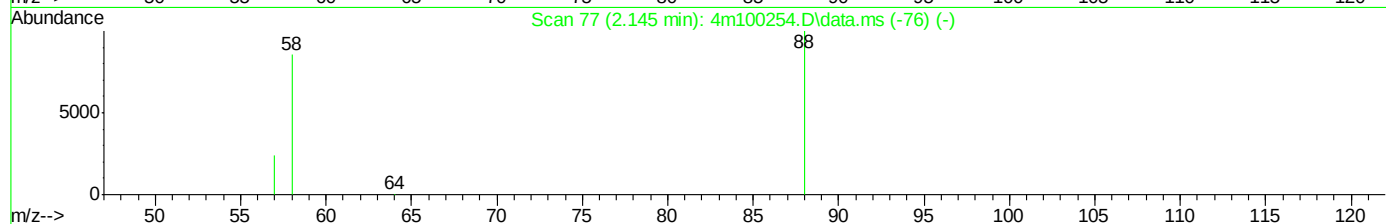
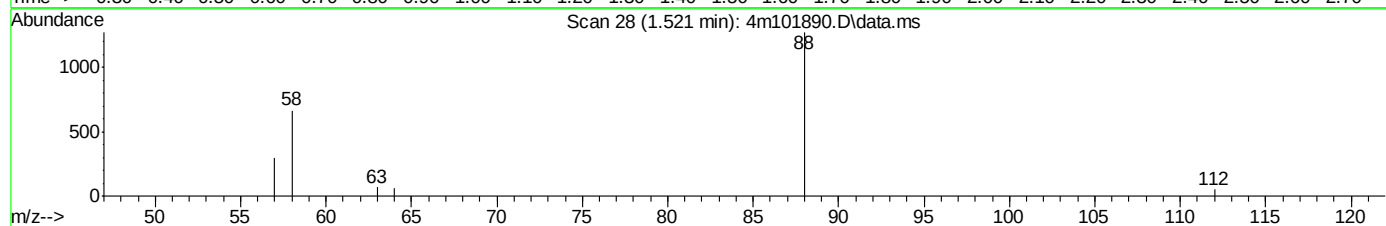
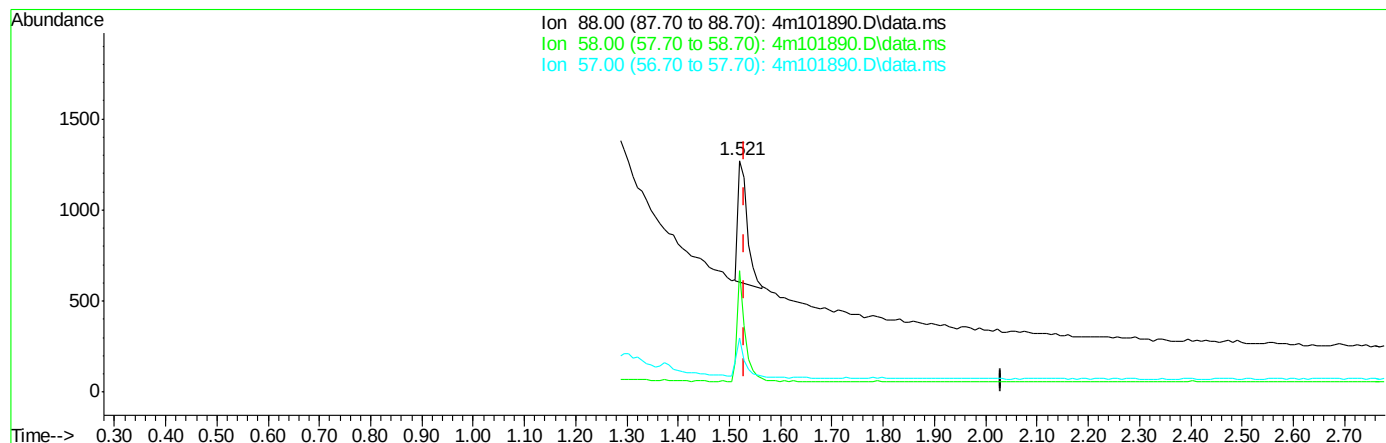
response 1619

Ion	Exp%	Act%
88.00	100	100
58.00	22.90	82.53#
57.00	12.30	29.16
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E4M4750\
Data File : 4m101890.D
Acq On : 26 Aug 2021 10:55 am
Operator : kristis
Sample : cc4670-0.5
Misc : op34845a,e4m4750,30.0,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:21:26 2021
Quant Method : C:\msdchem\1\METHODS\M4M4670SIM.M
Quant Title : Semi Volatile GC/MS,zb-5 15m x .25mm x .50um
QLast Update : Tue Aug 24 15:44:29 2021
Response via : Initial Calibration



TIC: 4m101890.D\data.ms

(36) 1,4-Dioxane (t)

1.521min (-0.009) 0.41ppm m

response 825

Ion	Exp%	Act%
88.00	100	100
58.00	22.90	52.36#
57.00	12.30	23.35
0.00	0.00	0.00

GCMS Semi Volatile Run LogSGS - DaytonInstrument ID: GCMS4M

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv20-2751-52	50ppm	SIM ISTD	sv20-2751-101	400ppm
SIM	sv20-2751-126a	5ppm	dcm\fisher	211559	---
SIM	sv20-2751-126b	2.5ppm	SIM	sv20-2751-126h	0.02ppm
SIM	sv20-2751-126c	1ppm	SIM	sv20-2751-126i	0.01ppm
SIM	sv20-2751-126d	0.5ppm	SIM 2nd	op21-2630-42	1ppm/5ppm
SIM	sv20-2751-126e	0.2ppm			
SIM	sv20-2751-126f	0.1ppm			
SIM	sv20-2751-126g	0.05ppm			

Run Batch:	E4M4670	ACQ. Method:	M4M4670SIM	Sequence Loaded By:	hennys
Date:	5/28/2021	Reference Method:	8270d/8270e/625	Data Processed By:	ying li
Column:	rxl-5sil ms 30m x 0.25mm x 0.25um	Quant Methods:	M4M4670SIM	Approved By:	
Injection Volume:	1.0ul	Initial Calib Date:	5/28/2021	Approved Date	

MP Missed Peak, OP Overlapping Peak SP Split Peak, PDB Poorly Defined Baselin BR Baseline Ripple PII Poor Instrument Integration

	A	L	S	Sample ID	OP	Batch ID	Test / Method	MTX	DF	Manually Integrated Peaks Rational Peak #	L+	Surr OK?	IS OK?	Run OK?	Comment
4M 100250	1			DFTPP										rr	68 197 high, re inject
4M 100251	1			DFTPP										ok	10:42 am
4M 100252	2			IC4670-5			SIM							ok	
4M 100253	3			IC4670-2.5										ok	
4M 100254	4			ICC4670-1						pll				ok	
4M 100255	5			IC4670-0.5						pll				ok	
4M 100256	6			IC4670-0.2						pll				ok	
4M 100257	7			IC4670-0.1						pll				ok	

GCMS Semi Volatile Run Log

Data File	A L S	Sample ID	OP Batch ID	Test / Method	MTX	DF	Manually Integrated Peaks Rational Peak #	L+ Surr OK?	IS OK?	Run OK?	Comment
4M 100258	8	IC4670-0.05					pll			ok	
4M 100259	9	IC4670-0.02					pll			ok	
4M 100260	10	IC4670-0.01					pll			ok	
4M 100261	11	IC4670-1		SIM 2nd						ok	2.05pm

GCMS Semi Volatile Run Log

SGS - Dayton

Instrument ID: GCMS4M

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv20-2811-20	50ppm	SIM ISTD	sv21-2811-41	400ppm
SIM	sv21-2811-52c	1.0ppm	dcm\fisher	213452	---

Run Batch: E4M4749	ACQ. Method: m4m4670sim	Sequence Loaded By: kristis
Date: 8/25/2021	Reference Method: 8270e	Data Processed By: altheam
Column: rxi-5sil ms 30m x 0.25mm x 0.25um	Quant Methods: M4M4670SIM	Approved By: ninap
Injection Volume: 1.0ul	Initial Calib Date: 5/28/2021	Approved Date: 08/26/21

MP Missed Peak, OP Overlapping Peak SP Split Peak, PDB Poorly Defined Baselin BR Baseline Ripple PII Poor Instrument Integration

	A	L	S	Sample ID	OP	Batch ID	Test / Method	MTX	DF	Manually Integrated Peaks Rational Peak #	L+	Surr OK?	IS Run OK?	Run OK?	Comment
Data File															
4M 101861	1			DFTPP										OK	5:16pm
4M 101862	2			CC4670-1										not run	inlet temperature shut down
4M 101863	2			CC4670-1										OK	pcp>30%high
4M 101864	3			OP35048A-MB1		OP35048A	AB8270SIMNJ	AQ				Y	Y	OK	
4M 101865	4			OP35053A-MB1		OP35053A	AB8270SIMNJ	AQ				Y	Y	OK	
4M 101866	5			OP35048A-BS12		OP35048A	AB8270SIMNJ	AQ		pii		Y	Y	OK	
4M 101867	6			OP35048A-BSD12		OP35048A	AB8270SIMNJ	AQ		pii		Y	Y	OK	
4M 101868	7			OP35053A-BS12		OP35053A	AB8270SIMNJ	AQ		pii		Y	Y	OK	

GCMS Semi Volatile Run Log

Data File	A L S	Sample ID	OP Batch ID	Test / Method	MTX	DF	Manually Integrated Peaks Rational Peak #	L+	Surr OK?	IS OK?	Run OK?	Comment
4M 101869	8	OP35053A- BSD12	OP35053A	AB8270SIMNJ	AQ		pji		Y	Y	OK	
4M 101870	9	JD29947-1	OP35053A	B8270SIMPAAH	AQ				Y	Y	OK	corr needs dilution
4M 101871	10	JD29947-2	OP35053A	B8270SIMPAAH	AQ		pji		L	Y	OK	corr surr out
4M 101872	11	JD30380-1	OP35053A	B8270SIM14DIOX	AQ		pji		L	Y	OK	corr surr out.NO AFTER CCV was available for auto-footnote evaluation.
4M 101873	12	JD30380-2	OP35053A	B8270SIM14DIOX	AQ				L	Y	OK	corr surr out.NO AFTER CCV was available for auto-footnote evaluation.
4M 101874	13	JD30405-3	OP35053A	AB8270SIMNJ	AQ		pji		Y	Y	OK	
4M 101875	14	JD30405-1	OP35053A	AB8270SIMNJ	AQ		pji		Y	Y	OK	
4M 101876	15	JD30405-2	OP35053A	AB8270SIMNJ	AQ				Y	Y	OK	
4M 101877	16	JD30373-13	OP35053A	B8270SIM14DIOX	AQ				Y	Y	OK	
4M 101878	17	JD29929-1	OP35053A	B8270SIMPAAH+2MNAP	AQ		pji	X	Y	Y	OK	
4M 101879	18	JD30371-1B	OP35053A	B8270SIM14DIOX	AQ				Y	Y	OK	
4M 101880	19	OP35053A-MSA	OP35053A	AB8270SIMNJ	AQ		pji		Y	Y	OK	
4M 101881	20	OP35053A-MSDA	OP35053A	AB8270SIMNJ	AQ		pji		Y	Y	OK	
4M 101882	21	JD30332-6	OP35048A	AB8270SIMNJ	AQ		pji		Y	Y	OK	
4M 101883	22	JD30332-11									OK	no list found
4M 101884	23	JD30332-13			AQ		pji				OK	no list found
4M 101885	24	JD30332-7	OP35048A	AB8270SIMNJ	AQ				Y	Y	OK	
4M 101886	25	JD30332-5	OP35048A	AB8270SIMNJ	AQ		pji		Y	Y	OK	
4M 101887	26	JD30468-1A	OP35048A	AB8270SIMNJ	AQ				Y	Y	OK	02:25

Page 2 of 2

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv20-2811-20	50ppm	SIM ISTD	sv21-2811-41	400ppm
SIM	sv21-2811-52d	0.5ppm	dcm\fisher	213452	----

Run Batch: E4M4750	ACQ. Method: m4m4670sim	Sequence Loaded By: kristis
Date: 8/26/2021	Reference Method: 8270e	Data Processed By: ying li/altheam
Column: rxi-5sil ms 30m x 0.25mm x 0.25um	Quant Methods: M4M4670SIM	Approved By:
Injection Volume: 1.0ul	Initial Calib Date: 5/28/2021	Approved Date

MP Missed Peak, OP Overlapping Peak SP Split Peak, PDB Poorly Defined Baselin BR Baseline Ripple PII Poor Instrument Integration

	A	L	S	Sample ID	OP Batch ID	Test / Method	MTX	DF	Manually Integrated Peaks Rational Peak #	Surr OK?	IS OK?	Run OK?	Comment
4M 101888	1			DFTPP								not using	pop high- reinject
4M 101889	1			DFTPP								ok	10:26am
4M 101890	2			CC4670-0.5					pii			ok	
4M 101891	3			OP35078A-MB1	OP35078A	B8270SIM14DIOX	AQ		pii	y	y	ok	
4M 101892	4			OP35051A-MB1	OP35051A	B8270SIM14DIOX	SO			y	y	ok	
4M 101893	5			OP35051A-BS12	OP35051A	B8270SIM14DIOX	SO			y	y	ok	
4M 101894	6			OP35078A-BS12	OP35078A	B8270SIM14DIOX	AQ			y	y	ok	
4M 101895	7			OP35078A-BSD12	OP35078A	B8270SIM14DIOX	AQ			y	y	ok	

GCMS Semi Volatile Run Log

Data File	A L S	Sample ID	OP Batch ID	Test / Method	MTX	DF	Manually Integrated Peaks Rational Peak #	L+	Surr OK?	IS OK?	Run OK?	Comment
4M 101896	8	JD30424-1	OP35078A	B8270SIM14DIOX	AQ				y	y	ok	
4M 101897	9	JD30424-10	OP35078A	B8270SIM14DIOX	AQ				y	y	ok	
4M 101898	10	JD30262-1	OP35037A	B8270SIM14DIOX	AQ	5	p1i		y	y	ok	
4M 101899	11	JD30371-6B	OP35053A	B8270SIM14DIOX	AQ				y	y	ok	
4M 101900	12	JD30371-7B	OP35053A	B8270SIM14DIOX	AQ				y	y	ok	
4M 101901	13	JD30389-1	OP35053A	B8270SIMBAAN	AQ		p1i		y	y	ok	
4M 101902	14	JD30389-2	OP35053A	B8270SIMBAAN	AQ		p1i		y	y	ok	
4M 101903	15	JD30389-3	OP35053A	B8270SIMBAAN	AQ				y	y	ok	
4M 101904	16	JD30389-4	OP35053A	B8270SIMBAAN	AQ				y	y	ok	
4M 101905	17	JD30389-5	OP35053A	B8270SIMBAAN	AQ				y	y	ok	
4M 101906	18	JD30342-1	OP35051A	B8270SIM14DIOX	SO				y	y	ok/r rr 100x dl	
4M 101907	19	JD30342-2	OP35051A	B8270SIM14DIOX	SO				y	y	OK	
4M 101908	20	JD30342-3	OP35051A	B8270SIM14DIOX	SO				y	y	OK	
4M 101909	21	JD30342-4	OP35051A	B8270SIM14DIOX	SO				y	y	OK	
4M 101910	22	JD30342-5	OP35051A	B8270SIM14DIOX	SO				y	y	OK	
4M 101911	23	JD30371-8B	OP35053A	B8270SIM14DIOX	AQ				y	y	OK	
4M 101912	24	JD30342-7	OP35051A	B8270SIM14DIOX	SO				y	y	OK	corr needs dilution
4M 101913	25	JD30342-9	OP35051A	B8270SIM14DIOX	SO				y	y	OK	
4M 101914	26	OP35051A-MSA	OP35051A	B8270SIM14DIOX	SO				y	y	OK	

GCMS Semi Volatile Run Log

Data File	A L S	Sample ID	OP Batch ID	Test / Method	MTX	DF	Manually Integrated Peaks Rational Peak #	L+ Surr OK?	IS OK?	Run OK?	Comment
4M 101915	27	OP35051A- MSDA	OP35051A	B8270SIM14DIOX	SO			Y	Y	OK	
4M 101916	28	JD30352-5	OP35048A	B8270SIMPALO	AQ			Y	Y	OK	
4M 101917	29	JD30352-6	OP35048A	B8270SIMPALO	AQ		p1i	Y	Y	OK	
4M 101918	30	JD30342-1	OP35051A	B8270SIM14DIOX	SO	100	p1i	Y	Y	OK	
4M 101919	31	JD30342-2	OP35051A	B8270SIM14DIOX	SO	100	p1i	Y	Y	OK	
4M 101920	32	JD30342-3	OP35051A	B8270SIM14DIOX	SO	100	p1i	Y	Y	OK	
4M 101921	33	JD30342-4	OP35051A	B8270SIM14DIOX	SO	100	p1i	Y	Y	OK	
4M 101922	34	JD30342-5	OP35051A	B8270SIM14DIOX	SO	100		Y	Y	OK	rr out of clock. Corr needs dilution 22:23

LOGBOOK ID:

Date Started: 08-25-2021 Time Started: 08:50
 Date Finished: 08-25-2021 Time Finished: 16:42

ABN Aqueous Extraction Logbook

Extract Method (CHECK OFF "Y" /DO NOT CIRCLE):

Spiratory Funnel: SW46 3510C/LP/other: Y 3510C SM

Continuous Liquid Liquid: SW46 3520C/LP/other: _____

Special Client Spike Instructions				
QC ID# for Special Spike	Spike ID	Lot #	Conc.	Am't. Spiked

WITNESS SIGN
 Manager/Supervisor/Team Lead Approval:

SPECIAL PROCESSING INSTRUCTIONS

Rx Reason:

Spiking:

Weights/Volumes:

Required MS/MSD:

JP30371-1 (sim only)

Final Volume:

Other:

Dec: 8/26
JP30371-1 (sim only)
Dec: 8/26

SGS

Form: OP022A-13
 Rev Date: 8/23/19

Sample #	Analysis Type	Sample Bottle #	Sample Description	Sample Volume (mL)	Final pH	Final Extract	Misc.
JP30371-1	MSD	4	yellow	1050	12	yellow 1.0	OPC Cleanup
JP30371-1	MSD	5	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	6	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	7	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	8	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	9	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	10	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	11	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	12	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	13	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	14	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	15	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	16	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	17	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	18	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	19	yellow	1050	12	yellow 1.0	
JP30371-1	MSD	20	yellow	1050	12	yellow 1.0	

Comments: Heavy sediment in bottle • Centrifuged
- Heavy Emulsion

BATCH #	MSOP35053	RACK#	R-46	
Set-up by:	TG, BP, AS			
Extracted by:	TG, BP, AK, NW			
Concentrated by:	AK, BP			
Final Vol. Top-up:				
Viallet by:	NW, NIT			
Supervisor Review:	NIT 8-25-2021			
Equipment/Range	ID	Observed Temp (°C)	Corrected Temp (°C)	Pressure/Refract
Bucks (65-71°C)	2.3	69.65	—	OK
Buck Chiller	B2-B3	10.1	—	OK
Washbath (70-80°C)	5.6	—	2-2	OK
Washbath Chiller (°C/min)	2	—	—	OK
HEVAFLO (2.0°C L/min)	3	34.9	—	OK
SURROGATE	LOT #	CONC (ppm)	ART (mL)	
ABN	21636-70	50	0.7	1.0
ABN DOD SIM				
WITNESS SIGN: AK	SPRKE SIGN: NW			
MATRIX STRIKE	LOT #	CONC (ppm)	ART (mL)	
Acid				
Acid (for SIM)				
Base mix 1	212630-95	50/100	0.7	1.0
Base mix 2	212630-96	50	0.7	1.0
Anilines				
ISIM	212630-87	11214		1.0
WITNESS SIGN: AK	SPRKE SIGN: NW			
SOLVENT	LOT #	BRAND	ART (mL)	
METH CHLOR	214667	Fisher	0.6	
REAGENT	LOT #	BATCH #	BRAND	
NaOH	206344		Fisher	
H2SO4	210665		Ricca	
Sodium Sulfate	206607	5-9-21	Fisher	
Glass Wool	A0418317		ACROS	
Filter Paper				
pH strips	205120		HYDROM	

45

Misc. Forms

Custody Documents and Other Forms

(SGS Orlando, FL)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle



CHAIN OF CUSTODY

Page 1 of 1

2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3490/3480

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)												Matrix Codes			
Company Name: SGS North America Inc.		Project Name: Aristocrat Cleaners, Hartsdale NY														DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB- Rinse Blank TB-Trip Blank			
Street Address 2235 Route 130		Street																	
City State Zip Dayton NJ 08810		City State																	
Project Contact E-mail viktoriya.pushkova@sgs.com		Project #																	
Phone # 732-329-0200		Fax #		Client Purchase Order #		City State Zip													
Sampler(s) Name(s) MA		Project Manager		Attention:															
SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	INO3	H2SO4	NOH	D1 Water	MEOH	ENCORE	LAB USE ONLY			
1A	MW#1 210819		8/19/21	10:12:00 AM	MA	AQ											X		
1AD	MW#1 210819 MSD		8/19/21	10:12:00 AM	MA	AQ											X		
1AS	MW#1 210819 MS		8/19/21	10:12:00 AM	MA	AQ											X		
6A	MW#8 210819		8/19/21	2:30:00 PM	MA	AQ											X		
7A	DUPLICATE #1210819		8/19/21	10:38:00 AM	MA	AQ											X		
8A	MW#4 210819		8/19/21	1:51:00 PM	MA	AQ											X		
9	FIELD BLANK		8/19/21	10:20:00 AM	MA	AQ											X		
Turnaround Time (Business days)		Data Deliverable Information		Comments / Special Instructions															
☐ Std. 10 Business Days ☐ 5 Day RUSH ☐ 3 Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 1 Day EMERGENCY ☒ other 14 Emergency & Rush T/A data available VIA Lablink		Approved By (SGS PM): / Date: _____ _____ _____		☐ Commercial "A" (Level 1) ☐ Commercial "B" (Level 2) ☐ FULLT1 (Level 3+4) ☐ NJ Reduced ☐ Commercial "C" ☐ NYASP Category A ☐ NYASP Category B ☐ State Forms ☐ EDD Format ☒ Other NYASPB Commercial "A" = Results Only Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data		INITIAL ASSESSMENT <u>\$</u> LABEL VERIFICATION <u>DO</u>													
Relinquished to:		Date Time:		Received By:		Date Time:		Received By:		Date Time:		Received By:		Date Time:		Received By:			
1 <u>[Signature]</u>		8/24/21		1 <u>Feder</u>		2 <u>[Signature]</u>		3 <u>[Signature]</u>		4 <u>[Signature]</u>		5 <u>[Signature]</u>		6 <u>[Signature]</u>		7 <u>[Signature]</u>			
Relinquished by:		Date Time:		Received By:		Date Time:		Received By:		Date Time:		Received By:		Date Time:		Received By:			
3 <u>[Signature]</u>		8/24/21		4 <u>[Signature]</u>		5 <u>[Signature]</u>		6 <u>[Signature]</u>		7 <u>[Signature]</u>		8 <u>[Signature]</u>		9 <u>[Signature]</u>		10 <u>[Signature]</u>			
Relinquished by:		Date Time:		Received By:		Date Time:		Received By:		Date Time:		Received By:		Date Time:		Received By:			
5 <u>[Signature]</u>		8/24/21		6 <u>[Signature]</u>		7 <u>[Signature]</u>		8 <u>[Signature]</u>		9 <u>[Signature]</u>		10 <u>[Signature]</u>		11 <u>[Signature]</u>		12 <u>[Signature]</u>			
Custody Seal #		☐ Intact ☐ Not intact		Preserved where applicable		☐ On Ice ☐ Cooler Temp.		4.4.184											

JD30371A: Chain of Custody

Page 1 of 2

SGS Orlando, FL



SGS Sample Receipt Summary

Job Number: JD30371A **Client:** DAYTON **Project:** ARISTOCRAT CLEANERS, HARTSDALE NY
Date / Time Received: 8/24/2021 9:30:00 AM **Delivery Method:** FED EX **Airbill #s:** 9251 0905 6160

Therm ID: IR4; **Therm CF:** 0.6; **# of Coolers:** 1
Cooler Temps (Raw Measured) °C: Cooler 1: (4.4);
Cooler Temps (Corrected) °C: Cooler 1: (5.0);

Cooler Information

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present	☒		☐
2. Custody Seals Intact	☒		☐
3. Temp criteria achieved	☒		☐
4. Cooler temp verification	<u>IR Gun</u>		
5. Cooler media	<u>Ice (Bag)</u>		

Sample Information

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Sample labels present on bottles	☒		☐	
2. Samples preserved properly	☒		☐	
3. Sufficient volume/containers recvd for analysis:	☒		☐	
4. Condition of sample	<u>Intact</u>			
5. Sample recvd within HT	☒		☐	
6. Dates/Times/IDs on COC match Sample Label	☒		☐	
7. VOCs have headspace	☐		☐	☒
8. Bottles received for unspecified tests	☐		☒	
9. Compositing instructions clear	☐		☐	☒
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☒
11. % Solids Jar received?	☐		☐	☒
12. Residual Chlorine Present?	☐		☐	☒

Trip Blank Information

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler	☐		☐	☒
2. Trip Blank listed on COC	☐		☐	☒
	<u>W</u>	<u>or</u>	<u>S</u>	<u>N/A</u>
3. Type Of TB Received	☐		☐	☒

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____
 Test Strip Lot #s: pH 0-3 _____ 230315 _____ pH 10-12 _____ 219813A _____ Other: (Specify) _____
 Residual Chlorine Test Strip Lot #: _____

Comments

SM001 Technician: CARLOSD Date: 8/24/2021 9:30:00 AM Reviewer: _____ Date: _____
 Rev. Date 05/24/17

JD30371A: Chain of Custody

Page 2 of 2

Internal Sample Tracking Chronicle

SGS Dayton, NJ

Job No: JD30371A

ENVTRAC: Aristocrat Cleaners, Hartsdale NY
Project No: ENVTRAC89655

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD30371-9 Collected: 19-AUG-21 10:20 By: MA Received: 20-AUG-21 By: FIELD BLANK						
JD30371-9	EPA 537M BY ID	01-SEP-21 00:10	MV	26-AUG-21 MV		LCID537NY21
JD30371-1A Collected: 19-AUG-21 10:12 By: MA Received: 20-AUG-21 By: MW#1 210819						
JD30371-1A	EPA 537M BY ID	31-AUG-21 19:12	MV	26-AUG-21 MV		LCID537NY21
JD30371-6A Collected: 19-AUG-21 14:30 By: MA Received: 20-AUG-21 By: MW#8 210819						
JD30371-6A	EPA 537M BY ID	01-SEP-21 22:22	MV	26-AUG-21 MV		LCID537NY21
JD30371-6A	EPA 537M BY ID	02-SEP-21 00:17	MV	26-AUG-21 MV		LCID537NY21
JD30371-7A Collected: 19-AUG-21 10:38 By: MA Received: 20-AUG-21 By: DUPLICATE #1210819						
JD30371-7A	EPA 537M BY ID	01-SEP-21 22:38	MV	26-AUG-21 MV		LCID537NY21
JD30371-8A Collected: 19-AUG-21 13:51 By: MA Received: 20-AUG-21 By: MW#4 210819						
JD30371-8A	EPA 537M BY ID	01-SEP-21 22:55	MV	26-AUG-21 MV		LCID537NY21
JD30371-8A	EPA 537M BY ID	02-SEP-21 00:51	MV	26-AUG-21 MV		LCID537NY21

828

MS Semi-volatiles

QC Data Summaries

(SGS Orlando, FL)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Isotope Dilution Standard Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86997-MB	3Q44079.D	1	09/01/21	MV	08/26/21	OP86997	S3Q639

The QC reported here applies to the following samples: Method: EPA 537M BY ID

JD30371-9, JD30371-1A, JD30371-6A, JD30371-7A, JD30371-8A

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0040	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0020	0.0010	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0020	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0020	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0020	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0020	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0020	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0020	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0020	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0020	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0020	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0020	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0020	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0020	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0020	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0020	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0020	ug/l	
2355-31-9	MeFOSAA	ND	0.0040	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0040	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	85% 35-135%
	13C5-PFPeA	86% 50-150%
	13C5-PFHxA	86% 50-150%
	13C4-PFHpA	86% 50-150%
	13C8-PFOA	88% 50-150%
	13C9-PFNA	83% 50-150%
	13C6-PFDA	83% 50-150%
	13C7-PFUnDA	78% 40-140%
	13C2-PFDoDA	82% 40-140%
	13C2-PFTeDA	73% 30-130%
	13C3-PFBS	86% 50-150%

Method Blank Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86997-MB	3Q44079.D	1	09/01/21	MV	08/26/21	OP86997	S3Q639

The QC reported here applies to the following samples: Method: EPA 537M BY ID
JD30371-9, JD30371-1A, JD30371-6A, JD30371-7A, JD30371-8A

CAS No.	ID Standard Recoveries	Limits
13C3-PFHxS	85%	50-150%
13C8-PFOS	78%	50-150%
13C8-FOSA	78%	30-130%
d3-MeFOSAA	66%	40-140%
d5-EtFOSAA	62%	40-140%
13C2-6:2FTS	82%	50-150%
13C2-8:2FTS	79%	50-150%

Instrument Blank

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q638-IBLK	3Q43890.D	1	08/30/21	MV	n/a	n/a	S3Q638

The QC reported here applies to the following samples: Method: EPA 537M QSM5.3 B-15

JD30371-9, JD30371-1A

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0010	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	103% 50-150%
	13C5-PFPeA	104% 50-150%
	13C5-PFHxA	104% 50-150%
	13C4-PFHpA	105% 50-150%
	13C8-PFOA	105% 50-150%
	13C9-PFNA	105% 50-150%
	13C6-PFDA	107% 50-150%
	13C7-PFUnDA	104% 50-150%
	13C2-PFDoDA	104% 50-150%
	13C2-PFTeDA	102% 50-150%
	13C3-PFBS	104% 50-150%

Instrument Blank

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q638-IBLK	3Q43890.D	1	08/30/21	MV	n/a	n/a	S3Q638

The QC reported here applies to the following samples: Method: EPA 537M QSM5.3 B-15
JD30371-9, JD30371-1A

CAS No.	ID Standard Recoveries	Limits
13C3-PFHxS	106%	50-150%
13C8-PFOS	108%	50-150%
13C8-FOSA	105%	50-150%
d3-MeFOSAA	103%	50-150%
d5-EtFOSAA	103%	50-150%
13C2-4:2FTS	95%	50-150%
13C2-6:2FTS	95%	50-150%
13C2-8:2FTS	96%	50-150%

Instrument Blank

Page 1 of 2

Job Number: JD30371A**Account:** ALNJ SGS Dayton, NJ**Project:** ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q639-IBLK	3Q44039.D	1	09/01/21	MV	n/a	n/a	S3Q639

The QC reported here applies to the following samples:**Method:** EPA 537M QSM5.3 B-15

JD30371-6A, JD30371-7A, JD30371-8A

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0010	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	101% 50-150%
	13C5-PFPeA	101% 50-150%
	13C5-PFHxA	102% 50-150%
	13C4-PFHpA	101% 50-150%
	13C8-PFOA	106% 50-150%
	13C9-PFNA	106% 50-150%
	13C6-PFDA	106% 50-150%
	13C7-PFUnDA	104% 50-150%
	13C2-PFDoDA	103% 50-150%
	13C2-PFTeDA	102% 50-150%
	13C3-PFBS	103% 50-150%

Instrument Blank

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q639-IBLK	3Q44039.D	1	09/01/21	MV	n/a	n/a	S3Q639

The QC reported here applies to the following samples: Method: EPA 537M QSM5.3 B-15
JD30371-6A, JD30371-7A, JD30371-8A

CAS No.	ID Standard Recoveries	Limits
13C3-PFHxS	106%	50-150%
13C8-PFOS	106%	50-150%
13C8-FOSA	107%	50-150%
d3-MeFOSA	119%	50-150%
d3-MeFOSAA	78%	50-150%
d5-EtFOSAA	74%	50-150%
13C2-4:2FTS	95%	50-150%
13C2-6:2FTS	103%	50-150%
13C2-8:2FTS	103%	50-150%

Blank Spike Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86997-BS	3Q43988.D	1	08/31/21	MV	08/26/21	OP86997	S3Q638

The QC reported here applies to the following samples: Method: EPA 537M BY ID

JD30371-9, JD30371-1A, JD30371-6A, JD30371-7A, JD30371-8A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.08	0.0808	101	70-130
2706-90-3	Perfluoropentanoic acid	0.08	0.0779	97	70-130
307-24-4	Perfluorohexanoic acid	0.08	0.0803	100	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0799	100	70-130
335-67-1	Perfluorooctanoic acid	0.08	0.0773	97	70-130
375-95-1	Perfluorononanoic acid	0.08	0.0771	96	70-130
335-76-2	Perfluorodecanoic acid	0.08	0.0782	98	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0758	95	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0796	100	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0918	115	60-140
376-06-7	Perfluorotetradecanoic acid	0.08	0.0771	96	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0799	100	70-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0786	98	70-130
375-92-8	Perfluoroheptanesulfonic acid	0.08	0.0840	105	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0793	99	70-130
335-77-3	Perfluorodecanesulfonic acid	0.08	0.0737	92	60-130
754-91-6	PFOSA	0.08	0.0811	101	70-130
2355-31-9	MeFOSAA	0.08	0.0762	95	70-130
2991-50-6	EtFOSAA	0.08	0.0793	99	70-130
27619-97-2	6:2 Fluorotelomer sulfonate	0.08	0.0826	103	70-130
39108-34-4	8:2 Fluorotelomer sulfonate	0.08	0.0822	103	70-130

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	84%	35-135%
	13C5-PFPeA	86%	50-150%
	13C5-PFHxA	86%	50-150%
	13C4-PFHpA	86%	50-150%
	13C8-PFOA	85%	50-150%
	13C9-PFNA	80%	50-150%
	13C6-PFDA	79%	50-150%
	13C7-PFUnDA	76%	40-140%
	13C2-PFDoDA	75%	40-140%
	13C2-PFTeDA	60%	30-130%
	13C3-PFBS	86%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86997-BS	3Q43988.D	1	08/31/21	MV	08/26/21	OP86997	S3Q638

The QC reported here applies to the following samples: Method: EPA 537M BY ID
JD30371-9, JD30371-1A, JD30371-6A, JD30371-7A, JD30371-8A

CAS No.	ID Standard Recoveries	BSP	Limits
	13C3-PFHxS	85%	50-150%
	13C8-PFOS	78%	50-150%
	13C8-FOSA	72%	30-130%
	d3-MeFOSAA	58%	40-140%
	d5-EtFOSAA	55%	40-140%
	13C2-6:2FTS	83%	50-150%
	13C2-8:2FTS	81%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86997-MS	3Q43991.D	1	08/31/21	MV	08/26/21	OP86997	S3Q638
OP86997-MSD	3Q43992.D	1	08/31/21	MV	08/26/21	OP86997	S3Q638
JD30371-1A	3Q43990.D	1	08/31/21	MV	08/26/21	OP86997	S3Q638

The QC reported here applies to the following samples: Method: EPA 537M BY ID

JD30371-9, JD30371-1A, JD30371-6A, JD30371-7A, JD30371-8A

CAS No.	Compound	JD30371-1A ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
375-22-4	Perfluorobutanoic acid	0.0056	0.0741	0.0783	98	0.0714	0.0752	97	4	70-130/30
2706-90-3	Perfluoropentanoic acid	0.0092	0.0741	0.0805	96	0.0714	0.0782	97	3	70-130/30
307-24-4	Perfluorohexanoic acid	0.0092	0.0741	0.0825	99	0.0714	0.0792	98	4	70-130/30
375-85-9	Perfluoroheptanoic acid	0.0111	0.0741	0.0833	97	0.0714	0.0790	95	5	70-130/30
335-67-1	Perfluorooctanoic acid	0.0523	0.0741	0.123	95	0.0714	0.117	91	5	70-130/30
375-95-1	Perfluorononanoic acid	0.0056	0.0741	0.0753	94	0.0714	0.0732	95	3	70-130/30
335-76-2	Perfluorodecanoic acid	0.0024	0.0741	0.0762	100	0.0714	0.0706	95	8	70-130/30
2058-94-8	Perfluoroundecanoic acid	ND	0.0741	0.0738	100	0.0714	0.0696	97	6	70-130/30
307-55-1	Perfluorododecanoic acid	ND	0.0741	0.0739	100	0.0714	0.0720	101	3	70-130/30
72629-94-8	Perfluorotridecanoic acid	ND	0.0741	0.101	136	0.0714	0.118	165*	16	60-140/30
376-06-7	Perfluorotetradecanoic acid	ND	0.0741	0.0723	98	0.0714	0.0678	95	6	70-130/30
375-73-5	Perfluorobutanesulfonic acid	0.0091	0.0741	0.0817	98	0.0714	0.0777	96	5	70-130/30
355-46-4	Perfluorohexanesulfonic acid	0.0015	J 0.0741	0.0731	97	0.0714	0.0704	96	4	70-130/30
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0741	0.0804	109	0.0714	0.0785	110	2	70-130/30
1763-23-1	Perfluorooctanesulfonic acid	0.0426	0.0741	0.106	86	0.0714	0.115	101	8	70-130/30
335-77-3	Perfluorodecanesulfonic acid	ND	0.0741	0.0722	97	0.0714	0.0596	83	19	60-130/30
754-91-6	PFOSA	ND	0.0741	0.0736	99	0.0714	0.0729	102	1	70-130/30
2355-31-9	MeFOSAA	ND	0.0741	0.0729	98	0.0714	0.0712	100	2	70-130/30
2991-50-6	EtFOSAA	ND	0.0741	0.0746	101	0.0714	0.0705	99	6	70-130/30
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0741	0.0759	102	0.0714	0.0709	99	7	70-130/30
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0741	0.0767	104	0.0714	0.0719	101	6	70-130/30

CAS No.	ID Standard Recoveries	MS	MSD	JD30371-1A	Limits
	13C4-PFBA	85%	79%	85%	35-135%
	13C5-PFPeA	86%	82%	86%	50-150%
	13C5-PFHxA	81%	76%	82%	50-150%
	13C4-PFHpA	83%	79%	84%	50-150%
	13C8-PFOA	87%	82%	88%	50-150%
	13C9-PFNA	85%	83%	84%	50-150%
	13C6-PFDA	81%	80%	82%	50-150%
	13C7-PFUnDA	75%	70%	72%	40-140%
	13C2-PFDoDA	68%	54%	59%	40-140%
	13C2-PFTeDA	47%	23%* ^a	36%	30-130%
	13C3-PFBS	89%	83%	88%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 2

Job Number: JD30371A

Account: ALNJ SGS Dayton, NJ

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86997-MS	3Q43991.D	1	08/31/21	MV	08/26/21	OP86997	S3Q638
OP86997-MSD	3Q43992.D	1	08/31/21	MV	08/26/21	OP86997	S3Q638
JD30371-1A	3Q43990.D	1	08/31/21	MV	08/26/21	OP86997	S3Q638

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

JD30371-9, JD30371-1A, JD30371-6A, JD30371-7A, JD30371-8A

CAS No.	ID Standard Recoveries	MS	MSD	JD30371-1A Limits	
	13C3-PFHxS	87%	82%	85%	50-150%
	13C8-PFOS	78%	76%	79%	50-150%
	13C8-FOSA	38%	38%	45%	30-130%
	d3-MeFOSAA	60%	59%	57%	40-140%
	d5-EtFOSAA	57%	55%	54%	40-140%
	13C2-6:2FTS	91%	90%	88%	50-150%
	13C2-8:2FTS	90%	89%	84%	50-150%

(a) Outside control limits.

* = Outside of Control Limits.

Isotope Dilution Standard Recovery Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Method: EPA 537M BY ID	Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6	S7	S8
JD30371-9	3Q44008.D	92	93	94	95	95	95	92	86
JD30371-1A	3Q43990.D	85	86	82	84	88	84	82	72
JD30371-6A	3Q44086.D	62	70	68	71	76	76	75	51
JD30371-6A	3Q44093.D	75	83	82	84	88	89	88	78
JD30371-7A	3Q44087.D	70	72	68	70	75	73	71	63
JD30371-8A	3Q44088.D	67	71	67	69	74	71	71	64
JD30371-8A	3Q44095.D	77	80	77	80	84	80	79	69
OP86997-BS	3Q43988.D	84	86	86	86	85	80	79	76
OP86997-MB	3Q44079.D	85	86	86	86	88	83	83	78
OP86997-MS	3Q43991.D	85	86	81	83	87	85	81	75
OP86997-MSD	3Q43992.D	79	82	76	79	82	83	80	70

Isotope Dilution Standards

Recovery Limits

S1 = 13C4-PFBA	35-135%
S2 = 13C5-PFPeA	50-150%
S3 = 13C5-PFHxA	50-150%
S4 = 13C4-PFHpA	50-150%
S5 = 13C8-PFOA	50-150%
S6 = 13C9-PFNA	50-150%
S7 = 13C6-PFDA	50-150%
S8 = 13C7-PFUnDA	40-140%

Isotope Dilution Standard Recovery Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Method: EPA 537M BY ID	Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S9	S10	S11	S12	S13	S14	S15	S16
JD30371-9	3Q44008.D	85	76	94	95	90	86	70	65
JD30371-1A	3Q43990.D	59	36	88	85	79	45	57	54
JD30371-6A	3Q44086.D	26* a	56	73	77	69	27* a	73	64
JD30371-6A	3Q44093.D	70	54	87	91	90	39	73	64
JD30371-7A	3Q44087.D	58	56	73	74	66	40	62	59
JD30371-8A	3Q44088.D	62	59	72	73	66	27* a	61	56
JD30371-8A	3Q44095.D	60	45	83	79	74	31	59	54
OP86997-BS	3Q43988.D	75	60	86	85	78	72	58	55
OP86997-MB	3Q44079.D	82	73	86	85	78	78	66	62
OP86997-MS	3Q43991.D	68	47	89	87	78	38	60	57
OP86997-MSD	3Q43992.D	54	23* a	83	82	76	38	59	55

Isotope Dilution Standards	Recovery Limits
S9 = 13C2-PFDoDA	40-140%
S10 = 13C2-PFTeDA	30-130%
S11 = 13C3-PFBS	50-150%
S12 = 13C3-PFHxS	50-150%
S13 = 13C8-PFOS	50-150%
S14 = 13C8-FOSA	30-130%
S15 = d3-MeFOSAA	40-140%
S16 = d5-EtFOSAA	40-140%

(a) Outside control limits.

Isotope Dilution Standard Recovery Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Method: EPA 537M BY ID	Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S17	S18
JD30371-9	3Q44008.D	88	90
JD30371-1A	3Q43990.D	88	84
JD30371-6A	3Q44086.D	84	84
JD30371-6A	3Q44093.D	90	91
JD30371-7A	3Q44087.D	82	75
JD30371-8A	3Q44088.D	79	75
JD30371-8A	3Q44095.D	85	80
OP86997-BS	3Q43988.D	83	81
OP86997-MB	3Q44079.D	82	79
OP86997-MS	3Q43991.D	91	90
OP86997-MSD	3Q43992.D	90	89

Isotope Dilution Standards	Recovery Limits
S17 = 13C2-6:2FTS	50-150%
S18 = 13C2-8:2FTS	50-150%

Initial Calibration Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q637-ICC637
Lab FileID: 3Q43719.D

Initial Calibration Report

Method Path	D:\MassHunter\Methods										
Method File	ID_082821_S3Q637.quantimethod.xml										
Batch Name	D:\MassHunter\Data\0826_FULL_S3Q636\QuantResults\3q637.batch.bin										
Last Calib Update	8/28/2021 10:00:27 AM										
Level Name	Calibration Files										
1	D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d										
2	D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d										
3	D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d										
4	D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d										
5	D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d										
6	D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d										
7	D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d										
8	D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d										
Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
S 13C4-PFBA	Linear	6182	6792	6677	6676	6661	6706	6636	6759	6636	2.869
S 13C5-PFPeA	Linear	5488	6030	5922	5925	5892	5939	5854	5970	5878	2.819
S 13C3-PFBS	Linear	665.7	732.4	714.1	719.5	709.7	721.1	711.4	721.7	711.9	2.807
S 13C2-4:2FTS	Linear	4185	4617	4496	4560	4667	4785	5131	5869	4789	10.678
S 13C5-PFHxA	Linear	7919	8675	8506	8534	8479	8507	8421	8429	8434	2.638
S 13C3-HFPO-DA	Linear	877.7	957.2	935.2	915.7	941.3	940.7	947.7	940.2	932.0	2.671
S 13C4-PFHpA	Linear	9433	10344	10144	10139	10012	10041	9858	9859	9979	2.726
S 13C3-PFHXS	Linear	781.1	830.9	826.7	824.5	811.2	821.1	796.4	804.1	812.0	2.119
S 13C2-6:2FTS	Linear	5417	5915	5796	5809	5926	5944	6240	6695	5968	6.225
S 13C8-PFOA	Linear	11720	12659	12622	12441	12367	12284	11819	11311	12153	3.971
S 13C8-PFOS	Linear	1168	1285	1228	1242	1230	1251	1207	1200	1226	2.876
S 13C9-PFNA	Linear	12346	13333	13122	13180	12989	12872	12420	12149	12801	3.428
S 13C8-FOSA	Linear	3935	4300	4174	4188	4226	4093	3824	3639	4047	5.626
S 13C6-PFDA	Linear	15978	17520	17194	17009	16951	16758	15686	15113	16526	5.065
S d3-MeFOSA	Linear	1224	1319	1268	1269	1238	1191	1082	900.5	1186	11.392
S 13C2-8:2FTS	Linear	5996	6415	6316	6342	6368	6489	6545	7106	6447	4.851
S d3-MeFOSAA	Linear	4033	4362	4299	4332	4271	4287	4104	3953	4205	3.636
S d5-EFOSAA	Linear	3805	4232	4113	4244	4127	4146	3996	4059	4090	3.453
S 13C7-PFUnDA	Linear	19628	21138	20820	20686	20504	20061	19525	19057	20177	3.603
S 13C2-PFDODA	Linear	23321	25377	25294	25031	24716	24244	24215	23896	24512	2.937
S 13C2-PFTeDA	Linear	14460	15733	15526	15480	15446	15141	15187	15223	15274	2.520
I M4-PFBA	----- ISTD -----										
T PFBA	Linear	0.4913	0.4506	0.4887	0.5062	0.5060	0.5026	0.4967	0.5003	0.4928	3.693
I M5-PFPeA	----- ISTD -----										
T PFPeA	Linear	1.3390	1.2180	1.3145	1.3635	1.3644	1.3645	1.3512	1.3594	1.3343	3.751
I M5-PFHxA	----- ISTD -----										
T PFHxA	Linear	0.8472	0.7583	0.8378	0.8787	0.8743	0.8695	0.8589	0.8710	0.8495	4.640

Initial Calibration Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q637-ICC637
Lab FileID: 3Q43719.D

Initial Calibration Report									
Compound	Curve Fit	1	2	3	4	5	6	7	8
I M4-PFHpA T PFHpA	Linear	1.5224	1.4016	1.5692	1.6193	1.6452	1.6130	1.5992	1.6156
						ISTD			5.006
I M8-PFOA T PFOA	Linear	1.0509	0.9216	1.0103	1.0502	1.0489	1.0478	1.0352	1.0539
						ISTD			4.384
I M9-PFNA T PFNA	Linear	0.9512	0.9009	0.9826	1.0142	1.0265	1.0132	1.0207	1.0417
						ISTD			4.726
I M6-PFDA T 9Cl-PF3ONS T PFDA	Linear	0.0905	0.0865	0.0965	0.1030	0.1010	0.1015	0.1049	0.1090
		0.8838	0.8142	0.9163	0.9440	0.9371	0.9360	0.9435	0.9465
I M7-PFUnDA T PFDS T PFUnDA	Linear	0.0399	0.0326	0.0413	0.0429	0.0415	0.0413	0.0417	0.0425
		0.9142	0.8385	0.9223	0.9693	0.9633	0.9557	0.9628	0.9652
I M2-PFDoDA T 11Cl-PF3OUds T PFDoDA	Linear	0.2309	0.2207	0.2367	0.2504	0.2558	0.2614	0.2542	0.2526
		0.8808	0.8118	0.8854	0.9121	0.9045	0.9086	0.9037	0.9118
I M2-PFTeDA T PFTnDA T PFTeDA	Linear	1.4958	1.3987	1.5083	1.5945	1.5719	1.5902	1.5476	1.5662
		1.4244	1.2600	1.3786	1.4397	1.4373	1.4269	1.4236	1.4332
I M8-FOSA T FOSA	Linear	0.9078	0.8850	1.0159	1.0172	1.0018	1.0032	0.9879	0.9927
						ISTD			5.198
I M3-PFBS T PFBS T PFPeS	Linear	2.5012	2.4221	2.6235	2.6930	2.6975	2.6569	2.6416	2.6509
		1.9686	1.7863	1.9965	2.0180	1.9921	1.9605	1.9625	1.9509
I M3-PFHxS T PFHxS T ADONA	Linear	2.4038	2.1787	2.4091	2.4733	2.4732	2.4028	2.4147	2.4286
		23.71	22.51	24.69	25.92	26.05	25.89	25.87	26.06
I M8-PFOS T PFHpS T PFOS T PFNS	Linear	1.4890	1.3780	1.5098	1.5691	1.5505	1.5455	1.5332	1.4993
		1.6984	1.7048	1.8091	1.8469	1.8585	1.7984	1.7694	1.7978
I M2-4:2FTS T 4:2FTS	Avg RF	1.1689	1.0873	1.1750	1.2179	1.1918	1.1584	1.0530	0.9288
						ISTD			8.498
I M2-6:2FTS T 6:2FTS	Avg RF	1.0095	0.9695	1.0412	1.1112	1.0555	1.0482	0.9289	0.8396
						ISTD			8.553
I M2-8:2FTS						ISTD			

Initial Calibration Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q637-ICC637
Lab FileID: 3Q43719.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T 8:2FTS	Avg RF	1.0888	1.0293	1.0458	1.1260	1.1095	1.0621	0.9695	0.8575	1.0361	8.430
I M3-MeFOSAA	Linear	0.8569	0.8180	0.8539	0.9140	0.9079	0.8594	0.8799	0.9015	0.8739	3.765
T MeFOSAA											
I M3-HFPO-DA	Linear	3.1824	3.0024	3.2176	3.4209	3.2842	3.2690	3.2060	3.2688	3.2314	3.647
T HFPO-DA											
I M3-MeFOSA	Linear	0.7857	0.9385	0.9787	1.1030	1.1042	1.0648	1.0190	1.0647	1.0073	10.610
T MeFOSA											
I M5-EFOSAA	Linear	0.9403	0.7899	0.8387	0.8468	0.8578	0.8621	0.8598	0.8472	0.8553	4.838
T EFOSAA											

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Initial Calibration Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q637-ICC637
Lab FileID: 3Q43719.D

Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	Curve Fit R2
S 13C4-PFBA	Linear	$y = 6636.084625 * x$	0.000000
T PFBA	Linear	$y = 0.499731 * x$	0.999982
S 13C5-PFPeA	Linear	$y = 5877.579497 * x$	0.000000
T PFPeA	Linear	$y = 1.358040 * x$	0.999988
S 13C3-PFBS	Linear	$y = 711.941310 * x$	0.000000
T PFBS	Linear	$y = 2.649733 * x$	0.999991
S 13C2-4:2FTS	Linear	$y = 4788.800302 * x$	0.000000
S 13C5-PFHxA	Linear	$y = 8433.701526 * x$	0.000000
T PFHxA	Linear	$y = 0.868633 * x$	0.999952
T PFPeS	Linear	$y = 1.953885 * x$	0.999982
T HFPO-DA	Linear	$y = 3.257149 * x$	0.999904
S 13C3-HFPO-DA	Linear	$y = 931.950509 * x$	0.000000
S 13C4-PFHpA	Linear	$y = 9978.741920 * x$	0.000000
T PFHpA	Linear	$y = 1.612554 * x$	0.999969
S 13C3-PFHxS	Linear	$y = 812.008746 * x$	0.000000
T PFHxS	Linear	$y = 2.425548 * x$	0.999981
T ADONA	Linear	$y = 26.018019 * x$	0.999982
S 13C2-6:2FTS	Linear	$y = 5967.976677 * x$	0.000000
S 13C8-PFOA	Linear	$y = 12152.682799 * x$	0.000000
T PFOA	Linear	$y = 1.050028 * x$	0.999924
T PFHpS	Linear	$y = 1.507716 * x$	0.999835
S 13C8-PFOS	Linear	$y = 1226.319683 * x$	0.000000
T PFOS	Linear	$y = 1.792964 * x$	0.999922
S 13C9-PFNA	Linear	$y = 12801.310358 * x$	0.000000
T PFNA	Linear	$y = 1.036581 * x$	0.999874
S 13C8-FOSA	Linear	$y = 4047.427431 * x$	0.000000
T FOSA	Linear	$y = 0.992238 * x$	0.999984
T 9Cl-PF3ONS	Linear	$y = 0.107920 * x$	0.999427
T PFNS	Linear	$y = 1.212312 * x$	0.999782
S 13C6-PFDA	Linear	$y = 16526.211143 * x$	0.000000
S d3-MeFOSA	Linear	$y = 1186.455016 * x$	0.000000
T PFDA	Linear	$y = 0.945477 * x$	0.999989
T MeFOSA	Linear	$y = 1.056293 * x$	0.999525
S 13C2-8:2FTS	Linear	$y = 6447.286310 * x$	0.000000
S d3-MeFOSAA	Linear	$y = 4205.323414 * x$	0.000000
T MeFOSAA	Linear	$y = 0.896142 * x$	0.999780
S d5-EFOSAA	Linear	$y = 4090.145987 * x$	0.000000
T EtFOSAA	Linear	$y = 0.850166 * x$	0.999937
T PFDS	Linear	$y = 0.042284 * x$	0.999895
S 13C7-PFUnDA	Linear	$y = 20177.296284 * x$	0.000000
T PFUnDA	Linear	$y = 0.964428 * x$	0.999992
T 11Cl-PF3OUdS	Linear	$y = 0.253187 * x$	0.999934
S 13C2-PFDoDA	Linear	$y = 24511.821616 * x$	0.000000

Generated at 10:00 AM on 8/28/2021

Initial Calibration Summary

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q637-ICC637
Lab FileID: 3Q43719.D

Initial Calibration Report

T PFDaDA	Linear	$y = 0.910087 * x$	0.999979
T PFTTrDA	Linear	$y = 1.563425 * x$	0.999949
S 13C2-PFTTeDA	Linear	$y = 15274.372553 * x$	0.000000
T PFTTeDA	Linear	$y = 1.431162 * x$	0.999987

(RedFont and *) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Initial Calibration Verification

Page 1 of 2

Job Number: JD30371A

Sample: S3Q637-ICV637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q43723.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0826_FULL_S3Q636\s3q637.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q43723

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.842	-0.8	99.2
13C2-6:2FTS	20.000	20.076	0.4	100.4
13C2-8:2FTS	20.000	19.978	-0.1	99.9
13C2-PFDoDA	20.000	20.043	0.2	100.2
13C2-PFTeDA	20.000	20.247	1.2	101.2
13C3-PFBS	20.000	20.300	1.5	101.5
13C3-PFHxS	20.000	20.377	1.9	101.9
13C4-PFBA	20.000	20.218	1.1	101.1
13C4-PFHpA	20.000	20.328	1.6	101.6
13C5-PFHxA	20.000	20.279	1.4	101.4
13C5-PFPeA	20.000	20.167	0.8	100.8
13C6-PFDA	20.000	20.342	1.7	101.7
13C7-PFUnDA	20.000	20.210	1.1	101.1
13C8-FOSA	20.000	20.471	2.4	102.4
13C8-PFOA	20.000	20.344	1.7	101.7
13C8-PFOS	20.000	19.920	-0.4	99.6
13C9-PFNA	20.000	19.997	0.0	100.0
4:2FTS	20.000	18.293	-8.5	91.5
6:2FTS	20.000	19.539	-2.3	97.7
8:2FTS	20.000	19.328	-3.4	96.6
d3-MeFOSAA	20.000	20.440	2.2	102.2
EtFOSAA	20.000	20.406	2.0	102.0
FOSA	20.000	19.889	-0.6	99.4
MeFOSAA	20.000	19.180	-4.1	95.9
PFBA	20.000	19.267	-3.7	96.3
PFBS	20.000	17.066	-14.7	85.3
PFDA	20.000	18.498	-7.5	92.5
PFDoDA	20.000	21.752	8.8	108.8
PFDS	20.000	18.539	-7.3	92.7
PFHpA	20.000	19.095	-4.5	95.5
PFHpS	20.000	19.983	-0.1	99.9
PFHxA	20.000	18.490	-7.6	92.4
PFHxS	20.000	17.766	-11.2	88.8
PFNA	20.000	18.117	-9.4	90.6
PFNS	20.000	19.737	-1.3	98.7
PFOA	20.000	19.909	-0.5	99.5
PFOS	20.000	20.291	1.5	101.5

Initial Calibration Verification

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q637-ICV637
Lab FileID: 3Q43723.D

PFPeA	20.000	19.414	-2.9	97.1
PFPeS	20.000	18.087	-9.6	90.4
PFTeDA	20.000	17.931	-10.3	89.7
PFTTrDA	20.000	20.843	4.2	104.2
PFUnDA	20.000	20.255	1.3	101.3
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	19.087	-4.6	95.4
13C3-HFPO-DA	20.000	20.467	2.3	102.3
9Cl-PF3ONS	20.000	17.352	-13.2	86.8
ADONA	20.000	18.572	-7.1	92.9
HFPO-DA	20.000	19.948	-0.3	99.7
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	21.433	7.2	107.2
MeFOSA	20.000	0.000	# -100.0	0.0
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	20.131	0.7	100.7

CC Criteria: +/- 30%

9.5.2
9

Initial Calibration Verification

Page 1 of 2

Job Number: JD30371A

Sample: S3Q637-ICV637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q43724.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0826_FULL_S3Q636\s3q637.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q43724

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	17.240	-13.8	86.2
13C2-6:2FTS	20.000	17.776	-11.1	88.9
13C2-8:2FTS	20.000	17.995	-10.0	90.0
13C2-PFDoDA	20.000	18.268	-8.7	91.3
13C2-PFTeDA	20.000	18.326	-8.4	91.6
13C3-PFBS	20.000	18.386	-8.1	91.9
13C3-PFHxS	20.000	18.543	-7.3	92.7
13C4-PFBA	20.000	18.427	-7.9	92.1
13C4-PFHpA	20.000	18.326	-8.4	91.6
13C5-PFHxA	20.000	18.512	-7.4	92.6
13C5-PFPeA	20.000	18.418	-7.9	92.1
13C6-PFDA	20.000	18.892	-5.5	94.5
13C7-PFUnDA	20.000	18.895	-5.5	94.5
13C8-FOSA	20.000	19.257	-3.7	96.3
13C8-PFOA	20.000	18.744	-6.3	93.7
13C8-PFOS	20.000	18.416	-7.9	92.1
13C9-PFNA	20.000	18.895	-5.5	94.5
4:2FTS	20.000	0.000	# -100.0	0.0
6:2FTS	20.000	0.000	# -100.0	0.0
8:2FTS	20.000	0.000	# -100.0	0.0
d3-MeFOSAA	20.000	18.731	-6.3	93.7
EtFOSAA	20.000	0.000	# -100.0	0.0
FOSA	20.000	0.000	# -100.0	0.0
MeFOSAA	20.000	0.000	# -100.0	0.0
PFBA	20.000	0.000	# -100.0	0.0
PFBS	20.000	0.000	# -100.0	0.0
PFDA	20.000	0.000	# -100.0	0.0
PFDoDA	20.000	0.000	# -100.0	0.0
PFDS	20.000	0.000	# -100.0	0.0
PFHpA	20.000	0.000	# -100.0	0.0
PFHpS	20.000	0.000	# -100.0	0.0
PFHxA	20.000	0.000	# -100.0	0.0
PFHxS	20.000	0.000	# -100.0	0.0
PFNA	20.000	0.000	# -100.0	0.0
PFNS	20.000	0.000	# -100.0	0.0
PFOA	20.000	18.339	-8.3	91.7
PFOS	20.000	0.000	# -100.0	0.0

Initial Calibration Verification

Page 2 of 2

Job Number: JD30371A

Sample: S3Q637-ICV637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q43724.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

PFPeA	20.000	0.000	# -100.0	0.0
PFPeS	20.000	0.000	# -100.0	0.0
PFTeDA	20.000	0.000	# -100.0	0.0
PFTrDA	20.000	0.000	# -100.0	0.0
PFUnDA	20.000	0.000	# -100.0	0.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	0.000	# -100.0	0.0
13C3-HFPO-DA	20.000	18.654	-6.7	93.3
9Cl-PF3ONS	20.000	0.000	# -100.0	0.0
ADONA	20.000	0.000	# -100.0	0.0
HFPO-DA	20.000	0.000	# -100.0	0.0
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	19.589	-2.1	97.9
MeFOSA	20.000	0.000	# -100.0	0.0
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	18.497	-7.5	92.5

CC Criteria: +/- 30%

9.5.3
6

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q638-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q43975.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0830_ID_S3Q638\S3Q638.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q43975

Type : QC

Level : 2

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.440	-2.8	97.2
13C2-6:2FTS	20.000	20.792	4.0	104.0
13C2-8:2FTS	20.000	20.819	4.1	104.1
13C2-PFDoDA	20.000	21.167	5.8	105.8
13C2-PFTeDA	20.000	21.448	7.2	107.2
13C3-PFBS	20.000	21.027	5.1	105.1
13C3-PFHxS	20.000	21.197	6.0	106.0
13C4-PFBA	20.000	20.490	2.5	102.5
13C4-PFHpA	20.000	20.544	2.7	102.7
13C5-PFHxA	20.000	20.713	3.6	103.6
13C5-PFPeA	20.000	20.593	3.0	103.0
13C6-PFDA	20.000	21.843	9.2	109.2
13C7-PFUnDA	20.000	21.349	6.7	106.7
13C8-FOSA	20.000	21.373	6.9	106.9
13C8-PFOA	20.000	21.493	7.5	107.5
13C8-PFOS	20.000	21.094	5.5	105.5
13C9-PFNA	20.000	21.163	5.8	105.8
4:2FTS	1.000	0.966	-3.4	96.6
6:2FTS	1.000	0.939	-6.1	93.9
8:2FTS	1.000	0.963	-3.7	96.3
d3-MeFOSAA	20.000	15.278	-23.6	76.4
EtFOSAA	1.000	1.005	0.5	100.5
FOSA	1.000	0.865	-13.5	86.5
MeFOSAA	1.000	0.906	-9.4	90.6
PFBA	1.000	0.897	-10.3	89.7
PFBS	1.000	0.903	-9.7	90.3
PFDA	1.000	0.853	-14.7	85.3
PFDoDA	1.000	0.888	-11.2	88.8
PFDS	1.000	0.945	-5.5	94.5
PFHpA	1.000	0.888	-11.2	88.8
PFHpS	1.000	0.979	-2.1	97.9
PFHxA	1.000	0.897	-10.3	89.7
PFHxS	1.000	0.876	-12.4	87.6
PFNA	1.000	0.859	-14.1	85.9
PFNS	1.000	0.967	-3.3	96.7
PFOA	1.000	0.863	-13.7	86.3
PFOS	1.000	0.933	-6.7	93.3

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q638-CC637
Lab FileID: 3Q43975.D

PFPeA	1.000	0.884	-11.6	88.4
PFPeS	1.000	0.917	-8.3	91.7
PFTeDA	1.000	0.877	-12.3	87.7
PFTTrDA	1.000	0.890	-11.0	89.0
PFUnDA	1.000	0.867	-13.3	86.7
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	1.000	0.871	-12.9	87.1
13C3-HFPO-DA	20.000	19.840	-0.8	99.2
9Cl-PF30NS	1.000	0.710	-29.0	71.0
ADONA	1.000	0.851	-14.9	85.1
HFPO-DA	1.000	0.954	-4.6	95.4
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	23.732	18.7	118.7
MeFOSA	1.000	0.913	-8.7	91.3
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	14.143	-29.3	70.7

CC Criteria: +/- 30%

9.5.4
9

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q638-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q43986.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0830_ID_S3Q638\S3Q638.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q43986

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	21.195	6.0	106.0
13C2-6:2FTS	20.000	21.730	8.7	108.7
13C2-8:2FTS	20.000	21.848	9.2	109.2
13C2-PFDoDA	20.000	21.218	6.1	106.1
13C2-PFTeDA	20.000	21.742	8.7	108.7
13C3-PFBS	20.000	21.438	7.2	107.2
13C3-PFHxS	20.000	21.427	7.1	107.1
13C4-PFBA	20.000	20.939	4.7	104.7
13C4-PFHpA	20.000	21.430	7.1	107.1
13C5-PFHxA	20.000	21.212	6.1	106.1
13C5-PFPeA	20.000	21.181	5.9	105.9
13C6-PFDA	20.000	22.019	10.1	110.1
13C7-PFUnDA	20.000	21.978	9.9	109.9
13C8-FOSA	20.000	20.586	2.9	102.9
13C8-PFOA	20.000	21.757	8.8	108.8
13C8-PFOS	20.000	21.844	9.2	109.2
13C9-PFNA	20.000	21.920	9.6	109.6
4:2FTS	20.000	20.720	3.6	103.6
6:2FTS	20.000	20.622	3.1	103.1
8:2FTS	20.000	20.678	3.4	103.4
d3-MeFOSAA	20.000	15.407	-23.0	77.0
EtFOSAA	20.000	20.568	2.8	102.8
FOSA	20.000	20.086	0.4	100.4
MeFOSAA	20.000	19.755	-1.2	98.8
PFBA	20.000	20.292	1.5	101.5
PFBS	20.000	20.123	0.6	100.6
PFDA	20.000	19.528	-2.4	97.6
PFDoDA	20.000	20.581	2.9	102.9
PFDS	20.000	20.444	2.2	102.2
PFHpA	20.000	19.974	-0.1	99.9
PFHpS	20.000	20.418	2.1	102.1
PFHxA	20.000	20.354	1.8	101.8
PFHxS	20.000	20.247	1.2	101.2
PFNA	20.000	19.042	-4.8	95.2
PFNS	20.000	20.924	4.6	104.6
PFOA	20.000	19.393	-3.0	97.0
PFOS	20.000	20.061	0.3	100.3

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q638-CC637
Lab FileID: 3Q43986.D

PFPeA	20.000	19.662	-1.7	98.3
PFPeS	20.000	20.158	0.8	100.8
PFTeDA	20.000	19.626	-1.9	98.1
PFTTrDA	20.000	19.931	-0.3	99.7
PFUnDA	20.000	19.775	-1.1	98.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	20.000	20.511	2.6	102.6
13C3-HFPO-DA	20.000	18.567	-7.2	92.8
9Cl-PF30NS	20.000	18.945	-5.3	94.7
ADONA	20.000	19.967	-0.2	99.8
HFPO-DA	20.000	22.153	10.8	110.8
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	21.933	9.7	109.7
MeFOSA	20.000	20.895	4.5	104.5
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	14.985	-25.1	74.9

CC Criteria: +/- 30%

9.5.5
6

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q638-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q43998.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0830_ID_S3Q638\S3Q638.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q43998

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	21.337	6.7	106.7
13C2-6:2FTS	20.000	22.076	10.4	110.4
13C2-8:2FTS	20.000	22.237	11.2	111.2
13C2-PFDoDA	20.000	21.720	8.6	108.6
13C2-PFTeDA	20.000	21.867	9.3	109.3
13C3-PFBS	20.000	21.829	9.1	109.1
13C3-PFHxS	20.000	22.412	12.1	112.1
13C4-PFBA	20.000	21.292	6.5	106.5
13C4-PFHpA	20.000	21.872	9.4	109.4
13C5-PFHxA	20.000	21.684	8.4	108.4
13C5-PFPeA	20.000	21.538	7.7	107.7
13C6-PFDA	20.000	22.420	12.1	112.1
13C7-PFUnDA	20.000	21.799	9.0	109.0
13C8-FOSA	20.000	21.004	5.0	105.0
13C8-PFOA	20.000	22.230	11.1	111.1
13C8-PFOS	20.000	22.317	11.6	111.6
13C9-PFNA	20.000	22.075	10.4	110.4
4:2FTS	20.000	20.767	3.8	103.8
6:2FTS	20.000	20.579	2.9	102.9
8:2FTS	20.000	20.768	3.8	103.8
d3-MeFOSAA	20.000	16.540	-17.3	82.7
EtFOSAA	20.000	20.615	3.1	103.1
FOSA	20.000	19.965	-0.2	99.8
MeFOSAA	20.000	19.884	-0.6	99.4
PFBA	20.000	20.295	1.5	101.5
PFBS	20.000	20.084	0.4	100.4
PFDA	20.000	19.668	-1.7	98.3
PFDoDA	20.000	20.237	1.2	101.2
PFDS	20.000	20.268	1.3	101.3
PFHpA	20.000	19.905	-0.5	99.5
PFHpS	20.000	20.459	2.3	102.3
PFHxA	20.000	20.196	1.0	101.0
PFHxS	20.000	19.507	-2.5	97.5
PFNA	20.000	19.468	-2.7	97.3
PFNS	20.000	20.918	4.6	104.6
PFOA	20.000	19.475	-2.6	97.4
PFOS	20.000	20.183	0.9	100.9

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q638-CC637
Lab FileID: 3Q43998.D

PFPeA	20.000	19.697	-1.5	98.5
PFPeS	20.000	20.134	0.7	100.7
PFTeDA	20.000	19.812	-0.9	99.1
PFTTrDA	20.000	20.125	0.6	100.6
PFUnDA	20.000	19.891	-0.5	99.5
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	20.000	20.251	1.3	101.3
13C3-HFPO-DA	20.000	18.951	-5.2	94.8
9Cl-PF30NS	20.000	18.596	-7.0	93.0
ADONA	20.000	19.376	-3.1	96.9
HFPO-DA	20.000	21.123	5.6	105.6
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	22.593	13.0	113.0
MeFOSA	20.000	19.946	-0.3	99.7
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	16.002	-20.0	80.0

CC Criteria: +/- 30%

9.5.6
6

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q638-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q44010.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0830_ID_S3Q638\S3Q638.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q44010

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	21.506	7.5	107.5
13C2-6:2FTS	20.000	22.301	11.5	111.5
13C2-8:2FTS	20.000	21.967	9.8	109.8
13C2-PFDoDA	20.000	22.021	10.1	110.1
13C2-PFTeDA	20.000	21.744	8.7	108.7
13C3-PFBS	20.000	21.715	8.6	108.6
13C3-PFHxS	20.000	22.230	11.2	111.2
13C4-PFBA	20.000	21.605	8.0	108.0
13C4-PFHpA	20.000	21.459	7.3	107.3
13C5-PFHxA	20.000	21.728	8.6	108.6
13C5-PFPeA	20.000	21.628	8.1	108.1
13C6-PFDA	20.000	21.997	10.0	110.0
13C7-PFUnDA	20.000	21.977	9.9	109.9
13C8-FOSA	20.000	21.166	5.8	105.8
13C8-PFOA	20.000	21.859	9.3	109.3
13C8-PFOS	20.000	22.285	11.4	111.4
13C9-PFNA	20.000	21.892	9.5	109.5
4:2FTS	20.000	20.620	3.1	103.1
6:2FTS	20.000	20.651	3.3	103.3
8:2FTS	20.000	20.866	4.3	104.3
d3-MeFOSAA	20.000	17.158	-14.2	85.8
EtFOSAA	20.000	20.315	1.6	101.6
FOSA	20.000	19.834	-0.8	99.2
MeFOSAA	20.000	20.427	2.1	102.1
PFBA	20.000	19.987	-0.1	99.9
PFBS	20.000	20.118	0.6	100.6
PFDA	20.000	19.821	-0.9	99.1
PFDoDA	20.000	20.181	0.9	100.9
PFDS	20.000	20.930	4.7	104.7
PFHpA	20.000	20.392	2.0	102.0
PFHpS	20.000	20.560	2.8	102.8
PFHxA	20.000	20.072	0.4	100.4
PFHxS	20.000	19.588	-2.1	97.9
PFNA	20.000	19.499	-2.5	97.5
PFNS	20.000	20.722	3.6	103.6
PFOA	20.000	19.945	-0.3	99.7
PFOS	20.000	20.001	0.0	100.0

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q638-CC637
Lab FileID: 3Q44010.D

PFPeA	20.000	19.859	-0.7	99.3
PFPeS	20.000	20.566	2.8	102.8
PFTeDA	20.000	19.923	-0.4	99.6
PFTTrDA	20.000	20.397	2.0	102.0
PFUnDA	20.000	19.674	-1.6	98.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	20.000	19.876	-0.6	99.4
13C3-HFPO-DA	20.000	19.432	-2.8	97.2
9Cl-PF30NS	20.000	18.816	-5.9	94.1
ADONA	20.000	19.544	-2.3	97.7
HFPO-DA	20.000	21.118	5.6	105.6
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	23.506	17.5	117.5
MeFOSA	20.000	19.543	-2.3	97.7
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	16.805	-16.0	84.0

CC Criteria: +/- 30%

9.5.7
6

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q639-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q44040.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0901_ID_S3Q639\s3q639.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q44040

Type : QC

Level : 2

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.260	-3.7	96.3
13C2-6:2FTS	20.000	20.784	3.9	103.9
13C2-8:2FTS	20.000	21.054	5.3	105.3
13C2-PFDoDA	20.000	21.166	5.8	105.8
13C2-PFTeDA	20.000	21.021	5.1	105.1
13C3-PFBS	20.000	20.883	4.4	104.4
13C3-PFHxS	20.000	21.179	5.9	105.9
13C4-PFBA	20.000	20.572	2.9	102.9
13C4-PFHpA	20.000	20.606	3.0	103.0
13C5-PFHxA	20.000	20.693	3.5	103.5
13C5-PFPeA	20.000	20.503	2.5	102.5
13C6-PFDA	20.000	21.631	8.2	108.2
13C7-PFUnDA	20.000	21.493	7.5	107.5
13C8-FOSA	20.000	21.803	9.0	109.0
13C8-PFOA	20.000	21.495	7.5	107.5
13C8-PFOS	20.000	21.451	7.3	107.3
13C9-PFNA	20.000	21.410	7.0	107.0
4:2FTS	1.000	0.954	-4.6	95.4
6:2FTS	1.000	0.973	-2.7	97.3
8:2FTS	1.000	0.966	-3.4	96.6
d3-MeFOSAA	20.000	15.711	-21.4	78.6
EtFOSAA	1.000	0.899	-10.1	89.9
FOSA	1.000	0.868	-13.2	86.8
MeFOSAA	1.000	0.868	-13.2	86.8
PFBA	1.000	0.904	-9.6	90.4
PFBS	1.000	0.887	-11.3	88.7
PFDA	1.000	0.853	-14.7	85.3
PFDoDA	1.000	0.901	-9.9	90.1
PFDS	1.000	0.904	-9.6	90.4
PFHpA	1.000	0.887	-11.3	88.7
PFHpS	1.000	0.930	-7.0	93.0
PFHxA	1.000	0.882	-11.8	88.2
PFHxS	1.000	0.893	-10.7	89.3
PFNA	1.000	0.864	-13.6	86.4
PFNS	1.000	0.929	-7.1	92.9
PFOA	1.000	0.875	-12.5	87.5
PFOS	1.000	0.967	-3.3	96.7

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q639-CC637
Lab FileID: 3Q44040.D

PFPeA	1.000	0.901	-9.9	90.1
PFPeS	1.000	0.894	-10.6	89.4
PFTeDA	1.000	0.899	-10.1	89.9
PFTTrDA	1.000	0.898	-10.2	89.8
PFUnDA	1.000	0.852	-14.8	85.2
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	1.000	0.867	-13.3	86.7
13C3-HFPO-DA	20.000	20.579	2.9	102.9
9Cl-PF30NS	1.000	0.899	-10.1	89.9
ADONA	1.000	0.868	-13.2	86.8
HFPO-DA	1.000	0.931	-6.9	93.1
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	23.898	19.5	119.5
MeFOSA	1.000	0.848	-15.2	84.8
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	15.089	-24.6	75.4

CC Criteria: +/- 30%

9.5.8
6

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q639-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q44041.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0901_ID_S3Q639\s3q639.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q44041

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	21.167	5.8	105.8
13C2-6:2FTS	20.000	21.938	9.7	109.7
13C2-8:2FTS	20.000	21.846	9.2	109.2
13C2-PFDoDA	20.000	21.607	8.0	108.0
13C2-PFTeDA	20.000	21.401	7.0	107.0
13C3-PFBS	20.000	21.691	8.5	108.5
13C3-PFHxS	20.000	22.201	11.0	111.0
13C4-PFBA	20.000	21.005	5.0	105.0
13C4-PFHpA	20.000	20.979	4.9	104.9
13C5-PFHxA	20.000	21.237	6.2	106.2
13C5-PFPeA	20.000	21.218	6.1	106.1
13C6-PFDA	20.000	21.681	8.4	108.4
13C7-PFUnDA	20.000	21.642	8.2	108.2
13C8-FOSA	20.000	21.014	5.1	105.1
13C8-PFOA	20.000	21.526	7.6	107.6
13C8-PFOS	20.000	22.008	10.0	110.0
13C9-PFNA	20.000	21.566	7.8	107.8
4:2FTS	20.000	20.569	2.8	102.8
6:2FTS	20.000	20.563	2.8	102.8
8:2FTS	20.000	20.738	3.7	103.7
d3-MeFOSAA	20.000	15.882	-20.6	79.4
EtFOSAA	20.000	20.819	4.1	104.1
FOSA	20.000	20.125	0.6	100.6
MeFOSAA	20.000	20.154	0.8	100.8
PFBA	20.000	20.003	0.0	100.0
PFBS	20.000	20.074	0.4	100.4
PFDA	20.000	19.698	-1.5	98.5
PFDoDA	20.000	20.160	0.8	100.8
PFDS	20.000	20.248	1.2	101.2
PFHpA	20.000	20.113	0.6	100.6
PFHpS	20.000	20.774	3.9	103.9
PFHxA	20.000	19.931	-0.3	99.7
PFHxS	20.000	19.520	-2.4	97.6
PFNA	20.000	19.972	-0.1	99.9
PFNS	20.000	20.699	3.5	103.5
PFOA	20.000	19.998	0.0	100.0
PFOS	20.000	20.023	0.1	100.1

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q639-CC637
Lab FileID: 3Q44041.D

PFPeA	20.000	20.106	0.5	100.5
PFPeS	20.000	20.398	2.0	102.0
PFTeDA	20.000	19.942	-0.3	99.7
PFTTrDA	20.000	20.364	1.8	101.8
PFUnDA	20.000	19.870	-0.7	99.3
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	20.000	20.166	0.8	100.8
13C3-HFPO-DA	20.000	20.706	3.5	103.5
9Cl-PF30NS	20.000	19.512	-2.4	97.6
ADONA	20.000	19.256	-3.7	96.3
HFPO-DA	20.000	21.624	8.1	108.1
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	22.510	12.5	112.5
MeFOSA	20.000	20.308	1.5	101.5
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	15.335	-23.3	76.7

CC Criteria: +/- 30%

9.5.9
6

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q639-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q44073.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0901_ID_S3Q639\s3q639.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q44073

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	22.258	11.3	111.3
13C2-6:2FTS	20.000	22.925	14.6	114.6
13C2-8:2FTS	20.000	22.658	13.3	113.3
13C2-PFDoDA	20.000	22.715	13.6	113.6
13C2-PFTeDA	20.000	22.604	13.0	113.0
13C3-PFBS	20.000	23.016	15.1	115.1
13C3-PFHxS	20.000	23.294	16.5	116.5
13C4-PFBA	20.000	22.423	12.1	112.1
13C4-PFHpA	20.000	22.430	12.2	112.2
13C5-PFHxA	20.000	22.542	12.7	112.7
13C5-PFPeA	20.000	22.336	11.7	111.7
13C6-PFDA	20.000	22.961	14.8	114.8
13C7-PFUnDA	20.000	23.035	15.2	115.2
13C8-FOSA	20.000	21.866	9.3	109.3
13C8-PFOA	20.000	22.647	13.2	113.2
13C8-PFOS	20.000	22.691	13.5	113.5
13C9-PFNA	20.000	22.744	13.7	113.7
4:2FTS	20.000	20.666	3.3	103.3
6:2FTS	20.000	20.578	2.9	102.9
8:2FTS	20.000	20.632	3.2	103.2
d3-MeFOSAA	20.000	17.955	-10.2	89.8
EtFOSAA	20.000	20.989	4.9	104.9
FOSA	20.000	20.395	2.0	102.0
MeFOSAA	20.000	20.521	2.6	102.6
PFBA	20.000	19.930	-0.3	99.7
PFBS	20.000	19.840	-0.8	99.2
PFDA	20.000	19.679	-1.6	98.4
PFDoDA	20.000	19.912	-0.4	99.6
PFDS	20.000	19.705	-1.5	98.5
PFHpA	20.000	20.158	0.8	100.8
PFHpS	20.000	20.731	3.7	103.7
PFHxA	20.000	19.877	-0.6	99.4
PFHxS	20.000	19.547	-2.3	97.7
PFNA	20.000	19.676	-1.6	98.4
PFNS	20.000	21.169	5.8	105.8
PFOA	20.000	19.867	-0.7	99.3
PFOS	20.000	20.252	1.3	101.3

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q639-CC637
Lab FileID: 3Q44073.D

PFPeA	20.000	20.017	0.1	100.1
PFPeS	20.000	20.155	0.8	100.8
PFTeDA	20.000	19.975	-0.1	99.9
PFTTrDA	20.000	20.298	1.5	101.5
PFUnDA	20.000	19.609	-2.0	98.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	20.000	20.027	0.1	100.1
13C3-HFPO-DA	20.000	21.731	8.7	108.7
9Cl-PF30NS	20.000	18.819	-5.9	94.1
ADONA	20.000	19.351	-3.2	96.8
HFPO-DA	20.000	20.652	3.3	103.3
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	23.609	18.0	118.0
MeFOSA	20.000	19.583	-2.1	97.9
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	17.174	-14.1	85.9

CC Criteria: +/- 30%

9.5.10
9

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q639-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q44084.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0901_ID_S3Q639\s3q639.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q44084

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	22.133	10.7	110.7
13C2-6:2FTS	20.000	22.765	13.8	113.8
13C2-8:2FTS	20.000	22.329	11.6	111.6
13C2-PFDoDA	20.000	22.415	12.1	112.1
13C2-PFTeDA	20.000	21.878	9.4	109.4
13C3-PFBS	20.000	22.406	12.0	112.0
13C3-PFHxS	20.000	22.784	13.9	113.9
13C4-PFBA	20.000	22.285	11.4	111.4
13C4-PFHpA	20.000	22.401	12.0	112.0
13C5-PFHxA	20.000	22.282	11.4	111.4
13C5-PFPeA	20.000	22.176	10.9	110.9
13C6-PFDA	20.000	23.031	15.2	115.2
13C7-PFUnDA	20.000	22.548	12.7	112.7
13C8-FOSA	20.000	22.126	10.6	110.6
13C8-PFOA	20.000	22.515	12.6	112.6
13C8-PFOS	20.000	23.048	15.2	115.2
13C9-PFNA	20.000	22.214	11.1	111.1
4:2FTS	20.000	20.610	3.1	103.1
6:2FTS	20.000	20.750	3.8	103.8
8:2FTS	20.000	20.927	4.6	104.6
d3-MeFOSAA	20.000	18.273	-8.6	91.4
EtFOSAA	20.000	20.779	3.9	103.9
FOSA	20.000	20.195	1.0	101.0
MeFOSAA	20.000	20.197	1.0	101.0
PFBA	20.000	19.865	-0.7	99.3
PFBS	20.000	20.185	0.9	100.9
PFDA	20.000	19.443	-2.8	97.2
PFDoDA	20.000	20.025	0.1	100.1
PFDS	20.000	20.177	0.9	100.9
PFHpA	20.000	20.106	0.5	100.5
PFHpS	20.000	20.405	2.0	102.0
PFHxA	20.000	19.714	-1.4	98.6
PFHxS	20.000	19.915	-0.4	99.6
PFNA	20.000	19.976	-0.1	99.9
PFNS	20.000	20.502	2.5	102.5
PFOA	20.000	19.914	-0.4	99.6
PFOS	20.000	19.955	-0.2	99.8

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q639-CC637
Lab FileID: 3Q44084.D

PFPeA	20.000	20.164	0.8	100.8
PFPeS	20.000	20.548	2.7	102.7
PFTeDA	20.000	20.252	1.3	101.3
PFTTrDA	20.000	20.519	2.6	102.6
PFUnDA	20.000	19.619	-1.9	98.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	20.000	20.283	1.4	101.4
13C3-HFPO-DA	20.000	21.177	5.9	105.9
9Cl-PF30NS	20.000	18.511	-7.4	92.6
ADONA	20.000	19.657	-1.7	98.3
HFPO-DA	20.000	20.417	2.1	102.1
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	23.078	15.4	115.4
MeFOSA	20.000	20.614	3.1	103.1
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	17.916	-10.4	89.6

CC Criteria: +/- 30%

9.5.11
9

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q639-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q44096.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0901_ID_S3Q639\s3q639.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q44096

Type : QC

Level : 2

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	20.844	4.2	104.2
13C2-6:2FTS	20.000	22.059	10.3	110.3
13C2-8:2FTS	20.000	22.391	12.0	112.0
13C2-PFDoDA	20.000	22.606	13.0	113.0
13C2-PFTeDA	20.000	22.356	11.8	111.8
13C3-PFBS	20.000	22.436	12.2	112.2
13C3-PFHxS	20.000	22.865	14.3	114.3
13C4-PFBA	20.000	22.282	11.4	111.4
13C4-PFHpA	20.000	22.177	10.9	110.9
13C5-PFHxA	20.000	22.177	10.9	110.9
13C5-PFPeA	20.000	21.985	9.9	109.9
13C6-PFDA	20.000	23.004	15.0	115.0
13C7-PFUnDA	20.000	22.632	13.2	113.2
13C8-FOSA	20.000	23.336	16.7	116.7
13C8-PFOA	20.000	22.842	14.2	114.2
13C8-PFOS	20.000	22.857	14.3	114.3
13C9-PFNA	20.000	22.897	14.5	114.5
4:2FTS	1.000	0.952	-4.8	95.2
6:2FTS	1.000	0.958	-4.2	95.8
8:2FTS	1.000	1.006	0.6	100.6
d3-MeFOSAA	20.000	19.500	-2.5	97.5
EtFOSAA	1.000	0.882	-11.8	88.2
FOSA	1.000	0.899	-10.1	89.9
MeFOSAA	1.000	0.852	-14.8	85.2
PFBA	1.000	0.891	-10.9	89.1
PFBS	1.000	0.901	-9.9	90.1
PFDA	1.000	0.855	-14.5	85.5
PFDoDA	1.000	0.878	-12.2	87.8
PFDS	1.000	0.901	-9.9	90.1
PFHpA	1.000	0.880	-12.0	88.0
PFHpS	1.000	0.976	-2.4	97.6
PFHxA	1.000	0.875	-12.5	87.5
PFHxS	1.000	0.897	-10.3	89.7
PFNA	1.000	0.892	-10.8	89.2
PFNS	1.000	0.936	-6.4	93.6
PFOA	1.000	0.882	-11.8	88.2
PFOS	1.000	0.882	-11.8	88.2

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q639-CC637
Lab FileID: 3Q44096.D

PFPeA	1.000	0.905	-9.5	90.5
PFPeS	1.000	0.891	-10.9	89.1
PFTeDA	1.000	0.903	-9.7	90.3
PFTTrDA	1.000	0.901	-9.9	90.1
PFUnDA	1.000	0.874	-12.6	87.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	1.000	0.895	-10.5	89.5
13C3-HFPO-DA	20.000	20.892	4.5	104.5
9Cl-PF30NS	1.000	0.780	-22.0	78.0
ADONA	1.000	0.844	-15.6	84.4
HFPO-DA	1.000	0.947	-5.3	94.7
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	24.900	24.5	124.5
MeFOSA	1.000	0.851	-14.9	85.1
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	19.099	-4.5	95.5

CC Criteria: +/- 30%

9.5.12
9

Continuing Calibration Summary

Page 1 of 2

Job Number: JD30371A

Sample: S3Q639-CC637

Account: ALNJ SGS Dayton, NJ

Lab FileID: 3Q44097.D

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0901_ID_S3Q639\s3q639.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0826_FULL_S3Q636\3q43714.d
2:D:\MassHunter\Data\0826_FULL_S3Q636\3q43715.d
3:D:\MassHunter\Data\0826_FULL_S3Q636\3q43716.d
4:D:\MassHunter\Data\0826_FULL_S3Q636\3q43717.d
5:D:\MassHunter\Data\0826_FULL_S3Q636\3q43718.d
6:D:\MassHunter\Data\0826_FULL_S3Q636\3q43719.d
7:D:\MassHunter\Data\0826_FULL_S3Q636\3q43720.d
8:D:\MassHunter\Data\0826_FULL_S3Q636\3q43721.d

Data File: 3q44097

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	22.827	14.1	114.1
13C2-6:2FTS	20.000	23.614	18.1	118.1
13C2-8:2FTS	20.000	23.490	17.4	117.4
13C2-PFDoDA	20.000	22.953	14.8	114.8
13C2-PFTeDA	20.000	22.614	13.1	113.1
13C3-PFBS	20.000	23.302	16.5	116.5
13C3-PFHxS	20.000	23.428	17.1	117.1
13C4-PFBA	20.000	23.176	15.9	115.9
13C4-PFHpA	20.000	23.148	15.7	115.7
13C5-PFHxA	20.000	22.966	14.8	114.8
13C5-PFPeA	20.000	22.965	14.8	114.8
13C6-PFDA	20.000	23.626	18.1	118.1
13C7-PFUnDA	20.000	23.196	16.0	116.0
13C8-FOSA	20.000	22.667	13.3	113.3
13C8-PFOA	20.000	23.234	16.2	116.2
13C8-PFOS	20.000	23.626	18.1	118.1
13C9-PFNA	20.000	22.977	14.9	114.9
4:2FTS	20.000	20.620	3.1	103.1
6:2FTS	20.000	20.462	2.3	102.3
8:2FTS	20.000	21.091	5.5	105.5
d3-MeFOSAA	20.000	19.060	-4.7	95.3
EtFOSAA	20.000	20.729	3.6	103.6
FOSA	20.000	20.224	1.1	101.1
MeFOSAA	20.000	20.521	2.6	102.6
PFBA	20.000	19.670	-1.6	98.4
PFBS	20.000	20.070	0.3	100.3
PFDA	20.000	19.536	-2.3	97.7
PFDoDA	20.000	20.275	1.4	101.4
PFDS	20.000	20.167	0.8	100.8
PFHpA	20.000	20.136	0.7	100.7
PFHpS	20.000	20.670	3.4	103.4
PFHxA	20.000	19.880	-0.6	99.4
PFHxS	20.000	19.743	-1.3	98.7
PFNA	20.000	20.245	1.2	101.2
PFNS	20.000	20.593	3.0	103.0
PFOA	20.000	19.990	-0.1	99.9
PFOS	20.000	19.889	-0.6	99.4

Continuing Calibration Summary

Page 2 of 2

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Sample: S3Q639-CC637
Lab FileID: 3Q44097.D

PFPeA	20.000	20.184	0.9	100.9
PFPeS	20.000	20.314	1.6	101.6
PFTeDA	20.000	20.230	1.1	101.1
PFTTrDA	20.000	20.568	2.8	102.8
PFUnDA	20.000	19.881	-0.6	99.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF30UdS	20.000	20.218	1.1	101.1
13C3-HFPO-DA	20.000	21.353	6.8	106.8
9Cl-PF30NS	20.000	18.230	-8.8	91.2
ADONA	20.000	19.575	-2.1	97.9
HFPO-DA	20.000	21.239	6.2	106.2
M3-HFPO-DA	---	--ISTD--		
M3-MeFOSA	---	--ISTD--		
d3-MeFOSA	20.000	23.885	19.4	119.4
MeFOSA	20.000	20.132	0.7	100.7
M5-EtFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	18.744	-6.3	93.7

CC Criteria: +/- 30%

9.5.13
9

Run Sequence Report

Job Number: JD30371A

Account: ALNJ SGS Dayton, NJ

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q637

Method: EPA 537M QSM5.3 B-1Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S3Q637-IC637	3Q43713.D	08/27/21 20:34	n/a	Mass Calibration Verification
S3Q637-IC637	3Q43714.D	08/27/21 20:51	n/a	Initial cal 0.5
S3Q637-IC637	3Q43715.D	08/27/21 21:07	n/a	Initial cal 1
S3Q637-IC637	3Q43716.D	08/27/21 21:24	n/a	Initial cal 2
S3Q637-IC637	3Q43717.D	08/27/21 21:40	n/a	Initial cal 5
S3Q637-IC637	3Q43718.D	08/27/21 21:57	n/a	Initial cal 10
S3Q637-ICC637	3Q43719.D	08/27/21 22:13	n/a	Initial cal 20
S3Q637-IC637	3Q43720.D	08/27/21 22:30	n/a	Initial cal 50
S3Q637-IC637	3Q43721.D	08/27/21 22:47	n/a	Initial cal 100
S3Q637-IBLK	3Q43722.D	08/27/21 23:03	n/a	Method Blank
S3Q637-IBLK	3Q43722.D	08/27/21 23:03	n/a	Method Blank
S3Q637-ICV637	3Q43723.D	08/27/21 23:20	n/a	Initial cal verification 20
S3Q637-ICV637	3Q43724.D	08/27/21 23:37	n/a	Initial cal verification 20
OP86899-BS	3Q43725.D	08/27/21 23:53	OP86899	Blank Spike
OP86899-MB	3Q43726.D	08/28/21 00:10	OP86899	Method Blank
FA88082-1	3Q43727.D	08/28/21 00:26	OP86899	(used for QC only; not part of job JD30371A)
OP86899-MS	3Q43728.D	08/28/21 00:43	OP86899	Matrix Spike
ZZZZZZ	3Q43729.D	08/28/21 00:59	OP86899	(unrelated sample)
FA88082-3	3Q43730.D	08/28/21 01:16	OP86899	(used for QC only; not part of job JD30371A)
OP86899-DUP	3Q43731.D	08/28/21 01:32	OP86899	Duplicate
ZZZZZZ	3Q43732.D	08/28/21 01:49	OP86899	(unrelated sample)
ZZZZZZ	3Q43734.D	08/28/21 02:22	OP86899	(unrelated sample)
S3Q637-CC637	3Q43735.D	08/28/21 02:39	n/a	Continuing cal 20
ZZZZZZ	3Q43737.D	08/28/21 03:12	OP86899	(unrelated sample)
ZZZZZZ	3Q43738.D	08/28/21 03:28	OP86899	(unrelated sample)
ZZZZZZ	3Q43739.D	08/28/21 03:45	OP86899	(unrelated sample)
ZZZZZZ	3Q43740.D	08/28/21 04:01	OP86899	(unrelated sample)
ZZZZZZ	3Q43741.D	08/28/21 04:18	OP86899	(unrelated sample)
ZZZZZZ	3Q43742.D	08/28/21 04:34	OP86899	(unrelated sample)
ZZZZZZ	3Q43743.D	08/28/21 04:51	OP86899	(unrelated sample)
ZZZZZZ	3Q43744.D	08/28/21 05:08	OP86899	(unrelated sample)
S3Q637-CC637	3Q43746.D	08/28/21 05:41	n/a	Continuing cal 20
S3Q637-CC637	3Q43748.D	08/28/21 06:14	n/a	Continuing cal 1.0LL
OP86890-BS	3Q43749.D	08/28/21 06:31	OP86890	Blank Spike
OP86890-MB	3Q43750.D	08/28/21 06:47	OP86890	Method Blank
ZZZZZZ	3Q43751.D	08/28/21 07:04	OP86890	(unrelated sample)
ZZZZZZ	3Q43752.D	08/28/21 07:20	OP86890	(unrelated sample)
ZZZZZZ	3Q43753.D	08/28/21 07:37	OP86890	(unrelated sample)
FA88076-4	3Q43754.D	08/28/21 07:53	OP86890	(used for QC only; not part of job JD30371A)
OP86890-MS	3Q43755.D	08/28/21 08:10	OP86890	Matrix Spike
OP86890-MSD	3Q43756.D	08/28/21 08:27	OP86890	Matrix Spike Duplicate
ZZZZZZ	3Q43757.D	08/28/21 08:43	OP86890	(unrelated sample)
ZZZZZZ	3Q43758.D	08/28/21 09:00	OP86890	(unrelated sample)
S3Q637-CC637	3Q43759.D	08/28/21 09:16	n/a	Continuing cal 20
ZZZZZZ	3Q43761.D	08/28/21 09:49	OP86890	(unrelated sample)
ZZZZZZ	3Q43762.D	08/28/21 10:06	OP86890	(unrelated sample)

Run Sequence Report

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q637	Method: EPA 537M QSM5.3 B-1	Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	3Q43763.D	08/28/21 10:23	OP86890	(unrelated sample)
ZZZZZZ	3Q43764.D	08/28/21 10:39	OP86890	(unrelated sample)
ZZZZZZ	3Q43765.D	08/28/21 10:56	OP86890	(unrelated sample)
ZZZZZZ	3Q43767.D	08/28/21 11:30	OP86890	(unrelated sample)
ZZZZZZ	3Q43768.D	08/28/21 11:46	OP86890	(unrelated sample)
ZZZZZZ	3Q43769.D	08/28/21 12:03	OP86890	(unrelated sample)
ZZZZZZ	3Q43770.D	08/28/21 12:19	OP86890	(unrelated sample)
S3Q637-CC637	3Q43771.D	08/28/21 12:36	n/a	Continuing cal 20
ZZZZZZ	3Q43773.D	08/28/21 13:09	OP86890	(unrelated sample)
ZZZZZZ	3Q43774.D	08/28/21 13:26	OP86890	(unrelated sample)
ZZZZZZ	3Q43775.D	08/28/21 13:42	OP86890	(unrelated sample)
ZZZZZZ	3Q43776.D	08/28/21 14:05	OP86890	(unrelated sample)
ZZZZZZ	3Q43777.D	08/28/21 14:22	OP86890	(unrelated sample)
S3Q637-IBLK	3Q43781.D	08/28/21 15:30	n/a	Method Blank
S3Q637-IBLK	3Q43781.D	08/28/21 15:30	n/a	Method Blank
S3Q637-CC637	3Q43782.D	08/28/21 15:46	n/a	Continuing cal 1.0LL
OP87046-MB	3Q43783.D	08/28/21 16:03	OP87046	Method Blank
OP87046-BS	3Q43784.D	08/28/21 16:19	OP87046	Blank Spike
ZZZZZZ	3Q43785.D	08/28/21 16:36	OP87046	(unrelated sample)
OP87042-BS	3Q43786.D	08/28/21 16:52	OP87042	Blank Spike
OP87042-MB	3Q43787.D	08/28/21 17:09	OP87042	Method Blank
ZZZZZZ	3Q43788.D	08/28/21 17:26	OP87042	(unrelated sample)
ZZZZZZ	3Q43789.D	08/28/21 17:42	OP87042	(unrelated sample)
ZZZZZZ	3Q43791.D	08/28/21 18:15	OP87042	(unrelated sample)
S3Q637-CC637	3Q43792.D	08/28/21 18:32	n/a	Continuing cal 20
FA88451-5	3Q43794.D	08/28/21 19:05	OP87042	(used for QC only; not part of job JD30371A)
OP87042-MS	3Q43795.D	08/28/21 19:21	OP87042	Matrix Spike
OP87042-MSD	3Q43796.D	08/28/21 19:38	OP87042	Matrix Spike Duplicate
ZZZZZZ	3Q43797.D	08/28/21 19:55	OP87042	(unrelated sample)
ZZZZZZ	3Q43798.D	08/28/21 20:11	OP87042	(unrelated sample)
ZZZZZZ	3Q43799.D	08/28/21 20:28	OP87042	(unrelated sample)
ZZZZZZ	3Q43800.D	08/28/21 20:44	OP87042	(unrelated sample)
ZZZZZZ	3Q43801.D	08/28/21 21:01	OP87042	(unrelated sample)
ZZZZZZ	3Q43802.D	08/28/21 21:17	OP87042	(unrelated sample)
ZZZZZZ	3Q43803.D	08/28/21 21:34	OP87042	(unrelated sample)
S3Q637-CC637	3Q43804.D	08/28/21 21:51	n/a	Continuing cal 20
ZZZZZZ	3Q43806.D	08/28/21 22:24	OP87042	(unrelated sample)
ZZZZZZ	3Q43807.D	08/28/21 22:40	OP87042	(unrelated sample)
ZZZZZZ	3Q43808.D	08/28/21 22:57	OP87042	(unrelated sample)
ZZZZZZ	3Q43809.D	08/28/21 23:13	OP87042	(unrelated sample)
ZZZZZZ	3Q43810.D	08/28/21 23:30	OP87042	(unrelated sample)
ZZZZZZ	3Q43811.D	08/28/21 23:47	OP87042	(unrelated sample)
ZZZZZZ	3Q43812.D	08/29/21 00:03	OP87042	(unrelated sample)
ZZZZZZ	3Q43813.D	08/29/21 00:20	OP87042	(unrelated sample)
ZZZZZZ	3Q43814.D	08/29/21 00:37	OP87042	(unrelated sample)
S3Q637-CC637	3Q43815.D	08/29/21 00:53	n/a	Continuing cal 20

Run Sequence Report

Page 3 of 4

Job Number: JD30371A

Account: ALNJ SGS Dayton, NJ

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q637 **Method:** EPA 537M QSM5.3 B-1 **Instrument ID:** GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S3Q637-CC637	3Q43817.D	08/29/21 01:26	n/a	Continuing cal 1.0LL
OP87043-BS	3Q43818.D	08/29/21 01:43	OP87043	Blank Spike
OP87043-MB	3Q43819.D	08/29/21 01:59	OP87043	Method Blank
FA88451-18	3Q43820.D	08/29/21 02:16	OP87043	(used for QC only; not part of job JD30371A)
OP87043-MS	3Q43821.D	08/29/21 02:33	OP87043	Matrix Spike
OP87043-MSD	3Q43822.D	08/29/21 02:49	OP87043	Matrix Spike Duplicate
ZZZZZZ	3Q43823.D	08/29/21 03:06	OP87043	(unrelated sample)
ZZZZZZ	3Q43824.D	08/29/21 03:22	OP87043	(unrelated sample)
ZZZZZZ	3Q43825.D	08/29/21 03:39	OP87043	(unrelated sample)
ZZZZZZ	3Q43826.D	08/29/21 03:56	OP87043	(unrelated sample)
S3Q637-CC637	3Q43828.D	08/29/21 04:29	n/a	Continuing cal 20
ZZZZZZ	3Q43830.D	08/29/21 05:02	OP87043	(unrelated sample)
ZZZZZZ	3Q43831.D	08/29/21 05:18	OP87043	(unrelated sample)
ZZZZZZ	3Q43832.D	08/29/21 05:35	OP87043	(unrelated sample)
ZZZZZZ	3Q43833.D	08/29/21 05:51	OP87043	(unrelated sample)
ZZZZZZ	3Q43834.D	08/29/21 06:08	OP86966	(unrelated sample)
ZZZZZZ	3Q43835.D	08/29/21 06:25	OP86966	(unrelated sample)
ZZZZZZ	3Q43836.D	08/29/21 06:41	OP86867	(unrelated sample)
ZZZZZZ	3Q43837.D	08/29/21 06:58	OP86867	(unrelated sample)
ZZZZZZ	3Q43838.D	08/29/21 07:14	OP86867	(unrelated sample)
S3Q637-CC637	3Q43839.D	08/29/21 07:31	n/a	Continuing cal 20
ZZZZZZ	3Q43841.D	08/29/21 08:04	OP86867	(unrelated sample)
ZZZZZZ	3Q43842.D	08/29/21 08:20	OP86867	(unrelated sample)
ZZZZZZ	3Q43843.D	08/29/21 08:37	OP86867	(unrelated sample)
ZZZZZZ	3Q43844.D	08/29/21 08:54	OP86867	(unrelated sample)
FA88082-3	3Q43845.D	08/29/21 09:10	OP86899	(used for QC only; not part of job JD30371A)
FA88082-3	3Q43846.D	08/29/21 09:27	OP86899	(used for QC only; not part of job JD30371A)
OP86899-DUP	3Q43847.D	08/29/21 09:43	OP86899	Duplicate
ZZZZZZ	3Q43848.D	08/29/21 10:00	OP86899	(unrelated sample)
ZZZZZZ	3Q43849.D	08/29/21 10:17	OP86899	(unrelated sample)
S3Q637-CC637	3Q43850.D	08/29/21 10:33	n/a	Continuing cal 20
ZZZZZZ	3Q43852.D	08/29/21 11:06	OP86899	(unrelated sample)
ZZZZZZ	3Q43853.D	08/29/21 11:23	OP86899	(unrelated sample)
ZZZZZZ	3Q43854.D	08/29/21 11:39	OP86899	(unrelated sample)
S3Q637-CC637	3Q43855.D	08/29/21 11:56	n/a	Continuing cal 20
S3Q637-CC637	3Q43857.D	08/29/21 12:29	n/a	Continuing cal 1.0LL
OP86892-BS	3Q43858.D	08/29/21 12:46	OP86892	Blank Spike
OP86892-MB	3Q43859.D	08/29/21 13:02	OP86892	Method Blank
ZZZZZZ	3Q43860.D	08/29/21 13:19	OP86892	(unrelated sample)
ZZZZZZ	3Q43861.D	08/29/21 13:35	OP86892	(unrelated sample)
FA88073-6	3Q43862.D	08/29/21 13:52	OP86892	(used for QC only; not part of job JD30371A)
OP86892-MS	3Q43863.D	08/29/21 14:09	OP86892	Matrix Spike
OP86892-MSD	3Q43864.D	08/29/21 14:25	OP86892	Matrix Spike Duplicate
ZZZZZZ	3Q43865.D	08/29/21 14:42	OP86892	(unrelated sample)
ZZZZZZ	3Q43866.D	08/29/21 14:58	OP86892	(unrelated sample)
ZZZZZZ	3Q43867.D	08/29/21 15:15	OP86892	(unrelated sample)

9.6.1
9

Run Sequence Report

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q637	Method: EPA 537M QSM5.3 B-1	Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S3Q637-CC637	3Q43868.D	08/29/21 15:32	n/a	Continuing cal 20
ZZZZZZ	3Q43870.D	08/29/21 16:05	OP86892	(unrelated sample)
ZZZZZZ	3Q43871.D	08/29/21 16:21	OP86892	(unrelated sample)
ZZZZZZ	3Q43872.D	08/29/21 16:38	OP86892	(unrelated sample)
ZZZZZZ	3Q43873.D	08/29/21 16:54	OP86892	(unrelated sample)
ZZZZZZ	3Q43874.D	08/29/21 17:11	OP86892	(unrelated sample)
ZZZZZZ	3Q43875.D	08/29/21 17:27	OP86892	(unrelated sample)
ZZZZZZ	3Q43876.D	08/29/21 17:44	OP86892	(unrelated sample)
ZZZZZZ	3Q43877.D	08/29/21 18:01	OP86892	(unrelated sample)
ZZZZZZ	3Q43878.D	08/29/21 18:17	OP86892	(unrelated sample)
ZZZZZZ	3Q43879.D	08/29/21 18:34	OP86892	(unrelated sample)
S3Q637-CC637	3Q43880.D	08/29/21 18:50	n/a	Continuing cal 20
ZZZZZZ	3Q43882.D	08/29/21 19:23	OP86892	(unrelated sample)
ZZZZZZ	3Q43883.D	08/29/21 19:40	OP86892	(unrelated sample)
S3Q637-ECC637	3Q43884.D	08/29/21 19:57	n/a	Ending cal 20

9.6.1
9

Run Sequence Report

Job Number: JD30371A

Account: ALNJ SGS Dayton, NJ

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q638

Method: EPA 537M QSM5.3 B-1Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S3Q638-IBLK	3Q43890.D	08/30/21 14:34	n/a	Method Blank
S3Q638-IBLK	3Q43890.D	08/30/21 14:34	n/a	Method Blank
S3Q638-CC637	3Q43891.D	08/30/21 14:52	n/a	Continuing cal 1.0LL
S3Q638-CC637	3Q43892.D	08/30/21 15:08	n/a	Continuing cal 20
ZZZZZZ	3Q43893.D	08/30/21 15:25	OP86866	(unrelated sample)
ZZZZZZ	3Q43894.D	08/30/21 15:43	OP87042	(unrelated sample)
ZZZZZZ	3Q43895.D	08/30/21 15:59	OP87042	(unrelated sample)
ZZZZZZ	3Q43896.D	08/30/21 16:16	OP87042	(unrelated sample)
ZZZZZZ	3Q43897.D	08/30/21 16:32	OP87042	(unrelated sample)
ZZZZZZ	3Q43898.D	08/30/21 16:49	OP87042	(unrelated sample)
ZZZZZZ	3Q43899.D	08/30/21 17:05	OP87042	(unrelated sample)
ZZZZZZ	3Q43900.D	08/30/21 17:22	OP87042	(unrelated sample)
ZZZZZZ	3Q43901.D	08/30/21 17:39	OP87043	(unrelated sample)
ZZZZZZ	3Q43902.D	08/30/21 17:55	OP87043	(unrelated sample)
S3Q638-CC637	3Q43903.D	08/30/21 18:12	n/a	Continuing cal 20
ZZZZZZ	3Q43905.D	08/30/21 18:45	OP87043	(unrelated sample)
ZZZZZZ	3Q43906.D	08/30/21 19:01	OP86867	(unrelated sample)
ZZZZZZ	3Q43907.D	08/30/21 19:18	OP86899	(unrelated sample)
ZZZZZZ	3Q43908.D	08/30/21 19:34	OP86899	(unrelated sample)
OP87049-BS	3Q43910.D	08/30/21 20:07	OP87049	Blank Spike
OP87049-MB	3Q43911.D	08/30/21 20:24	OP87049	Method Blank
ZZZZZZ	3Q43912.D	08/30/21 20:41	OP87049	(unrelated sample)
ZZZZZZ	3Q43913.D	08/30/21 20:57	OP87049	(unrelated sample)
ZZZZZZ	3Q43914.D	08/30/21 21:14	OP87049	(unrelated sample)
S3Q638-CC637	3Q43915.D	08/30/21 21:30	n/a	Continuing cal 20
ZZZZZZ	3Q43917.D	08/30/21 22:03	OP87049	(unrelated sample)
ZZZZZZ	3Q43918.D	08/30/21 22:20	OP87049	(unrelated sample)
ZZZZZZ	3Q43919.D	08/30/21 22:36	OP87049	(unrelated sample)
ZZZZZZ	3Q43920.D	08/30/21 22:53	OP87049	(unrelated sample)
ZZZZZZ	3Q43921.D	08/30/21 23:10	OP87049	(unrelated sample)
ZZZZZZ	3Q43922.D	08/30/21 23:26	OP87049	(unrelated sample)
ZZZZZZ	3Q43923.D	08/30/21 23:43	OP87049	(unrelated sample)
ZZZZZZ	3Q43924.D	08/30/21 23:59	OP87049	(unrelated sample)
ZZZZZZ	3Q43925.D	08/31/21 00:16	OP87049	(unrelated sample)
ZZZZZZ	3Q43926.D	08/31/21 00:32	OP87049	(unrelated sample)
S3Q638-CC637	3Q43927.D	08/31/21 00:49	n/a	Continuing cal 20
S3Q638-CC637	3Q43929.D	08/31/21 01:22	n/a	Continuing cal 1.0LL
ZZZZZZ	3Q43930.D	08/31/21 01:38	OP87049	(unrelated sample)
FA88487-17	3Q43931.D	08/31/21 01:55	OP87049	(used for QC only; not part of job JD30371A)
OP87049-MS	3Q43932.D	08/31/21 02:12	OP87049	Matrix Spike
OP87049-MSD	3Q43933.D	08/31/21 02:28	OP87049	Matrix Spike Duplicate
ZZZZZZ	3Q43934.D	08/31/21 02:45	OP87049	(unrelated sample)
ZZZZZZ	3Q43935.D	08/31/21 03:01	OP87049	(unrelated sample)
ZZZZZZ	3Q43936.D	08/31/21 03:18	OP87049	(unrelated sample)
ZZZZZZ	3Q43937.D	08/31/21 03:34	OP87049	(unrelated sample)
ZZZZZZ	3Q43938.D	08/31/21 03:51	OP87049	(unrelated sample)

Run Sequence Report

Page 2 of 3

Job Number: JD30371A

Account: ALNJ SGS Dayton, NJ

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q638

Method: EPA 537M QSM5.3 B-1

Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S3Q638-CC637	3Q43939.D	08/31/21 04:08	n/a	Continuing cal 20
OP87050-MB	3Q43941.D	08/31/21 04:41	OP87050	Method Blank
OP87050-BS	3Q43942.D	08/31/21 04:57	OP87050	Blank Spike
FA88487-23	3Q43943.D	08/31/21 05:14	OP87050	(used for QC only; not part of job JD30371A)
OP87050-MS	3Q43944.D	08/31/21 05:30	OP87050	Matrix Spike
OP87050-MSD	3Q43945.D	08/31/21 05:47	OP87050	Matrix Spike Duplicate
ZZZZZZ	3Q43946.D	08/31/21 06:03	OP87050	(unrelated sample)
OP87021-BS	3Q43947.D	08/31/21 06:20	OP87021	Blank Spike
OP87021-MB	3Q43948.D	08/31/21 06:36	OP87021	Method Blank
ZZZZZZ	3Q43949.D	08/31/21 06:53	OP87021	(unrelated sample)
ZZZZZZ	3Q43950.D	08/31/21 07:10	OP87021	(unrelated sample)
S3Q638-CC637	3Q43951.D	08/31/21 07:26	n/a	Continuing cal 20
ZZZZZZ	3Q43953.D	08/31/21 07:59	OP87021	(unrelated sample)
ZZZZZZ	3Q43955.D	08/31/21 09:08	OP87021	(unrelated sample)
ZZZZZZ	3Q43956.D	08/31/21 09:24	OP87021	(unrelated sample)
ZZZZZZ	3Q43957.D	08/31/21 09:41	OP87021	(unrelated sample)
ZZZZZZ	3Q43958.D	08/31/21 09:57	OP87021	(unrelated sample)
ZZZZZZ	3Q43959.D	08/31/21 10:14	OP87021	(unrelated sample)
ZZZZZZ	3Q43960.D	08/31/21 10:30	OP87021	(unrelated sample)
S3Q638-CC637	3Q43961.D	08/31/21 10:47	n/a	Continuing cal 20
FA88404-1	3Q43963.D	08/31/21 11:20	OP87021	(used for QC only; not part of job JD30371A)
OP87021-MS	3Q43964.D	08/31/21 11:37	OP87021	Matrix Spike
OP87021-MSD	3Q43965.D	08/31/21 11:53	OP87021	Matrix Spike Duplicate
ZZZZZZ	3Q43966.D	08/31/21 12:10	OP87021	(unrelated sample)
ZZZZZZ	3Q43967.D	08/31/21 12:26	OP87021	(unrelated sample)
ZZZZZZ	3Q43968.D	08/31/21 12:43	OP87021	(unrelated sample)
ZZZZZZ	3Q43969.D	08/31/21 12:59	OP87021	(unrelated sample)
ZZZZZZ	3Q43970.D	08/31/21 13:16	OP87021	(unrelated sample)
ZZZZZZ	3Q43971.D	08/31/21 13:32	OP87021	(unrelated sample)
ZZZZZZ	3Q43972.D	08/31/21 13:49	OP87021	(unrelated sample)
S3Q638-CC637	3Q43973.D	08/31/21 14:40	n/a	Continuing cal 20
S3Q638-CC637	3Q43975.D	08/31/21 15:14	n/a	Continuing cal 1.0LL
ZZZZZZ	3Q43976.D	08/31/21 15:31	OP87049	(unrelated sample)
ZZZZZZ	3Q43977.D	08/31/21 15:47	OP87021	(unrelated sample)
ZZZZZZ	3Q43978.D	08/31/21 16:05	OP87021	(unrelated sample)
ZZZZZZ	3Q43979.D	08/31/21 16:21	OP87021	(unrelated sample)
ZZZZZZ	3Q43980.D	08/31/21 16:38	OP87021	(unrelated sample)
ZZZZZZ	3Q43981.D	08/31/21 16:54	OP87021	(unrelated sample)
S3Q638-CC637	3Q43986.D	08/31/21 18:06	n/a	Continuing cal 20
OP86997-BS	3Q43988.D	08/31/21 18:39	OP86997	Blank Spike
JD30371-1A	3Q43990.D	08/31/21 19:12	OP86997	MW#1 210819
OP86997-MS	3Q43991.D	08/31/21 19:29	OP86997	Matrix Spike
OP86997-MSD	3Q43992.D	08/31/21 19:46	OP86997	Matrix Spike Duplicate
ZZZZZZ	3Q43994.D	08/31/21 20:19	OP86997	(unrelated sample)
ZZZZZZ	3Q43995.D	08/31/21 20:35	OP86997	(unrelated sample)
ZZZZZZ	3Q43996.D	08/31/21 20:52	OP86997	(unrelated sample)

9.6.2
9

Run Sequence Report

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q638	Method: EPA 537M QSM5.3 B-1	Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	3Q43997.D	08/31/21 21:08	OP86997	(unrelated sample)
S3Q638-CC637	3Q43998.D	08/31/21 21:25	n/a	Continuing cal 20
ZZZZZZ	3Q44000.D	08/31/21 21:58	OP86997	(unrelated sample)
ZZZZZZ	3Q44001.D	08/31/21 22:14	OP86997	(unrelated sample)
ZZZZZZ	3Q44002.D	08/31/21 22:31	OP86997	(unrelated sample)
ZZZZZZ	3Q44004.D	08/31/21 23:04	OP86997	(unrelated sample)
ZZZZZZ	3Q44005.D	08/31/21 23:21	OP86997	(unrelated sample)
JD30371-9	3Q44008.D	09/01/21 00:10	OP86997	FIELD BLANK
S3Q638-CC637	3Q44010.D	09/01/21 00:43	n/a	Continuing cal 20
S3Q638-CC637	3Q44022.D	09/01/21 04:02	n/a	Continuing cal 20
S3Q638-ECC637	3Q44034.D	09/01/21 07:21	n/a	Ending cal 20

Run Sequence Report

Job Number: JD30371A

Account: ALNJ SGS Dayton, NJ

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q639

Method: EPA 537M QSM5.3 B-1Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S3Q639-IBLK	3Q44039.D	09/01/21 08:53	n/a	Method Blank
S3Q639-IBLK	3Q44039.D	09/01/21 08:53	n/a	Method Blank
S3Q639-CC637	3Q44040.D	09/01/21 09:09	n/a	Continuing cal 1.0LL
S3Q639-CC637	3Q44041.D	09/01/21 09:29	n/a	Continuing cal 20
OP86920-BS	3Q44042.D	09/01/21 09:52	OP86920	Blank Spike
OP86920-MB	3Q44043.D	09/01/21 10:09	OP86920	Method Blank
ZZZZZZ	3Q44044.D	09/01/21 10:25	OP86920	(unrelated sample)
ZZZZZZ	3Q44046.D	09/01/21 11:01	OP86920	(unrelated sample)
ZZZZZZ	3Q44047.D	09/01/21 11:18	OP86920	(unrelated sample)
ZZZZZZ	3Q44049.D	09/01/21 11:51	OP86920	(unrelated sample)
ZZZZZZ	3Q44050.D	09/01/21 12:08	OP86920	(unrelated sample)
S3Q639-CC637	3Q44051.D	09/01/21 12:24	n/a	Continuing cal 20
ZZZZZZ	3Q44053.D	09/01/21 12:57	OP86920	(unrelated sample)
ZZZZZZ	3Q44054.D	09/01/21 13:14	OP86920	(unrelated sample)
ZZZZZZ	3Q44055.D	09/01/21 13:33	OP86920	(unrelated sample)
ZZZZZZ	3Q44056.D	09/01/21 13:50	OP86920	(unrelated sample)
ZZZZZZ	3Q44057.D	09/01/21 14:06	OP86920	(unrelated sample)
ZZZZZZ	3Q44058.D	09/01/21 14:23	OP86920	(unrelated sample)
ZZZZZZ	3Q44059.D	09/01/21 14:39	OP86920	(unrelated sample)
ZZZZZZ	3Q44060.D	09/01/21 14:56	OP86920	(unrelated sample)
ZZZZZZ	3Q44061.D	09/01/21 15:12	OP86920	(unrelated sample)
ZZZZZZ	3Q44062.D	09/01/21 15:29	OP86920	(unrelated sample)
S3Q639-CC637	3Q44063.D	09/01/21 15:45	n/a	Continuing cal 20
ZZZZZZ	3Q44065.D	09/01/21 16:34	OP86920	(unrelated sample)
ZZZZZZ	3Q44066.D	09/01/21 16:50	OP86920	(unrelated sample)
FA88110-20	3Q44067.D	09/01/21 17:07	OP86920	(used for QC only; not part of job JD30371A)
OP86920-MS	3Q44068.D	09/01/21 17:23	OP86920	Matrix Spike
OP86920-MSD	3Q44069.D	09/01/21 17:40	OP86920	Matrix Spike Duplicate
ZZZZZZ	3Q44070.D	09/01/21 17:56	OP86920	(unrelated sample)
S3Q639-CC637	3Q44073.D	09/01/21 18:46	n/a	Continuing cal 20
ZZZZZZ	3Q44075.D	09/01/21 19:19	OP87021	(unrelated sample)
ZZZZZZ	3Q44076.D	09/01/21 19:36	OP87021	(unrelated sample)
ZZZZZZ	3Q44077.D	09/01/21 19:53	OP87021	(unrelated sample)
ZZZZZZ	3Q44078.D	09/01/21 20:09	OP87021	(unrelated sample)
OP86997-MB	3Q44079.D	09/01/21 20:26	OP86997	Method Blank
ZZZZZZ	3Q44080.D	09/01/21 20:42	OP86997	(unrelated sample)
ZZZZZZ	3Q44081.D	09/01/21 20:59	OP86997	(unrelated sample)
ZZZZZZ	3Q44082.D	09/01/21 21:15	OP86997	(unrelated sample)
ZZZZZZ	3Q44083.D	09/01/21 21:32	OP86997	(unrelated sample)
S3Q639-CC637	3Q44084.D	09/01/21 21:49	n/a	Continuing cal 20
JD30371-6A	3Q44086.D	09/01/21 22:22	OP86997	MW#8 210819
JD30371-7A	3Q44087.D	09/01/21 22:38	OP86997	DUPLICATE #1210819
JD30371-8A	3Q44088.D	09/01/21 22:55	OP86997	MW#4 210819
JD30371-6A	3Q44093.D	09/02/21 00:17	OP86997	MW#8 210819
JD30371-8A	3Q44095.D	09/02/21 00:51	OP86997	MW#4 210819
S3Q639-CC637	3Q44096.D	09/02/21 01:07	n/a	Continuing cal 1.0LL

Run Sequence Report

Page 2 of 3

Job Number: JD30371A

Account: ALNJ SGS Dayton, NJ

Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q639

Method: EPA 537M QSM5.3 B-1

Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S3Q639-CC637	3Q44097.D	09/02/21 01:24	n/a	Continuing cal 20
OP86994-BS	3Q44099.D	09/02/21 01:57	OP86994	Blank Spike
OP86994-MB	3Q44100.D	09/02/21 02:13	OP86994	Method Blank
ZZZZZZ	3Q44101.D	09/02/21 02:30	OP86994	(unrelated sample)
ZZZZZZ	3Q44102.D	09/02/21 02:46	OP86994	(unrelated sample)
OP86994-MS	3Q44103.D	09/02/21 03:03	OP86994	Matrix Spike
OP86994-MSD	3Q44104.D	09/02/21 03:19	OP86994	Matrix Spike Duplicate
FA88273-3	3Q44105.D	09/02/21 03:36	OP86994	(used for QC only; not part of job JD30371A)
ZZZZZZ	3Q44106.D	09/02/21 03:53	OP86994	(unrelated sample)
ZZZZZZ	3Q44107.D	09/02/21 04:09	OP86994	(unrelated sample)
S3Q639-CC637	3Q44108.D	09/02/21 04:26	n/a	Continuing cal 20
ZZZZZZ	3Q44110.D	09/02/21 04:59	OP86994	(unrelated sample)
ZZZZZZ	3Q44111.D	09/02/21 05:16	OP86994	(unrelated sample)
ZZZZZZ	3Q44112.D	09/02/21 05:32	OP86994	(unrelated sample)
ZZZZZZ	3Q44113.D	09/02/21 05:49	OP86994	(unrelated sample)
ZZZZZZ	3Q44114.D	09/02/21 06:05	OP86994	(unrelated sample)
ZZZZZZ	3Q44115.D	09/02/21 06:22	OP86994	(unrelated sample)
ZZZZZZ	3Q44116.D	09/02/21 06:38	OP86994	(unrelated sample)
ZZZZZZ	3Q44117.D	09/02/21 06:55	OP86994	(unrelated sample)
S3Q639-CC637	3Q44118.D	09/02/21 07:12	n/a	Continuing cal 20
ZZZZZZ	3Q44120.D	09/02/21 07:45	OP86994	(unrelated sample)
ZZZZZZ	3Q44121.D	09/02/21 08:01	OP86994	(unrelated sample)
ZZZZZZ	3Q44122.D	09/02/21 08:18	OP86994	(unrelated sample)
ZZZZZZ	3Q44123.D	09/02/21 08:34	OP86994	(unrelated sample)
ZZZZZZ	3Q44124.D	09/02/21 08:51	OP86994	(unrelated sample)
ZZZZZZ	3Q44125.D	09/02/21 09:10	OP86994	(unrelated sample)
ZZZZZZ	3Q44126.D	09/02/21 09:27	OP86994	(unrelated sample)
S3Q639-CC637	3Q44127.D	09/02/21 09:43	n/a	Continuing cal 20
S3Q639-CC637	3Q44129.D	09/02/21 10:17	n/a	Continuing cal 1.0LL
ZZZZZZ	3Q44130.D	09/02/21 10:33	OP86923	(unrelated sample)
ZZZZZZ	3Q44131.D	09/02/21 10:50	OP86923	(unrelated sample)
ZZZZZZ	3Q44132.D	09/02/21 11:06	OP86923	(unrelated sample)
ZZZZZZ	3Q44133.D	09/02/21 11:23	OP86923	(unrelated sample)
ZZZZZZ	3Q44134.D	09/02/21 11:39	OP86923	(unrelated sample)
ZZZZZZ	3Q44135.D	09/02/21 11:56	OP86923	(unrelated sample)
S3Q639-CC637	3Q44136.D	09/02/21 12:12	n/a	Continuing cal 20
ZZZZZZ	3Q44138.D	09/02/21 12:46	OP86964	(unrelated sample)
ZZZZZZ	3Q44139.D	09/02/21 13:02	OP86964	(unrelated sample)
ZZZZZZ	3Q44140.D	09/02/21 13:19	OP86964	(unrelated sample)
ZZZZZZ	3Q44141.D	09/02/21 13:35	OP86964	(unrelated sample)
ZZZZZZ	3Q44142.D	09/02/21 13:52	OP86964	(unrelated sample)
ZZZZZZ	3Q44143.D	09/02/21 14:08	OP86964	(unrelated sample)
ZZZZZZ	3Q44144.D	09/02/21 14:25	OP86964	(unrelated sample)
ZZZZZZ	3Q44145.D	09/02/21 14:41	OP86964	(unrelated sample)
ZZZZZZ	3Q44146.D	09/02/21 14:57	OP86920	(unrelated sample)
ZZZZZZ	3Q44147.D	09/02/21 15:14	OP86920	(unrelated sample)

9.6.3
9

Run Sequence Report

Job Number: JD30371A
Account: ALNJ SGS Dayton, NJ
Project: ENVTRAC: Aristocrat Cleaners, Hartsdale NY

Run ID: S3Q639	Method: EPA 537M QSM5.3 B-1	Instrument ID: GCMS3Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S3Q639-CC637	3Q44148.D	09/02/21 15:31	n/a	Continuing cal 20
ZZZZZZ	3Q44149.D	09/02/21 15:48	OP86994	(unrelated sample)
S3Q639-ECC637	3Q44152.D	09/02/21 16:38	n/a	Ending cal 20

MS Semi-volatiles

Raw Data

(SGS Orlando, FL)

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43990.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/31/2021 7:12:57 PM
 Sample Name : JD30371-1A
 Vial : P4-B1
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86997,S3Q638,280,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	112387	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	101111	20.00 µg/L	0.000
M5-PFHxA	5.576	318.0 -> 273.0	137679	20.00 µg/L	0.025
M4-PFHpA	6.568	367.0 -> 322.0	167495	20.00 µg/L	0.025
M8-PFOA	7.295	421.0 -> 376.0	214169	20.00 µg/L	0.026
M9-PFNA	7.800	472.0 -> 427.0	214867	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	271115	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	289982	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	290153	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	111433	20.00 µg/L	0.013
M8-FOSA	7.887	506.0 -> 78.0	36077	20.00 µg/L	0.013
M3-PFBS	4.367	302.0 -> 99.0	12573	20.00 µg/L	0.013
M3-PFHxS	6.615	402.0 -> 99.0	13771	20.00 µg/L	0.013
M8-PFOS	7.785	507.0 -> 99.0	19427	20.00 µg/L	0.000
M2-4:2FTS	5.459	329.0 -> 309.0	77160	20.00 µg/L	0.013
M2-6:2FTS	7.268	429.0 -> 409.0	104823	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	108859	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	48263	20.00 µg/L	0.000
M3-HFPO-DA	5.893	287.0 -> 169.0	13776	20.00 µg/L	0.013
M3-MeFOSA	8.202	515.0 -> 169.0	659	20.00 µg/L	0.013
M5-EtFOSAA	8.335	589.0 -> 419.0	44117	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.459	329.0 -> 309.0	77160	16.11 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.6%	
13C2-6:2FTS	7.268	429.0 -> 409.0	104823	17.56 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.8%	
13C2-8:2FTS	8.213	529.0 -> 509.0	108859	16.88 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.4%	
13C2-PFDoDA	8.813	615.0 -> 570.0	290153	11.84 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 59.2%	
13C2-PFTeDA	9.564	715.0 -> 670.0	111433	7.30 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 36.5%	
13C3-PFBS	4.367	302.0 -> 99.0	12573	17.66 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.3%	
13C3-PFHxS	6.615	402.0 -> 99.0	13771	16.96 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.8%	
13C4-PFBA	1.727	217.0 -> 172.0	112387	16.94 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.7%	
13C4-PFHpA	6.568	367.0 -> 322.0	167495	16.79 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.9%	
13C5-PFHxA	5.576	318.0 -> 273.0	137679	16.32 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 81.6%	
13C5-PFPeA	3.949	268.0 -> 223.0	101111	17.20 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 86.0%	
13C6-PFDA	8.189	519.0 -> 474.0	271115	16.41 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 82.0%	
13C7-PFUnDA	8.513	570.0 -> 525.0	289982	14.37 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.9%	
13C8-FOSA	7.887	506.0 -> 78.0	36077	8.91 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 44.6%	
13C8-PFOA	7.295	421.0 -> 376.0	214169	17.62 µg/L	0.026
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.1%	
13C8-PFOS	7.785	507.0 -> 99.0	19427	15.84 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 79.2%	
13C9-PFNA	7.800	472.0 -> 427.0	214867	16.78 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.9%	
d3-MeFOSAA	8.223	573.0 -> 419.0	48263	11.48 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 57.4%	
13C3-HFPO-DA	5.893	287.0 -> 169.0	13775	14.78 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 73.9%	
d3-MeFOSA	8.202	515.0 -> 169.0	659	0.56 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 2.8%	
d5-EtFOSAA	8.335	589.0 -> 419.0	44093	10.78 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 53.9%	

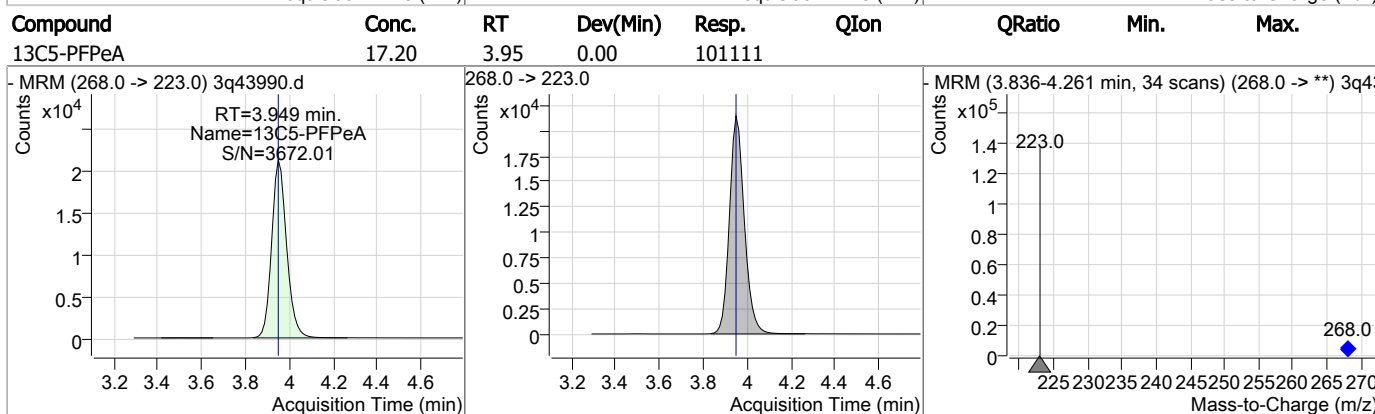
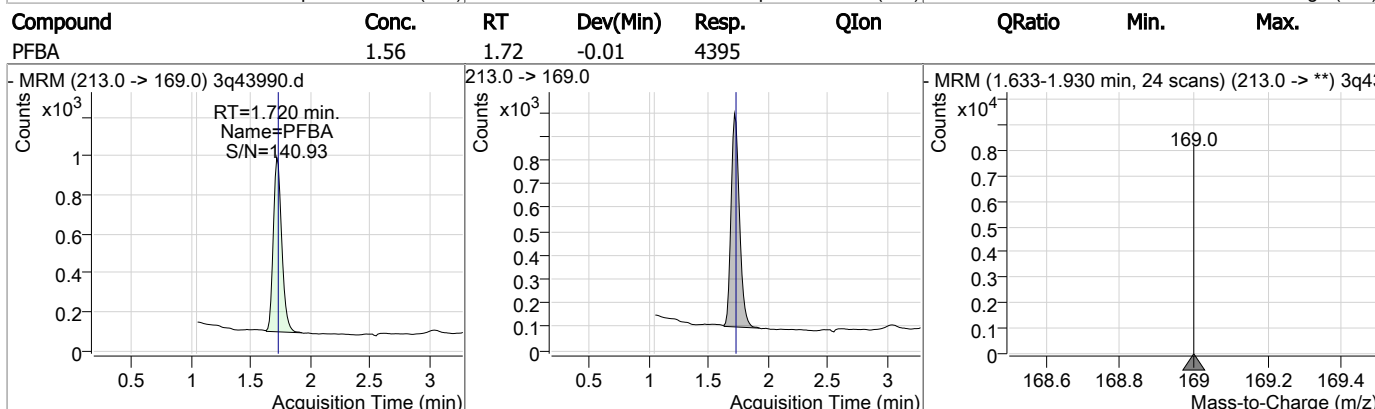
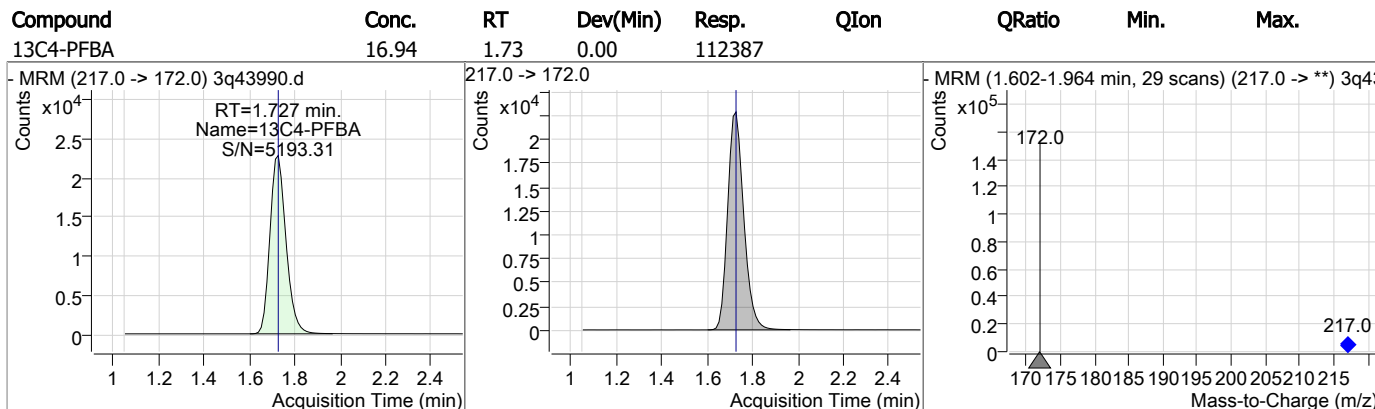
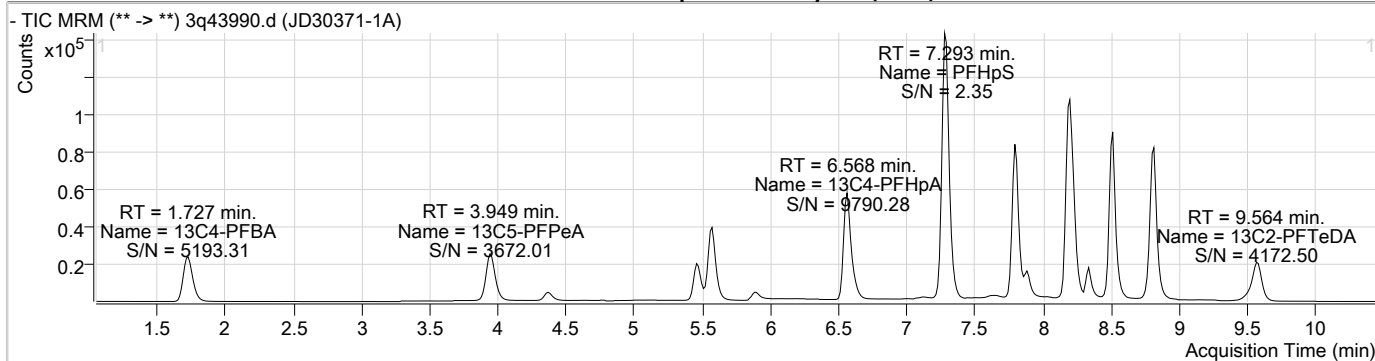
Target Compounds

					QValue
4:2FTS	-	327.0 -> 307.0	-	N.D.	
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
FOSA	-	498.0 -> 78.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	1.720	213.0 -> 169.0	4395	1.56 µg/L	100
PFBS	4.369	299.0 -> 80.0	4265	2.56 µg/L	100
PFDA	8.190	513.0 -> 469.0	8530	0.67 µg/L	99
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFDS	-	599.0 -> 80.0	-	N.D.	
PFHpA	6.569	363.0 -> 319.0	42001	3.11 µg/L	99
PFHpS	7.293	449.0 -> 80.0	201	0.14 µg/L	m 92
PFHxA	5.577	313.0 -> 269.0	15385	2.57 µg/L	100
PFHxS	6.616	399.0 -> 80.0	688	0.41 µg/L	m 98
PFNA	7.800	463.0 -> 419.0	17413	1.56 µg/L	98
PFNS	-	549.0 -> 80.0	-	N.D.	
PFOA	7.296	413.0 -> 369.0	164742	14.65 µg/L	100
PFOS	7.786	499.0 -> 80.0	20772	11.93 µg/L	m 86
PFPeA	3.951	263.0 -> 219.0	17674	2.57 µg/L	100
PFPeS	5.719	349.0 -> 80.0	119	0.10 µg/L	m 100
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
HFPO-DA	-	329.0 -> 169.0	-	N.D.	
MeFOSA	-	512.0 -> 169.0	-	N.D.	

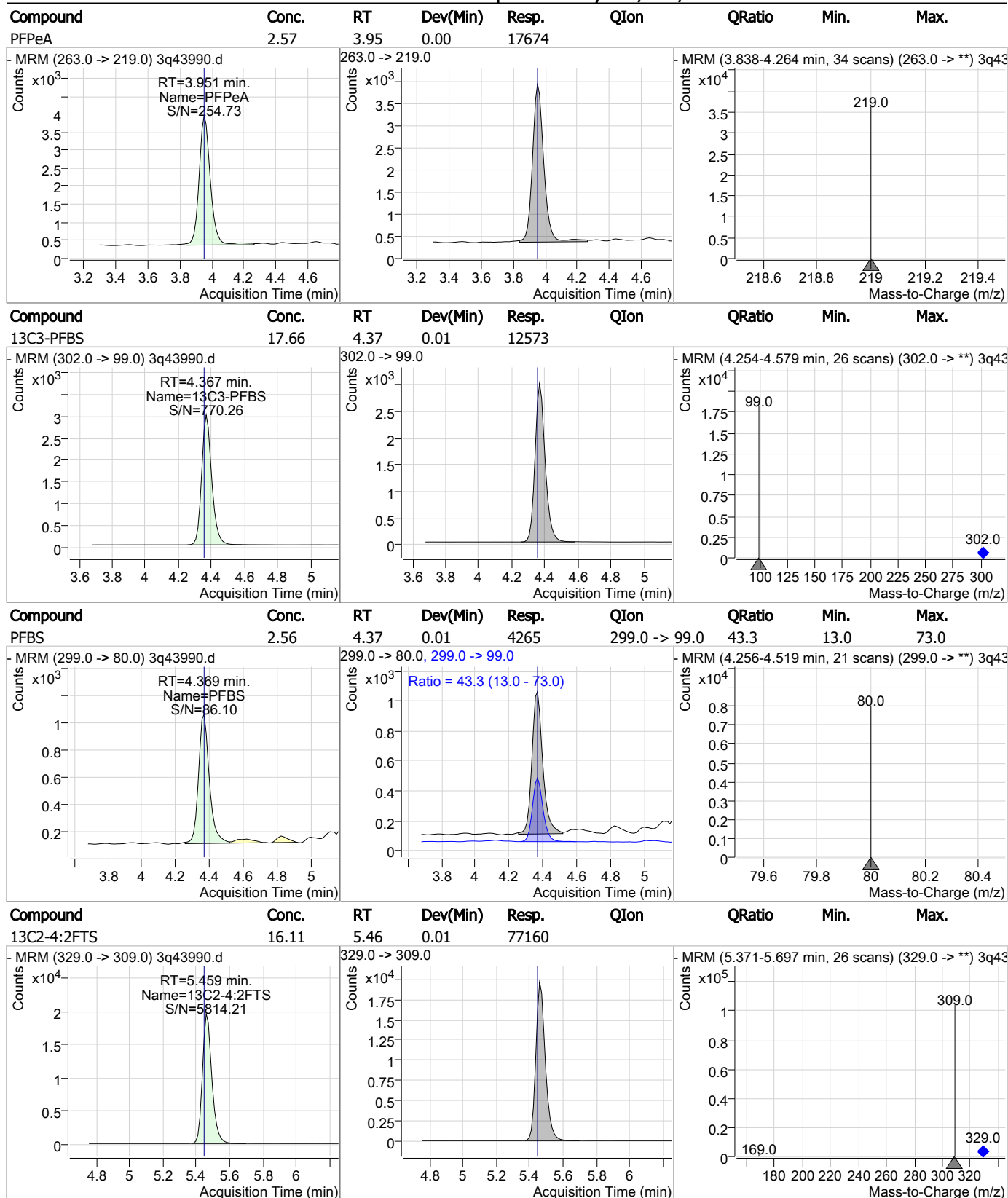
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10.1.1
10

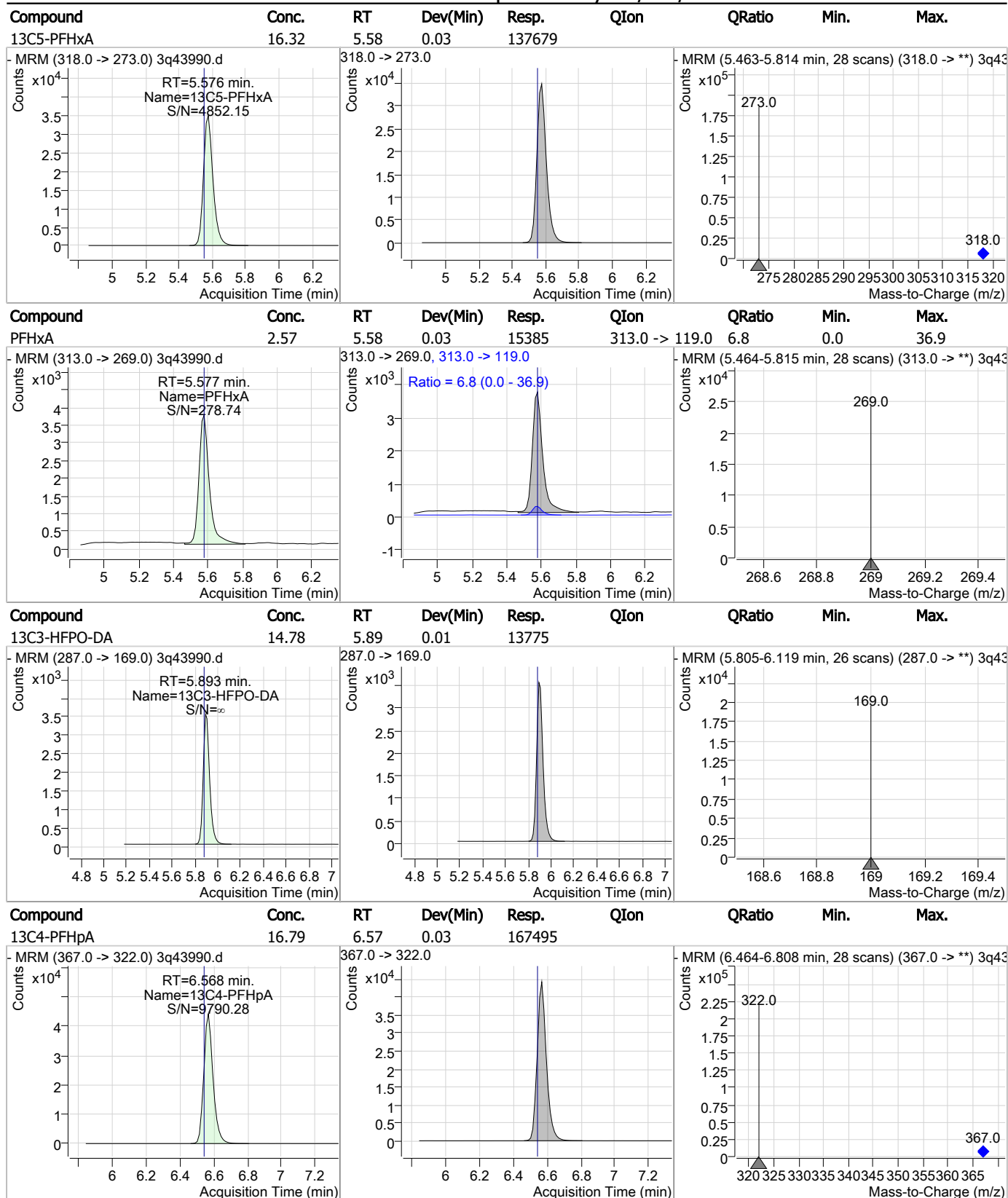
Perfluorinated Compounds by LC/MS/MS



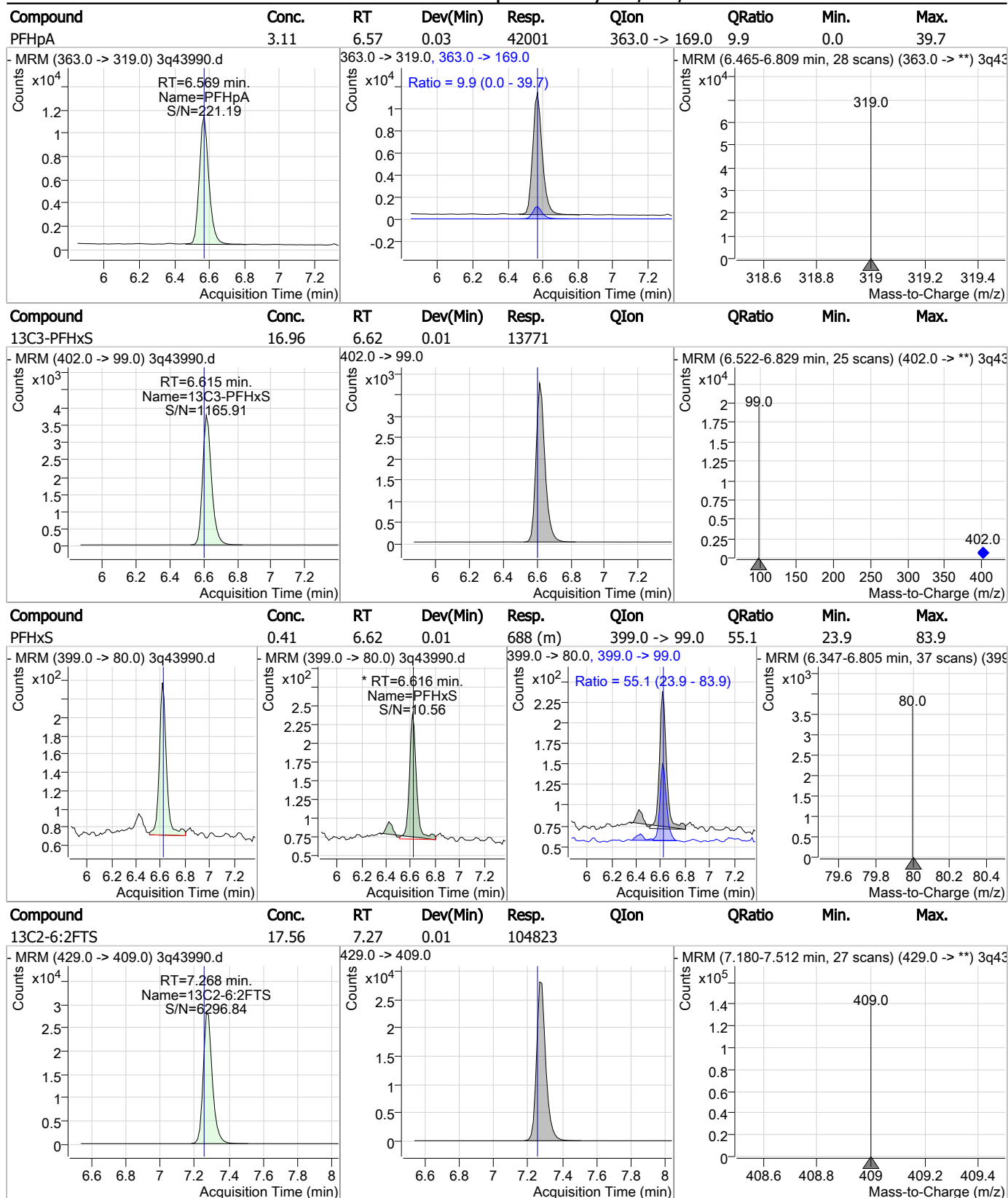
Perfluorinated Compounds by LC/MS/MS



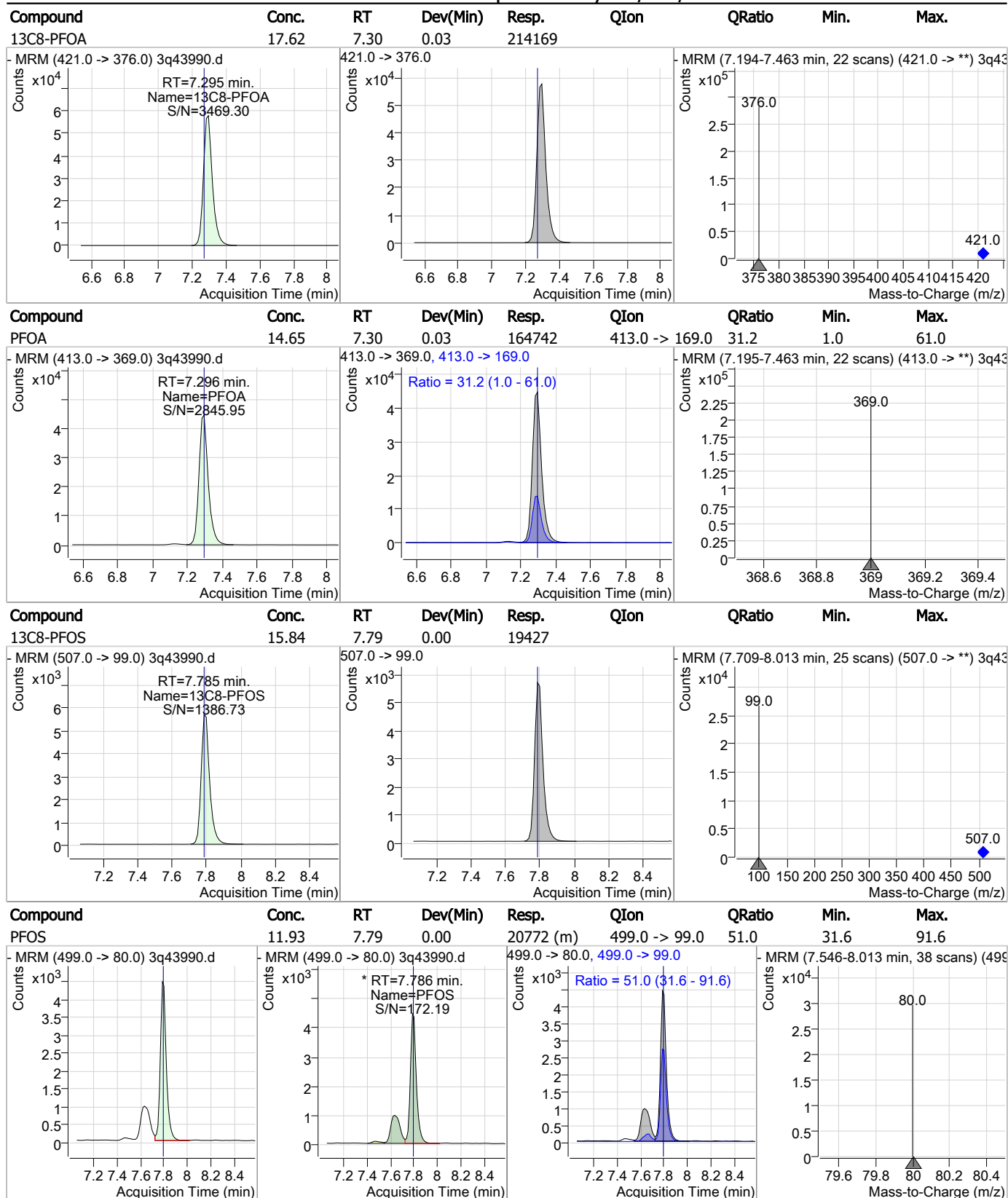
Perfluorinated Compounds by LC/MS/MS



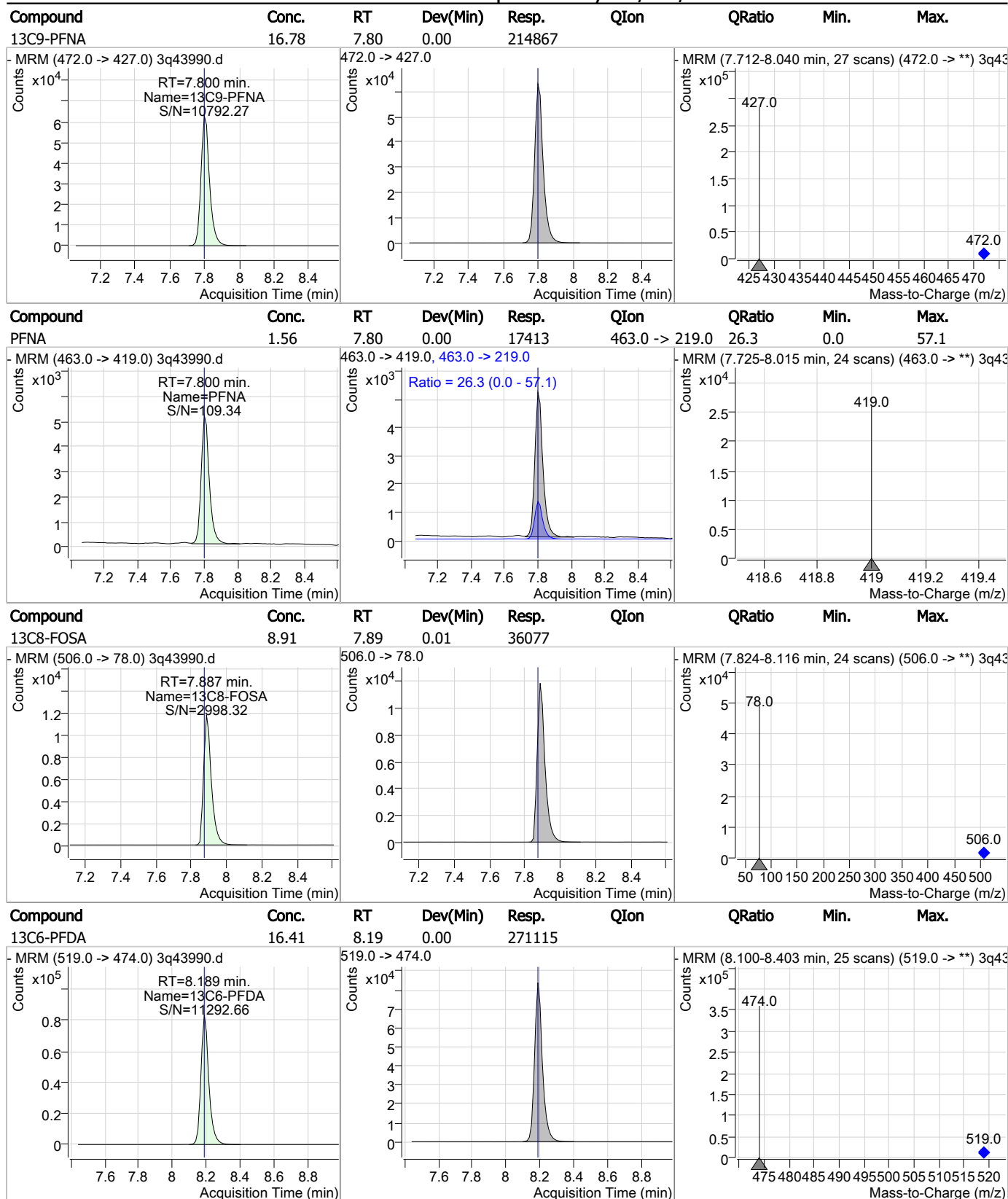
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

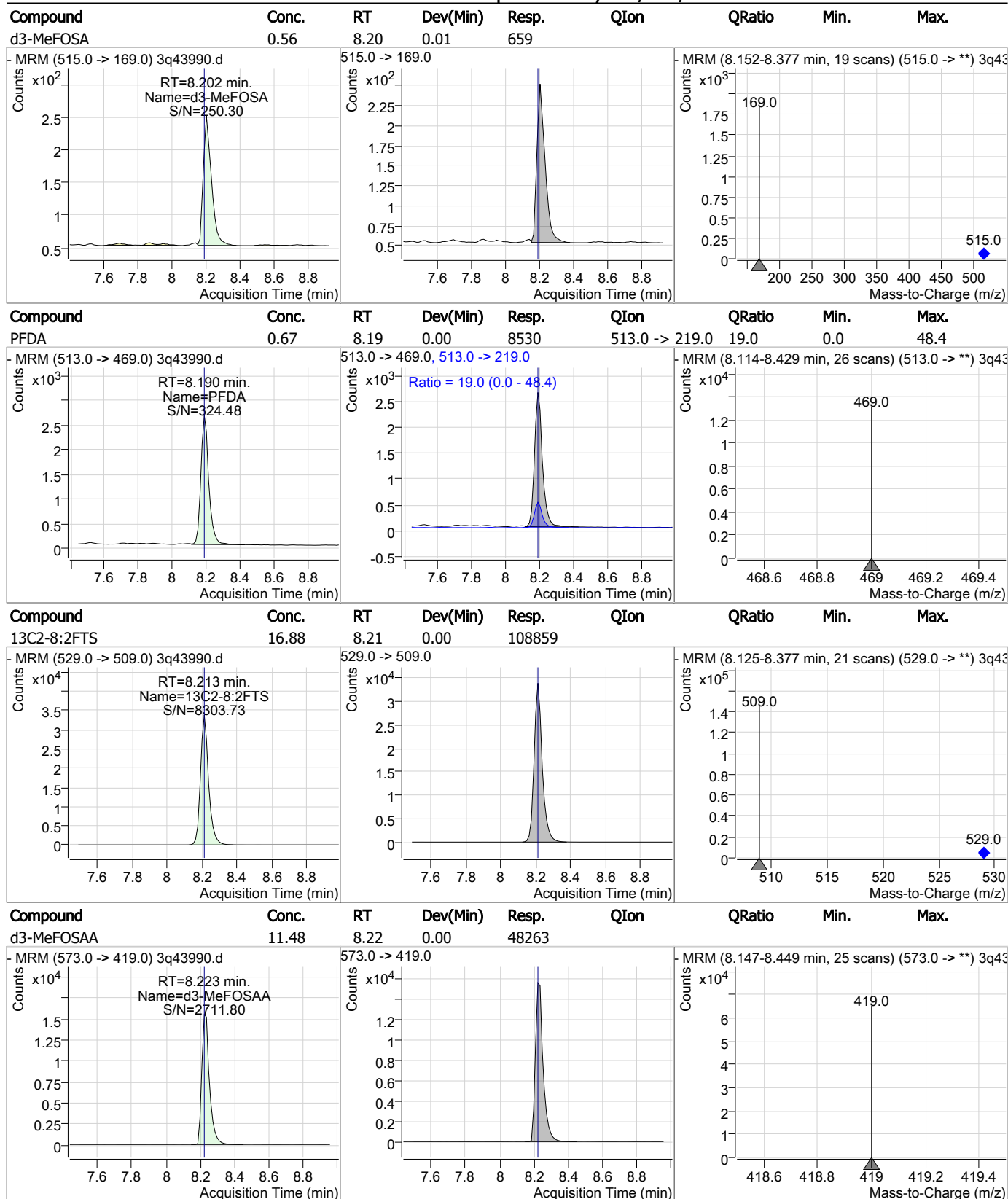


Perfluorinated Compounds by LC/MS/MS

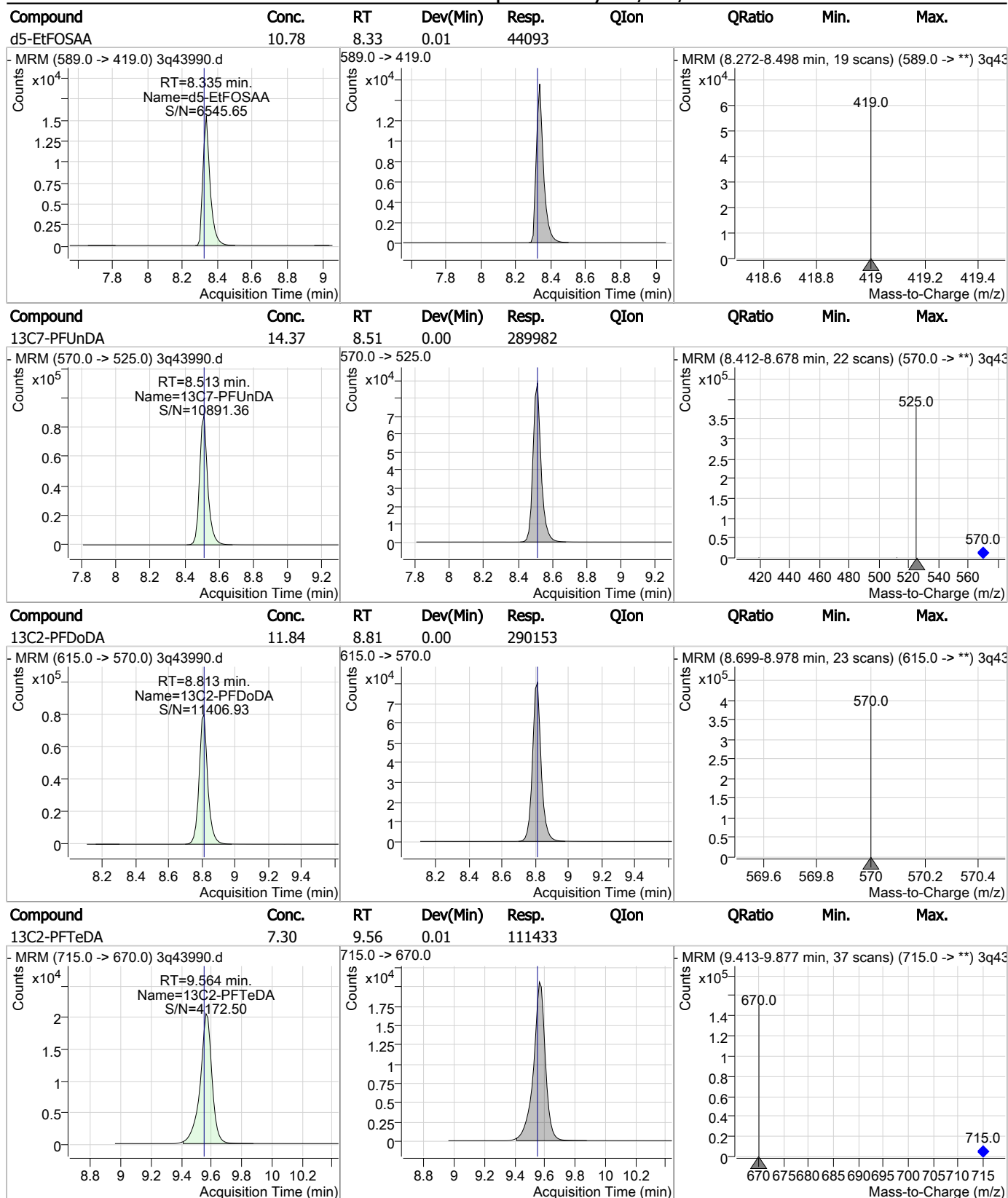


10.1.1 10

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

JD30371-1A

Lab FileID:

3Q43990.D

Injection Time:

08/31/21 19:12

Method:

EPA 537M BY ID

Analyst approved:

09/01/21 10:35 Mike Eger

Supervisor approved:

09/03/21 13:50 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoropentanesulfonic acid	2706-91-4		5.72	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.62	Split peak
Perfluoroheptanesulfonic acid	375-92-8		7.29	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak

10.1.1.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44086.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 10:22:08 PM
 Sample Name : JD30371-6A
 Vial : P3-E1
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86997,S3Q639,280,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.676	217.0 -> 172.0	82021	20.00 µg/L	-0.050
M5-PFPeA	3.911	268.0 -> 223.0	82546	20.00 µg/L	-0.038
M5-PFHxA	5.538	318.0 -> 273.0	114170	20.00 µg/L	-0.013
M4-PFHpA	6.528	367.0 -> 322.0	141447	20.00 µg/L	-0.015
M8-PFOA	7.257	421.0 -> 376.0	183881	20.00 µg/L	-0.013
M9-PFNA	7.787	472.0 -> 427.0	193869	20.00 µg/L	-0.013
M6-PFDA	8.151	519.0 -> 474.0	248009	20.00 µg/L	-0.038
M7-PFUnDA	8.449	570.0 -> 525.0	203988	20.00 µg/L	-0.063
M2-PFDoDA	8.762	615.0 -> 570.0	125109	20.00 µg/L	-0.050
M2-PFTeDA	9.526	715.0 -> 670.0	169968	20.00 µg/L	-0.025
M8-FOSA	7.887	506.0 -> 78.0	21783	20.00 µg/L	0.013
M3-PFBS	4.329	302.0 -> 99.0	10420	20.00 µg/L	-0.025
M3-PFHxS	6.590	402.0 -> 99.0	12502	20.00 µg/L	-0.013
M8-PFOS	7.772	507.0 -> 99.0	16937	20.00 µg/L	-0.013
M2-4:2FTS	5.421	329.0 -> 309.0	65865	20.00 µg/L	-0.025
M2-6:2FTS	7.243	429.0 -> 409.0	99939	20.00 µg/L	-0.013
M2-8:2FTS	8.176	529.0 -> 509.0	108865	20.00 µg/L	-0.038
M3-MeFOSAA	8.223	573.0 -> 419.0	61599	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	12439	20.00 µg/L	-0.013
M3-MeFOSA	8.215	515.0 -> 169.0	250	20.00 µg/L	0.025
M5-EtFOSAA	8.322	589.0 -> 419.0	52629	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.421	329.0 -> 309.0	65865	13.75 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 68.8%		
13C2-6:2FTS	7.243	429.0 -> 409.0	99939	16.75 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 83.7%		
13C2-8:2FTS	8.176	529.0 -> 509.0	108865	16.89 µg/L	-0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 84.4%		
13C2-PFDoDA	8.762	615.0 -> 570.0	125109	5.10 µg/L	-0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 25.5%		
13C2-PFTeDA	9.526	715.0 -> 670.0	169968	11.13 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 55.6%		
13C3-PFBS	4.329	302.0 -> 99.0	10420	14.64 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 73.2%		
13C3-PFHxS	6.590	402.0 -> 99.0	12502	15.40 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 77.0%		
13C4-PFBA	1.676	217.0 -> 172.0	82021	12.36 µg/L	-0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 61.8%		
13C4-PFHpA	6.528	367.0 -> 322.0	141447	14.17 µg/L	-0.015
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 70.9%		
13C5-PFHxA	5.538	318.0 -> 273.0	114170	13.54 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 67.7%		
13C5-PFPeA	3.911	268.0 -> 223.0	82546	14.04 µg/L	-0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 70.2%		
13C6-PFDA	8.151	519.0 -> 474.0	248009	15.01 µg/L	-0.038

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.0%		
13C7-PFUnDA	8.449	570.0 -> 525.0	203988	10.11 µg/L		-0.063
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 50.5%		
13C8-FOSA	7.887	506.0 -> 78.0	21783	5.38 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 26.9%		
13C8-PFOA	7.257	421.0 -> 376.0	183881	15.13 µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.7%		
13C8-PFOS	7.772	507.0 -> 99.0	16937	13.81 µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 69.1%		
13C9-PFNA	7.787	472.0 -> 427.0	193869	15.14 µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.7%		
d3-MeFOSAA	8.223	573.0 -> 419.0	61599	14.65 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 73.2%		
13C3-HFPO-DA	5.868	287.0 -> 169.0	12439	13.35 µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 66.7%		
d3-MeFOSA	8.215	515.0 -> 169.0	250	0.21 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 1.1%		
d5-EtFOSAA	8.322	589.0 -> 419.0	52620	12.86 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 64.3%		

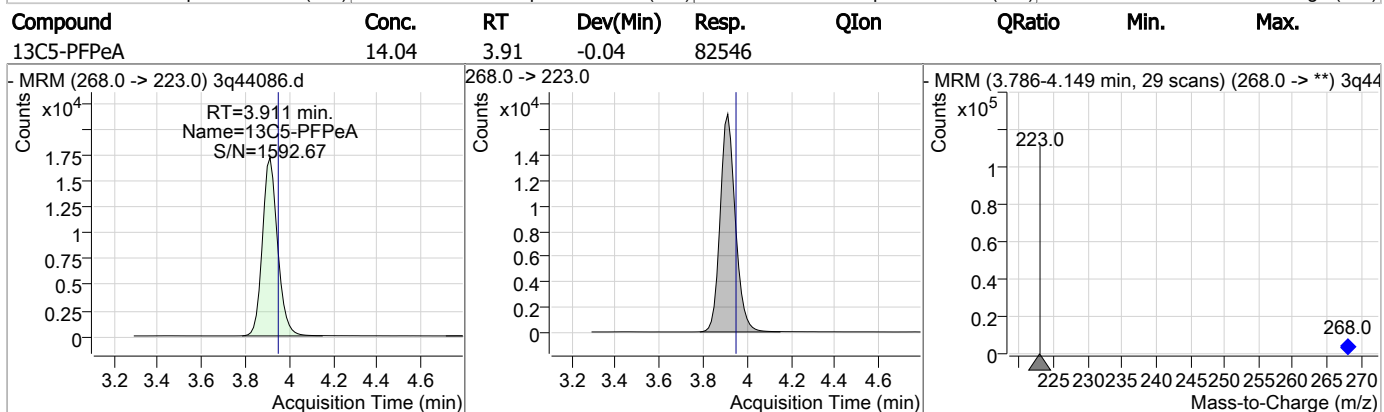
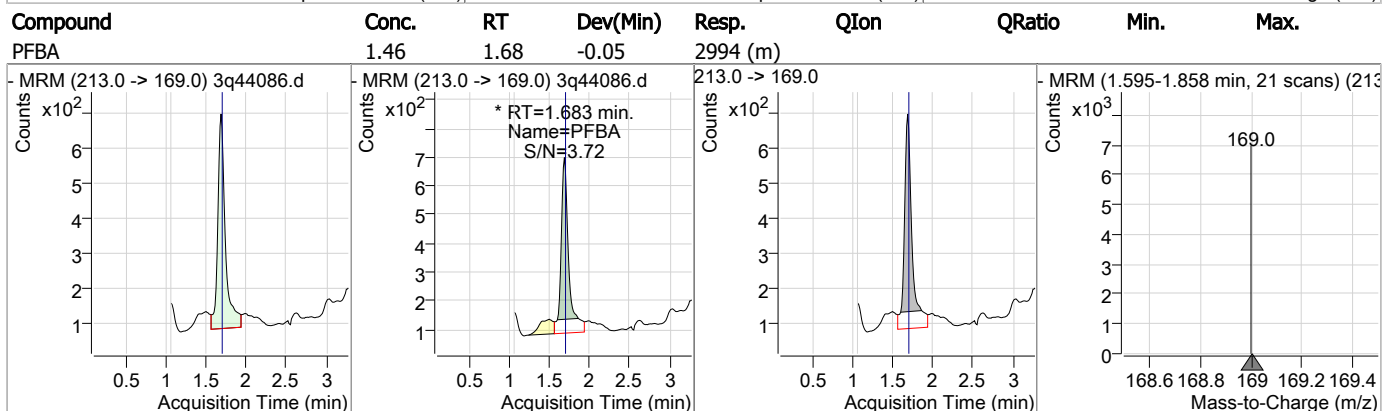
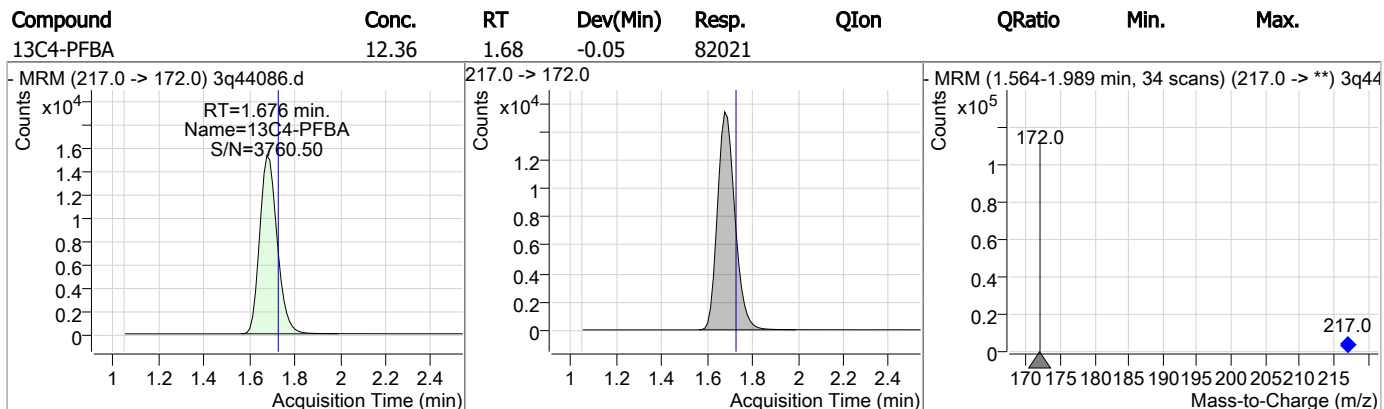
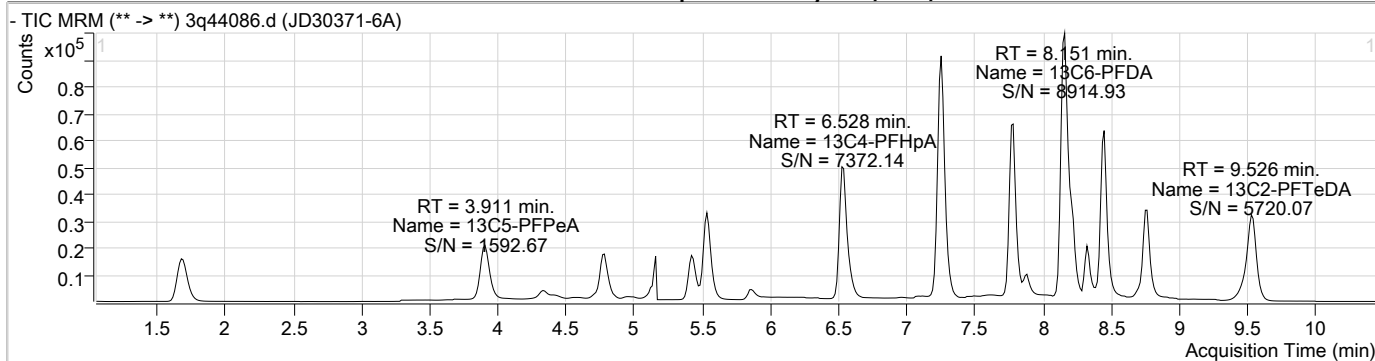
Target Compounds

QValue

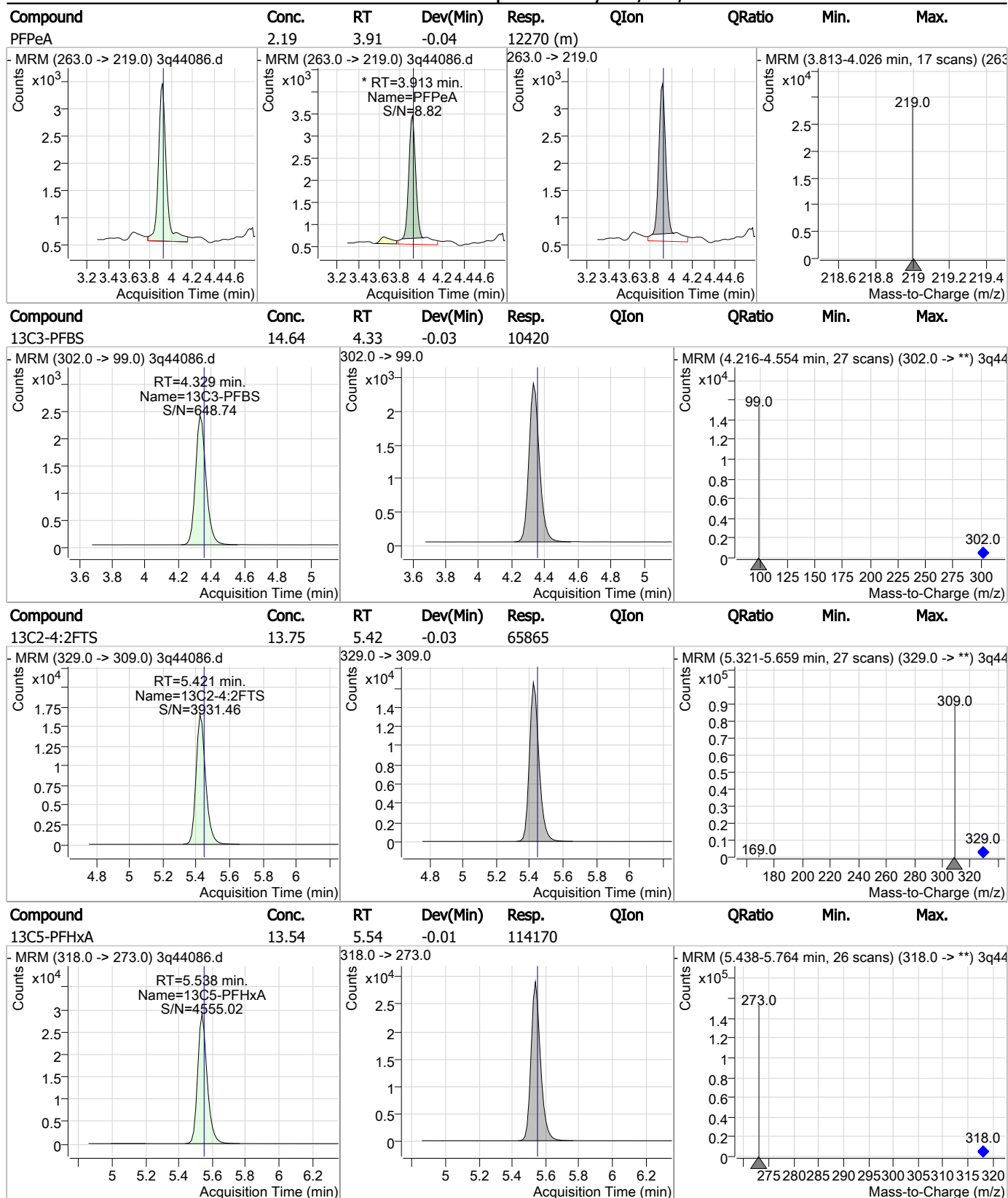
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6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	1.683	213.0 -> 169.0	2994	1.46 µg/L	m	100
PFBS	4.419	299.0 -> 80.0	0	0.00 µg/L	m	1
PFDA	8.152	513.0 -> 469.0	11343	0.97 µg/L		98
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	6.529	363.0 -> 319.0	48735	4.27 µg/L		99
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.539	313.0 -> 269.0	11715	2.36 µg/L		99
PFHxS	6.591	399.0 -> 80.0	337	0.22 µg/L	m	99
PFNA	7.788	463.0 -> 419.0	8602	0.86 µg/L		92
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	7.258	413.0 -> 369.0	42856	4.44 µg/L	m	98
PFOS	7.773	499.0 -> 80.0	4949	3.26 µg/L	m	81
PFPeA	3.913	263.0 -> 219.0	12270	2.19 µg/L	m	100
PFPeS	5.694	349.0 -> 80.0	0	0.00 µg/L	m	1
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		
MeFOSA	-	512.0 -> 169.0	-	N.D.		

= Qualifier out of range, m = manually integrated, + = Area summed

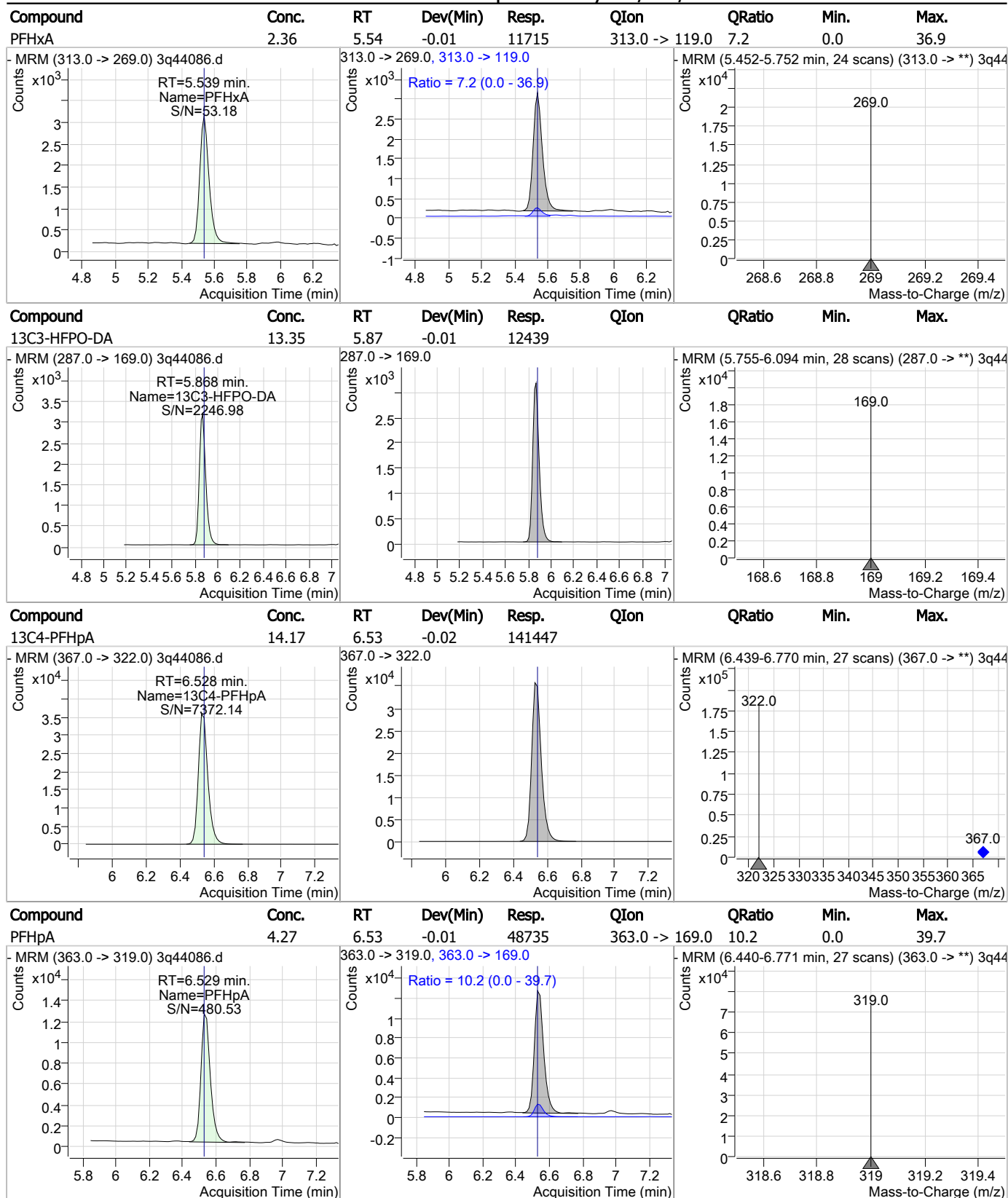
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

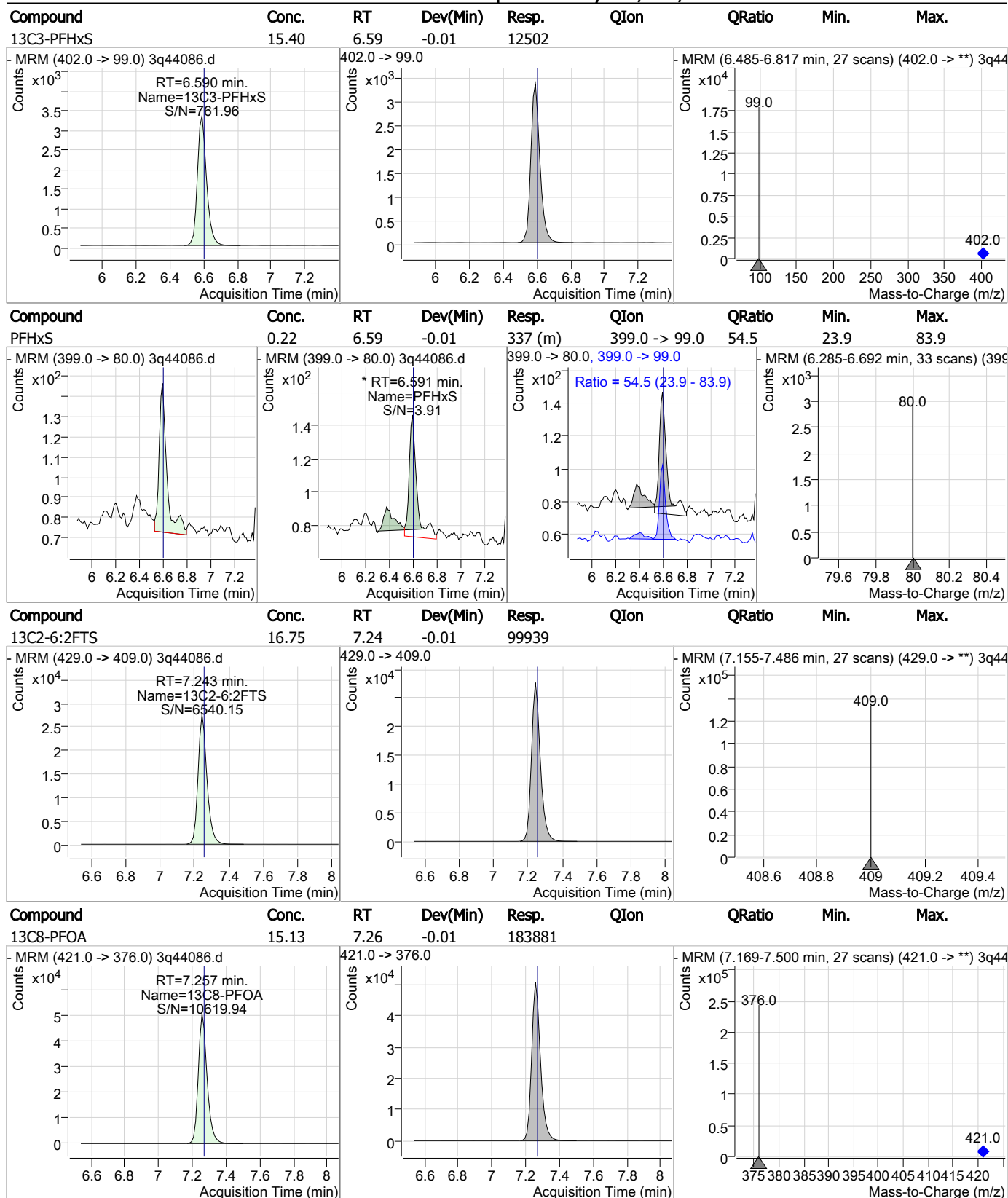


Perfluorinated Compounds by LC/MS/MS



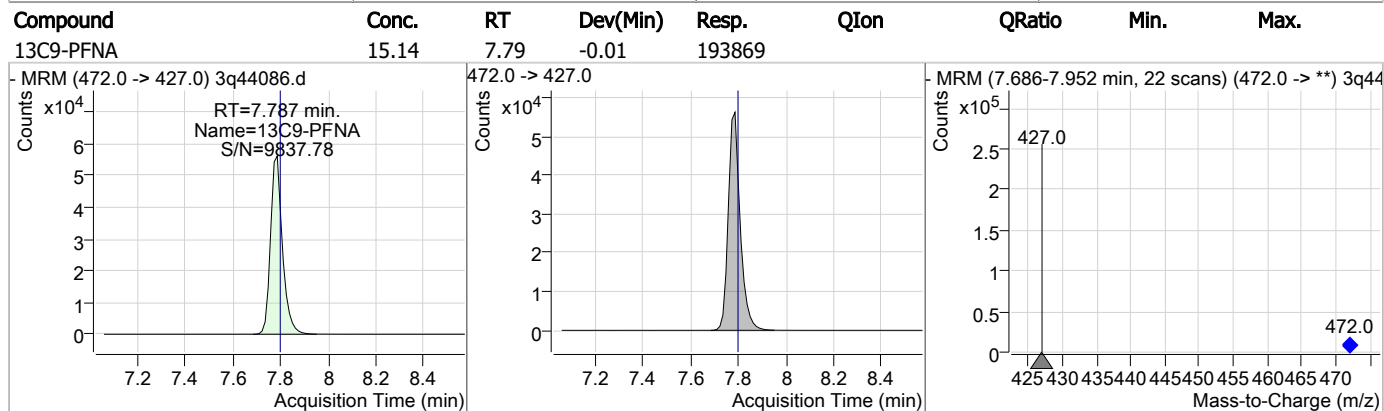
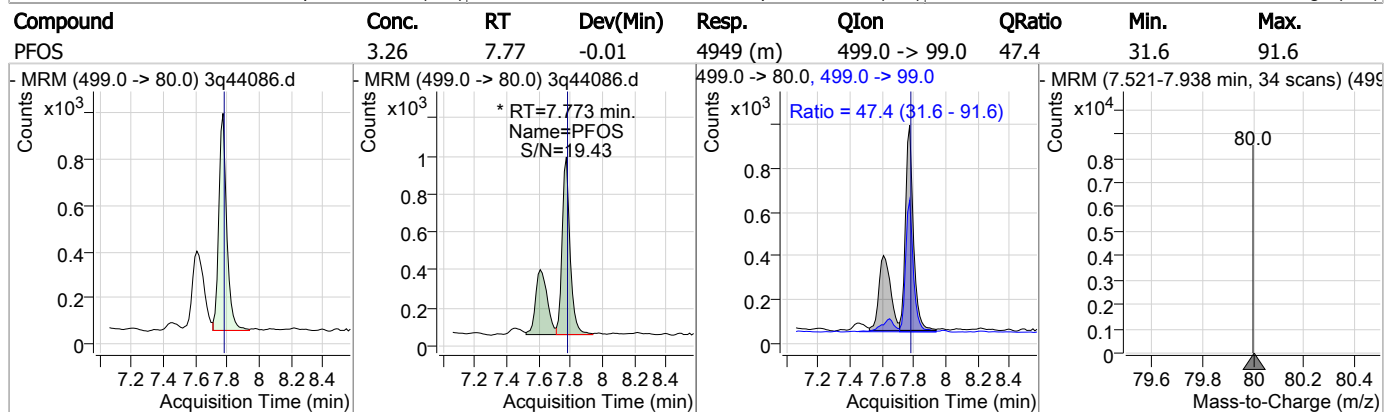
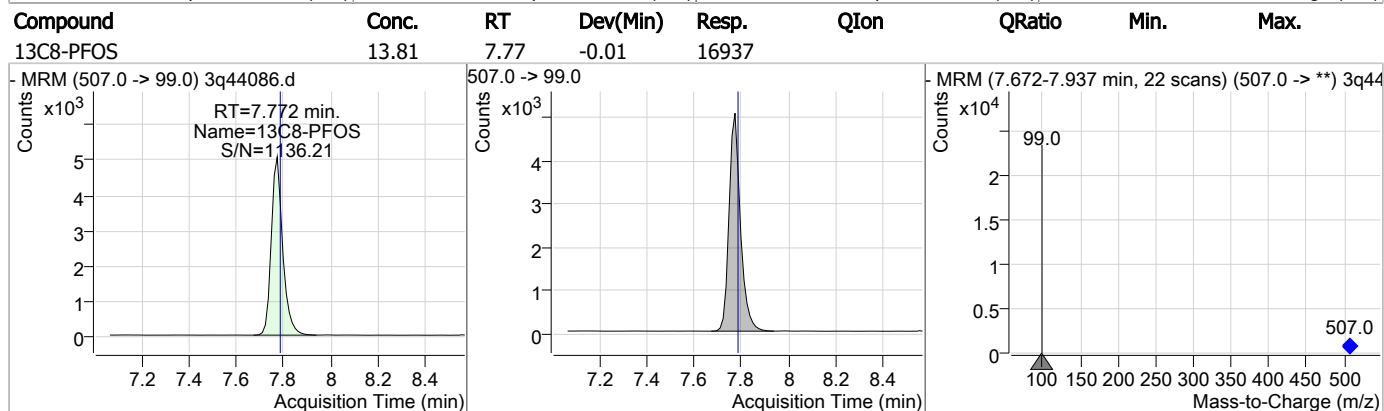
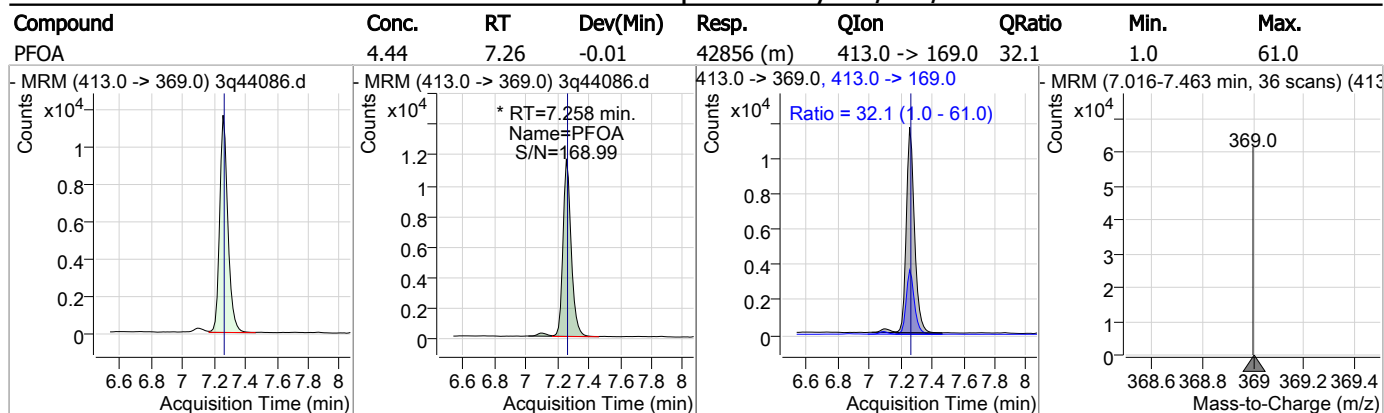
10.1.2 10

Perfluorinated Compounds by LC/MS/MS

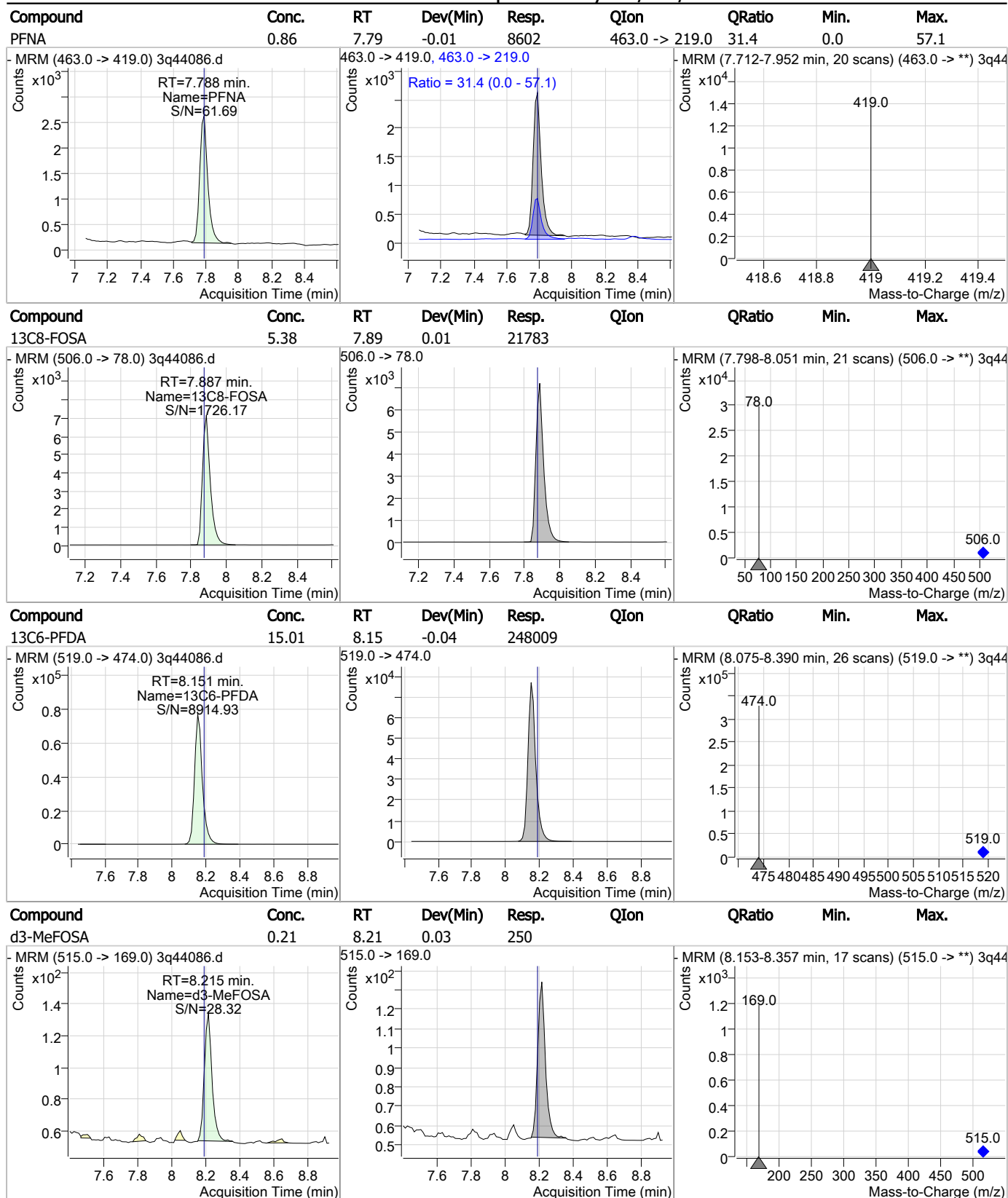


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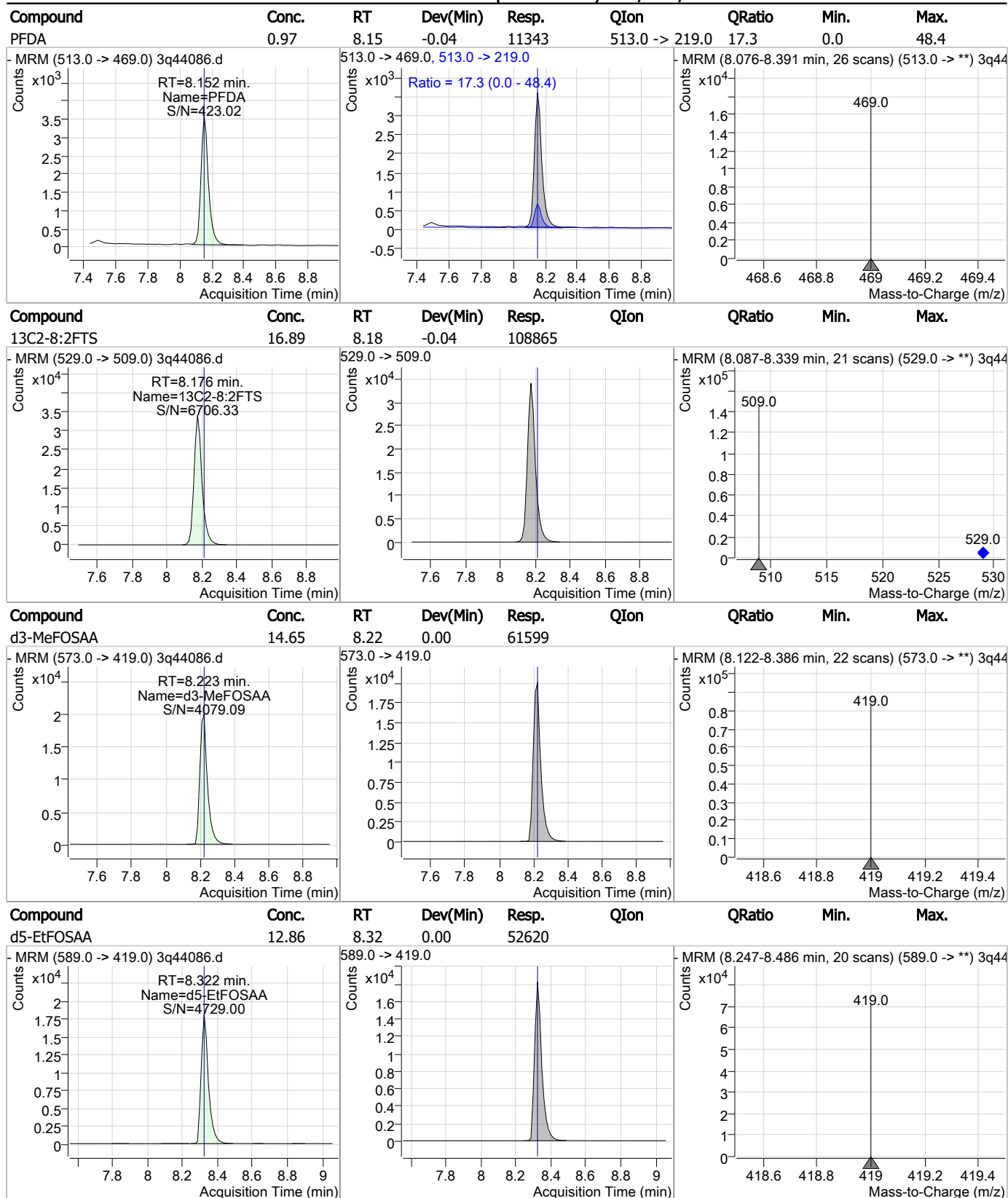
Perfluorinated Compounds by LC/MS/MS



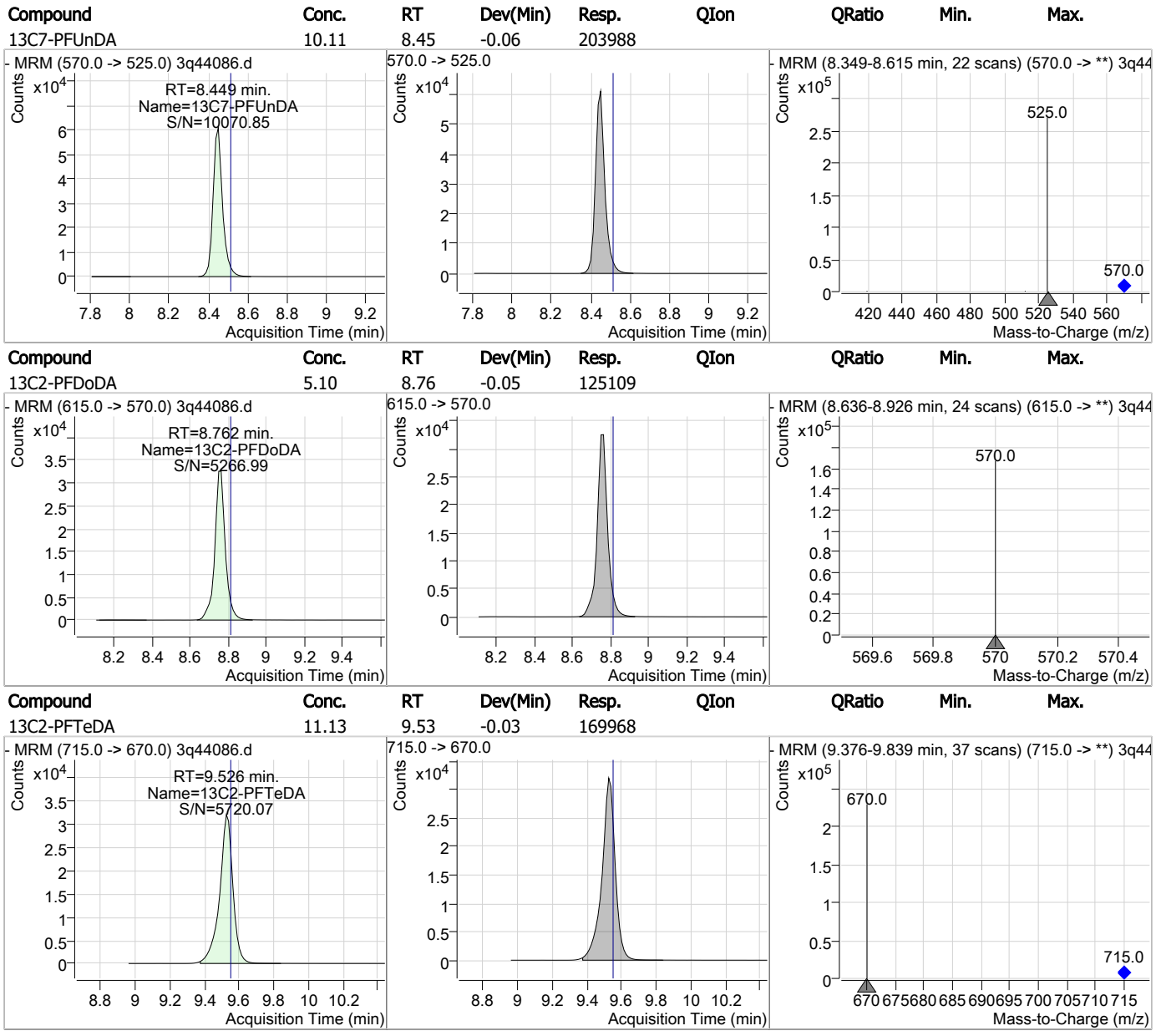
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.1.2 10

Manual Integration Approval Summary

Sample Number:

JD30371-6A

Method:

EPA 537M BY ID

Lab FileID:

3Q44086.D

Analyst approved:

09/02/21 12:19 Natasha Gumtie

Injection Time:

09/01/21 22:22

Supervisor approved:

09/02/21 17:10 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanoic acid	375-22-4		1.68	Split peak
Perfluoropentanoic acid	2706-90-3		3.91	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.59	Split peak
Perfluorooctanoic acid	335-67-1		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.77	Split peak

10.1.2.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44093.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/2/2021 12:17:55 AM
 Sample Name : JD30371-6A
 Vial : P3-E8
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86997,S3Q639,280,,,1,5,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.714	217.0 -> 172.0	19932	20.00 µg/L	-0.013
M5-PFPeA	3.936	268.0 -> 223.0	19547	20.00 µg/L	-0.013
M5-PFHxA	5.551	318.0 -> 273.0	27689	20.00 µg/L	0.000
M4-PFHpA	6.556	367.0 -> 322.0	33707	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	42744	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	45699	20.00 µg/L	0.000
M6-PFDA	8.177	519.0 -> 474.0	58318	20.00 µg/L	-0.013
M7-PFUnDA	8.500	570.0 -> 525.0	63251	20.00 µg/L	-0.013
M2-PFDoDA	8.800	615.0 -> 570.0	68582	20.00 µg/L	-0.013
M2-PFTeDA	9.564	715.0 -> 670.0	33200	20.00 µg/L	0.013
M8-FOSA	7.887	506.0 -> 78.0	6281	20.00 µg/L	0.013
M3-PFBS	4.354	302.0 -> 99.0	2466	20.00 µg/L	0.000
M3-PFHxS	6.603	402.0 -> 99.0	2956	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	4390	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	15507	20.00 µg/L	0.000
M2-6:2FTS	7.268	429.0 -> 409.0	21403	20.00 µg/L	0.013
M2-8:2FTS	8.201	529.0 -> 509.0	23507	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	12320	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	3151	20.00 µg/L	0.000
M3-MeFOSA	8.202	515.0 -> 169.0	65	20.00 µg/L	0.013
M5-EtFOSAA	8.335	589.0 -> 419.0	10394	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	15507	3.24 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 16.2%		
13C2-6:2FTS	7.268	429.0 -> 409.0	21403	3.59 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 17.9%		
13C2-8:2FTS	8.201	529.0 -> 509.0	23507	3.65 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 18.2%		
13C2-PFDoDA	8.800	615.0 -> 570.0	68582	2.80 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 14.0%		
13C2-PFTeDA	9.564	715.0 -> 670.0	33200	2.17 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 10.9%		
13C3-PFBS	4.354	302.0 -> 99.0	2466	3.46 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 17.3%		
13C3-PFHxS	6.603	402.0 -> 99.0	2956	3.64 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 18.2%		
13C4-PFBA	1.714	217.0 -> 172.0	19932	3.00 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 15.0%		
13C4-PFHpA	6.556	367.0 -> 322.0	33707	3.38 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 16.9%		
13C5-PFHxA	5.551	318.0 -> 273.0	27689	3.28 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 16.4%		
13C5-PFPeA	3.936	268.0 -> 223.0	19547	3.33 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 16.6%		
13C6-PFDA	8.177	519.0 -> 474.0	58318	3.53 µg/L	-0.013

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.6%		
13C7-PFUnDA	8.500	570.0 -> 525.0	63251	3.13 µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 15.7%		
13C8-FOSA	7.887	506.0 -> 78.0	6281	1.55 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 7.8%		
13C8-PFOA	7.283	421.0 -> 376.0	42744	3.52 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.6%		
13C8-PFOS	7.785	507.0 -> 99.0	4390	3.58 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.9%		
13C9-PFNA	7.800	472.0 -> 427.0	45699	3.57 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.8%		
d3-MeFOSAA	8.223	573.0 -> 419.0	12320	2.93 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 14.6%		
13C3-HFPO-DA	5.881	287.0 -> 169.0	3148	3.38 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 16.9%		
d3-MeFOSA	8.202	515.0 -> 169.0	65	0.06 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 0.3%		
d5-EtFOSAA	8.335	589.0 -> 419.0	10403	2.54 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 12.7%		

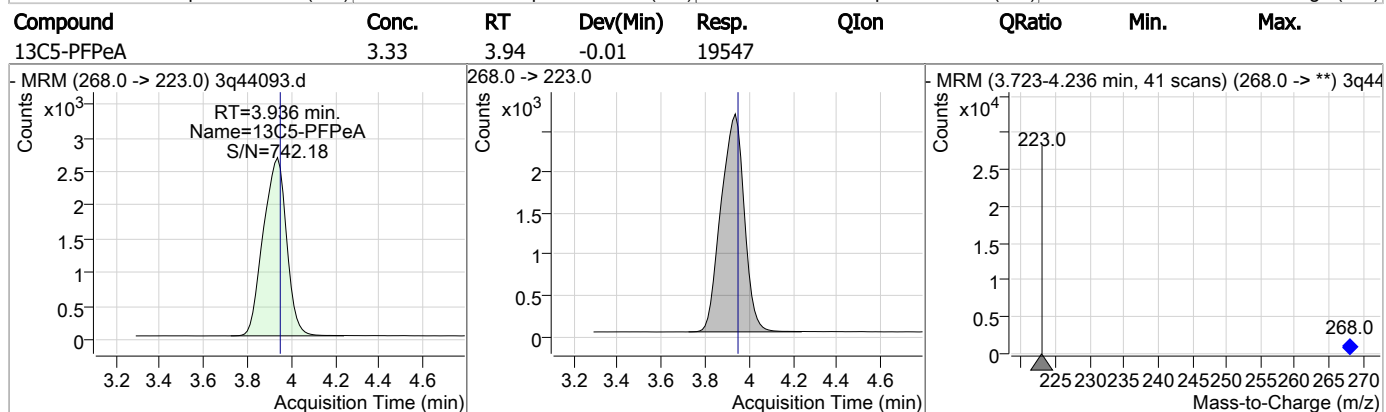
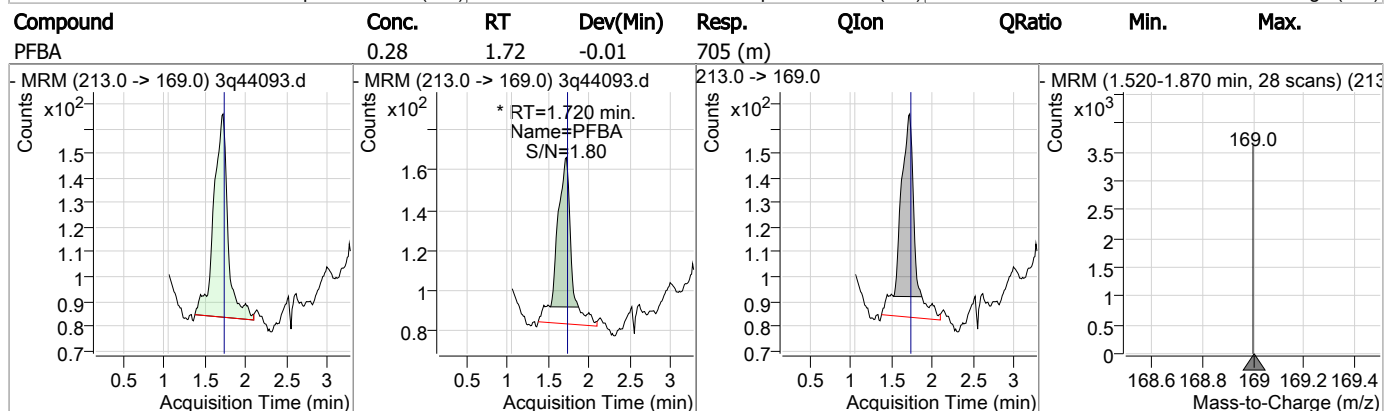
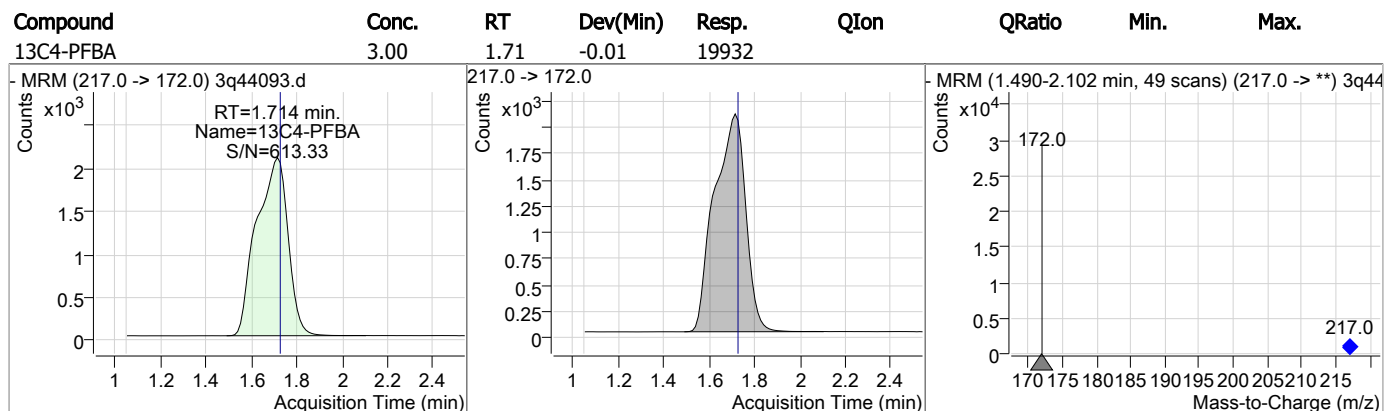
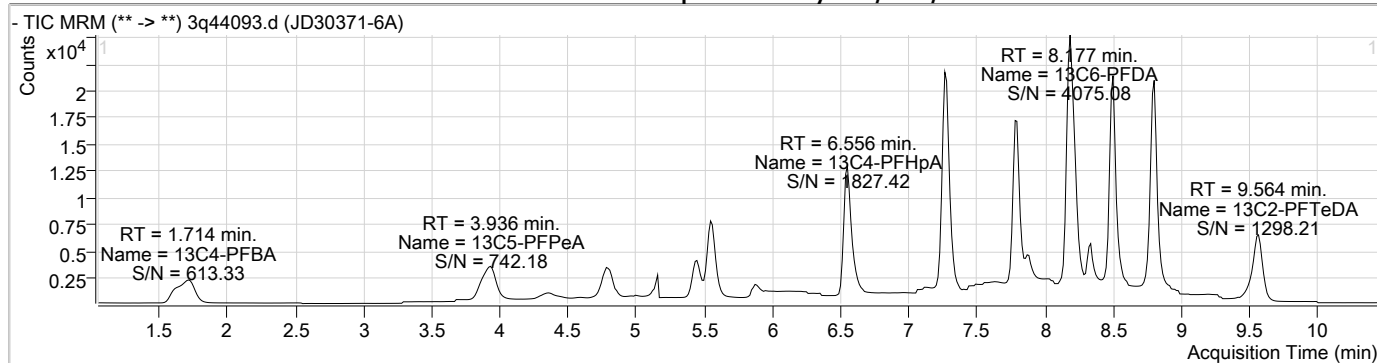
Target Compounds

QValue

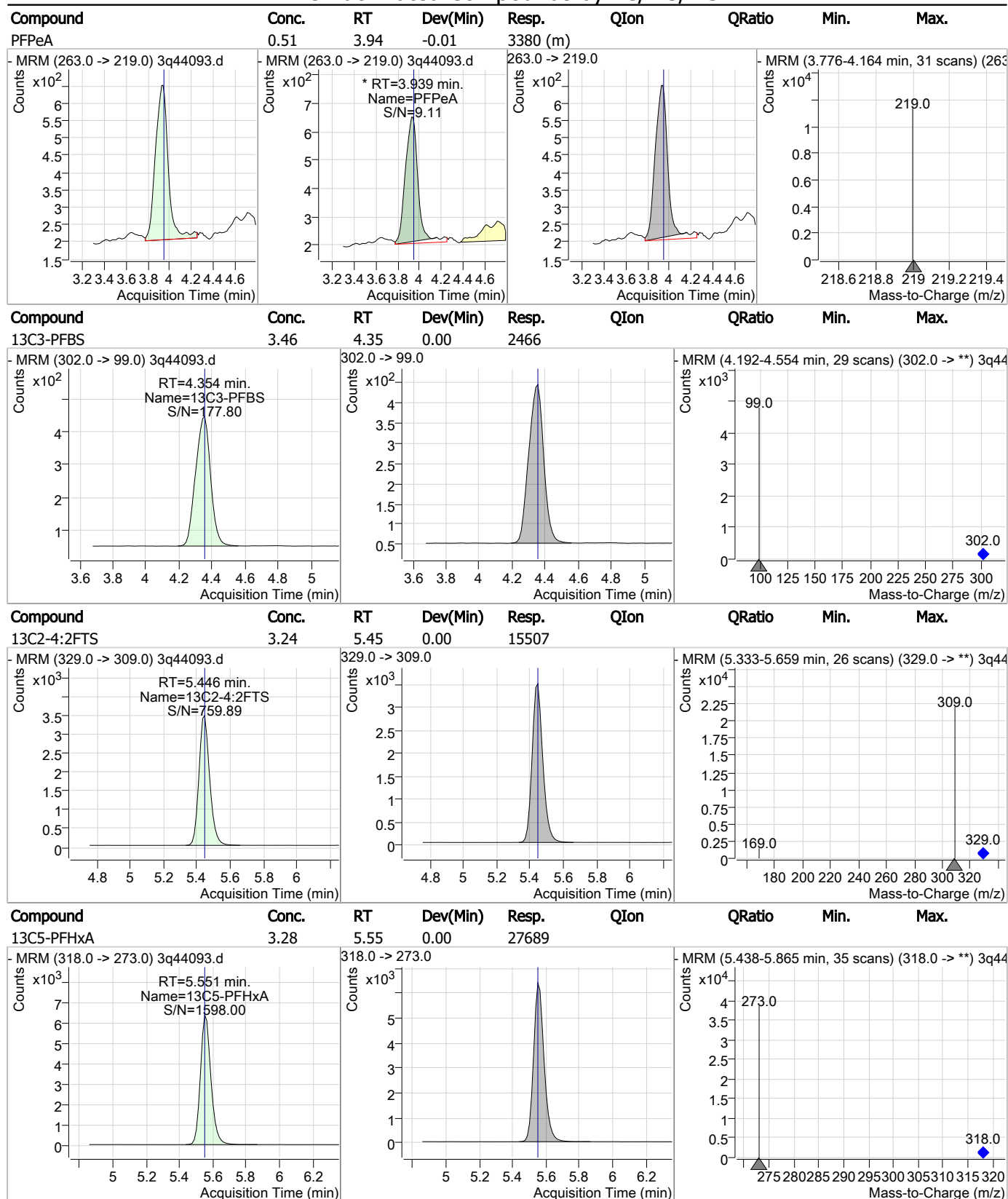
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	1.720	213.0 -> 169.0	705	0.28 µg/L	m	100
PFBS	4.432	299.0 -> 80.0	0	0.00 µg/L	m	1
PFDA	8.177	513.0 -> 469.0	2636	0.19 µg/L		99
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	6.557	363.0 -> 319.0	11337	0.83 µg/L		99
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.552	313.0 -> 269.0	3194	0.53 µg/L		95
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	7.800	463.0 -> 419.0	1972	0.17 µg/L		93
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	7.283	413.0 -> 369.0	10093	0.90 µg/L	m	96
PFOS	7.786	499.0 -> 80.0	1166	0.59 µg/L	m	85
PFPeA	3.939	263.0 -> 219.0	3380	0.51 µg/L	m	100
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		
MeFOSA	-	512.0 -> 169.0	-	N.D.		

= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

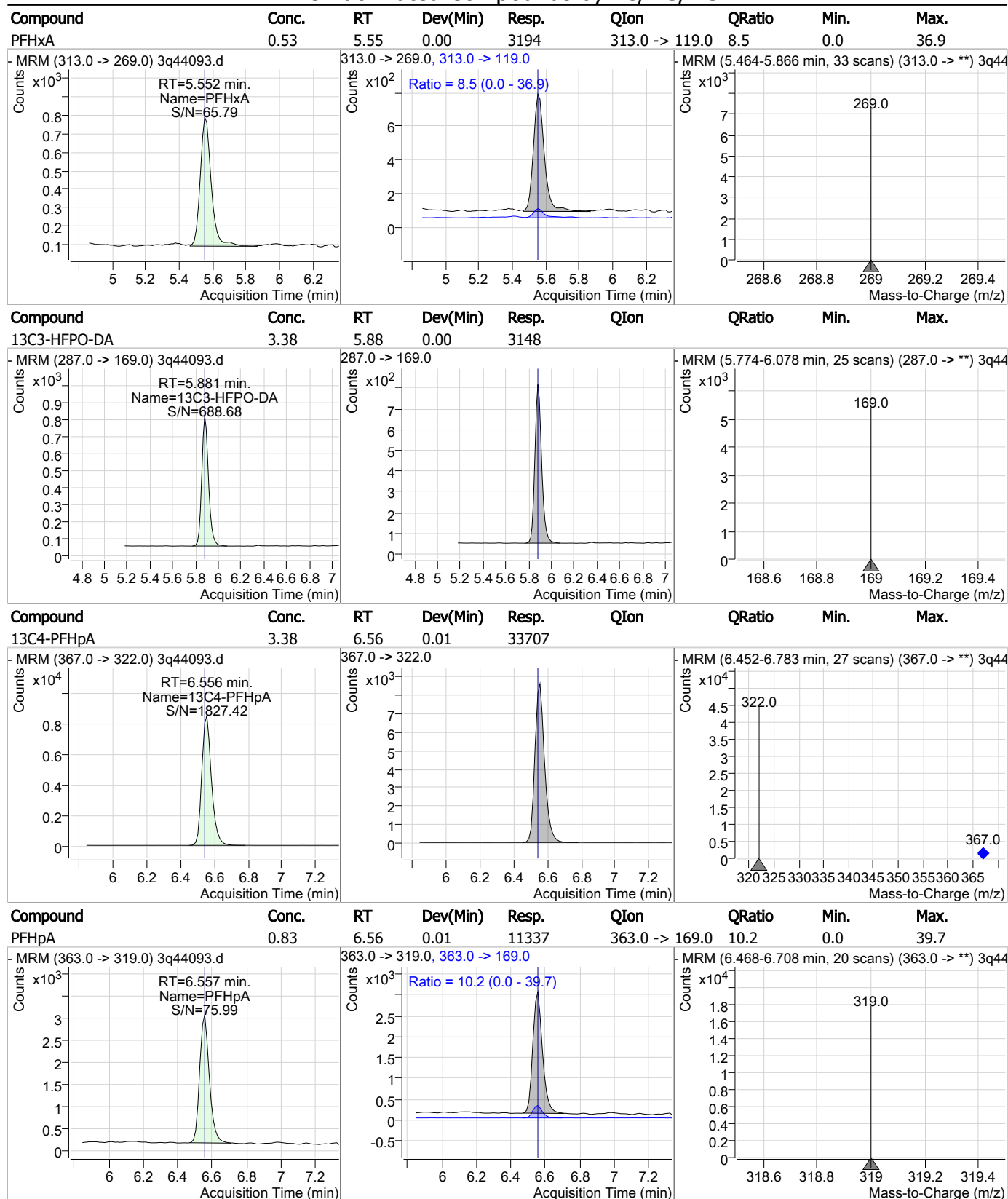


Perfluorinated Compounds by LC/MS/MS

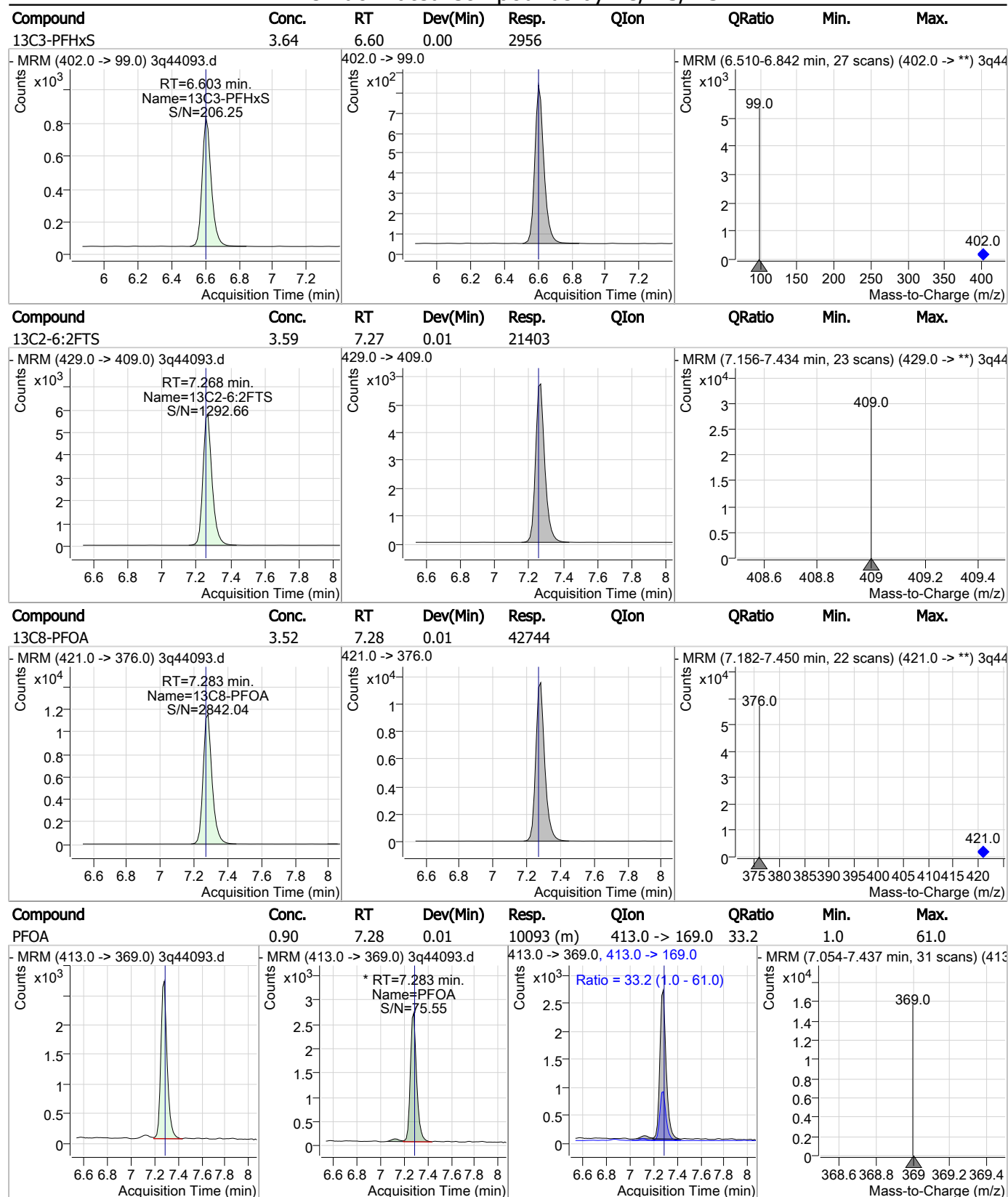


10.1.3 10

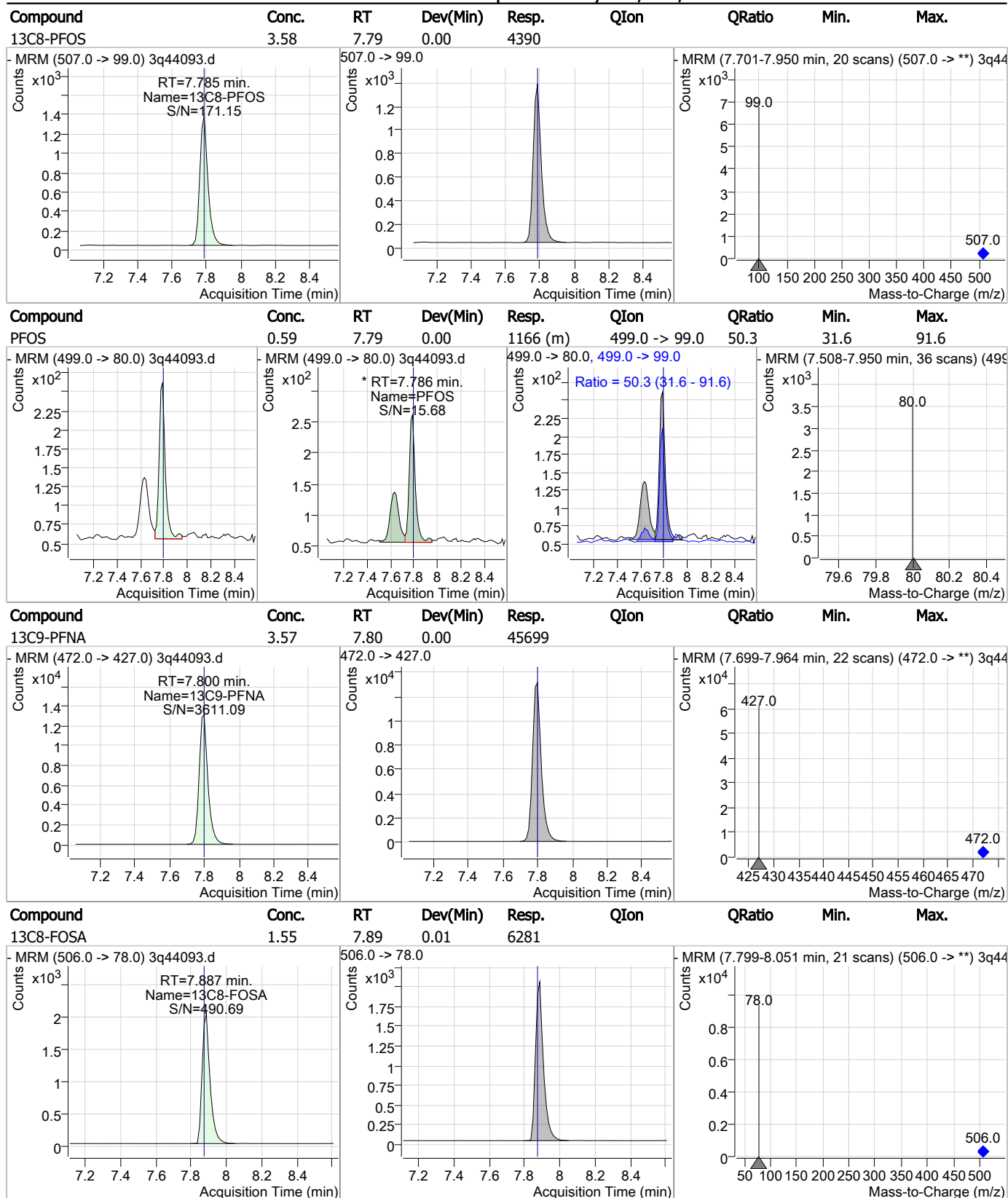
Perfluorinated Compounds by LC/MS/MS



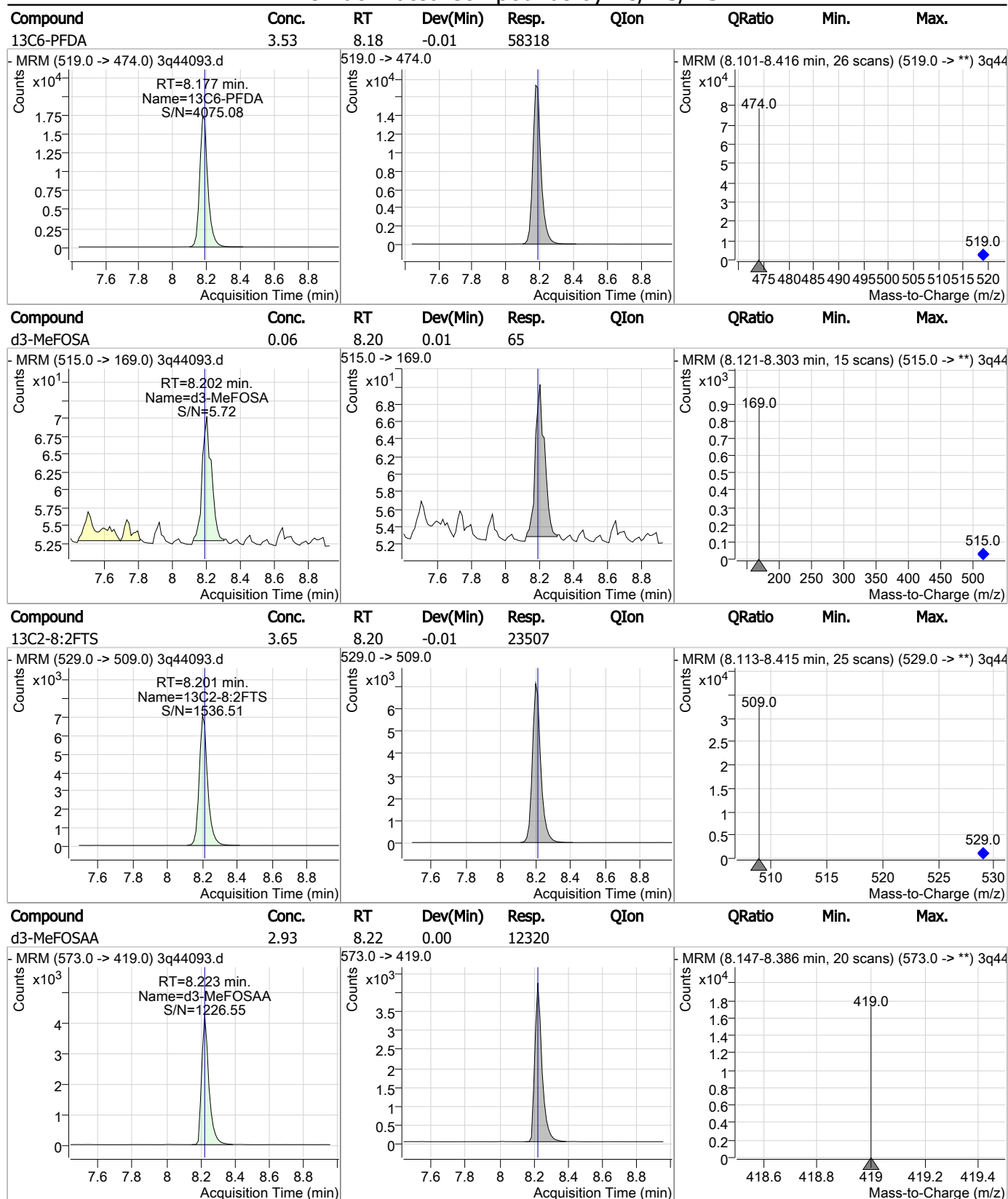
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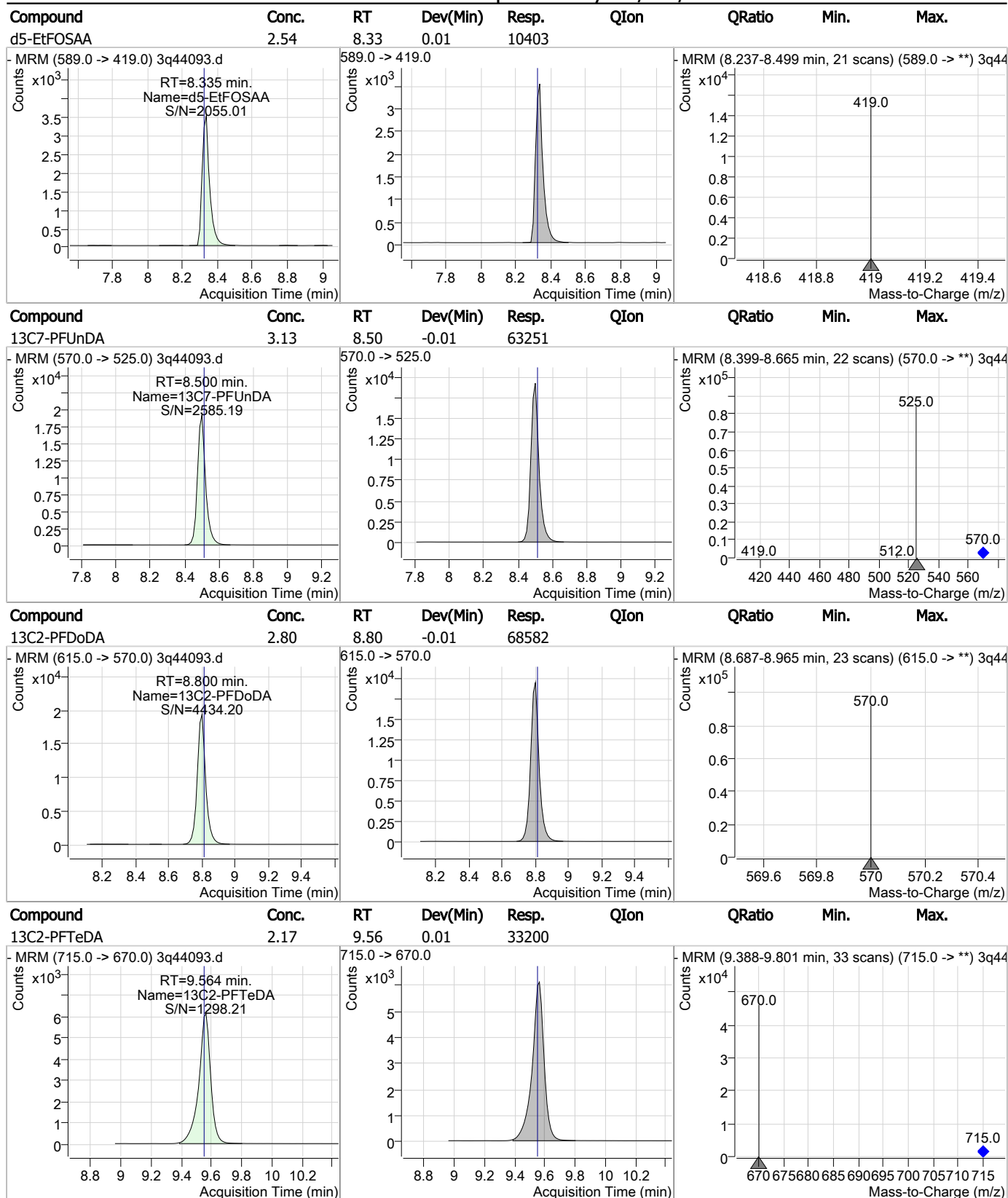
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

JD30371-6A

Lab FileID:

3Q44093.D

Injection Time:

09/02/21 00:17

Method:

EPA 537M BY ID

Analyst approved:

09/02/21 12:19
Natasha Gumtie

Supervisor approved:

09/02/21 17:10
Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanoic acid	375-22-4		1.72	Split peak
Perfluoropentanoic acid	2706-90-3		3.94	Split peak
Perfluorooctanoic acid	335-67-1		7.28	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak

10.1.3.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44087.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 10:38:40 PM
 Sample Name : JD30371-7A
 Vial : P3-E2
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86997,S3Q639,280,,,1,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.689	217.0 -> 172.0	93490	20.00 µg/L	-0.038
M5-PFPeA	3.911	268.0 -> 223.0	84856	20.00 µg/L	-0.038
M5-PFHxA	5.538	318.0 -> 273.0	113996	20.00 µg/L	-0.013
M4-PFHpA	6.543	367.0 -> 322.0	139941	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	182596	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	186309	20.00 µg/L	-0.013
M6-PFDA	8.176	519.0 -> 474.0	233793	20.00 µg/L	-0.013
M7-PFUnDA	8.500	570.0 -> 525.0	254044	20.00 µg/L	-0.013
M2-PFDoDA	8.800	615.0 -> 570.0	283012	20.00 µg/L	-0.013
M2-PFTeDA	9.551	715.0 -> 670.0	172411	20.00 µg/L	0.000
M8-FOSA	7.887	506.0 -> 78.0	32745	20.00 µg/L	0.013
M3-PFBS	4.329	302.0 -> 99.0	10436	20.00 µg/L	-0.025
M3-PFHxS	6.590	402.0 -> 99.0	12095	20.00 µg/L	-0.013
M8-PFOS	7.772	507.0 -> 99.0	16146	20.00 µg/L	-0.013
M2-4:2FTS	5.434	329.0 -> 309.0	65457	20.00 µg/L	-0.013
M2-6:2FTS	7.256	429.0 -> 409.0	97672	20.00 µg/L	0.000
M2-8:2FTS	8.201	529.0 -> 509.0	96283	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	52416	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	12409	20.00 µg/L	-0.013
M3-MeFOSA	8.202	515.0 -> 169.0	375	20.00 µg/L	0.013
M5-EtFOSAA	8.335	589.0 -> 419.0	48318	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.434	329.0 -> 309.0	65457	13.67 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 68.3%	
13C2-6:2FTS	7.256	429.0 -> 409.0	97672	16.37 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 81.8%	
13C2-8:2FTS	8.201	529.0 -> 509.0	96283	14.93 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 74.7%	
13C2-PFDoDA	8.800	615.0 -> 570.0	283012	11.55 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 57.7%	
13C2-PFTeDA	9.551	715.0 -> 670.0	172411	11.29 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 56.4%	
13C3-PFBS	4.329	302.0 -> 99.0	10436	14.66 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 73.3%	
13C3-PFHxS	6.590	402.0 -> 99.0	12095	14.89 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 74.5%	
13C4-PFBA	1.689	217.0 -> 172.0	93490	14.09 µg/L	-0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 70.4%	
13C4-PFHpA	6.543	367.0 -> 322.0	139941	14.02 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 70.1%	
13C5-PFHxA	5.538	318.0 -> 273.0	113996	13.52 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 67.6%	
13C5-PFPeA	3.911	268.0 -> 223.0	84856	14.44 µg/L	-0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 72.2%	
13C6-PFDA	8.176	519.0 -> 474.0	233793	14.15 µg/L	-0.013

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 70.7%	
13C7-PFUnDA	8.500	570.0 -> 525.0	254044	12.59 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 63.0%	
13C8-FOSA	7.887	506.0 -> 78.0	32745	8.09 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 40.5%	
13C8-PFOA	7.270	421.0 -> 376.0	182596	15.03 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.1%	
13C8-PFOS	7.772	507.0 -> 99.0	16146	13.17 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 65.8%	
13C9-PFNA	7.787	472.0 -> 427.0	186309	14.55 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 72.8%	
d3-MeFOSAA	8.223	573.0 -> 419.0	52416	12.46 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 62.3%	
13C3-HFPO-DA	5.868	287.0 -> 169.0	12402	13.31 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 66.5%	
d3-MeFOSA	8.202	515.0 -> 169.0	375	0.32 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 1.6%	
d5-EtFOSAA	8.335	589.0 -> 419.0	48316	11.81 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 59.1%	

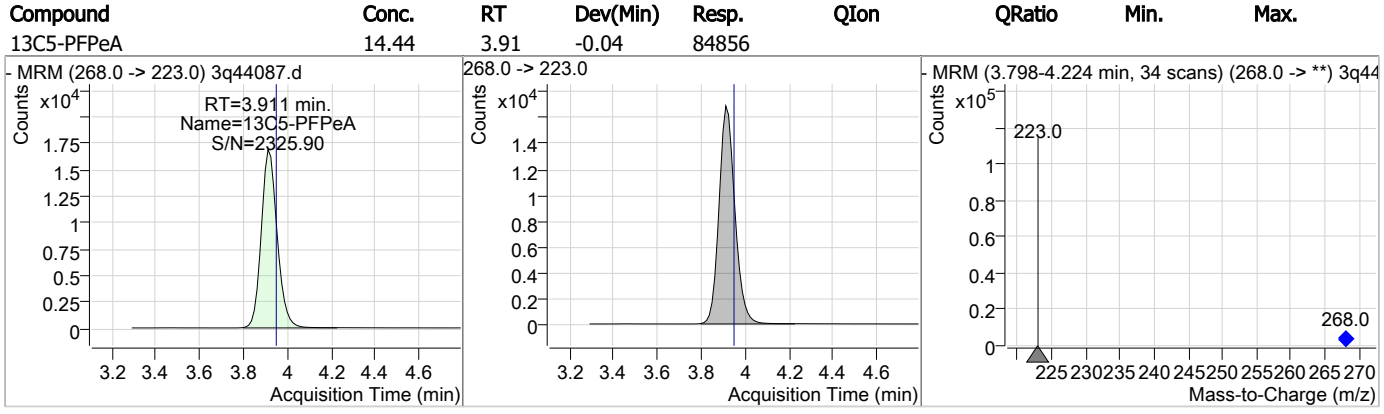
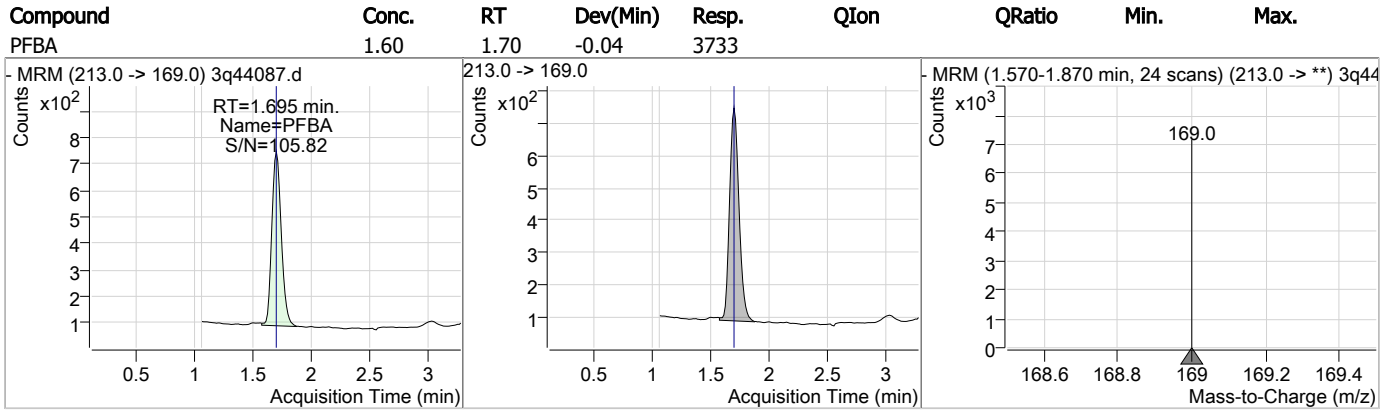
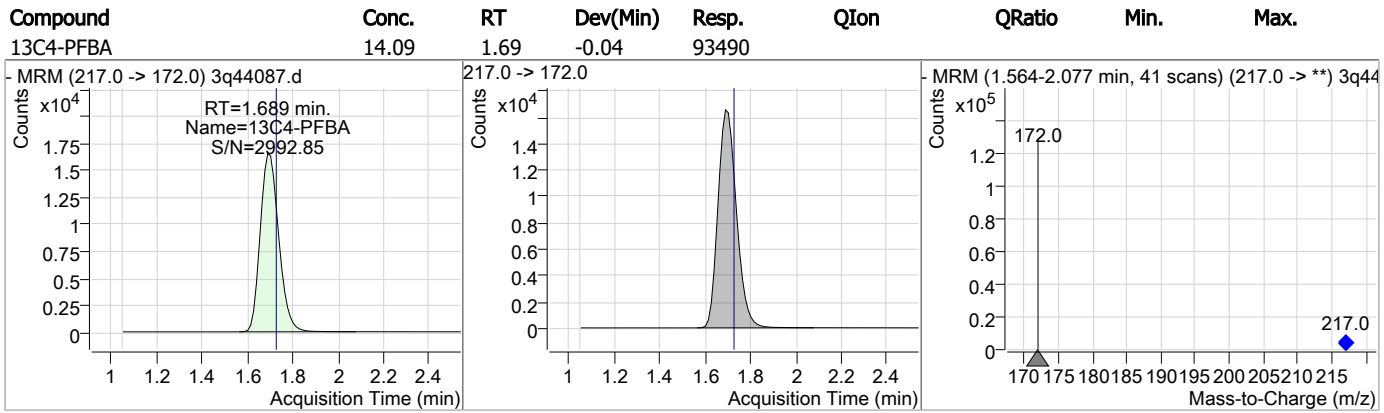
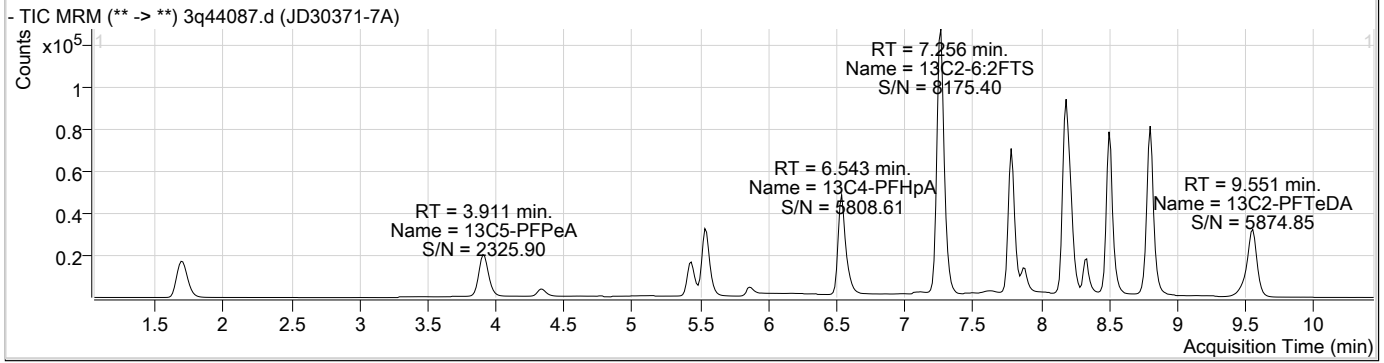
Target Compounds

QValue

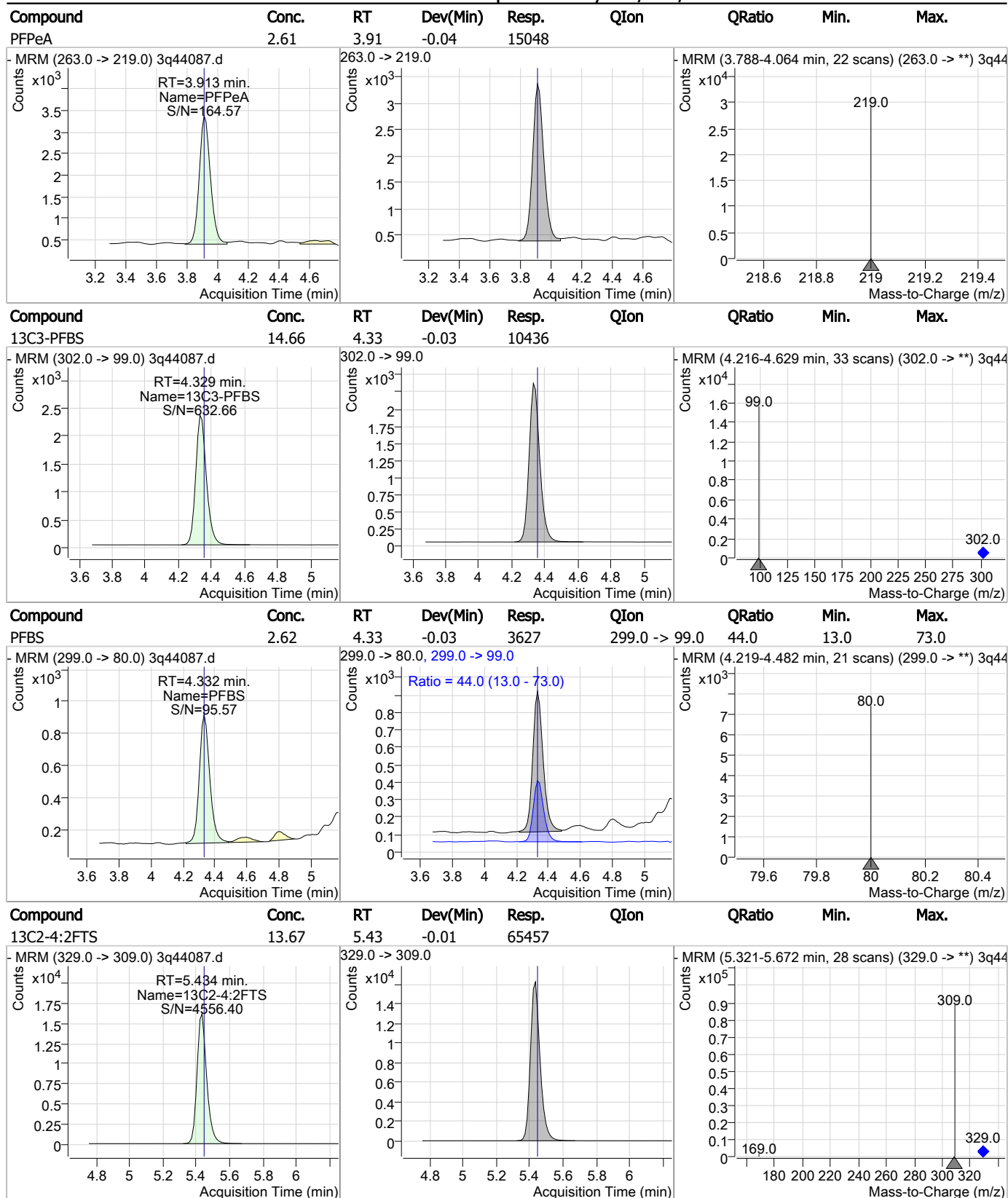
4:2FTS	-	327.0 -> 307.0	-	N.D.	
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
FOSA	-	498.0 -> 78.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	1.695	213.0 -> 169.0	3733	1.60 µg/L	100
PFBS	4.332	299.0 -> 80.0	3627	2.62 µg/L	98
PFDA	8.177	513.0 -> 469.0	4724	0.43 µg/L	95
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFDS	-	599.0 -> 80.0	-	N.D.	
PFHpA	6.544	363.0 -> 319.0	36518	3.24 µg/L	99
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.539	313.0 -> 269.0	12785	2.58 µg/L	99
PFHxS	6.591	399.0 -> 80.0	566	0.39 µg/L	m 84
PFNA	7.788	463.0 -> 419.0	13754	1.42 µg/L	98
PFNS	-	549.0 -> 80.0	-	N.D.	
PFOA	7.270	413.0 -> 369.0	149300	15.57 µg/L	98
PFOS	7.773	499.0 -> 80.0	13192	9.11 µg/L	m 85
PFPeA	3.913	263.0 -> 219.0	15048	2.61 µg/L	100
PFPeS	5.694	349.0 -> 80.0	0	0.00 µg/L	m 1
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
HFPO-DA	-	329.0 -> 169.0	-	N.D.	
MeFOSA	-	512.0 -> 169.0	-	N.D.	

= Qualifier out of range, m = manually integrated, + = Area summed

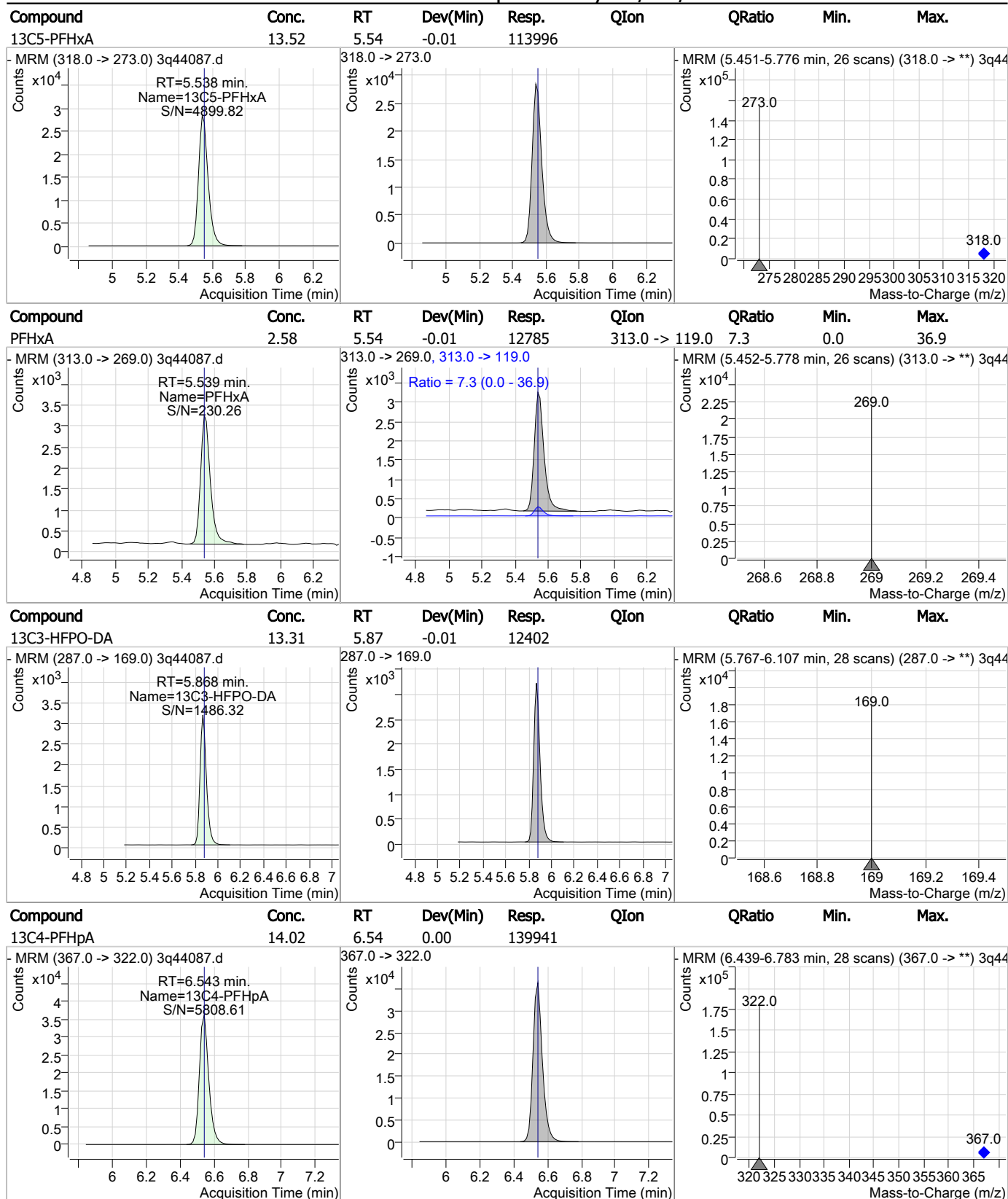
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

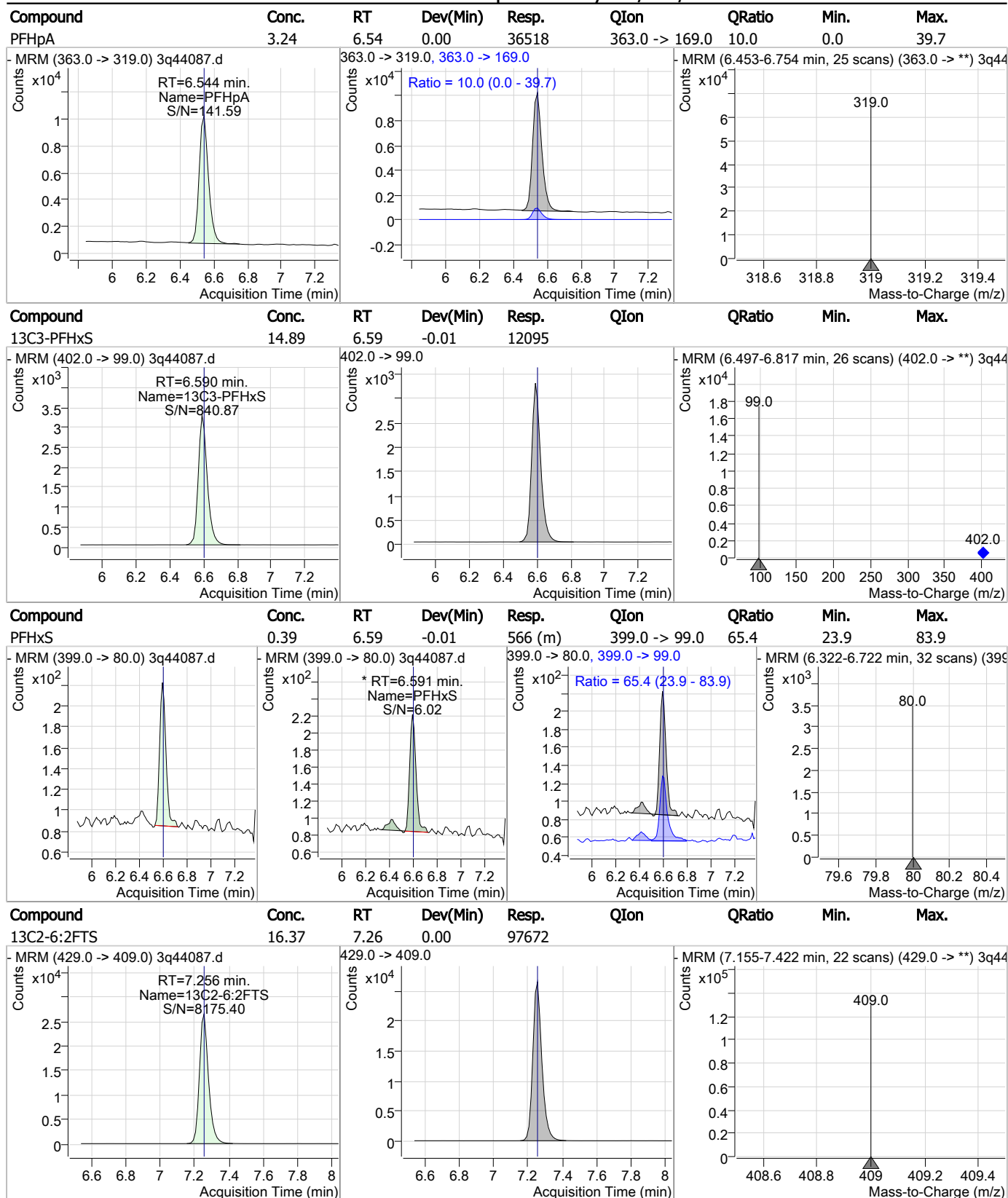


Perfluorinated Compounds by LC/MS/MS

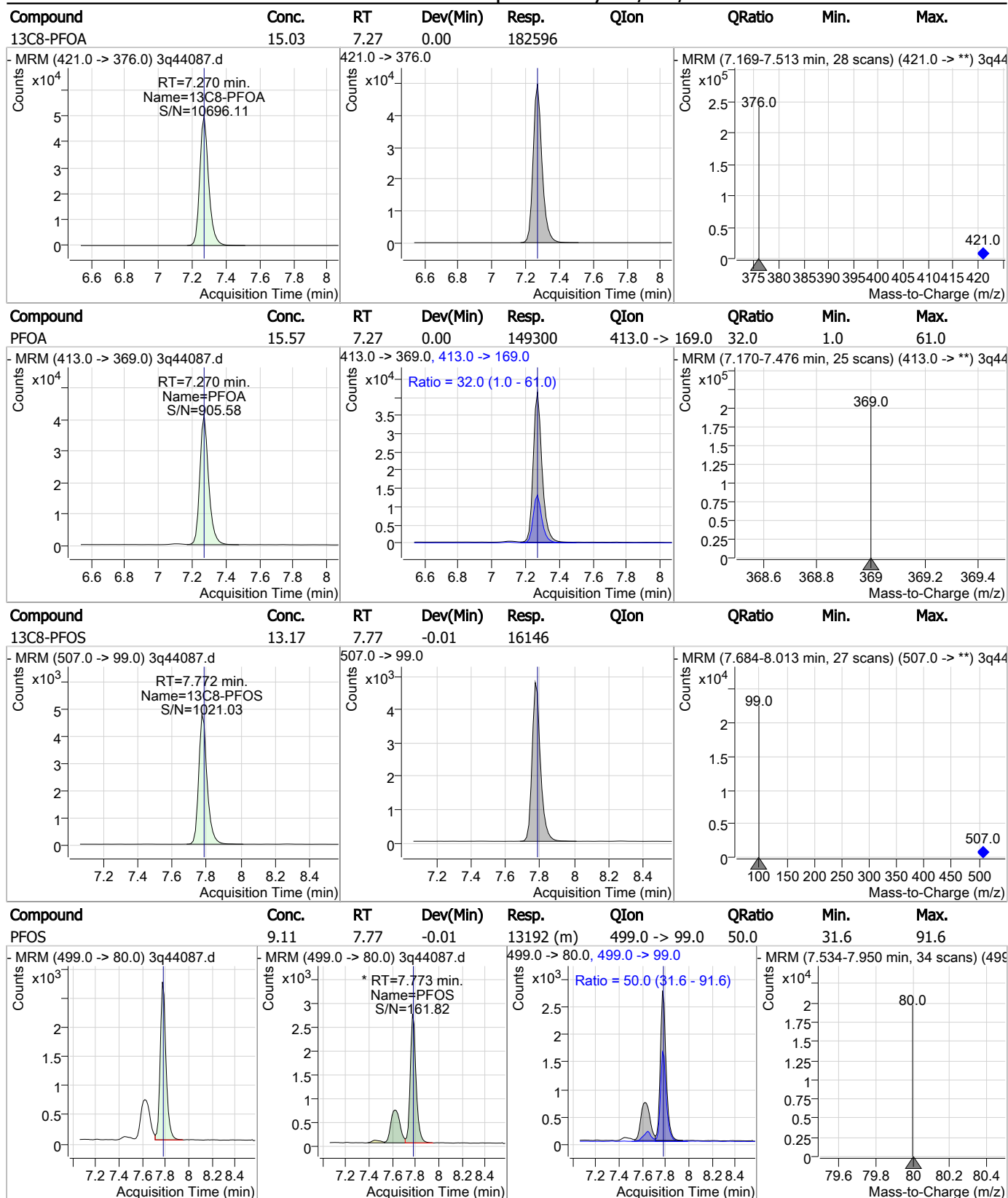


10.1.4 10

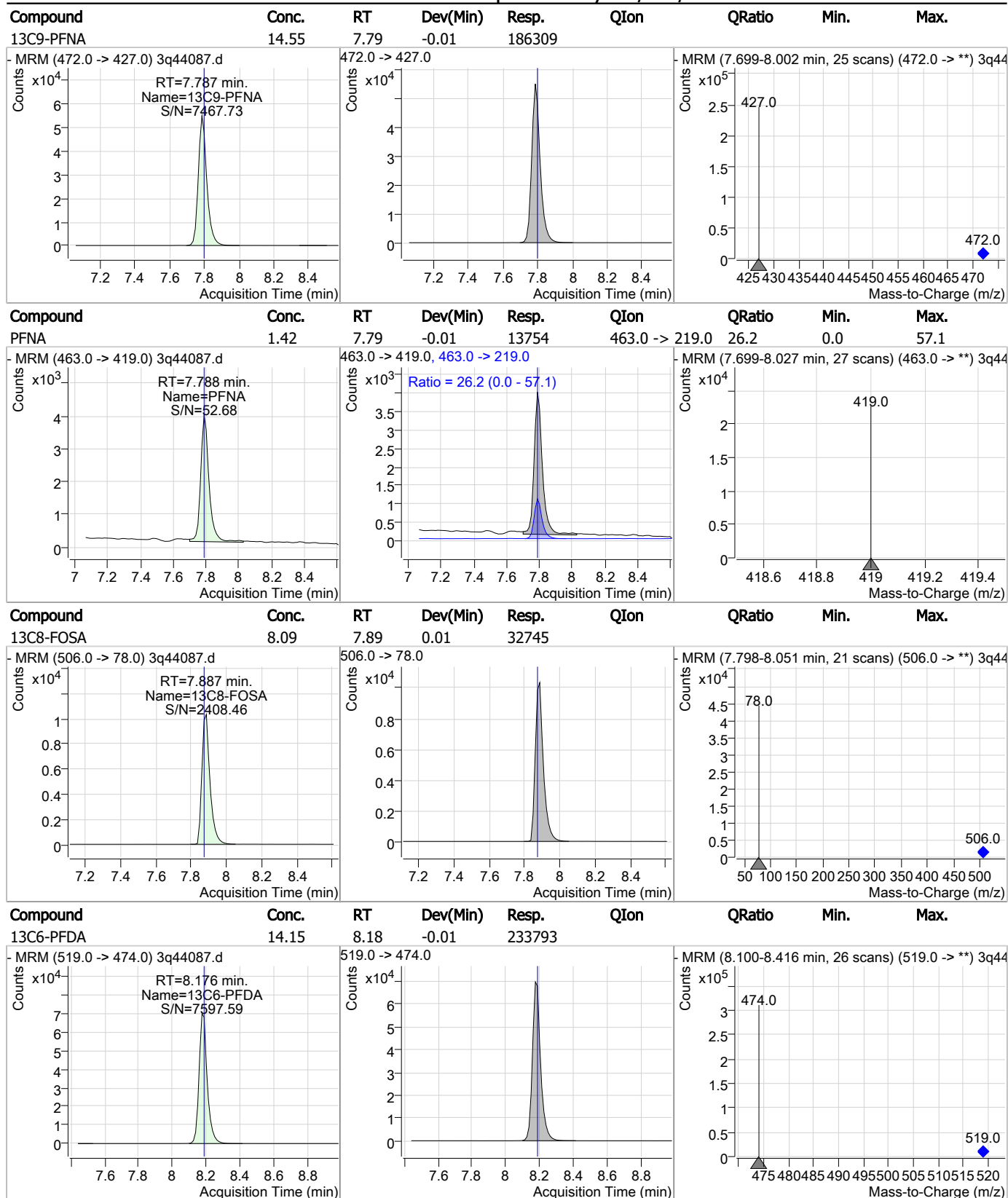
Perfluorinated Compounds by LC/MS/MS



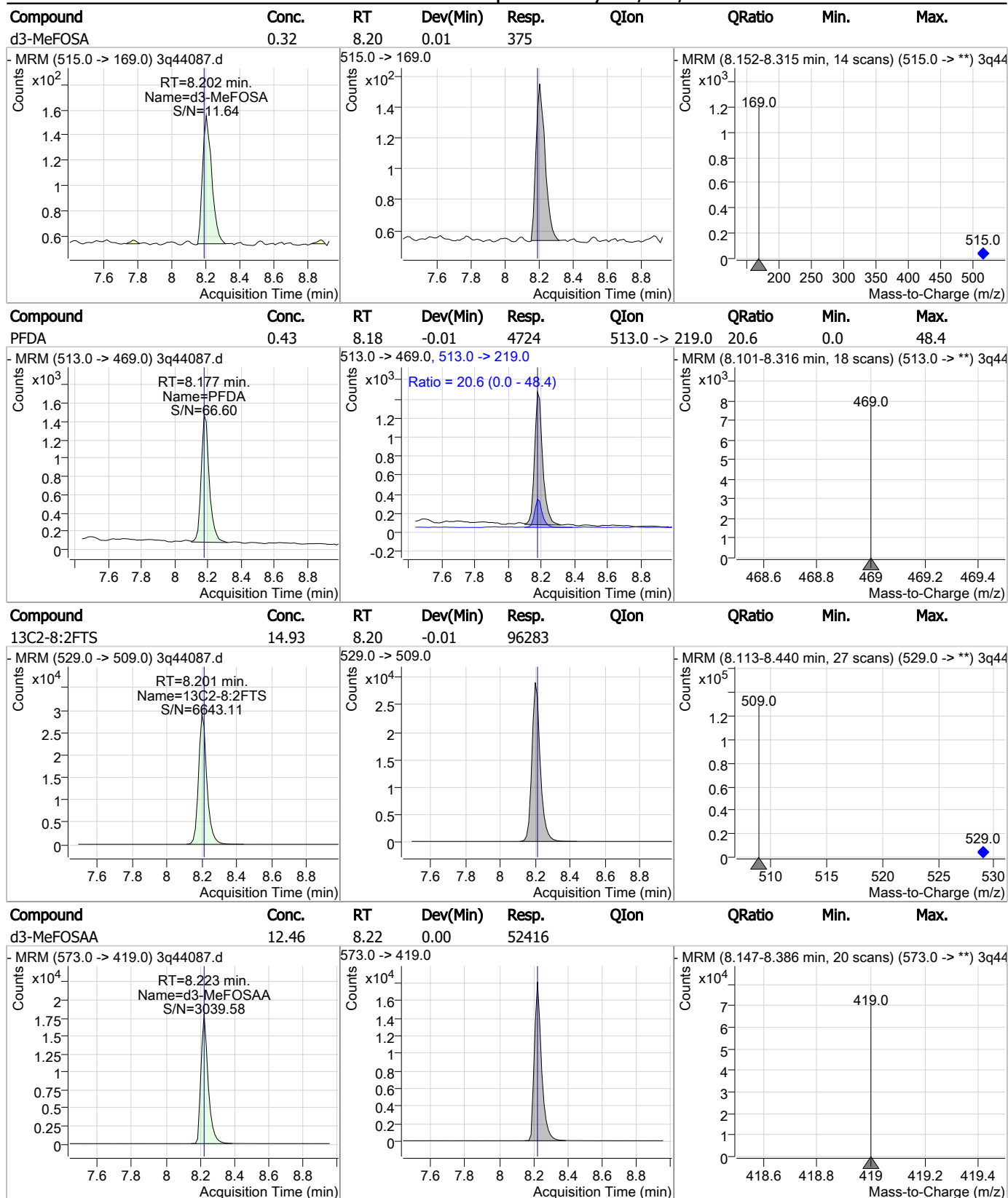
Perfluorinated Compounds by LC/MS/MS

10.1.4
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Perfluorinated Compounds by LC/MS/MS

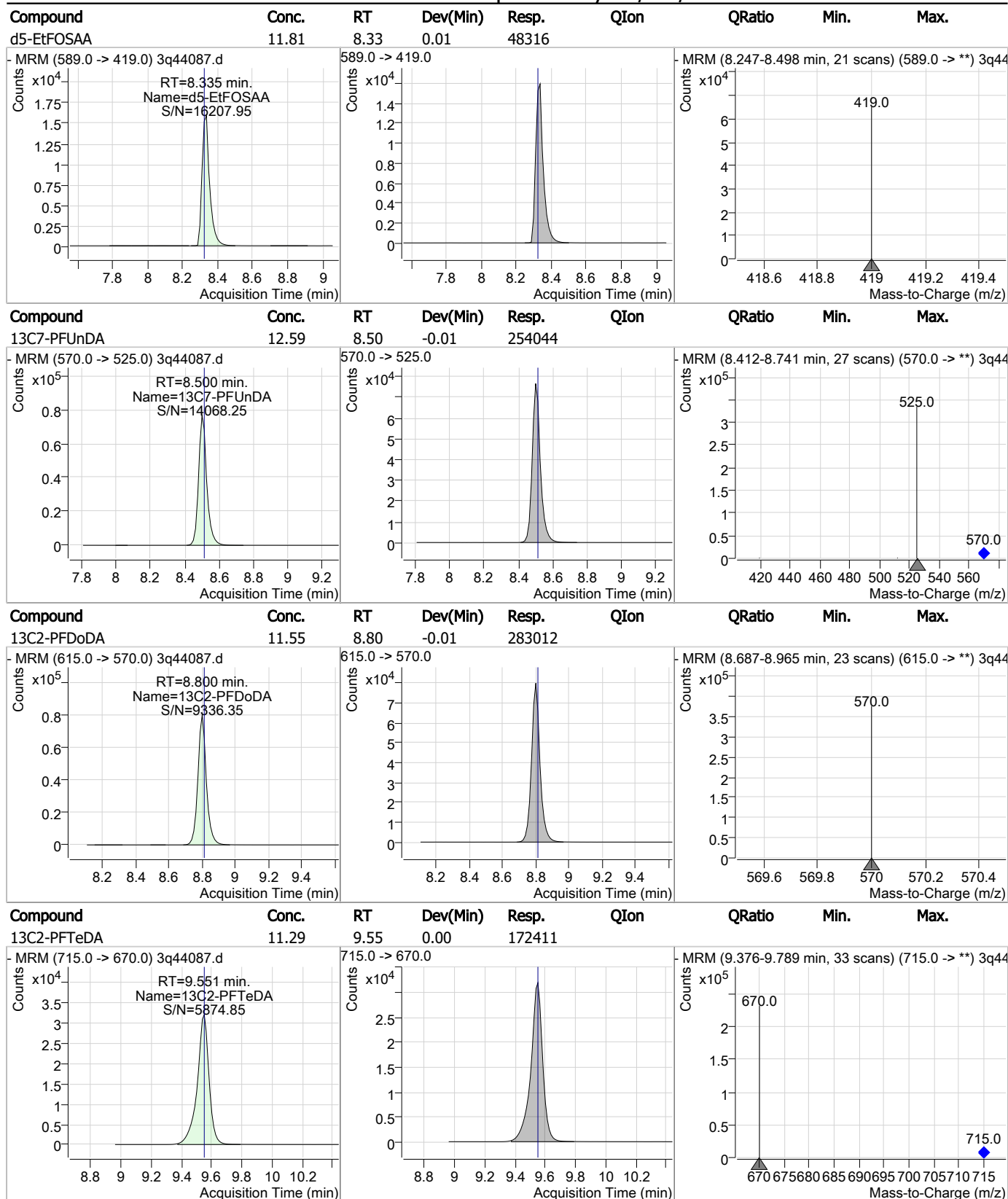


Perfluorinated Compounds by LC/MS/MS



10.1.4 10

Perfluorinated Compounds by LC/MS/MS



10.1.4 10

Manual Integration Approval Summary

Sample Number:

JD30371-7A

Method:

EPA 537M BY ID

Lab FileID:

3Q44087.D

Analyst approved:

09/02/21 12:20 Natasha Gumtie

Injection Time:

09/01/21 22:38

Supervisor approved:

09/02/21 17:09 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.59	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.77	Split peak

10.1.4.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44088.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 10:55:13 PM
 Sample Name : JD30371-8A
 Vial : P3-E3
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86997,S3Q639,280,,,1,1,water

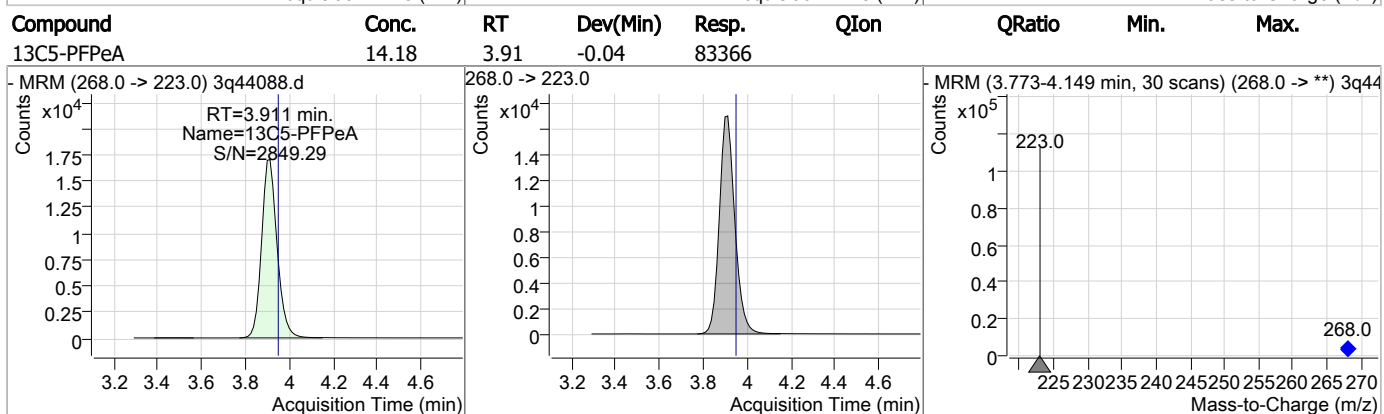
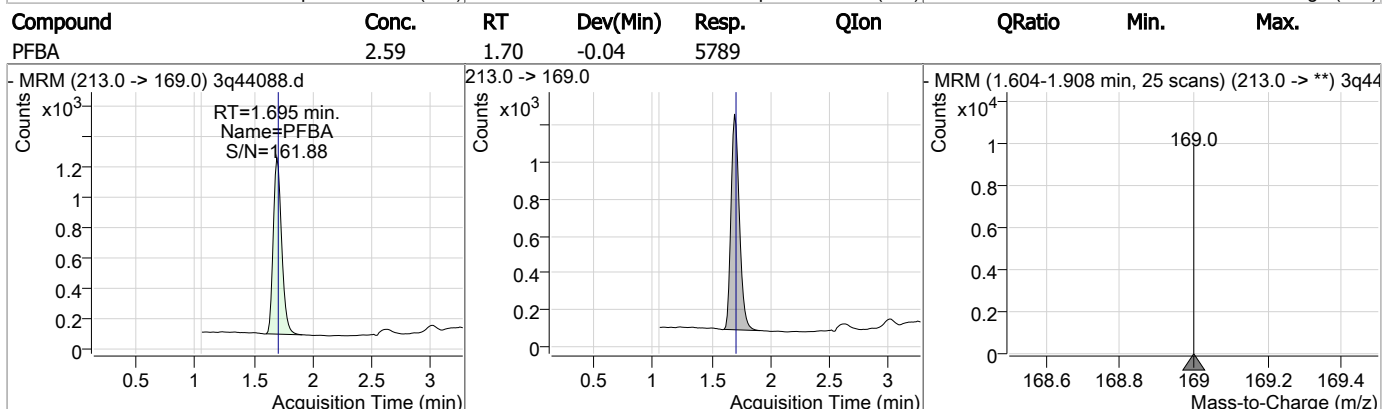
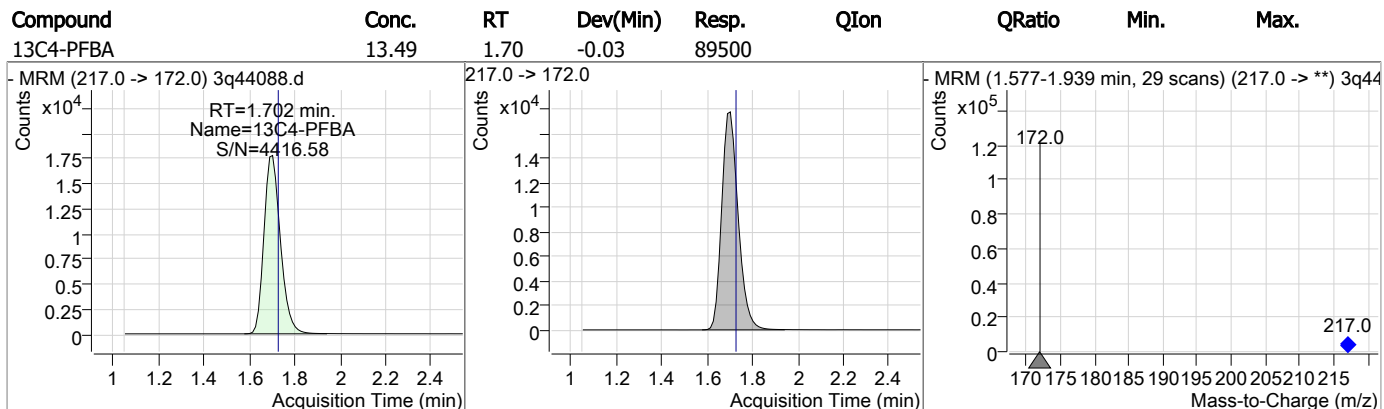
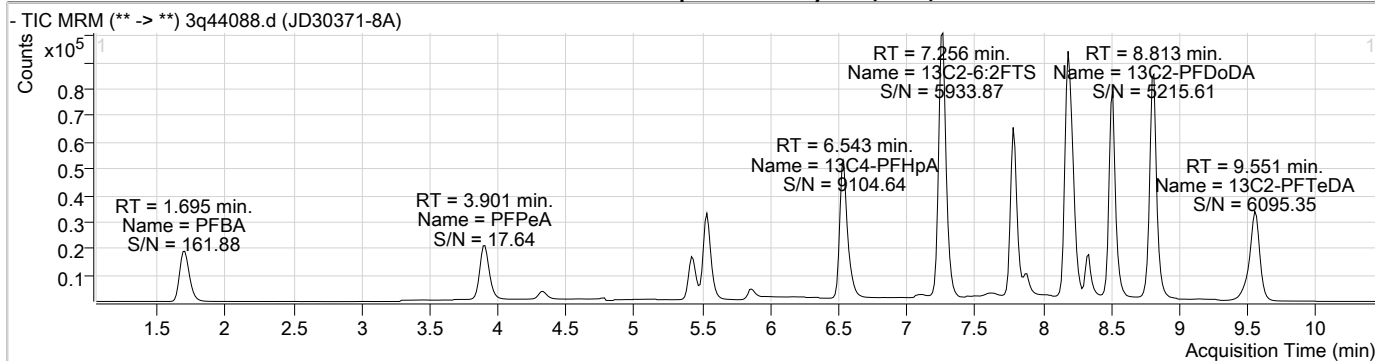
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.702	217.0 -> 172.0	89500	20.00 µg/L	-0.025
M5-PFPeA	3.911	268.0 -> 223.0	83366	20.00 µg/L	-0.038
M5-PFHxA	5.538	318.0 -> 273.0	112967	20.00 µg/L	-0.013
M4-PFHpA	6.543	367.0 -> 322.0	138673	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	178704	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	180635	20.00 µg/L	-0.013
M6-PFDA	8.189	519.0 -> 474.0	235054	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	257338	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	303194	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	179546	20.00 µg/L	0.000
M8-FOSA	7.887	506.0 -> 78.0	21966	20.00 µg/L	0.013
M3-PFBS	4.329	302.0 -> 99.0	10247	20.00 µg/L	-0.025
M3-PFHxS	6.590	402.0 -> 99.0	11795	20.00 µg/L	-0.013
M8-PFOS	7.785	507.0 -> 99.0	16282	20.00 µg/L	0.000
M2-4:2FTS	5.421	329.0 -> 309.0	64869	20.00 µg/L	-0.025
M2-6:2FTS	7.256	429.0 -> 409.0	94228	20.00 µg/L	0.000
M2-8:2FTS	8.201	529.0 -> 509.0	96923	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	51261	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	12440	20.00 µg/L	-0.013
M3-MeFOSA	8.215	515.0 -> 169.0	318	20.00 µg/L	0.025
M5-EtFOSAA	8.335	589.0 -> 419.0	46112	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.421	329.0 -> 309.0	64869	13.55 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 67.7%		
13C2-6:2FTS	7.256	429.0 -> 409.0	94228	15.79 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 78.9%		
13C2-8:2FTS	8.201	529.0 -> 509.0	96923	15.03 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 75.2%		
13C2-PFDoDA	8.813	615.0 -> 570.0	303194	12.37 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 61.8%		
13C2-PFTeDA	9.551	715.0 -> 670.0	179546	11.75 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 58.8%		
13C3-PFBS	4.329	302.0 -> 99.0	10247	14.39 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 72.0%		
13C3-PFHxS	6.590	402.0 -> 99.0	11795	14.53 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 72.6%		
13C4-PFBA	1.702	217.0 -> 172.0	89500	13.49 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 67.4%		
13C4-PFHpA	6.543	367.0 -> 322.0	138673	13.90 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 69.5%		
13C5-PFHxA	5.538	318.0 -> 273.0	112967	13.39 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 67.0%		
13C5-PFPeA	3.911	268.0 -> 223.0	83366	14.18 µg/L	-0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 70.9%		
13C6-PFDA	8.189	519.0 -> 474.0	235054	14.22 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

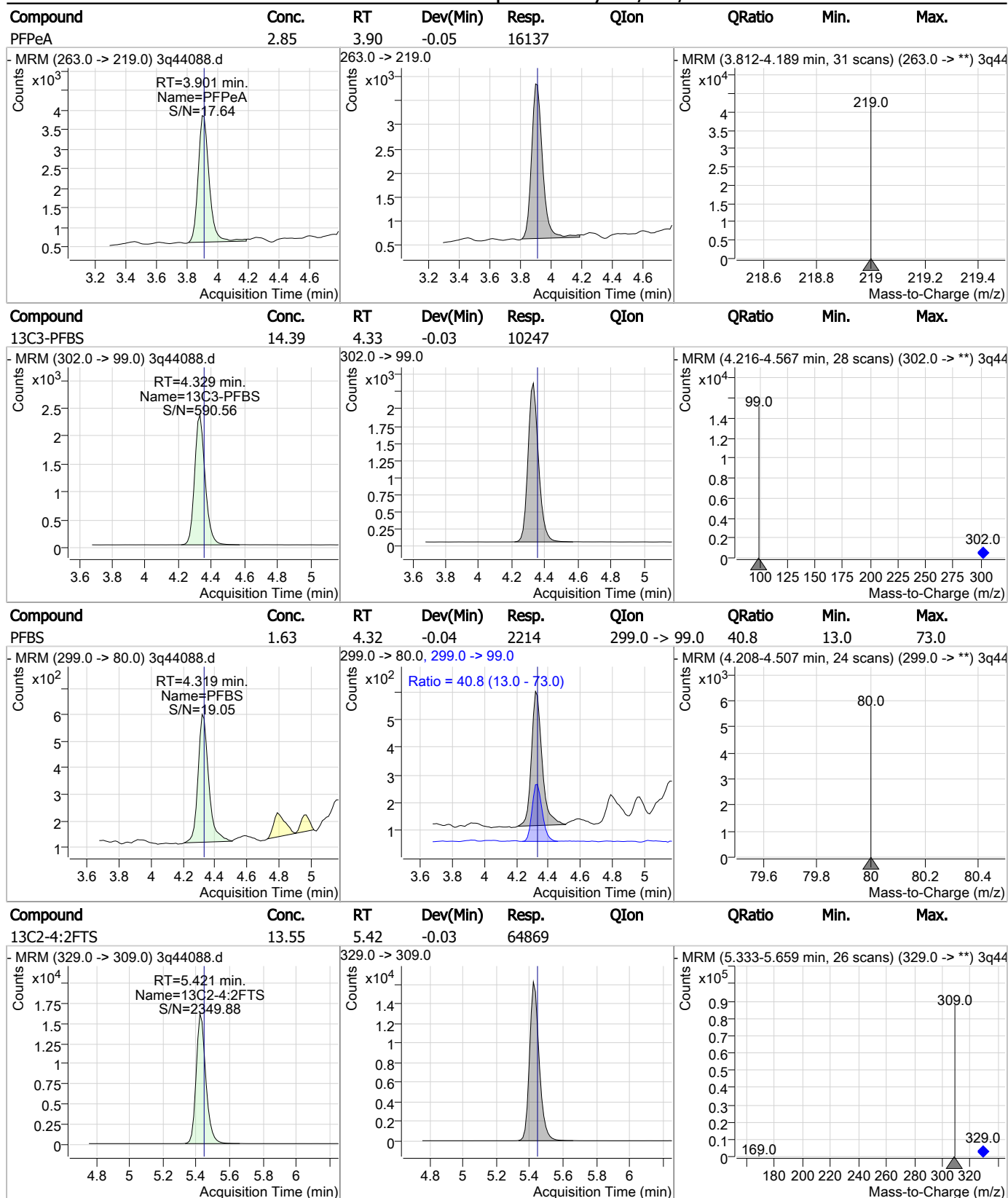
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.1%		
13C7-PFUnDA	8.513	570.0 -> 525.0	257338	12.75	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 63.8%		
13C8-FOSA	7.887	506.0 -> 78.0	21966	5.43	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 27.1%		
13C8-PFOA	7.270	421.0 -> 376.0	178704	14.70	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 73.5%		
13C8-PFOS	7.785	507.0 -> 99.0	16282	13.28	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 66.4%		
13C9-PFNA	7.787	472.0 -> 427.0	180635	14.11	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 70.6%		
d3-MeFOSAA	8.223	573.0 -> 419.0	51261	12.19	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 60.9%		
13C3-HFPO-DA	5.868	287.0 -> 169.0	12441	13.35	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 66.7%		
d3-MeFOSA	8.215	515.0 -> 169.0	318	0.27	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 1.3%		
d5-EtFOSAA	8.335	589.0 -> 419.0	46098	11.27	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 56.4%		
Target Compounds						QValue
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	1.695	213.0 -> 169.0	5789	2.59	µg/L	100
PFBS	4.319	299.0 -> 80.0	2214	1.63	µg/L	96
PFDA	8.190	513.0 -> 469.0	2506	0.23	µg/L	99
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	6.544	363.0 -> 319.0	56581	5.06	µg/L	100
PFHpS	7.280	449.0 -> 80.0	93	0.08	µg/L m	57
PFHxA	5.539	313.0 -> 269.0	13270	2.70	µg/L	98
PFHxS	6.591	399.0 -> 80.0	1192	0.83	µg/L m	98
PFNA	7.788	463.0 -> 419.0	10919	1.17	µg/L	95
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	7.270	413.0 -> 369.0	87247	9.30	µg/L m	97
PFOS	7.773	499.0 -> 80.0	9064	6.21	µg/L m	71
PFPeA	3.901	263.0 -> 219.0	16137	2.85	µg/L	100
PFPeS	5.694	349.0 -> 80.0	172	0.17	µg/L m	69
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		
MeFOSA	-	512.0 -> 169.0	-	N.D.		

= Qualifier out of range, m = manually integrated, + = Area summed

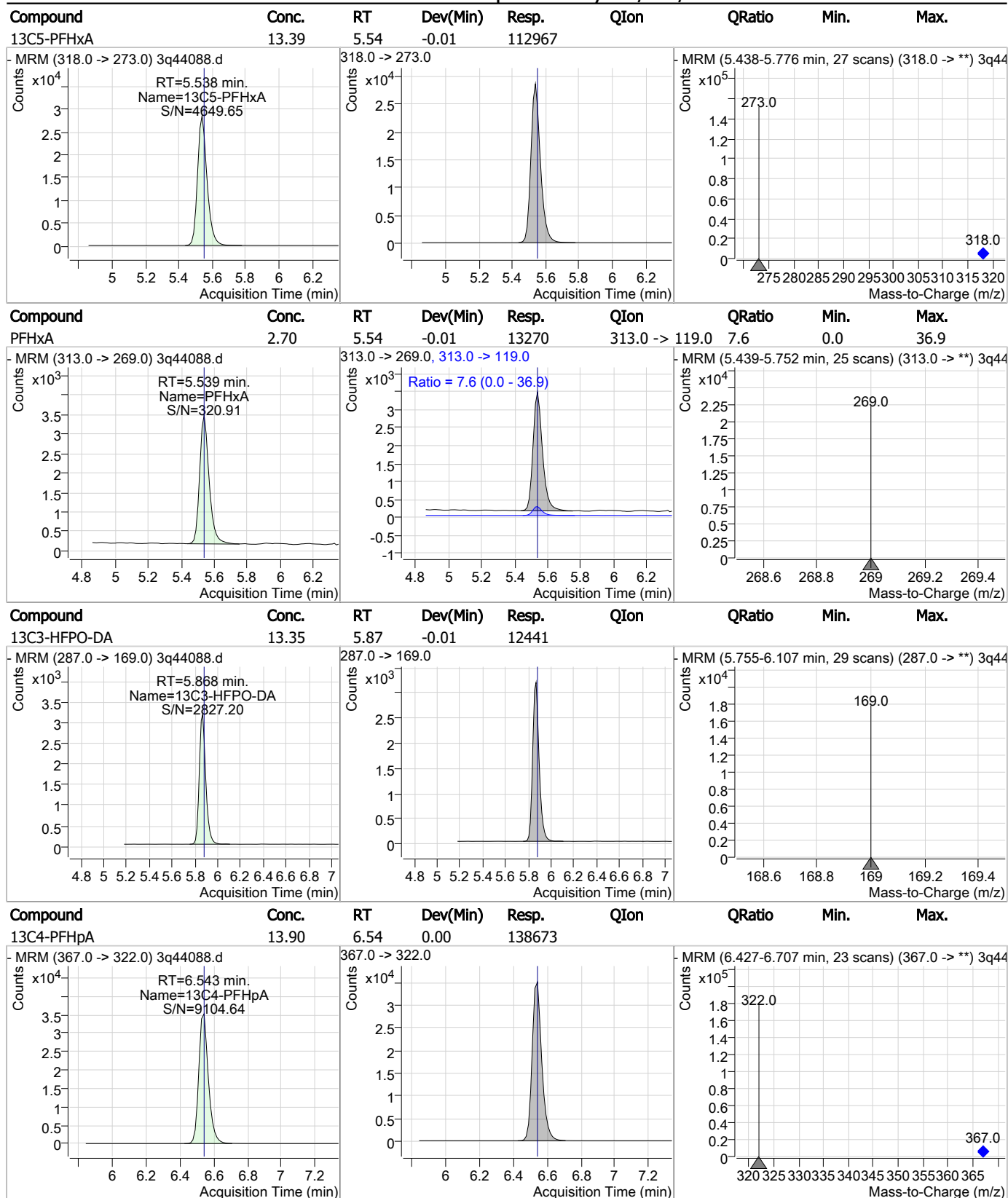
Perfluorinated Compounds by LC/MS/MS



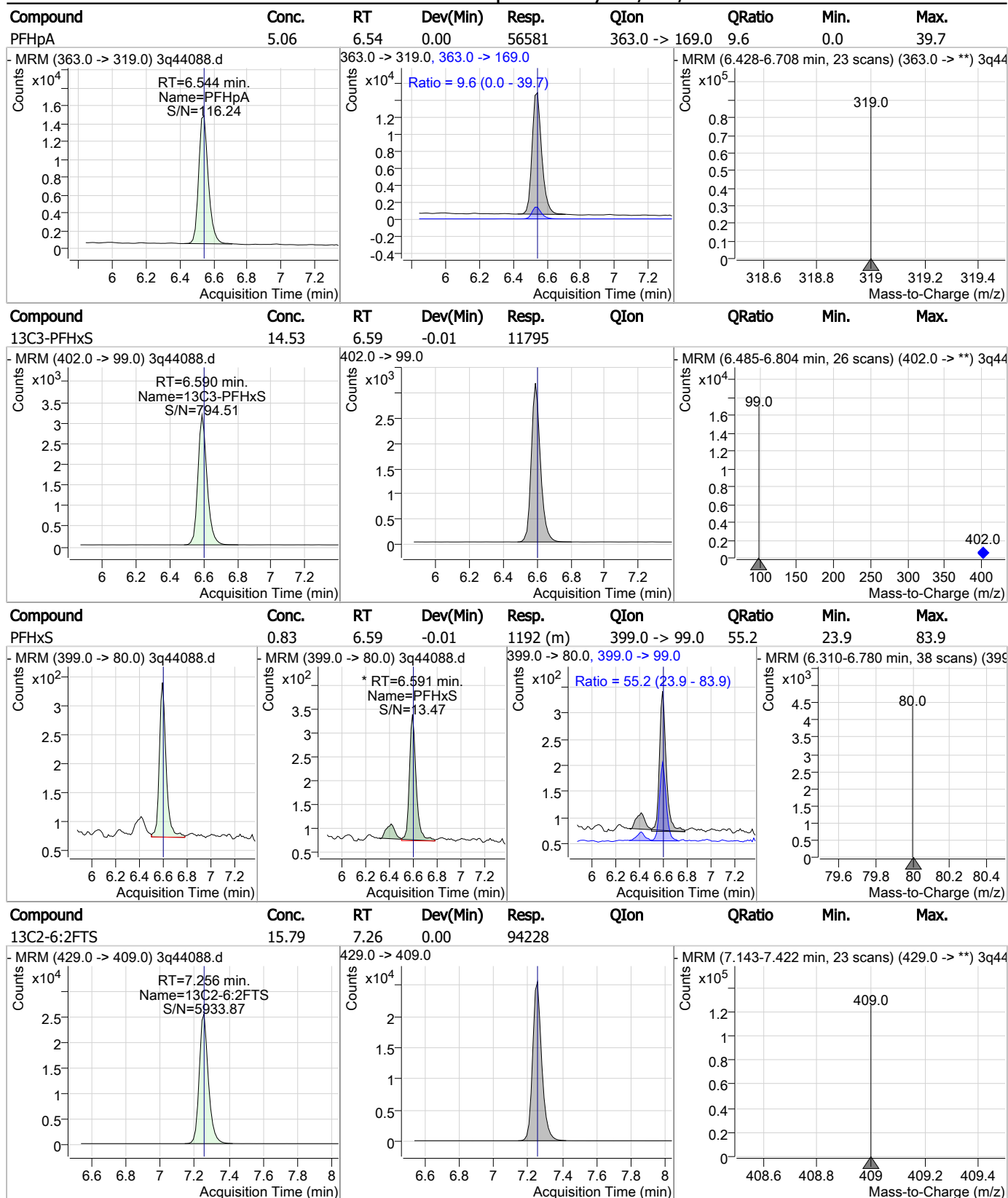
Perfluorinated Compounds by LC/MS/MS



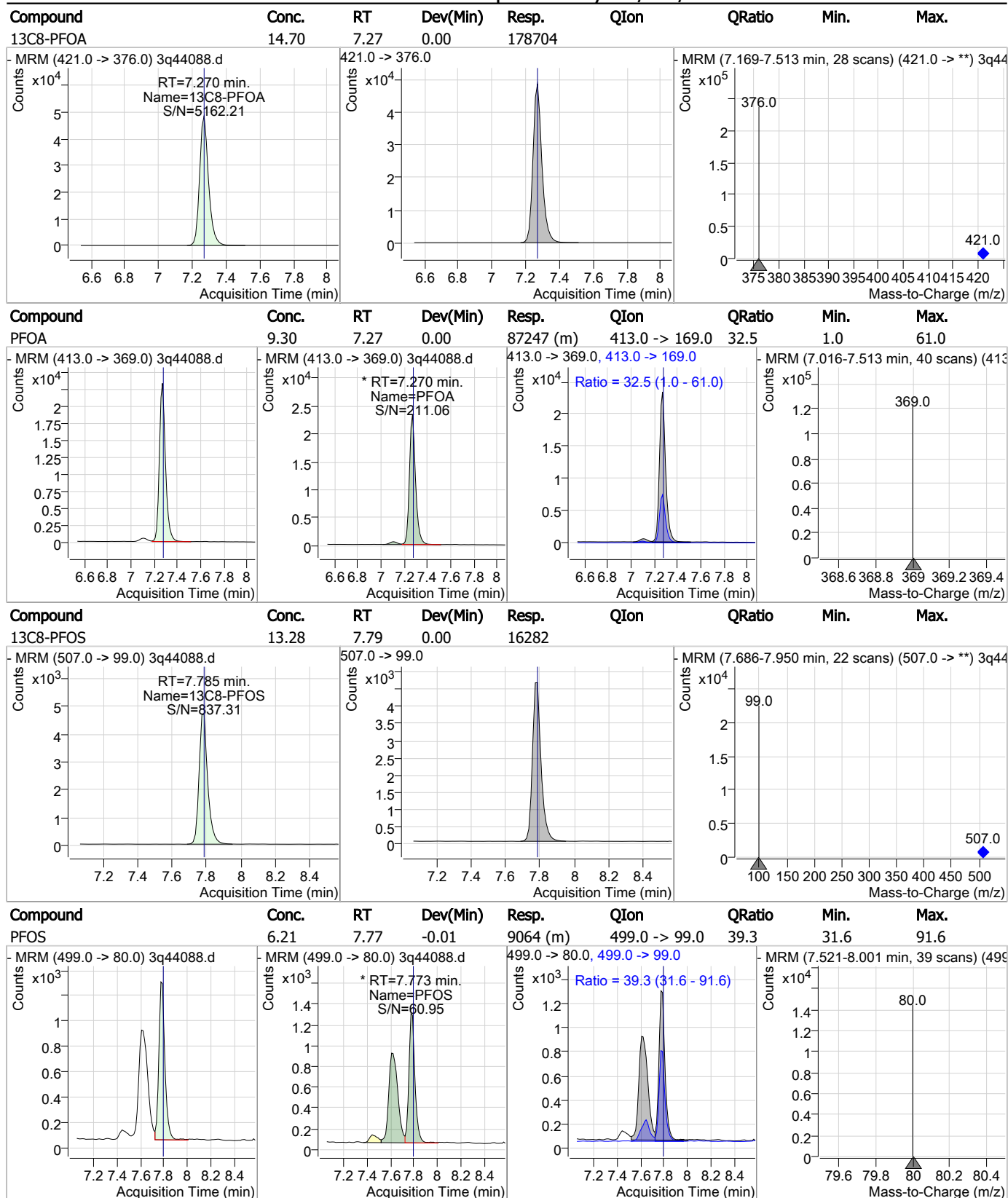
Perfluorinated Compounds by LC/MS/MS



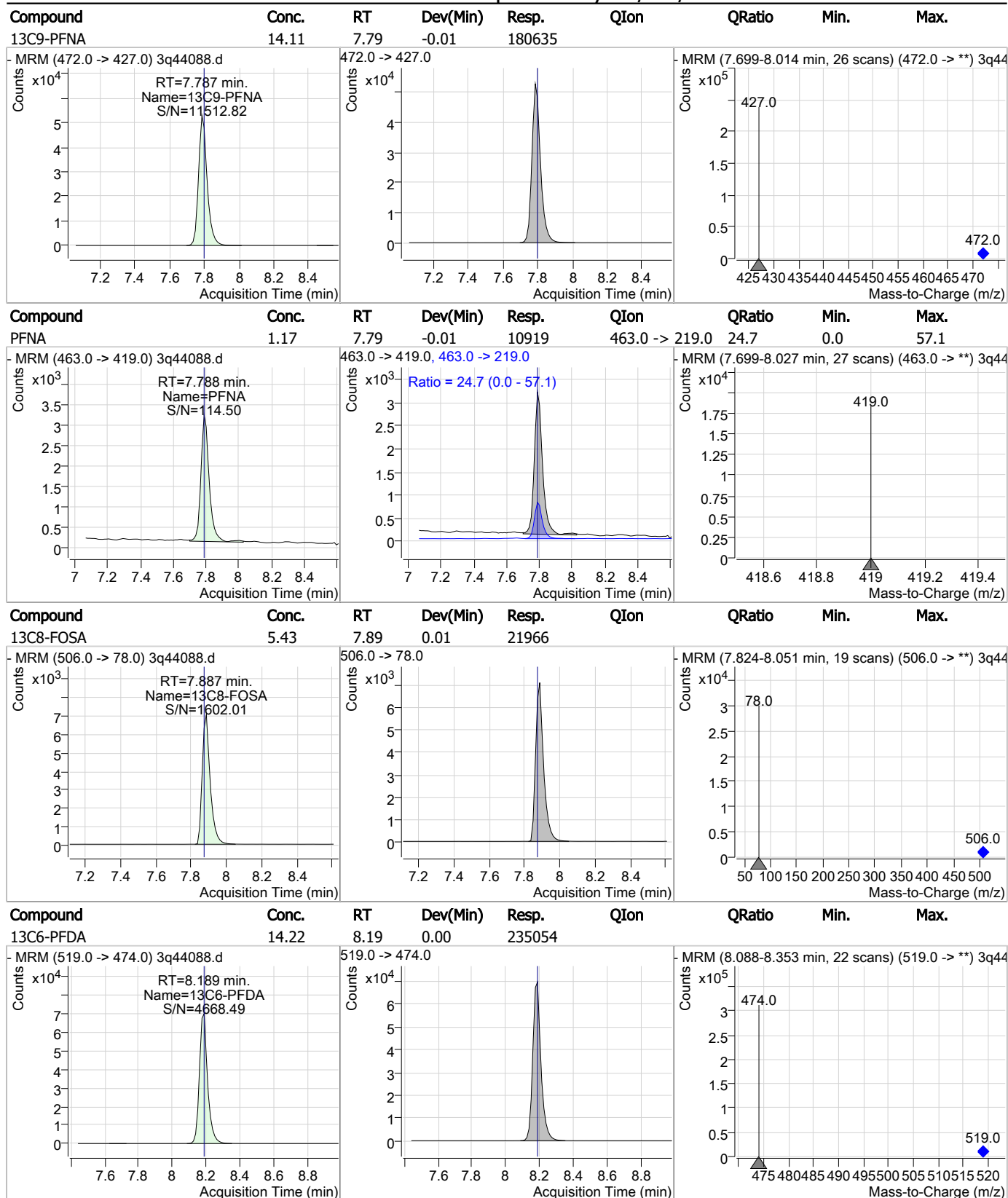
Perfluorinated Compounds by LC/MS/MS



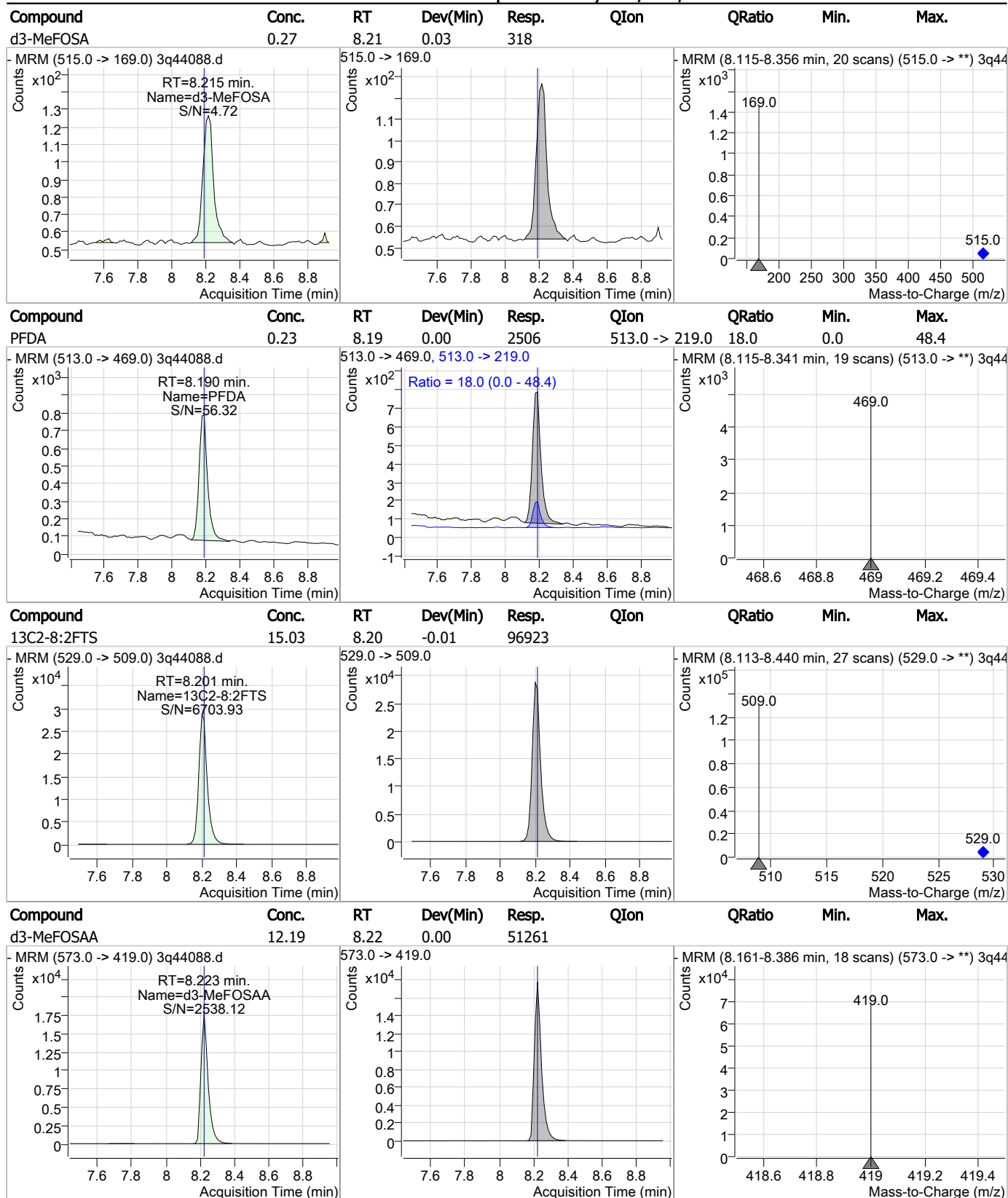
Perfluorinated Compounds by LC/MS/MS



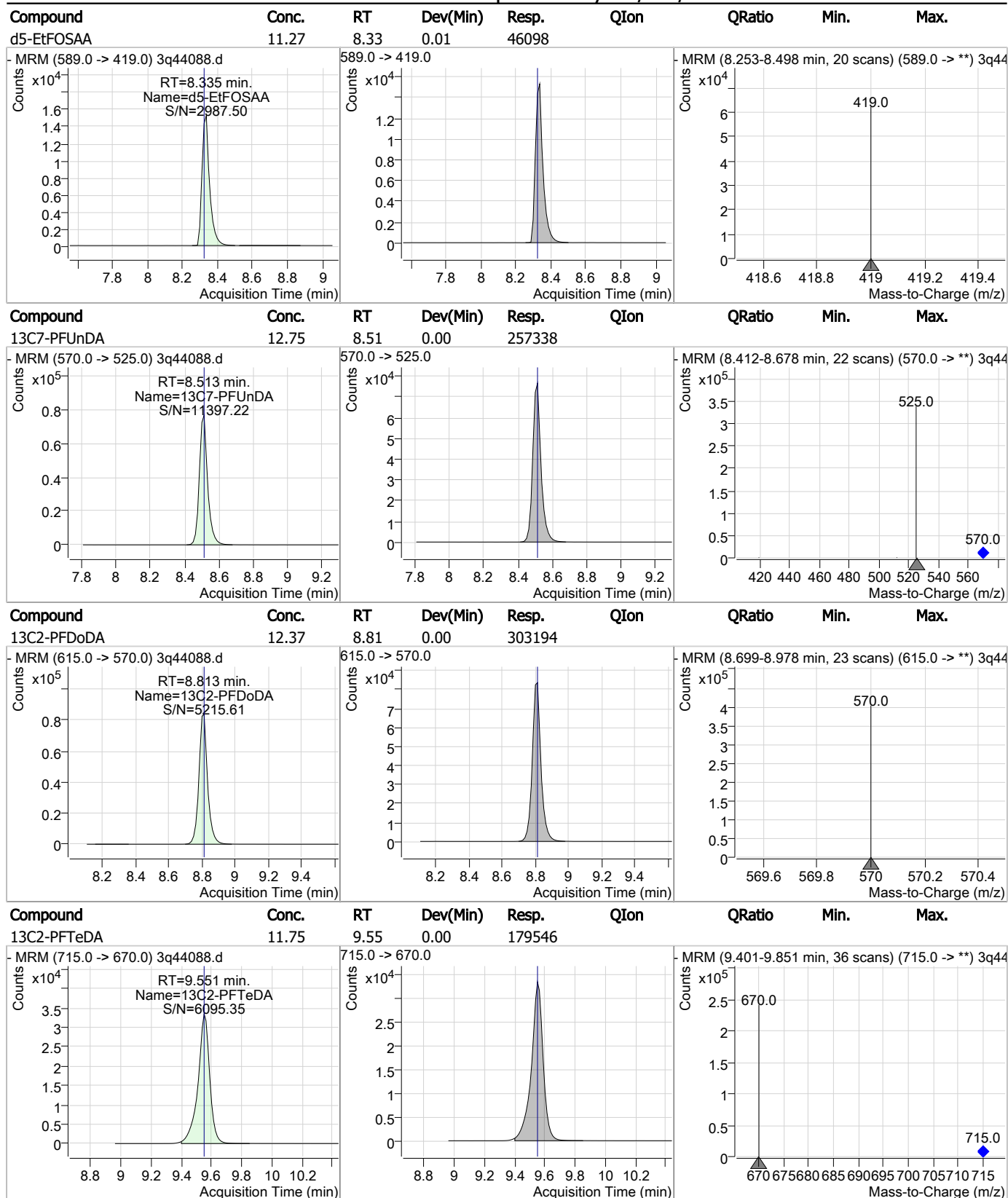
Perfluorinated Compounds by LC/MS/MS

10.1.5
10

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

JD30371-8A

Lab FileID:

3Q44088.D

Injection Time:

09/01/21 22:55

Method:

EPA 537M BY ID

Analyst approved:

09/02/21 12:22 Natasha Gumtie

Supervisor approved:

09/02/21 17:11 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoropentanesulfonic acid	2706-91-4		5.69	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.59	Split peak
Perfluorooctanoic acid	335-67-1		7.27	Split peak
Perfluoroheptanesulfonic acid	375-92-8		7.28	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.77	Split peak

10.1.5.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44095.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/2/2021 12:51:00 AM
 Sample Name : JD30371-8A
 Vial : P3-F1
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86997,S3Q639,280,,,1,5,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	20338	20.00 µg/L	0.000
M5-PFPeA	3.936	268.0 -> 223.0	18841	20.00 µg/L	-0.013
M5-PFHxA	5.551	318.0 -> 273.0	26084	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	32005	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	40896	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	40792	20.00 µg/L	-0.013
M6-PFDA	8.189	519.0 -> 474.0	51959	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	55479	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	59137	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	27515	20.00 µg/L	0.000
M8-FOSA	7.874	506.0 -> 78.0	4992	20.00 µg/L	0.000
M3-PFBS	4.354	302.0 -> 99.0	2356	20.00 µg/L	0.000
M3-PFHxS	6.590	402.0 -> 99.0	2569	20.00 µg/L	-0.013
M8-PFOS	7.772	507.0 -> 99.0	3640	20.00 µg/L	-0.013
M2-4:2FTS	5.434	329.0 -> 309.0	14839	20.00 µg/L	-0.013
M2-6:2FTS	7.256	429.0 -> 409.0	20338	20.00 µg/L	0.000
M2-8:2FTS	8.201	529.0 -> 509.0	20649	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	9886	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	2917	20.00 µg/L	-0.013
M3-MeFOSA	8.189	515.0 -> 169.0	67	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	8786	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.434	329.0 -> 309.0	14839	3.10 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 15.5%		
13C2-6:2FTS	7.256	429.0 -> 409.0	20338	3.41 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 17.0%		
13C2-8:2FTS	8.201	529.0 -> 509.0	20649	3.20 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 16.0%		
13C2-PFDoDA	8.813	615.0 -> 570.0	59137	2.41 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 12.1%		
13C2-PFTeDA	9.551	715.0 -> 670.0	27515	1.80 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 9.0%		
13C3-PFBS	4.354	302.0 -> 99.0	2356	3.31 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 16.5%		
13C3-PFHxS	6.590	402.0 -> 99.0	2569	3.16 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 15.8%		
13C4-PFBA	1.727	217.0 -> 172.0	20338	3.06 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 15.3%		
13C4-PFHpA	6.543	367.0 -> 322.0	32005	3.21 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 16.0%		
13C5-PFHxA	5.551	318.0 -> 273.0	26084	3.09 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 15.5%		
13C5-PFPeA	3.936	268.0 -> 223.0	18841	3.21 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 16.0%		
13C6-PFDA	8.189	519.0 -> 474.0	51959	3.14 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 15.7%	
13C7-PFUnDA	8.513	570.0 -> 525.0	55479	2.75 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 13.7%	
13C8-FOSA	7.874	506.0 -> 78.0	4992	1.23 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 6.2%	
13C8-PFOA	7.270	421.0 -> 376.0	40896	3.37 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 16.8%	
13C8-PFOS	7.772	507.0 -> 99.0	3640	2.97 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 14.8%	
13C9-PFNA	7.787	472.0 -> 427.0	40792	3.19 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 15.9%	
d3-MeFOSAA	8.223	573.0 -> 419.0	9886	2.35 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 11.8%	
13C3-HFPO-DA	5.868	287.0 -> 169.0	2903	3.11 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 15.6%	
d3-MeFOSA	8.189	515.0 -> 169.0	67	0.06 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 0.3%	
d5-EtFOSAA	8.322	589.0 -> 419.0	8759	2.14 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 10.7%	

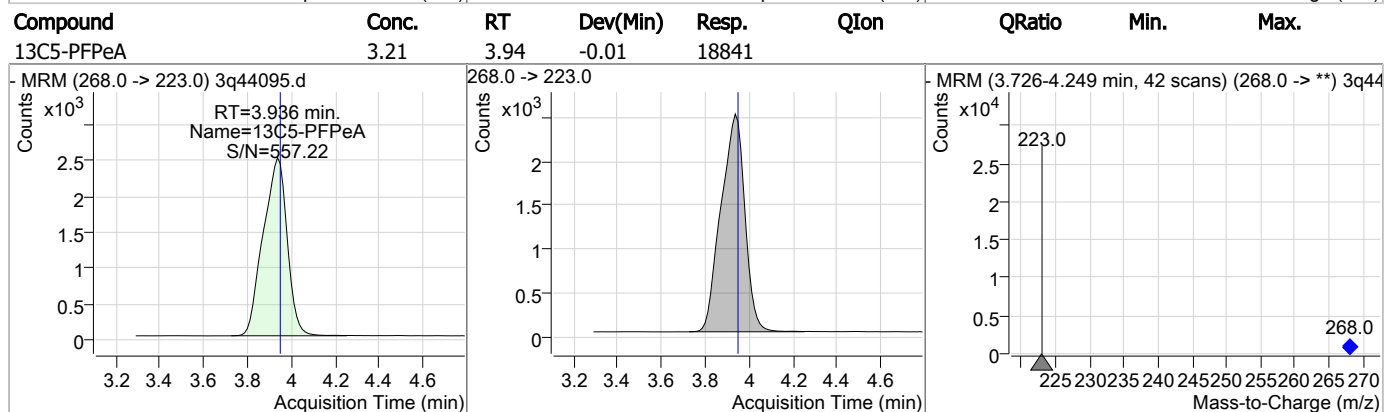
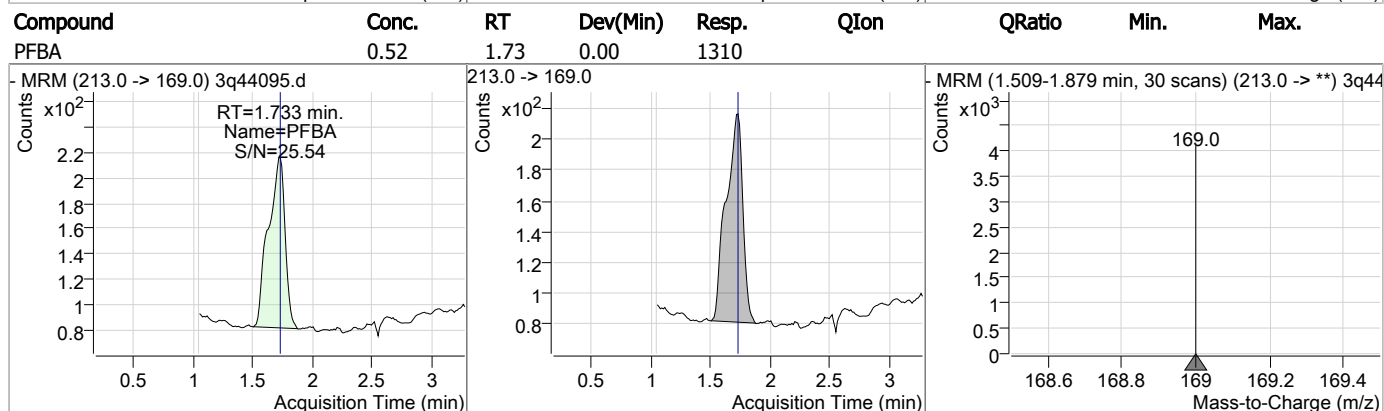
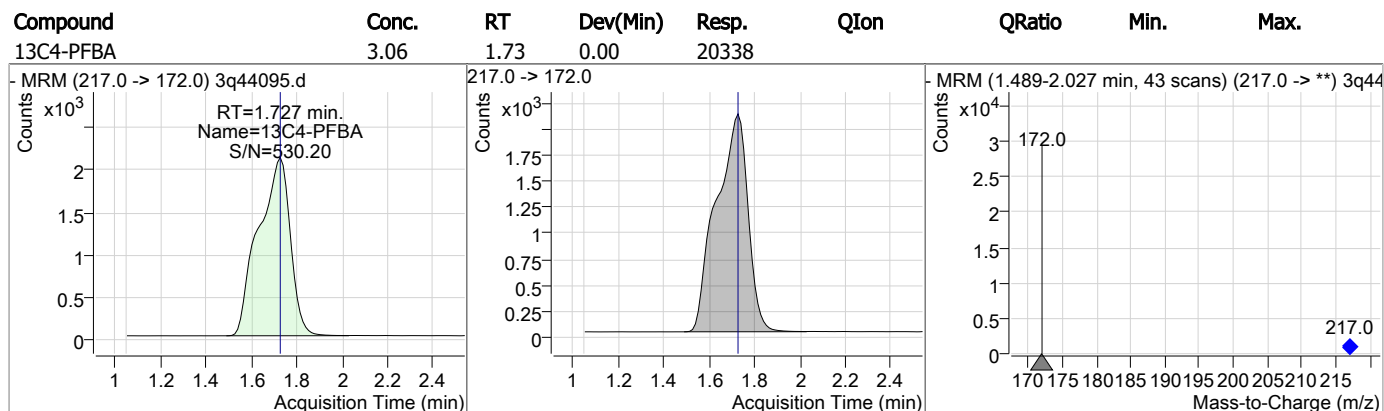
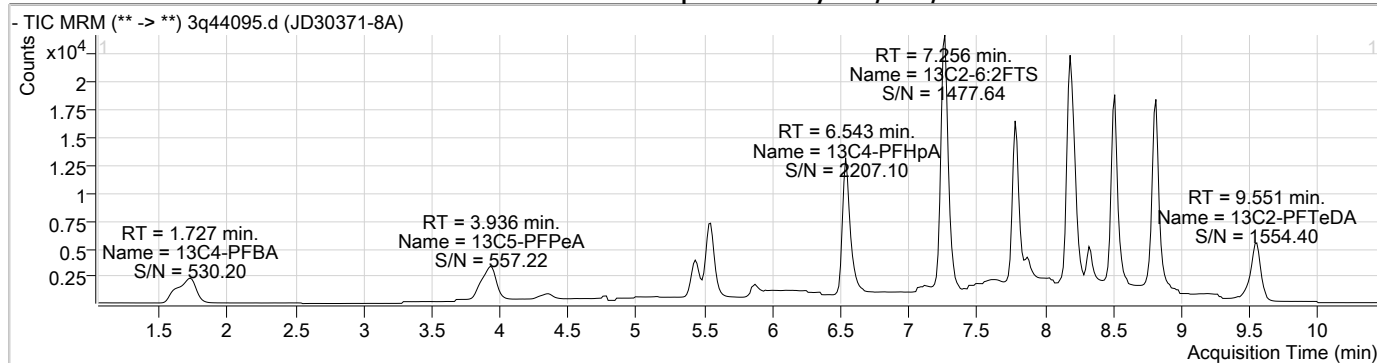
Target Compounds

QValue

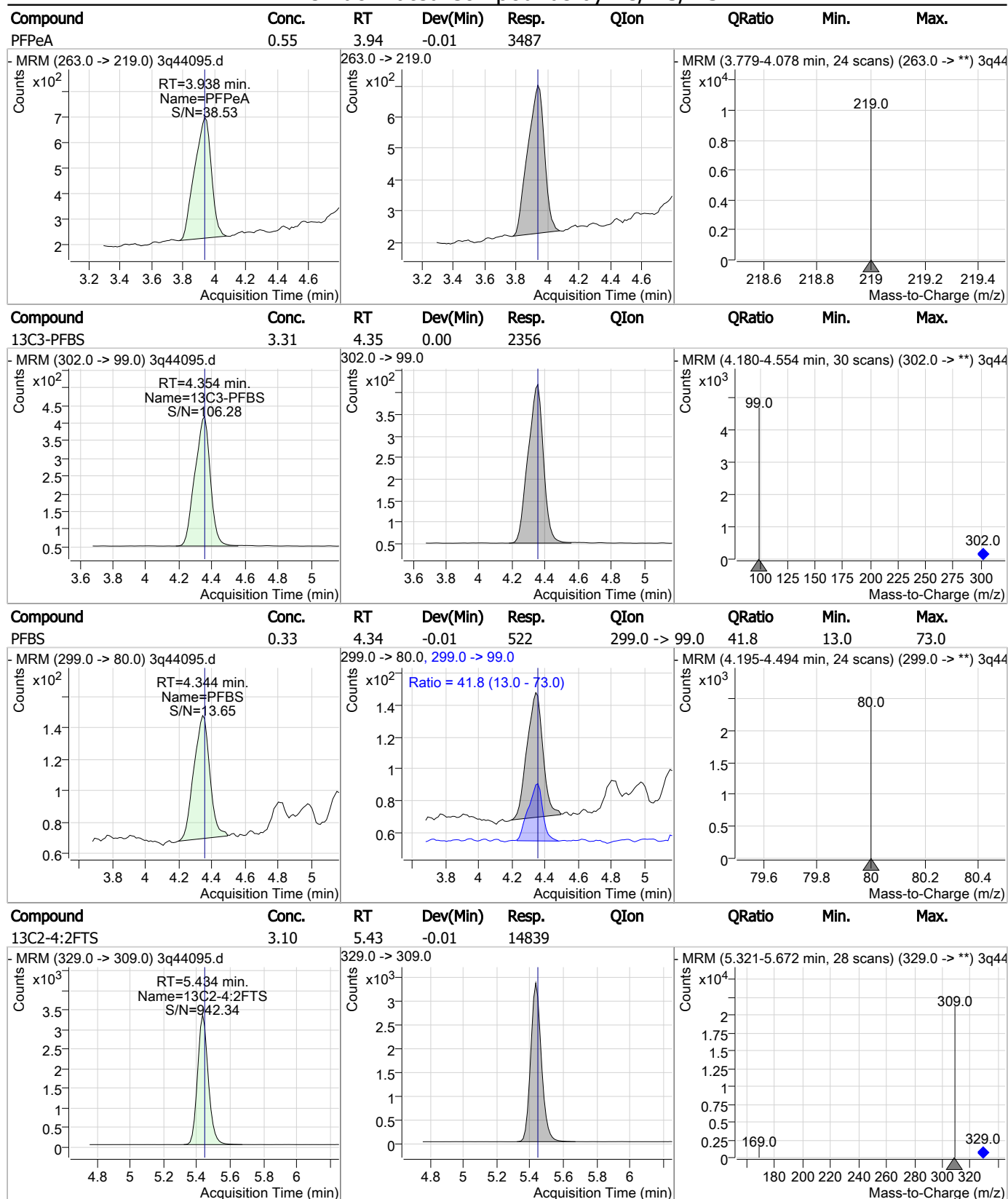
4:2FTS	-	327.0 -> 307.0	-	N.D.	
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
FOSA	-	498.0 -> 78.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	1.733	213.0 -> 169.0	1310	0.52 µg/L	100
PFBS	4.344	299.0 -> 80.0	522	0.33 µg/L	98
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFDS	-	599.0 -> 80.0	-	N.D.	
PFHpA	6.544	363.0 -> 319.0	13185	1.02 µg/L	100
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.552	313.0 -> 269.0	3185	0.56 µg/L	99
PFHxS	6.603	399.0 -> 80.0	305	0.20 µg/L	m 90
PFNA	7.788	463.0 -> 419.0	2371	0.22 µg/L	95
PFNS	-	549.0 -> 80.0	-	N.D.	
PFOA	7.270	413.0 -> 369.0	19809	1.85 µg/L	m 98
PFOS	7.773	499.0 -> 80.0	2219	1.36 µg/L	m 70
PFPeA	3.938	263.0 -> 219.0	3487	0.55 µg/L	100
PFPeS	-	349.0 -> 80.0	-	N.D.	
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
HFPO-DA	-	329.0 -> 169.0	-	N.D.	
MeFOSA	-	512.0 -> 169.0	-	N.D.	

= Qualifier out of range, m = manually integrated, + = Area summed

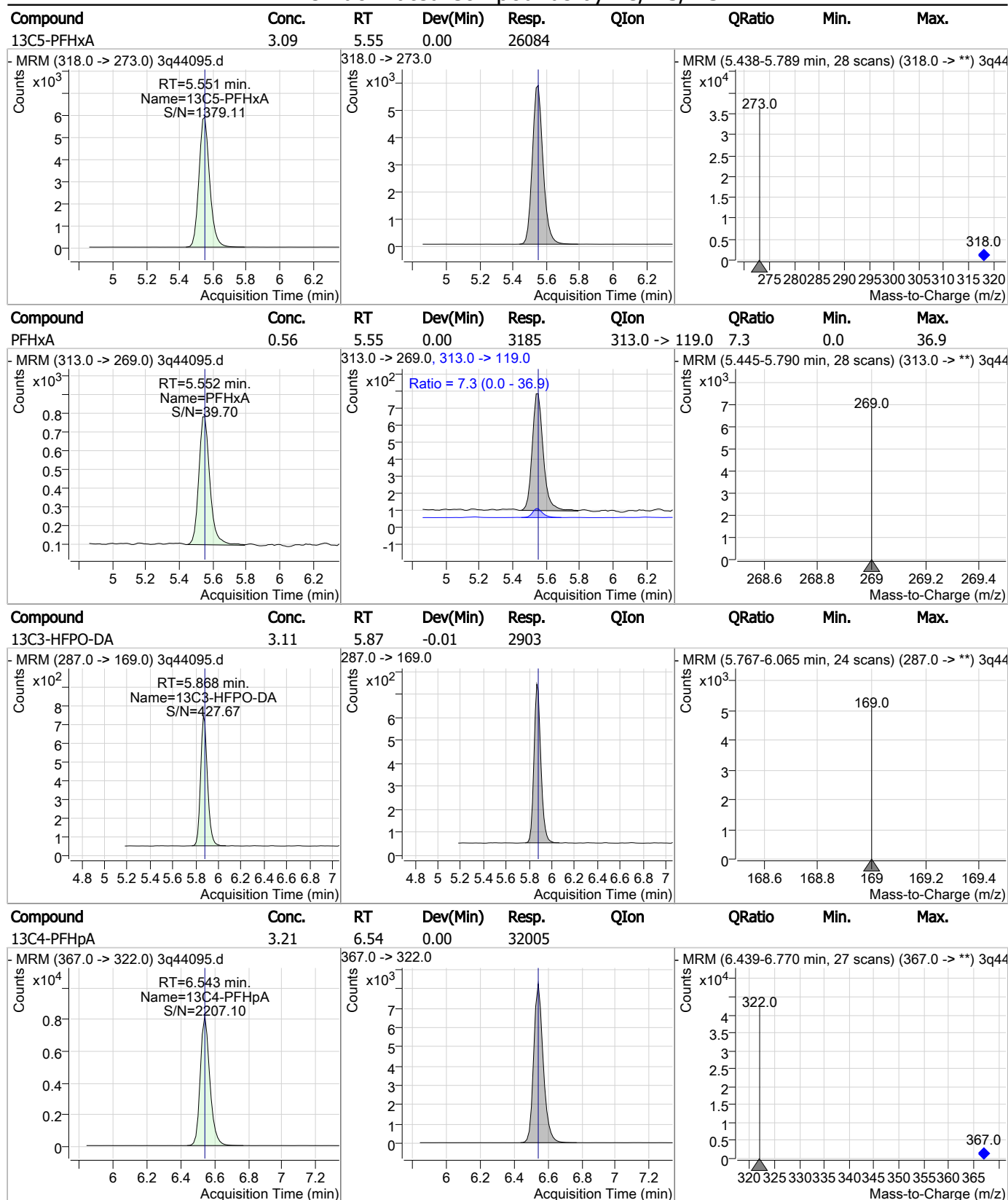
Perfluorinated Compounds by LC/MS/MS



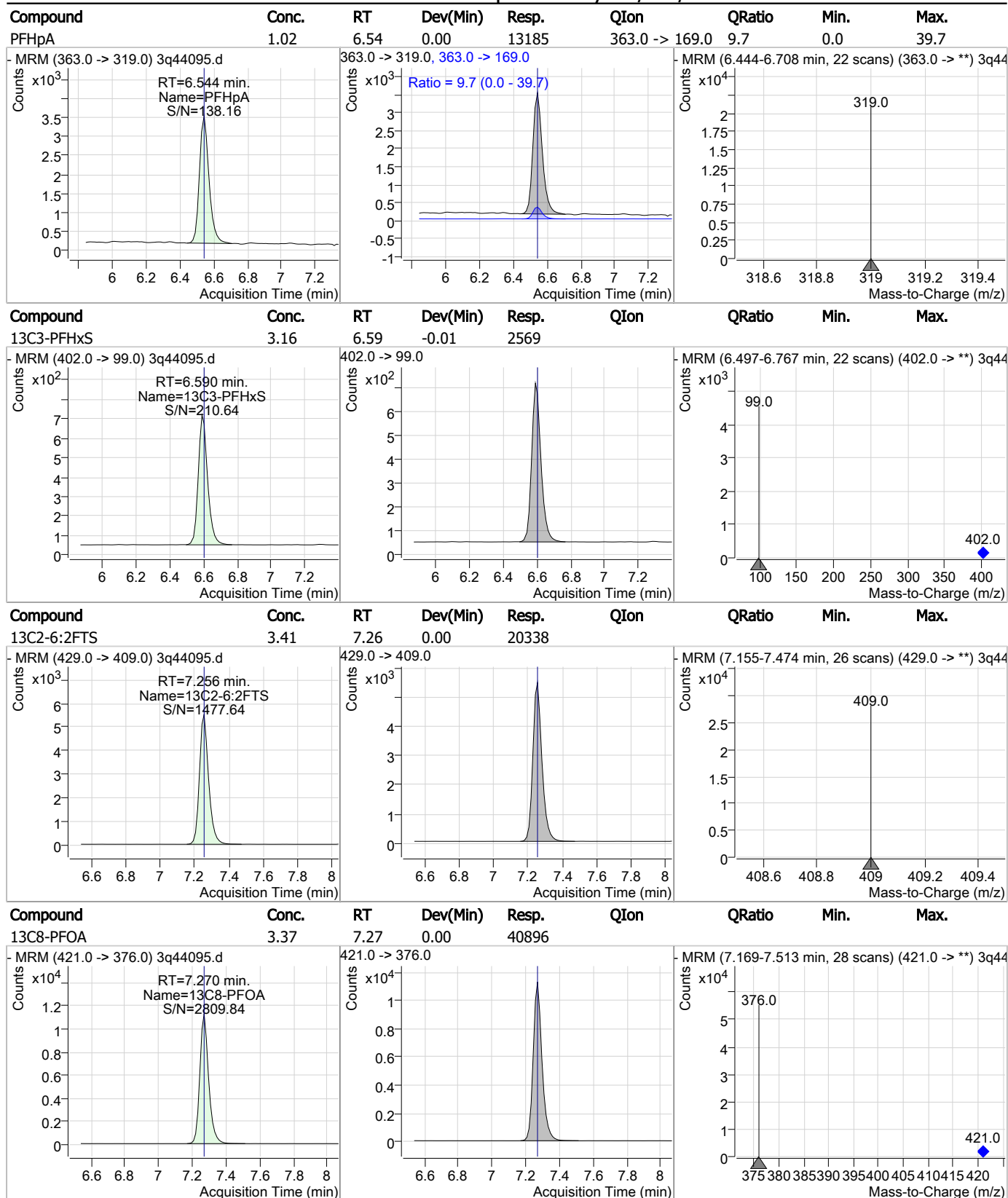
Perfluorinated Compounds by LC/MS/MS



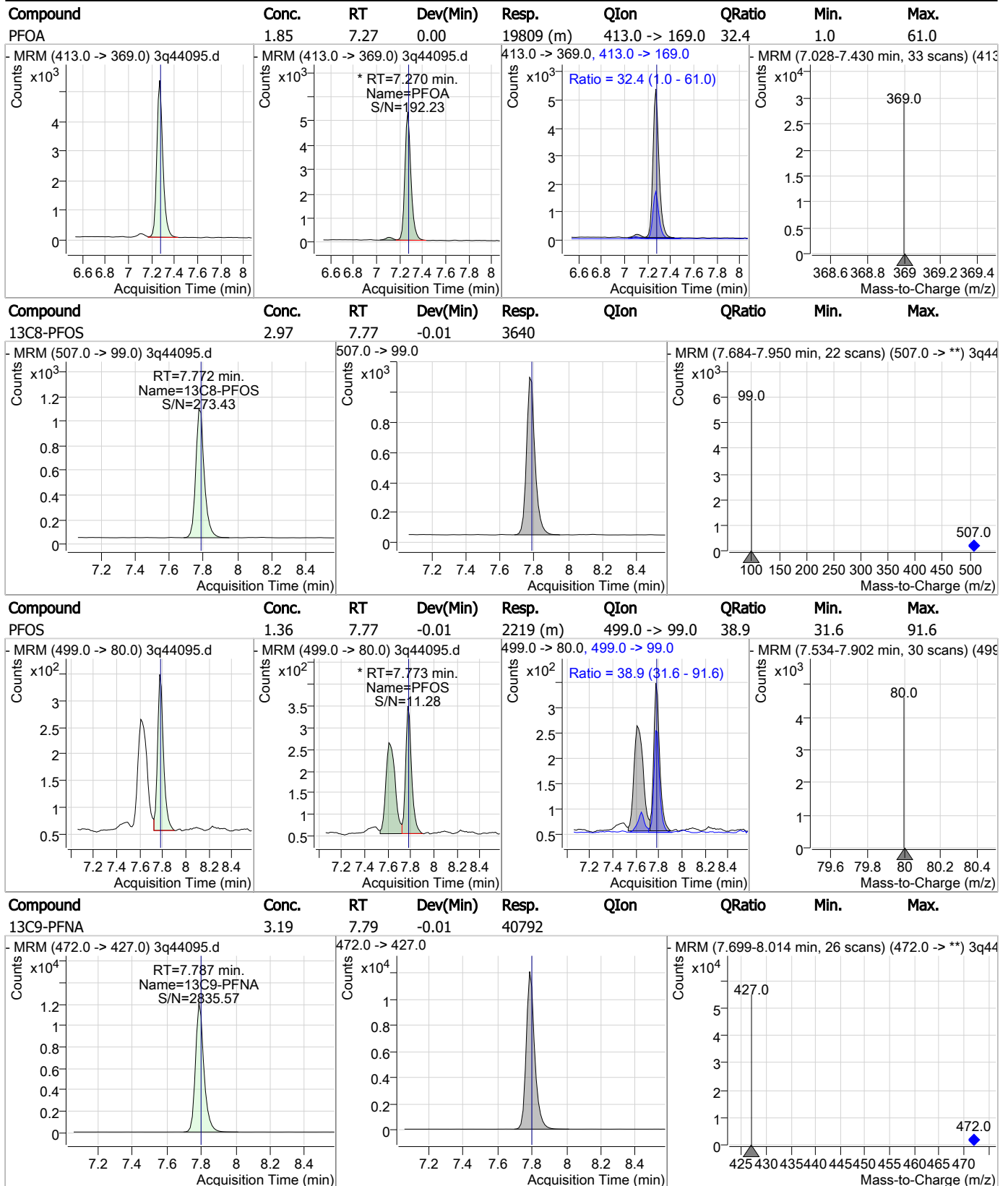
Perfluorinated Compounds by LC/MS/MS



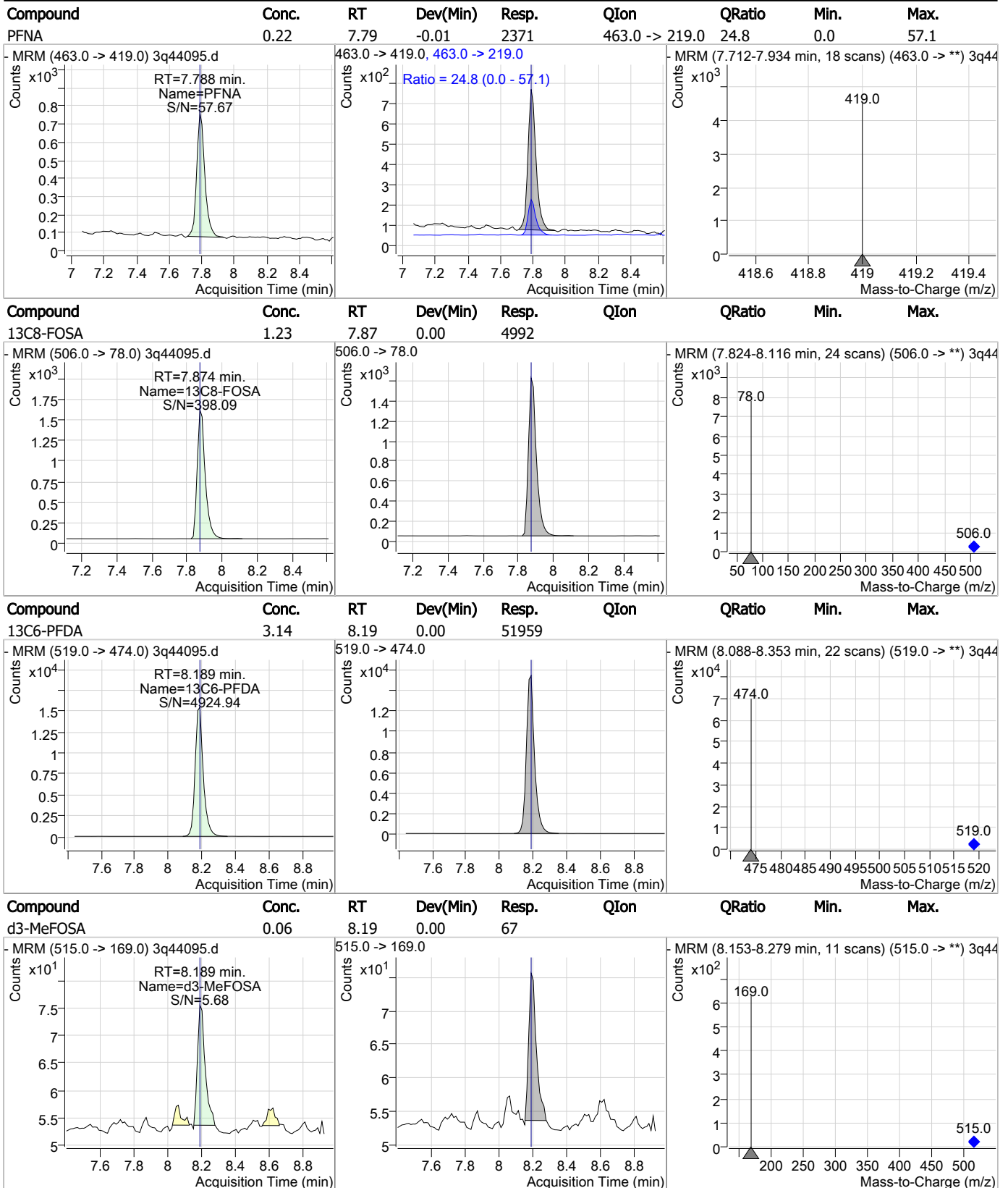
Perfluorinated Compounds by LC/MS/MS



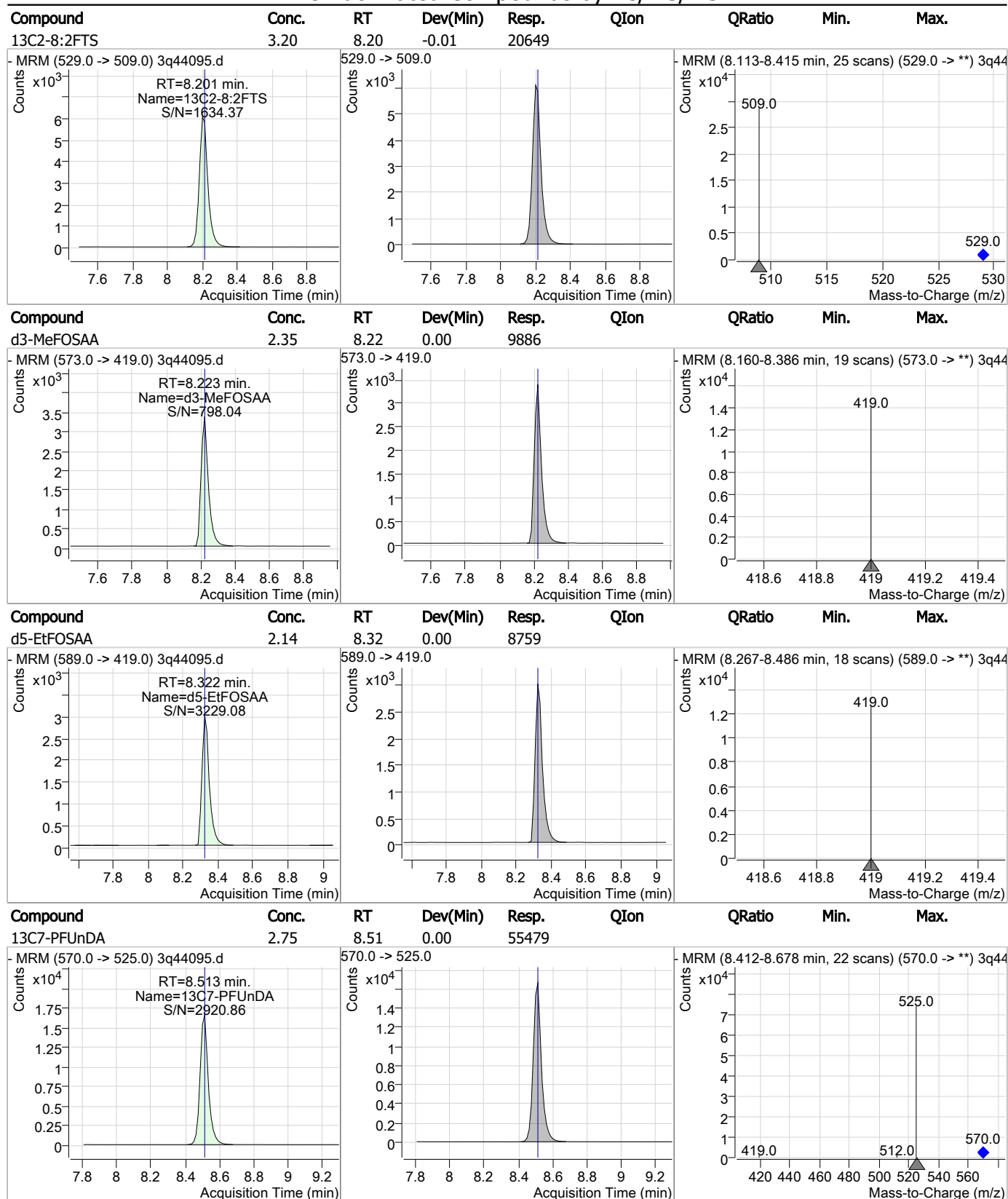
Perfluorinated Compounds by LC/MS/MS



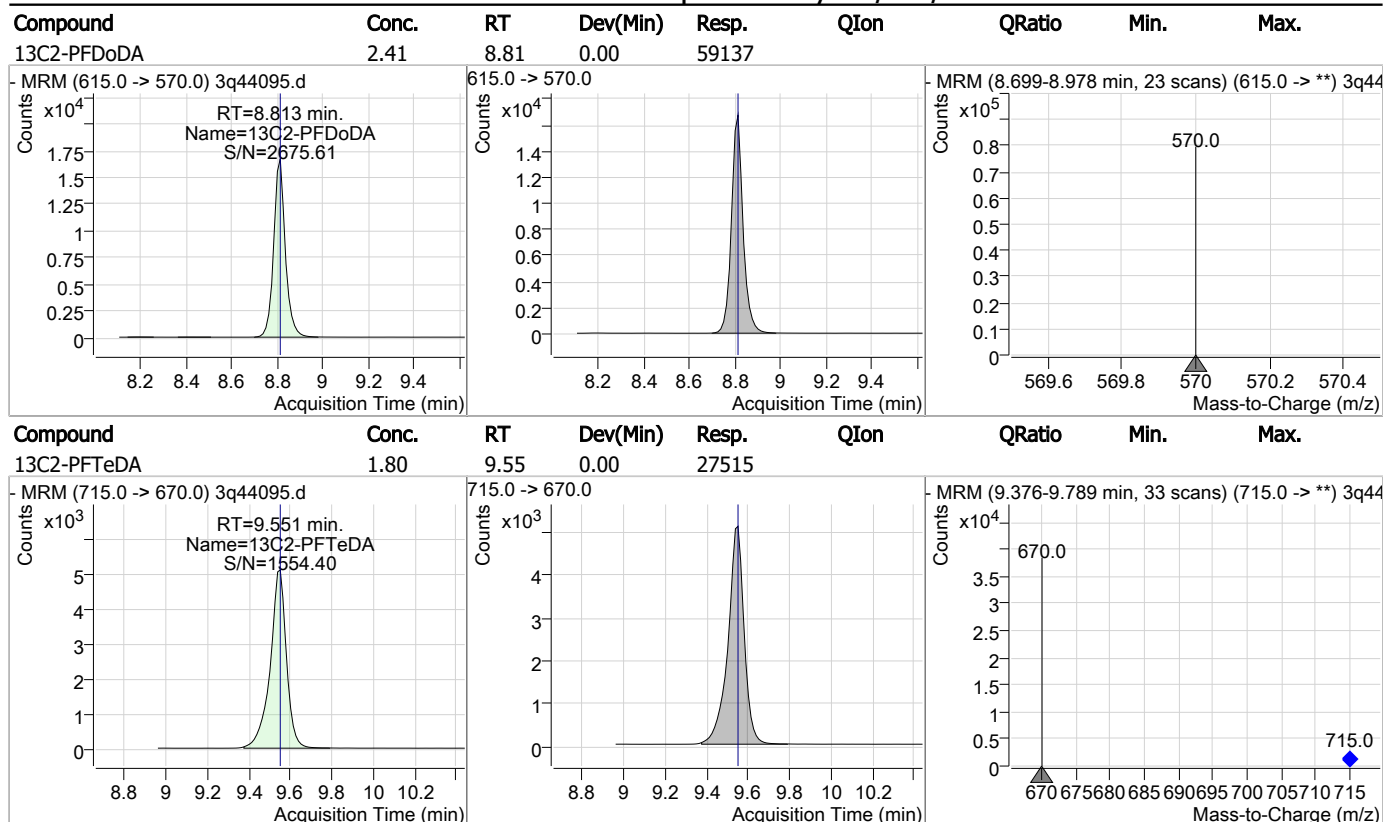
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.1.6 10

Manual Integration Approval Summary

Sample Number:

JD30371-8A

Lab FileID:

3Q44095.D

Injection Time:

09/02/21 00:51

Method:

EPA 537M BY ID

Analyst approved:

09/02/21 12:22 Natasha Gumtie

Supervisor approved:

09/02/21 17:11 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanoic acid	335-67-1		7.27	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.77	Split peak

10.1.6.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44008.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 12:10:54 AM
 Sample Name : JD30371-9
 Vial : P4-D1
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86997,S3Q638,280,,,1,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.752	217.0 -> 172.0	122025	20.00 µg/L	0.025
M5-PFPeA	3.961	268.0 -> 223.0	109903	20.00 µg/L	0.013
M5-PFHxA	5.563	318.0 -> 273.0	158205	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	189477	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	230748	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	243581	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	305728	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	346740	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	414593	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	233079	20.00 µg/L	0.013
M8-FOSA	7.887	506.0 -> 78.0	69347	20.00 µg/L	0.013
M3-PFBS	4.379	302.0 -> 99.0	13370	20.00 µg/L	0.025
M3-PFHxS	6.603	402.0 -> 99.0	15453	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	21955	20.00 µg/L	0.000
M2-4:2FTS	5.459	329.0 -> 309.0	84461	20.00 µg/L	0.013
M2-6:2FTS	7.268	429.0 -> 409.0	104811	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	116580	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	58892	20.00 µg/L	0.000
M3-HFPO-DA	5.893	287.0 -> 169.0	16756	20.00 µg/L	0.013
M3-MeFOSA	8.189	515.0 -> 169.0	6061	20.00 µg/L	0.000
M5-EtFOSAA	8.335	589.0 -> 419.0	53284	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.459	329.0 -> 309.0	84461	17.64 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.2%	
13C2-6:2FTS	7.268	429.0 -> 409.0	104811	17.56 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.8%	
13C2-8:2FTS	8.213	529.0 -> 509.0	116580	18.08 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.4%	
13C2-PFDoDA	8.813	615.0 -> 570.0	414593	16.91 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.6%	
13C2-PFTeDA	9.564	715.0 -> 670.0	233079	15.26 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 76.3%	
13C3-PFBS	4.379	302.0 -> 99.0	13370	18.78 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.9%	
13C3-PFHxS	6.603	402.0 -> 99.0	15453	19.03 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.2%	
13C4-PFBA	1.752	217.0 -> 172.0	122025	18.39 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.9%	
13C4-PFHpA	6.556	367.0 -> 322.0	189477	18.99 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.9%	
13C5-PFHxA	5.563	318.0 -> 273.0	158205	18.76 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.8%	
13C5-PFPeA	3.961	268.0 -> 223.0	109903	18.70 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.5%	
13C6-PFDA	8.189	519.0 -> 474.0	305728	18.50 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.5%		
13C7-PFUnDA	8.513	570.0 -> 525.0	346740	17.18	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.9%		
13C8-FOSA	7.887	506.0 -> 78.0	69347	17.13	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.7%		
13C8-PFOA	7.283	421.0 -> 376.0	230748	18.99	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.9%		
13C8-PFOS	7.785	507.0 -> 99.0	21955	17.90	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.5%		
13C9-PFNA	7.800	472.0 -> 427.0	243581	19.03	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.1%		
d3-MeFOSAA	8.223	573.0 -> 419.0	58892	14.00	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 70.0%		
13C3-HFPO-DA	5.893	287.0 -> 169.0	16761	17.98	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.9%		
d3-MeFOSA	8.189	515.0 -> 169.0	6061	5.11	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 25.5%		
d5-EtFOSAA	8.335	589.0 -> 419.0	53288	13.03	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 65.1%		

Target Compounds

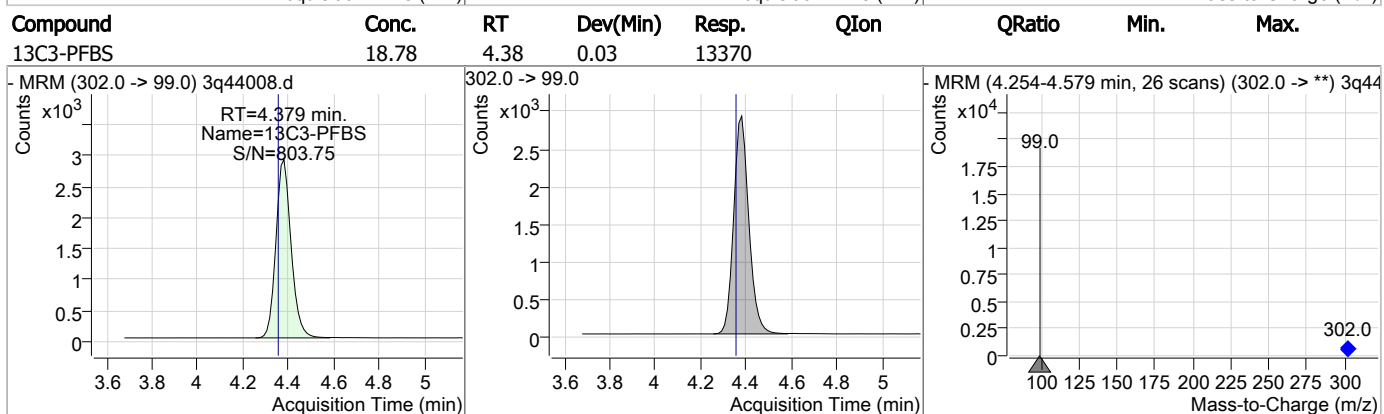
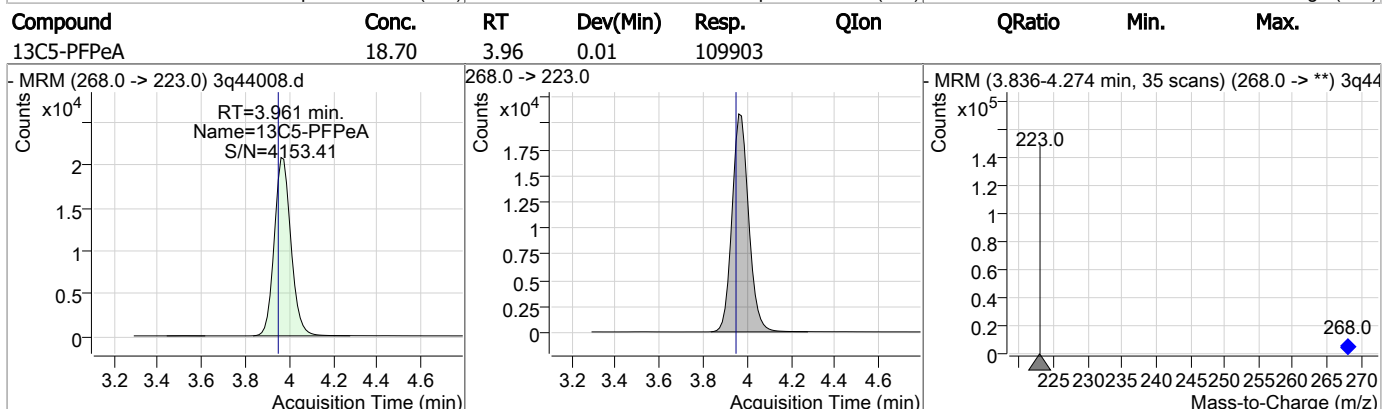
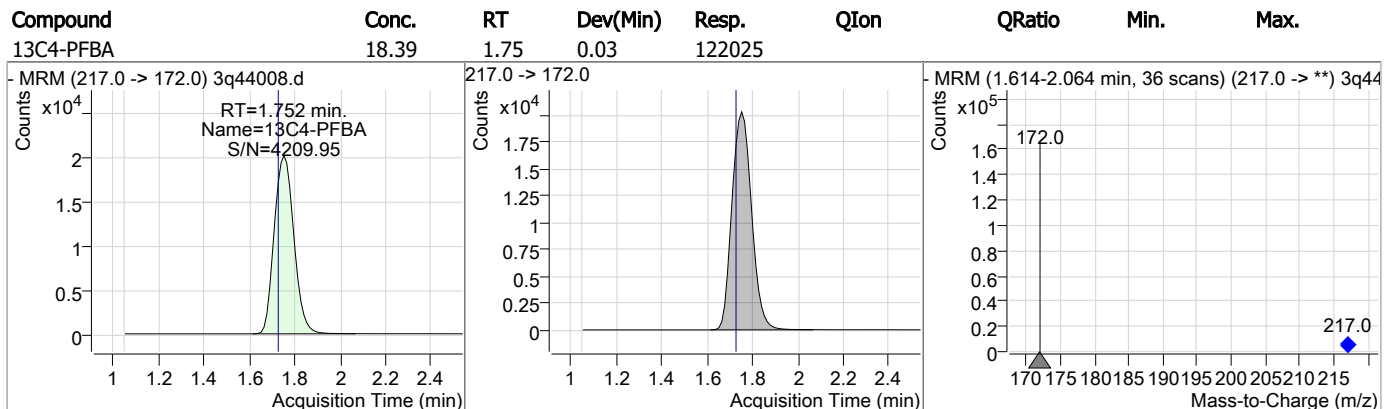
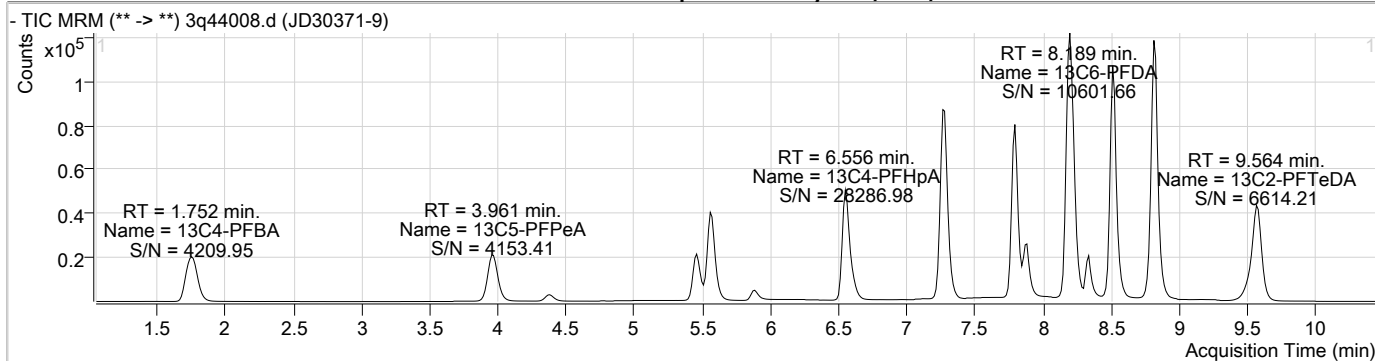
						QValue
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	1.758	213.0 -> 169.0	0	0.00	µg/L m	1
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	-	363.0 -> 319.0	-	N.D.		
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	-	413.0 -> 369.0	-	N.D.		
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		
MeFOSA	-	512.0 -> 169.0	-	N.D.		

= Qualifier out of range, m = manually integrated, + = Area summed

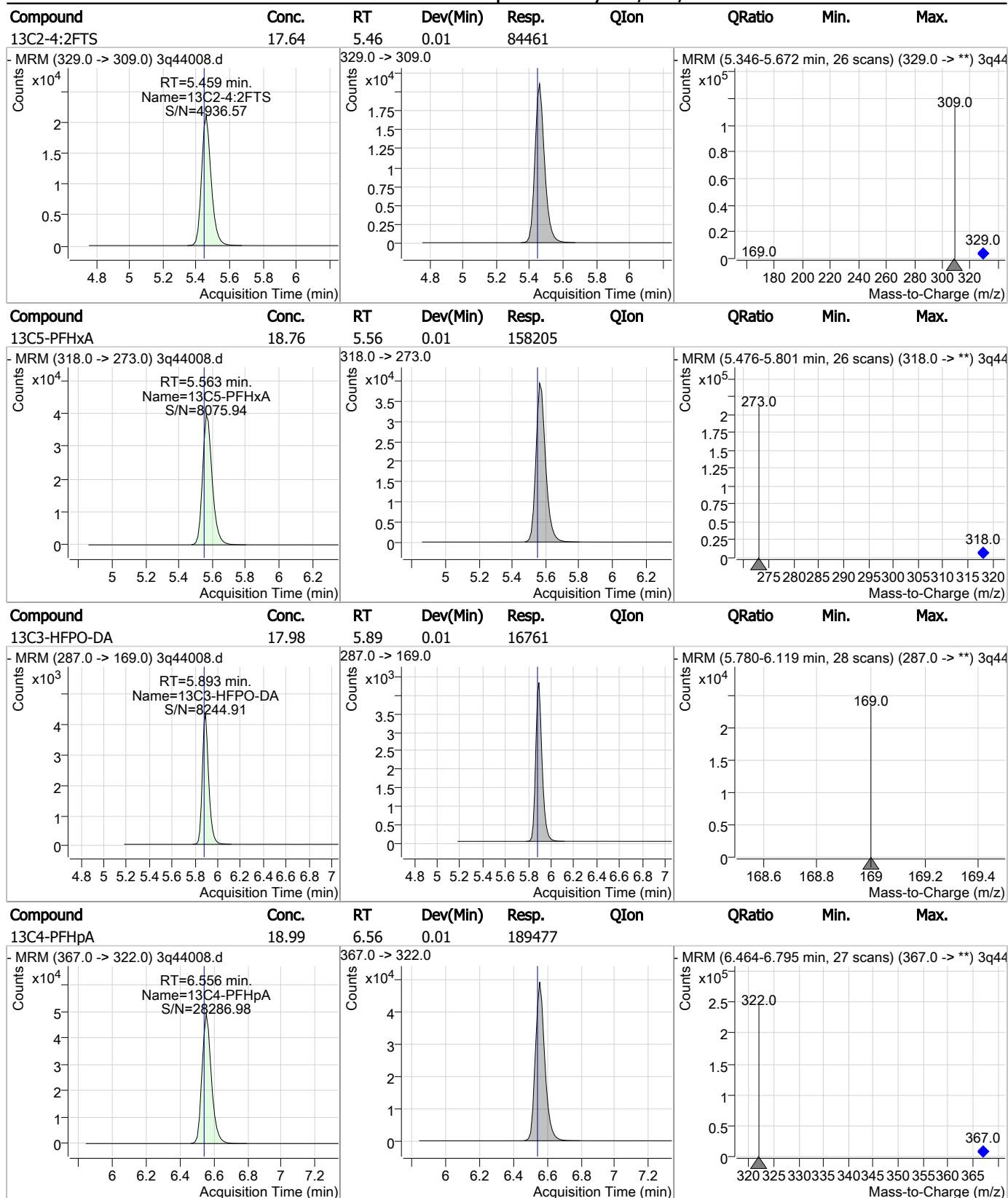
10.1.7
10



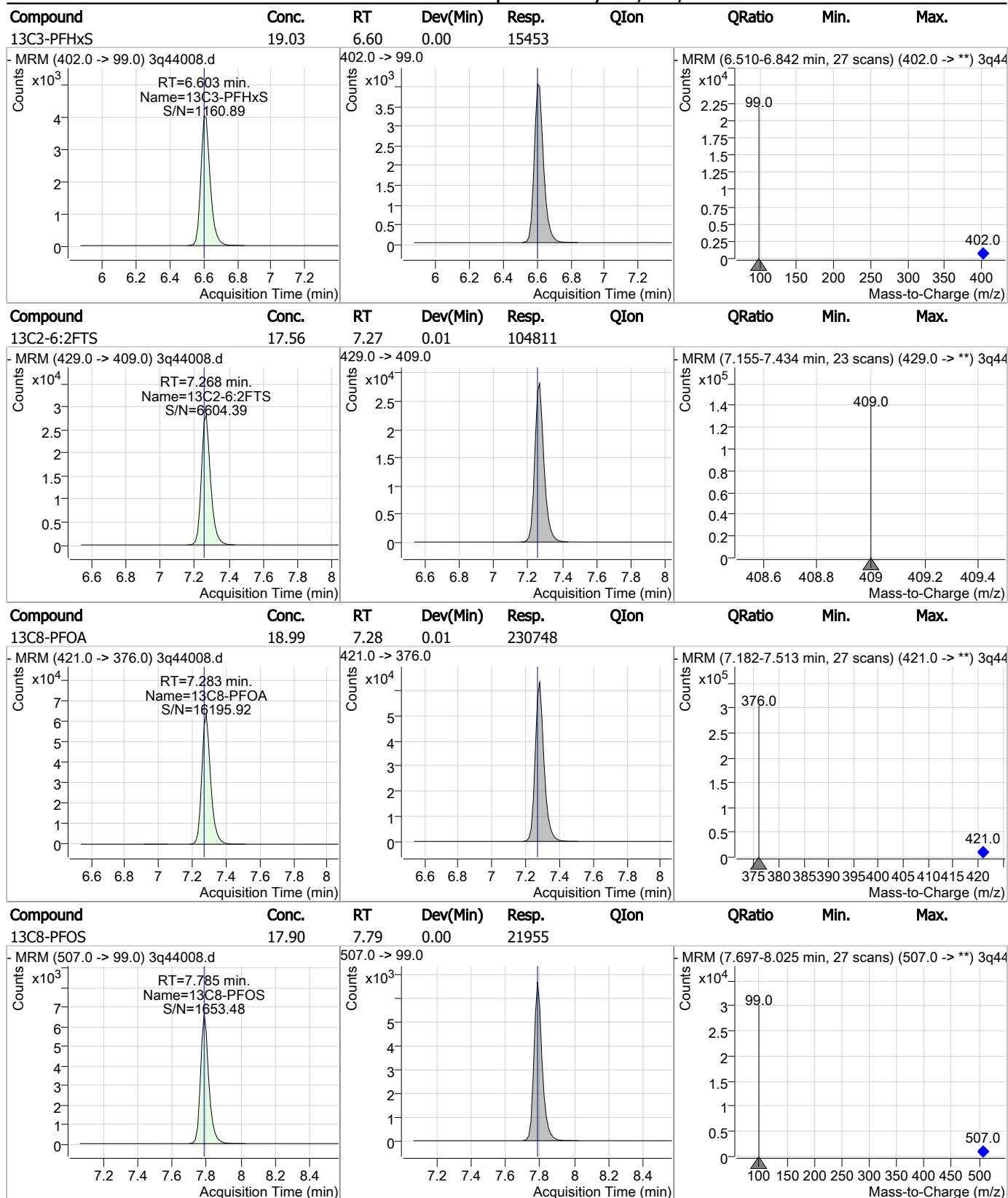
Perfluorinated Compounds by LC/MS/MS



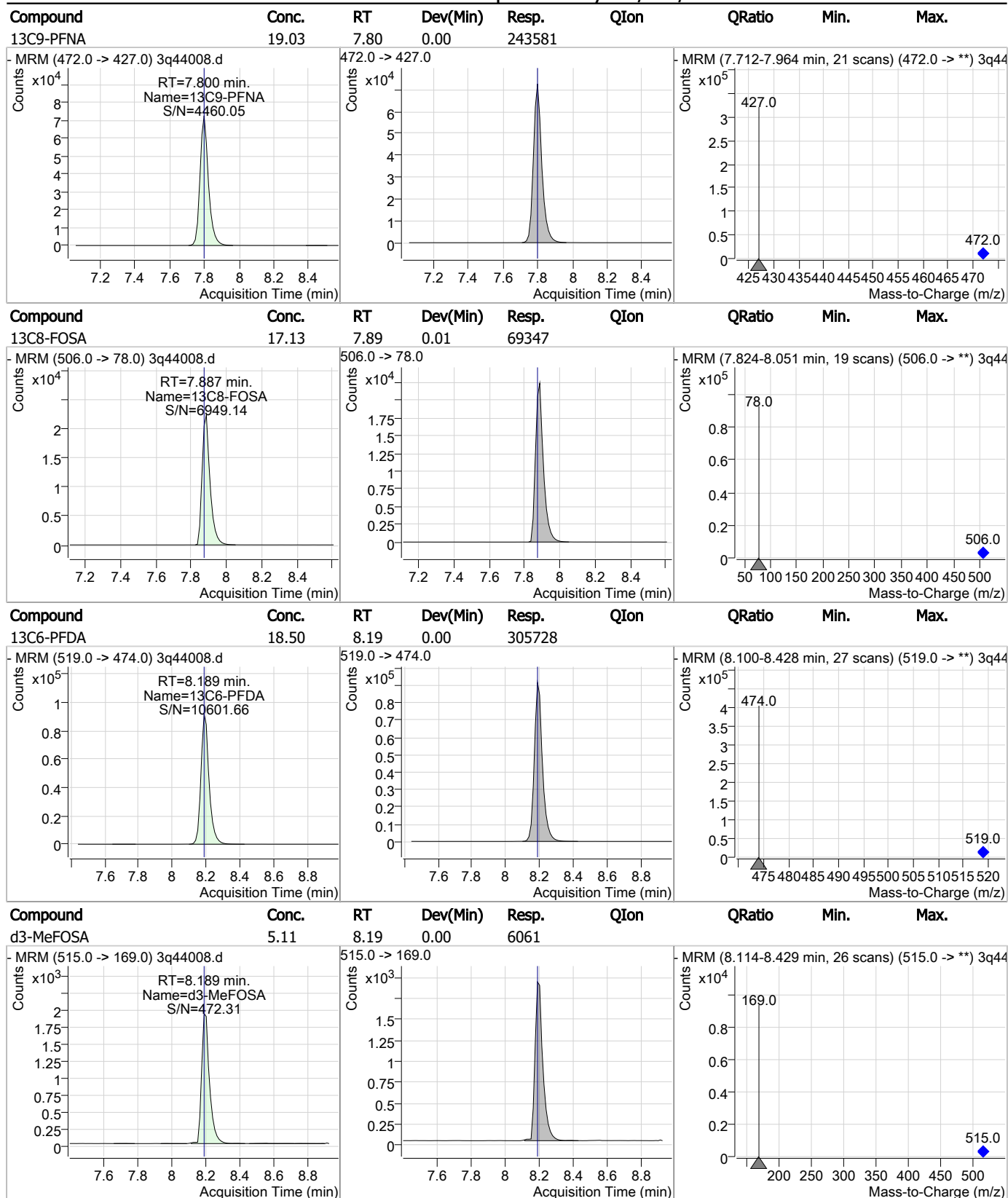
Perfluorinated Compounds by LC/MS/MS



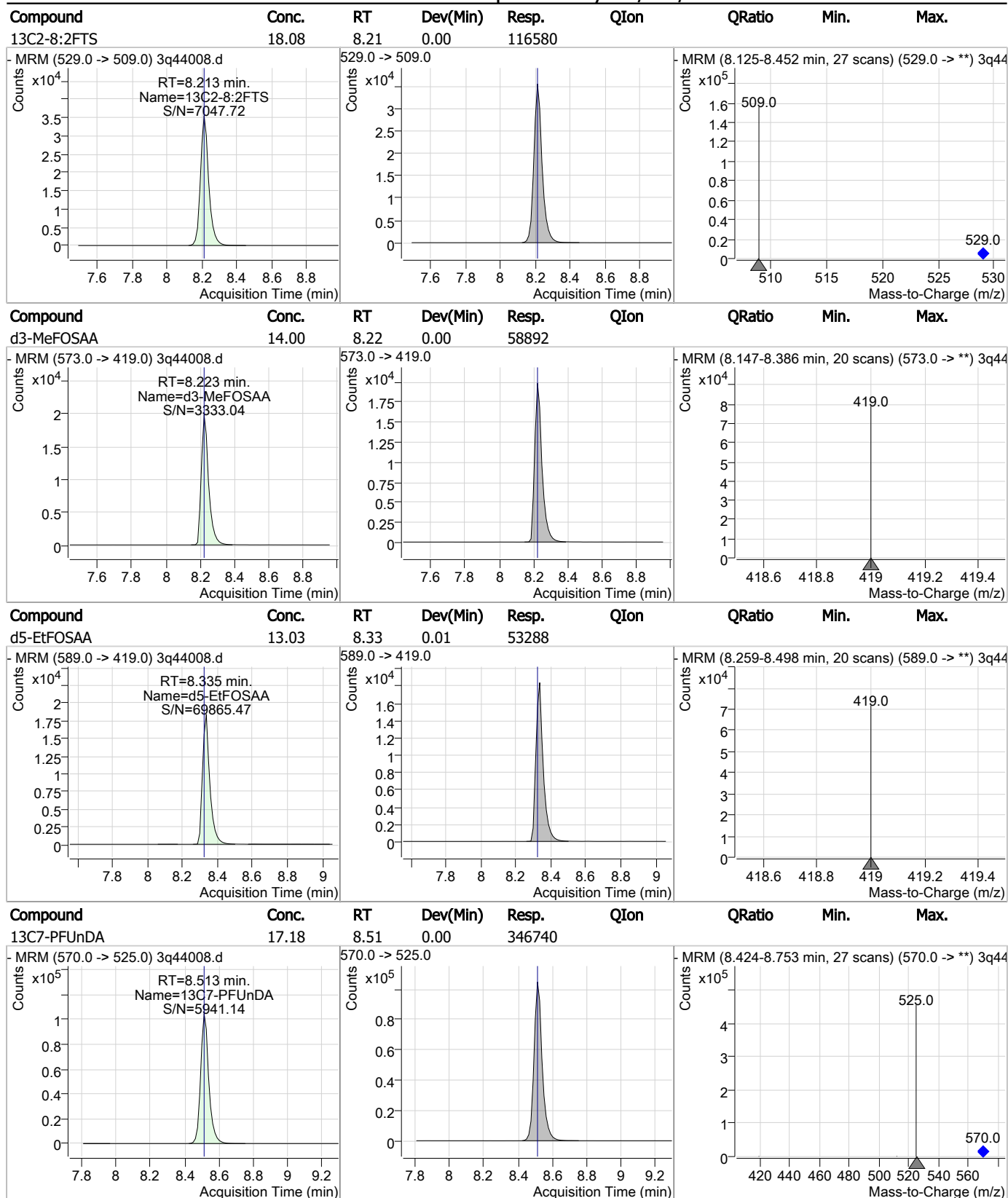
Perfluorinated Compounds by LC/MS/MS



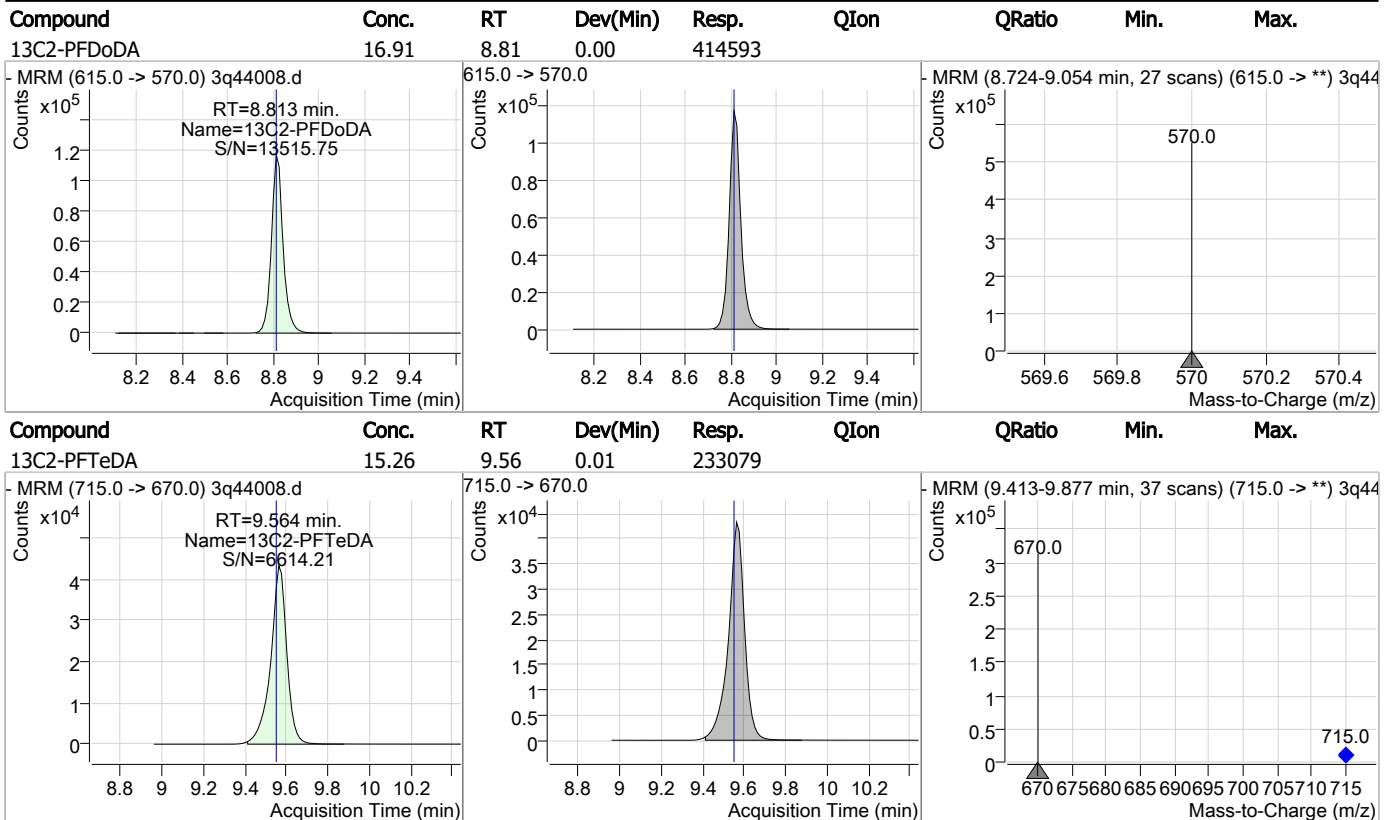
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.1.7 10

Norman Farmer
09/02/21 17:09

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44079.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 8:26:08 PM
 Sample Name : op86997-mb
 Vial : P3-D5
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86997,S3Q639,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.714	217.0 -> 172.0	113458	20.00 µg/L	-0.013
M5-PFPeA	3.936	268.0 -> 223.0	100892	20.00 µg/L	-0.013
M5-PFHxA	5.551	318.0 -> 273.0	144841	20.00 µg/L	0.000
M4-PFHpA	6.556	367.0 -> 322.0	172099	20.00 µg/L	0.013
M8-PFOA	7.270	421.0 -> 376.0	212977	20.00 µg/L	0.000
M9-PFNA	7.800	472.0 -> 427.0	213398	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	274592	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	314933	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	400507	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	224160	20.00 µg/L	0.013
M8-FOSA	7.887	506.0 -> 78.0	63218	20.00 µg/L	0.013
M3-PFBS	4.354	302.0 -> 99.0	12242	20.00 µg/L	0.000
M3-PFHxS	6.603	402.0 -> 99.0	13830	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	19032	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	76960	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	98174	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	102456	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	55369	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	15642	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	1488	20.00 µg/L	0.000
M5-EtFOSAA	8.335	589.0 -> 419.0	50750	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	76960	16.07 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 80.4%		
13C2-6:2FTS	7.256	429.0 -> 409.0	98174	16.45 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 82.3%		
13C2-8:2FTS	8.213	529.0 -> 509.0	102456	15.89 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 79.5%		
13C2-PFDoDA	8.813	615.0 -> 570.0	400507	16.34 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 81.7%		
13C2-PFTeDA	9.564	715.0 -> 670.0	224160	14.68 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 73.4%		
13C3-PFBS	4.354	302.0 -> 99.0	12242	17.20 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 86.0%		
13C3-PFHxS	6.603	402.0 -> 99.0	13830	17.03 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.2%		
13C4-PFBA	1.714	217.0 -> 172.0	113458	17.10 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.5%		
13C4-PFHpA	6.556	367.0 -> 322.0	172099	17.25 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 86.2%		
13C5-PFHxA	5.551	318.0 -> 273.0	144841	17.17 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.9%		
13C5-PFPeA	3.936	268.0 -> 223.0	100892	17.17 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.8%		
13C6-PFDA	8.189	519.0 -> 474.0	274592	16.62 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.1%		
13C7-PFUnDA	8.513	570.0 -> 525.0	314933	15.61	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.0%		
13C8-FOSA	7.887	506.0 -> 78.0	63218	15.62	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.1%		
13C8-PFOA	7.270	421.0 -> 376.0	212977	17.53	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.6%		
13C8-PFOS	7.785	507.0 -> 99.0	19032	15.52	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 77.6%		
13C9-PFNA	7.800	472.0 -> 427.0	213398	16.67	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.4%		
d3-MeFOSAA	8.223	573.0 -> 419.0	55369	13.17	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 65.8%		
13C3-HFPO-DA	5.881	287.0 -> 169.0	15642	16.78	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.9%		
d3-MeFOSA	8.189	515.0 -> 169.0	1488	1.25	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 6.3%		
d5-EtFOSAA	8.335	589.0 -> 419.0	50745	12.41	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 62.0%		

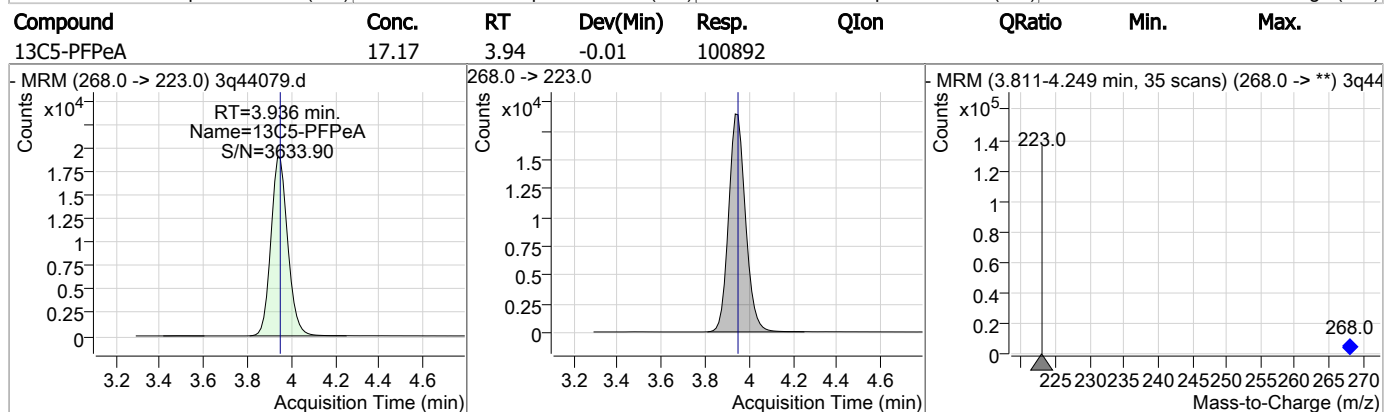
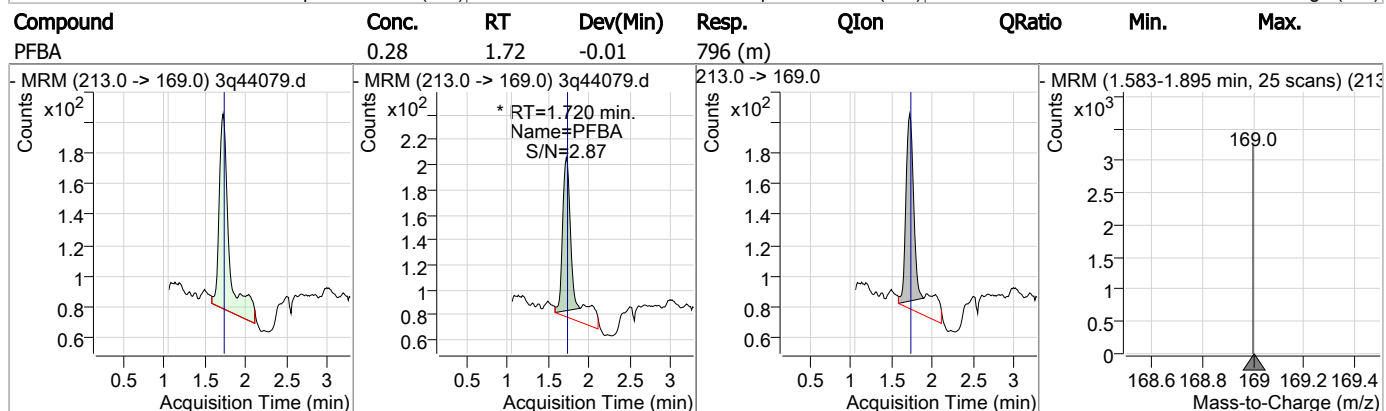
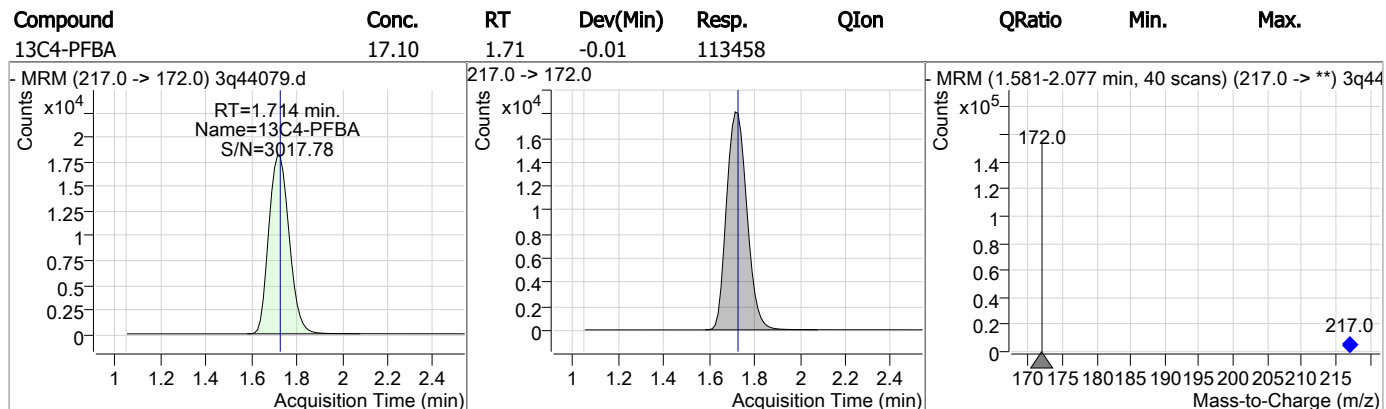
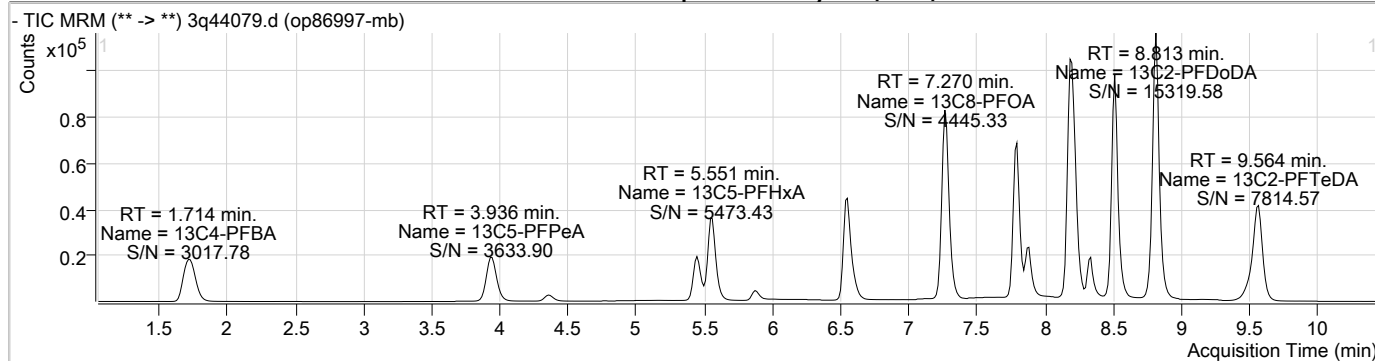
Target Compounds

						QValue
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	1.720	213.0 -> 169.0	796	0.28	µg/L m	100
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	-	363.0 -> 319.0	-	N.D.		
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	-	413.0 -> 369.0	-	N.D.		
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		
MeFOSA	-	512.0 -> 169.0	-	N.D.		

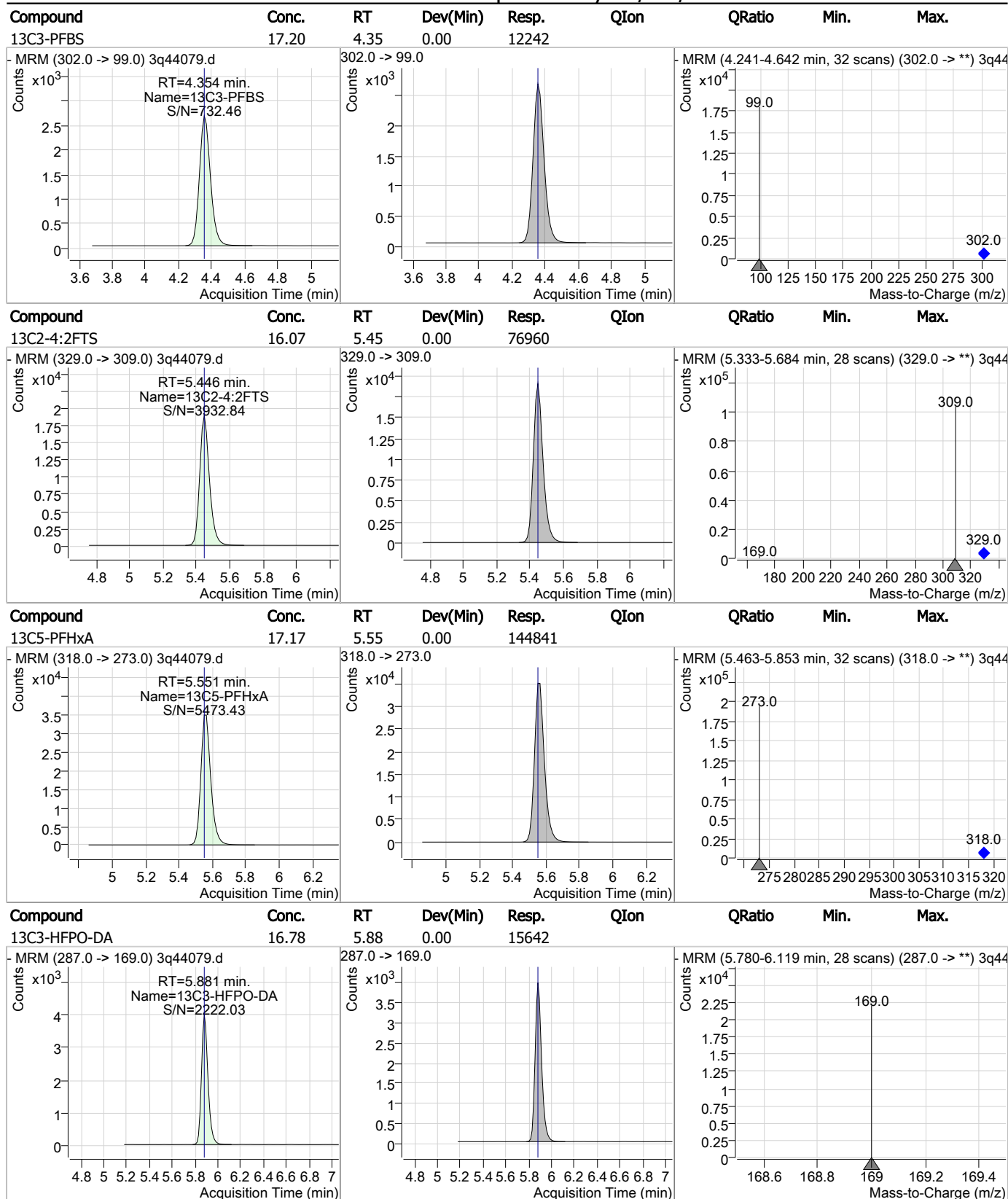
= Qualifier out of range, m = manually integrated, + = Area summed

10.2.1 10

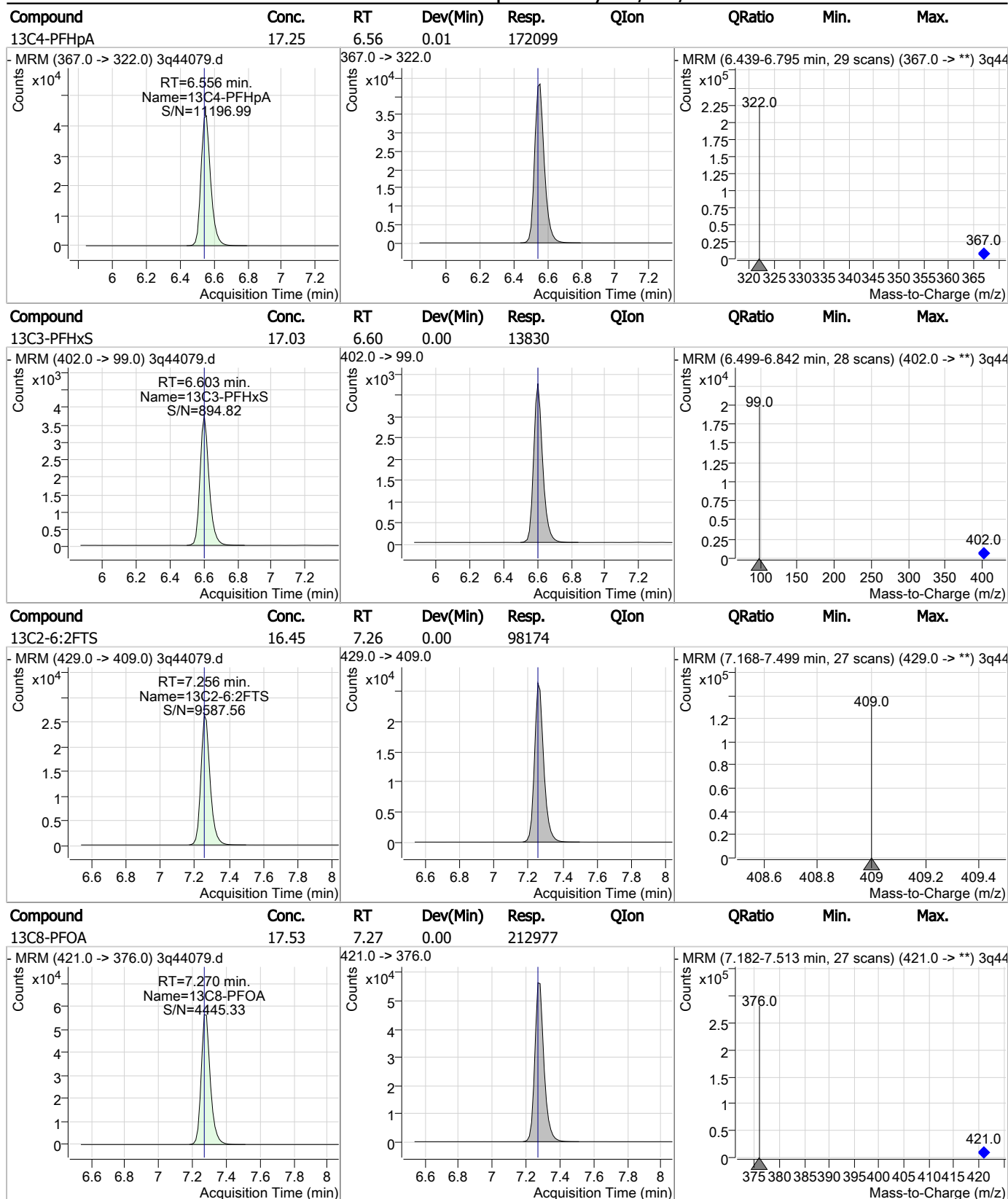
Perfluorinated Compounds by LC/MS/MS



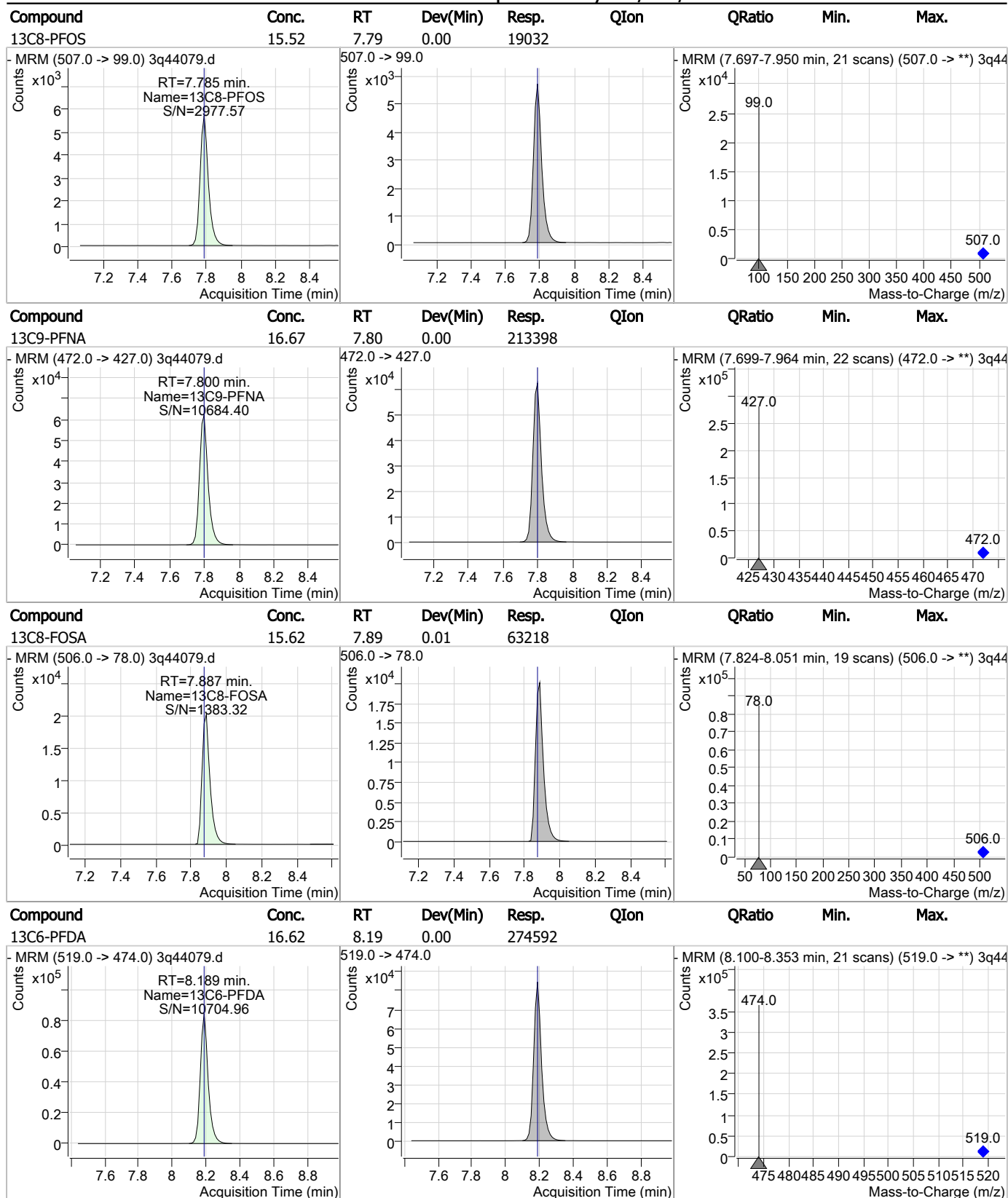
Perfluorinated Compounds by LC/MS/MS



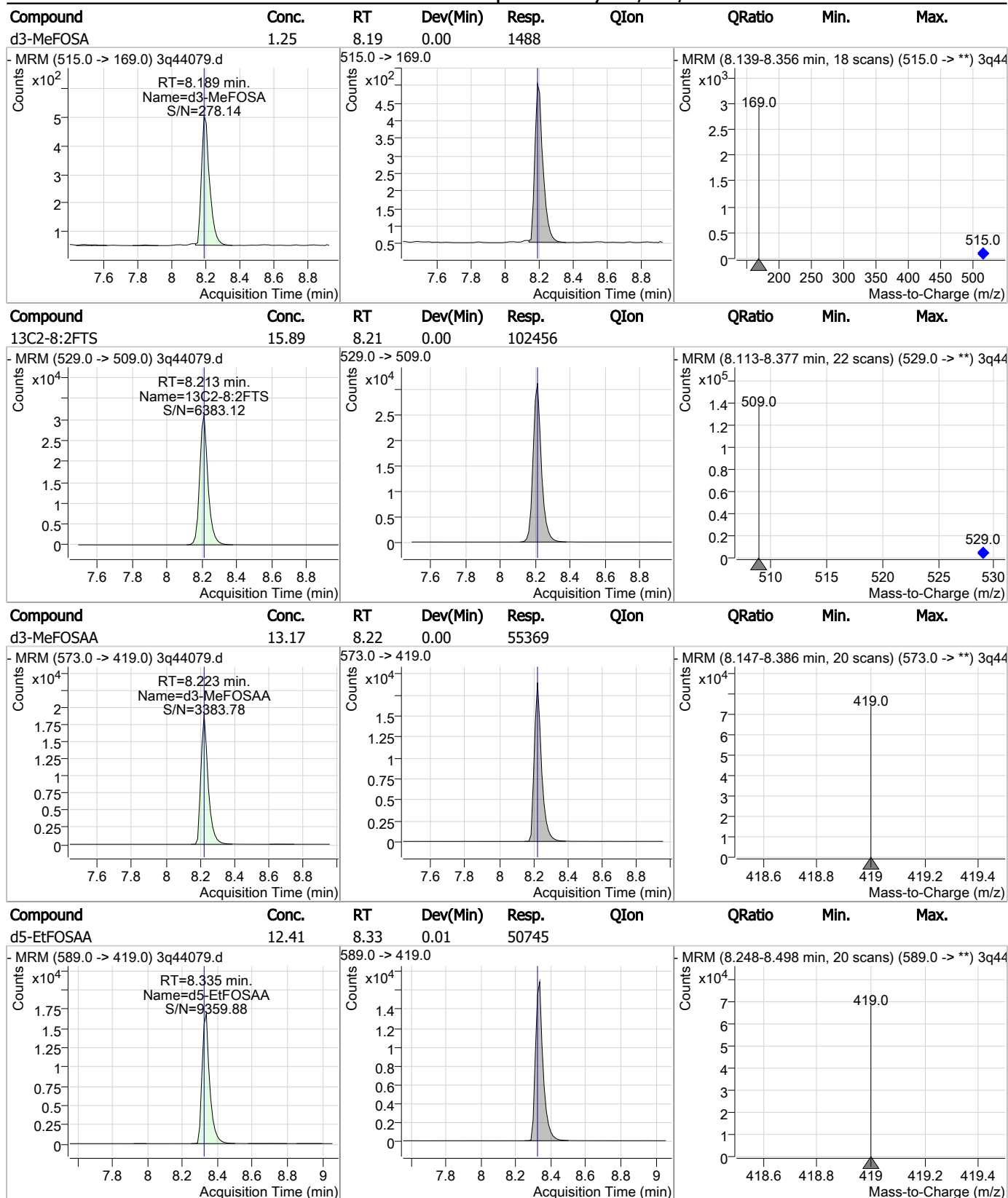
Perfluorinated Compounds by LC/MS/MS



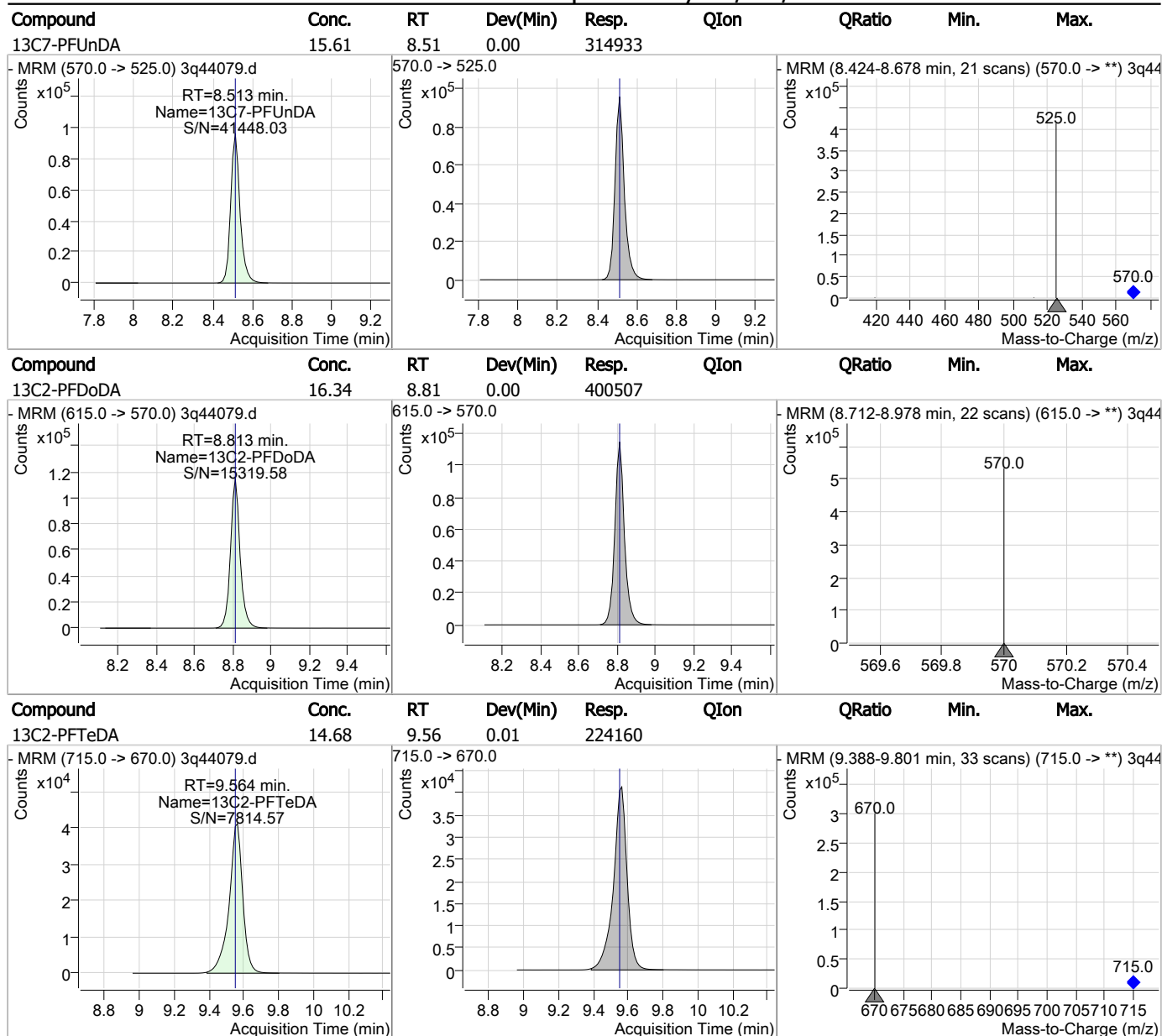
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.2.1 10

Manual Integration Approval Summary

Sample Number:

OP86997-MB

Method:

EPA 537M BY ID

Lab FileID:

3Q44079.D

Analyst approved:

09/02/21 12:02 Natasha Gumtie

Injection Time:

09/01/21 20:26

Supervisor approved:

09/02/21 17:09 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanoic acid	375-22-4		1.72	Split peak

10.2.1.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43890.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/30/2021 2:34:36 PM
 Sample Name : IBLK
 Vial : P1-A1
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86590,S3Q638,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.739	217.0 -> 172.0	137010	20.00 µg/L	0.013
M5-PFPeA	3.961	268.0 -> 223.0	122410	20.00 µg/L	0.013
M5-PFHxA	5.563	318.0 -> 273.0	176063	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	208808	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	255361	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	267784	20.00 µg/L	0.000
M6-PFDA	8.202	519.0 -> 474.0	354832	20.00 µg/L	0.013
M7-PFUnDA	8.525	570.0 -> 525.0	421280	20.00 µg/L	0.013
M2-PFDoDA	8.825	615.0 -> 570.0	508505	20.00 µg/L	0.013
M2-PFTeDA	9.576	715.0 -> 670.0	313114	20.00 µg/L	0.025
M8-FOSA	7.887	506.0 -> 78.0	84862	20.00 µg/L	0.013
M3-PFBS	4.367	302.0 -> 99.0	14837	20.00 µg/L	0.013
M3-PFHxS	6.603	402.0 -> 99.0	17291	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	26495	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	91279	20.00 µg/L	0.000
M2-6:2FTS	7.268	429.0 -> 409.0	113596	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	123960	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	86666	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	20448	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	24819	20.00 µg/L	0.000
M5-EtFOSAA	8.335	589.0 -> 419.0	84211	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	91279	19.06 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 95.3%		
13C2-6:2FTS	7.268	429.0 -> 409.0	113596	19.03 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 95.2%		
13C2-8:2FTS	8.213	529.0 -> 509.0	123960	19.23 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 96.1%		
13C2-PFDoDA	8.825	615.0 -> 570.0	508505	20.75 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-PFTeDA	9.576	715.0 -> 670.0	313114	20.50 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.5%		
13C3-PFBS	4.367	302.0 -> 99.0	14837	20.84 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 104.2%		
13C3-PFHxS	6.603	402.0 -> 99.0	17291	21.29 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 106.5%		
13C4-PFBA	1.739	217.0 -> 172.0	137010	20.65 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.2%		
13C4-PFHpA	6.556	367.0 -> 322.0	208808	20.93 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 104.6%		
13C5-PFHxA	5.563	318.0 -> 273.0	176063	20.88 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 104.4%		
13C5-PFPeA	3.961	268.0 -> 223.0	122410	20.83 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 104.1%		
13C6-PFDA	8.202	519.0 -> 474.0	354832	21.47 µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

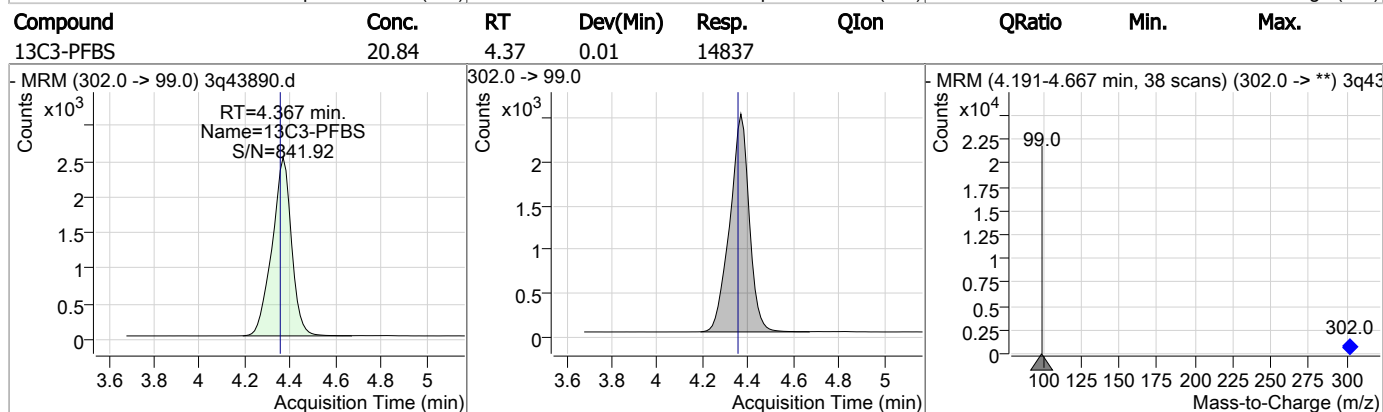
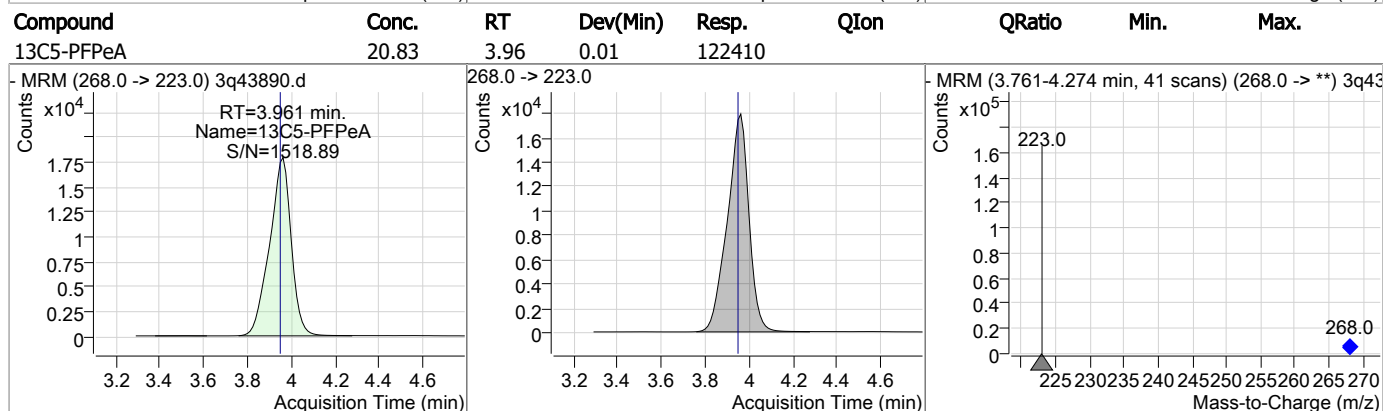
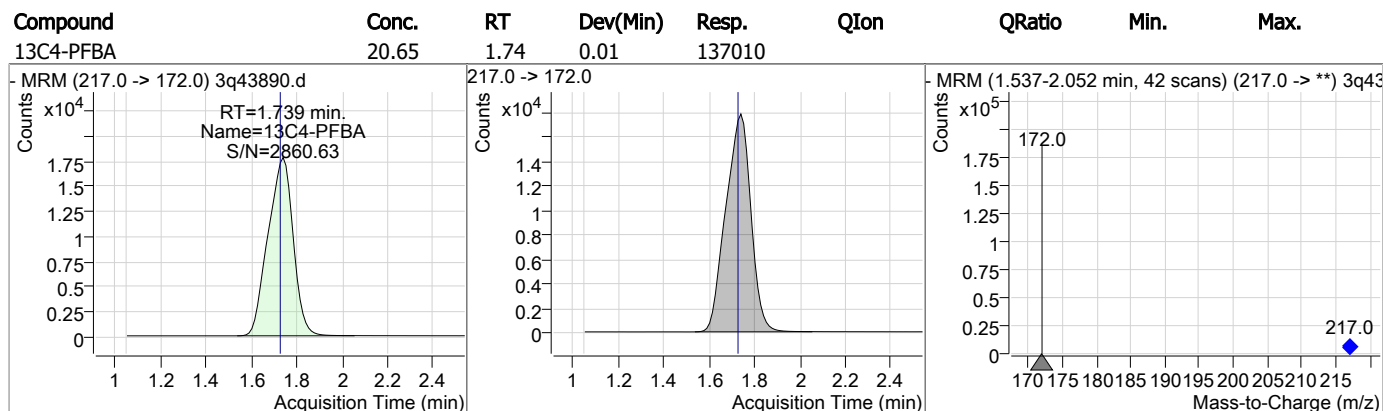
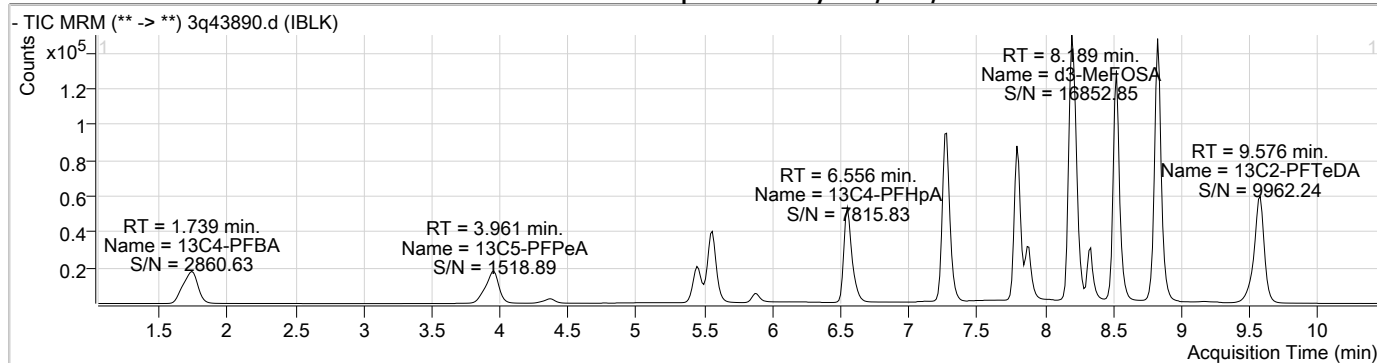
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.4%		
13C7-PFUnDA	8.525	570.0 -> 525.0	421280	20.88	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.4%		
13C8-FOSA	7.887	506.0 -> 78.0	84862	20.97	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.8%		
13C8-PFOA	7.283	421.0 -> 376.0	255361	21.01	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.1%		
13C8-PFOS	7.785	507.0 -> 99.0	26495	21.61	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.0%		
13C9-PFNA	7.800	472.0 -> 427.0	267784	20.92	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.6%		
d3-MeFOSAA	8.223	573.0 -> 419.0	86666	20.61	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C3-HFPO-DA	5.881	287.0 -> 169.0	20445	21.94	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.7%		
d3-MeFOSA	8.189	515.0 -> 169.0	24819	20.92	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.6%		
d5-EtFOSAA	8.335	589.0 -> 419.0	84203	20.59	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.9%		

Target Compounds

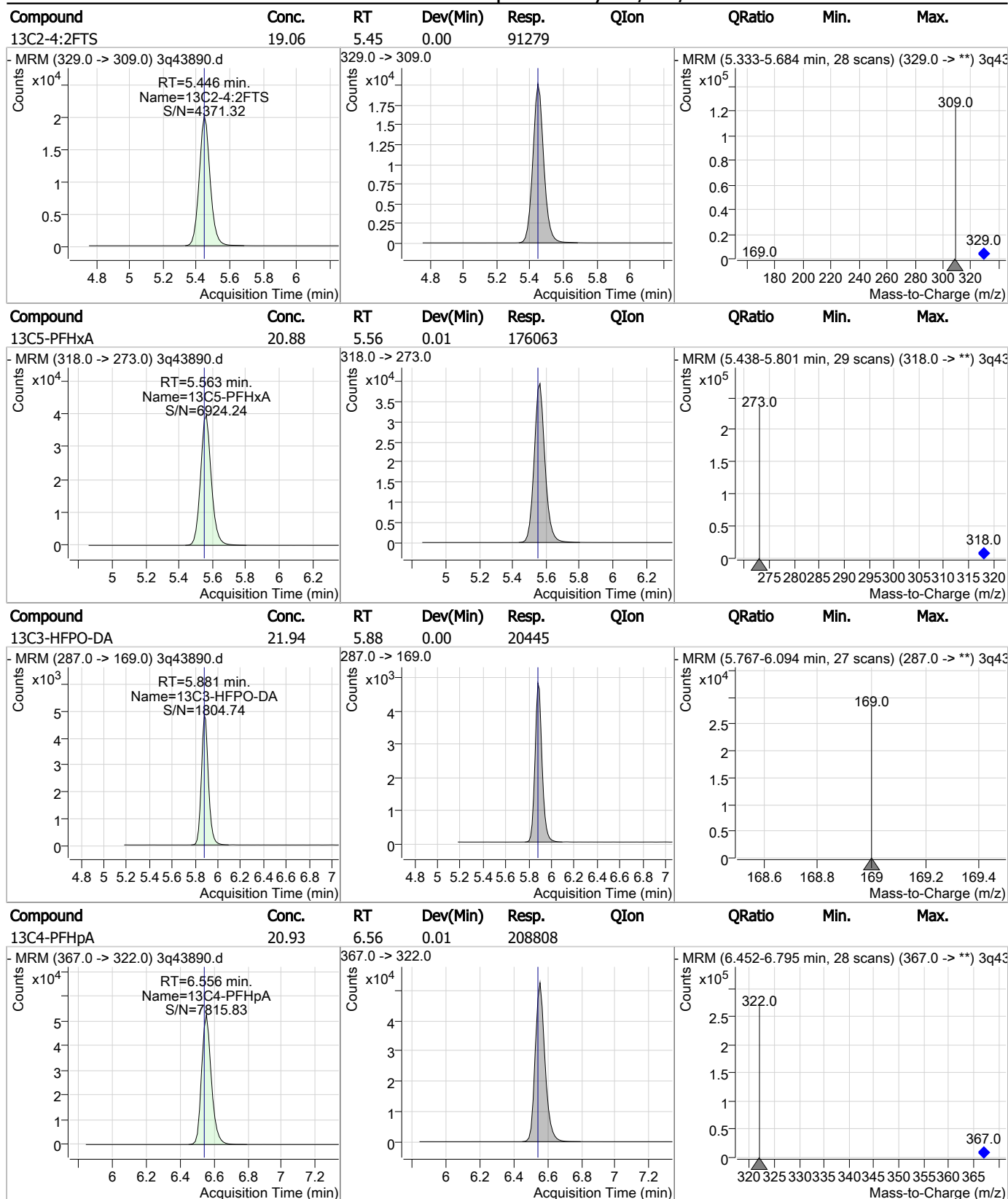
						QValue
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	8.335	584.0 -> 419.0	512	0.14	µg/L m	99
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	-	363.0 -> 319.0	-	N.D.		
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	-	413.0 -> 369.0	-	N.D.		
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		
MeFOSA	-	512.0 -> 169.0	-	N.D.		

= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

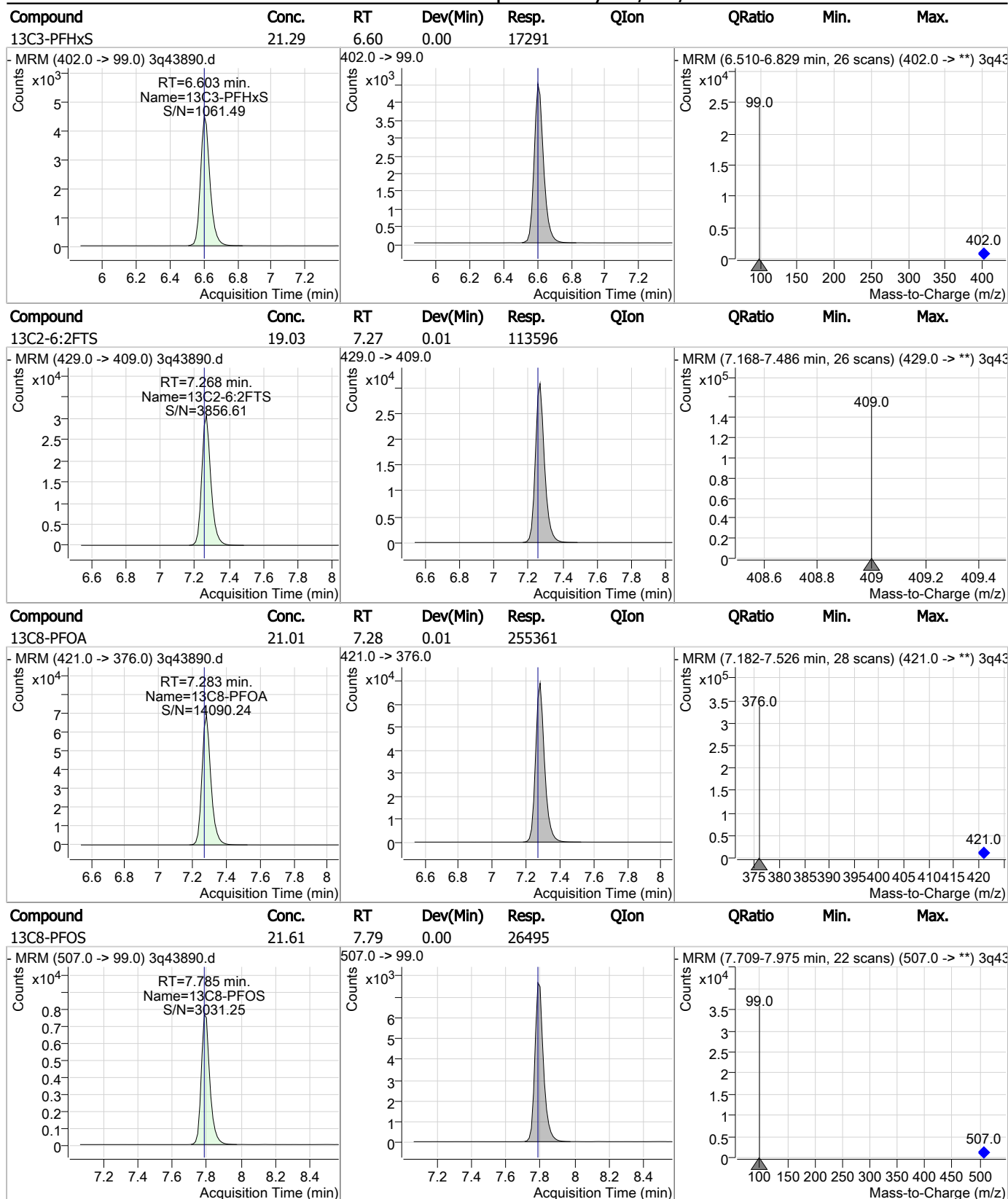


Perfluorinated Compounds by LC/MS/MS

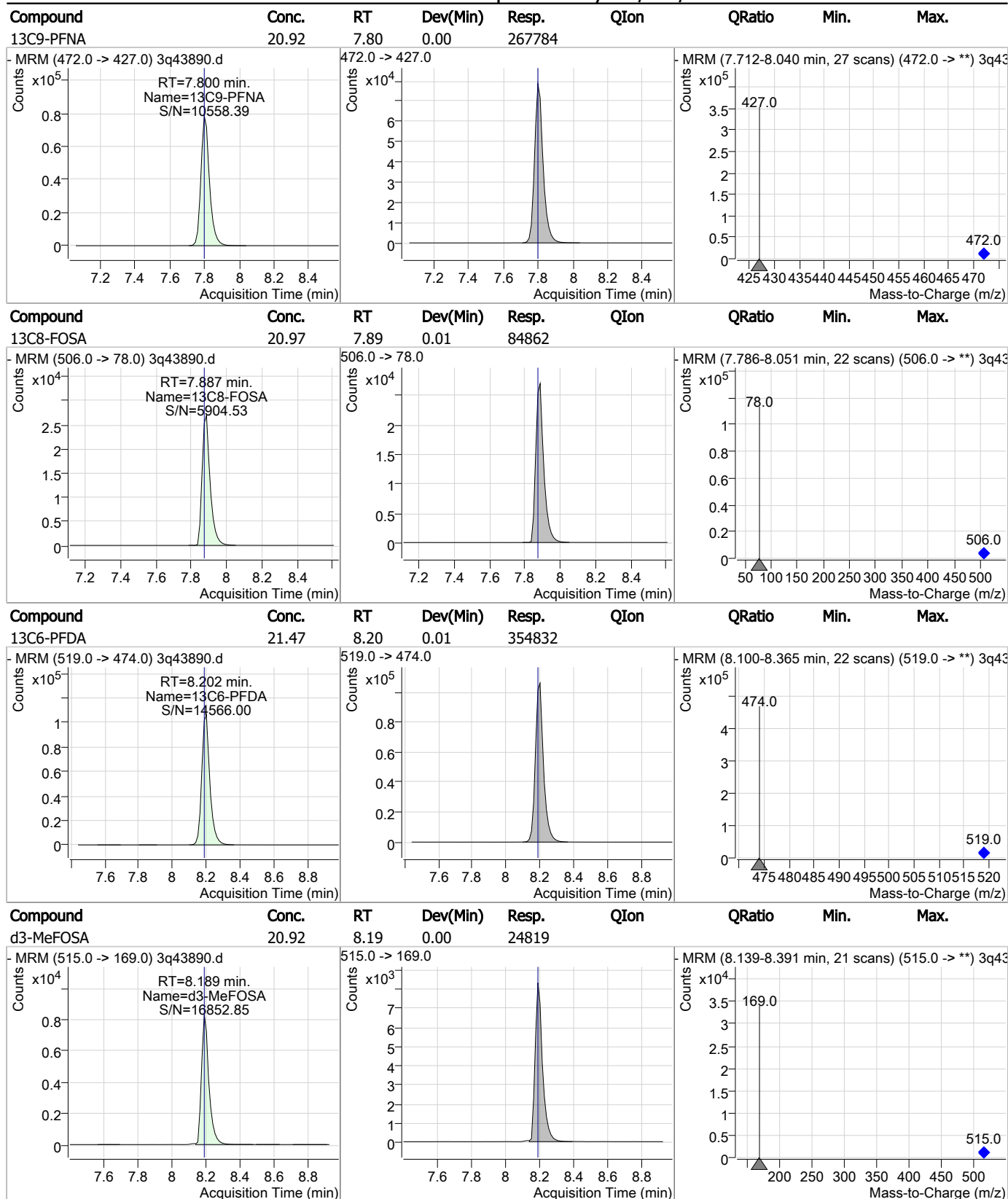


10.2.2 10

Perfluorinated Compounds by LC/MS/MS

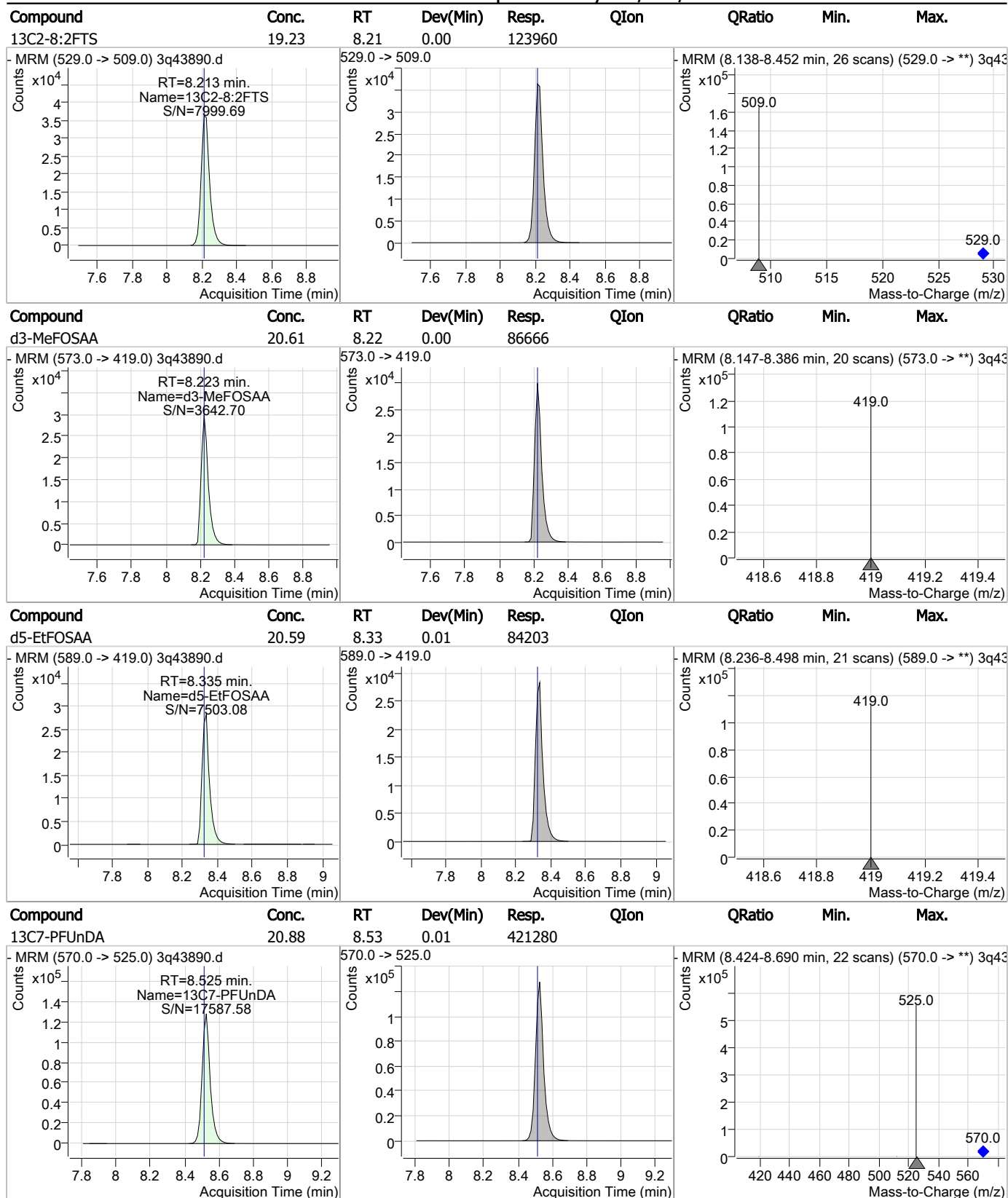


Perfluorinated Compounds by LC/MS/MS



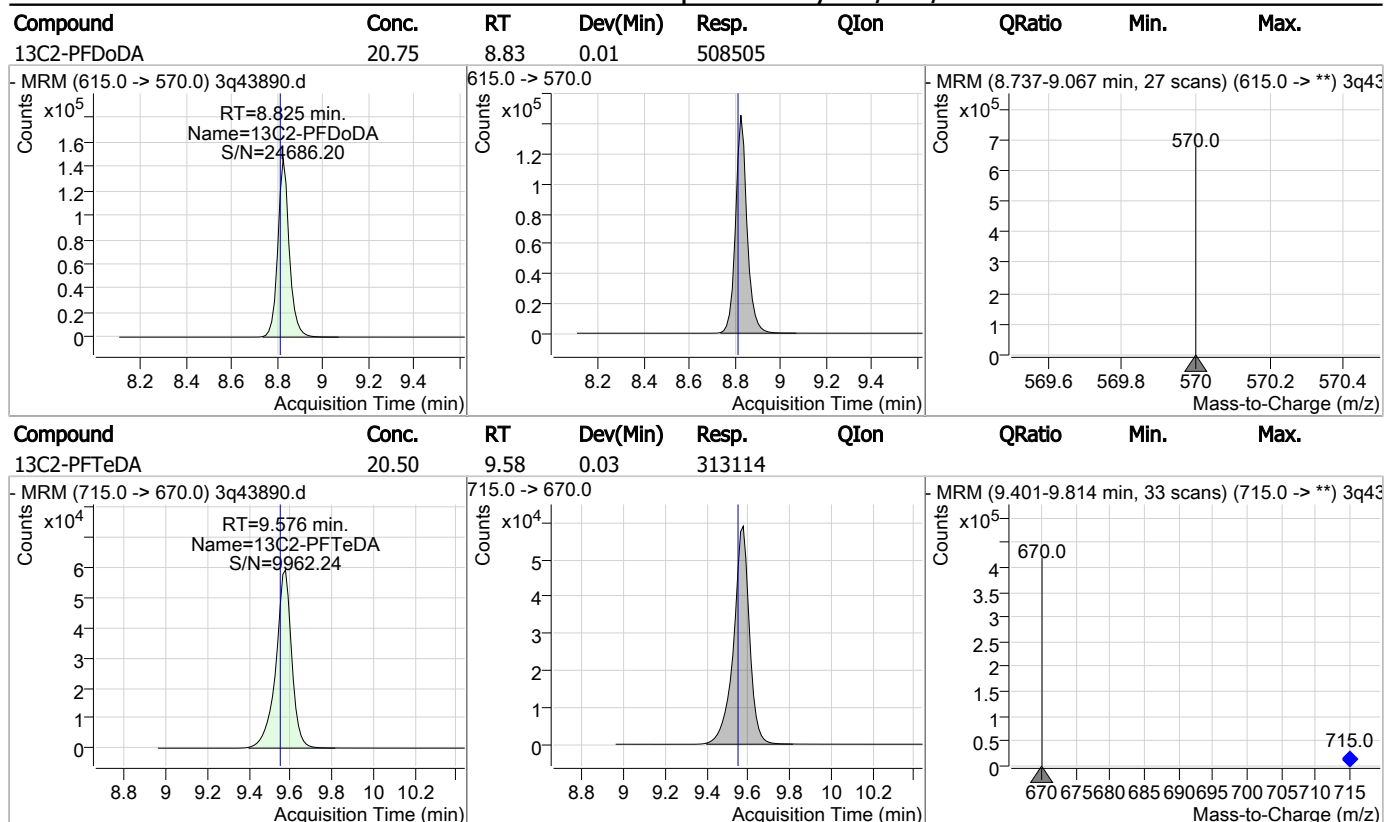
10.2.2 10

Perfluorinated Compounds by LC/MS/MS



10.2.2 10

Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

S3Q638-IBLK

Lab FileID:

3Q43890.D

Injection Time:

08/30/21 14:34

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/31/21 13:06 Martha Valls

Supervisor approved:

08/31/21 14:09 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
EtFOSAA	2991-50-6		8.34	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44039.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 8:53:01 AM
 Sample Name : IBLK
 Vial : P1-A1
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86590,S3Q639,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	134577	20.00 µg/L	0.000
M5-PFPeA	3.936	268.0 -> 223.0	118913	20.00 µg/L	-0.013
M5-PFHxA	5.538	318.0 -> 273.0	172319	20.00 µg/L	-0.013
M4-PFHpA	6.543	367.0 -> 322.0	201278	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	257297	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	271364	20.00 µg/L	-0.013
M6-PFDA	8.177	519.0 -> 474.0	351952	20.00 µg/L	-0.013
M7-PFUnDA	8.513	570.0 -> 525.0	419070	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	507052	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	312708	20.00 µg/L	0.000
M8-FOSA	7.874	506.0 -> 78.0	86286	20.00 µg/L	0.000
M3-PFBS	4.342	302.0 -> 99.0	14623	20.00 µg/L	-0.013
M3-PFHxS	6.590	402.0 -> 99.0	17229	20.00 µg/L	-0.013
M8-PFOS	7.772	507.0 -> 99.0	25960	20.00 µg/L	-0.013
M2-4:2FTS	5.434	329.0 -> 309.0	90762	20.00 µg/L	-0.013
M2-6:2FTS	7.243	429.0 -> 409.0	122547	20.00 µg/L	-0.013
M2-8:2FTS	8.201	529.0 -> 509.0	132788	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	66004	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	18789	20.00 µg/L	-0.013
M3-MeFOSA	8.189	515.0 -> 169.0	28310	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	60468	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.434	329.0 -> 309.0	90762	18.95 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 94.8%		
13C2-6:2FTS	7.243	429.0 -> 409.0	122547	20.53 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.7%		
13C2-8:2FTS	8.201	529.0 -> 509.0	132788	20.60 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C2-PFDoDA	8.813	615.0 -> 570.0	507052	20.69 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.4%		
13C2-PFTeDA	9.551	715.0 -> 670.0	312708	20.47 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.4%		
13C3-PFBS	4.342	302.0 -> 99.0	14623	20.54 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.7%		
13C3-PFHxS	6.590	402.0 -> 99.0	17229	21.22 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 106.1%		
13C4-PFBA	1.727	217.0 -> 172.0	134577	20.28 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C4-PFHpA	6.543	367.0 -> 322.0	201278	20.17 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.9%		
13C5-PFHxA	5.538	318.0 -> 273.0	172319	20.43 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.2%		
13C5-PFPeA	3.936	268.0 -> 223.0	118913	20.23 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.2%		
13C6-PFDA	8.177	519.0 -> 474.0	351952	21.30 µg/L	-0.013

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.5%	
13C7-PFUnDA	8.513	570.0 -> 525.0	419070	20.77 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C8-FOSA	7.874	506.0 -> 78.0	86286	21.32 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.6%	
13C8-PFOA	7.270	421.0 -> 376.0	257297	21.17 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C8-PFOS	7.772	507.0 -> 99.0	25960	21.17 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C9-PFNA	7.787	472.0 -> 427.0	271364	21.20 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.0%	
d3-MeFOSAA	8.223	573.0 -> 419.0	66004	15.70 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.5%	
13C3-HFPO-DA	5.868	287.0 -> 169.0	18791	20.16 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d3-MeFOSA	8.189	515.0 -> 169.0	28310	23.86 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 119.3%	
d5-EtFOSAA	8.322	589.0 -> 419.0	60457	14.78 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 73.9%	

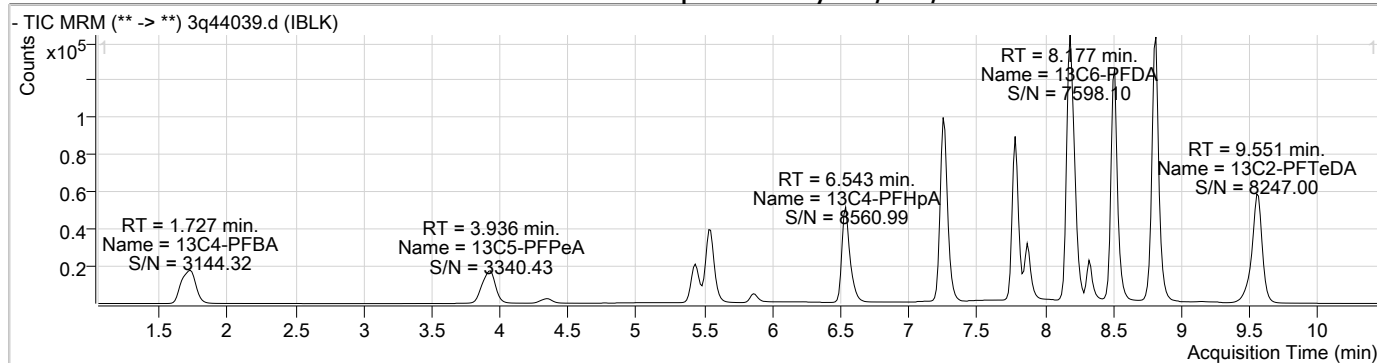
Target Compounds

QValue

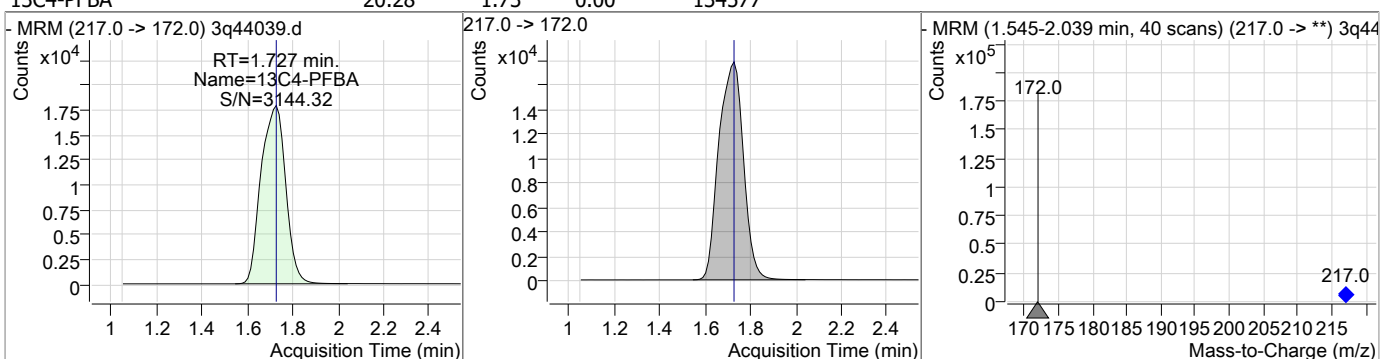
4:2FTS	-	327.0 -> 307.0	-	N.D.
6:2FTS	-	427.0 -> 407.0	-	N.D.
8:2FTS	-	527.0 -> 507.0	-	N.D.
EtFOSAA	-	584.0 -> 419.0	-	N.D.
FOSA	-	498.0 -> 78.0	-	N.D.
MeFOSAA	-	570.0 -> 419.0	-	N.D.
PFBA	-	213.0 -> 169.0	-	N.D.
PFBS	-	299.0 -> 80.0	-	N.D.
PFDA	-	513.0 -> 469.0	-	N.D.
PFDoDA	-	613.0 -> 569.0	-	N.D.
PFDS	-	599.0 -> 80.0	-	N.D.
PFHpA	-	363.0 -> 319.0	-	N.D.
PFHpS	-	449.0 -> 80.0	-	N.D.
PFHxA	-	313.0 -> 269.0	-	N.D.
PFHxS	-	399.0 -> 80.0	-	N.D.
PFNA	-	463.0 -> 419.0	-	N.D.
PFNS	-	549.0 -> 80.0	-	N.D.
PFOA	-	413.0 -> 369.0	-	N.D.
PFOS	-	499.0 -> 80.0	-	N.D.
PFPeA	-	263.0 -> 219.0	-	N.D.
PFPeS	-	349.0 -> 80.0	-	N.D.
PFTeDA	-	713.0 -> 669.0	-	N.D.
PFTTrDA	-	663.0 -> 619.0	-	N.D.
PFUnDA	-	563.0 -> 519.0	-	N.D.
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.
ADONA	-	377.0 -> 251.0	-	N.D.
HFPO-DA	-	329.0 -> 169.0	-	N.D.
MeFOSA	-	512.0 -> 169.0	-	N.D.

= Qualifier out of range, m = manually integrated, + = Area summed

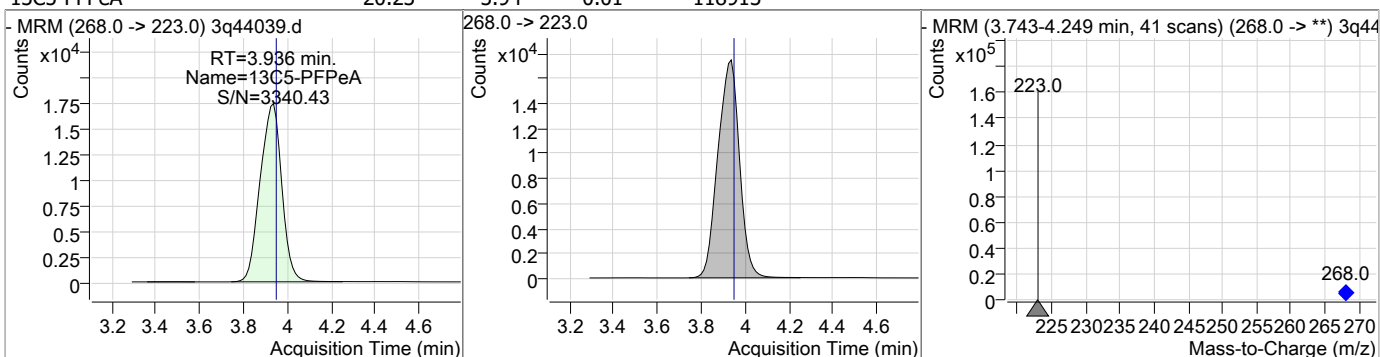
Perfluorinated Compounds by LC/MS/MS



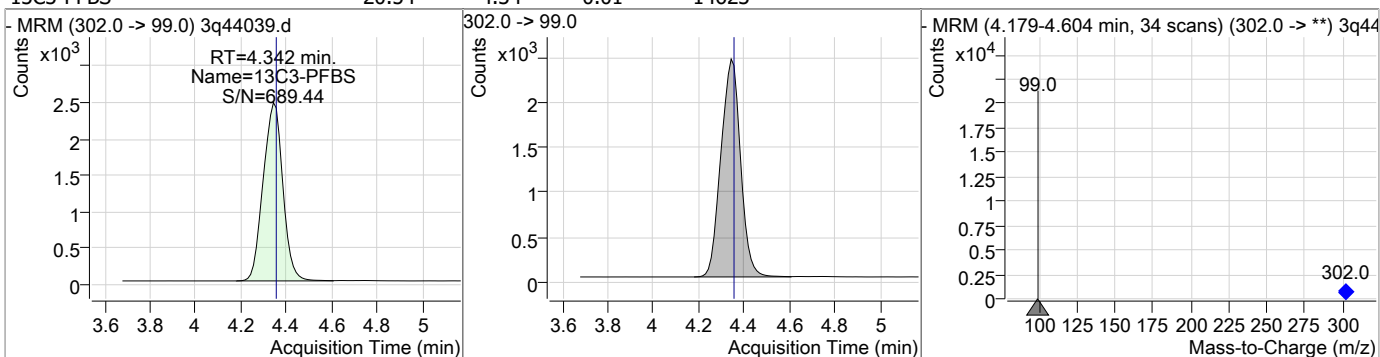
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



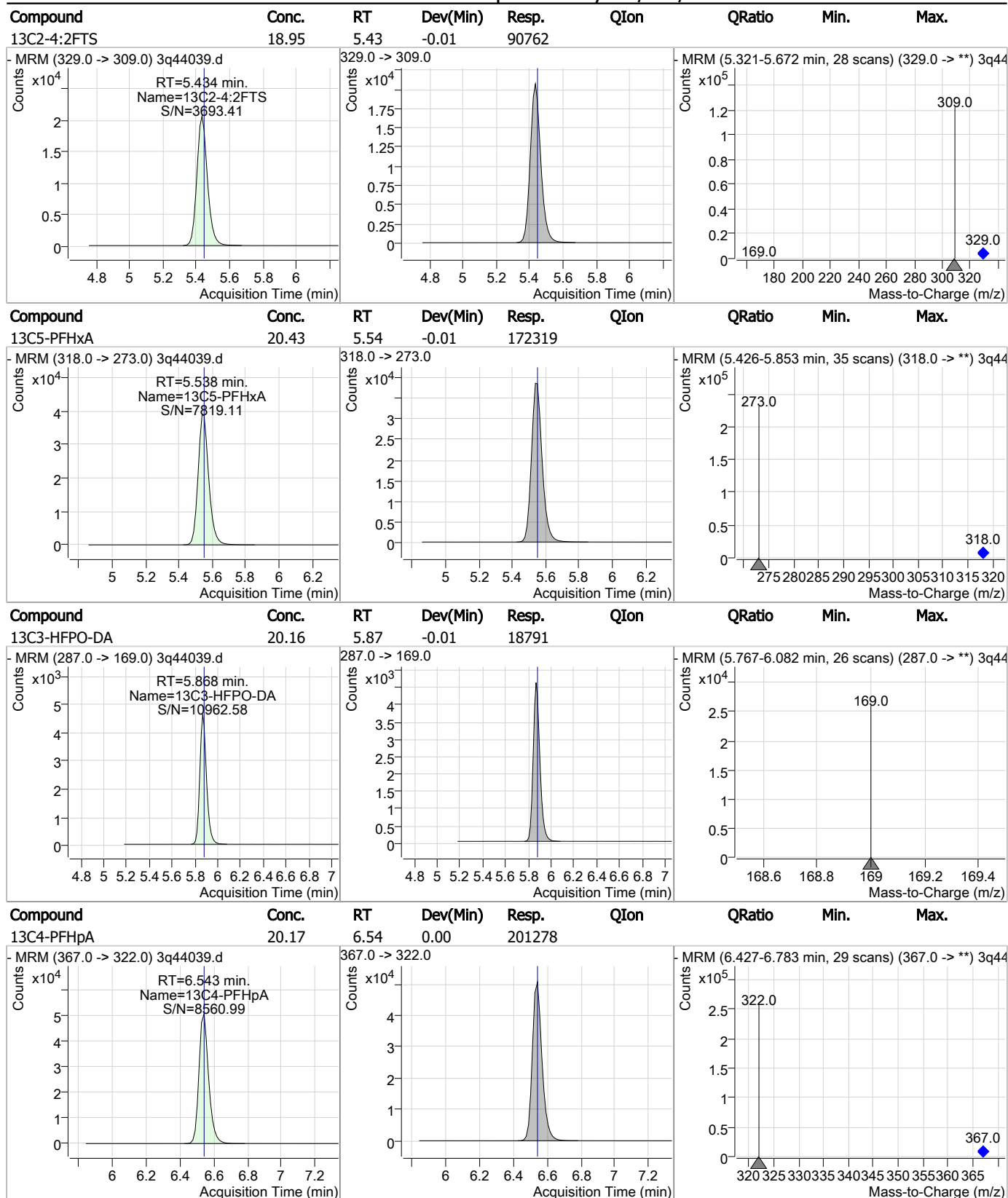
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



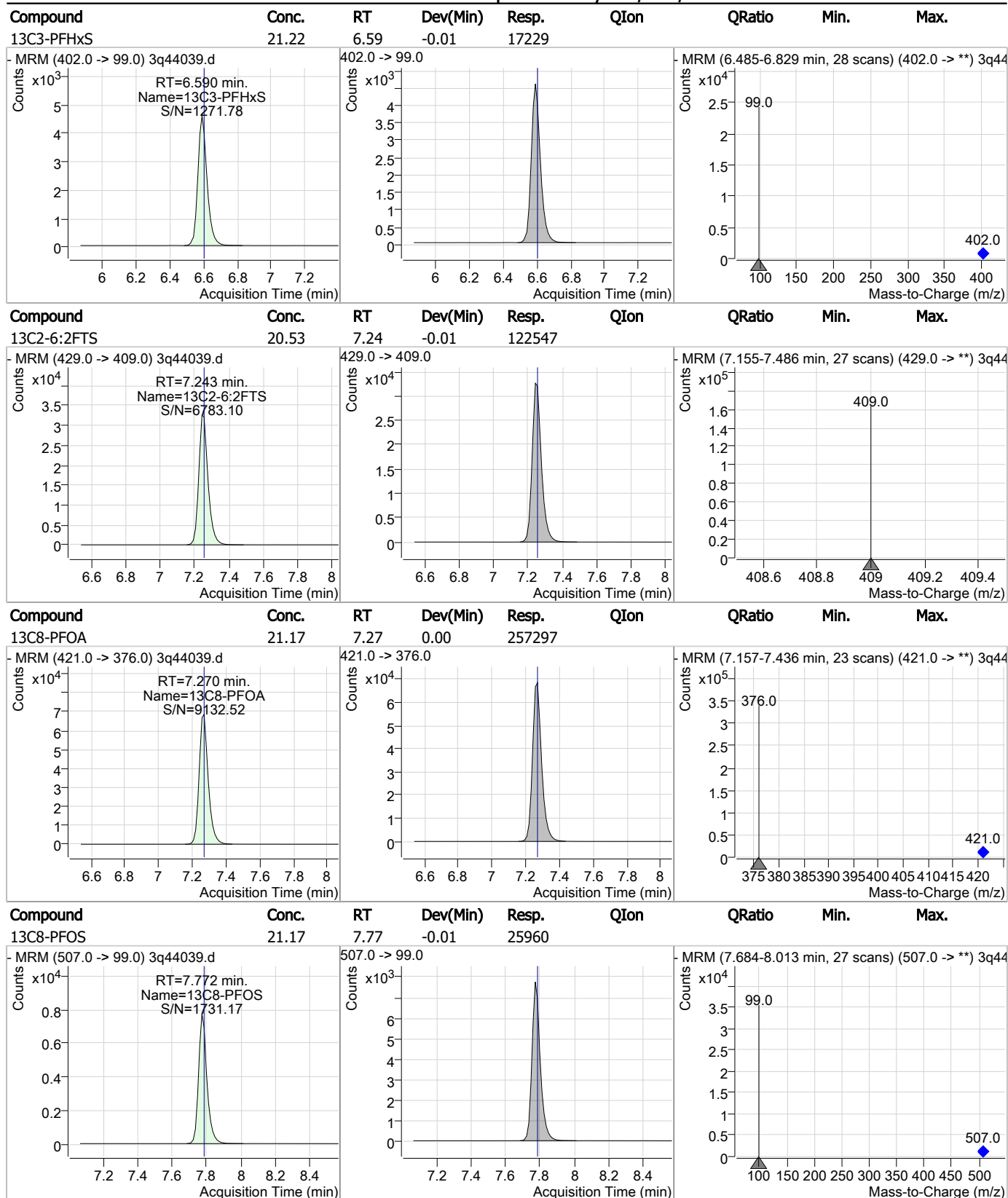
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



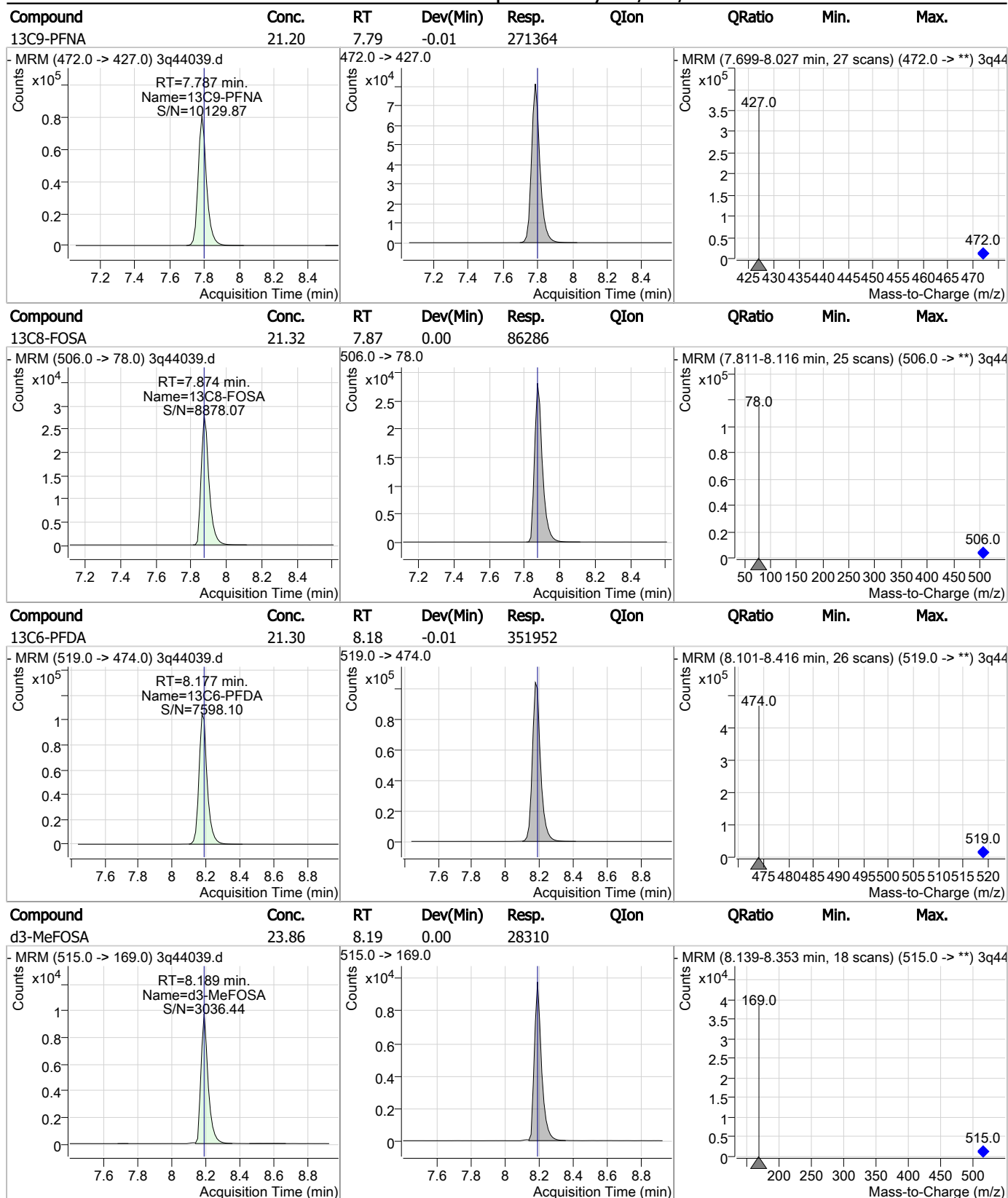
Perfluorinated Compounds by LC/MS/MS



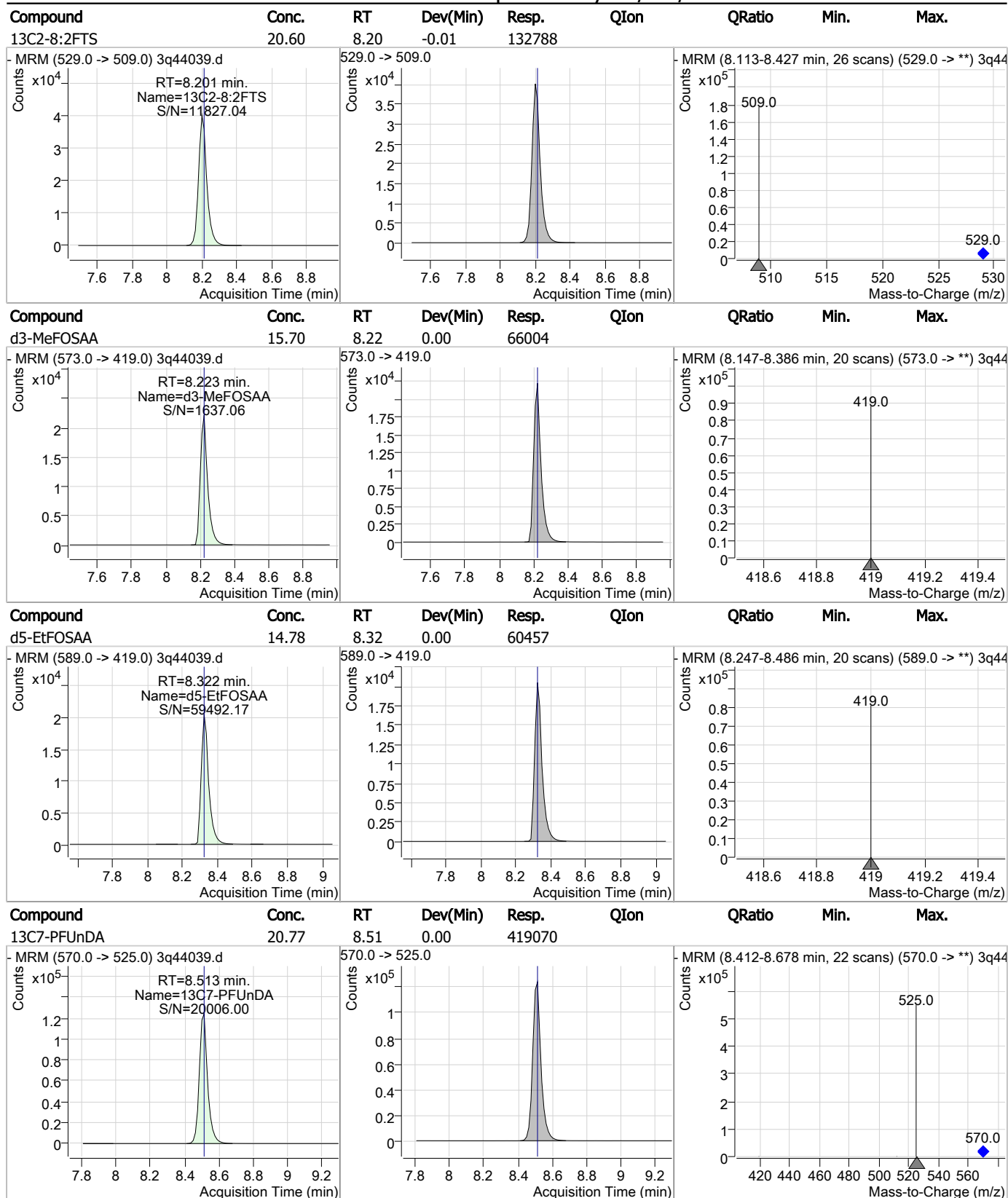
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

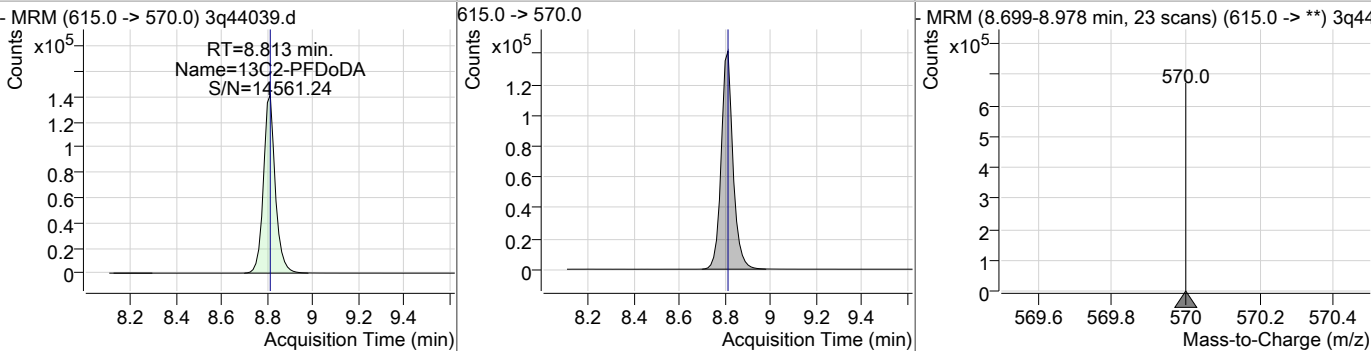


Perfluorinated Compounds by LC/MS/MS

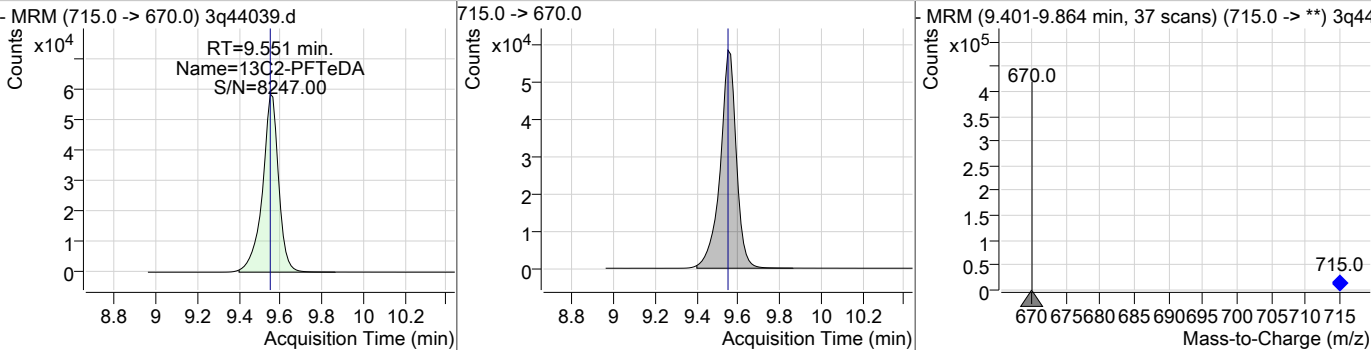


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.69	8.81	0.00	507052				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	20.47	9.55	0.00	312708				



10.2.3
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43988.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/31/2021 6:39:52 PM
 Sample Name : op86997-bs
 Vial : P4-A8
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86997,S3Q638,250,,,,1,1,water

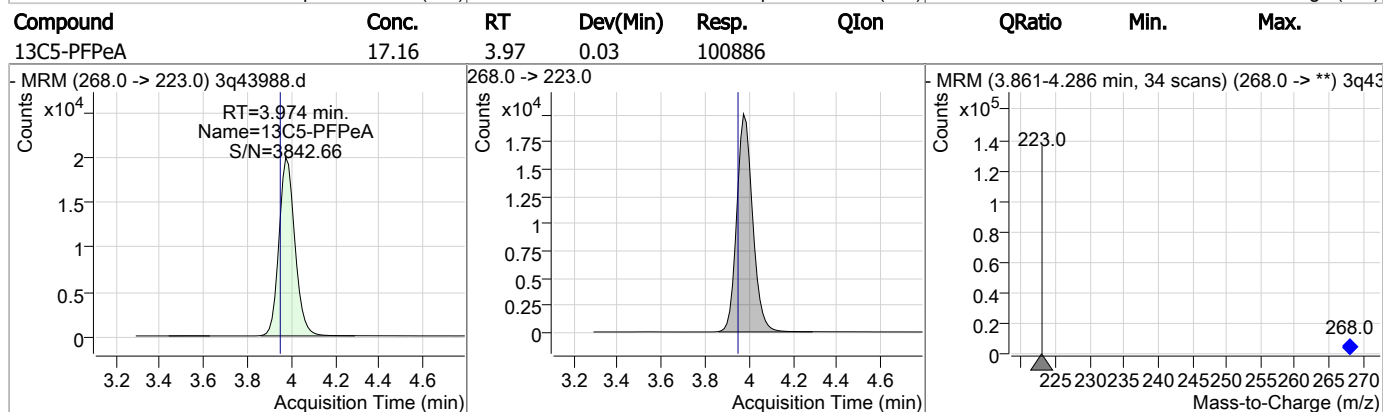
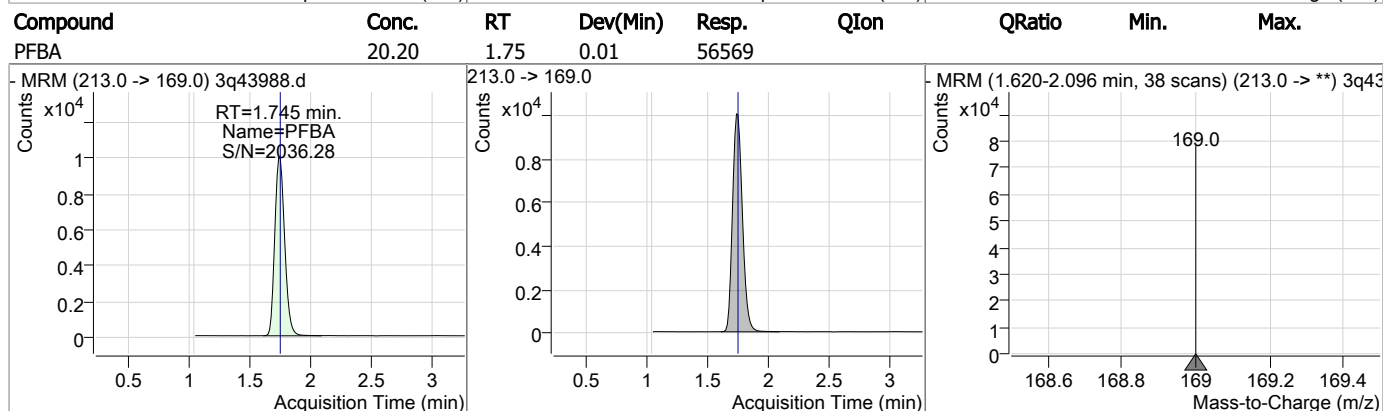
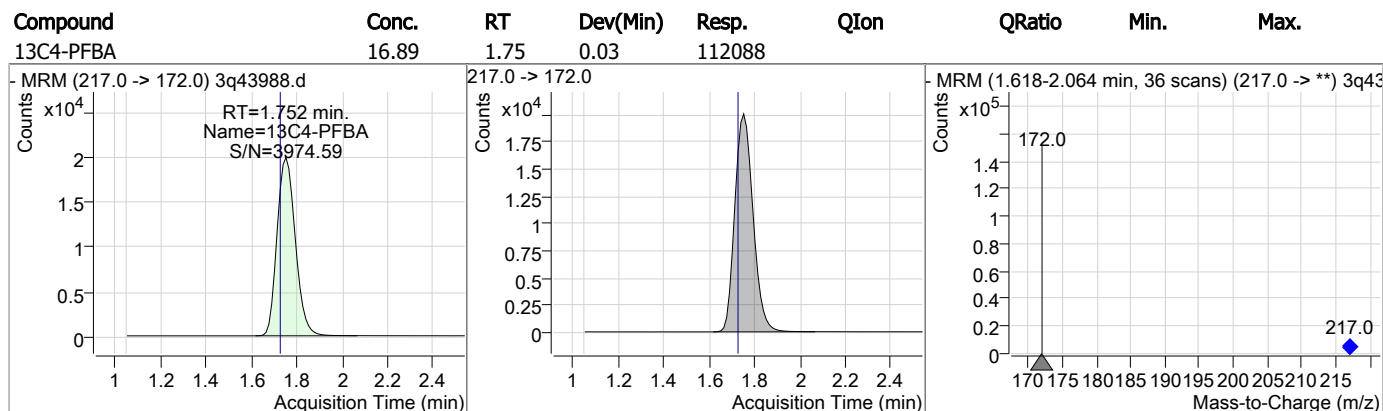
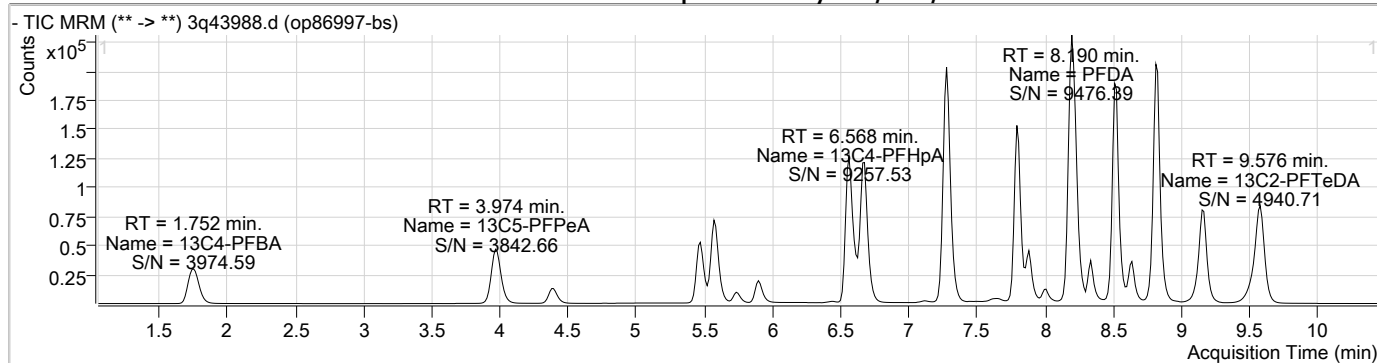
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.752	217.0 -> 172.0	112088	20.00 µg/L	0.025
M5-PFPeA	3.974	268.0 -> 223.0	100886	20.00 µg/L	0.025
M5-PFHxA	5.576	318.0 -> 273.0	145248	20.00 µg/L	0.025
M4-PFHpA	6.568	367.0 -> 322.0	170919	20.00 µg/L	0.025
M8-PFOA	7.283	421.0 -> 376.0	207432	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	205278	20.00 µg/L	0.000
M6-PFDA	8.202	519.0 -> 474.0	260051	20.00 µg/L	0.013
M7-PFUnDA	8.513	570.0 -> 525.0	307390	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	365950	20.00 µg/L	0.000
M2-PFTeDA	9.576	715.0 -> 670.0	183355	20.00 µg/L	0.025
M8-FOSA	7.887	506.0 -> 78.0	58053	20.00 µg/L	0.013
M3-PFBS	4.392	302.0 -> 99.0	12254	20.00 µg/L	0.038
M3-PFHxS	6.615	402.0 -> 99.0	13765	20.00 µg/L	0.013
M8-PFOS	7.785	507.0 -> 99.0	19062	20.00 µg/L	0.000
M2-4:2FTS	5.471	329.0 -> 309.0	81883	20.00 µg/L	0.025
M2-6:2FTS	7.268	429.0 -> 409.0	99202	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	104601	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	48510	20.00 µg/L	0.000
M3-HFPO-DA	5.906	287.0 -> 169.0	14830	20.00 µg/L	0.025
M3-MeFOSA	8.202	515.0 -> 169.0	2730	20.00 µg/L	0.013
M5-EtFOSAA	8.335	589.0 -> 419.0	44733	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.471	329.0 -> 309.0	81883	17.10 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.5%		
13C2-6:2FTS	7.268	429.0 -> 409.0	99202	16.62 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 83.1%		
13C2-8:2FTS	8.213	529.0 -> 509.0	104601	16.22 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 81.1%		
13C2-PFDoDA	8.813	615.0 -> 570.0	365950	14.93 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 74.6%		
13C2-PFTeDA	9.576	715.0 -> 670.0	183355	12.00 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 60.0%		
13C3-PFBS	4.392	302.0 -> 99.0	12254	17.21 µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 86.1%		
13C3-PFHxS	6.615	402.0 -> 99.0	13765	16.95 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 84.8%		
13C4-PFBA	1.752	217.0 -> 172.0	112088	16.89 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 84.5%		
13C4-PFHpA	6.568	367.0 -> 322.0	170919	17.13 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.6%		
13C5-PFHxA	5.576	318.0 -> 273.0	145248	17.22 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 86.1%		
13C5-PFPeA	3.974	268.0 -> 223.0	100886	17.16 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.8%		
13C6-PFDA	8.202	519.0 -> 474.0	260051	15.74 µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

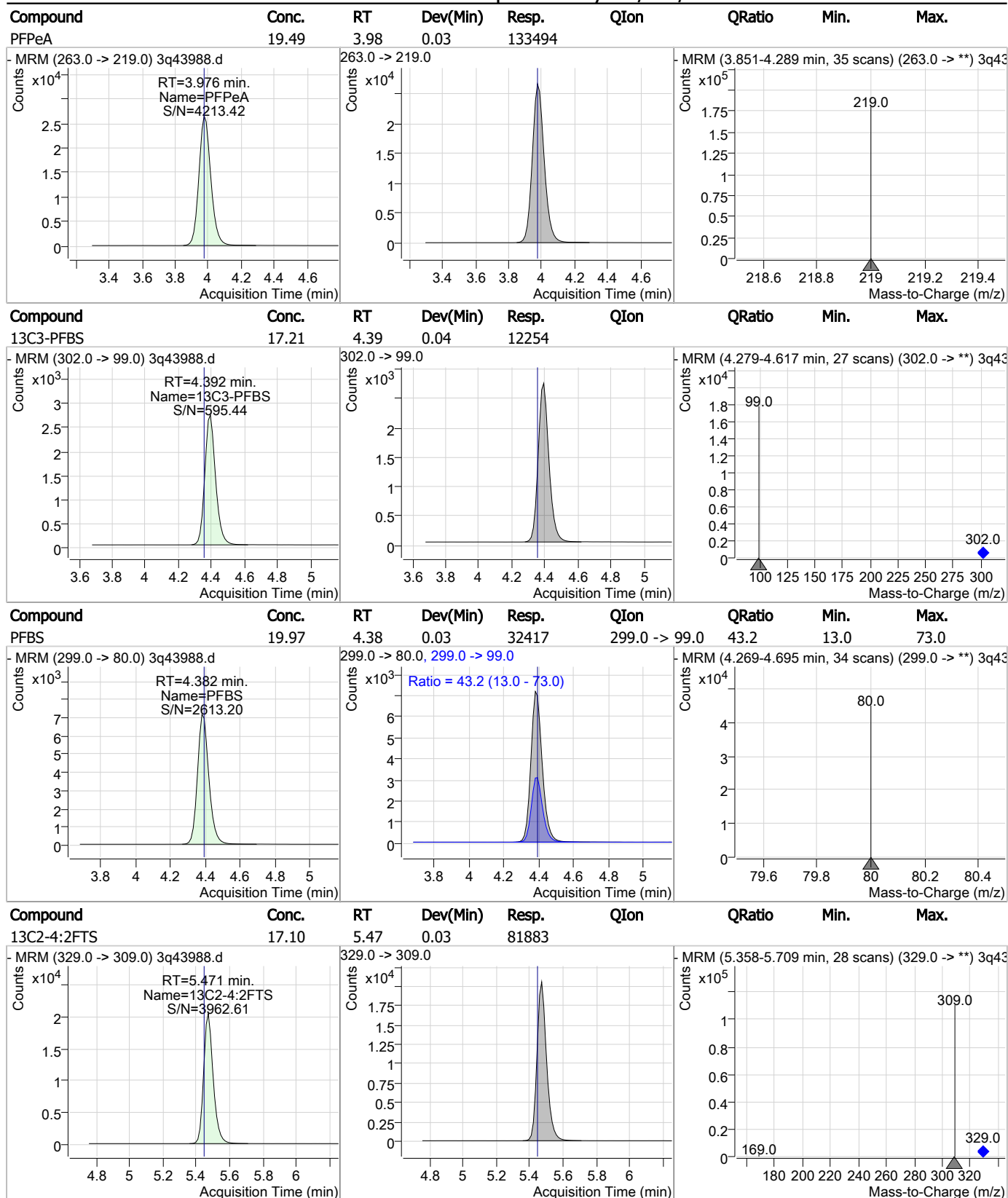
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.7%	
13C7-PFUnDA	8.513	570.0 -> 525.0	307390	15.23 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 76.2%	
13C8-FOSA	7.887	506.0 -> 78.0	58053	14.34 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.7%	
13C8-PFOA	7.283	421.0 -> 376.0	207432	17.07 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.3%	
13C8-PFOS	7.785	507.0 -> 99.0	19062	15.54 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 77.7%	
13C9-PFNA	7.800	472.0 -> 427.0	205278	16.04 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.2%	
d3-MeFOSAA	8.223	573.0 -> 419.0	48510	11.54 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 57.7%	
13C3-HFPO-DA	5.906	287.0 -> 169.0	14825	15.91 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 79.5%	
d3-MeFOSA	8.202	515.0 -> 169.0	2730	2.30 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 11.5%	
d5-EtFOSAA	8.335	589.0 -> 419.0	44725	10.93 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 54.7%	
Target Compounds					QValue
4:2FTS	5.473	327.0 -> 307.0	93963	20.44 µg/L	99
6:2FTS	7.269	427.0 -> 407.0	102478	20.65 µg/L	98
8:2FTS	8.214	527.0 -> 507.0	111288	20.54 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	37716	19.83 µg/L	m 94
FOSA	7.888	498.0 -> 78.0	58396	20.28 µg/L	100
MeFOSAA	8.235	570.0 -> 419.0	41381	19.04 µg/L	99
PFBA	1.745	213.0 -> 169.0	56569	20.20 µg/L	100
PFBS	4.382	299.0 -> 80.0	32417	19.97 µg/L	100
PFDA	8.190	513.0 -> 469.0	240221	19.54 µg/L	99
PFDoDA	8.813	613.0 -> 569.0	331326	19.90 µg/L	100
PFDS	8.485	599.0 -> 80.0	11976	18.43 µg/L	98
PFHpA	6.569	363.0 -> 319.0	275128	19.96 µg/L	99
PFHpS	7.293	449.0 -> 80.0	30163	20.99 µg/L	99
PFHxA	5.577	313.0 -> 269.0	126573	20.06 µg/L	99
PFHxS	6.616	399.0 -> 80.0	32796	19.65 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	205071	19.27 µg/L	100
PFNS	8.174	549.0 -> 80.0	23124	20.01 µg/L	97
PFOA	7.283	413.0 -> 369.0	210589	19.34 µg/L	98
PFOS	7.786	499.0 -> 80.0	33873	19.82 µg/L	m 82
PFPeA	3.976	263.0 -> 219.0	133494	19.49 µg/L	100
PFPeS	5.732	349.0 -> 80.0	24007	20.05 µg/L	99
PFTeDA	9.578	713.0 -> 669.0	252858	19.27 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	329111	22.96 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	280711	18.94 µg/L	98
11Cl-PF3OUdS	8.636	631.0 -> 451.0	84504	18.24 µg/L	100
9Cl-PF3ONS	8.010	531.0 -> 351.0	25492	18.17 µg/L	99
ADONA	6.681	377.0 -> 251.0	357130	19.94 µg/L	100
HFPO-DA	5.901	329.0 -> 169.0	48808	20.21 µg/L	97
MeFOSA	8.203	512.0 -> 169.0	2984	20.70 µg/L	91

= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

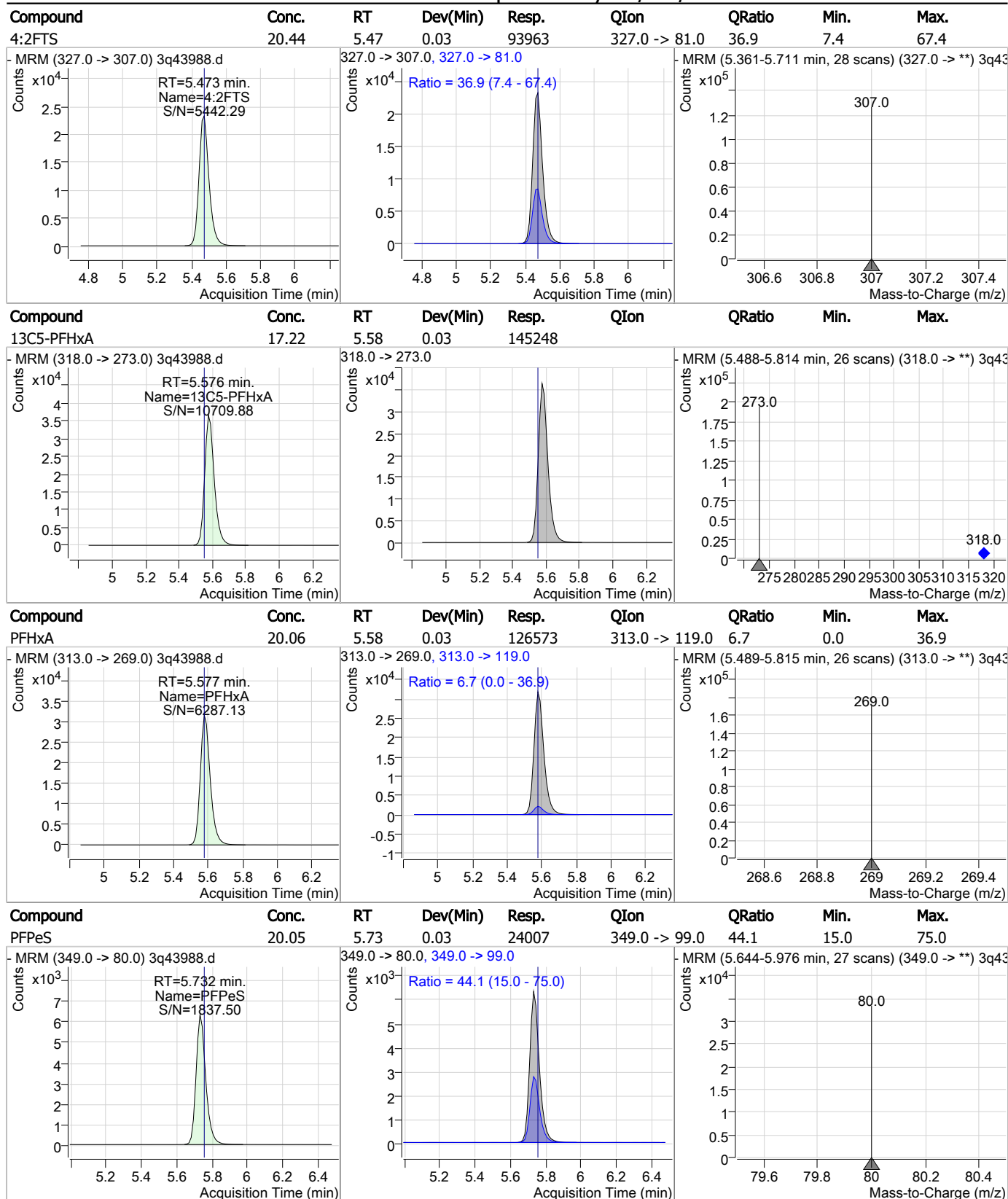


Perfluorinated Compounds by LC/MS/MS



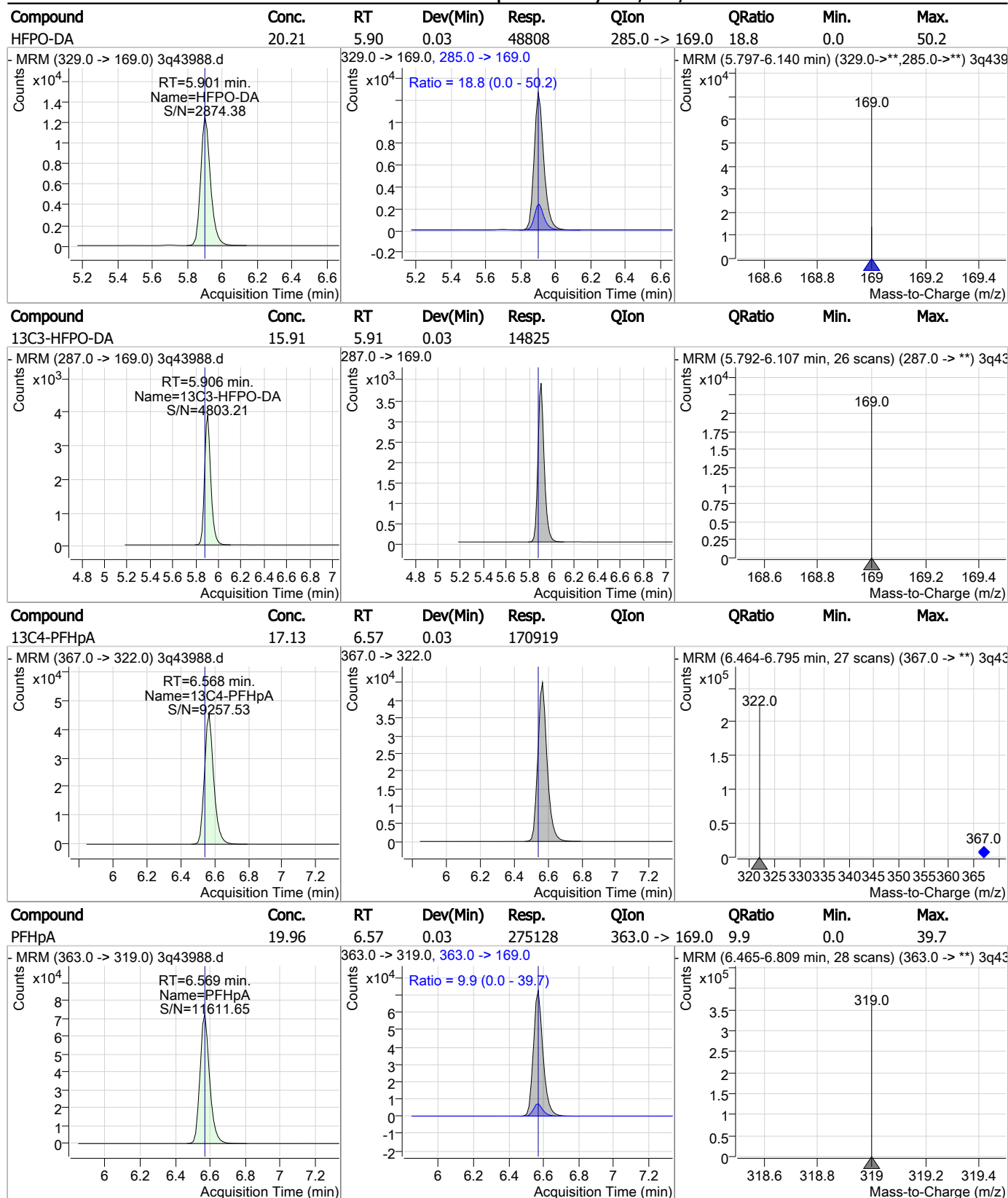
10.3.1 10

Perfluorinated Compounds by LC/MS/MS

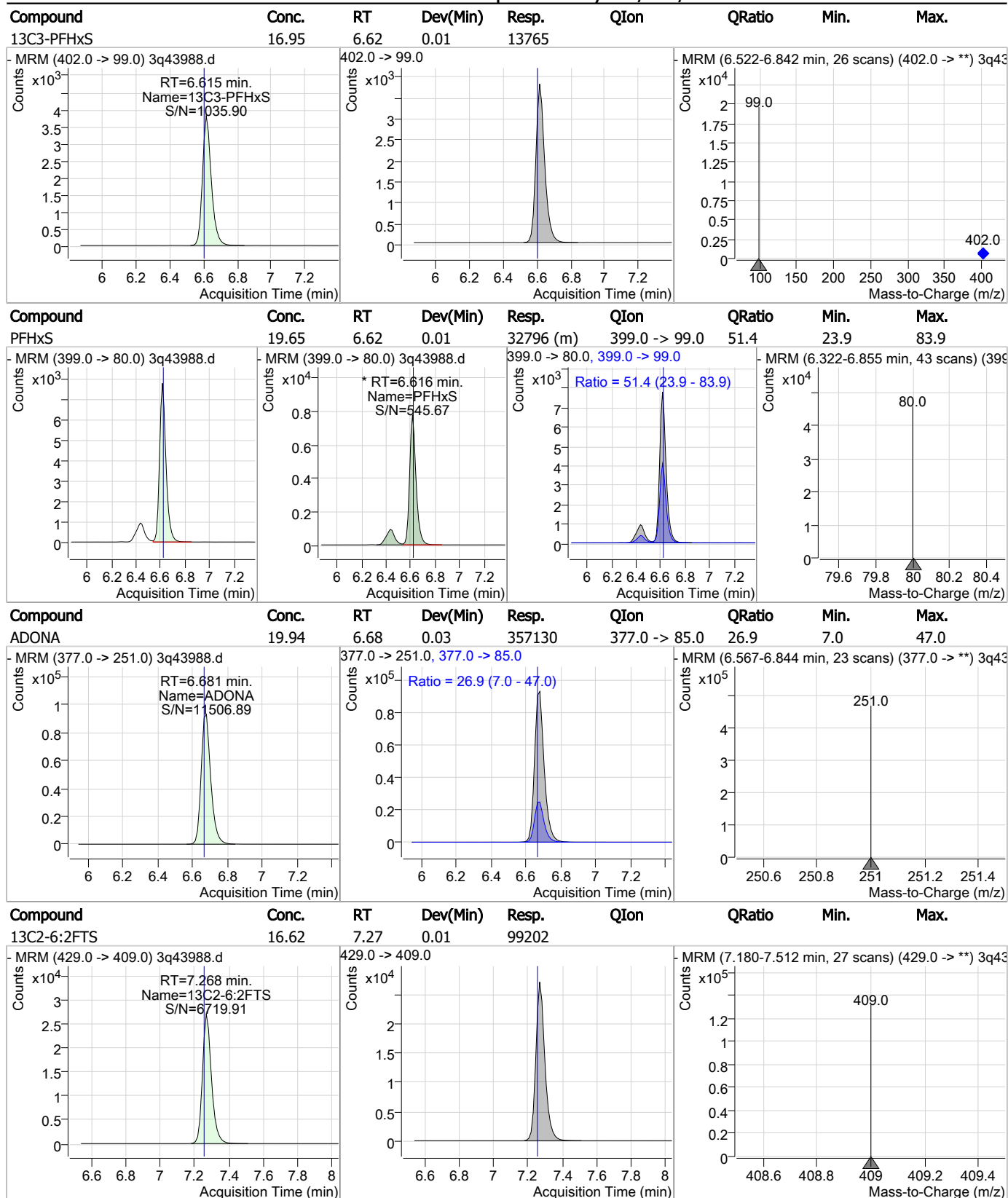


10.3.1 10

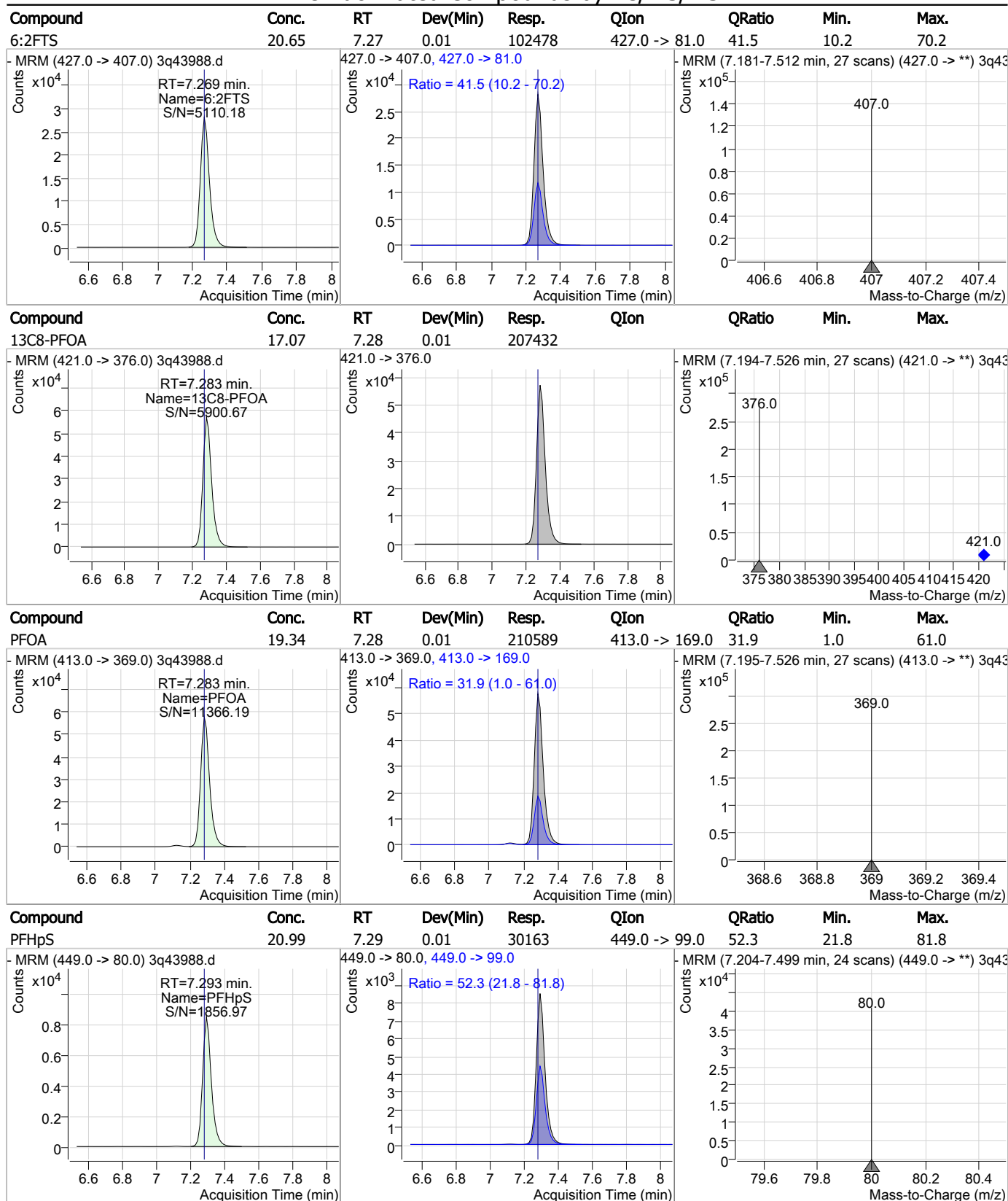
Perfluorinated Compounds by LC/MS/MS



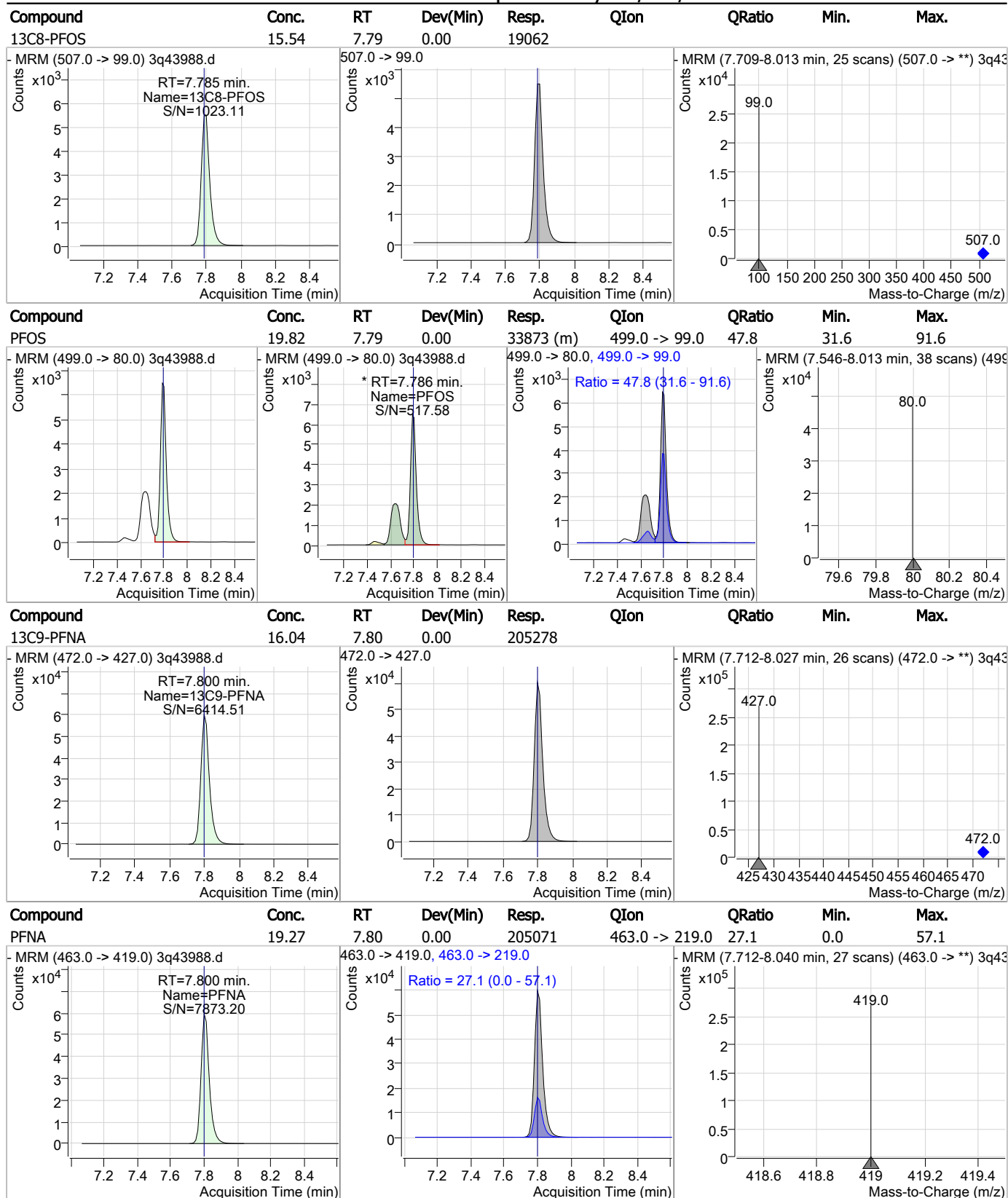
Perfluorinated Compounds by LC/MS/MS



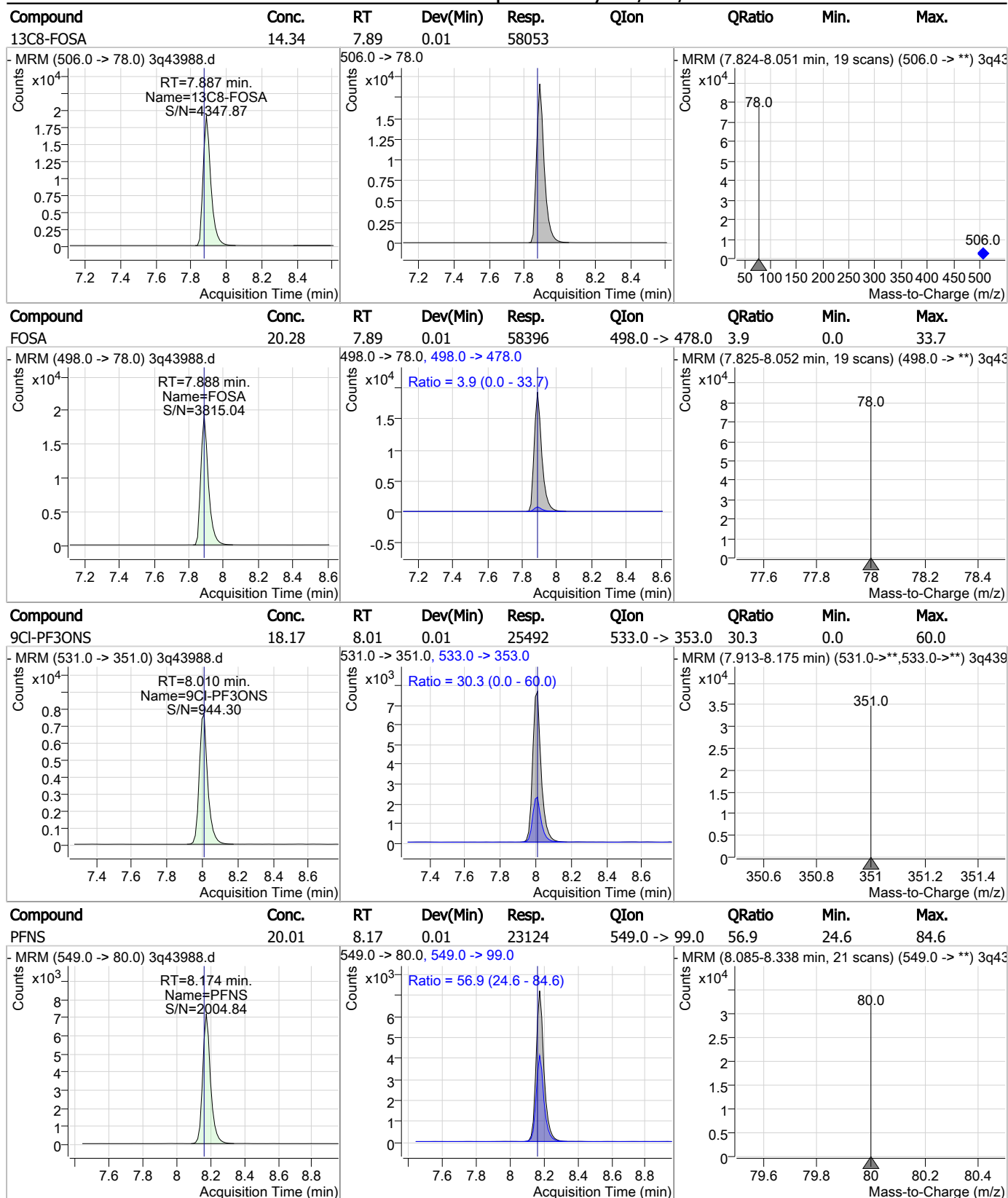
Perfluorinated Compounds by LC/MS/MS



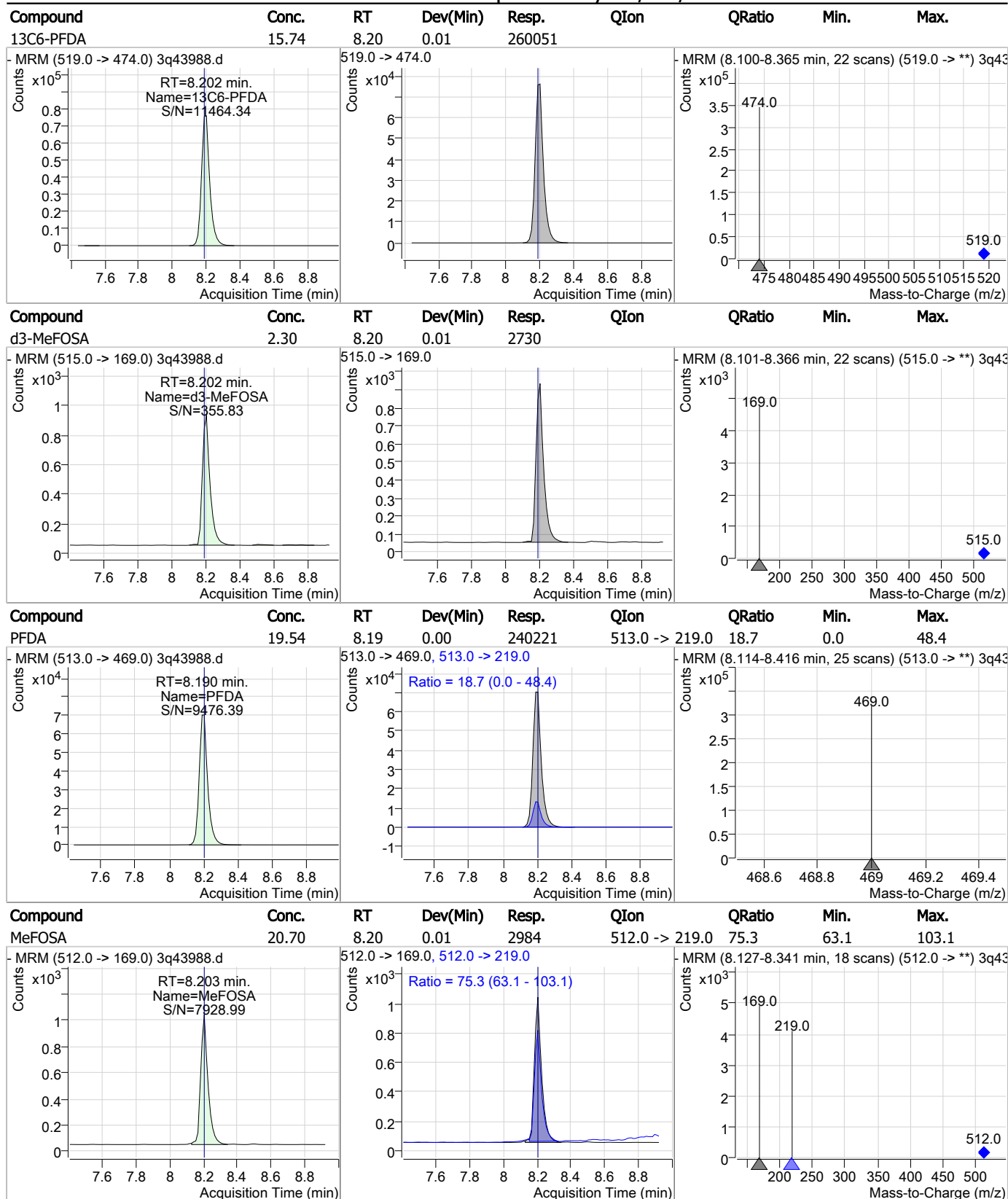
Perfluorinated Compounds by LC/MS/MS



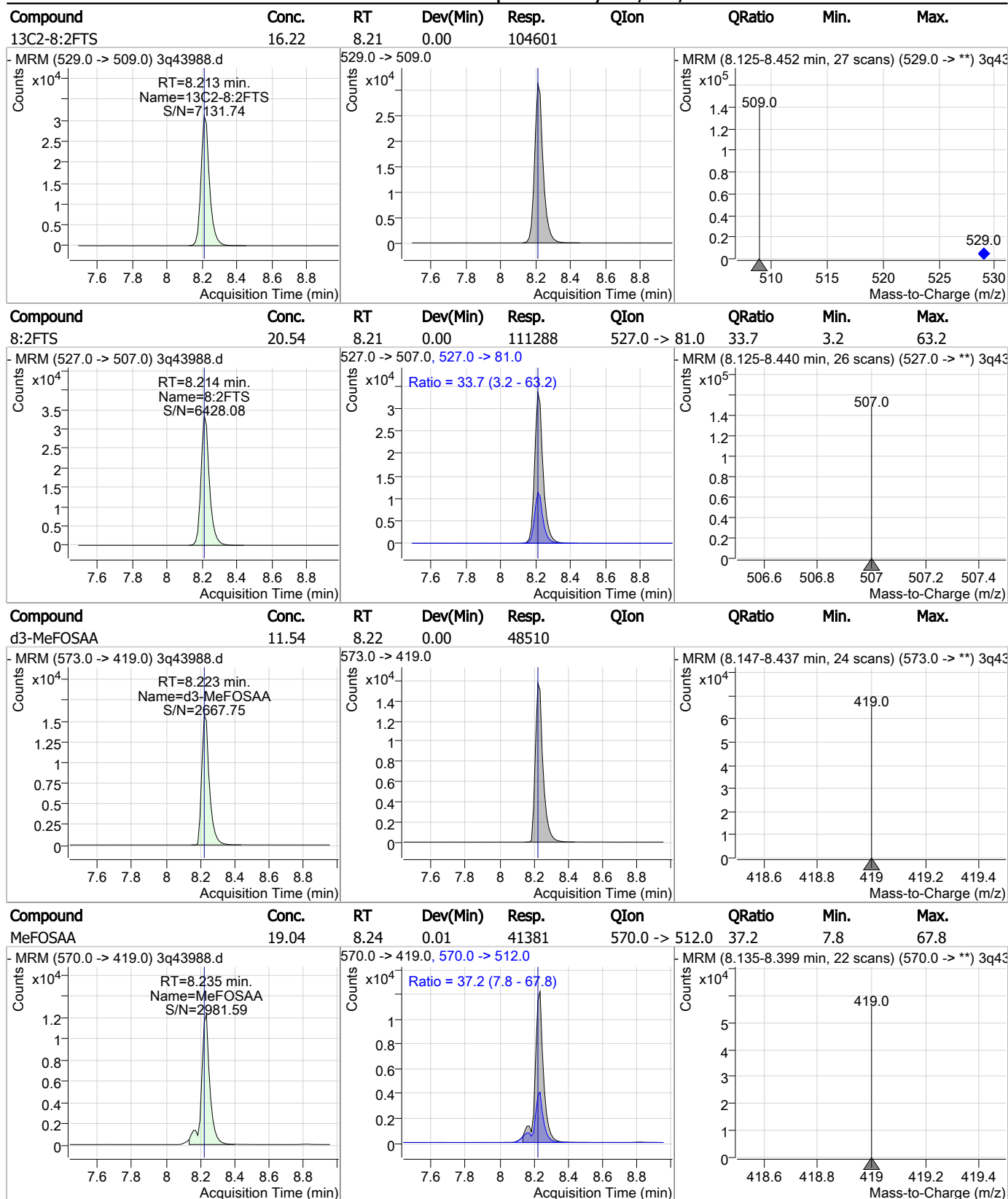
Perfluorinated Compounds by LC/MS/MS



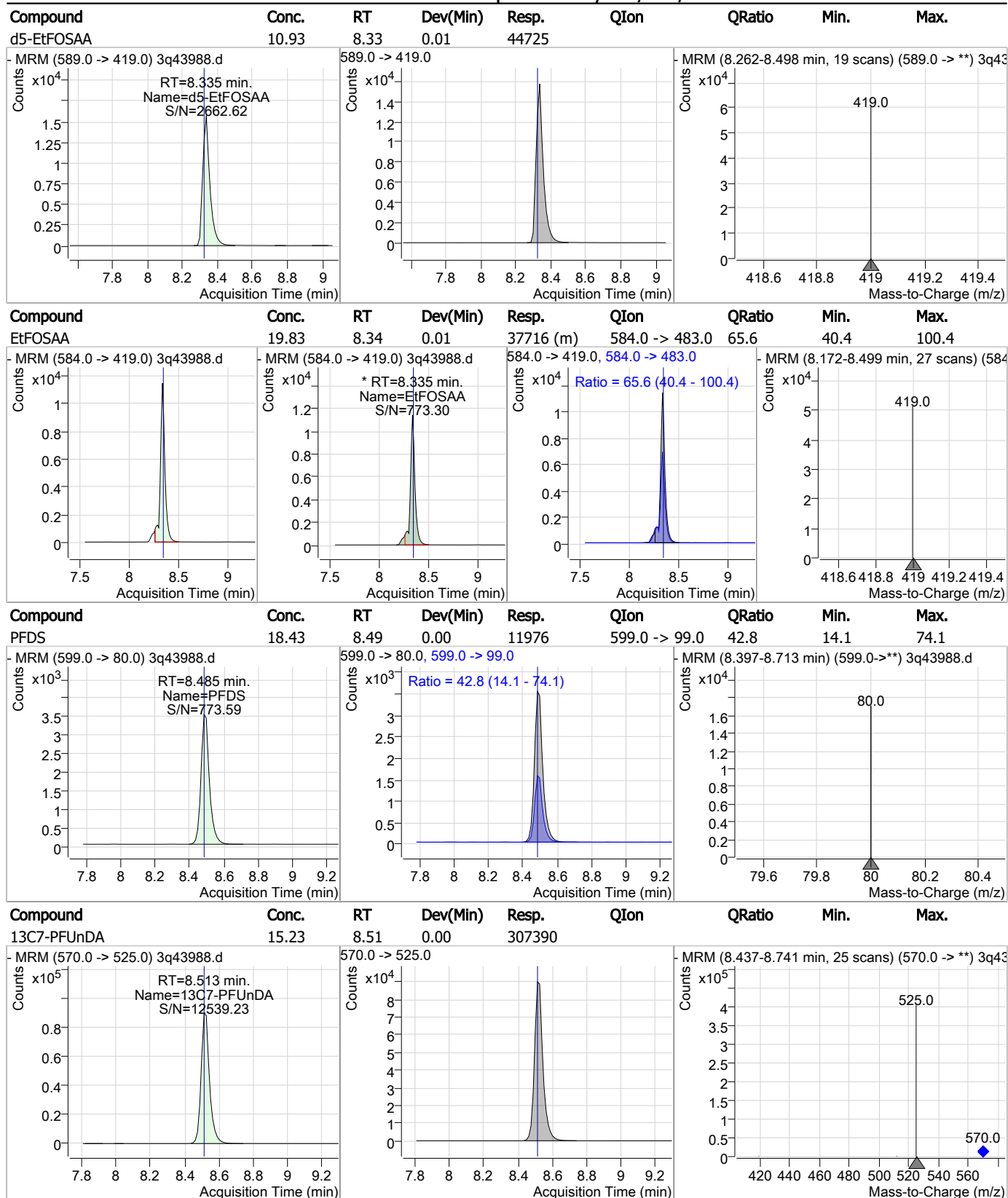
Perfluorinated Compounds by LC/MS/MS



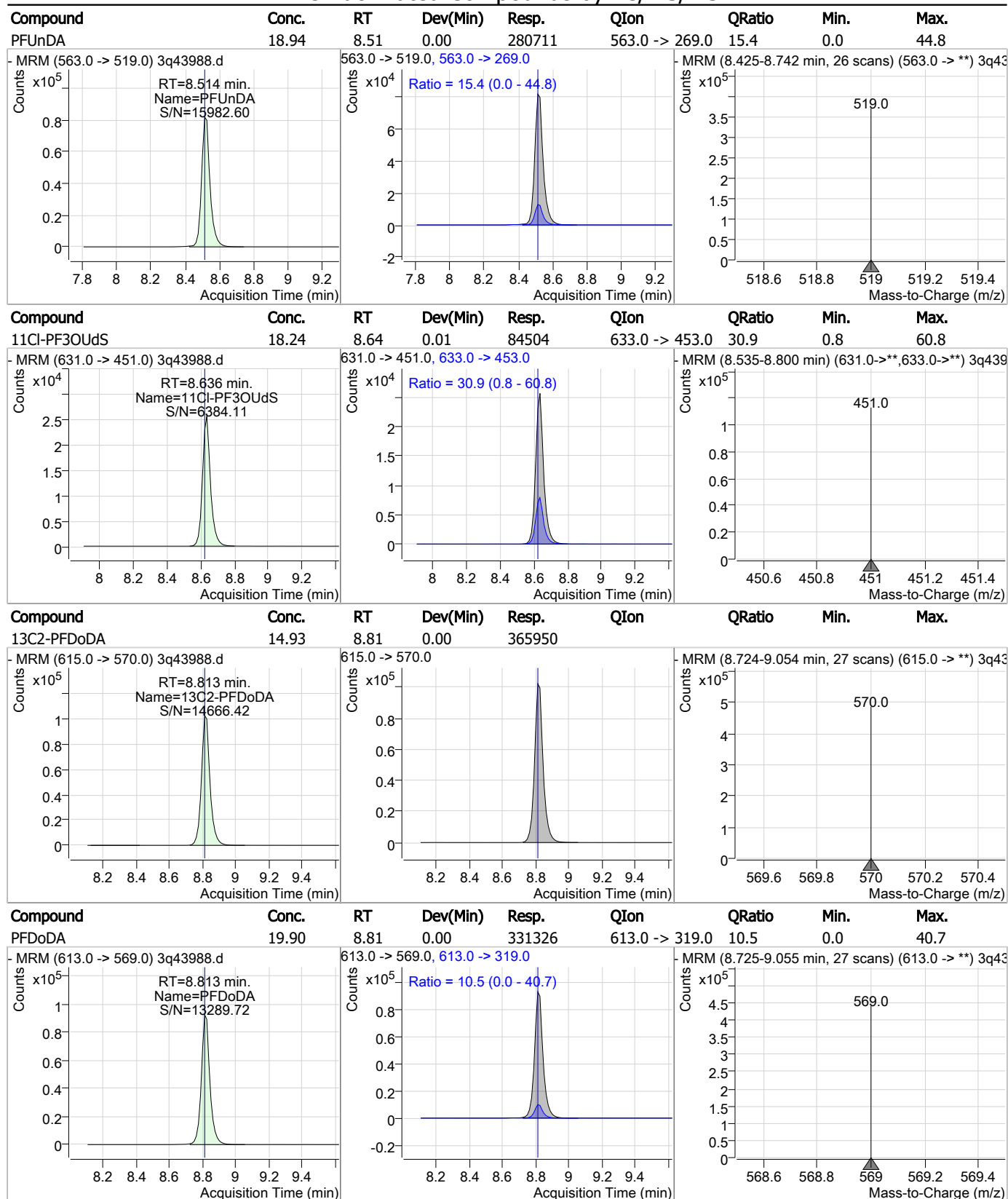
Perfluorinated Compounds by LC/MS/MS



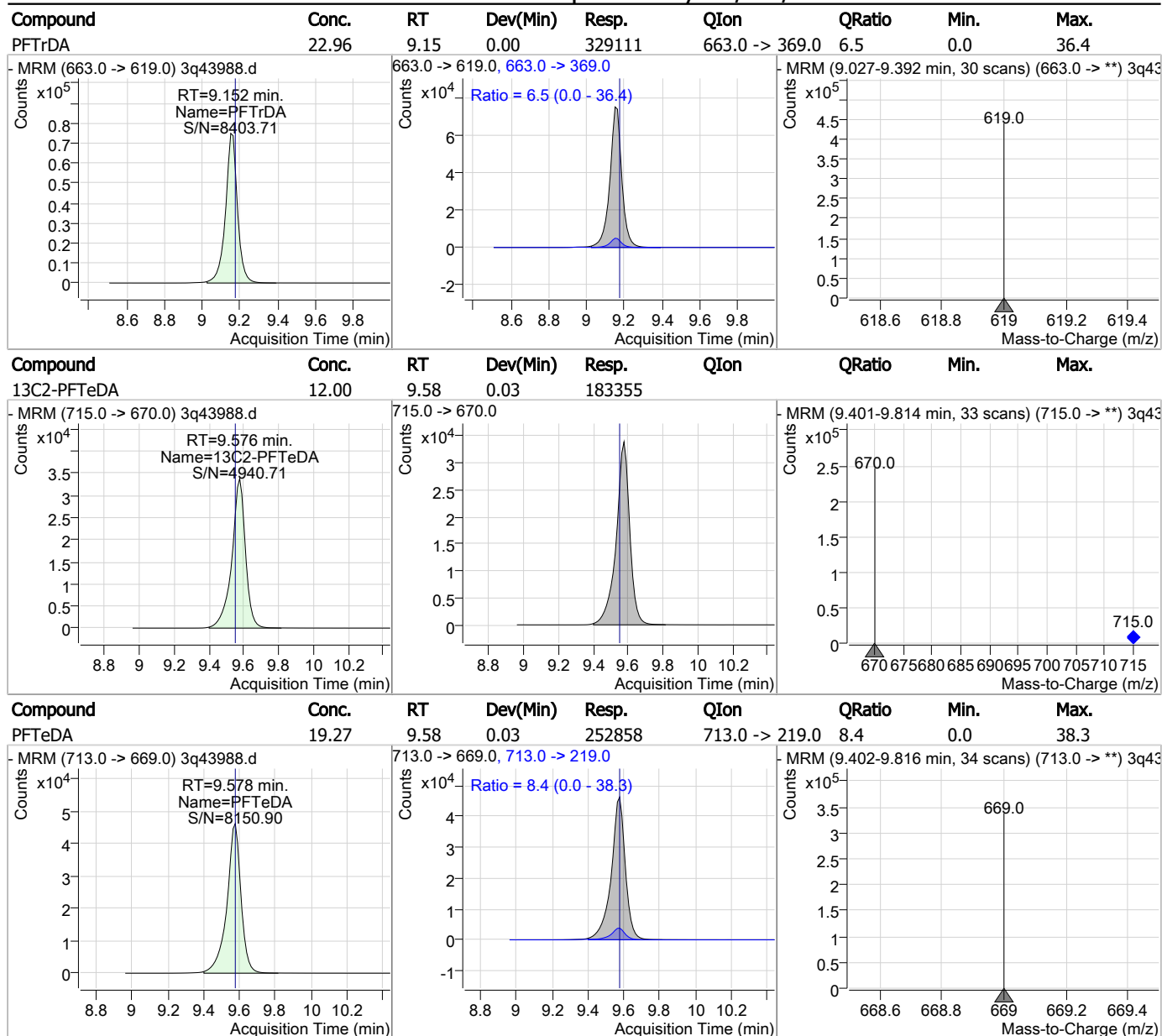
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

10.3.1
10

Manual Integration Approval Summary

Sample Number:

OP86997-BS

Method:

EPA 537M BY ID

Lab FileID:

3Q43988.D

Analyst approved:

09/01/21 10:35 Mike Eger

Injection Time:

08/31/21 18:39

Supervisor approved:

09/03/21 13:47 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.62	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.3.1.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43991.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/31/2021 7:29:29 PM
 Sample Name : op86997-ms
 Vial : P4-B2
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86997,S3Q638,270,,,,1,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.714	217.0 -> 172.0	112368	20.00 µg/L	-0.013
M5-PFPeA	3.949	268.0 -> 223.0	100954	20.00 µg/L	0.000
M5-PFHxA	5.563	318.0 -> 273.0	137296	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	166465	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	211375	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	217922	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	266518	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	303892	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	332885	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	145067	20.00 µg/L	0.013
M8-FOSA	7.887	506.0 -> 78.0	30947	20.00 µg/L	0.013
M3-PFBS	4.367	302.0 -> 99.0	12611	20.00 µg/L	0.013
M3-PFHxS	6.615	402.0 -> 99.0	14164	20.00 µg/L	0.013
M8-PFOS	7.785	507.0 -> 99.0	19226	20.00 µg/L	0.000
M2-4:2FTS	5.459	329.0 -> 309.0	81668	20.00 µg/L	0.013
M2-6:2FTS	7.268	429.0 -> 409.0	108906	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	116672	20.00 µg/L	0.000
M3-MeFOSAA	8.235	573.0 -> 419.0	50471	20.00 µg/L	0.013
M3-HFPO-DA	5.893	287.0 -> 169.0	13374	20.00 µg/L	0.013
M3-MeFOSA	8.202	515.0 -> 169.0	392	20.00 µg/L	0.013
M5-EtFOSAA	8.335	589.0 -> 419.0	46906	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.459	329.0 -> 309.0	81668	17.05 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.3%		
13C2-6:2FTS	7.268	429.0 -> 409.0	108906	18.25 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 91.2%		
13C2-8:2FTS	8.213	529.0 -> 509.0	116672	18.10 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 90.5%		
13C2-PFDoDA	8.813	615.0 -> 570.0	332885	13.58 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 67.9%		
13C2-PFTeDA	9.564	715.0 -> 670.0	145067	9.50 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 47.5%		
13C3-PFBS	4.367	302.0 -> 99.0	12611	17.71 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 88.6%		
13C3-PFHxS	6.615	402.0 -> 99.0	14164	17.44 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 87.2%		
13C4-PFBA	1.714	217.0 -> 172.0	112368	16.93 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 84.7%		
13C4-PFHpA	6.556	367.0 -> 322.0	166465	16.68 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 83.4%		
13C5-PFHxA	5.563	318.0 -> 273.0	137296	16.28 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 81.4%		
13C5-PFPeA	3.949	268.0 -> 223.0	100954	17.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 85.9%		
13C6-PFDA	8.189	519.0 -> 474.0	266518	16.13 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

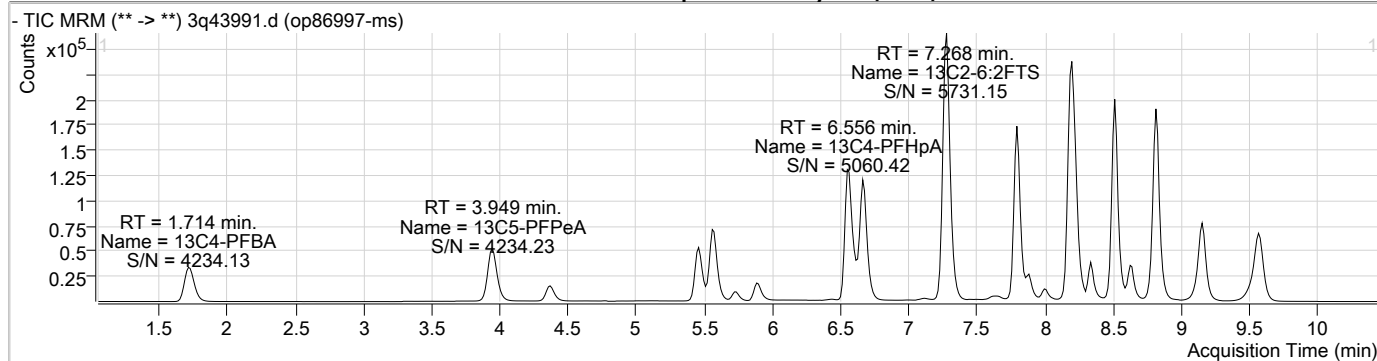
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.6%	
13C7-PFUnDA	8.513	570.0 -> 525.0	303892	15.06 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.3%	
13C8-FOSA	7.887	506.0 -> 78.0	30947	7.65 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 38.2%	
13C8-PFOA	7.283	421.0 -> 376.0	211375	17.39 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.0%	
13C8-PFOS	7.785	507.0 -> 99.0	19226	15.68 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.4%	
13C9-PFNA	7.800	472.0 -> 427.0	217922	17.02 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.1%	
d3-MeFOSAA	8.235	573.0 -> 419.0	50471	12.00 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 60.0%	
13C3-HFPO-DA	5.893	287.0 -> 169.0	13365	14.34 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.7%	
d3-MeFOSA	8.202	515.0 -> 169.0	392	0.33 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 1.7%	
d5-EtFOSAA	8.335	589.0 -> 419.0	46869	11.46 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 57.3%	

Target Compounds

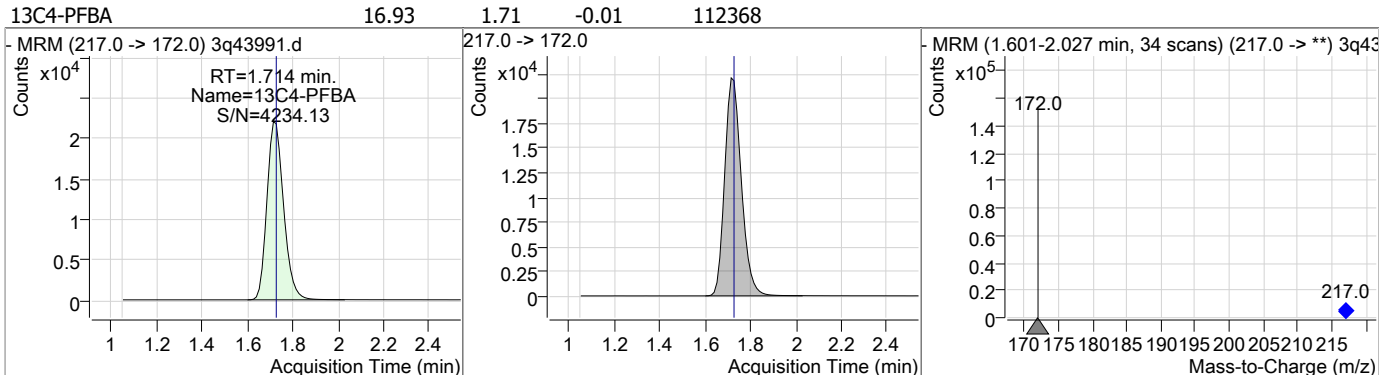
					QValue
4:2FTS	5.461	327.0 -> 307.0	93339	20.36 µg/L	99
6:2FTS	7.269	427.0 -> 407.0	111680	20.50 µg/L	99
8:2FTS	8.214	527.0 -> 507.0	125221	20.72 µg/L	100
EtFOSAA	8.335	584.0 -> 419.0	40182	20.15 µg/L	m 96
FOSA	7.888	498.0 -> 78.0	30496	19.86 µg/L	100
MeFOSAA	8.235	570.0 -> 419.0	44537	19.69 µg/L	98
PFBA	1.720	213.0 -> 169.0	59355	21.14 µg/L	100
PFBS	4.369	299.0 -> 80.0	36835	22.05 µg/L	100
PFDA	8.190	513.0 -> 469.0	259241	20.58 µg/L	99
PFDoDA	8.813	613.0 -> 569.0	302247	19.95 µg/L	100
PFDS	8.485	599.0 -> 80.0	12521	19.49 µg/L	97
PFHpA	6.557	363.0 -> 319.0	301810	22.49 µg/L	99
PFHpS	7.293	449.0 -> 80.0	31445	21.70 µg/L	97
PFHxA	5.565	313.0 -> 269.0	132861	22.28 µg/L	100
PFHxS	6.616	399.0 -> 80.0	33902	19.74 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	229624	20.33 µg/L	99
PFNS	8.174	549.0 -> 80.0	23558	20.21 µg/L	100
PFOA	7.283	413.0 -> 369.0	369453	33.29 µg/L	99
PFOS	7.786	499.0 -> 80.0	49205	28.55 µg/L	m 84
PFPeA	3.951	263.0 -> 219.0	148966	21.73 µg/L	100
PFPeS	5.719	349.0 -> 80.0	23709	19.24 µg/L	100
PFTeDA	9.565	713.0 -> 669.0	202768	19.53 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	307943	27.16 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	292068	19.93 µg/L	100
11Cl-PF3OUdS	8.623	631.0 -> 451.0	86010	20.41 µg/L	99
9Cl-PF3ONS	7.997	531.0 -> 351.0	25548	17.76 µg/L	100
ADONA	6.668	377.0 -> 251.0	338914	18.39 µg/L	99
HFPO-DA	5.888	329.0 -> 169.0	45170	20.74 µg/L	96
MeFOSA	8.203	512.0 -> 169.0	545	26.30 µg/L	80

= Qualifier out of range, m = manually integrated, + = Area summed

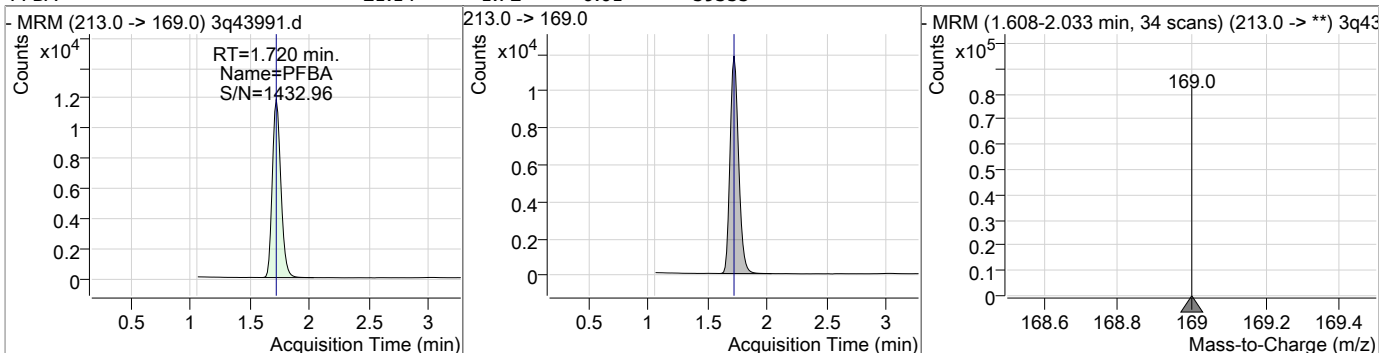
Perfluorinated Compounds by LC/MS/MS



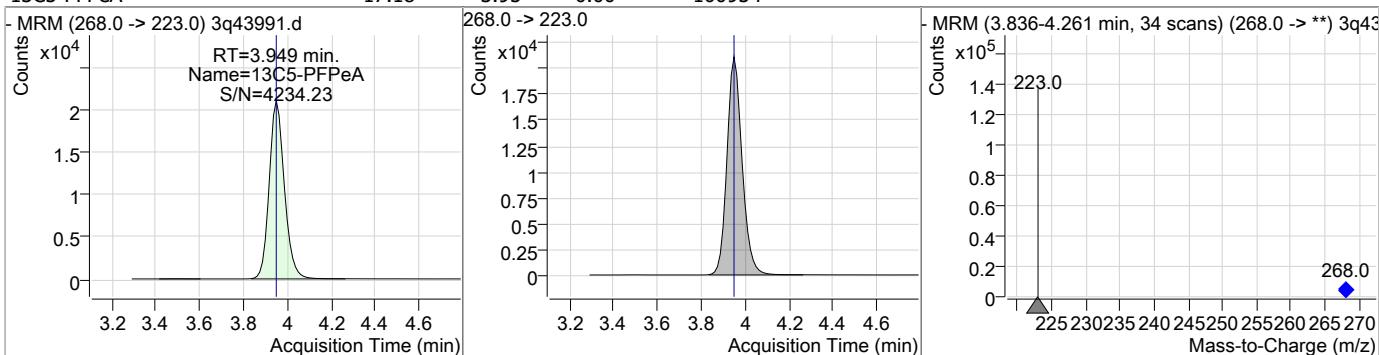
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



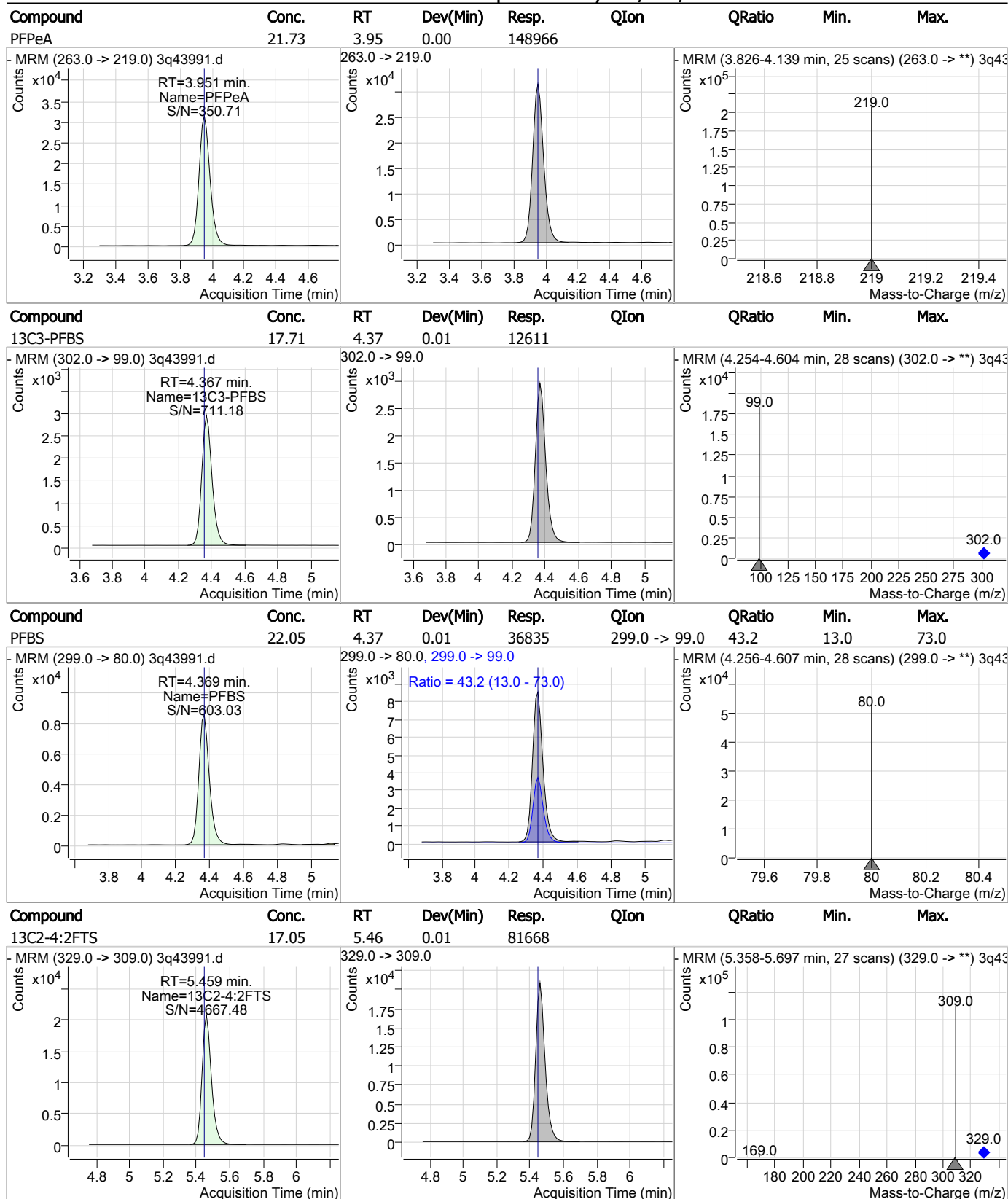
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



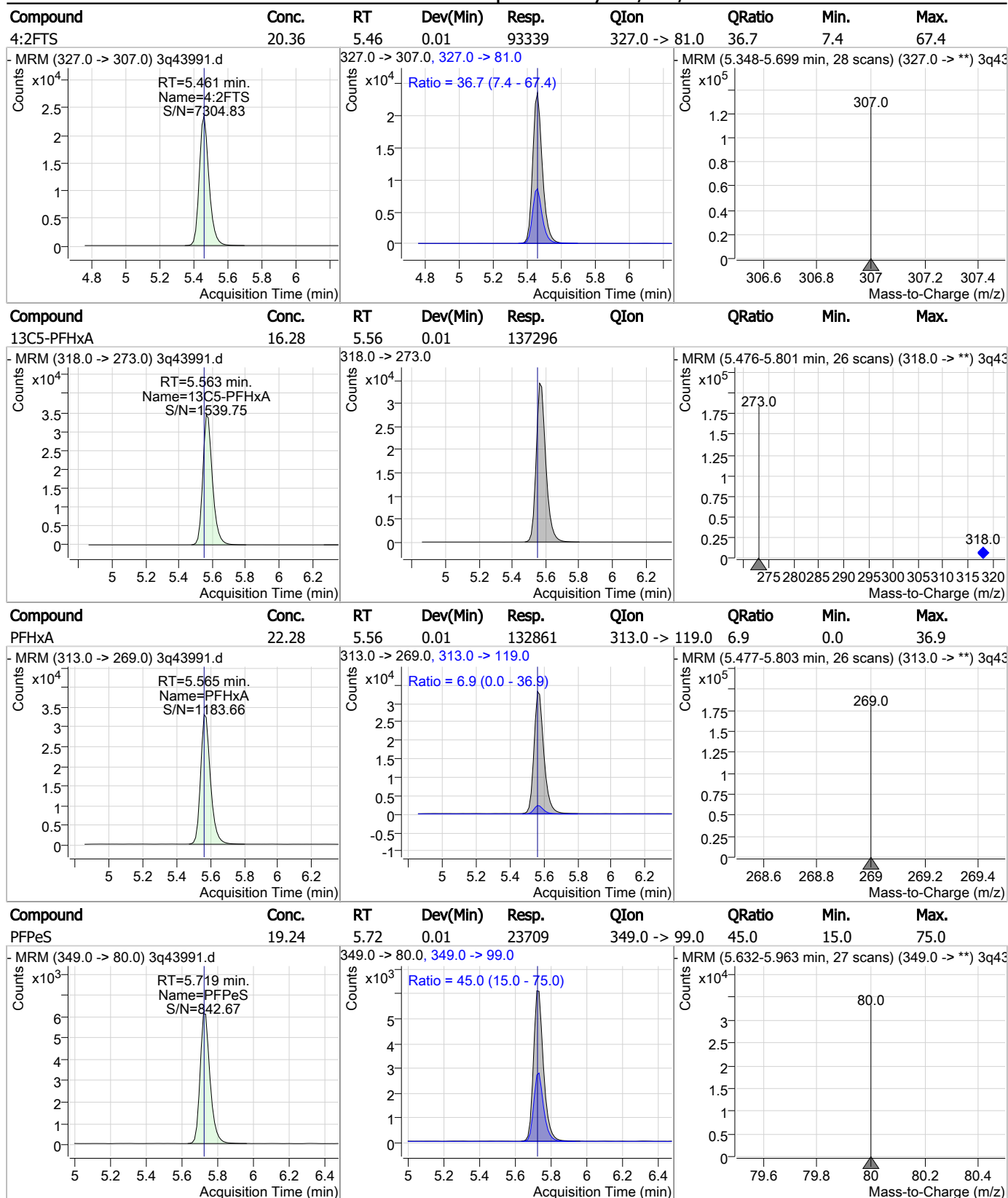
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



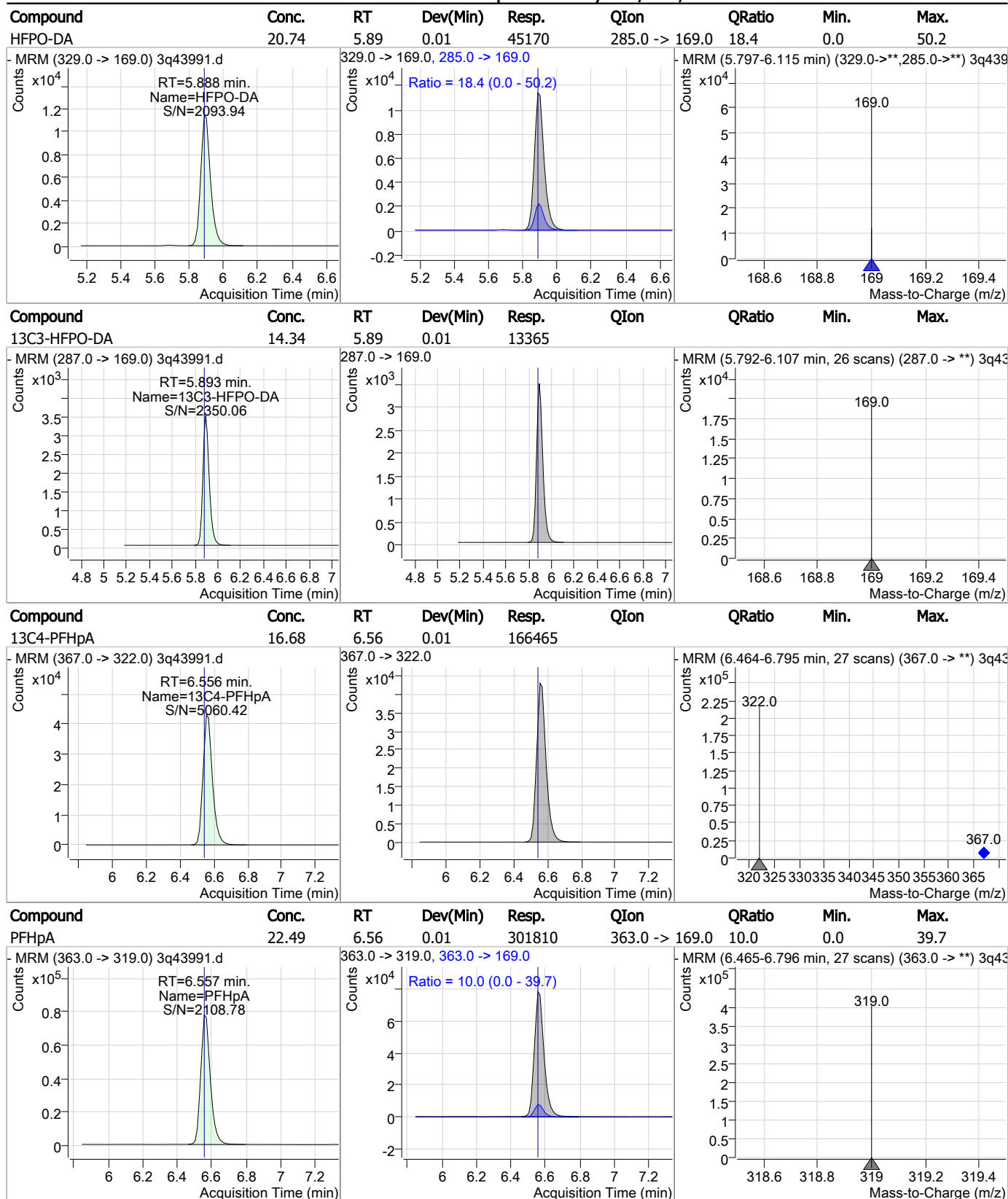
Perfluorinated Compounds by LC/MS/MS



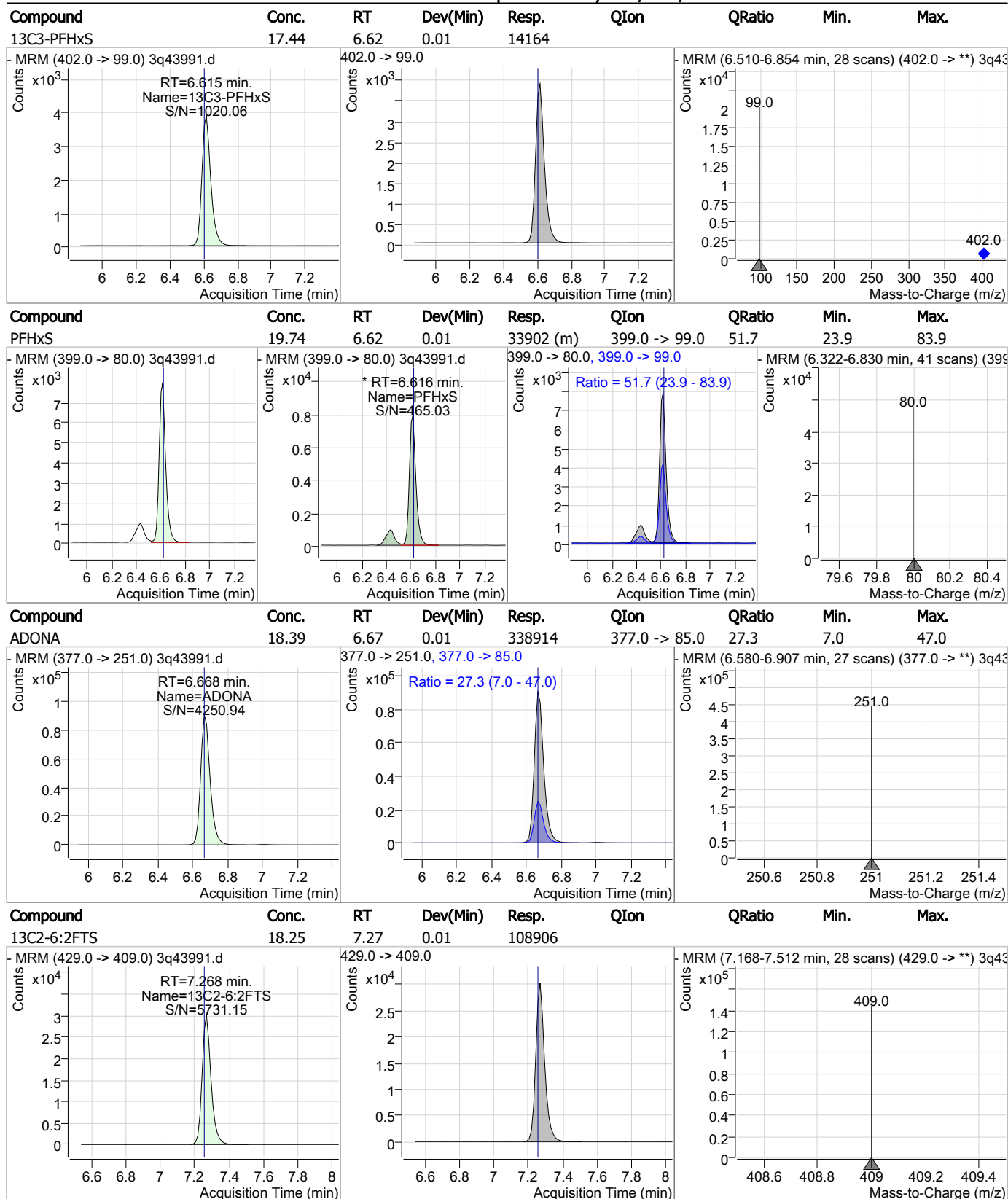
Perfluorinated Compounds by LC/MS/MS



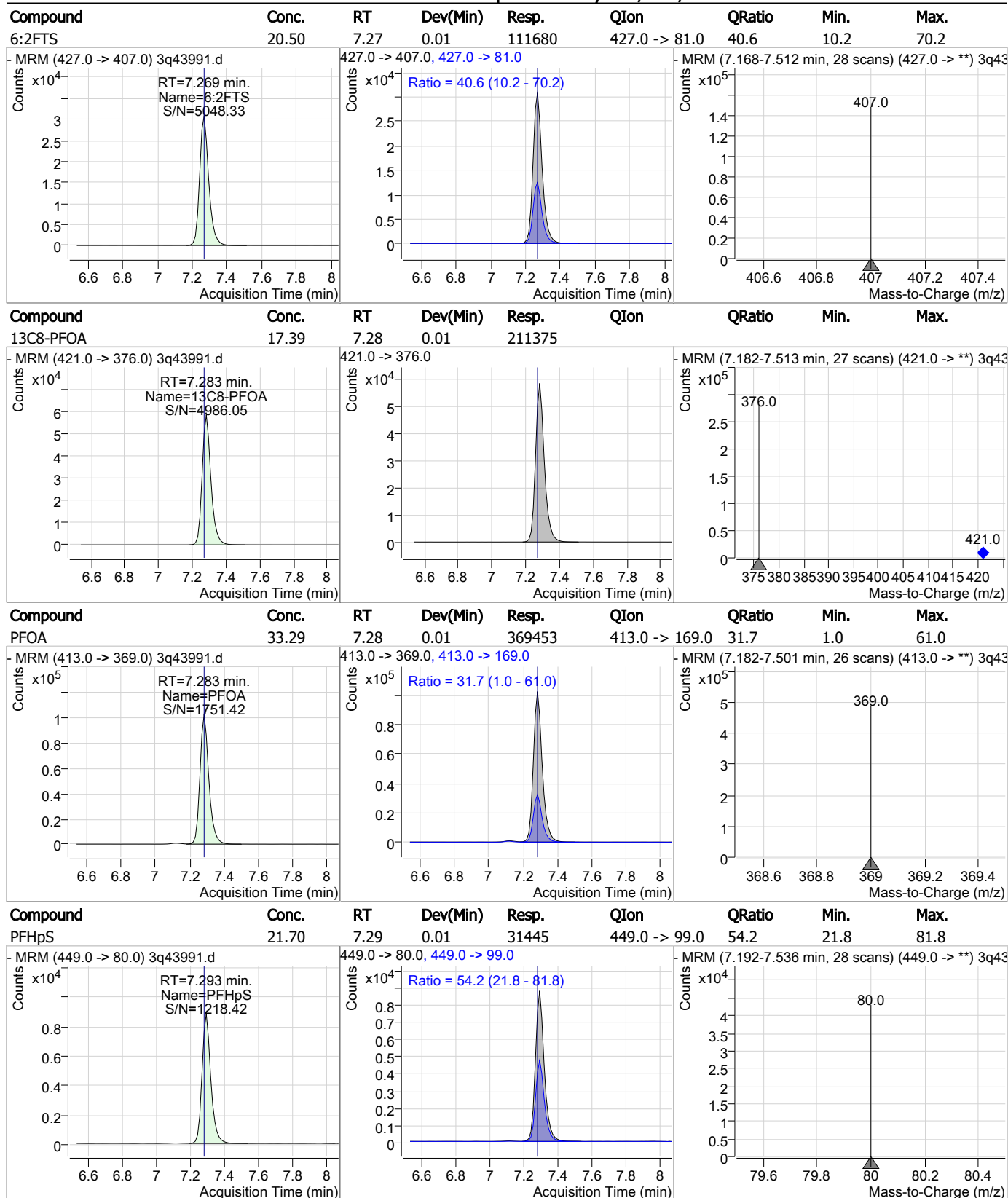
Perfluorinated Compounds by LC/MS/MS

10.4.1
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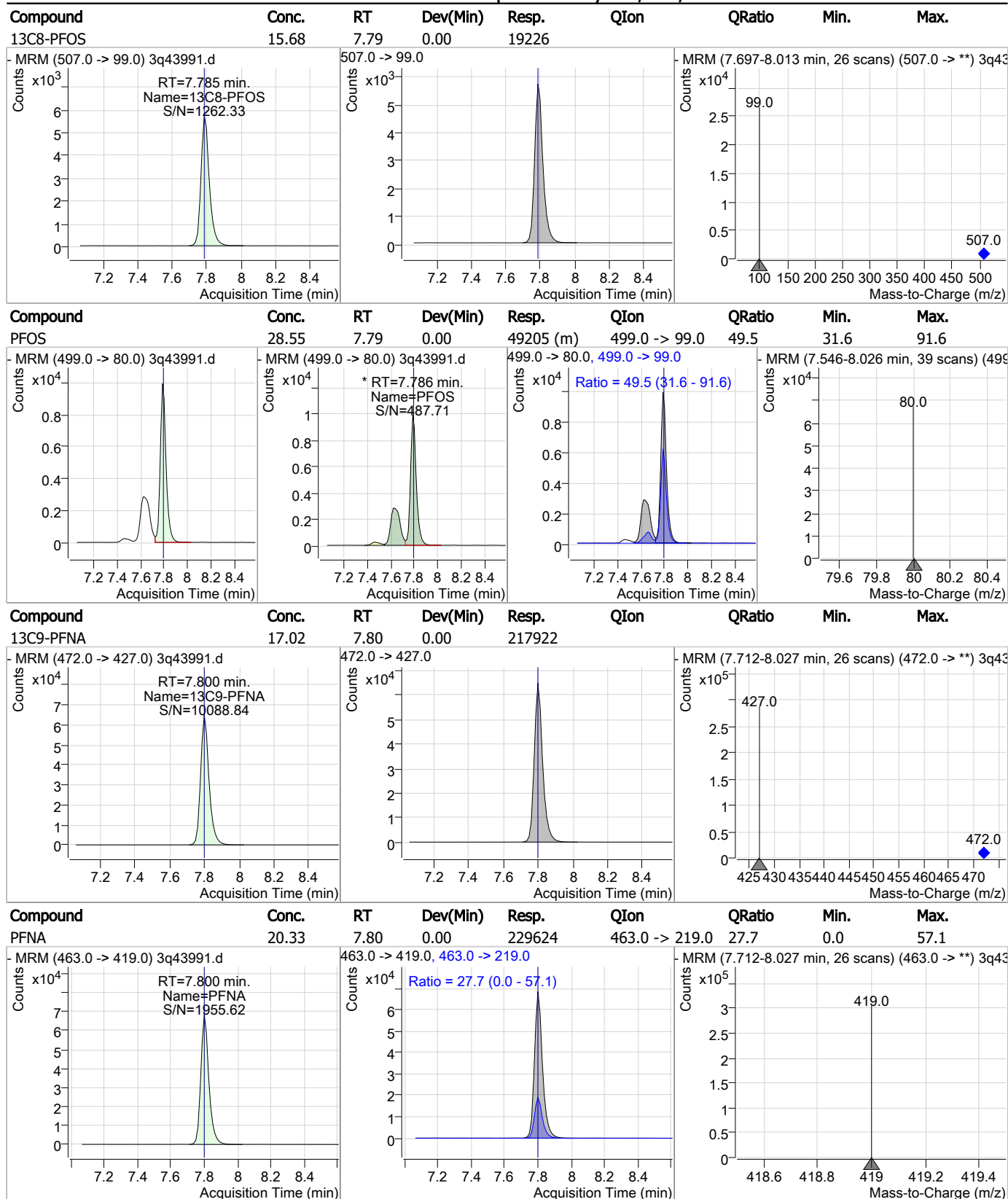
Perfluorinated Compounds by LC/MS/MS

10.4.1
10

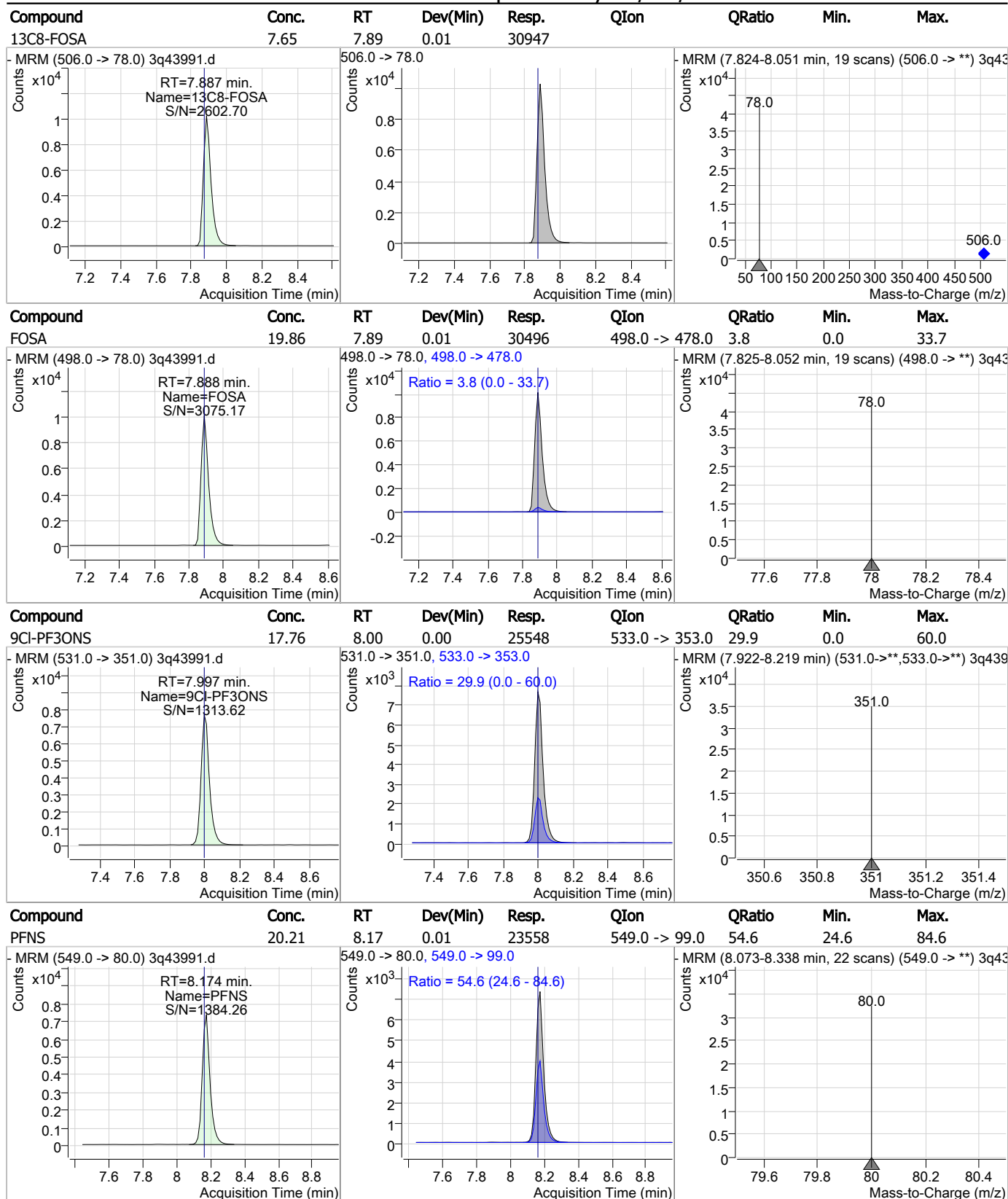
Perfluorinated Compounds by LC/MS/MS



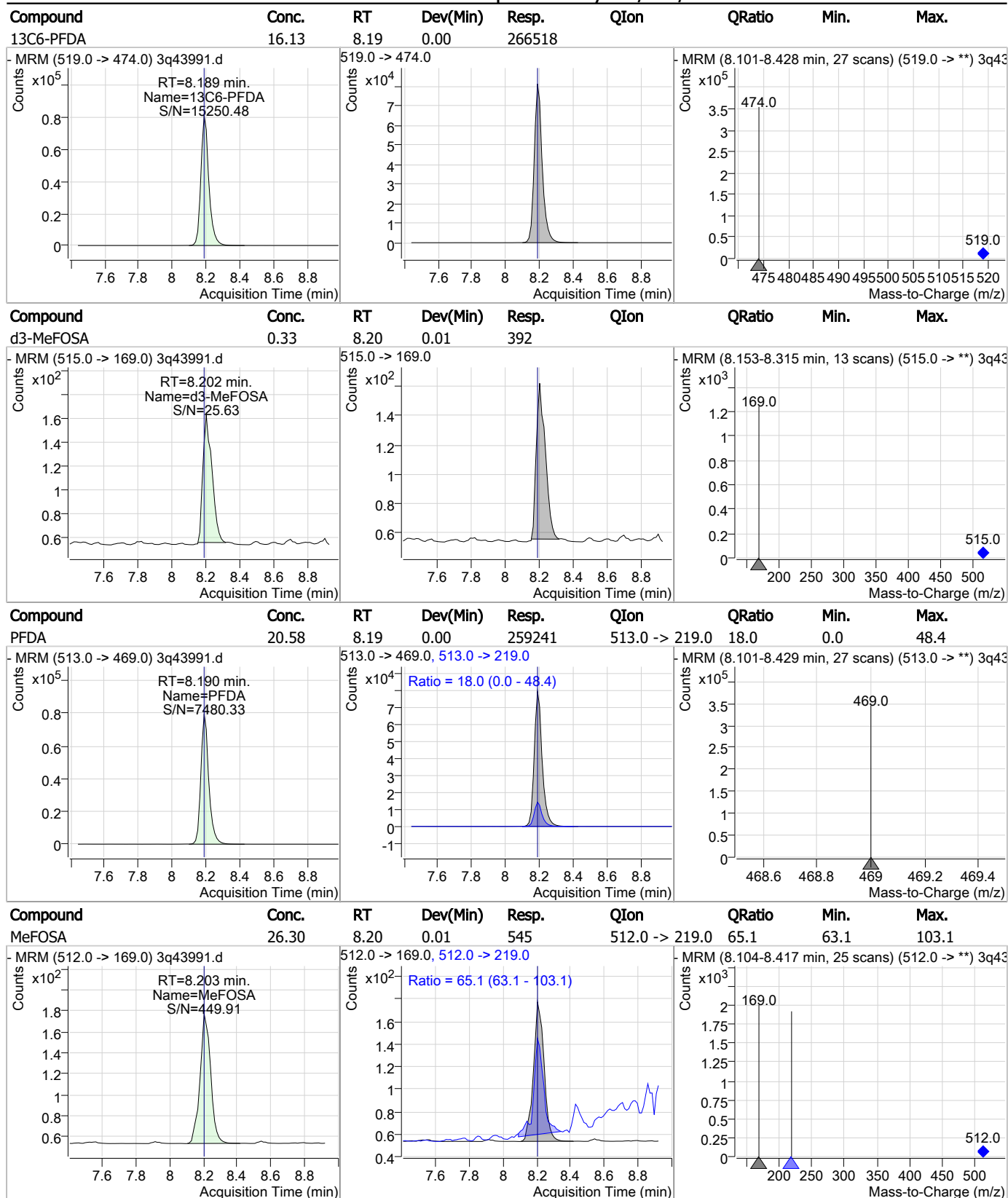
Perfluorinated Compounds by LC/MS/MS



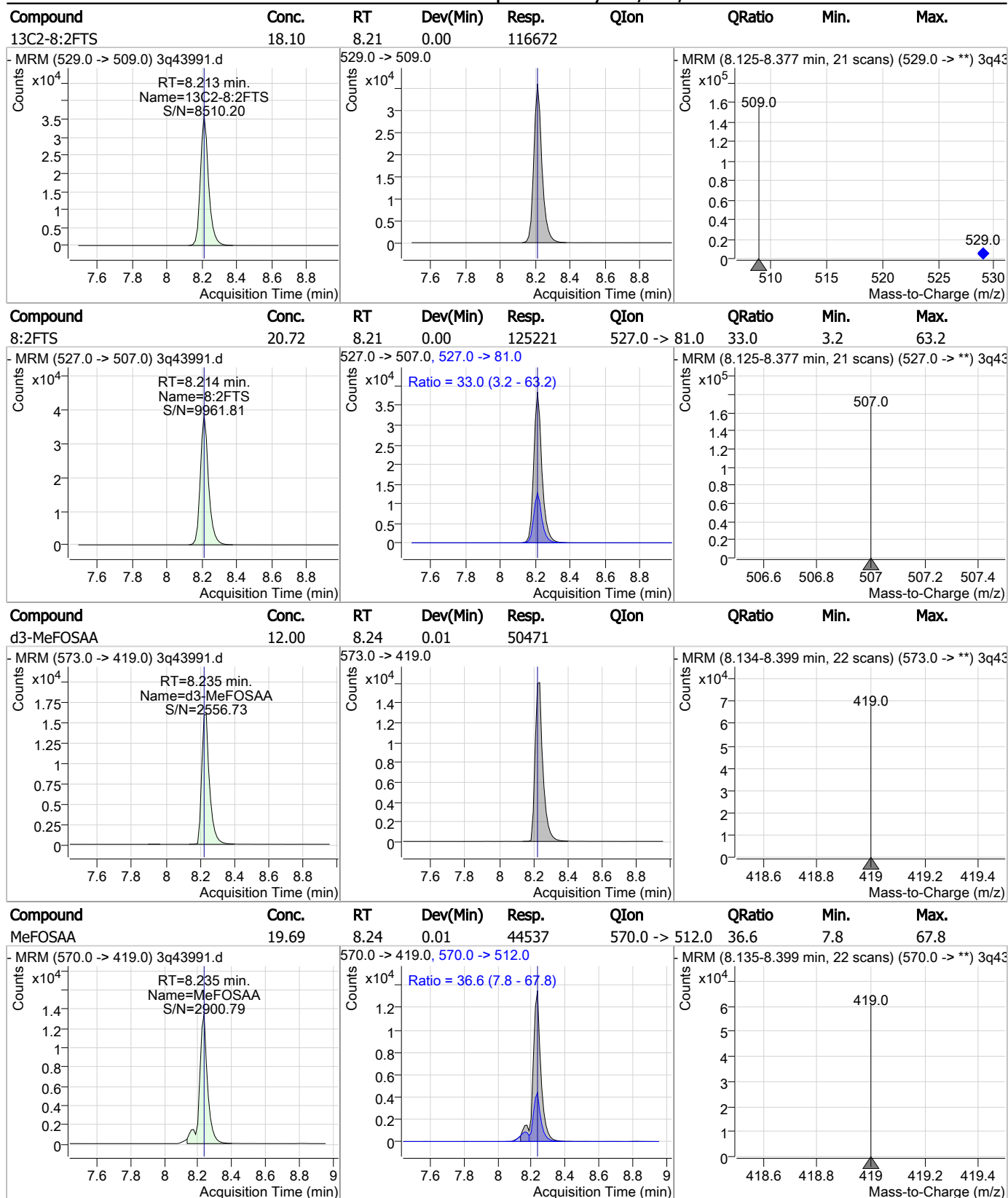
Perfluorinated Compounds by LC/MS/MS



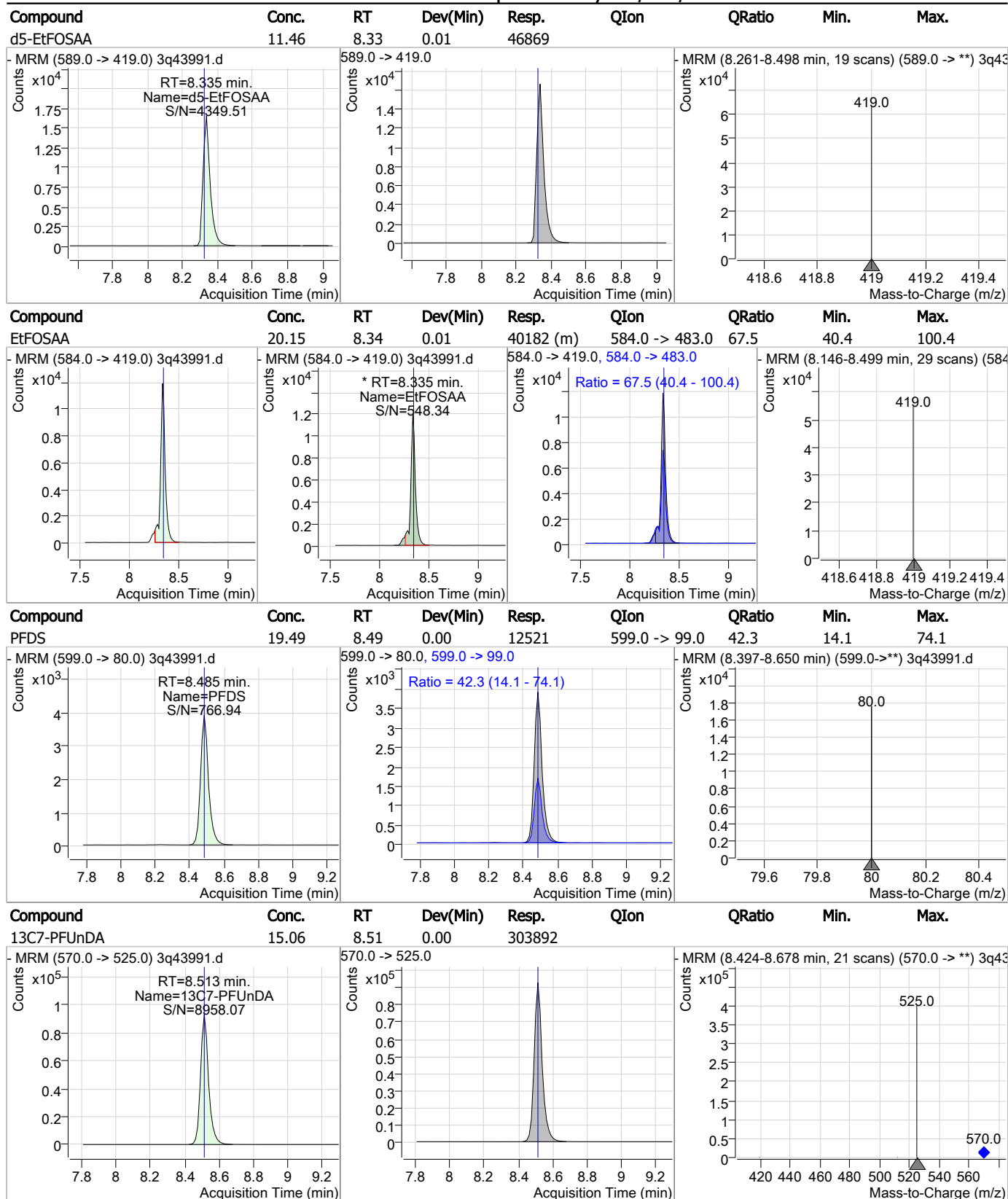
Perfluorinated Compounds by LC/MS/MS



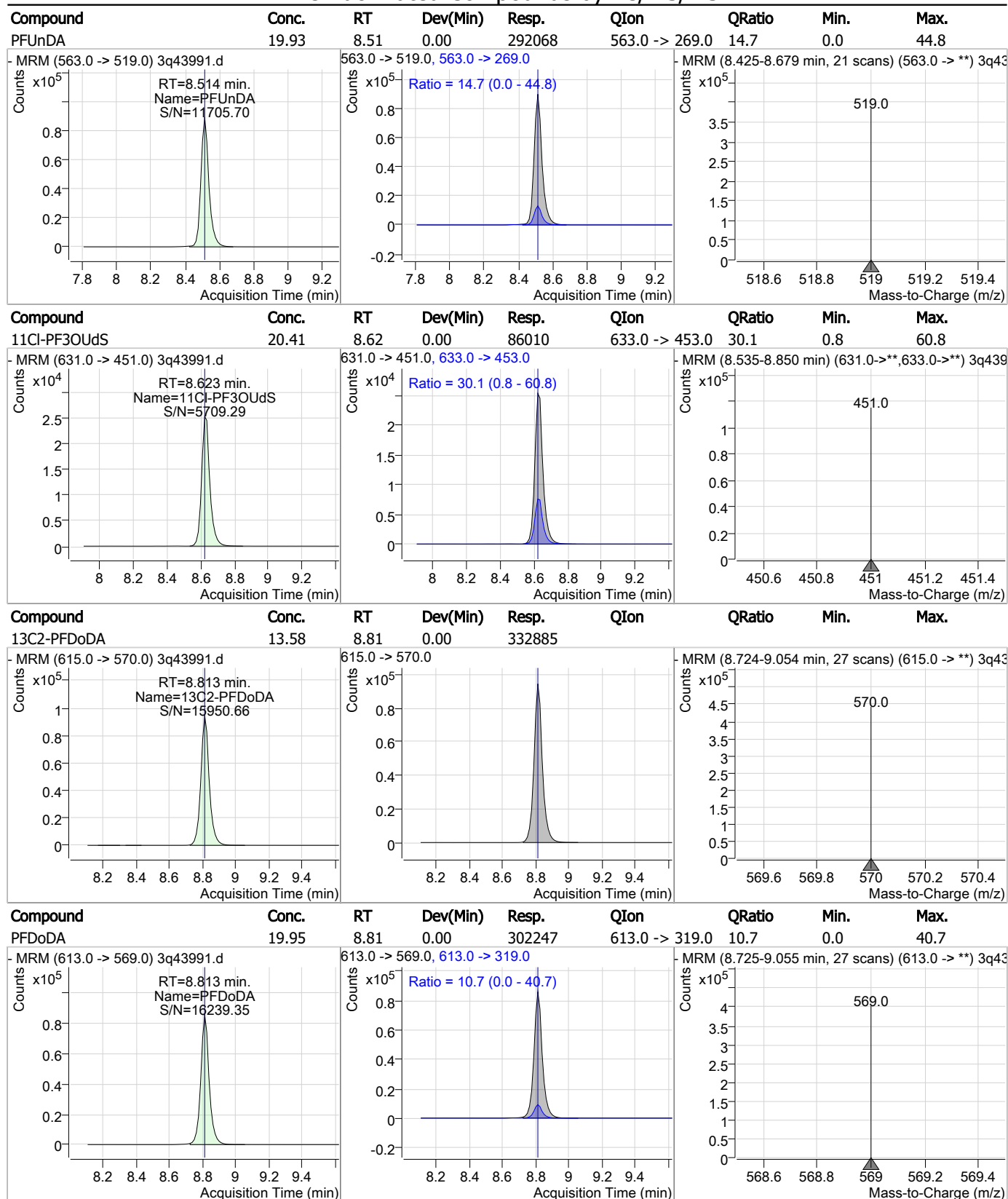
Perfluorinated Compounds by LC/MS/MS

10.4.1
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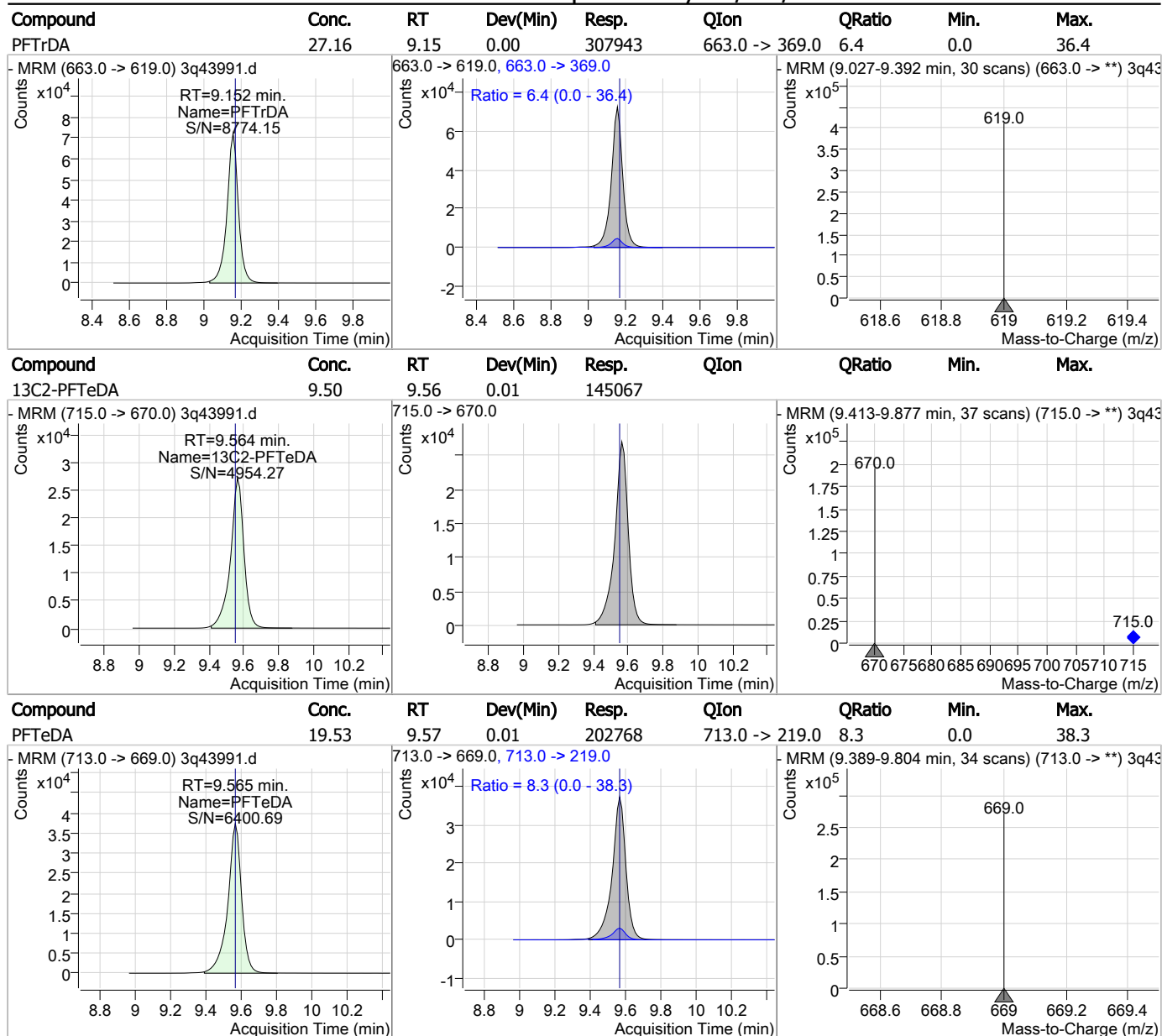
Perfluorinated Compounds by LC/MS/MS

10.4.1
10

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

OP86997-MS

Method:

EPA 537M BY ID

Lab FileID:

3Q43991.D

Analyst approved:

09/03/21 14:01 Norman Farmer

Injection Time:

08/31/21 19:29

Supervisor approved:

09/03/21 14:02 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.62	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.4.1.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43992.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/31/2021 7:46:01 PM
 Sample Name : op86997-msd
 Vial : P4-B3
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86997,S3Q638,280,,,1,1,water

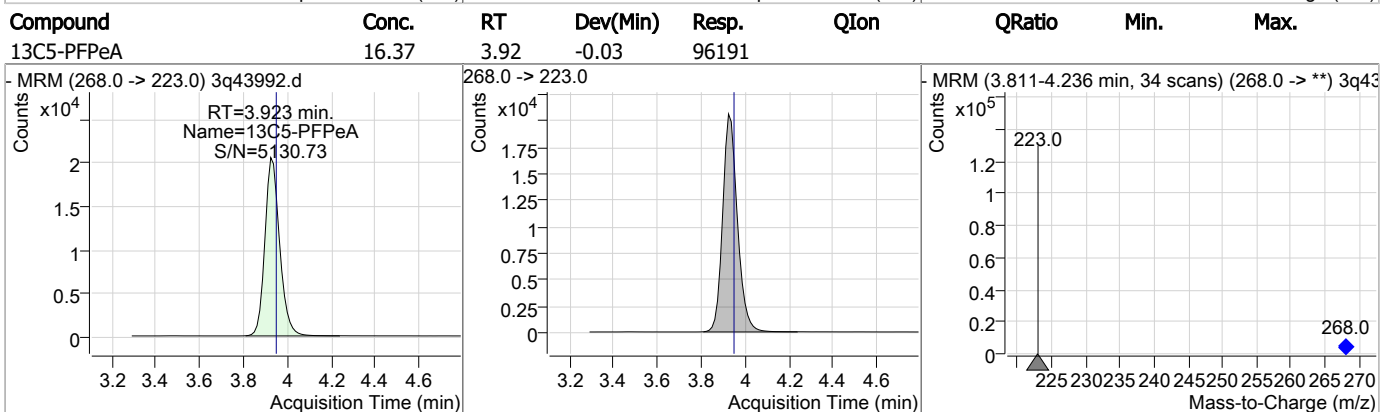
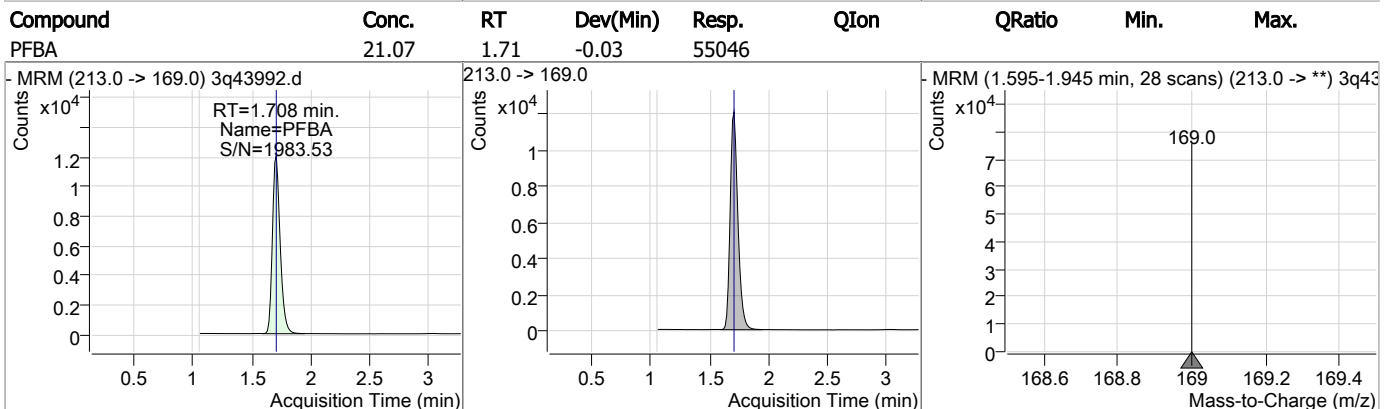
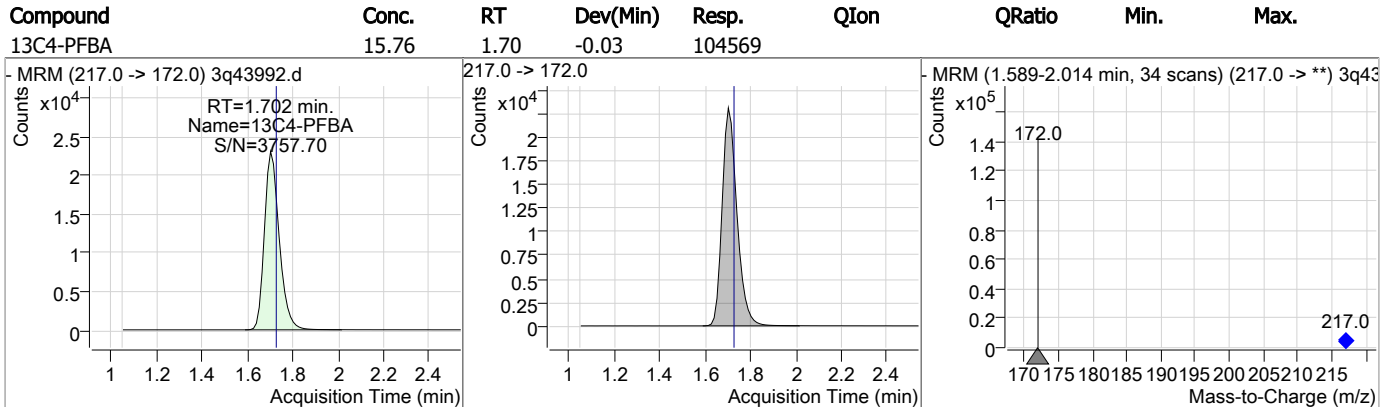
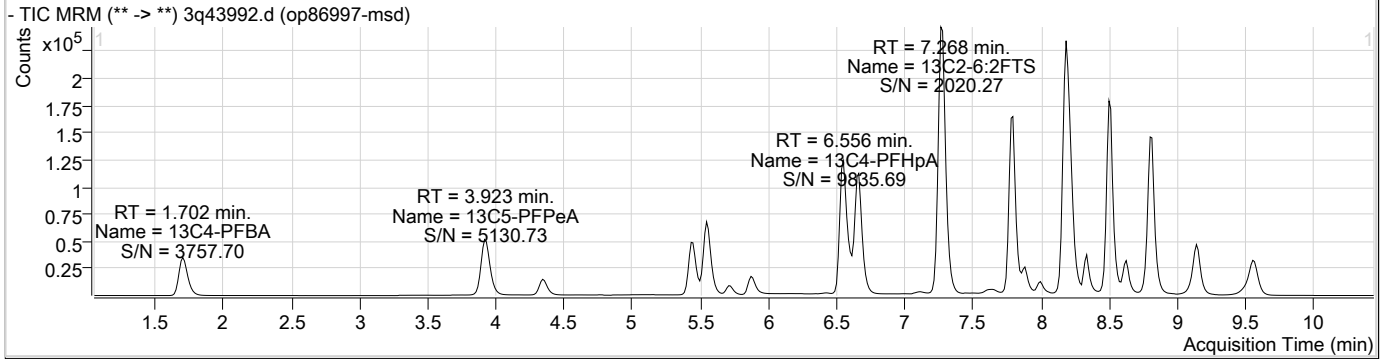
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.702	217.0 -> 172.0	104569	20.00 µg/L	-0.025
M5-PFPeA	3.923	268.0 -> 223.0	96191	20.00 µg/L	-0.025
M5-PFHxA	5.551	318.0 -> 273.0	128400	20.00 µg/L	0.000
M4-PFHpA	6.556	367.0 -> 322.0	158298	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	200388	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	211671	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	265549	20.00 µg/L	0.000
M7-PFUnDA	8.500	570.0 -> 525.0	284281	20.00 µg/L	-0.013
M2-PFDoDA	8.813	615.0 -> 570.0	262397	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	70482	20.00 µg/L	0.000
M8-FOSA	7.887	506.0 -> 78.0	30899	20.00 µg/L	0.013
M3-PFBS	4.342	302.0 -> 99.0	11809	20.00 µg/L	-0.013
M3-PFHxS	6.603	402.0 -> 99.0	13345	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	18613	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	76707	20.00 µg/L	0.000
M2-6:2FTS	7.268	429.0 -> 409.0	107263	20.00 µg/L	0.013
M2-8:2FTS	8.201	529.0 -> 509.0	114871	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	49329	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	12746	20.00 µg/L	0.000
M3-MeFOSA	8.227	515.0 -> 169.0	241	20.00 µg/L	0.038
M5-EtFOSAA	8.335	589.0 -> 419.0	45296	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	76707	16.02 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.1%	
13C2-6:2FTS	7.268	429.0 -> 409.0	107263	17.97 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.9%	
13C2-8:2FTS	8.201	529.0 -> 509.0	114871	17.82 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.1%	
13C2-PFDoDA	8.813	615.0 -> 570.0	262397	10.70 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 53.5%	
13C2-PFTeDA	9.551	715.0 -> 670.0	70482	4.61 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 23.1%	
13C3-PFBS	4.342	302.0 -> 99.0	11809	16.59 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 82.9%	
13C3-PFHxS	6.603	402.0 -> 99.0	13345	16.43 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 82.2%	
13C4-PFBA	1.702	217.0 -> 172.0	104569	15.76 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.8%	
13C4-PFHpA	6.556	367.0 -> 322.0	158298	15.86 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 79.3%	
13C5-PFHxA	5.551	318.0 -> 273.0	128400	15.22 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 76.1%	
13C5-PFPeA	3.923	268.0 -> 223.0	96191	16.37 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 81.8%	
13C6-PFDA	8.189	519.0 -> 474.0	265549	16.07 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

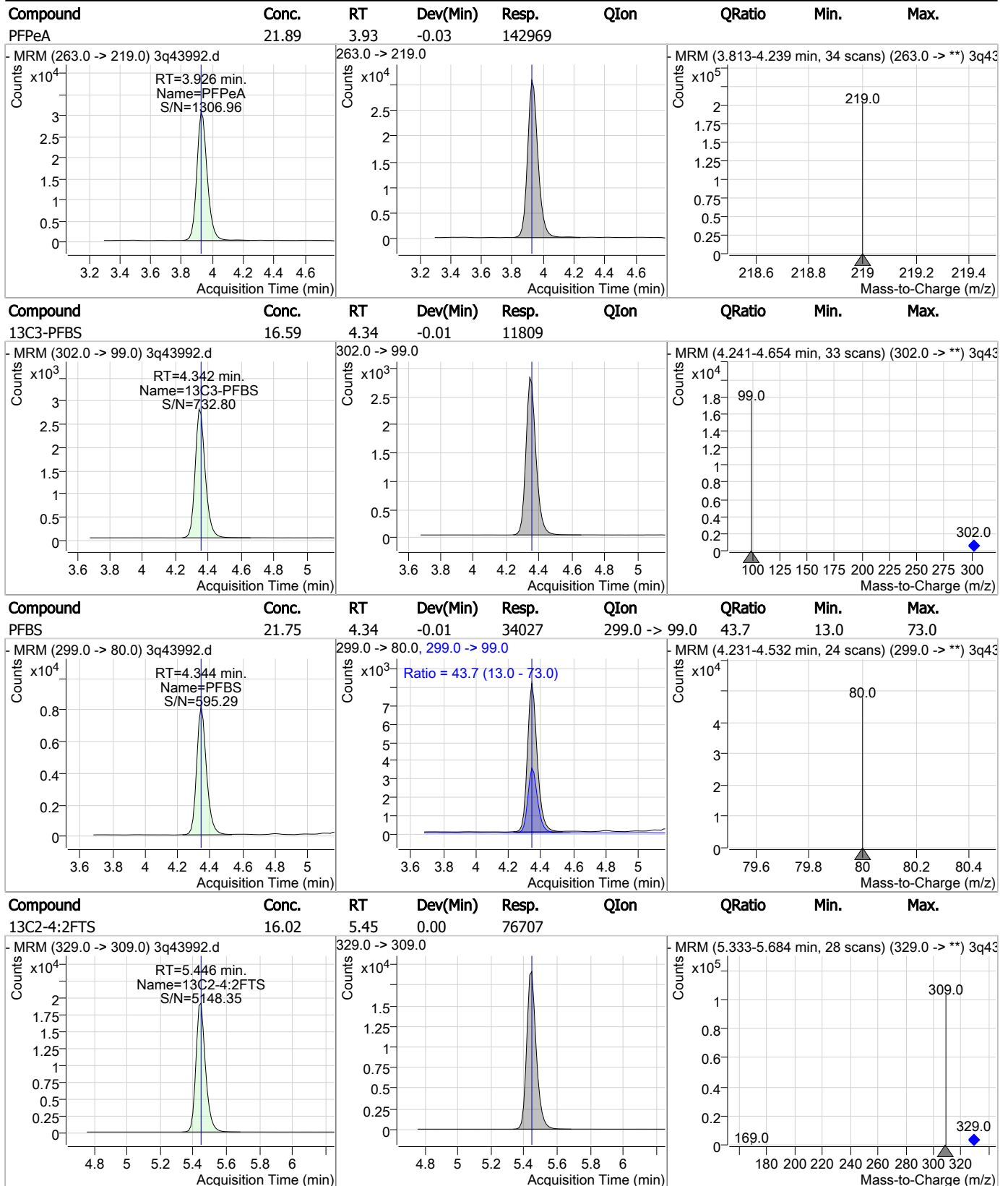
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.3%	
13C7-PFUnDA	8.500	570.0 -> 525.0	284281	14.09 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 70.4%	
13C8-FOSA	7.887	506.0 -> 78.0	30899	7.63 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 38.2%	
13C8-PFOA	7.283	421.0 -> 376.0	200388	16.49 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 82.4%	
13C8-PFOS	7.785	507.0 -> 99.0	18613	15.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.9%	
13C9-PFNA	7.800	472.0 -> 427.0	211671	16.54 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 82.7%	
d3-MeFOSAA	8.223	573.0 -> 419.0	49329	11.73 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 58.7%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	12739	13.67 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 68.3%	
d3-MeFOSA	8.227	515.0 -> 169.0	241	0.20 µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 1.0%	
d5-EtFOSAA	8.335	589.0 -> 419.0	45294	11.07 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 55.4%	
Target Compounds					QValue
4:2FTS	5.436	327.0 -> 307.0	86622	20.12 µg/L	100
6:2FTS	7.269	427.0 -> 407.0	106443	19.84 µg/L	98
8:2FTS	8.201	527.0 -> 507.0	119733	20.12 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	38009	19.74 µg/L	98
FOSA	7.888	498.0 -> 78.0	31303	20.42 µg/L	99
MeFOSAA	8.223	570.0 -> 419.0	44051	19.93 µg/L	m 98
PFBA	1.708	213.0 -> 169.0	55046	21.07 µg/L	100
PFBS	4.344	299.0 -> 80.0	34027	21.75 µg/L	99
PFDA	8.190	513.0 -> 469.0	248237	19.77 µg/L	100
PFDoDA	8.800	613.0 -> 569.0	240704	20.16 µg/L	100
PFDS	8.473	599.0 -> 80.0	10025	16.68 µg/L	100
PFHpA	6.557	363.0 -> 319.0	282298	22.12 µg/L	100
PFHpS	7.293	449.0 -> 80.0	30843	21.98 µg/L	96
PFHxA	5.552	313.0 -> 269.0	123620	22.17 µg/L	100
PFHxS	6.603	399.0 -> 80.0	31893	19.71 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	224970	20.51 µg/L	99
PFNS	8.162	549.0 -> 80.0	21513	19.07 µg/L	97
PFOA	7.283	413.0 -> 369.0	343443	32.64 µg/L	98
PFOS	7.786	499.0 -> 80.0	53511	32.07 µg/L	m 84
PFPeA	3.926	263.0 -> 219.0	142969	21.89 µg/L	100
PFPeS	5.707	349.0 -> 80.0	22150	19.20 µg/L	98
PFTeDA	9.553	713.0 -> 669.0	95757	18.99 µg/L	99
PFTTrDA	9.140	663.0 -> 619.0	182717	33.16 µg/L	100
PFUnDA	8.501	563.0 -> 519.0	266963	19.47 µg/L	100
11Cl-PF3OUdS	8.623	631.0 -> 451.0	74172	22.33 µg/L	100
9Cl-PF3ONS	7.997	531.0 -> 351.0	24929	17.40 µg/L	97
ADONA	6.668	377.0 -> 251.0	321424	18.52 µg/L	99
HFPO-DA	5.876	329.0 -> 169.0	41861	20.17 µg/L	97
MeFOSA	8.216	512.0 -> 169.0	269	21.16 µg/L	# 63

= Qualifier out of range, m = manually integrated, + = Area summed

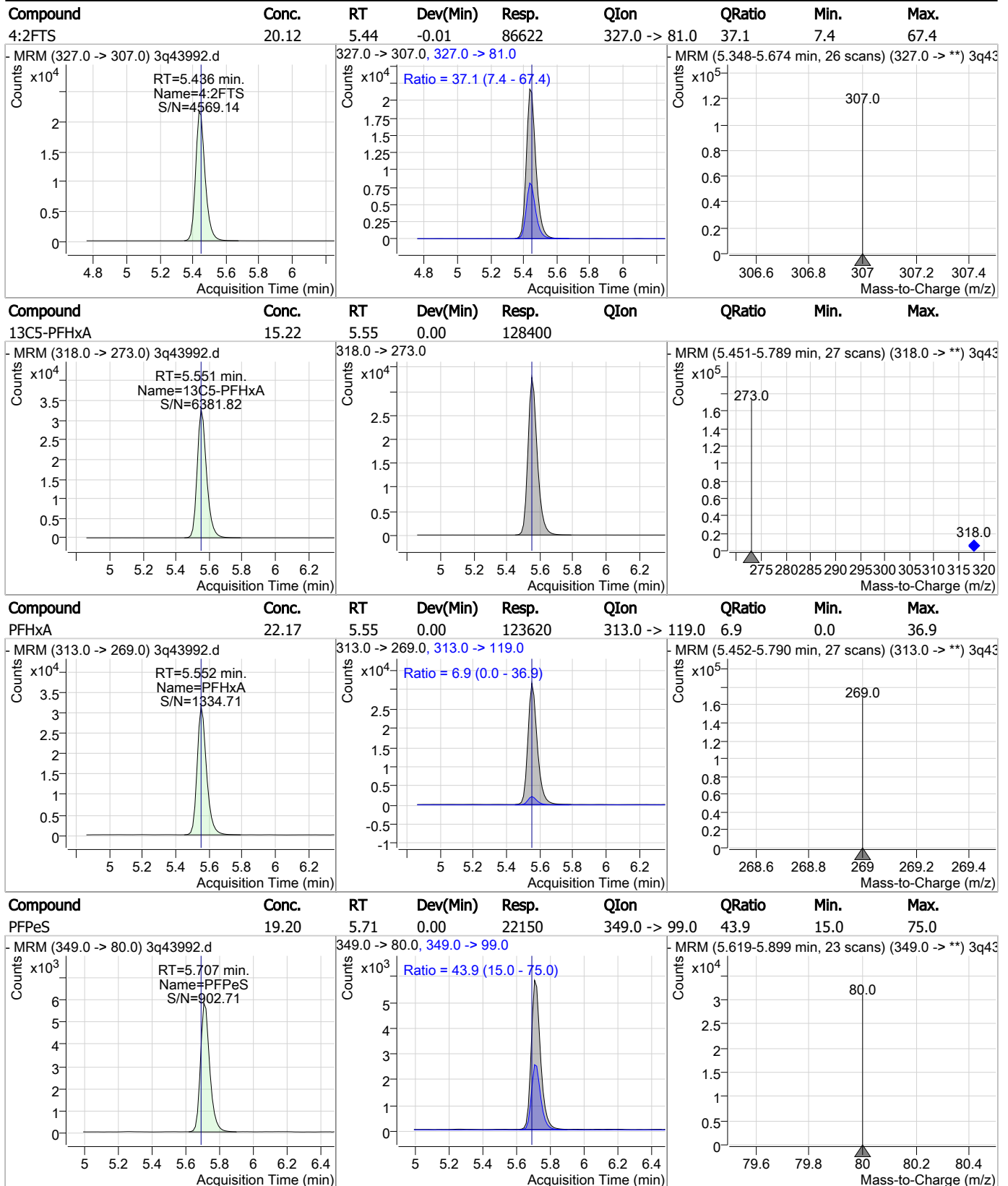
Perfluorinated Compounds by LC/MS/MS



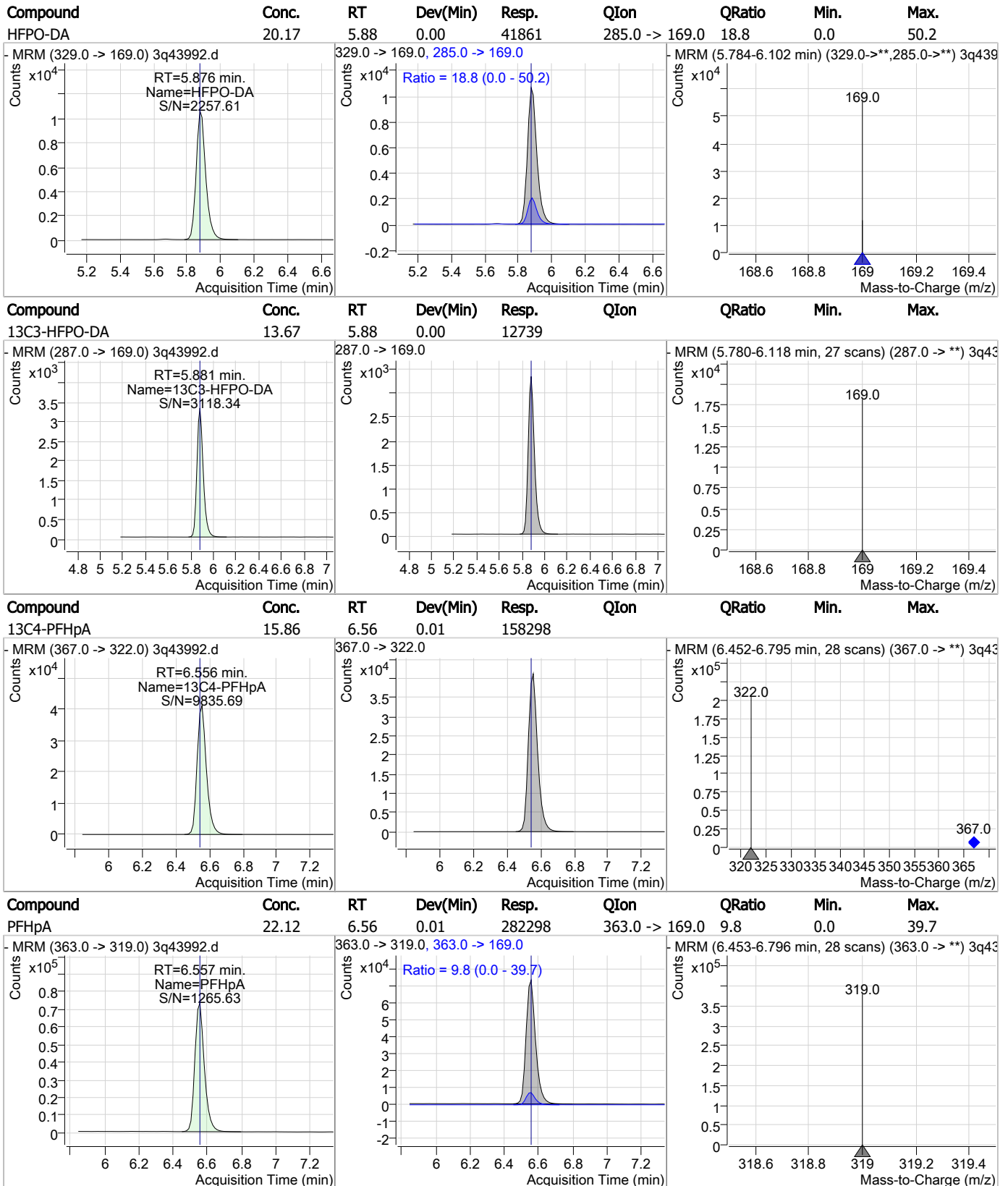
Perfluorinated Compounds by LC/MS/MS



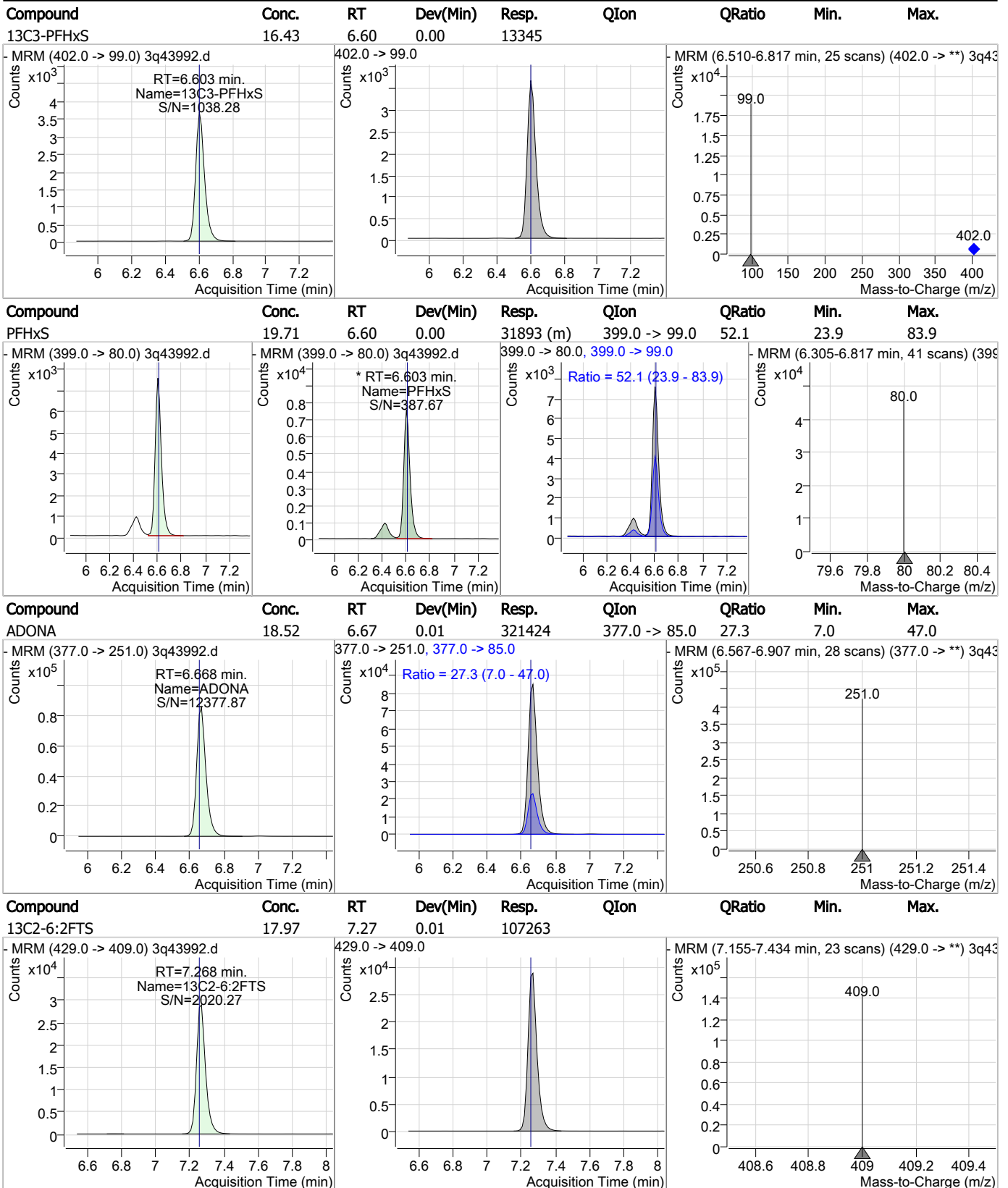
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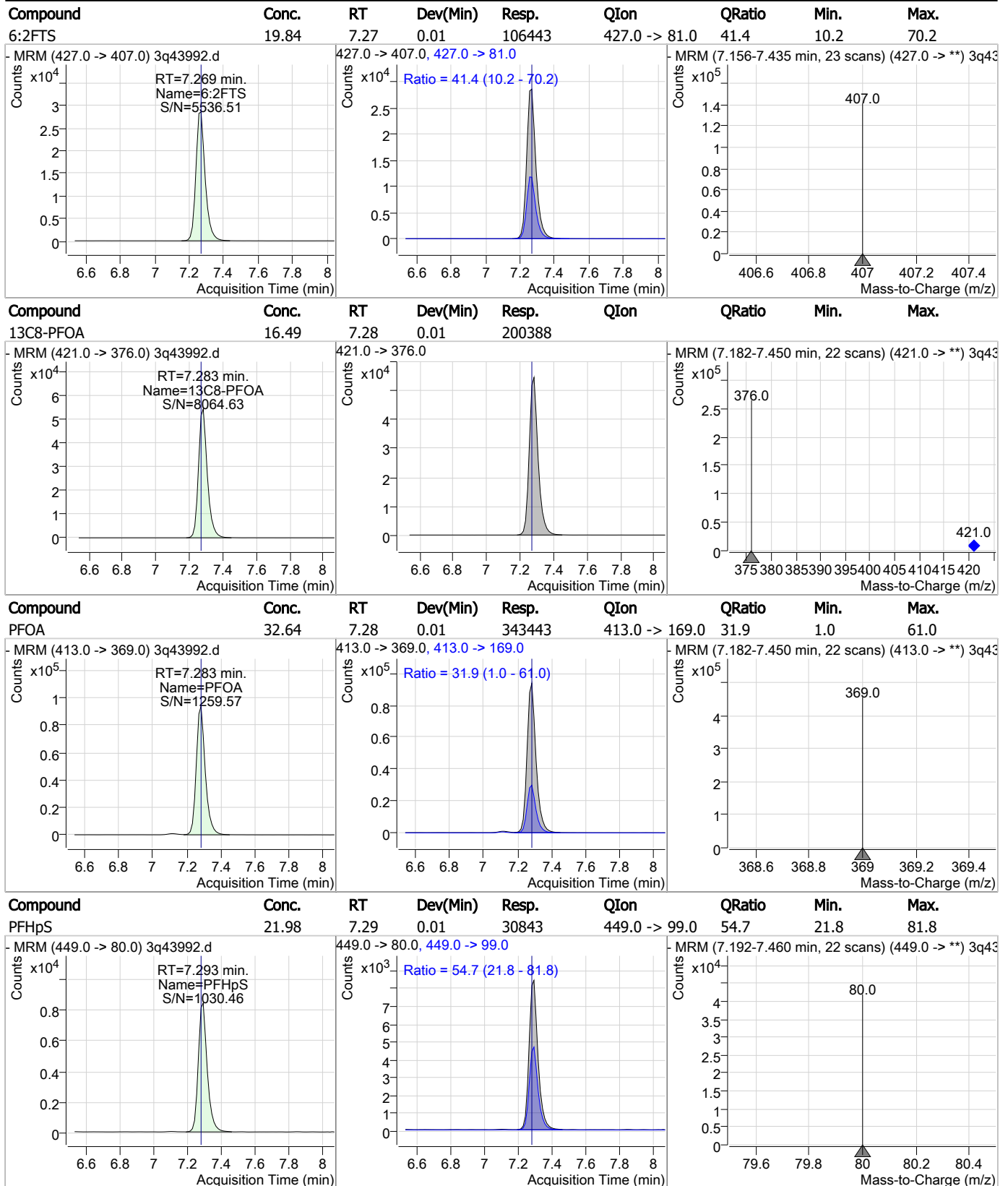
Perfluorinated Compounds by LC/MS/MS



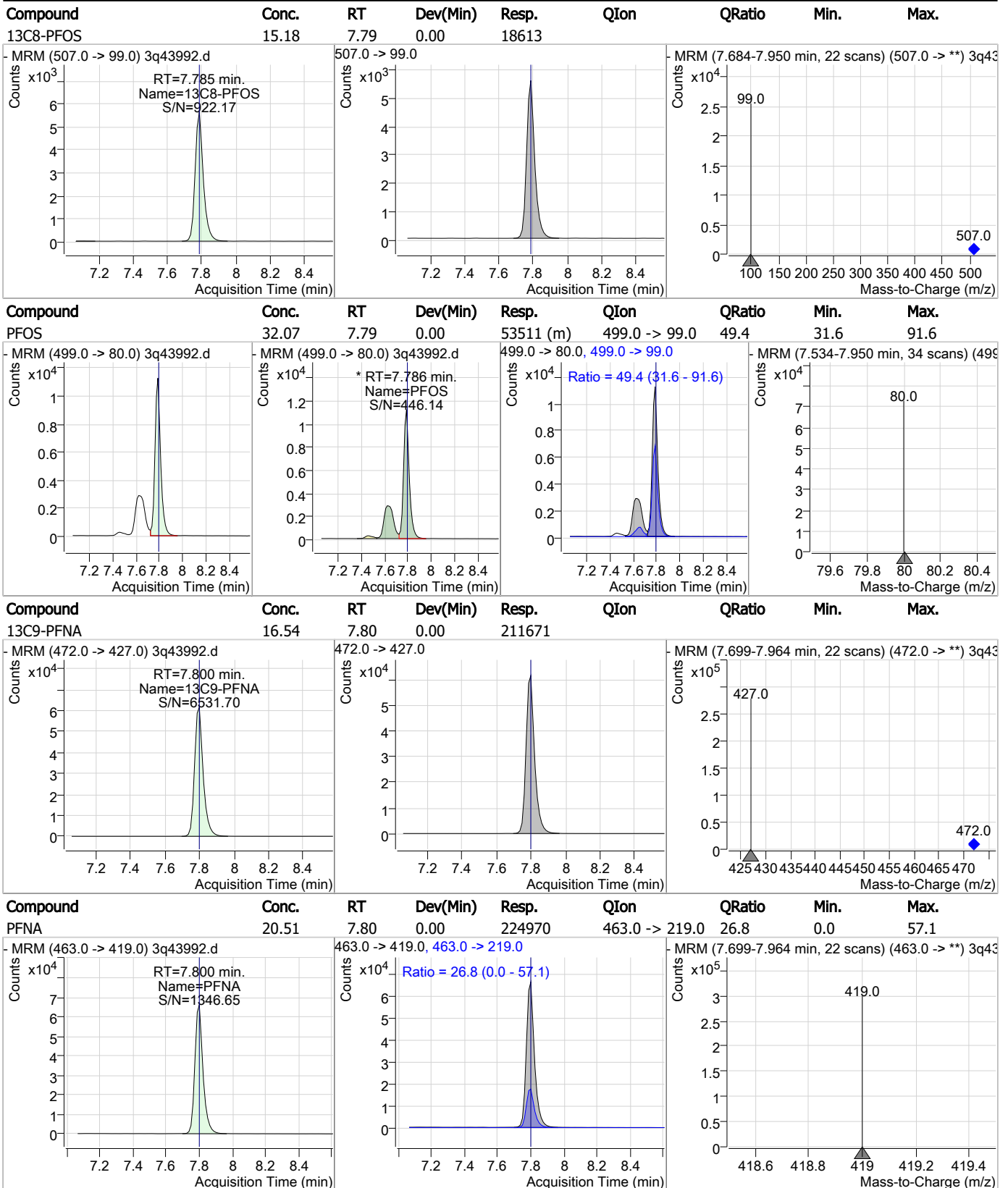
Perfluorinated Compounds by LC/MS/MS



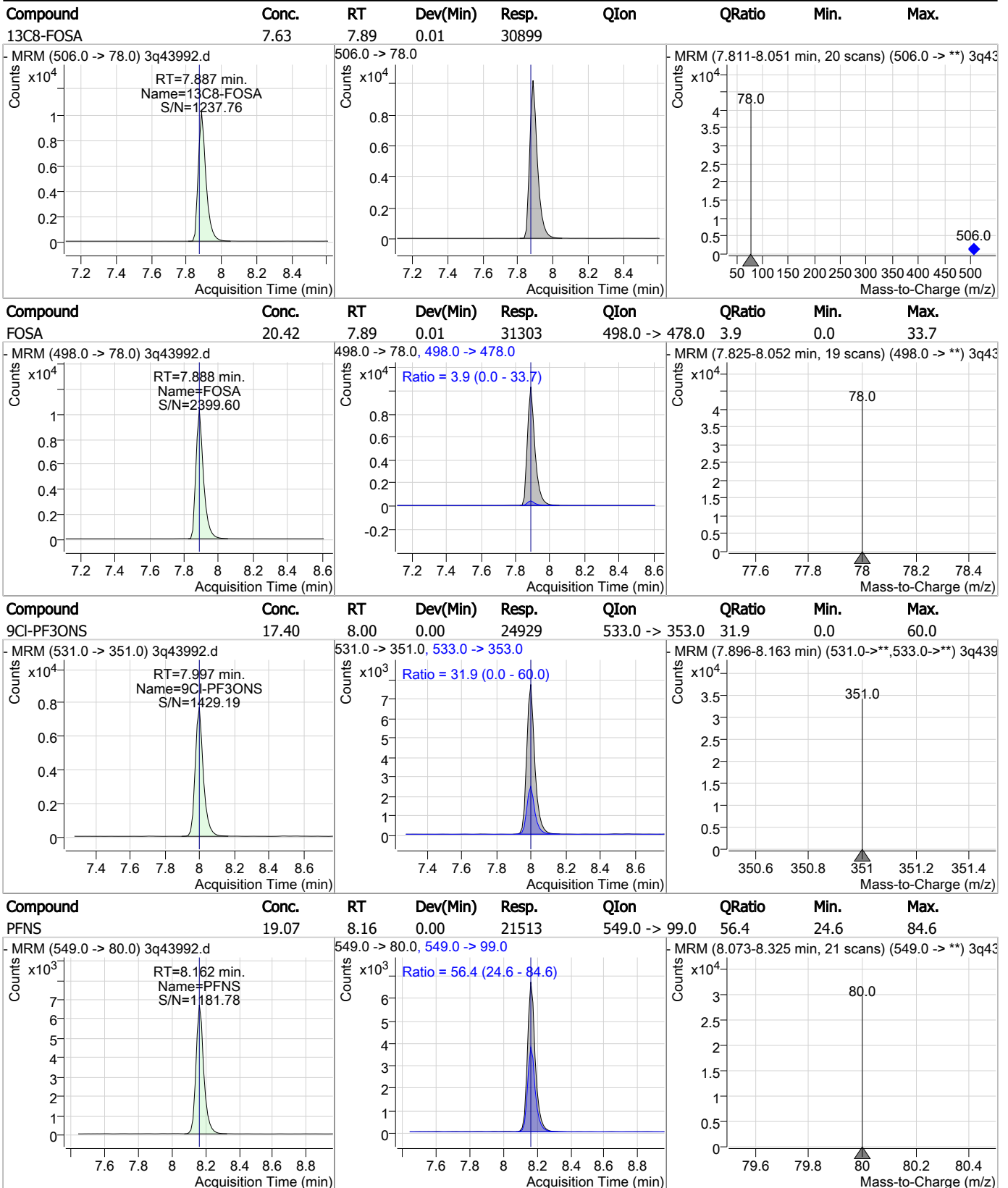
Perfluorinated Compounds by LC/MS/MS



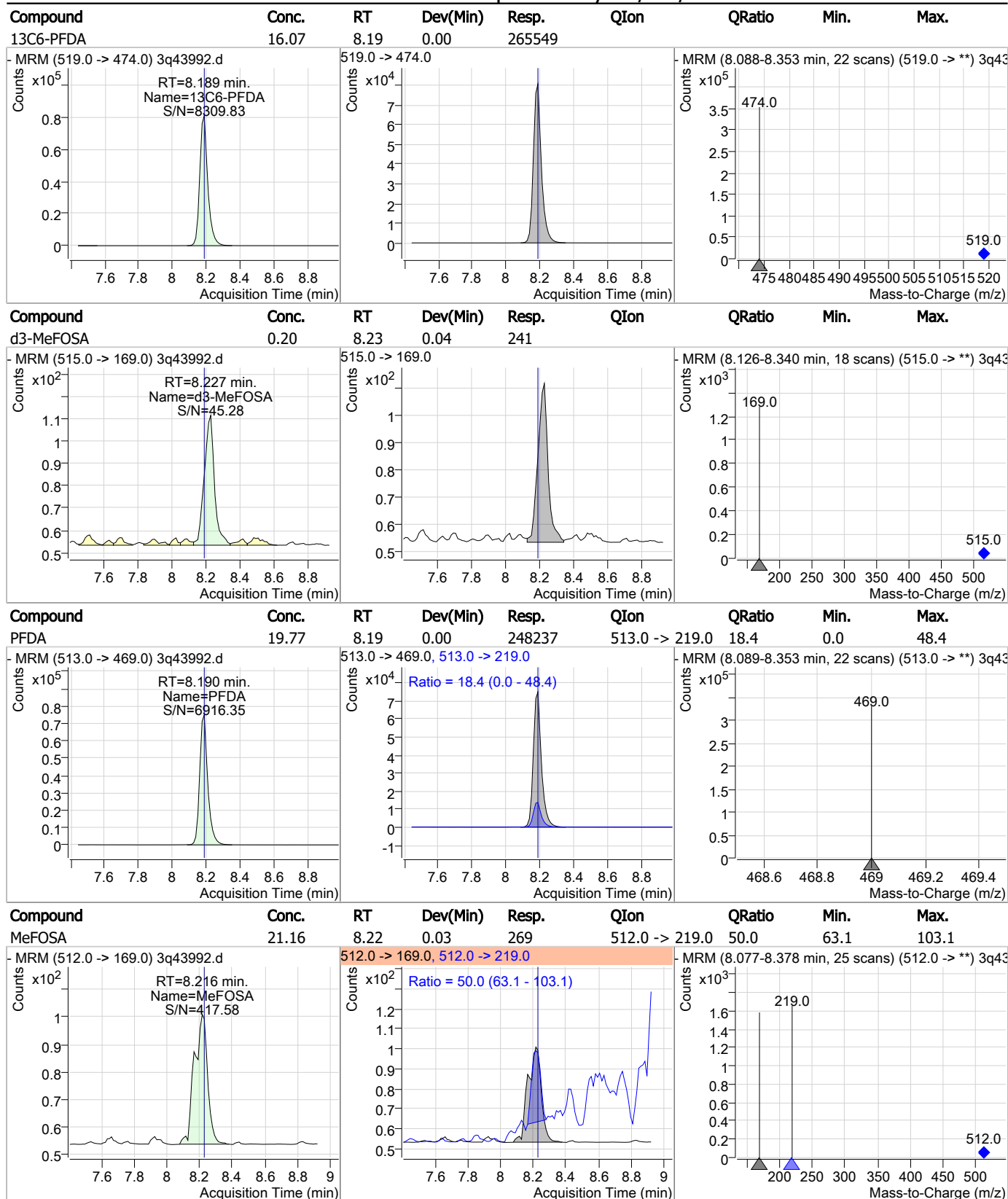
Perfluorinated Compounds by LC/MS/MS



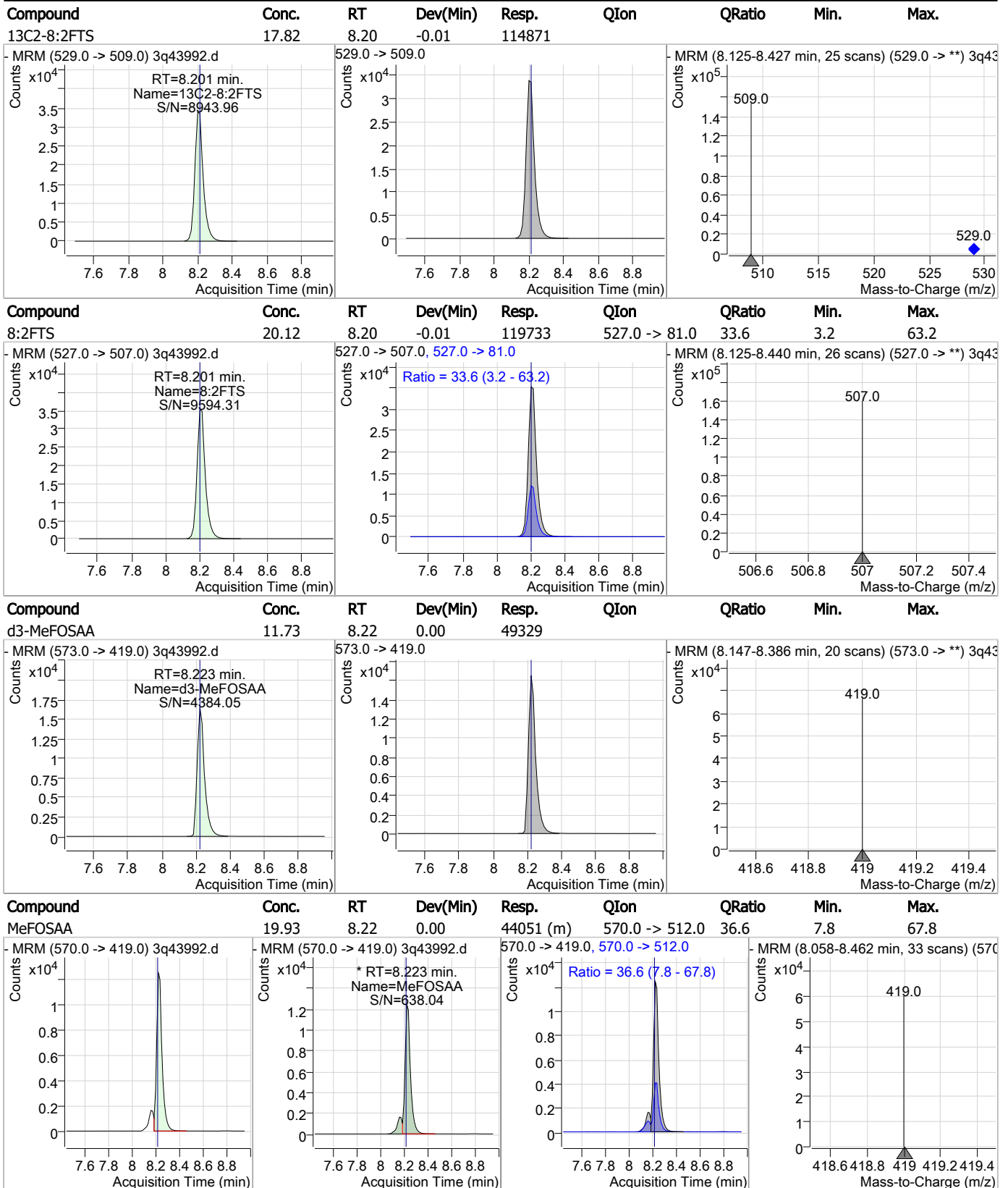
Perfluorinated Compounds by LC/MS/MS



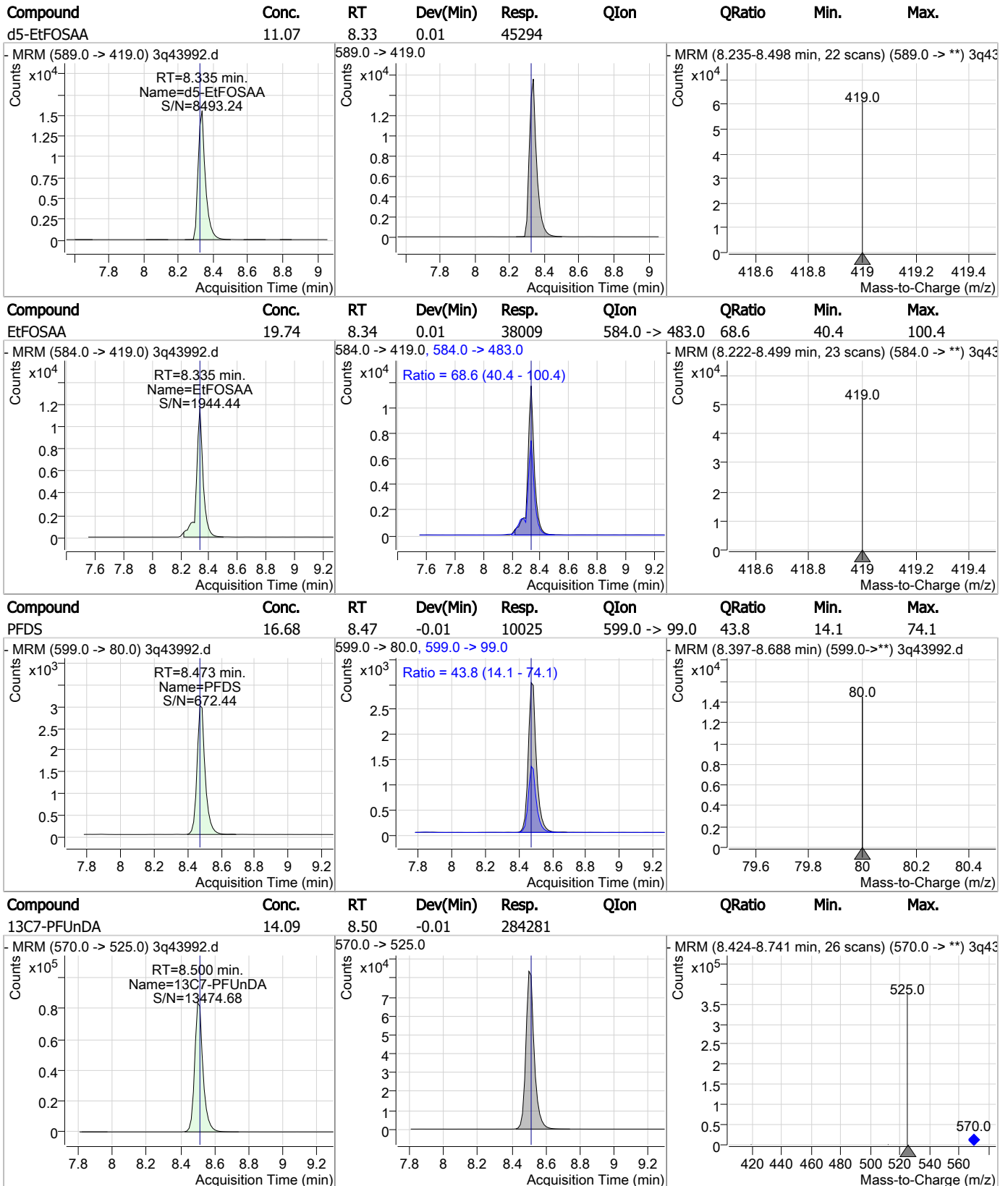
Perfluorinated Compounds by LC/MS/MS



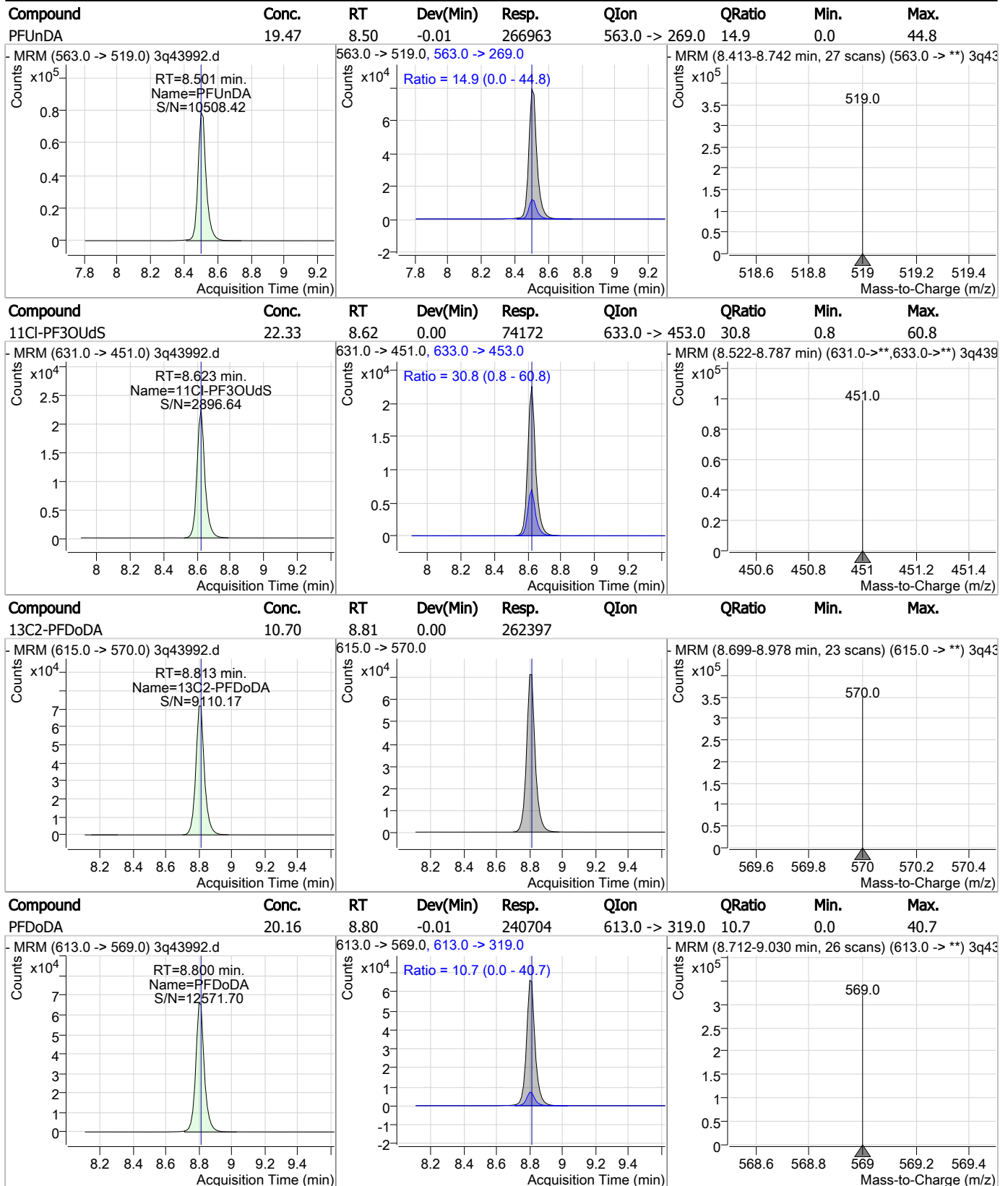
Perfluorinated Compounds by LC/MS/MS



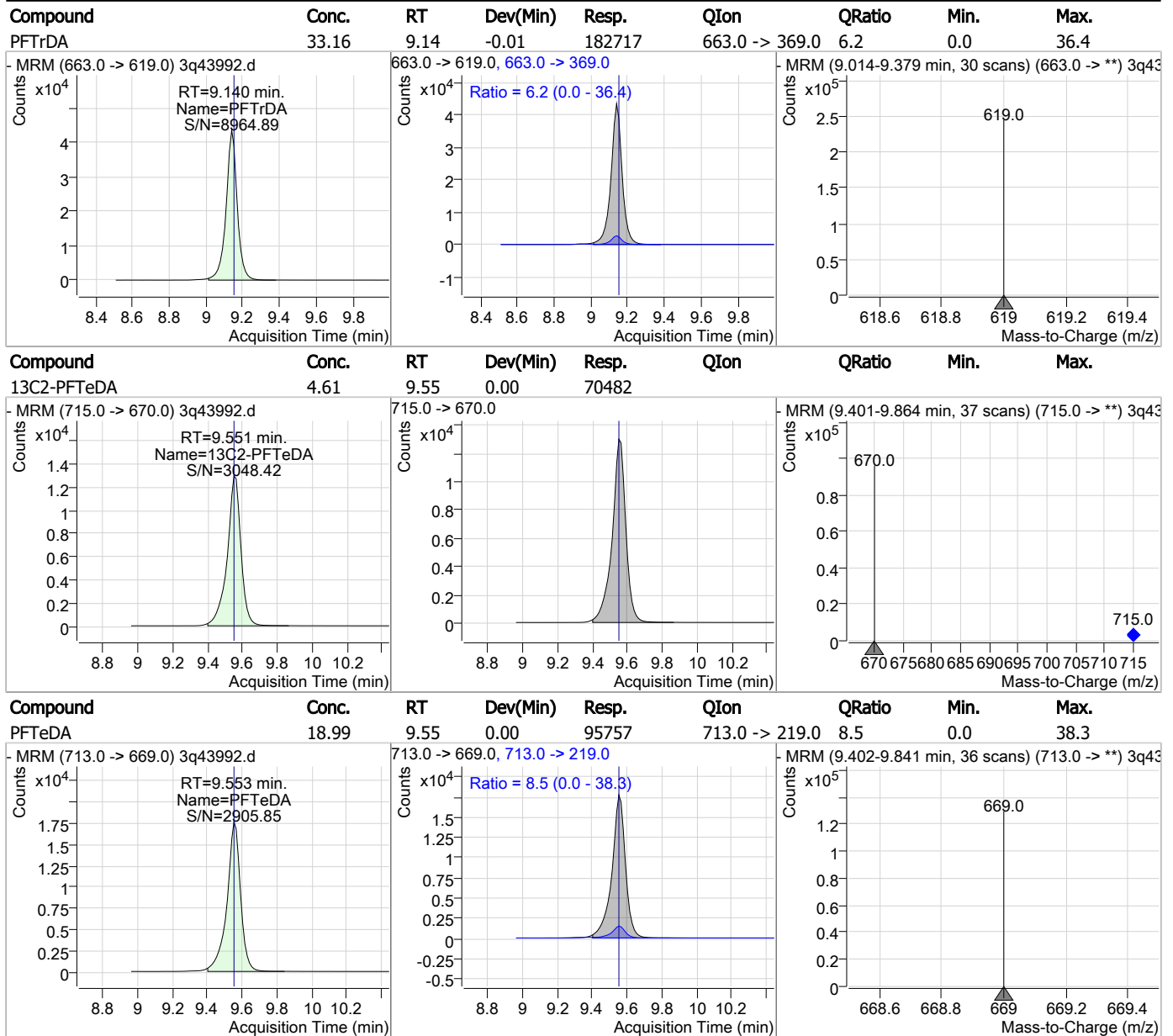
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

OP86997-MSD

Method:

EPA 537M BY ID

Lab FileID:

3Q43992.D

Analyst approved:

09/03/21 14:01 Norman Farmer

Injection Time:

08/31/21 19:46

Supervisor approved:

09/03/21 14:02 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak

10.4.2.1
10

QQQ Check Tune Report



Instrument Name Instrument 1
MS Model G6470A
MS Instrument Serial SG1752G107
Software_Firmware Version B.08.02.B8260.0, FW: A.00.08.62
Tune Date & Time 24 August 2021 09:23:49
Data Path D:\MassHunter\Tune\QQQ\G6470A\atunes.TUNE.XML
Ion Source AJS ESI
Ionization Mode AJS ESI
Tuned Resolution All
Vacuum Pressure 1.54E+0[R]; 2.88E-5[H]

Source Parameters

Parameter	Value
Gas Temp	300
Gas Flow	8
Nebulizer	15
Capillary	4000
Nozzle Voltage	1500
Sheath Gas Temp	250
Sheath Gas Flow	7

10.5.1
10

QQQ Check Tune Report



Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	113.03	0.04	Pass	0.70	0.68	-0.02	Pass	87821
302.00	302.00	0.00	Pass	0.70	0.71	0.01	Pass	13094
601.98	602.00	0.02	Pass	0.70	0.68	-0.02	Pass	87144
1033.99	1034.02	0.03	Pass	0.70	0.68	-0.02	Pass	373032
1633.95	1633.98	0.03	Pass	0.70	0.68	-0.02	Pass	699815
2233.91	2234.01	0.10	Pass	0.70	0.71	0.01	Pass	693429

Analyzer: MS2 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.13	0.13	Pass	0.70	0.56	-0.14	Pass	20732
112.99	113.02	0.03	Pass	0.70	0.65	-0.05	Pass	95480
302.00	302.01	0.01	Pass	0.70	0.69	-0.01	Pass	11862
601.98	601.91	-0.07	Pass	0.70	0.69	-0.01	Pass	87518
1033.99	1033.90	-0.09	Pass	0.70	0.72	0.02	Pass	408215
1633.95	1633.90	-0.05	Pass	0.70	0.72	0.02	Pass	669460
2233.91	2233.59	-0.32	Adjust	0.70	1.06	0.36	Adjust	1083404

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.97	-0.02	Pass	1.20	1.29	0.09	Pass	127362
302.00	302.01	0.01	Pass	1.20	1.48	0.28	Pass	19645
601.98	601.95	-0.03	Pass	1.20	1.53	0.33	Pass	150081
1033.99	1034.00	0.01	Pass	1.20	1.52	0.32	Pass	725680
1633.95	1633.77	-0.18	Pass	1.20	1.43	0.23	Pass	1400207
2233.91	2233.72	-0.19	Pass	1.20	1.33	0.13	Pass	1188585

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.07	0.07	Pass	1.20	1.20	0.00	Pass	30469
112.99	112.96	-0.03	Pass	1.20	1.32	0.12	Pass	115497
302.00	301.84	-0.16	Pass	1.20	1.42	0.22	Pass	16474
601.98	602.05	0.07	Pass	1.20	1.48	0.28	Pass	130873
1033.99	1033.77	-0.22	Pass	1.20	1.53	0.33	Pass	733955
1633.95	1633.87	-0.08	Pass	1.20	1.45	0.25	Pass	1620100
2233.91	2233.26	-0.65	Adjust	1.20	1.42	0.22	Pass	1617308

Analyzer: MS1 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.97	-0.02	Pass	2.50	2.44	-0.06	Pass	162168
302.00	302.06	0.06	Pass	2.50	2.61	0.11	Pass	23148
601.98	602.02	0.04	Pass	2.50	2.60	0.10	Pass	184259
1033.99	1033.84	-0.15	Pass	2.50	2.54	0.04	Pass	1178430
1633.95	1633.89	-0.06	Pass	2.50	2.34	-0.16	Pass	2785710
2233.91	2233.64	-0.27	Pass	2.50	2.25	-0.25	Pass	3411835

Analyzer: MS2 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.08	0.08	Pass	2.50	2.27	-0.23	Pass	33549
112.99	113.01	0.02	Pass	2.50	2.40	-0.10	Pass	153860
302.00	301.55	-0.45	Pass	2.50	2.61	0.11	Pass	20728
601.98	601.85	-0.13	Pass	2.50	2.83	0.33	Pass	184062
1033.99	1033.87	-0.12	Pass	2.50	3.07	0.57	Pass	1189100
1633.95	1633.83	-0.12	Pass	2.50	3.09	0.59	Pass	3770327
2233.91	2233.80	-0.11	Pass	2.50	3.27	0.77	Pass	5011399

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43714.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 8:51:01 PM
 Sample Name : ic637-0.5
 Vial : P1-A2
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.739	217.0 -> 172.0	123650	20.00 µg/L	0.013
M5-PFPeA	3.949	268.0 -> 223.0	109763	20.00 µg/L	0.000
M5-PFHxA	5.563	318.0 -> 273.0	158375	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	188664	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	234401	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	246917	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	319550	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	392554	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	466414	20.00 µg/L	0.000
M2-PFTeDA	9.576	715.0 -> 670.0	289195	20.00 µg/L	0.025
M8-FOSA	7.874	506.0 -> 78.0	78696	20.00 µg/L	0.000
M3-PFBS	4.367	302.0 -> 99.0	13315	20.00 µg/L	0.013
M3-PFHxS	6.603	402.0 -> 99.0	15622	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	23368	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	83707	20.00 µg/L	0.000
M2-6:2FTS	7.268	429.0 -> 409.0	108342	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	119920	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	80667	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	17553	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	24477	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	76072	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	83707	17.48 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 87.4%		
13C2-6:2FTS	7.268	429.0 -> 409.0	108342	18.15 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 90.8%		
13C2-8:2FTS	8.213	529.0 -> 509.0	119920	18.60 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 93.0%		
13C2-PFDoDA	8.813	615.0 -> 570.0	466414	19.03 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 95.1%		
13C2-PFTeDA	9.576	715.0 -> 670.0	289195	18.93 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 94.7%		
13C3-PFBS	4.367	302.0 -> 99.0	13315	18.70 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 93.5%		
13C3-PFHxS	6.603	402.0 -> 99.0	15622	19.24 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 96.2%		
13C4-PFBA	1.739	217.0 -> 172.0	123650	18.63 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 93.2%		
13C4-PFHpA	6.556	367.0 -> 322.0	188664	18.91 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C5-PFHxA	5.563	318.0 -> 273.0	158375	18.78 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 93.9%		
13C5-PFPeA	3.949	268.0 -> 223.0	109763	18.67 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 93.4%		
13C6-PFDA	8.189	519.0 -> 474.0	319550	19.34 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

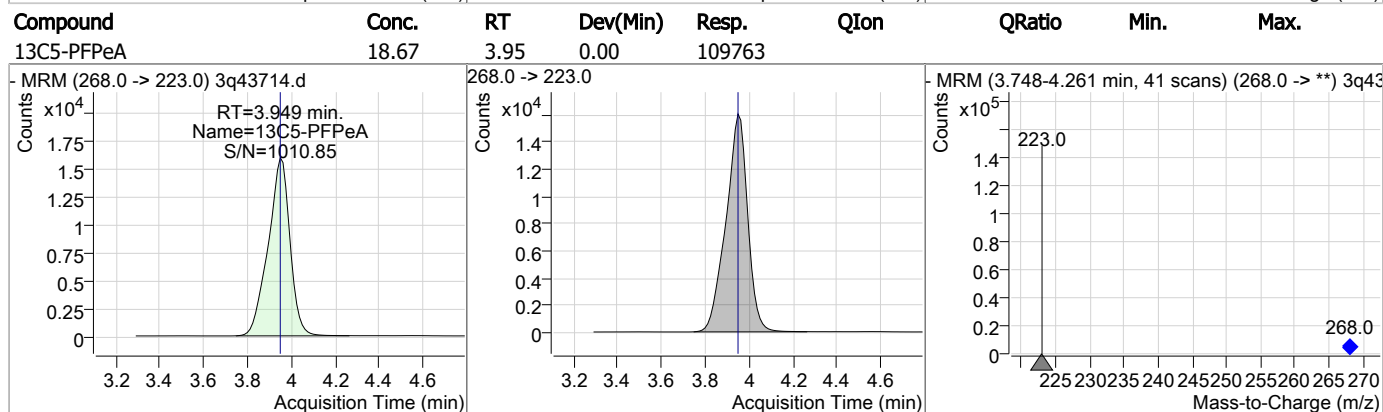
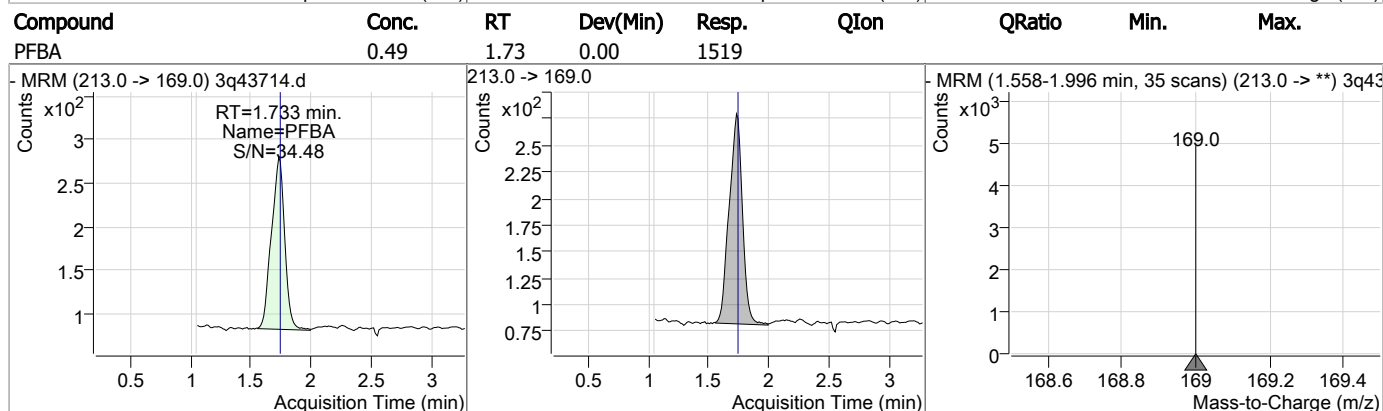
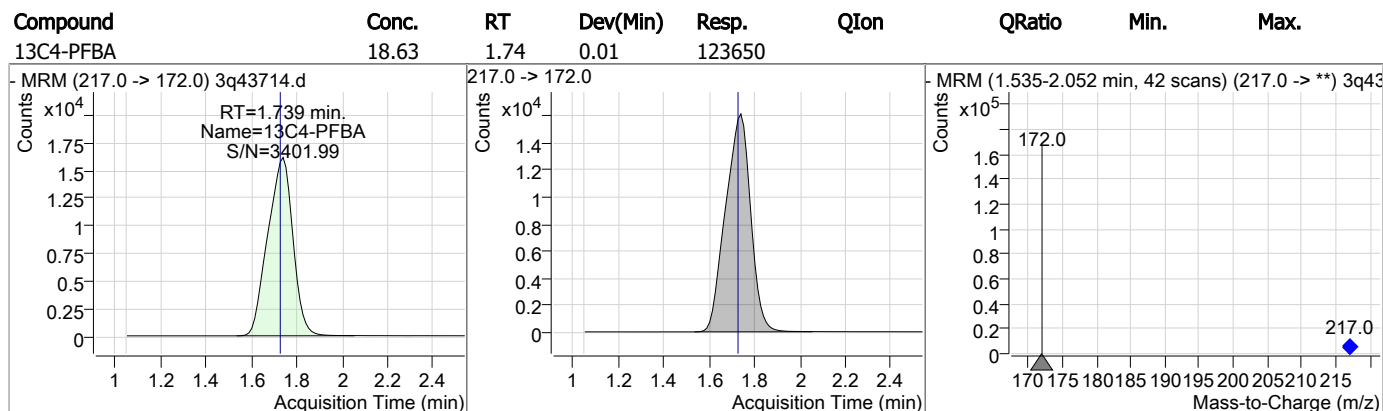
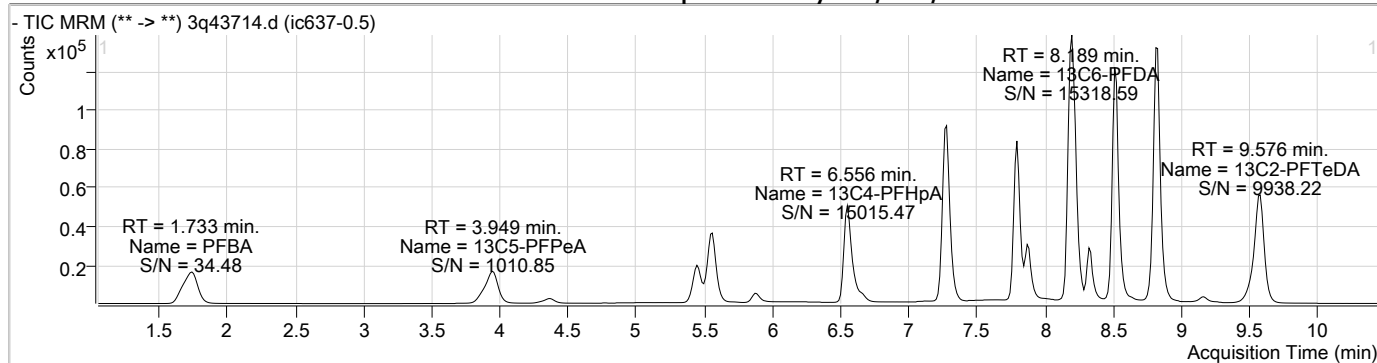
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.7%	
13C7-PFUnDA	8.513	570.0 -> 525.0	392554	19.46 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.3%	
13C8-FOSA	7.874	506.0 -> 78.0	78696	19.44 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C8-PFOA	7.283	421.0 -> 376.0	234401	19.29 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.4%	
13C8-PFOS	7.785	507.0 -> 99.0	23368	19.06 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.3%	
13C9-PFNA	7.800	472.0 -> 427.0	246917	19.29 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.4%	
d3-MeFOSAA	8.223	573.0 -> 419.0	80667	19.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	17554	18.84 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.2%	
d3-MeFOSA	8.189	515.0 -> 169.0	24477	20.63 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.2%	
d5-EtFOSAA	8.322	589.0 -> 419.0	76104	18.61 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.0%	

Target Compounds

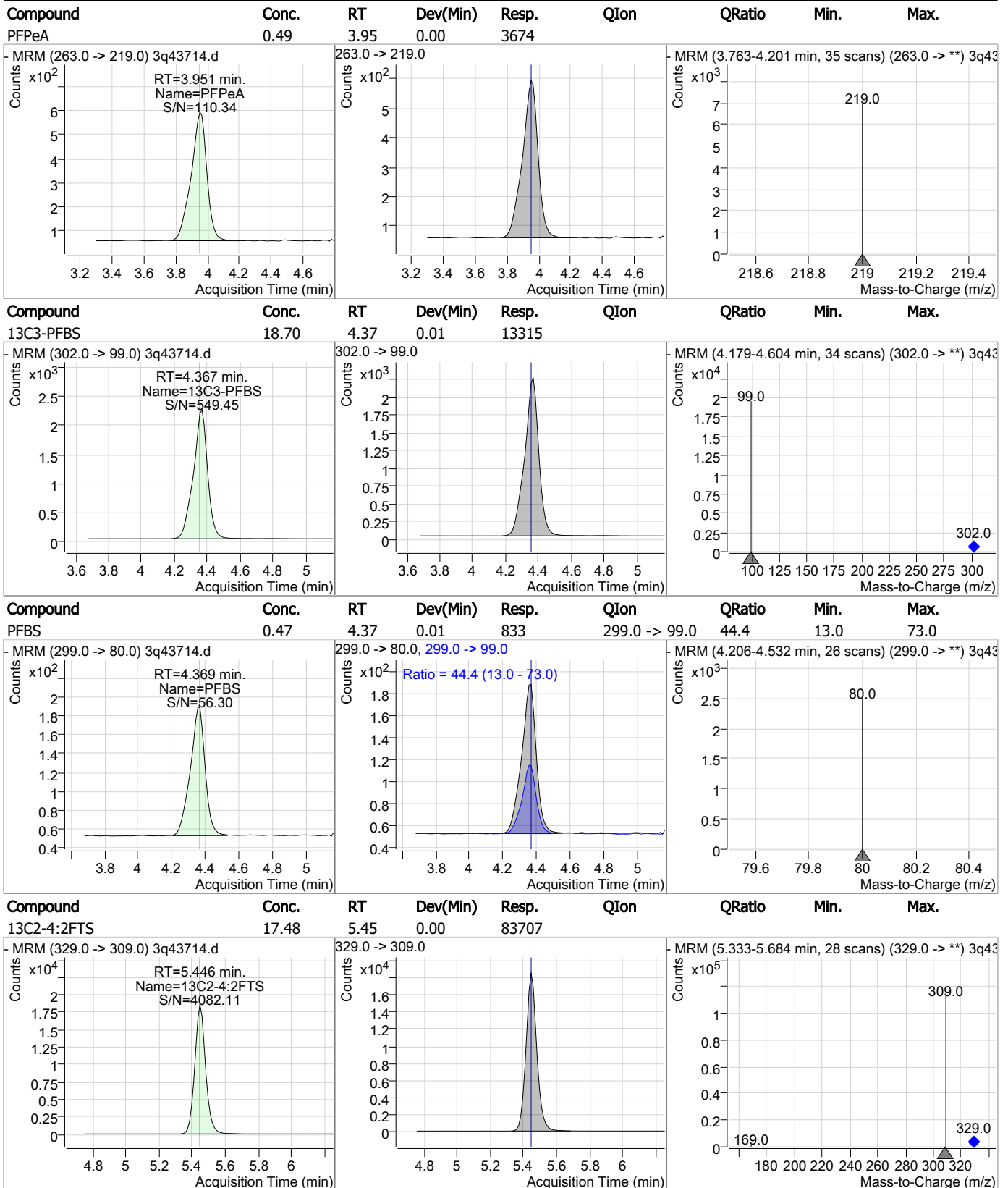
					QValue
4:2FTS	5.448	327.0 -> 307.0	2446	0.52 µg/L	98
6:2FTS	7.269	427.0 -> 407.0	2734	0.50 µg/L	95
8:2FTS	8.214	527.0 -> 507.0	3264	0.53 µg/L	96
EtFOSAA	8.335	584.0 -> 419.0	1788	0.55 µg/L	m 87
FOSA	7.875	498.0 -> 78.0	1786	0.46 µg/L	97
MeFOSAA	8.223	570.0 -> 419.0	1728	0.48 µg/L	m 99
PFBA	1.733	213.0 -> 169.0	1519	0.49 µg/L	100
PFBS	4.369	299.0 -> 80.0	833	0.47 µg/L	98
PFDA	8.190	513.0 -> 469.0	7060	0.47 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	10271	0.48 µg/L	98
PFDS	8.485	599.0 -> 80.0	392	0.47 µg/L	80
PFHpA	6.557	363.0 -> 319.0	7181	0.47 µg/L	97
PFHpS	7.293	449.0 -> 80.0	870	0.49 µg/L	100
PFHxA	5.565	313.0 -> 269.0	3355	0.49 µg/L	99
PFHxS	6.603	399.0 -> 80.0	939	0.50 µg/L	m 94
PFNA	7.800	463.0 -> 419.0	5871	0.46 µg/L	99
PFNS	8.174	549.0 -> 80.0	657	0.46 µg/L	90
PFOA	7.283	413.0 -> 369.0	6159	0.50 µg/L	96
PFOS	7.786	499.0 -> 80.0	992	0.47 µg/L	m 93
PFPeA	3.951	263.0 -> 219.0	3674	0.49 µg/L	100
PFPeS	5.719	349.0 -> 80.0	655	0.50 µg/L	96
PFTeDA	9.565	713.0 -> 669.0	10298	0.50 µg/L	99
PFTTrDA	9.165	663.0 -> 619.0	10814	0.48 µg/L	99
PFUnDA	8.514	563.0 -> 519.0	8972	0.47 µg/L	100
11Cl-PF3OUdS	8.636	631.0 -> 451.0	2693	0.46 µg/L	95
9Cl-PF3ONS	7.997	531.0 -> 351.0	723	0.42 µg/L	78
ADONA	6.668	377.0 -> 251.0	9260	0.46 µg/L	98
HFPO-DA	5.888	329.0 -> 169.0	1397	0.49 µg/L	96
MeFOSA	8.190	512.0 -> 169.0	481	0.37 µg/L	# 38

= Qualifier out of range, m = manually integrated, + = Area summed

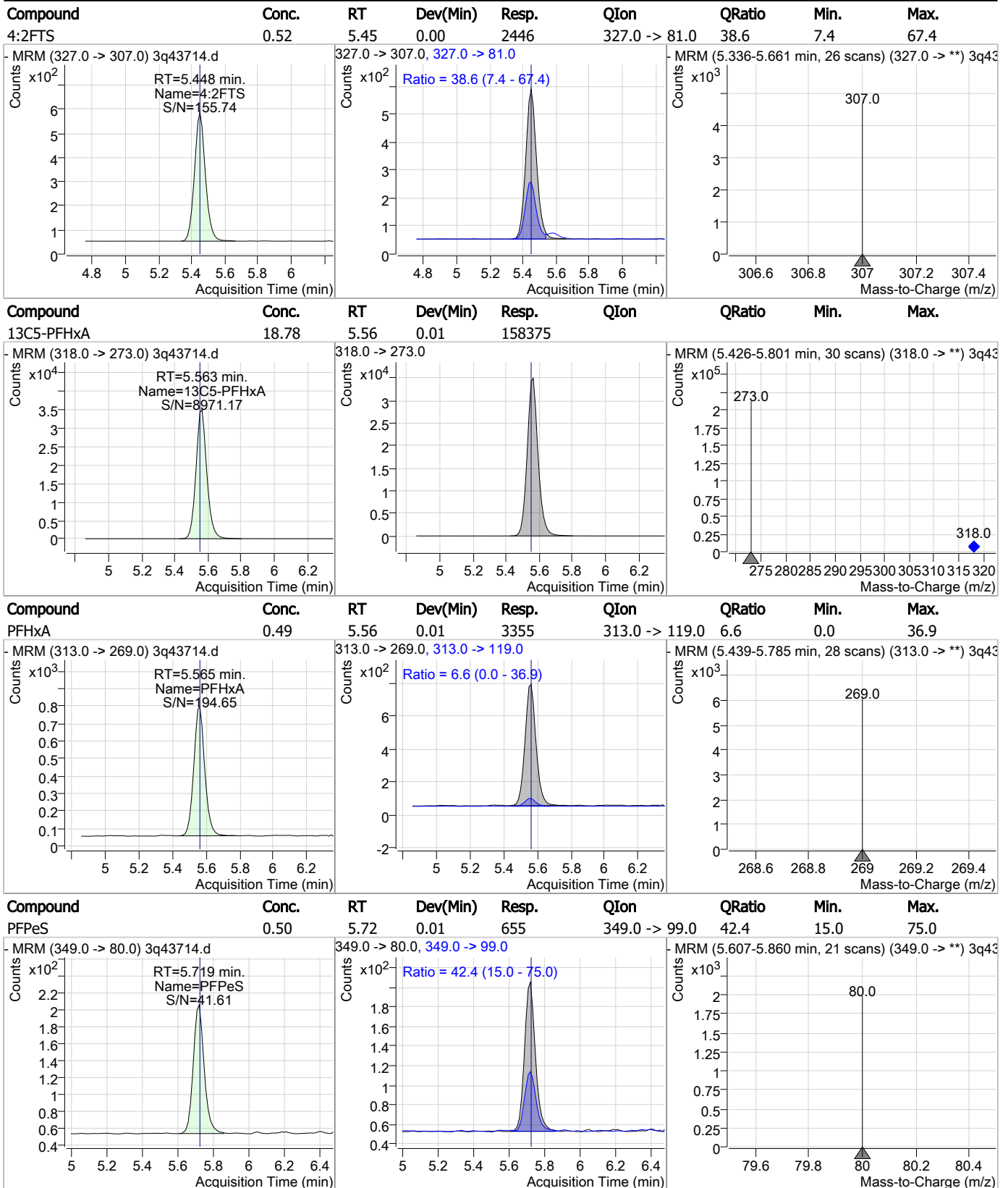
Perfluorinated Compounds by LC/MS/MS



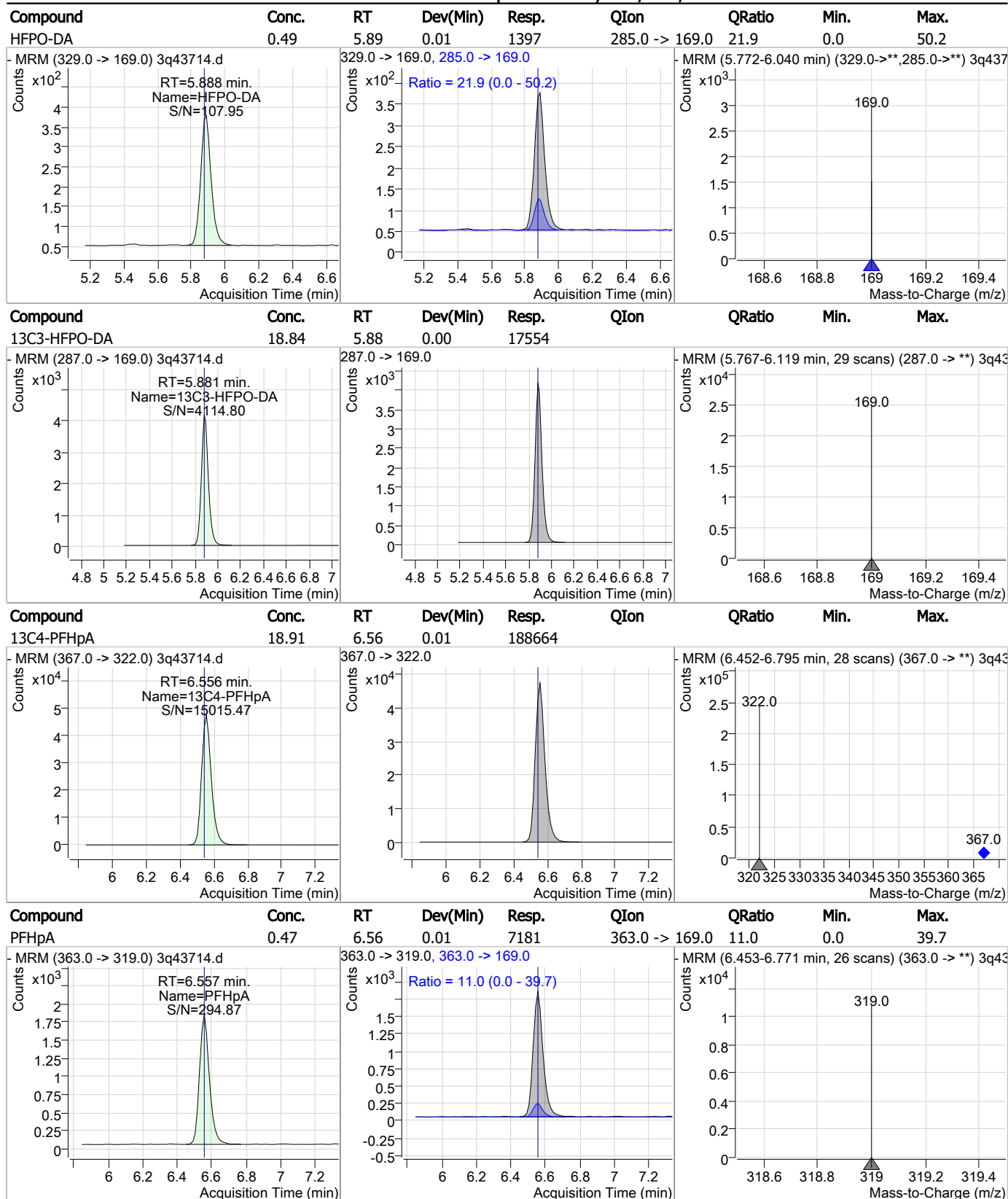
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

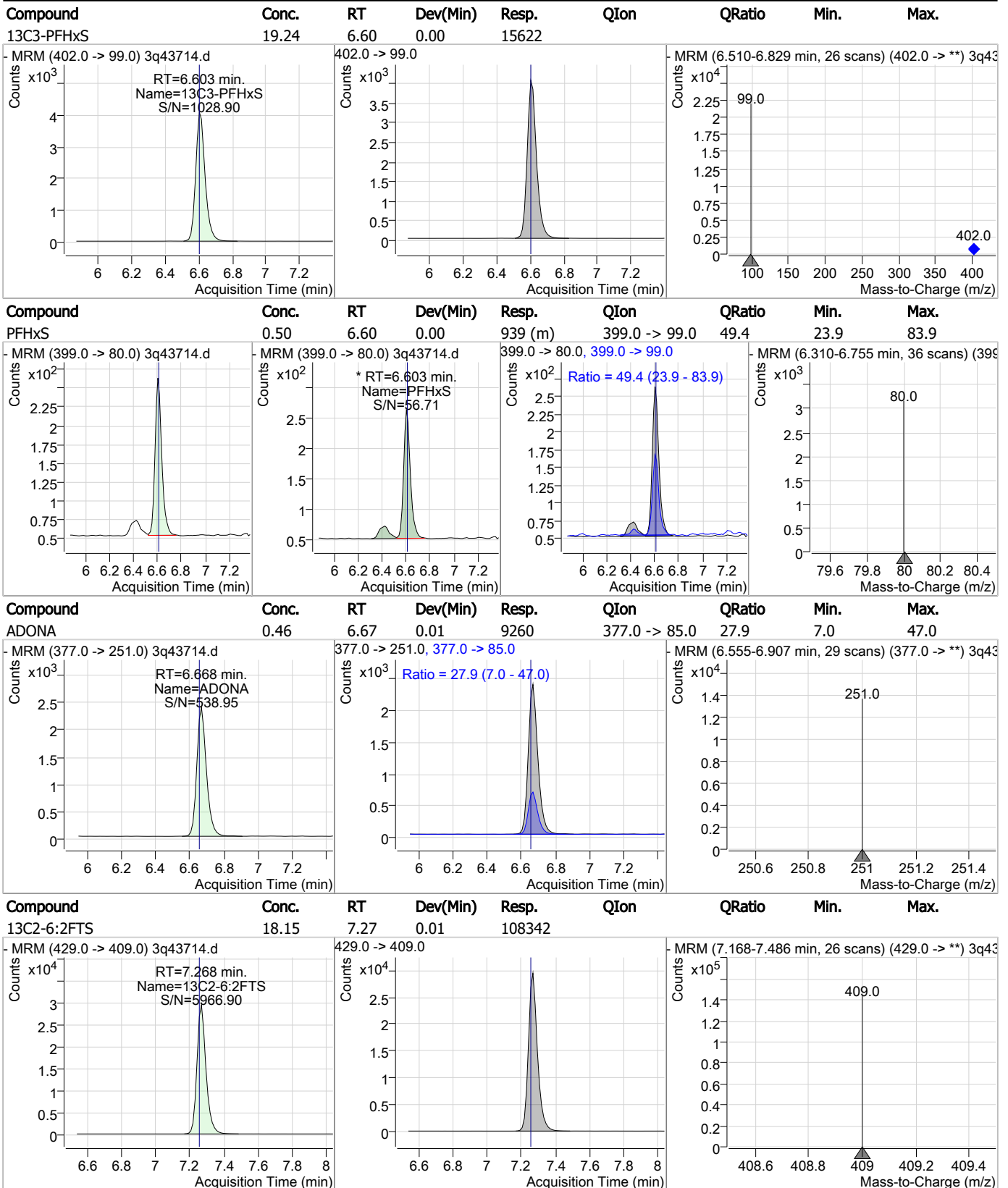


Perfluorinated Compounds by LC/MS/MS

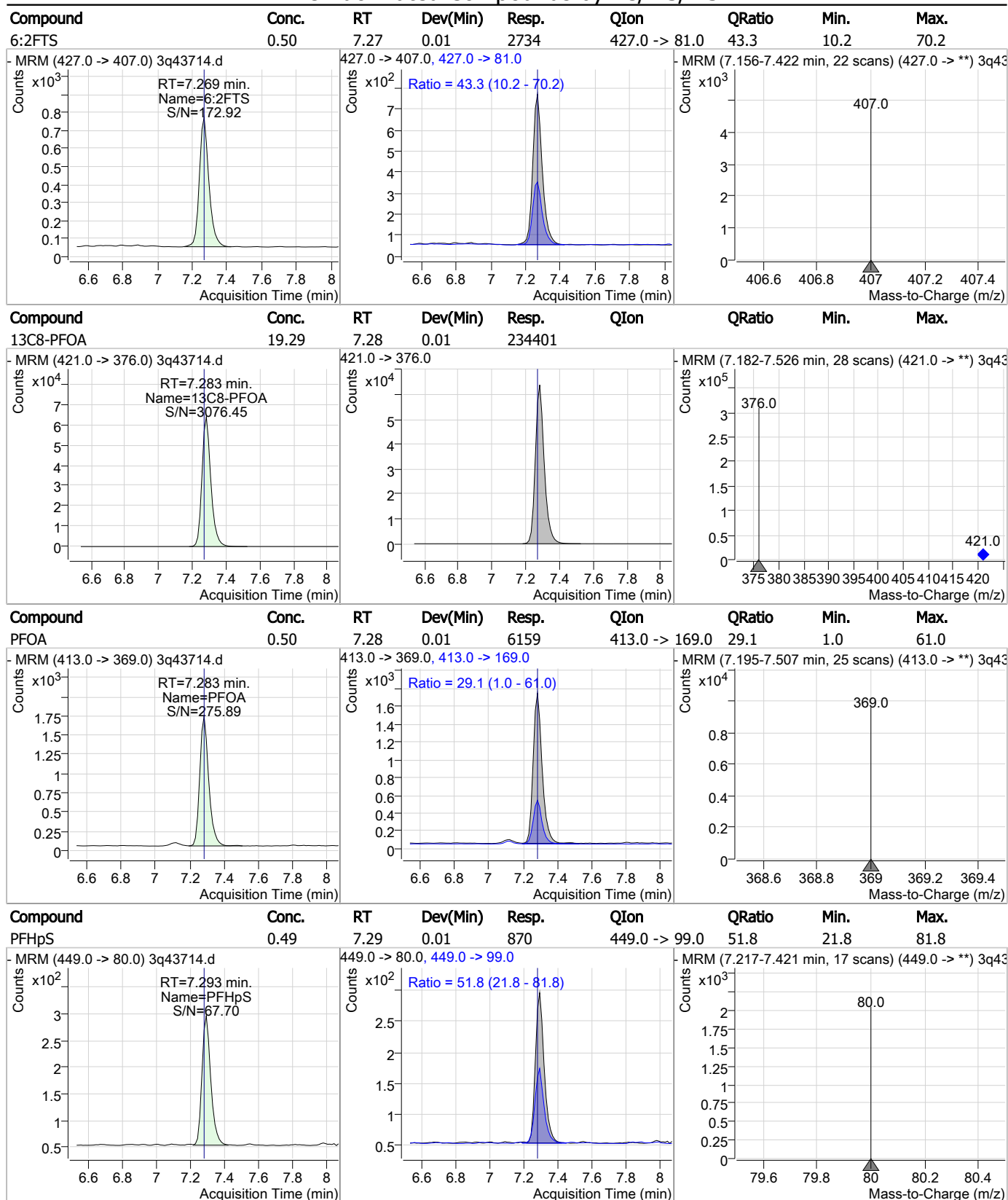


10.5.2 10

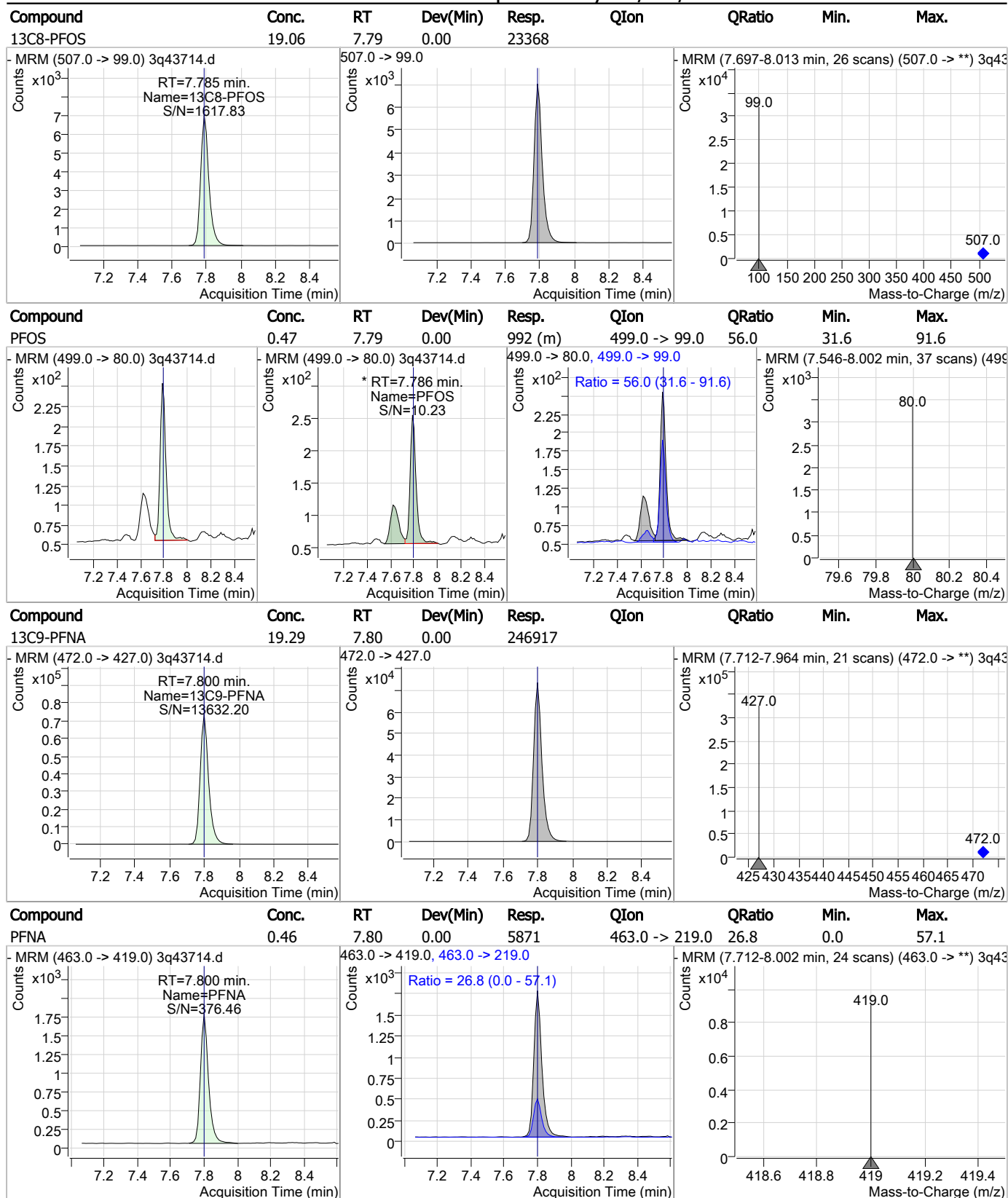
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

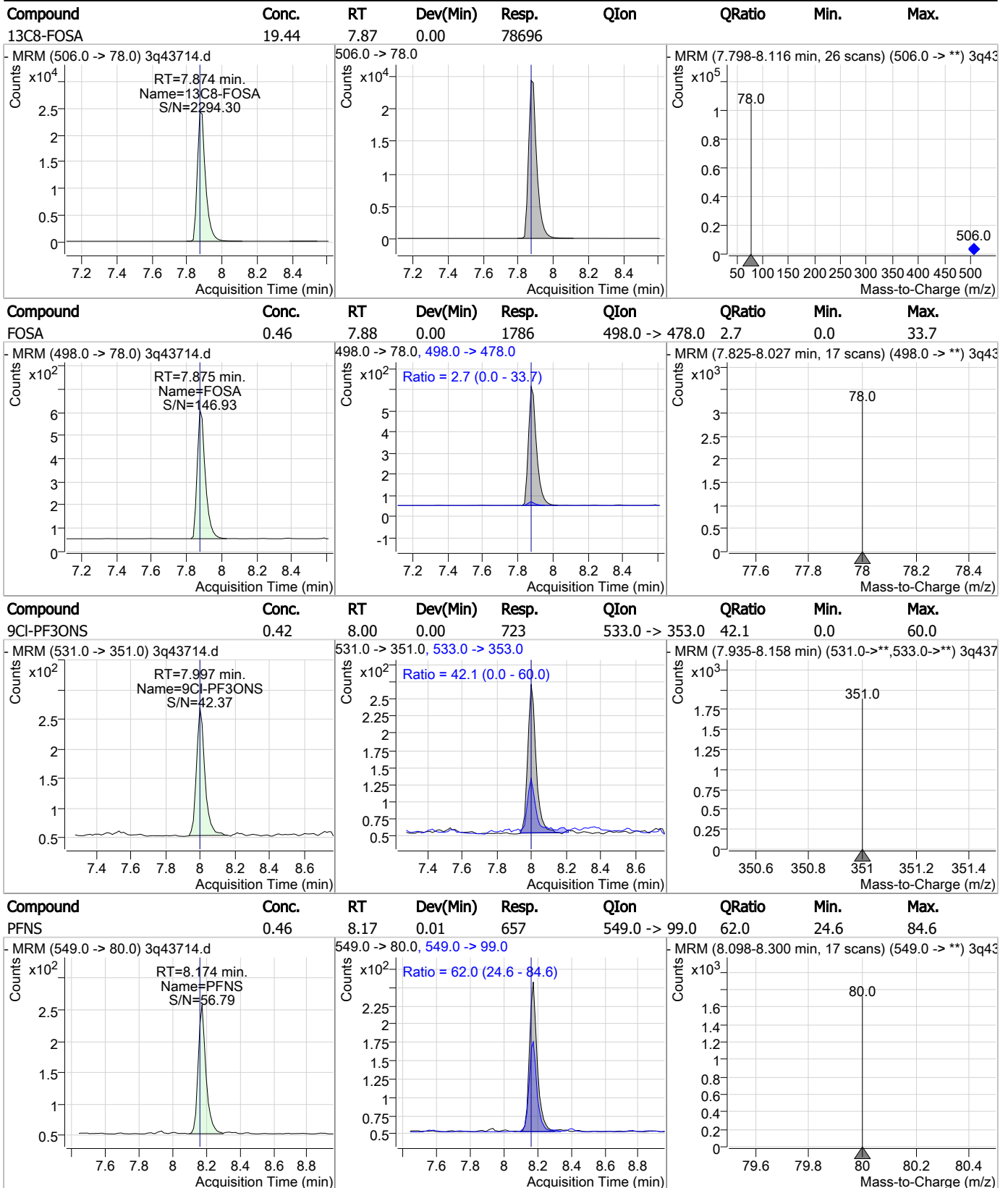


Perfluorinated Compounds by LC/MS/MS

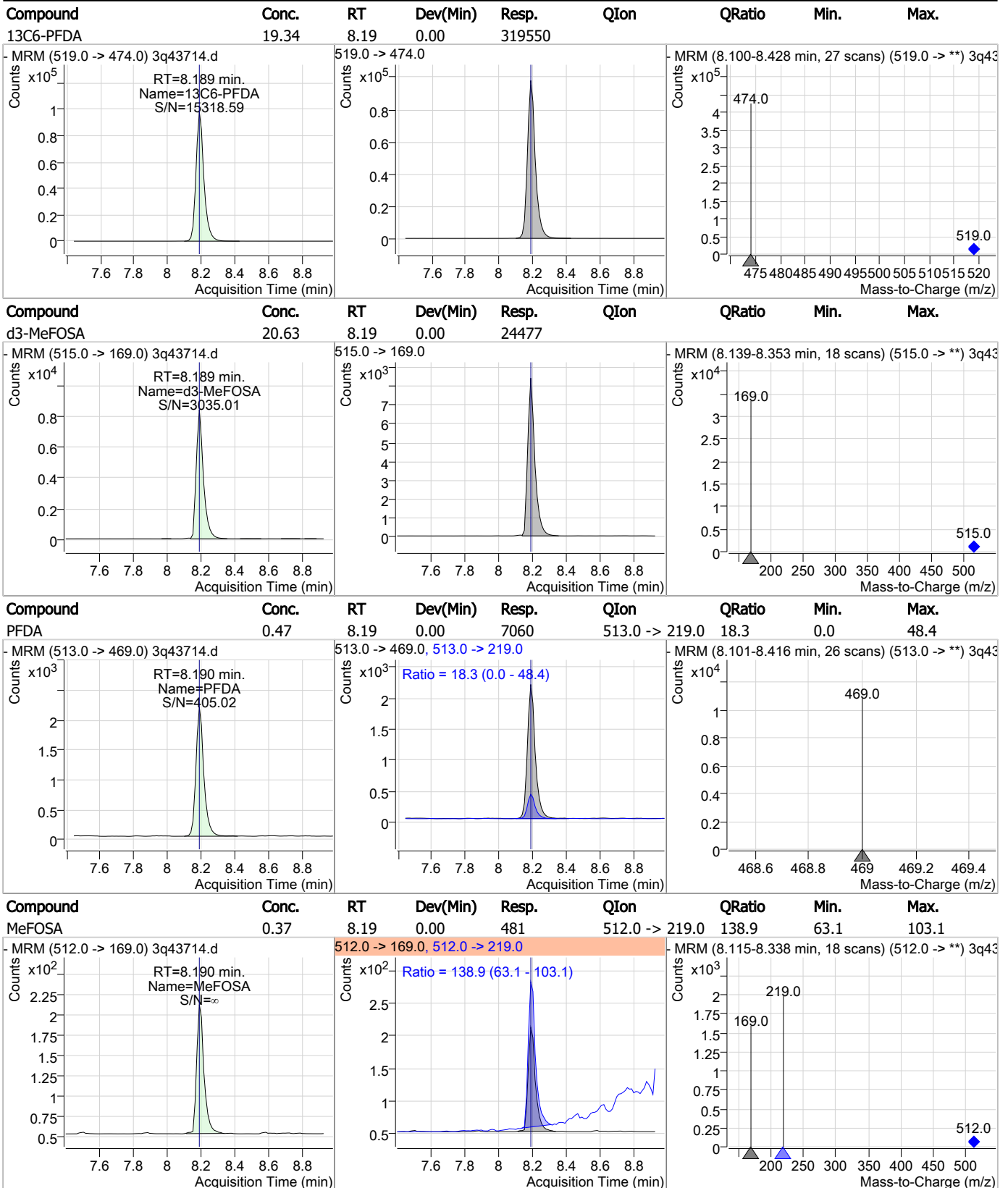


10.5.2 10

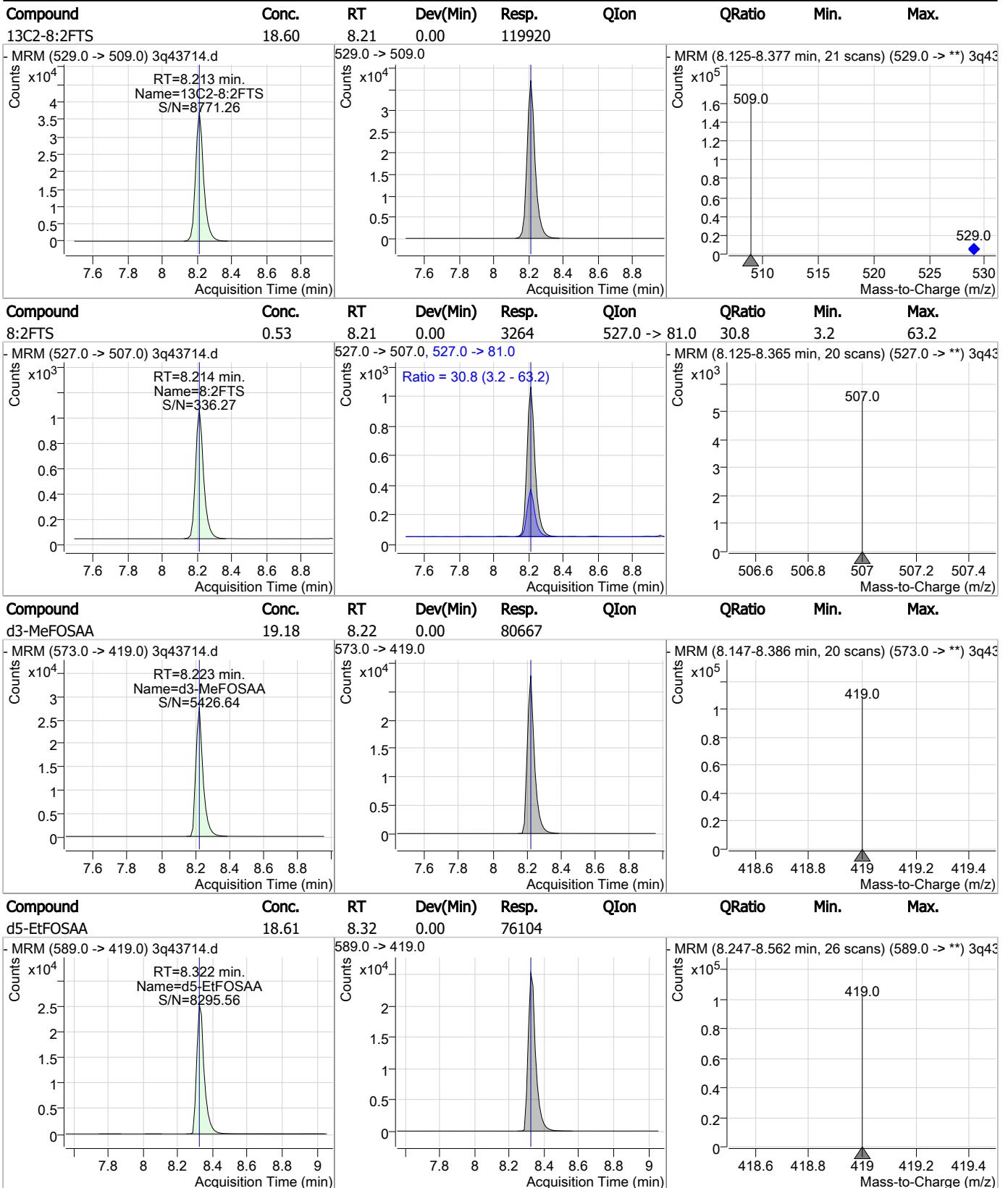
Perfluorinated Compounds by LC/MS/MS



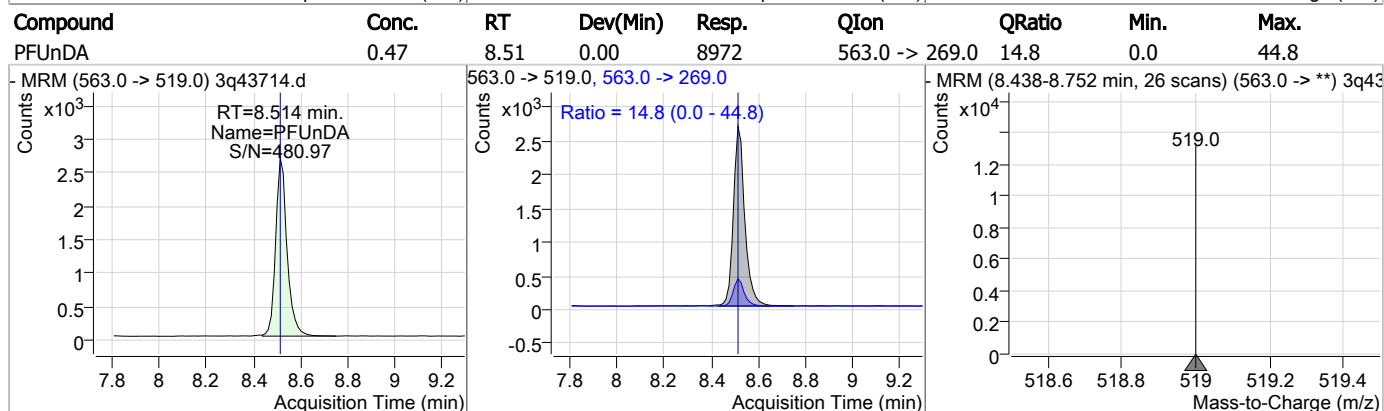
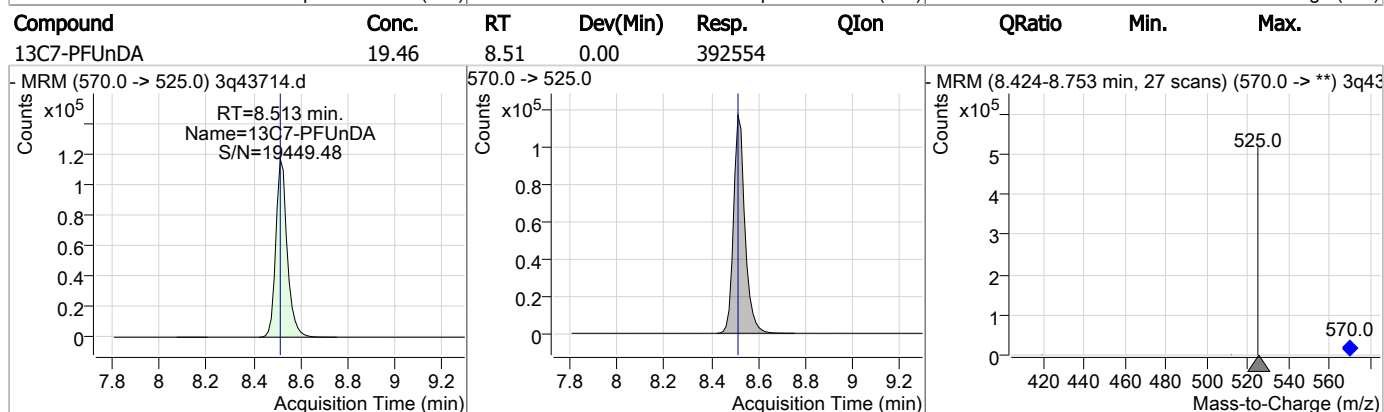
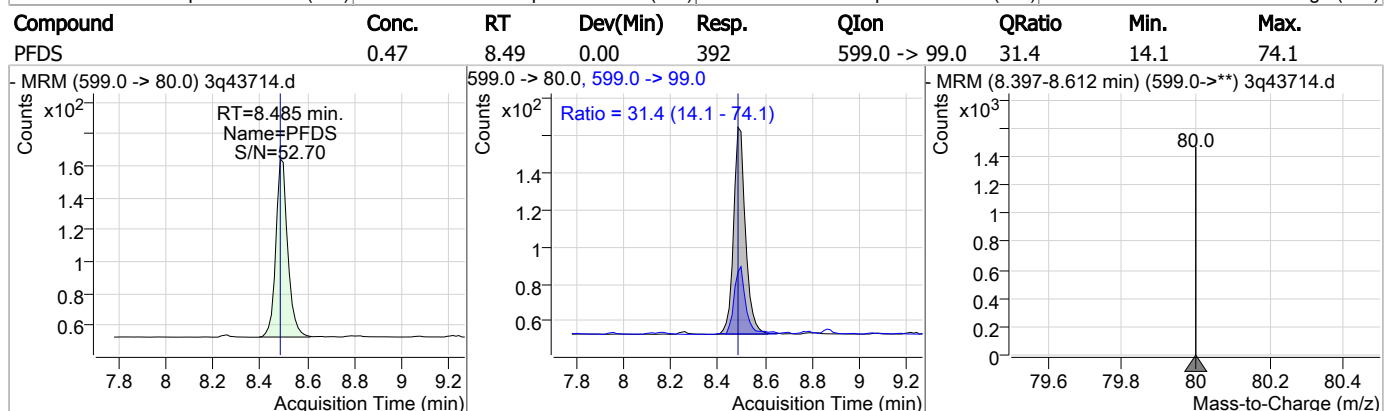
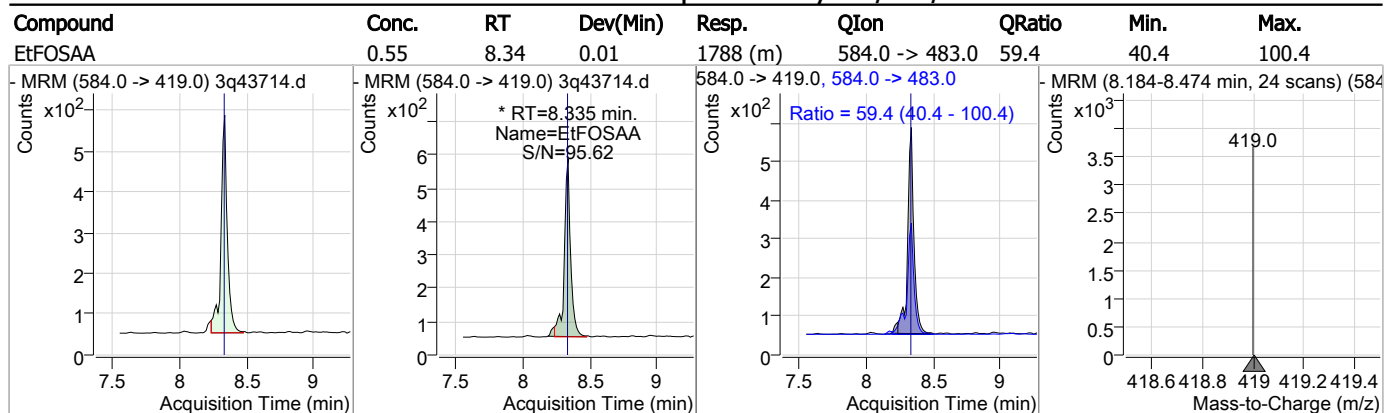
Perfluorinated Compounds by LC/MS/MS



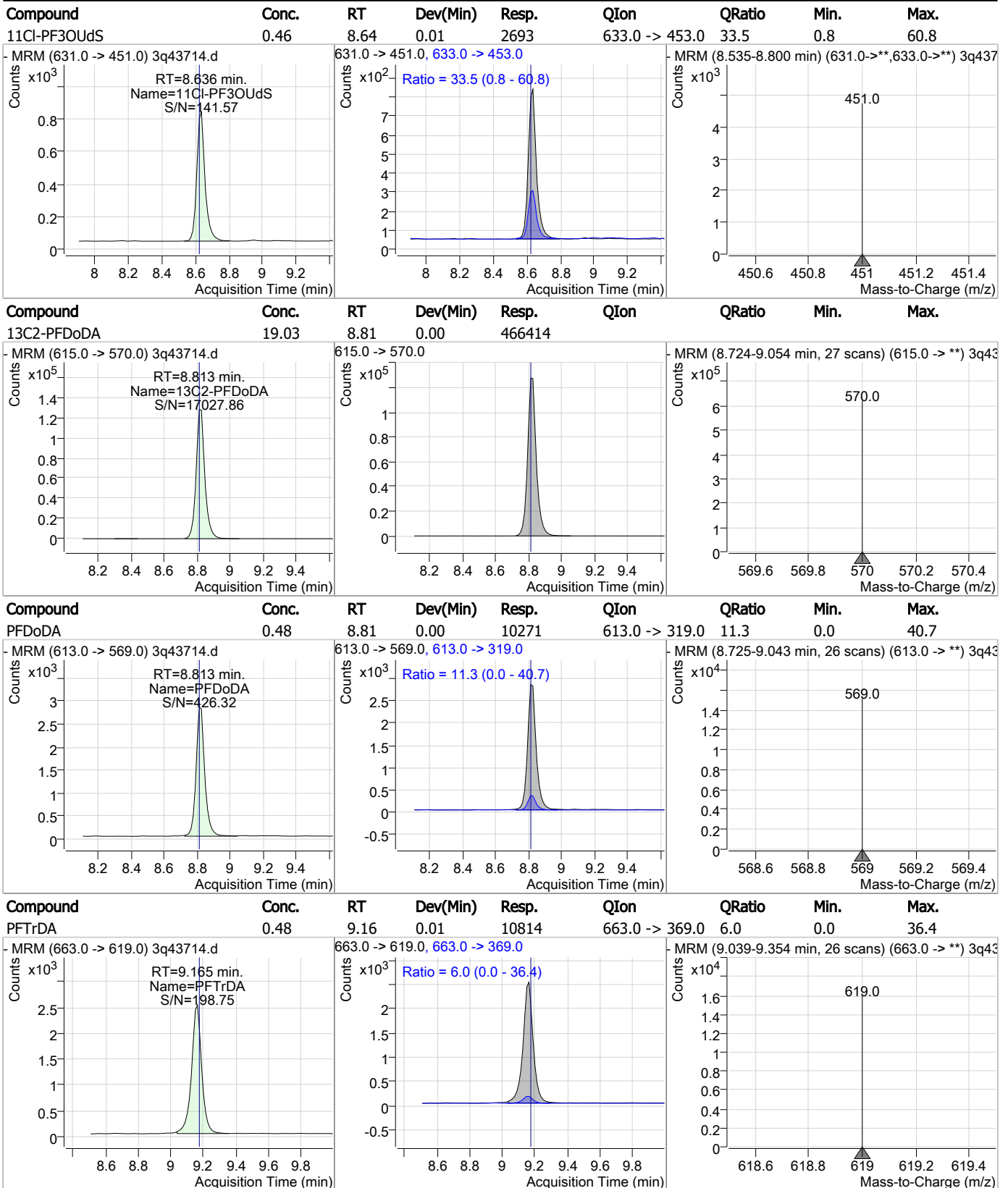
Perfluorinated Compounds by LC/MS/MS



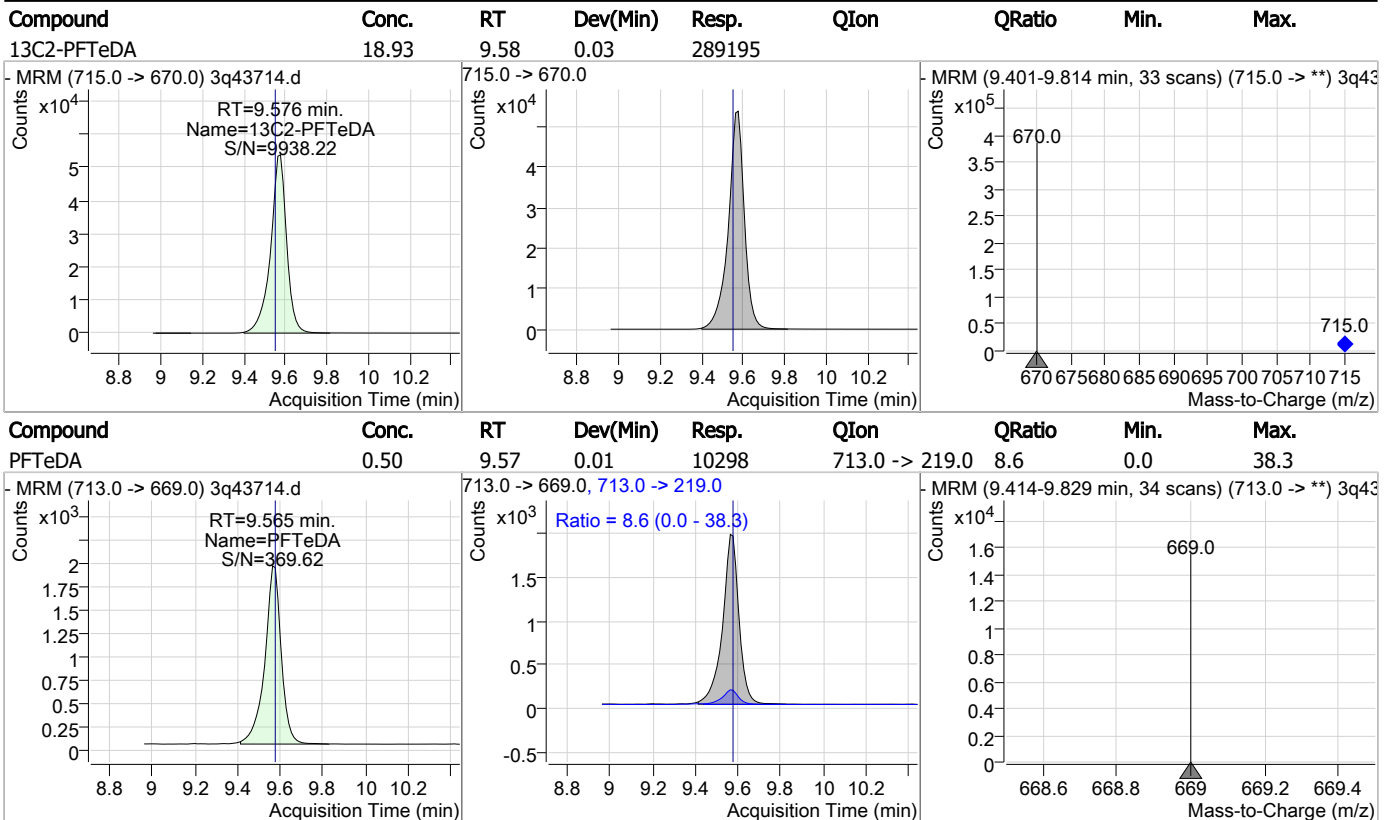
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

S3Q637-IC637

Lab FileID:

3Q43714.D

Injection Time:

08/27/21 20:51

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43715.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 9:07:34 PM
 Sample Name : ic637-1
 Vial : P1-A3
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.739	217.0 -> 172.0	135833	20.00 µg/L	0.013
M5-PFPeA	3.949	268.0 -> 223.0	120604	20.00 µg/L	0.000
M5-PFHxA	5.563	318.0 -> 273.0	173508	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	206883	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	253177	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	266666	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	350405	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	422765	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	507533	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	314651	20.00 µg/L	0.013
M8-FOSA	7.874	506.0 -> 78.0	85995	20.00 µg/L	0.000
M3-PFBS	4.367	302.0 -> 99.0	14647	20.00 µg/L	0.013
M3-PFHxS	6.603	402.0 -> 99.0	16618	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	25693	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	92347	20.00 µg/L	0.000
M2-6:2FTS	7.268	429.0 -> 409.0	118301	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	128301	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	87243	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	19145	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	26380	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	84653	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	92347	19.28 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 96.4%		
13C2-6:2FTS	7.268	429.0 -> 409.0	118301	19.82 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.1%		
13C2-8:2FTS	8.213	529.0 -> 509.0	128301	19.90 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.5%		
13C2-PFDoDA	8.813	615.0 -> 570.0	507533	20.71 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.5%		
13C2-PFTeDA	9.564	715.0 -> 670.0	314651	20.60 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C3-PFBS	4.367	302.0 -> 99.0	14647	20.57 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.9%		
13C3-PFHxS	6.603	402.0 -> 99.0	16618	20.47 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.3%		
13C4-PFBA	1.739	217.0 -> 172.0	135833	20.47 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.3%		
13C4-PFHpA	6.556	367.0 -> 322.0	206883	20.73 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C5-PFHxA	5.563	318.0 -> 273.0	173508	20.57 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.9%		
13C5-PFPeA	3.949	268.0 -> 223.0	120604	20.52 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.6%		
13C6-PFDA	8.189	519.0 -> 474.0	350405	21.20 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

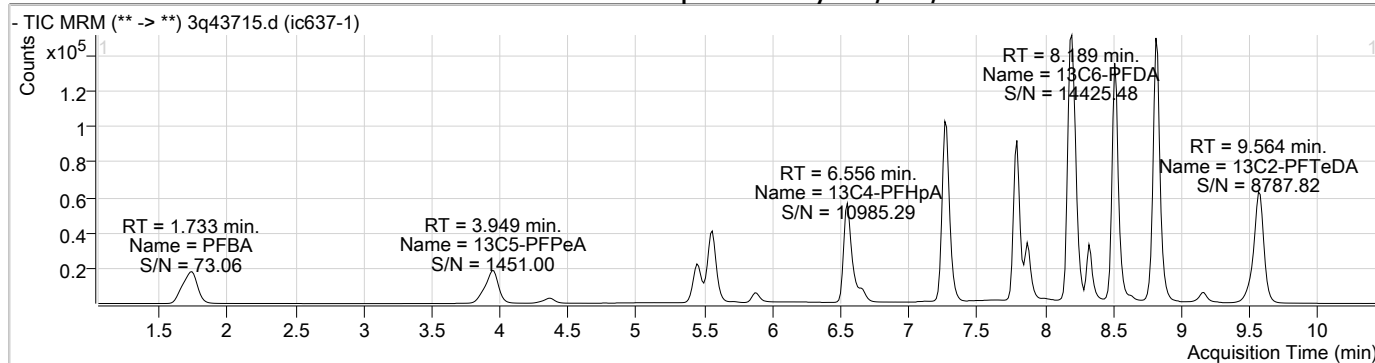
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.0%	
13C7-PFUnDA	8.513	570.0 -> 525.0	422765	20.95 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C8-FOSA	7.874	506.0 -> 78.0	85995	21.25 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C8-PFOA	7.283	421.0 -> 376.0	253177	20.83 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.2%	
13C8-PFOS	7.785	507.0 -> 99.0	25693	20.95 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C9-PFNA	7.800	472.0 -> 427.0	266666	20.83 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.2%	
d3-MeFOSAA	8.223	573.0 -> 419.0	87243	20.75 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	19144	20.54 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
d3-MeFOSA	8.189	515.0 -> 169.0	26380	22.23 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.2%	
d5-EtFOSAA	8.322	589.0 -> 419.0	84636	20.69 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.5%	

Target Compounds

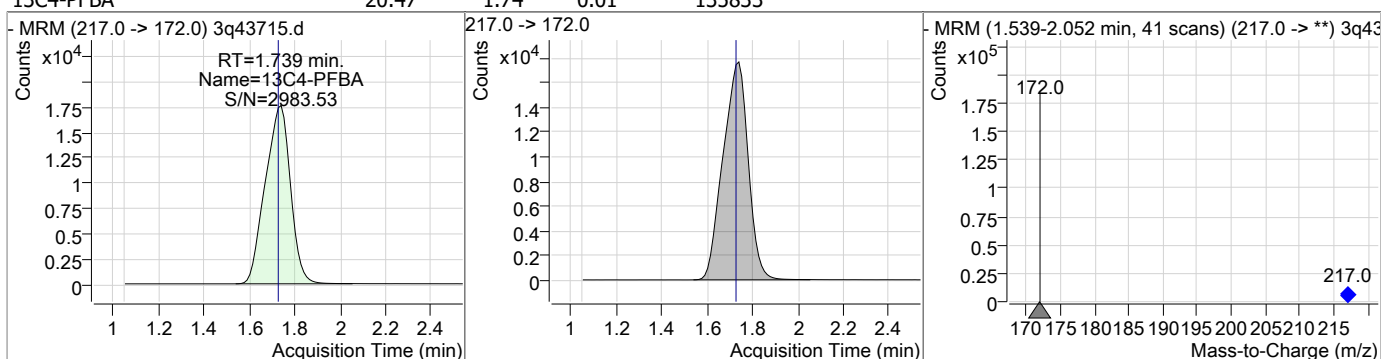
					QValue
4:2FTS	5.448	327.0 -> 307.0	5021	0.97 µg/L	97
6:2FTS	7.269	427.0 -> 407.0	5735	0.97 µg/L	100
8:2FTS	8.214	527.0 -> 507.0	6603	0.99 µg/L	97
EtFOSAA	8.335	584.0 -> 419.0	3344	0.93 µg/L	m 91
FOSA	7.875	498.0 -> 78.0	3805	0.89 µg/L	98
MeFOSAA	8.223	570.0 -> 419.0	3568	0.91 µg/L	m 97
PFBA	1.733	213.0 -> 169.0	3061	0.90 µg/L	100
PFBS	4.357	299.0 -> 80.0	1774	0.91 µg/L	100
PFDA	8.190	513.0 -> 469.0	14265	0.86 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	20600	0.89 µg/L	99
PFDS	8.485	599.0 -> 80.0	690	0.77 µg/L	83
PFHpA	6.557	363.0 -> 319.0	14498	0.87 µg/L	97
PFHpS	7.293	449.0 -> 80.0	1770	0.91 µg/L	97
PFHxA	5.565	313.0 -> 269.0	6579	0.87 µg/L	99
PFHxS	6.603	399.0 -> 80.0	1810	0.90 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	12012	0.87 µg/L	97
PFNS	8.174	549.0 -> 80.0	1545	0.99 µg/L	97
PFOA	7.283	413.0 -> 369.0	11666	0.88 µg/L	99
PFOS	7.786	499.0 -> 80.0	2190	0.95 µg/L	m 75
PFPeA	3.951	263.0 -> 219.0	7345	0.90 µg/L	100
PFPeS	5.719	349.0 -> 80.0	1308	0.91 µg/L	98
PFTeDA	9.565	713.0 -> 669.0	19822	0.88 µg/L	99
PFTTrDA	9.165	663.0 -> 619.0	22005	0.89 µg/L	99
PFUnDA	8.514	563.0 -> 519.0	17725	0.87 µg/L	99
11Cl-PF3OUdS	8.623	631.0 -> 451.0	5601	0.87 µg/L	97
9Cl-PF3ONS	7.997	531.0 -> 351.0	1515	0.80 µg/L	98
ADONA	6.668	377.0 -> 251.0	18704	0.87 µg/L	99
HFPO-DA	5.888	329.0 -> 169.0	2874	0.92 µg/L	99
MeFOSA	8.190	512.0 -> 169.0	1238	0.89 µg/L	96

= Qualifier out of range, m = manually integrated, + = Area summed

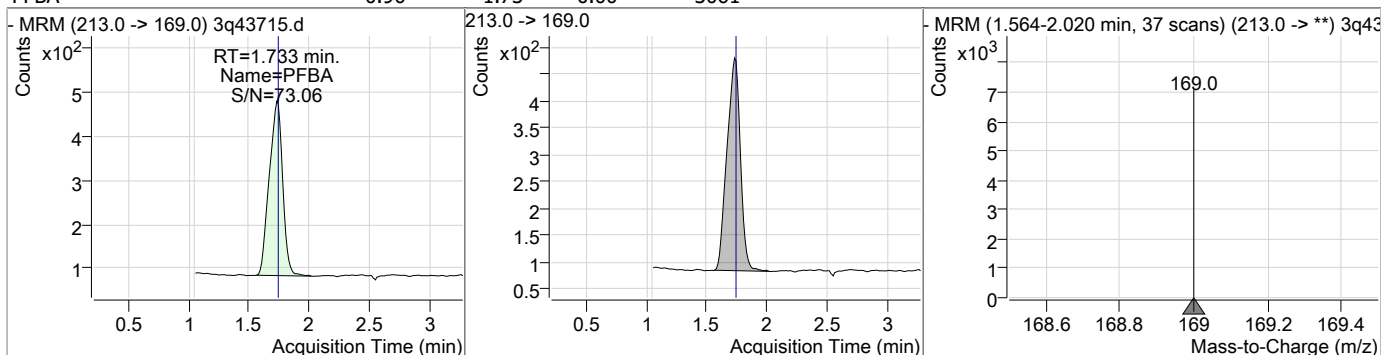
Perfluorinated Compounds by LC/MS/MS



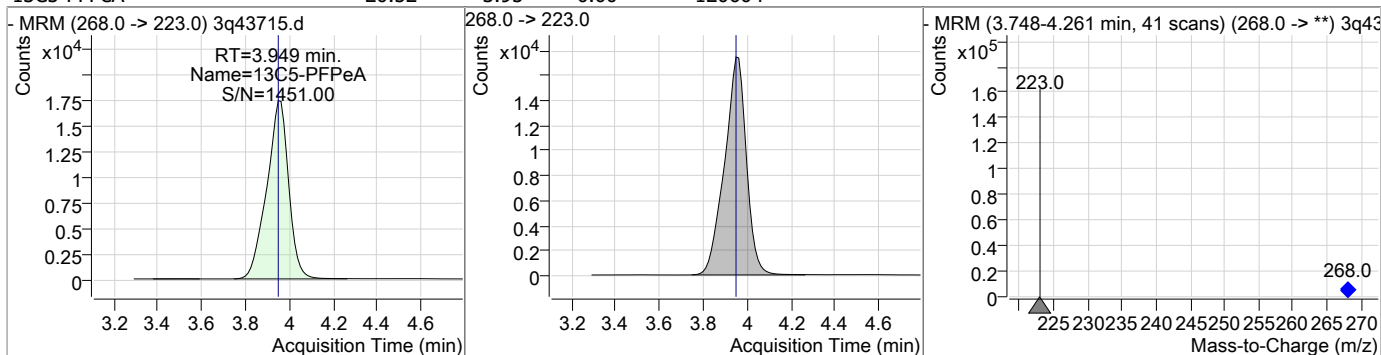
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



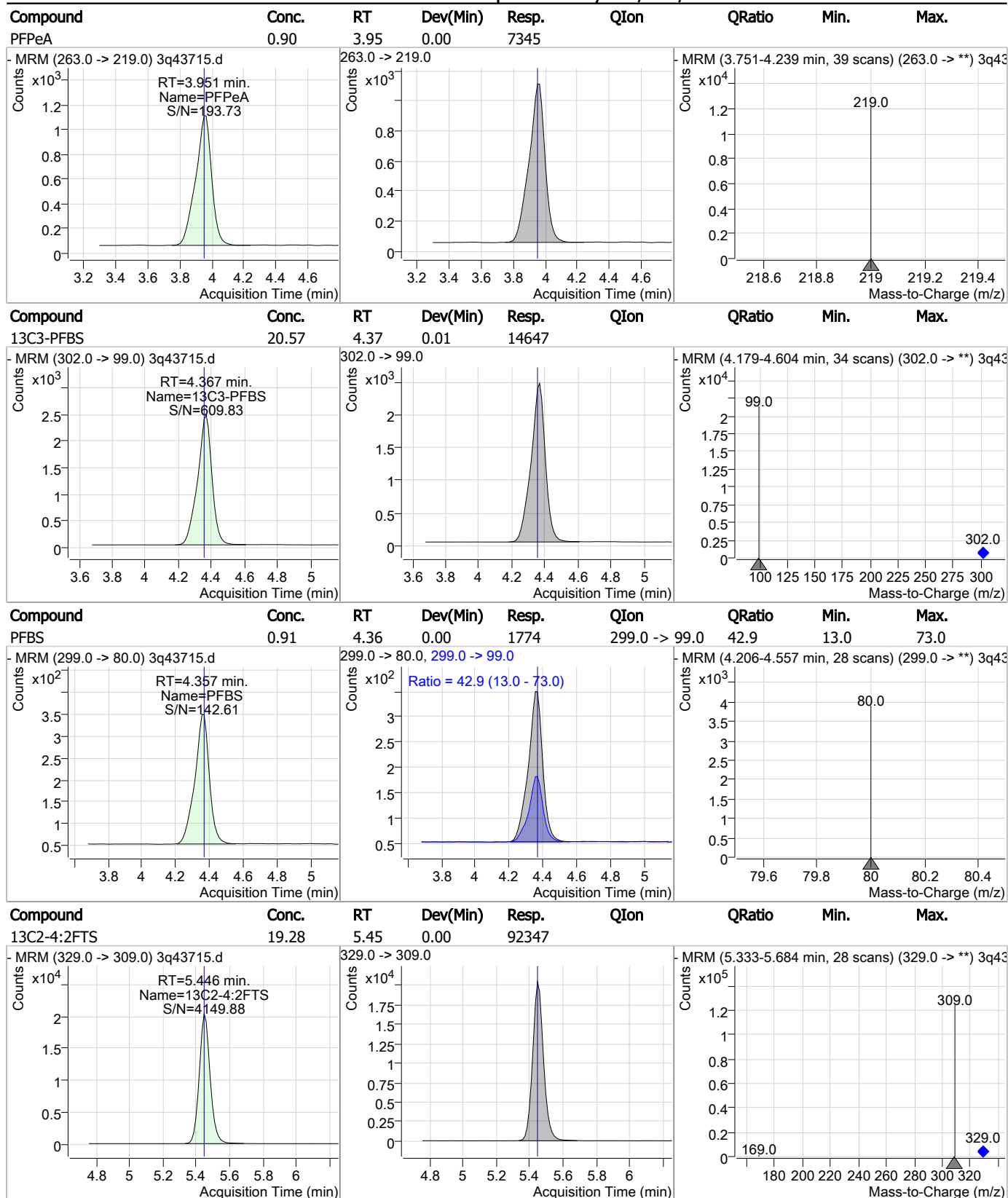
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



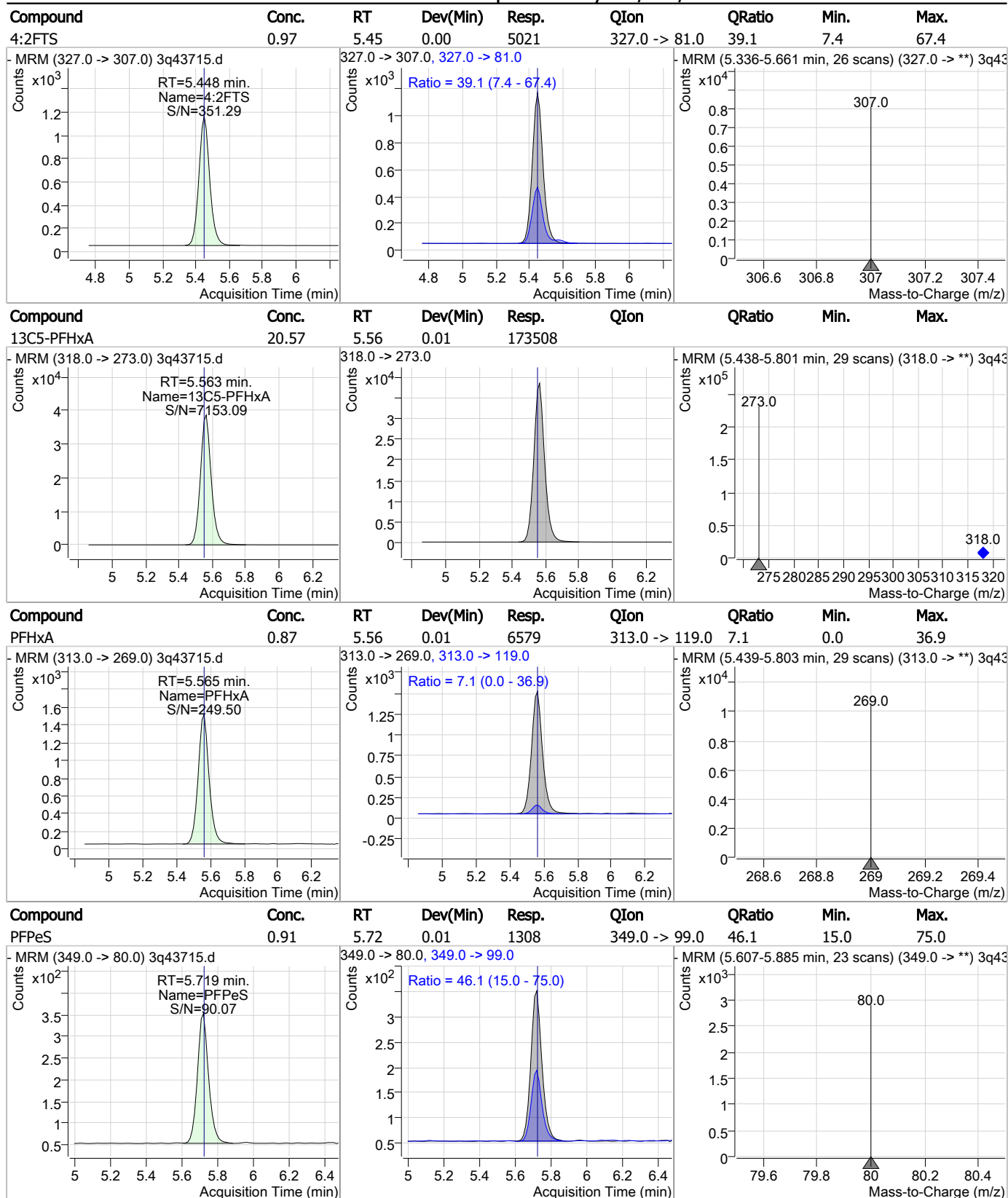
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



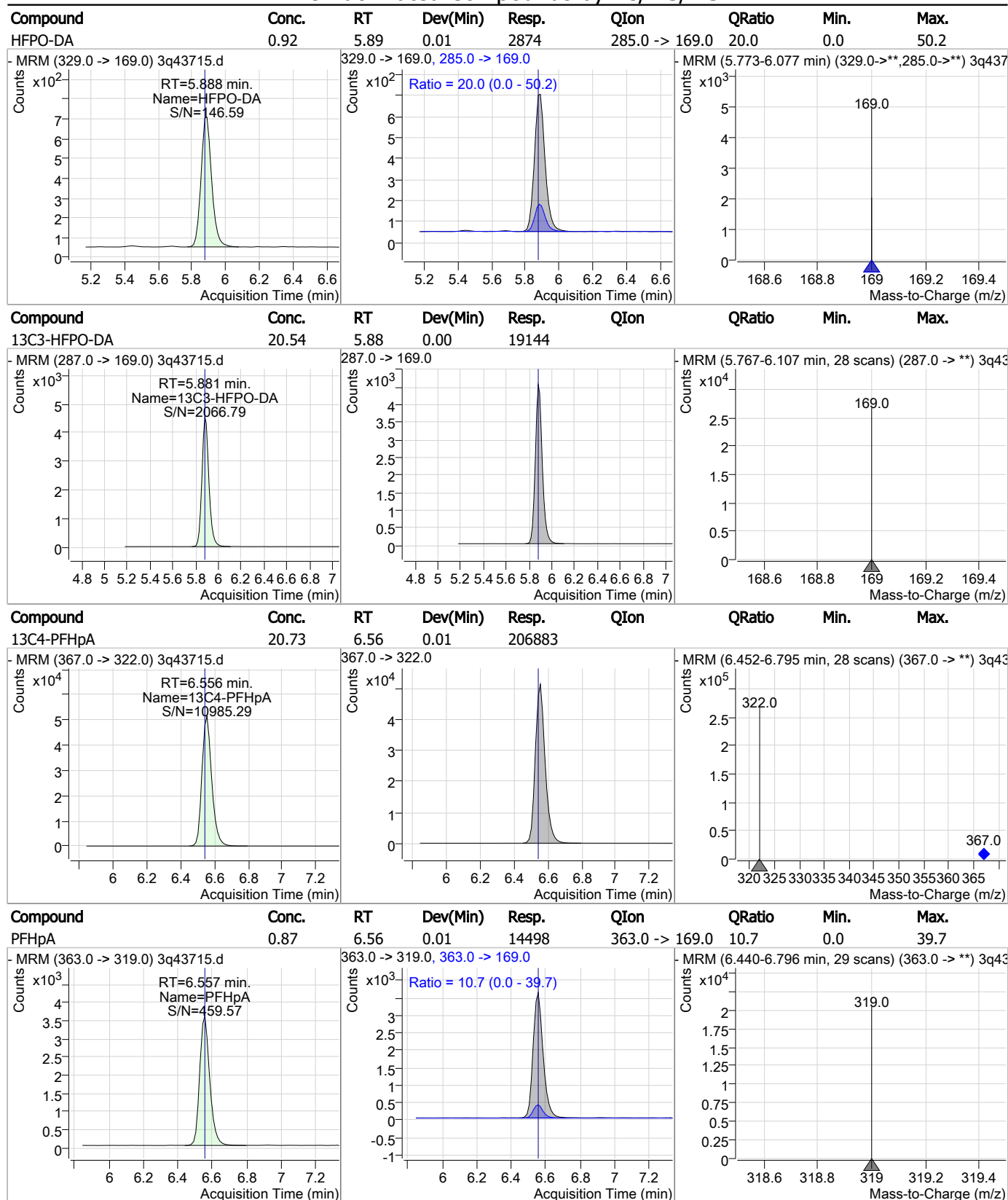
Perfluorinated Compounds by LC/MS/MS



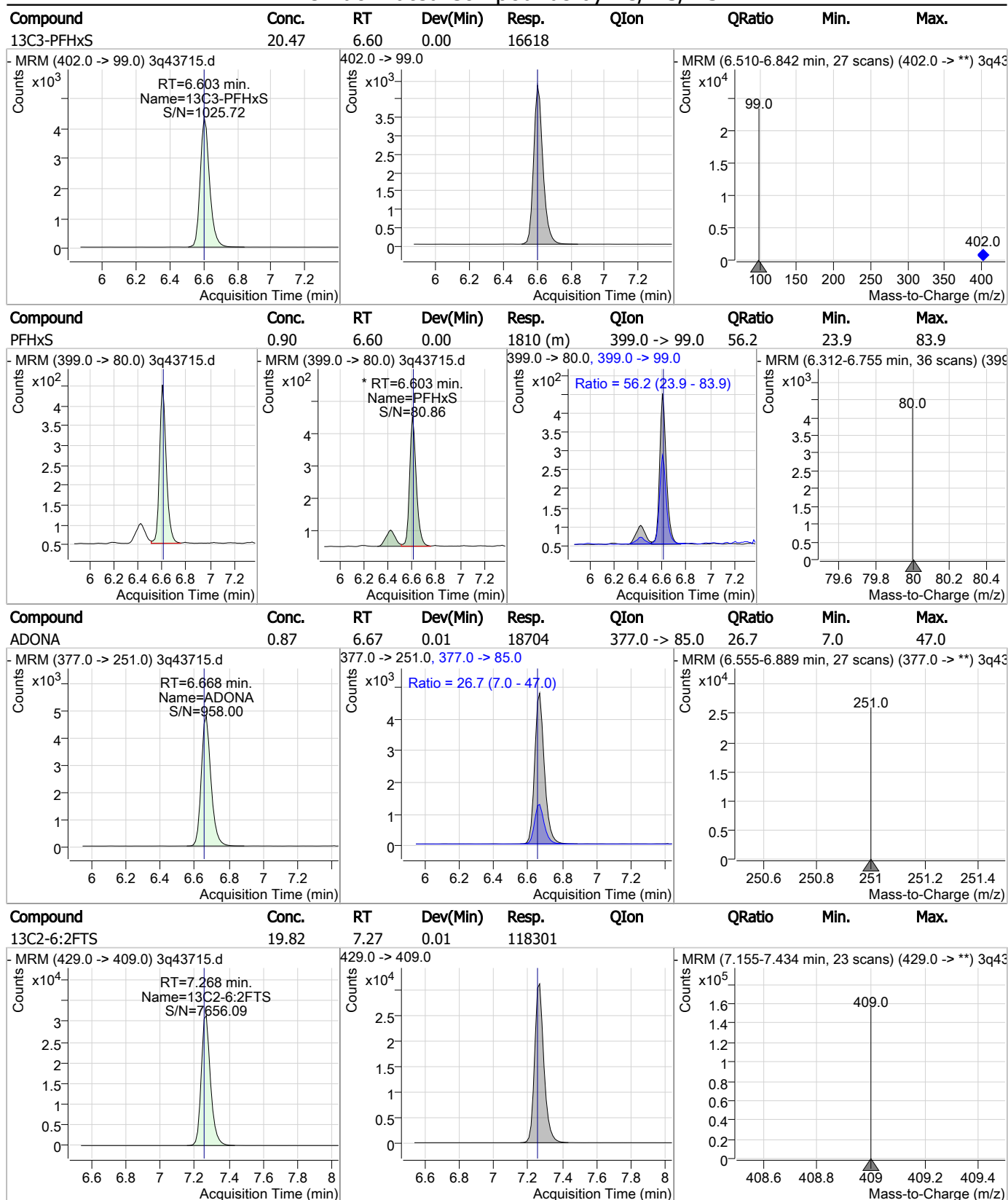
Perfluorinated Compounds by LC/MS/MS



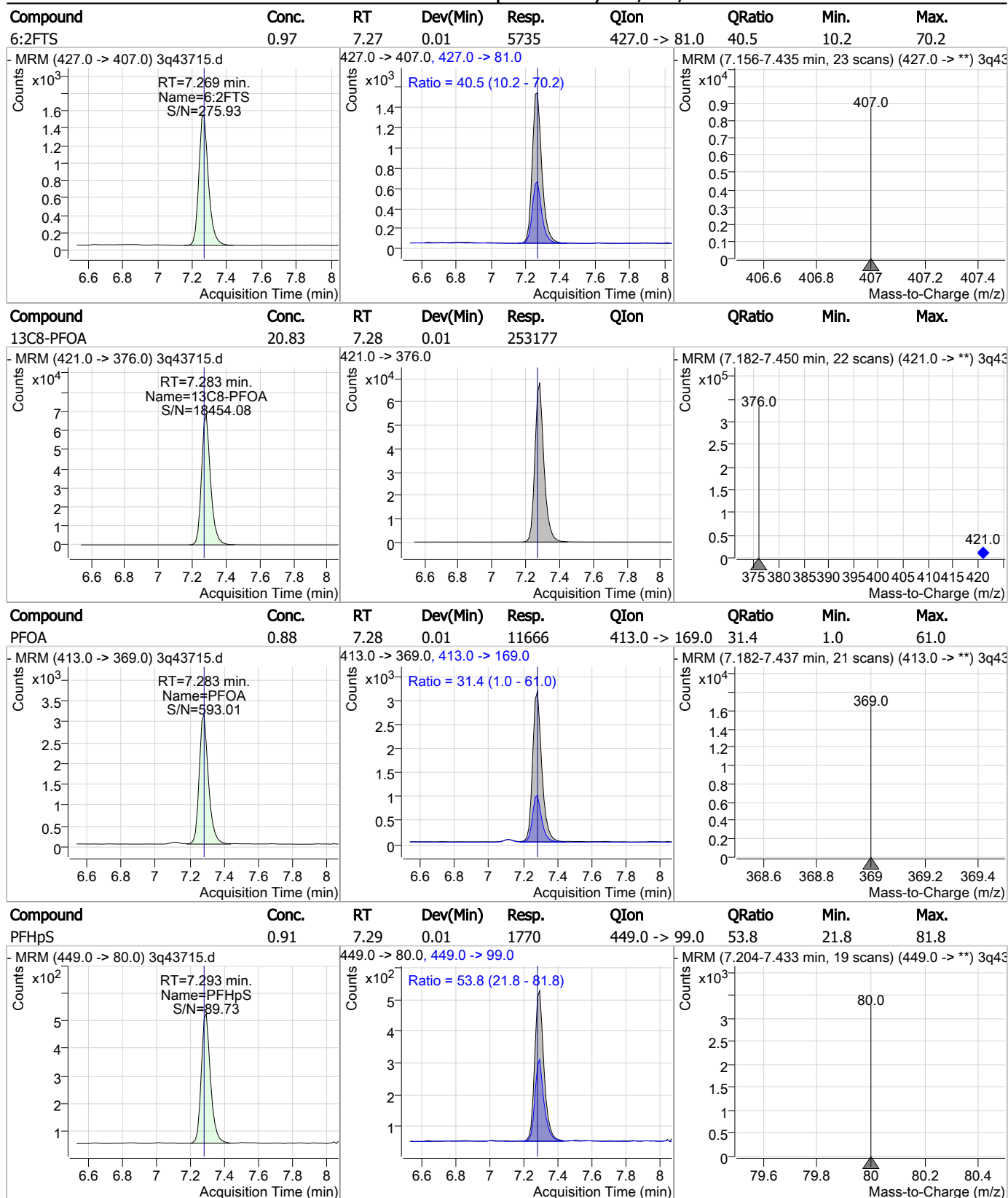
Perfluorinated Compounds by LC/MS/MS

10.5.3
10

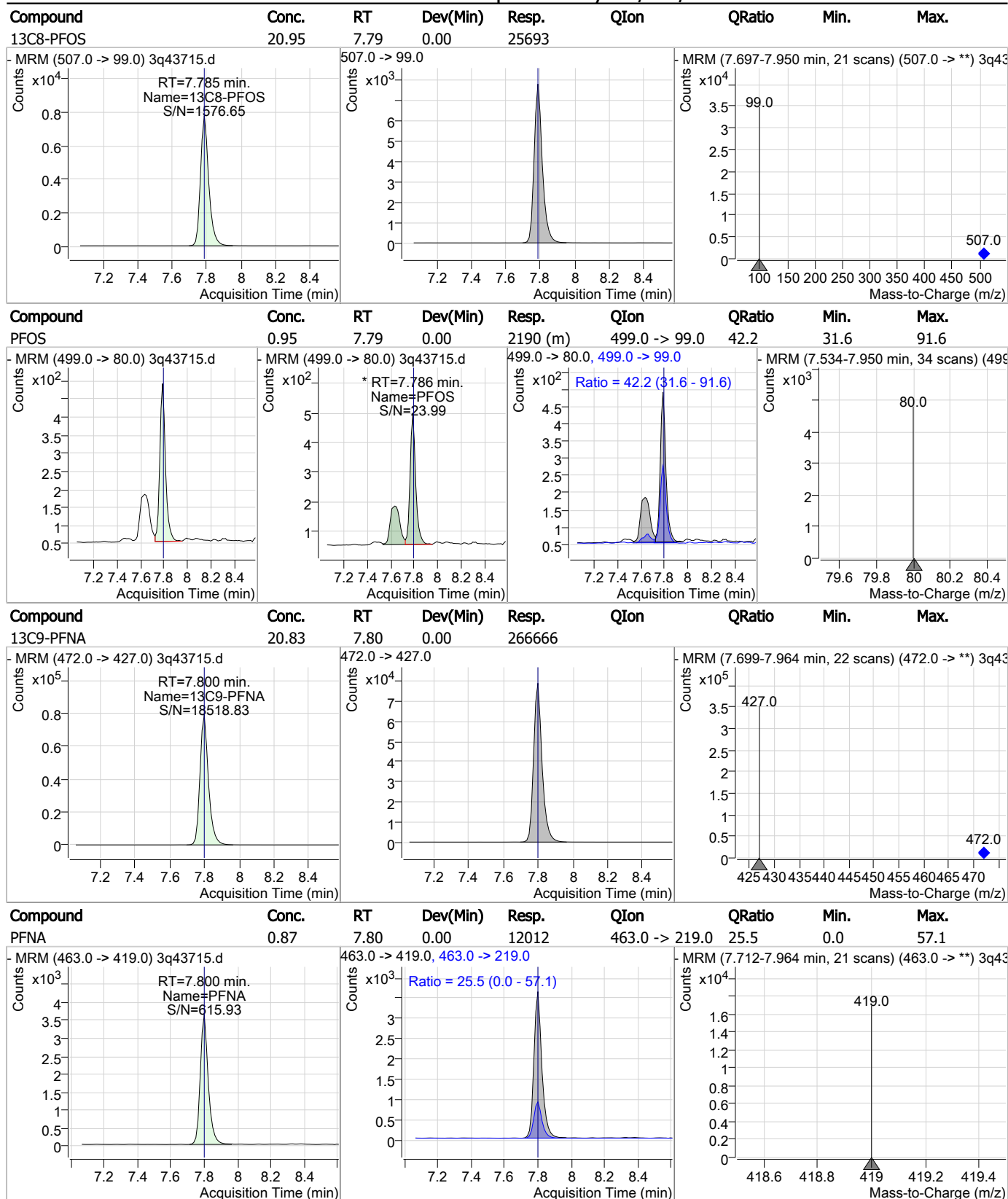
Perfluorinated Compounds by LC/MS/MS



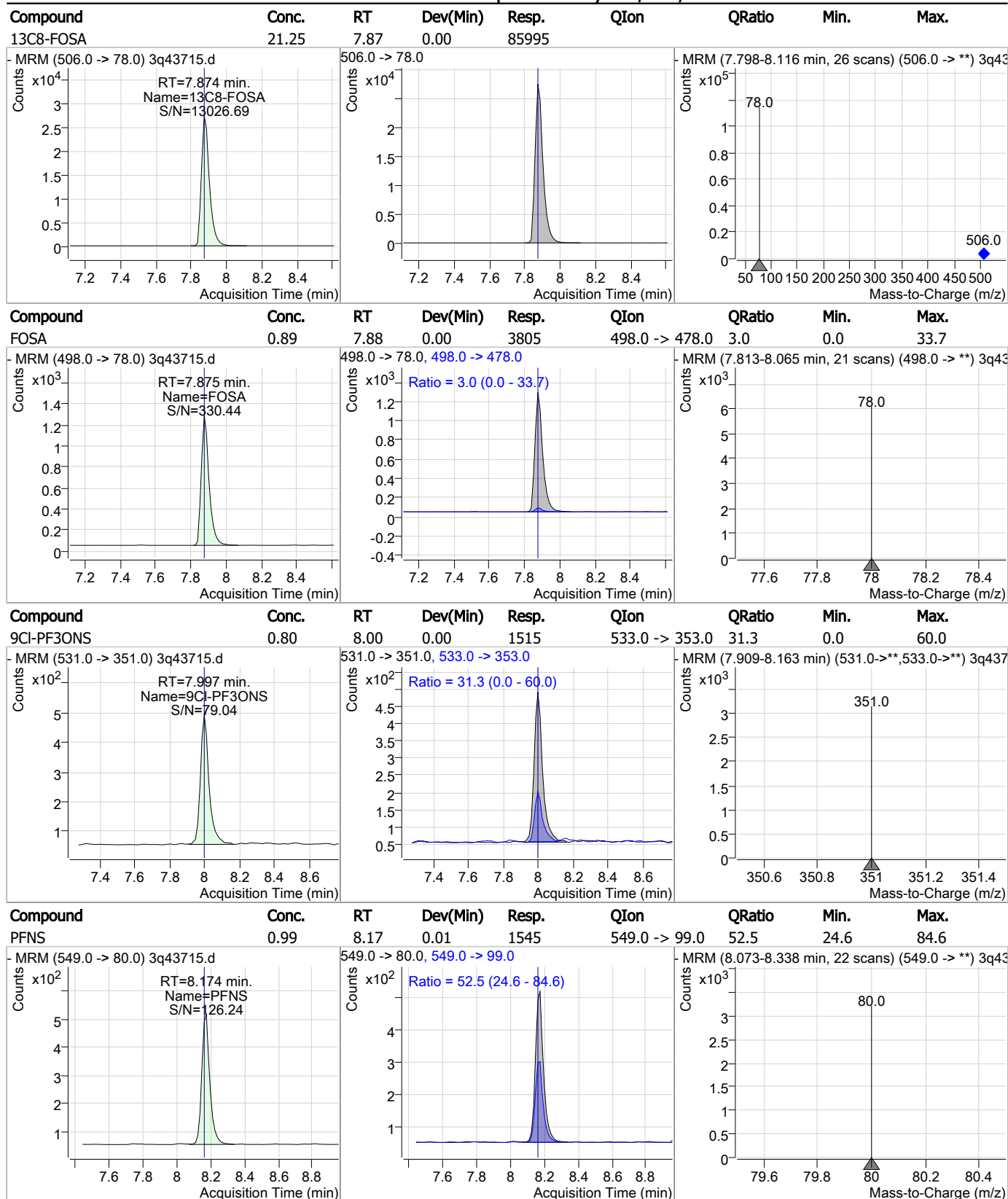
Perfluorinated Compounds by LC/MS/MS



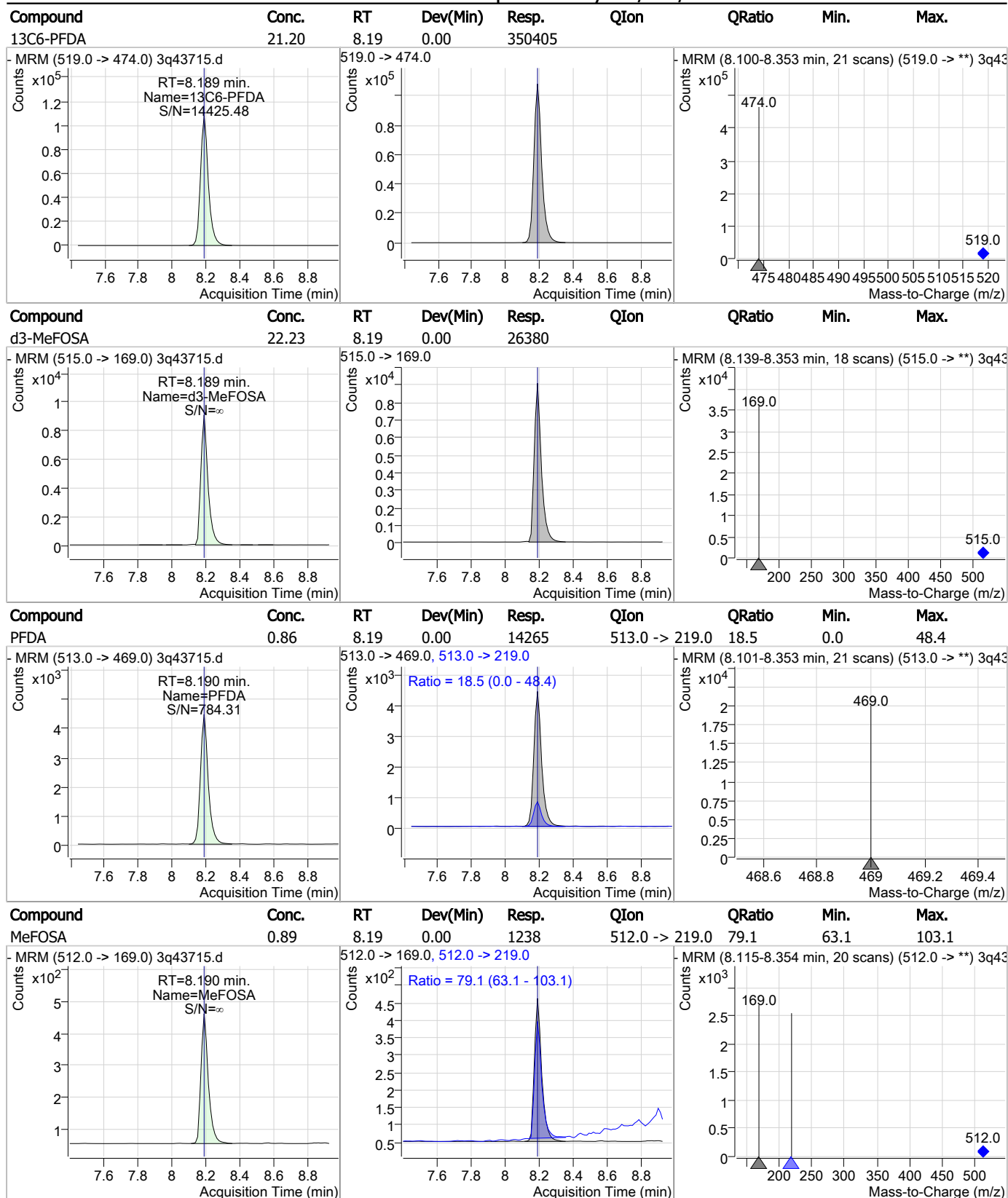
Perfluorinated Compounds by LC/MS/MS



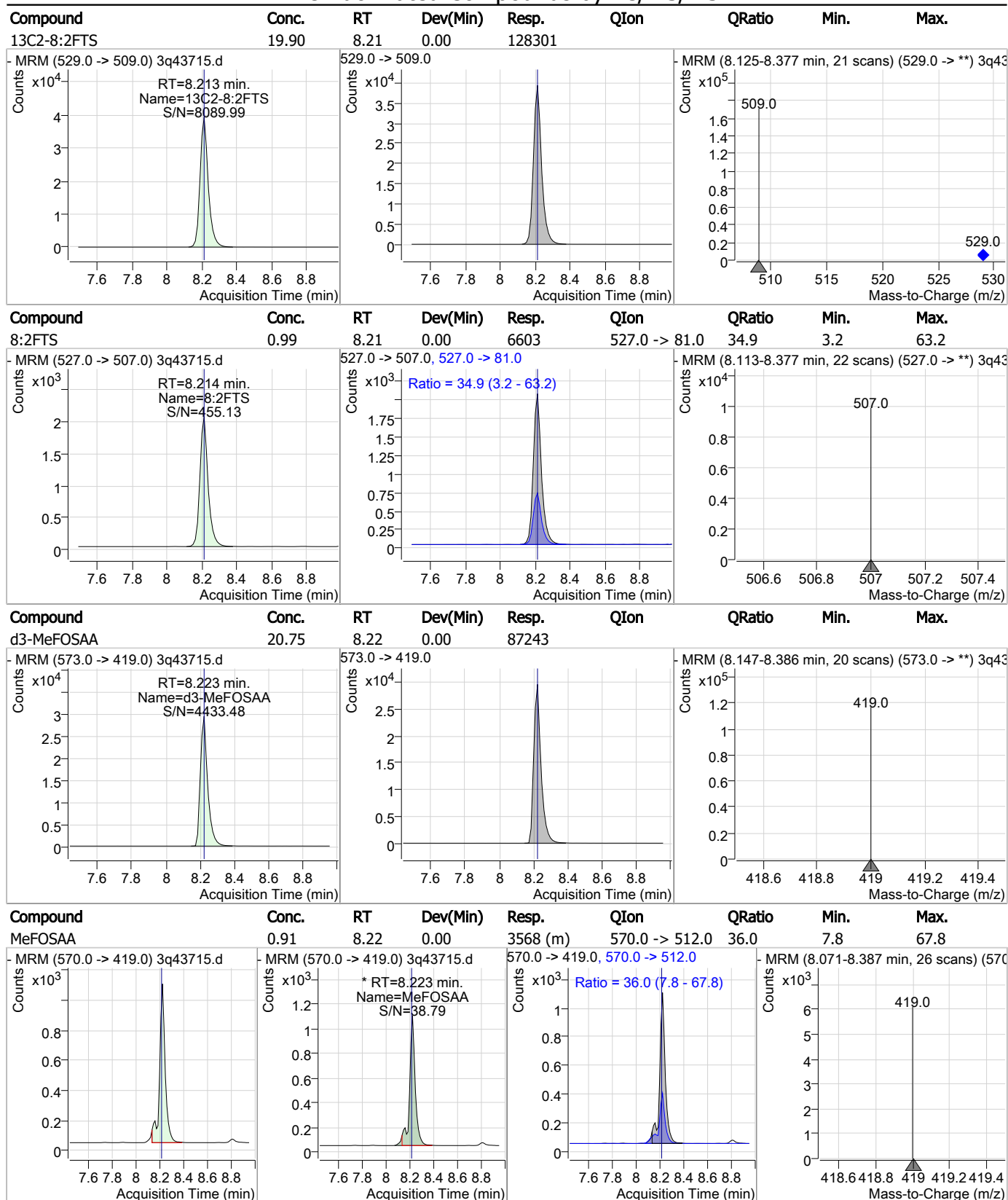
Perfluorinated Compounds by LC/MS/MS



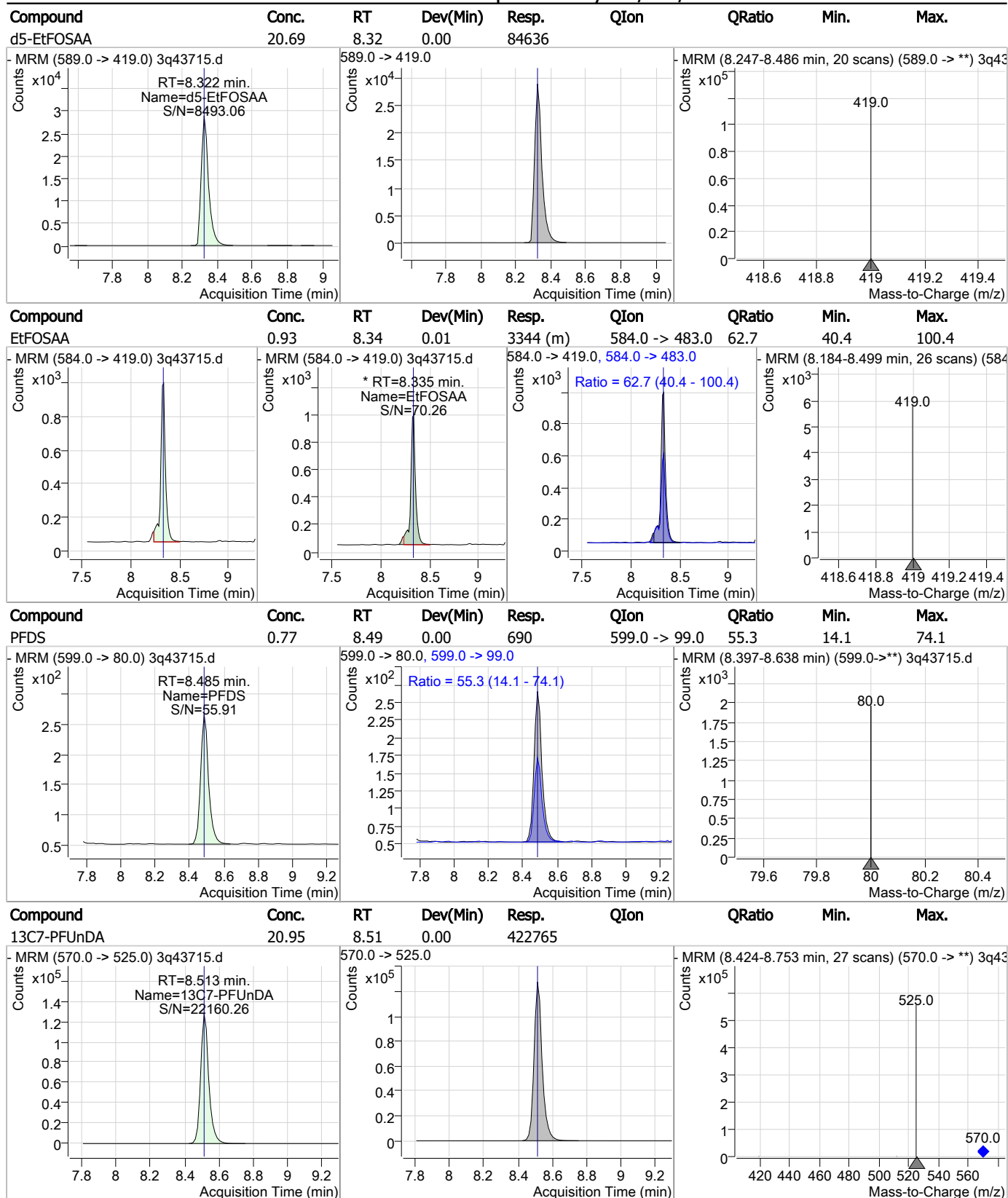
Perfluorinated Compounds by LC/MS/MS



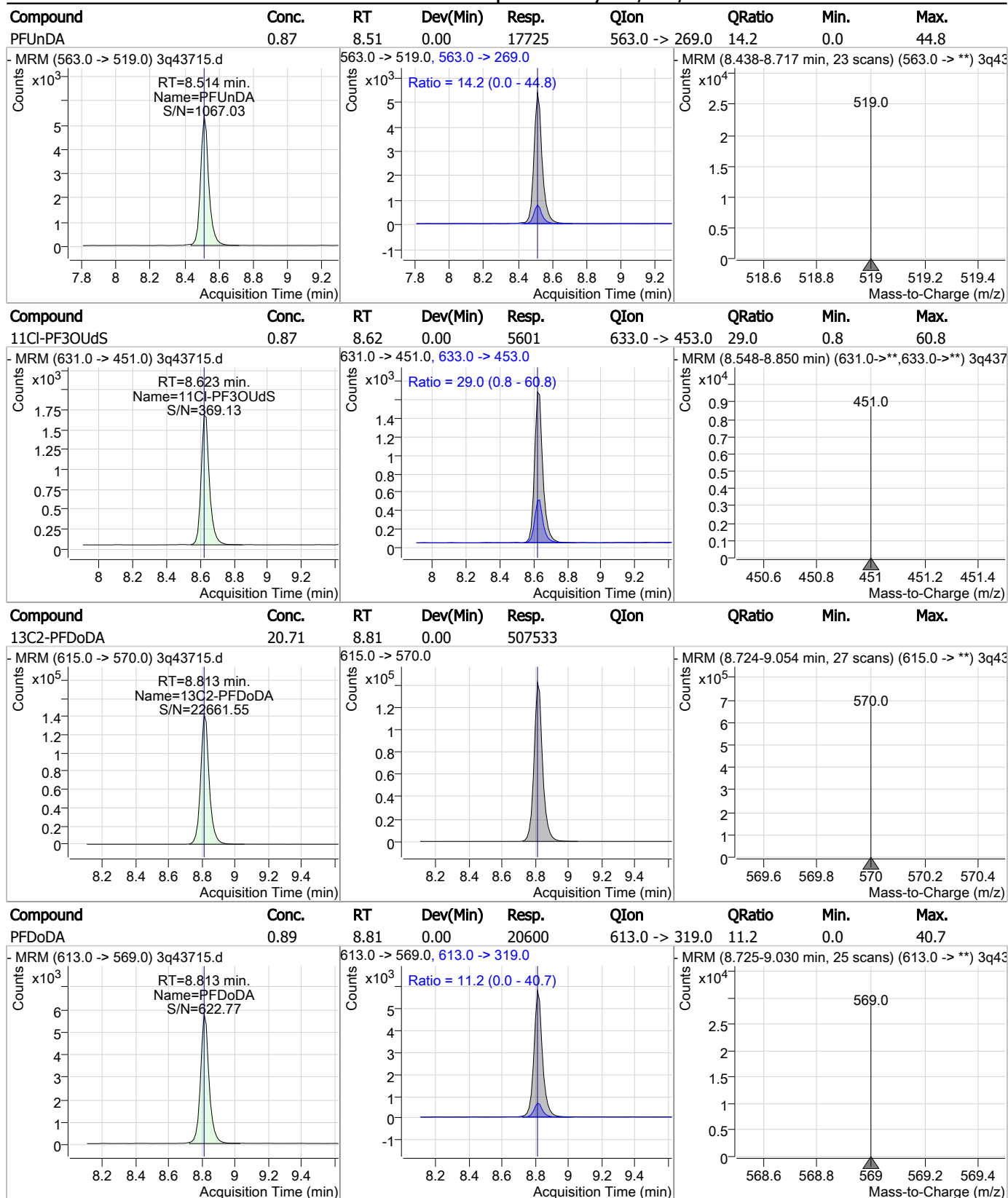
Perfluorinated Compounds by LC/MS/MS



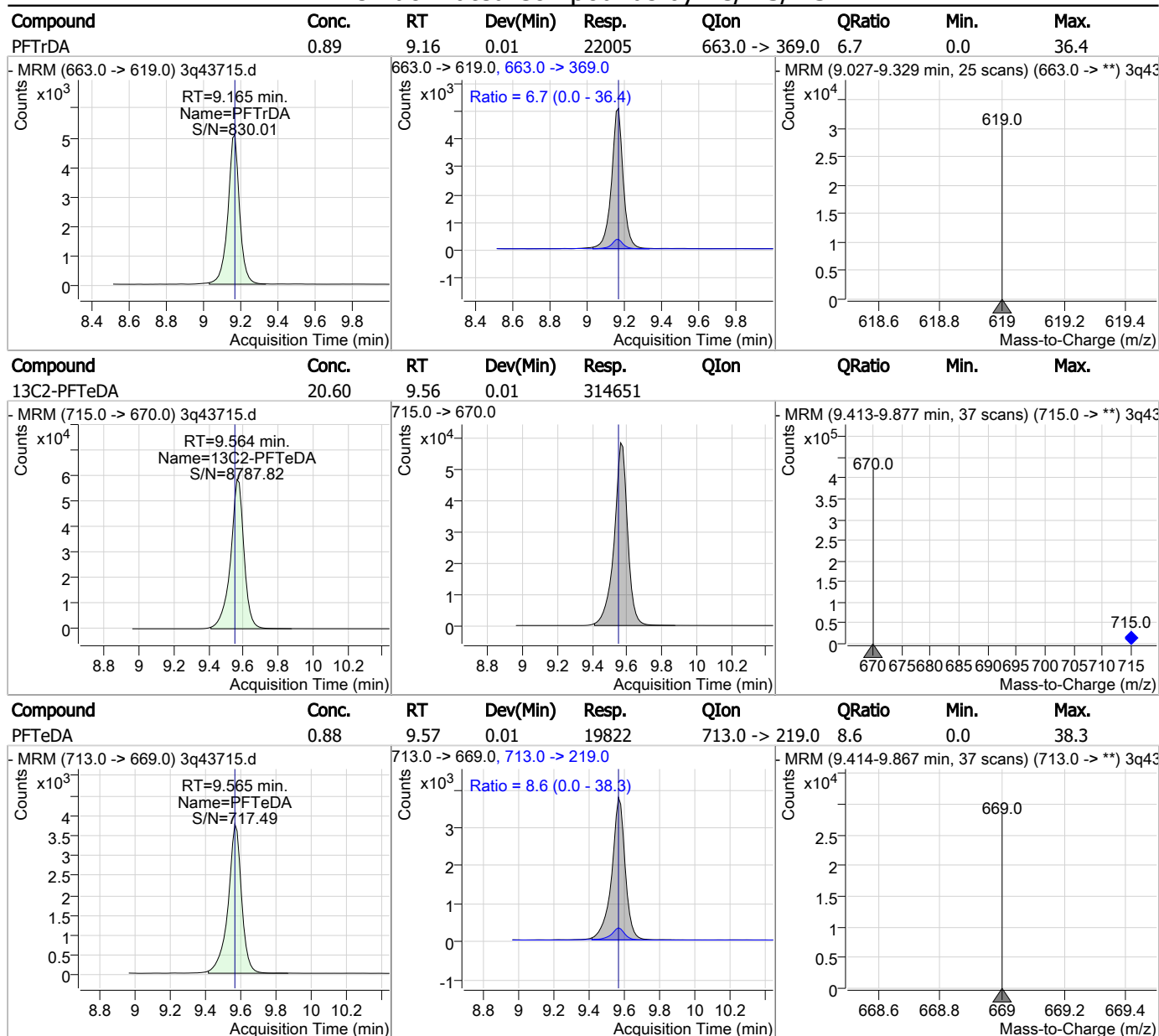
Perfluorinated Compounds by LC/MS/MS

10.5.3
10

Perfluorinated Compounds by LC/MS/MS

10.5.3
10

Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

S3Q637-IC637

Lab FileID:

3Q43715.D

Injection Time:

08/27/21 21:07

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.3.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43716.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 9:24:07 PM
 Sample Name : ic637-2
 Vial : P1-A4
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	133536	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	118444	20.00 µg/L	0.000
M5-PFHxA	5.563	318.0 -> 273.0	170116	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	202871	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	252444	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	262442	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	343874	20.00 µg/L	0.000
M7-PFUnDA	8.525	570.0 -> 525.0	416391	20.00 µg/L	0.013
M2-PFDoDA	8.825	615.0 -> 570.0	505880	20.00 µg/L	0.013
M2-PFTeDA	9.576	715.0 -> 670.0	310523	20.00 µg/L	0.025
M8-FOSA	7.887	506.0 -> 78.0	83487	20.00 µg/L	0.013
M3-PFBS	4.367	302.0 -> 99.0	14281	20.00 µg/L	0.013
M3-PFHxS	6.615	402.0 -> 99.0	16534	20.00 µg/L	0.013
M8-PFOS	7.798	507.0 -> 99.0	24569	20.00 µg/L	0.013
M2-4:2FTS	5.446	329.0 -> 309.0	89920	20.00 µg/L	0.000
M2-6:2FTS	7.268	429.0 -> 409.0	115926	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	126329	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	85985	20.00 µg/L	0.000
M3-HFPO-DA	5.893	287.0 -> 169.0	18709	20.00 µg/L	0.013
M3-MeFOSA	8.189	515.0 -> 169.0	25363	20.00 µg/L	0.000
M5-EtFOSAA	8.335	589.0 -> 419.0	82353	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	89920	18.78 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 93.9%		
13C2-6:2FTS	7.268	429.0 -> 409.0	115926	19.42 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 97.1%		
13C2-8:2FTS	8.213	529.0 -> 509.0	126329	19.59 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 98.0%		
13C2-PFDoDA	8.825	615.0 -> 570.0	505880	20.64 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.2%		
13C2-PFTeDA	9.576	715.0 -> 670.0	310523	20.33 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.6%		
13C3-PFBS	4.367	302.0 -> 99.0	14281	20.06 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.3%		
13C3-PFHxS	6.615	402.0 -> 99.0	16534	20.36 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.8%		
13C4-PFBA	1.727	217.0 -> 172.0	133536	20.12 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C4-PFHpA	6.556	367.0 -> 322.0	202871	20.33 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C5-PFHxA	5.563	318.0 -> 273.0	170116	20.17 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.9%		
13C5-PFPeA	3.949	268.0 -> 223.0	118444	20.15 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C6-PFDA	8.189	519.0 -> 474.0	343874	20.81 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

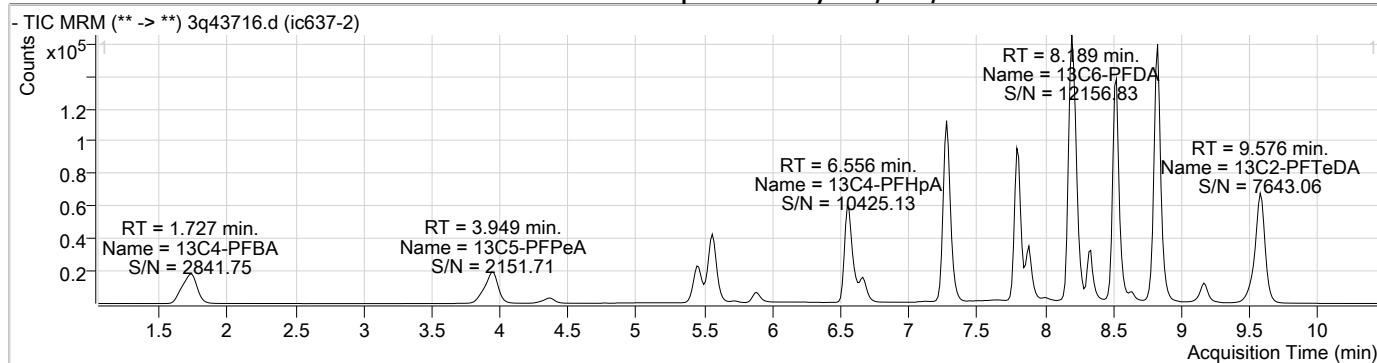
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.0%	
13C7-PFUnDA	8.525	570.0 -> 525.0	416391	20.64 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C8-FOSA	7.887	506.0 -> 78.0	83487	20.63 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C8-PFOA	7.283	421.0 -> 376.0	252444	20.77 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C8-PFOS	7.798	507.0 -> 99.0	24569	20.04 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C9-PFNA	7.800	472.0 -> 427.0	262442	20.50 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
d3-MeFOSAA	8.223	573.0 -> 419.0	85985	20.45 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C3-HFPO-DA	5.893	287.0 -> 169.0	18703	20.07 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
d3-MeFOSA	8.189	515.0 -> 169.0	25363	21.38 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.9%	
d5-EtFOSAA	8.335	589.0 -> 419.0	82262	20.11 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.6%	

Target Compounds

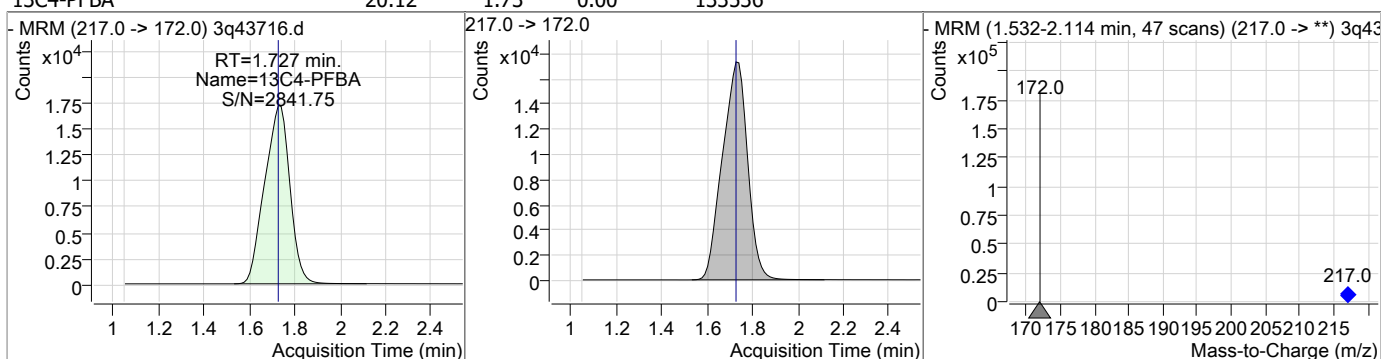
Target Compounds	RT	QIon	Resp.	Conc. Units	QValue
4:2FTS	5.448	327.0 -> 307.0	10565	2.09 µg/L	96
6:2FTS	7.269	427.0 -> 407.0	12070	2.08 µg/L	96
8:2FTS	8.214	527.0 -> 507.0	13212	2.02 µg/L	96
EtFOSAA	8.335	584.0 -> 419.0	6907	1.97 µg/L	95
FOSA	7.888	498.0 -> 78.0	8481	2.05 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	7342	1.91 µg/L	94
PFBA	1.733	213.0 -> 169.0	6526	1.96 µg/L	100
PFBS	4.357	299.0 -> 80.0	3747	1.98 µg/L	100
PFDA	8.190	513.0 -> 469.0	31510	1.94 µg/L	100
PFDoDA	8.826	613.0 -> 569.0	44793	1.95 µg/L	100
PFDS	8.485	599.0 -> 80.0	1721	1.95 µg/L	93
PFHpA	6.557	363.0 -> 319.0	31834	1.95 µg/L	99
PFHpS	7.293	449.0 -> 80.0	3710	2.00 µg/L	99
PFHxA	5.565	313.0 -> 269.0	14252	1.93 µg/L	99
PFHxS	6.616	399.0 -> 80.0	3983	1.99 µg/L	97
PFNA	7.800	463.0 -> 419.0	25789	1.90 µg/L	98
PFNS	8.174	549.0 -> 80.0	3189	2.14 µg/L	98
PFOA	7.283	413.0 -> 369.0	25505	1.92 µg/L	100
PFOS	7.799	499.0 -> 80.0	4445	2.02 µg/L	85
PFPeA	3.951	263.0 -> 219.0	15570	1.94 µg/L	100
PFPeS	5.719	349.0 -> 80.0	2851	2.04 µg/L	98
PFTeDA	9.578	713.0 -> 669.0	42808	1.93 µg/L	100
PFTTrDA	9.165	663.0 -> 619.0	46837	1.93 µg/L	99
PFUnDA	8.526	563.0 -> 519.0	38403	1.91 µg/L	99
11Cl-PF3OUdS	8.636	631.0 -> 451.0	11974	1.87 µg/L	97
9Cl-PF3ONS	8.010	531.0 -> 351.0	3320	1.79 µg/L	97
ADONA	6.667	377.0 -> 251.0	40815	1.90 µg/L	100
HFPO-DA	5.888	329.0 -> 169.0	6020	1.98 µg/L	100
MeFOSA	8.203	512.0 -> 169.0	2482	1.85 µg/L	92

= Qualifier out of range, m = manually integrated, + = Area summed

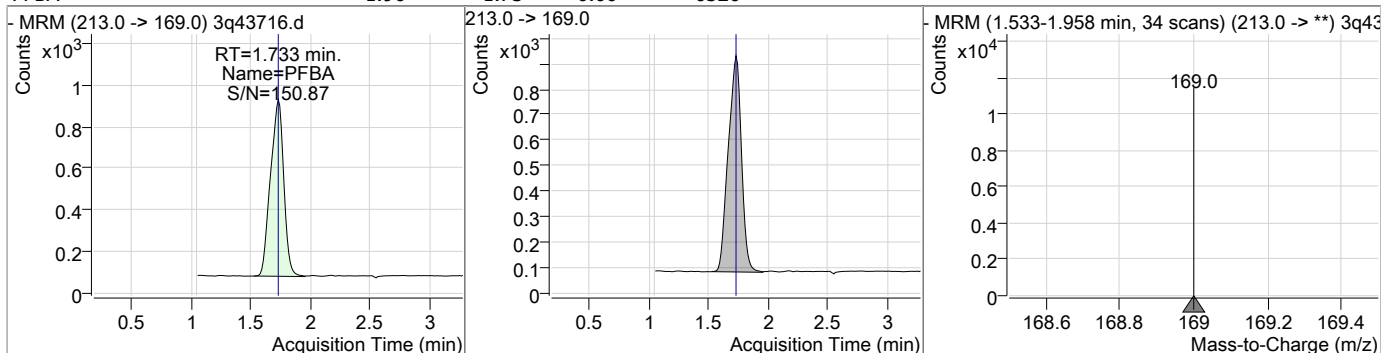
Perfluorinated Compounds by LC/MS/MS



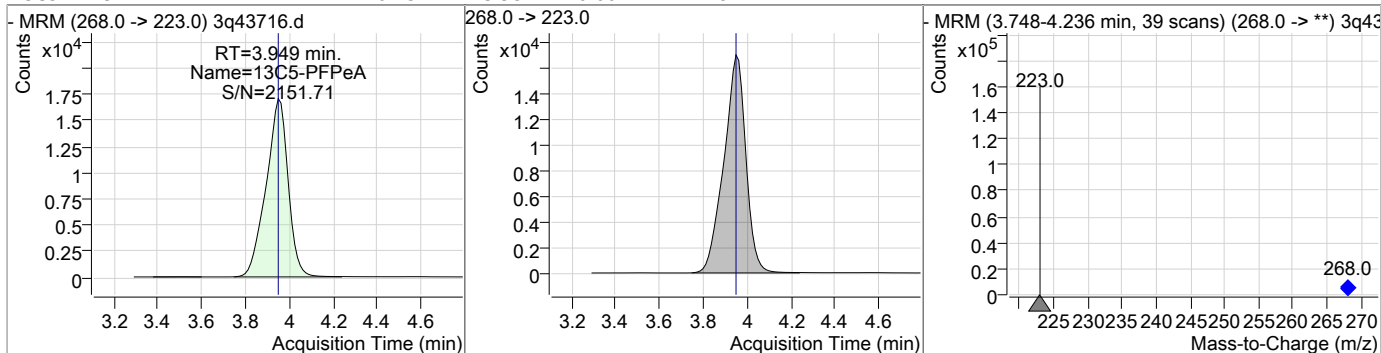
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



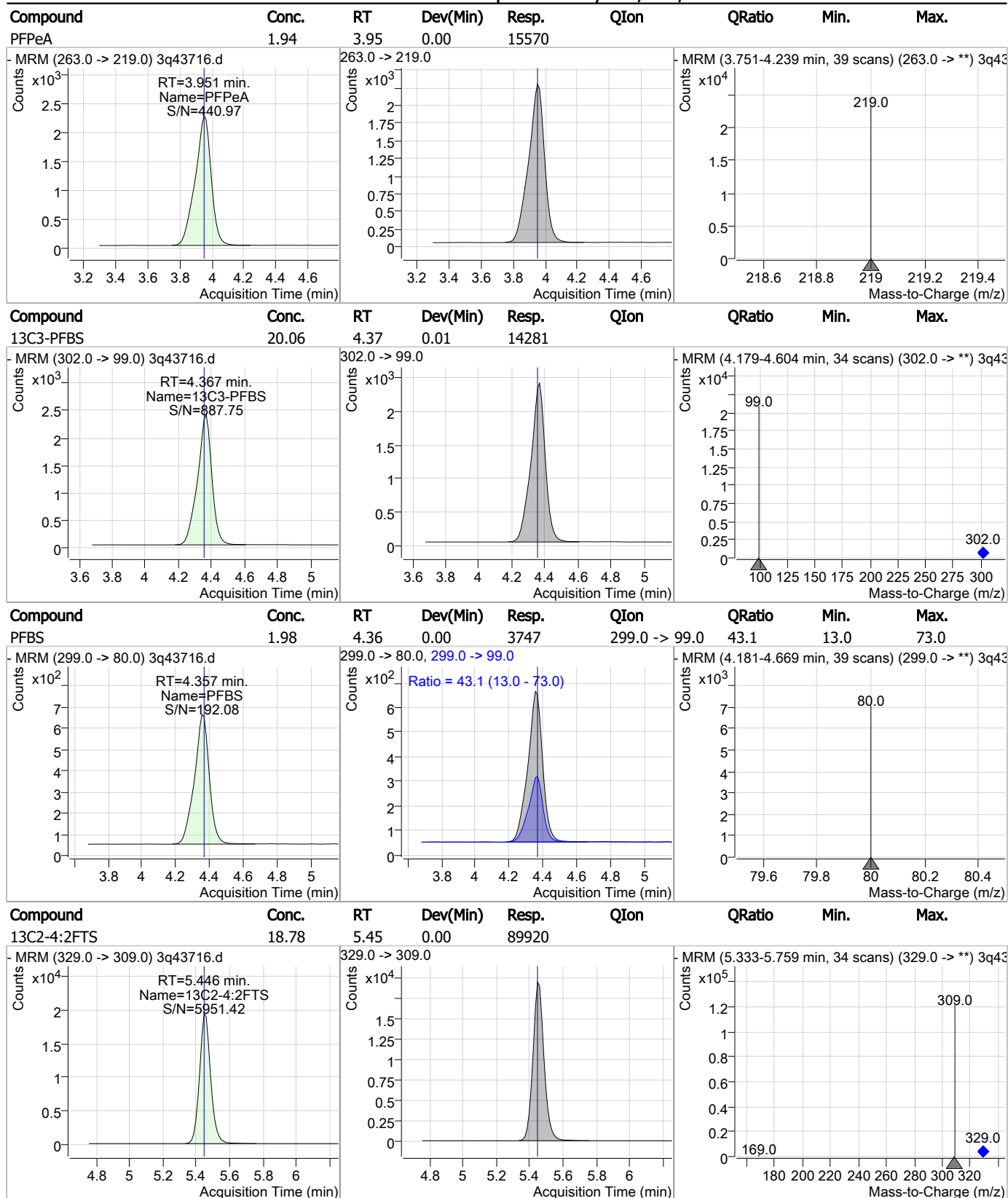
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



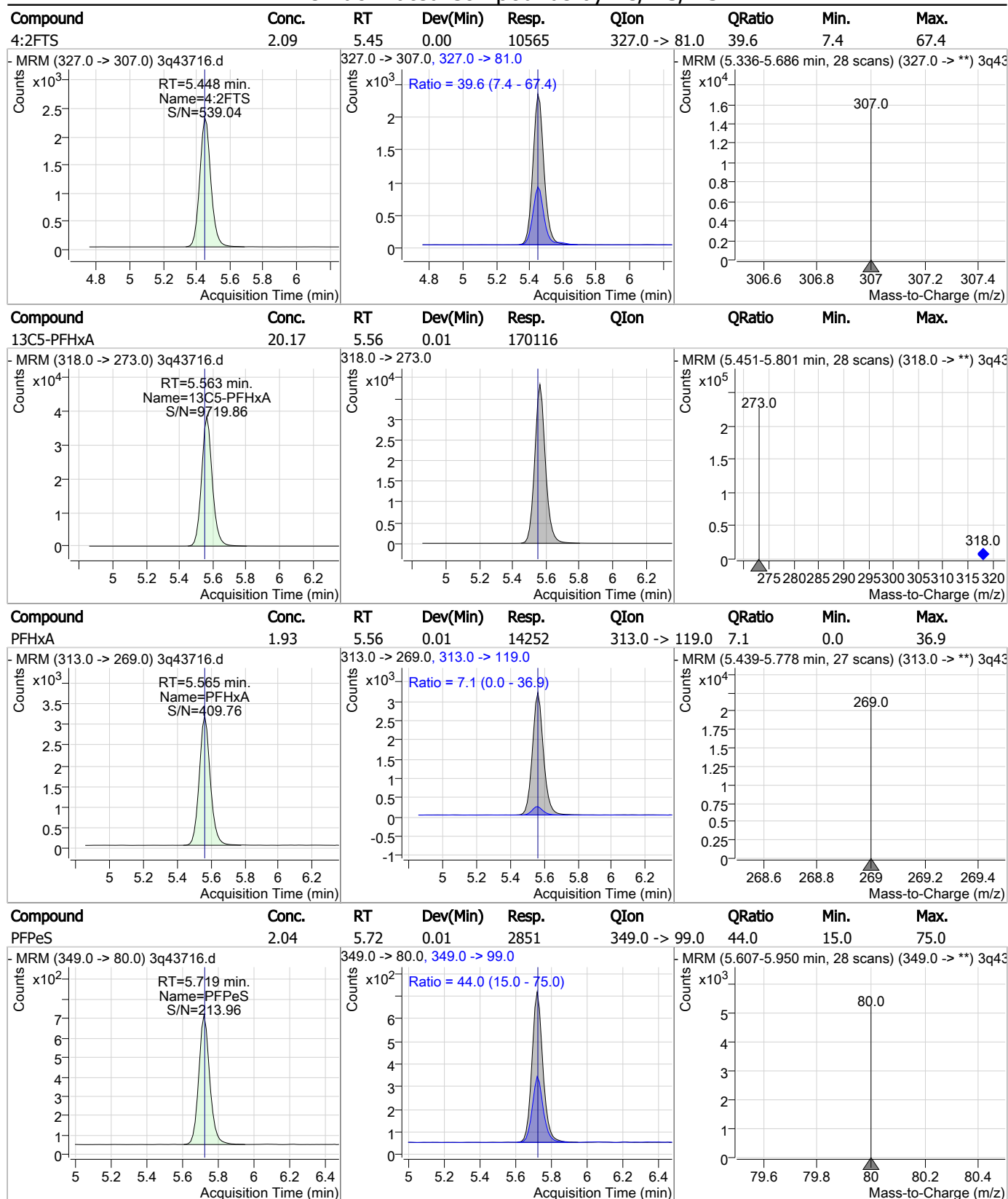
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



Perfluorinated Compounds by LC/MS/MS

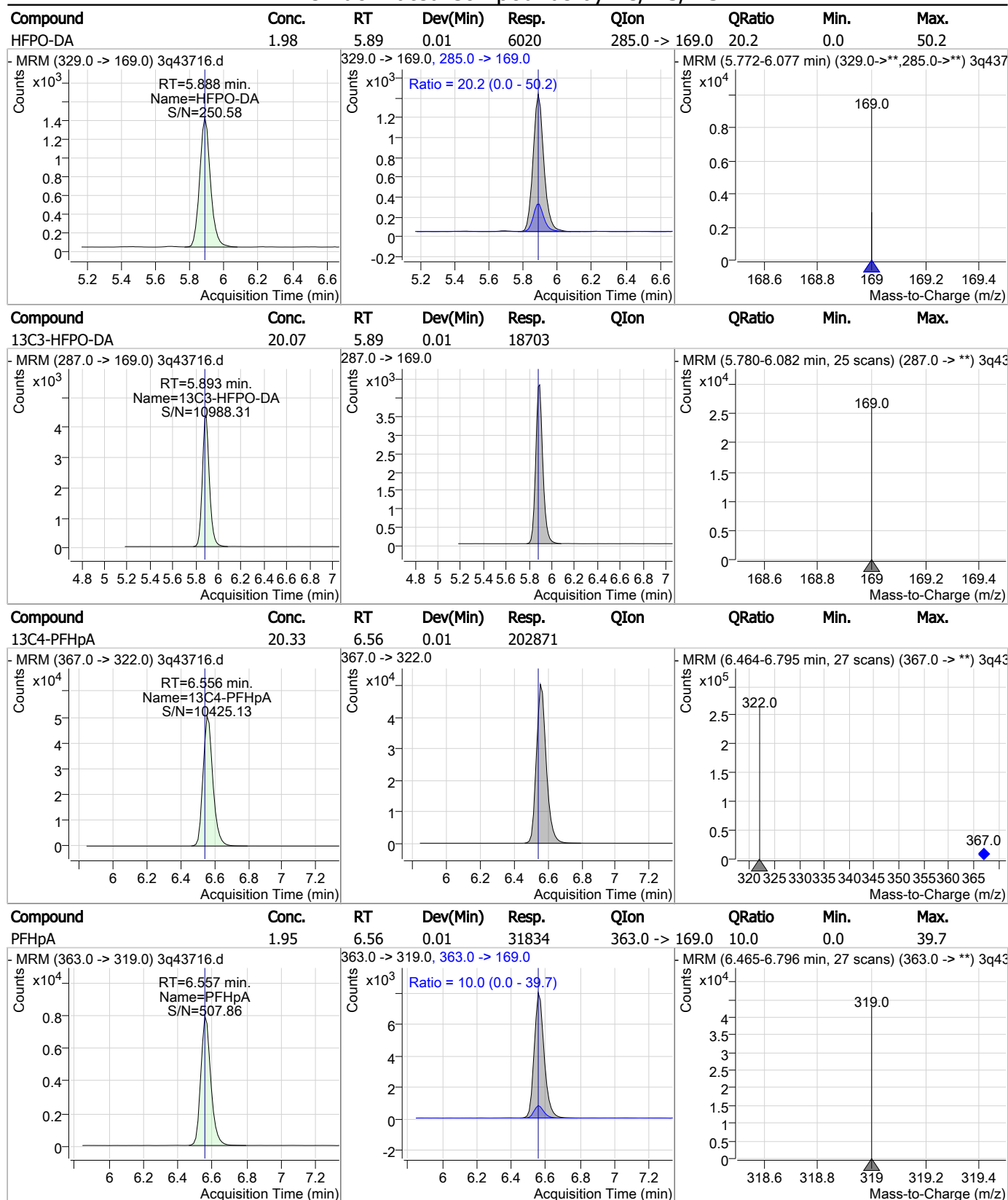


Perfluorinated Compounds by LC/MS/MS

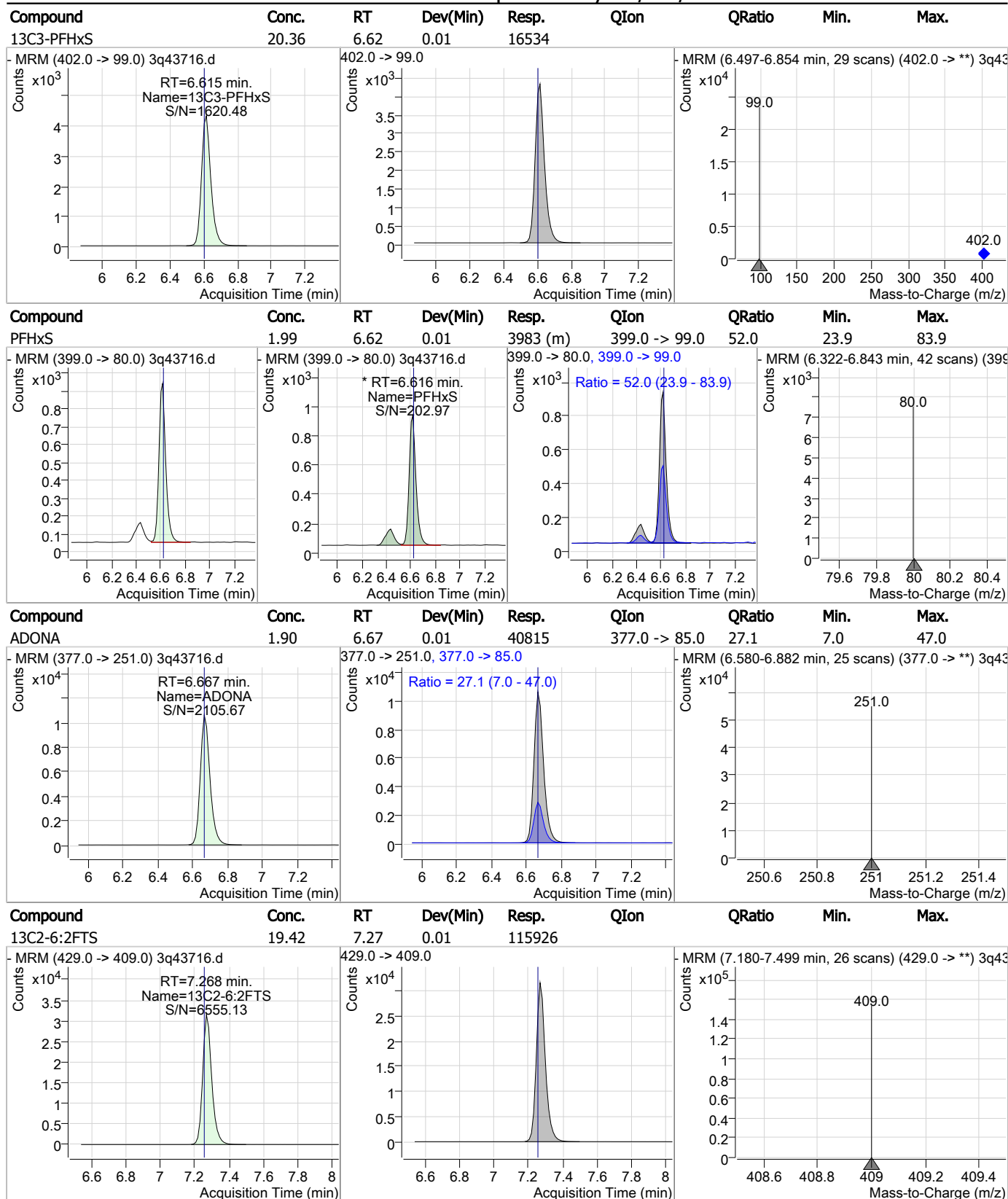


10.5.4 10

Perfluorinated Compounds by LC/MS/MS

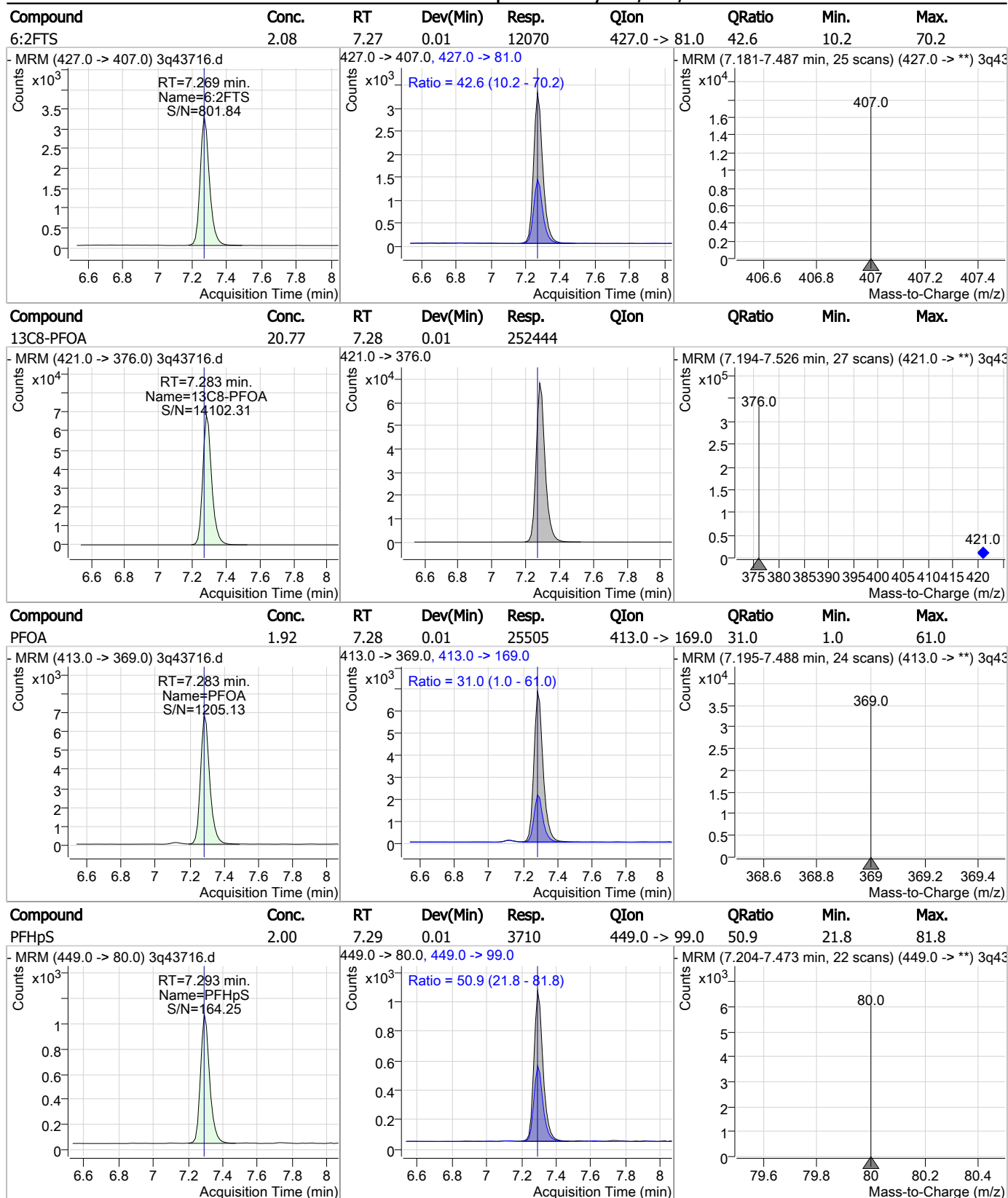


Perfluorinated Compounds by LC/MS/MS

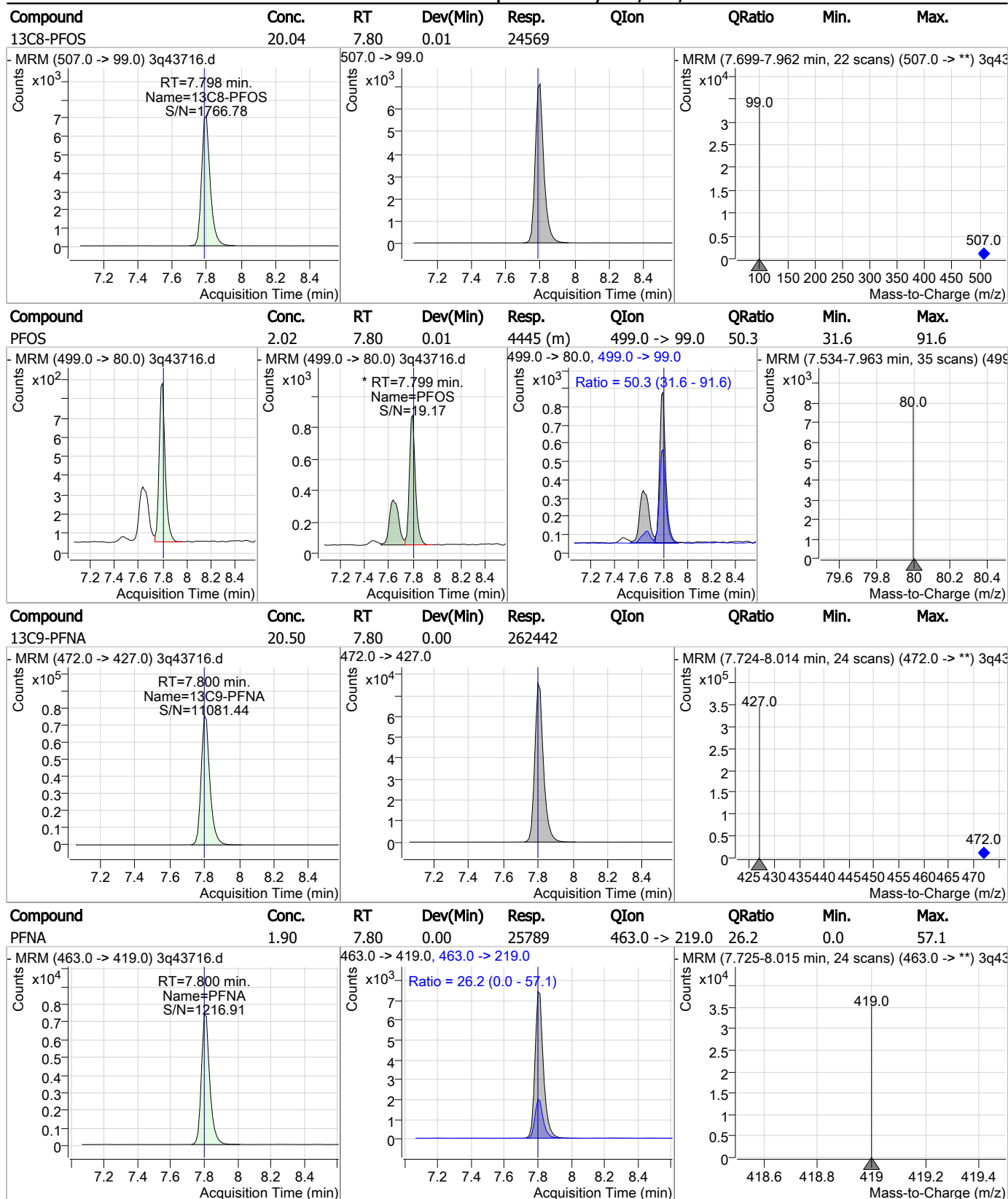


10.5.4 10

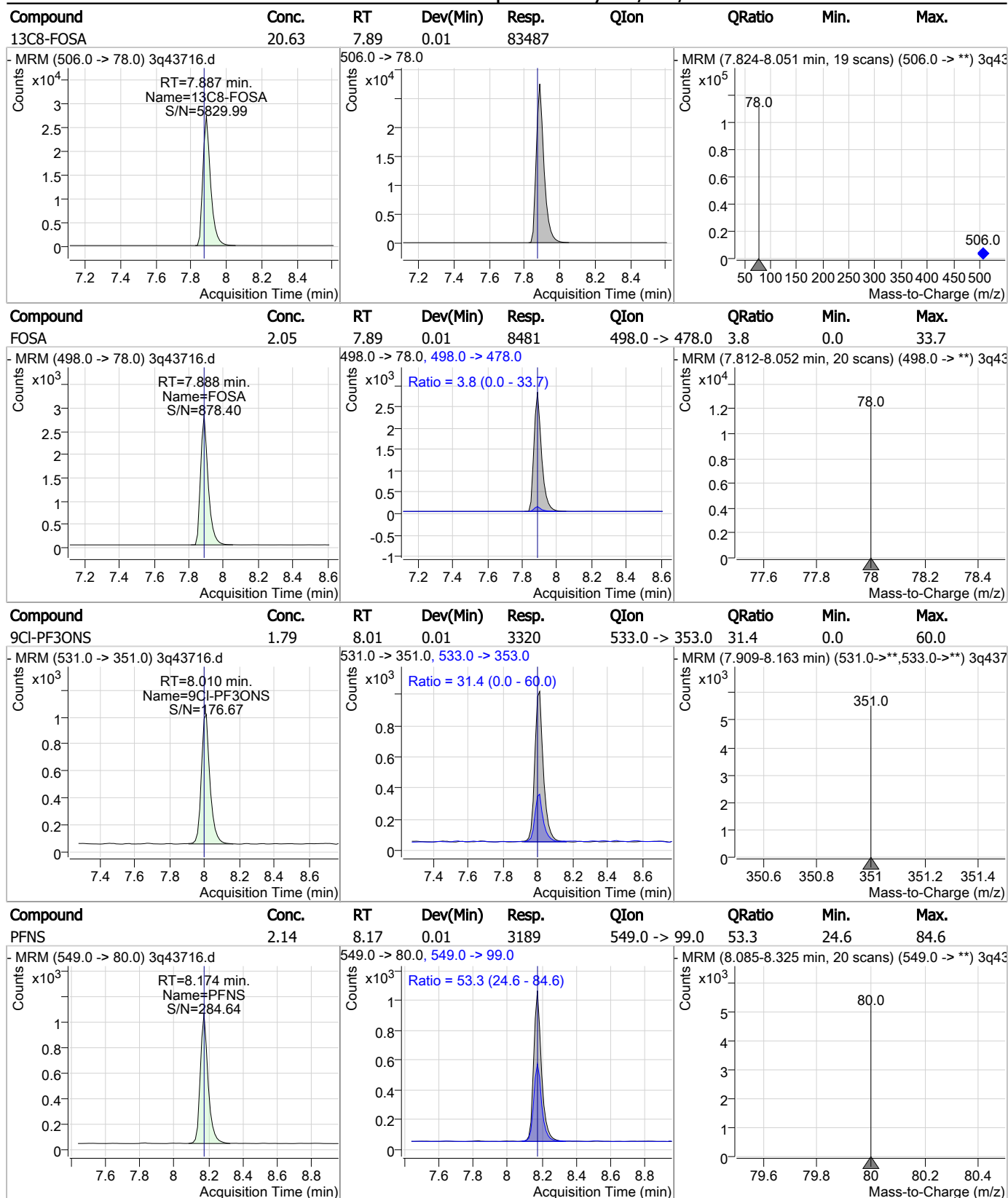
Perfluorinated Compounds by LC/MS/MS



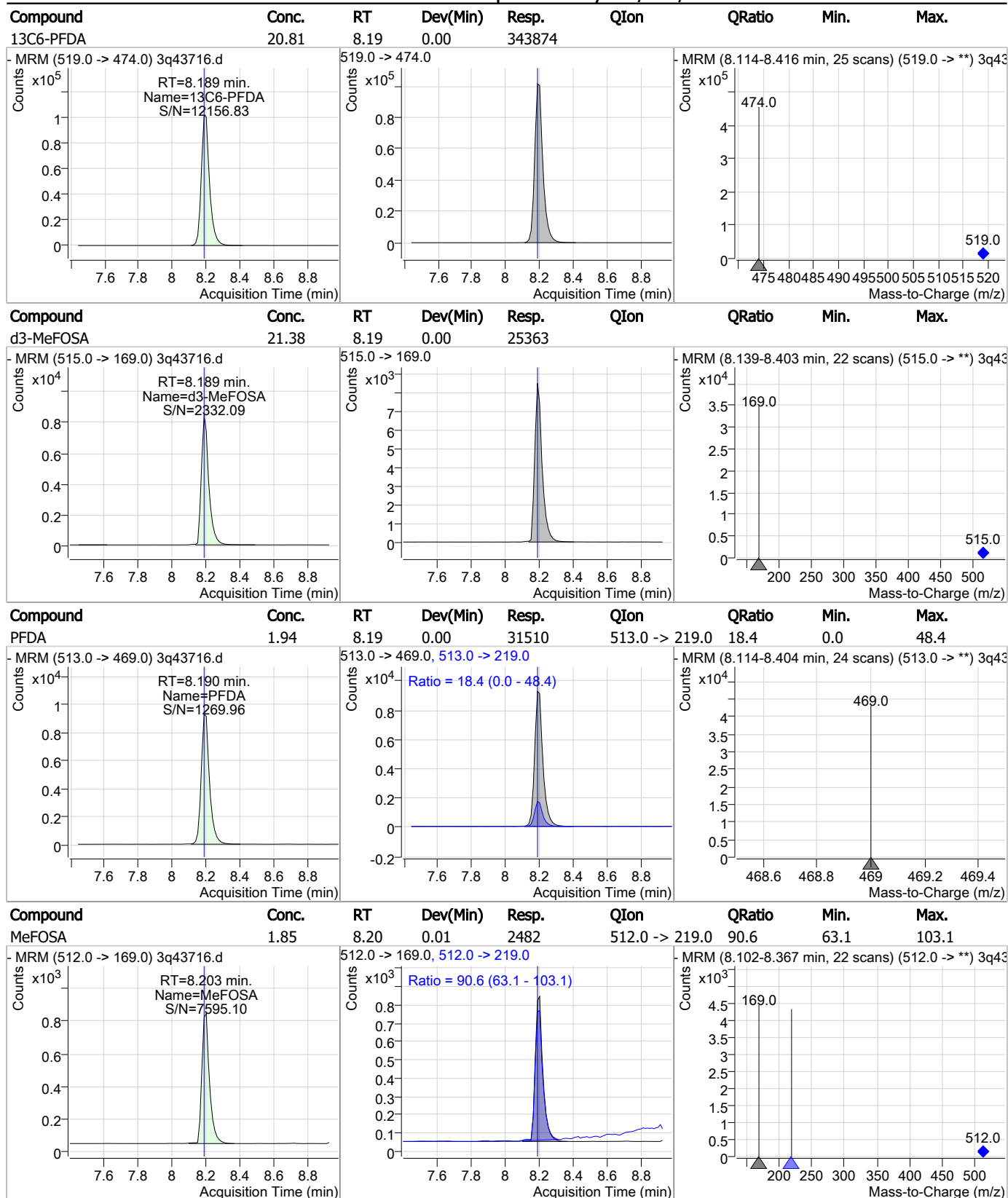
Perfluorinated Compounds by LC/MS/MS



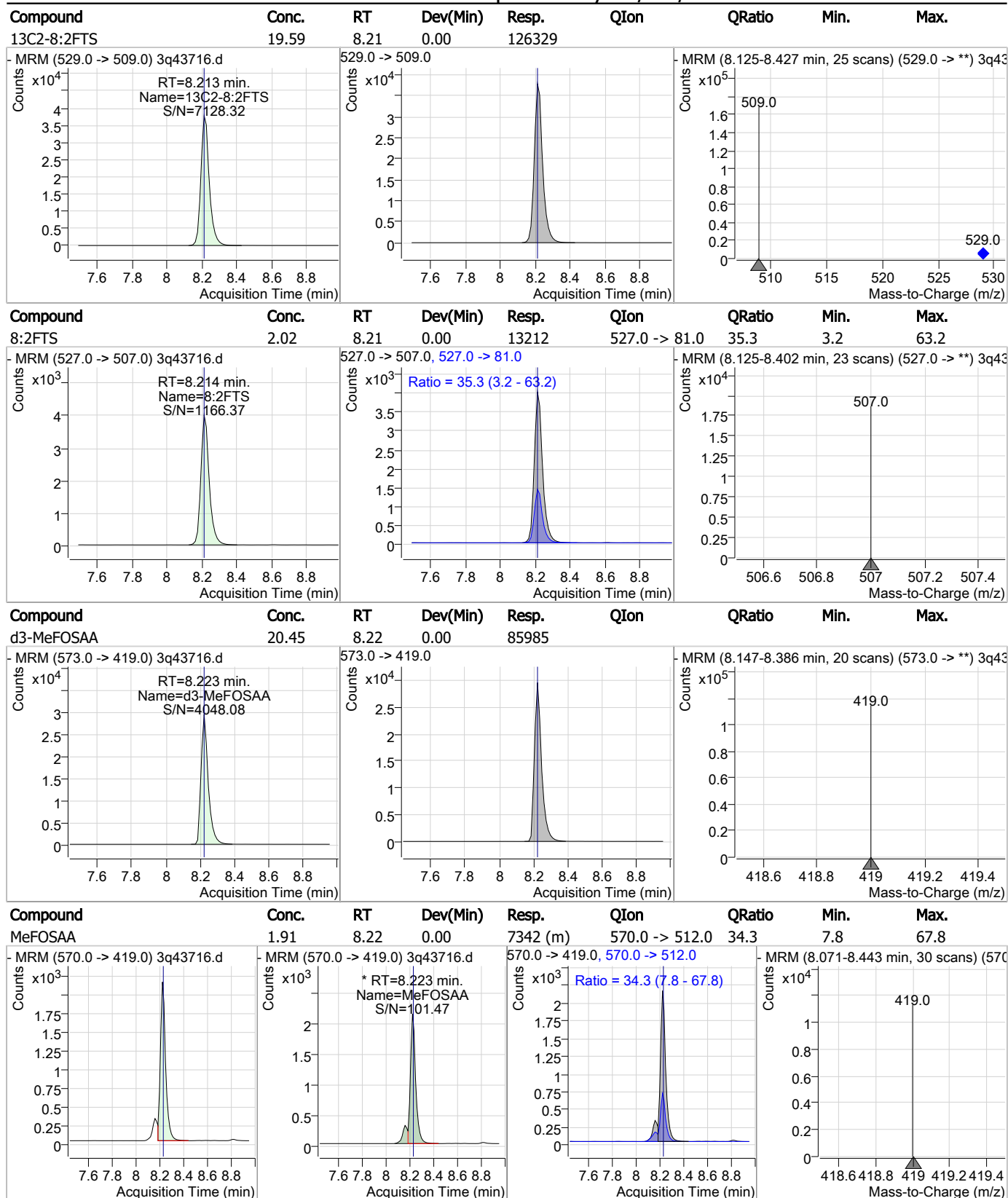
Perfluorinated Compounds by LC/MS/MS



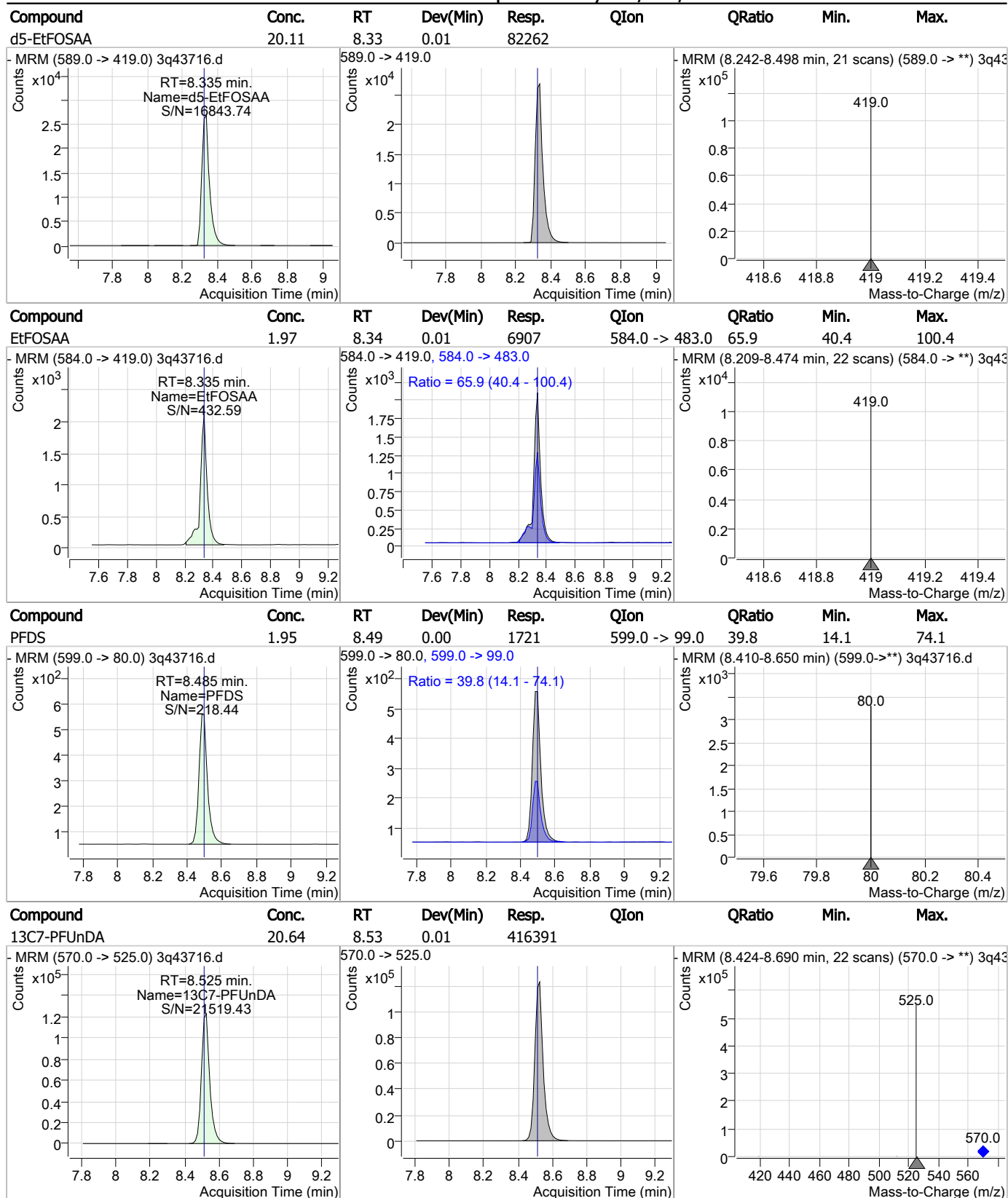
Perfluorinated Compounds by LC/MS/MS



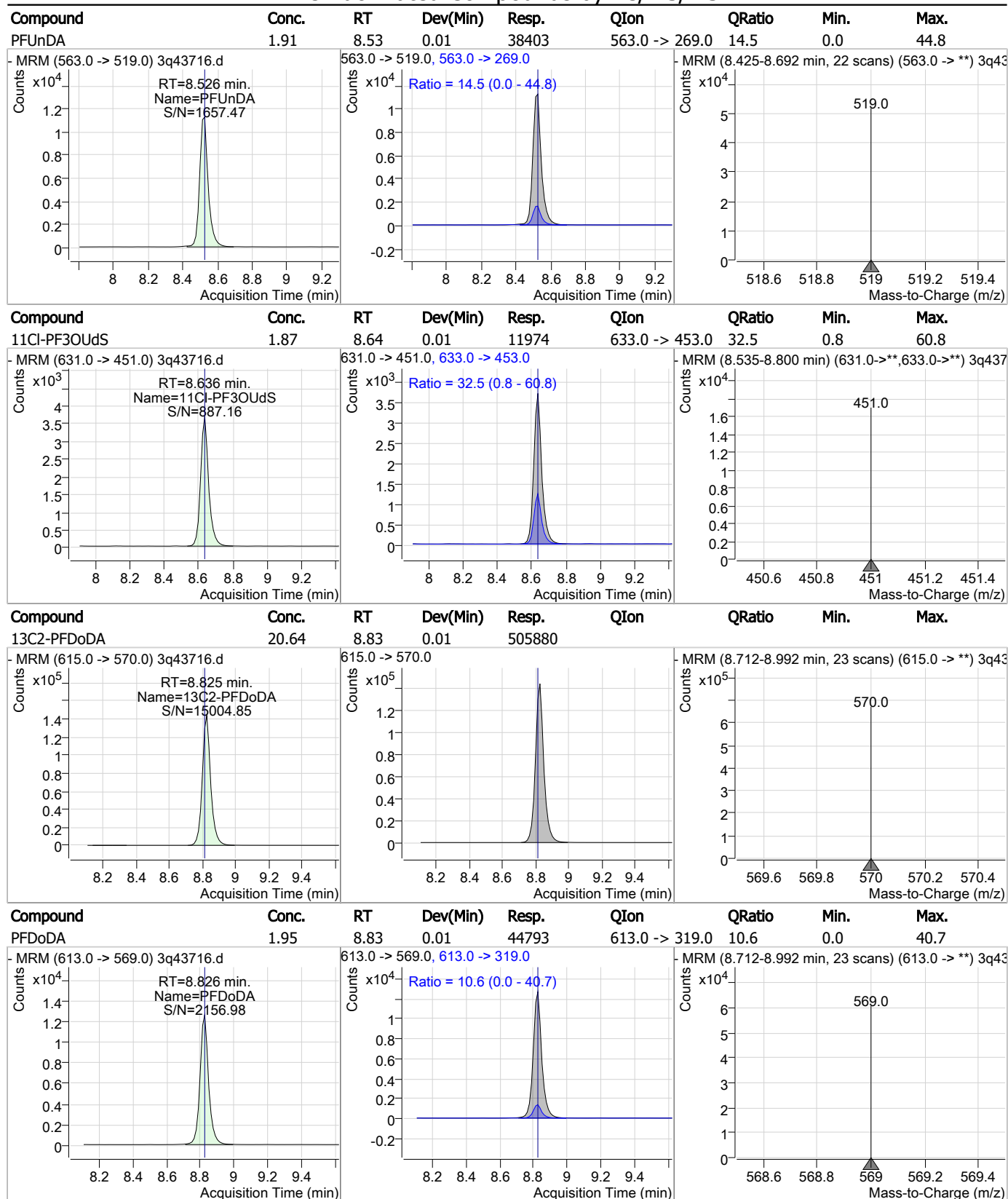
Perfluorinated Compounds by LC/MS/MS



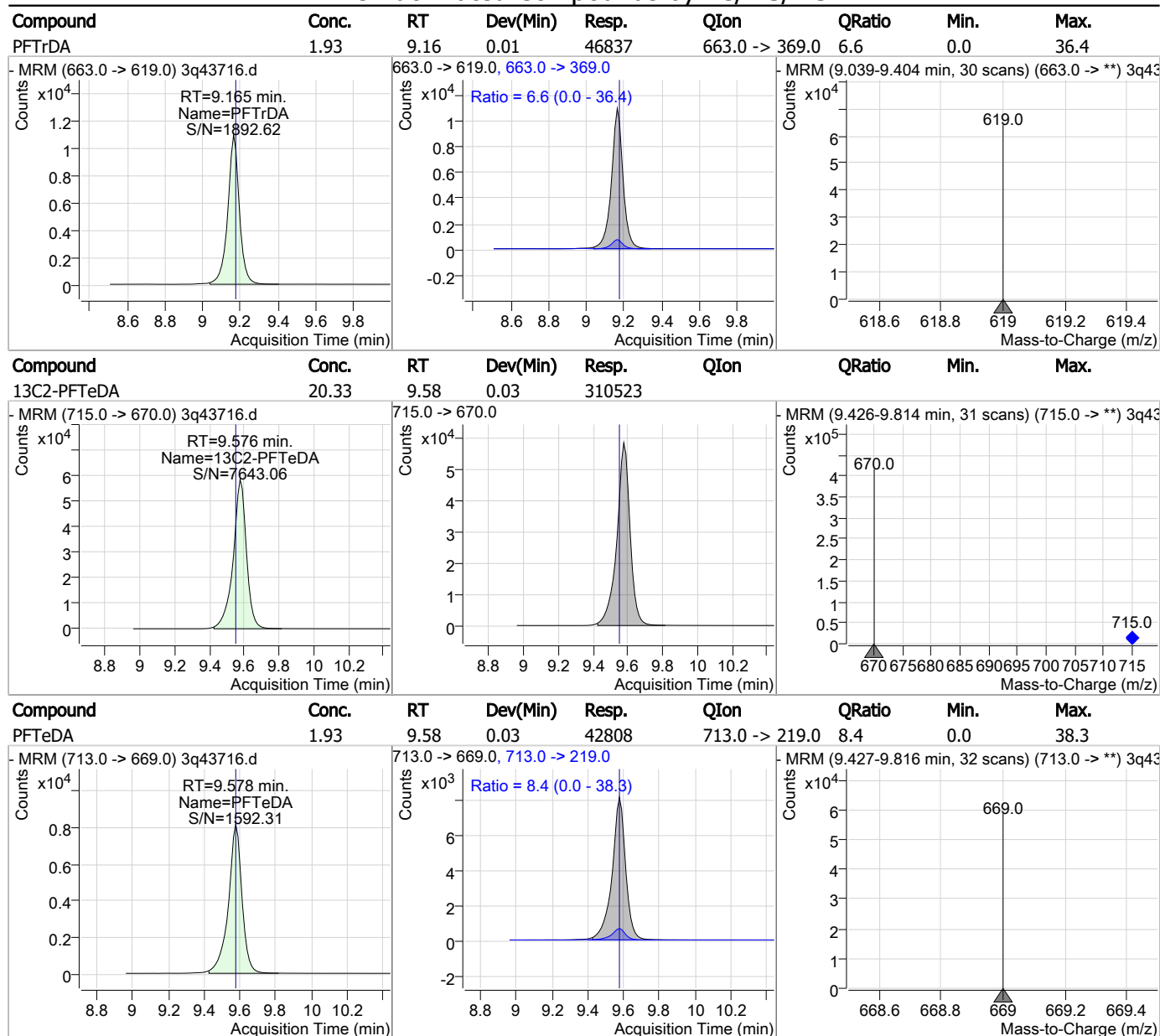
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

S3Q637-IC637

Lab FileID:

3Q43716.D

Injection Time:

08/27/21 21:24

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.62	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.80	Split peak
MeFOSAA	2355-31-9		8.22	Split peak

10.5.4.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43717.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 9:40:50 PM
 Sample Name : ic637-5
 Vial : P1-A5
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,1,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.752	217.0 -> 172.0	133511	20.00 µg/L	0.025
M5-PFPeA	3.961	268.0 -> 223.0	118500	20.00 µg/L	0.013
M5-PFHxA	5.563	318.0 -> 273.0	170674	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	202783	20.00 µg/L	0.013
M8-PFOA	7.270	421.0 -> 376.0	248812	20.00 µg/L	0.000
M9-PFNA	7.800	472.0 -> 427.0	263592	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	340184	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	413722	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	500616	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	309597	20.00 µg/L	0.013
M8-FOSA	7.874	506.0 -> 78.0	83759	20.00 µg/L	0.000
M3-PFBS	4.367	302.0 -> 99.0	14390	20.00 µg/L	0.013
M3-PFHxS	6.603	402.0 -> 99.0	16491	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	24840	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	91200	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	116184	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	126845	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	86635	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	18316	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	25385	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	84941	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	91200	19.04 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 95.2%		
13C2-6:2FTS	7.256	429.0 -> 409.0	116184	19.47 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 97.3%		
13C2-8:2FTS	8.213	529.0 -> 509.0	126845	19.67 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 98.4%		
13C2-PFDoDA	8.813	615.0 -> 570.0	500616	20.42 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.1%		
13C2-PFTeDA	9.564	715.0 -> 670.0	309597	20.27 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.3%		
13C3-PFBS	4.367	302.0 -> 99.0	14390	20.21 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C3-PFHxS	6.603	402.0 -> 99.0	16491	20.31 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C4-PFBA	1.752	217.0 -> 172.0	133511	20.12 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C4-PFHpA	6.556	367.0 -> 322.0	202783	20.32 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.6%		
13C5-PFHxA	5.563	318.0 -> 273.0	170674	20.24 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.2%		
13C5-PFPeA	3.961	268.0 -> 223.0	118500	20.16 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C6-PFDA	8.189	519.0 -> 474.0	340184	20.58 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

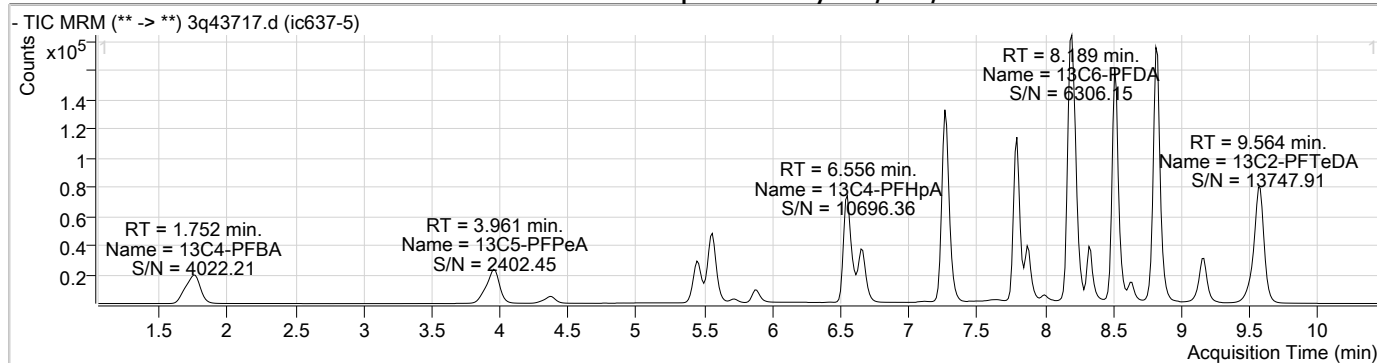
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C7-PFUnDA	8.513	570.0 -> 525.0	413722	20.50 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C8-FOSA	7.874	506.0 -> 78.0	83759	20.69 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C8-PFOA	7.270	421.0 -> 376.0	248812	20.47 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C8-PFOS	7.785	507.0 -> 99.0	24840	20.26 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C9-PFNA	7.800	472.0 -> 427.0	263592	20.59 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
d3-MeFOSAA	8.223	573.0 -> 419.0	86635	20.60 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	18314	19.65 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.3%	
d3-MeFOSA	8.189	515.0 -> 169.0	25385	21.40 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.0%	
d5-EtFOSAA	8.322	589.0 -> 419.0	84873	20.75 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.8%	

Target Compounds

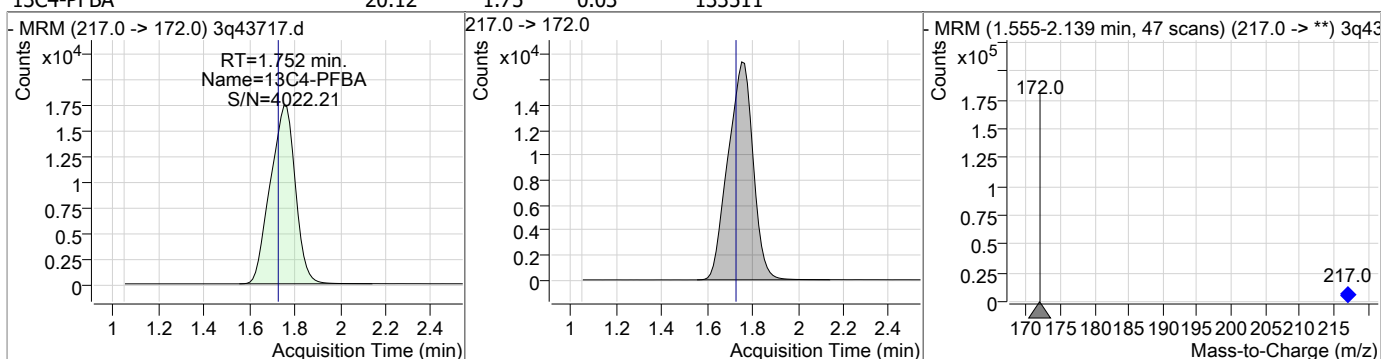
Target Compounds	RT	QIon	Resp.	Conc. Units	QValue
4:2FTS	5.448	327.0 -> 307.0	27768	5.42 µg/L	99
6:2FTS	7.256	427.0 -> 407.0	32275	5.55 µg/L	99
8:2FTS	8.214	527.0 -> 507.0	35707	5.43 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	17982	4.98 µg/L	m 95
FOSA	7.875	498.0 -> 78.0	21299	5.13 µg/L	99
MeFOSAA	8.223	570.0 -> 419.0	19795	5.10 µg/L	m 93
PFBA	1.758	213.0 -> 169.0	16897	5.07 µg/L	100
PFBS	4.369	299.0 -> 80.0	9688	5.08 µg/L	99
PFDA	8.190	513.0 -> 469.0	80279	4.99 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	114152	5.01 µg/L	100
PFDS	8.485	599.0 -> 80.0	4433	5.07 µg/L	99
PFHpA	6.557	363.0 -> 319.0	82094	5.02 µg/L	100
PFHpS	7.280	449.0 -> 80.0	9744	5.20 µg/L	97
PFHxA	5.565	313.0 -> 269.0	37492	5.06 µg/L	100
PFHxS	6.603	399.0 -> 80.0	10197	5.10 µg/L	m 96
PFNA	7.800	463.0 -> 419.0	66836	4.89 µg/L	99
PFNS	8.174	549.0 -> 80.0	8095	5.38 µg/L	100
PFOA	7.283	413.0 -> 369.0	65325	5.00 µg/L	99
PFOS	7.786	499.0 -> 80.0	11469	5.15 µg/L	m 83
PFPeA	3.964	263.0 -> 219.0	40394	5.02 µg/L	100
PFPeS	5.719	349.0 -> 80.0	7260	5.16 µg/L	99
PFTeDA	9.565	713.0 -> 669.0	111431	5.03 µg/L	100
PFTTrDA	9.165	663.0 -> 619.0	123411	5.10 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	100255	5.03 µg/L	98
11Cl-PF3OUdS	8.636	631.0 -> 451.0	31341	4.95 µg/L	99
9Cl-PF3ONS	7.997	531.0 -> 351.0	8761	4.77 µg/L	98
ADONA	6.668	377.0 -> 251.0	106844	4.98 µg/L	100
HFPO-DA	5.888	329.0 -> 169.0	15664	5.25 µg/L	99
MeFOSA	8.190	512.0 -> 169.0	7000	5.22 µg/L	95

= Qualifier out of range, m = manually integrated, + = Area summed

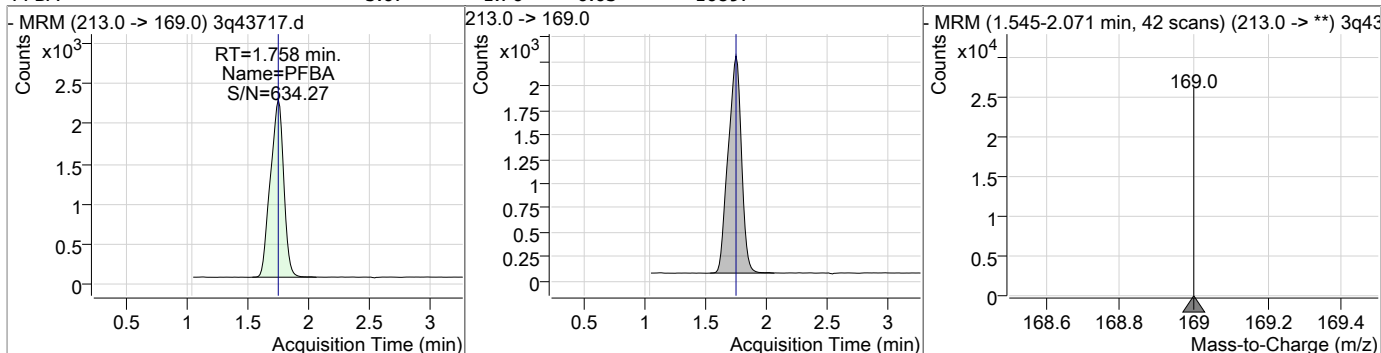
Perfluorinated Compounds by LC/MS/MS



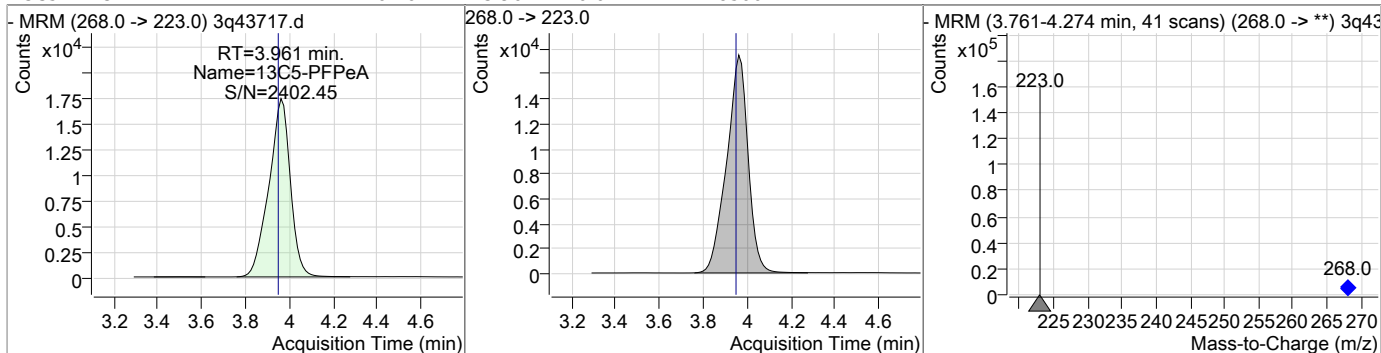
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



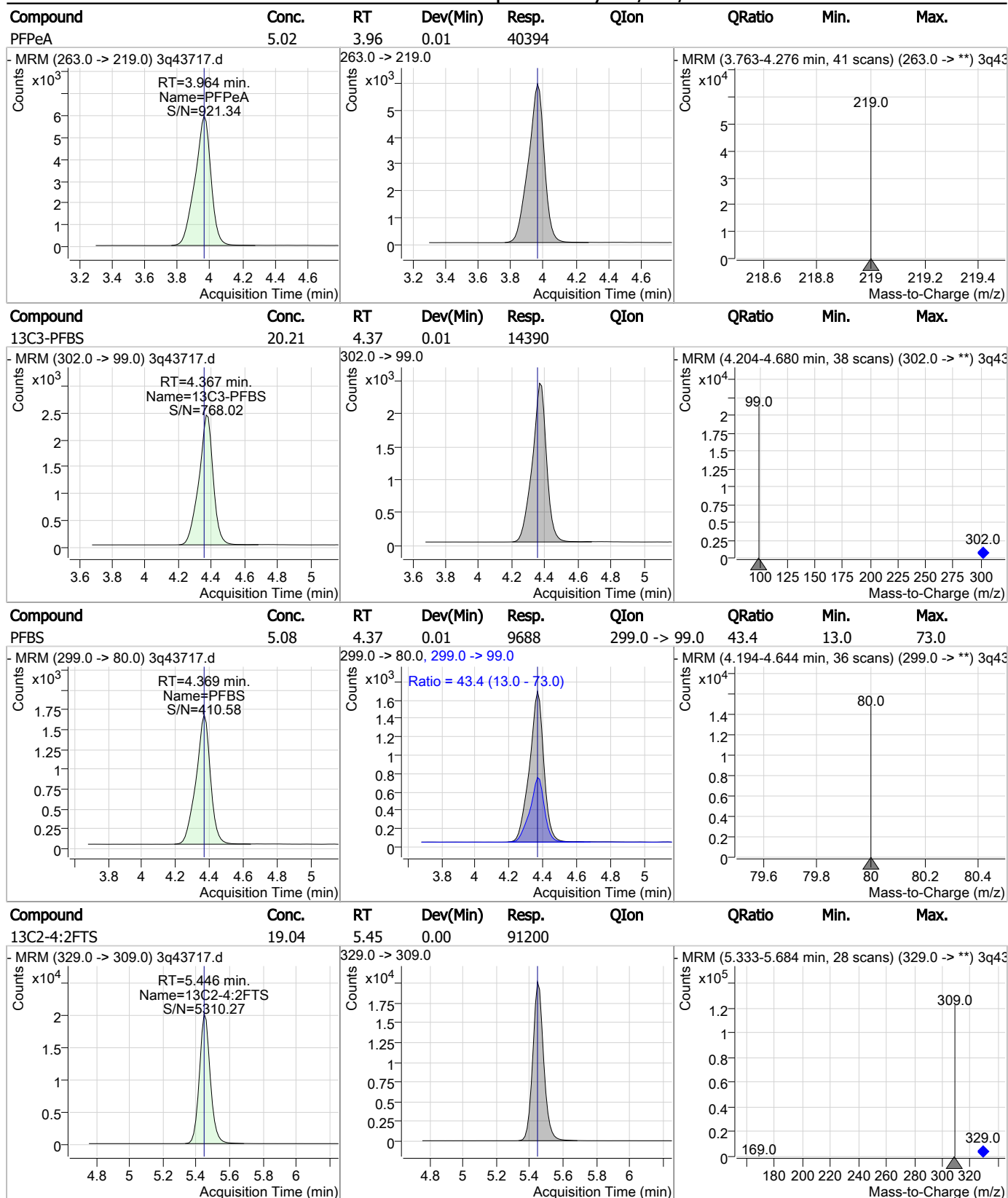
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



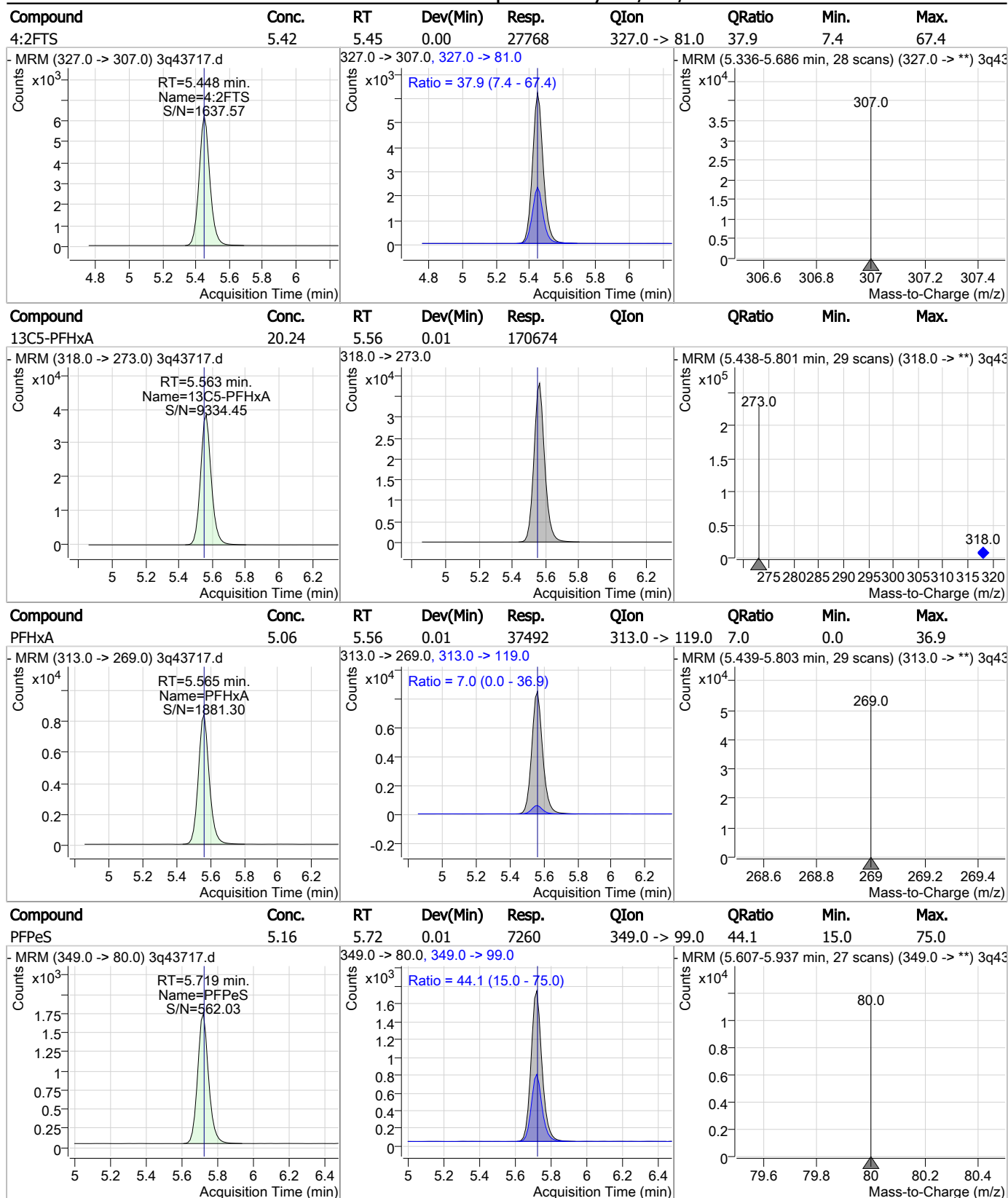
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



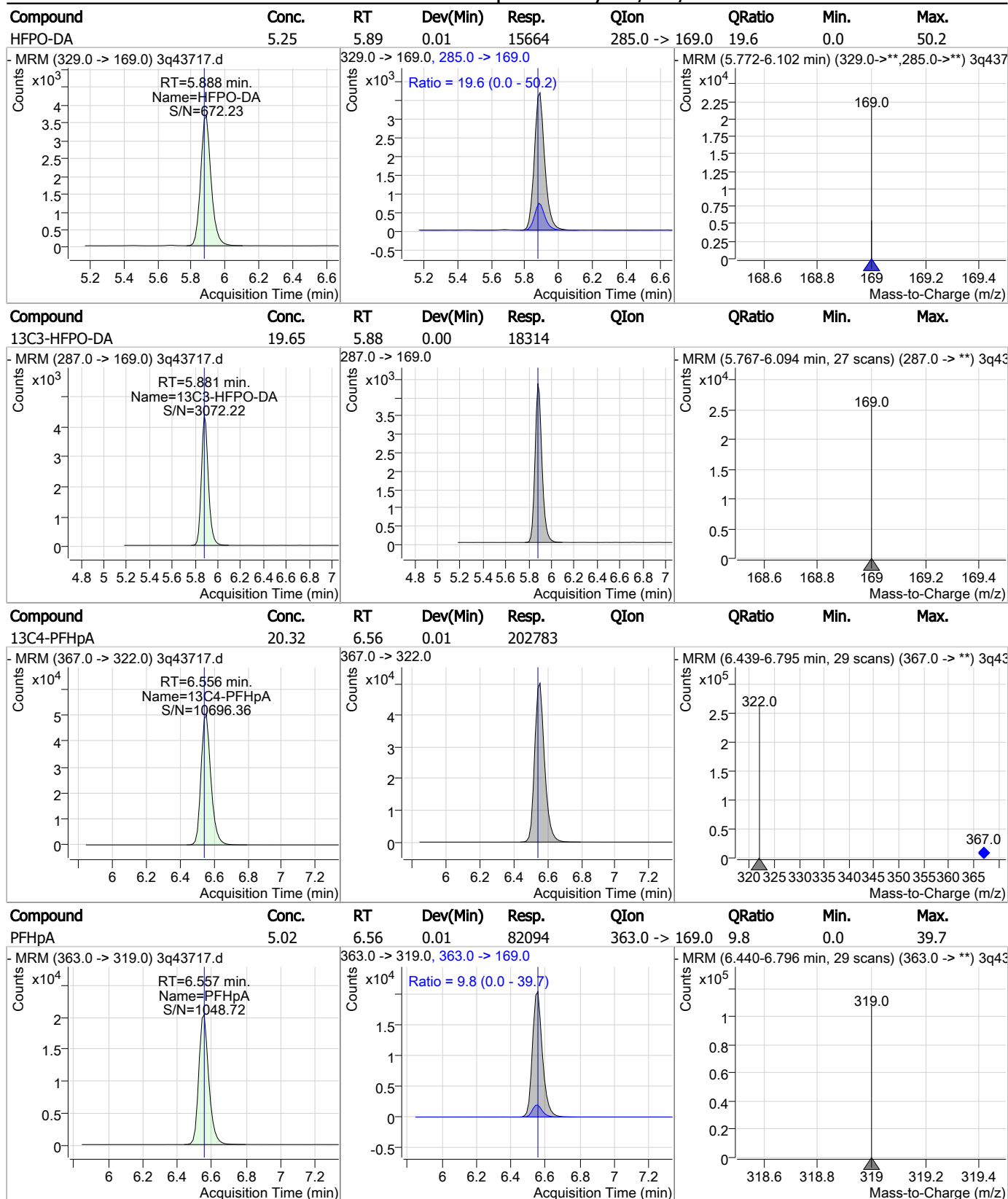
Perfluorinated Compounds by LC/MS/MS



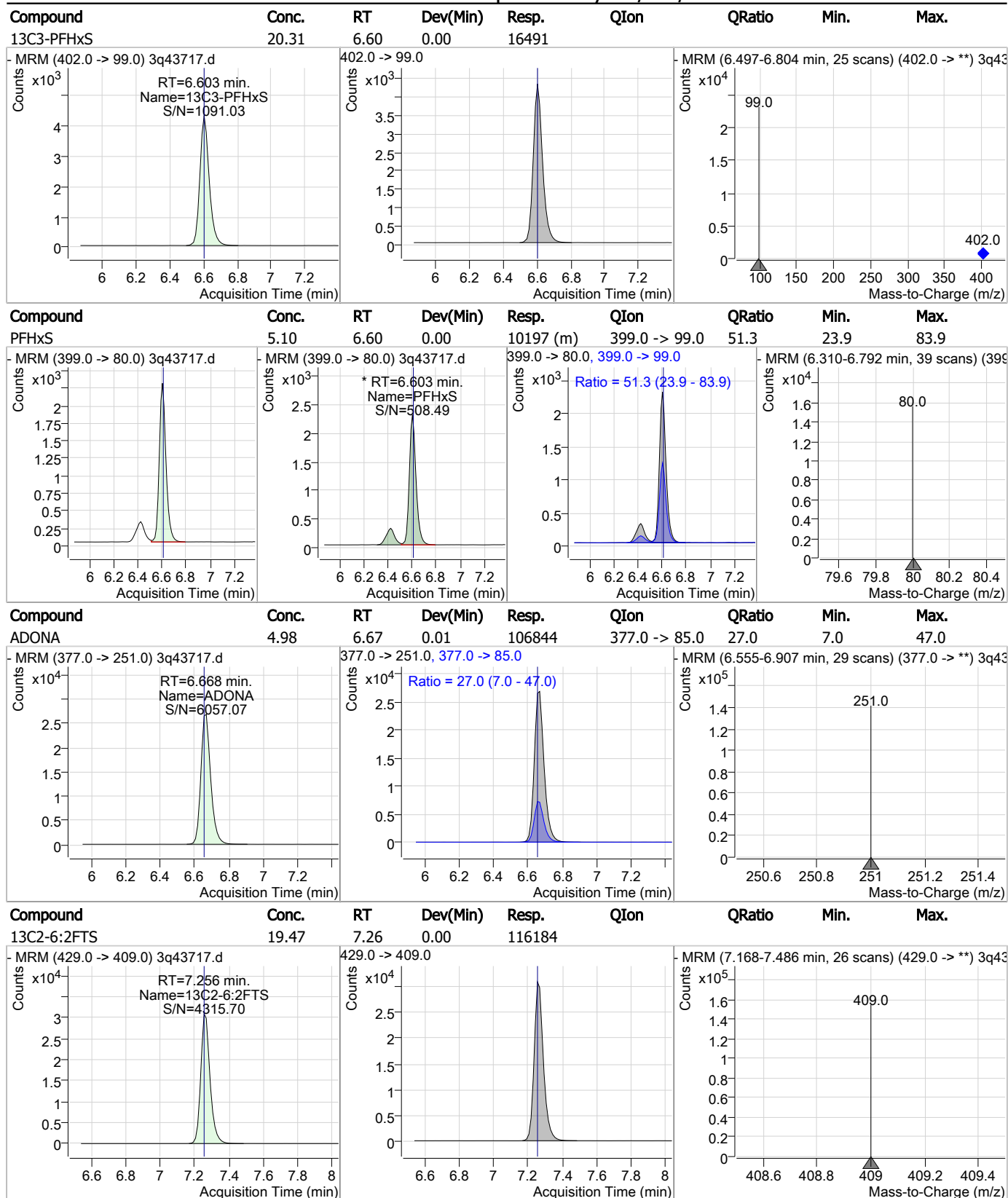
Perfluorinated Compounds by LC/MS/MS

10.5.5
10

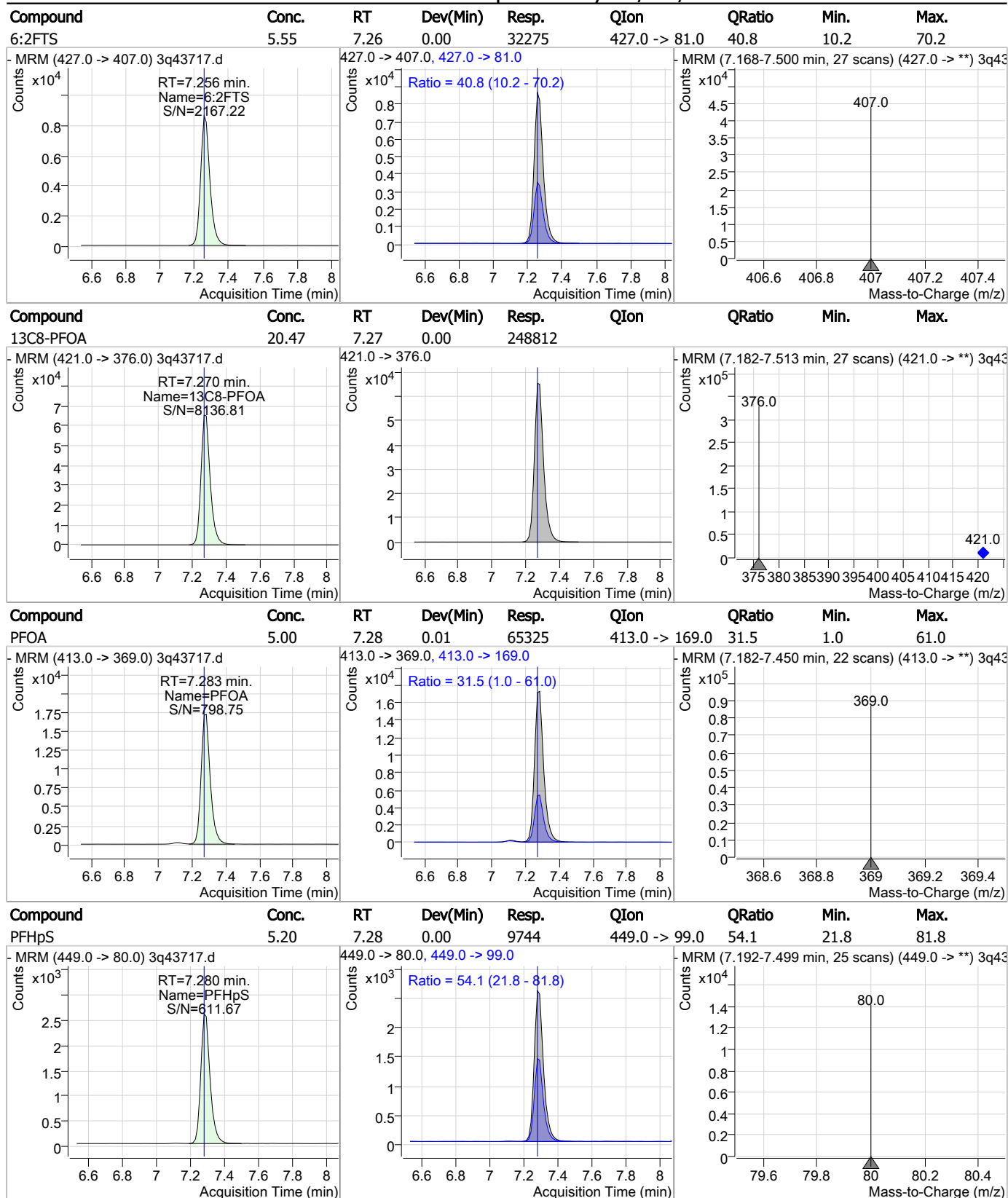
Perfluorinated Compounds by LC/MS/MS

10.5.5
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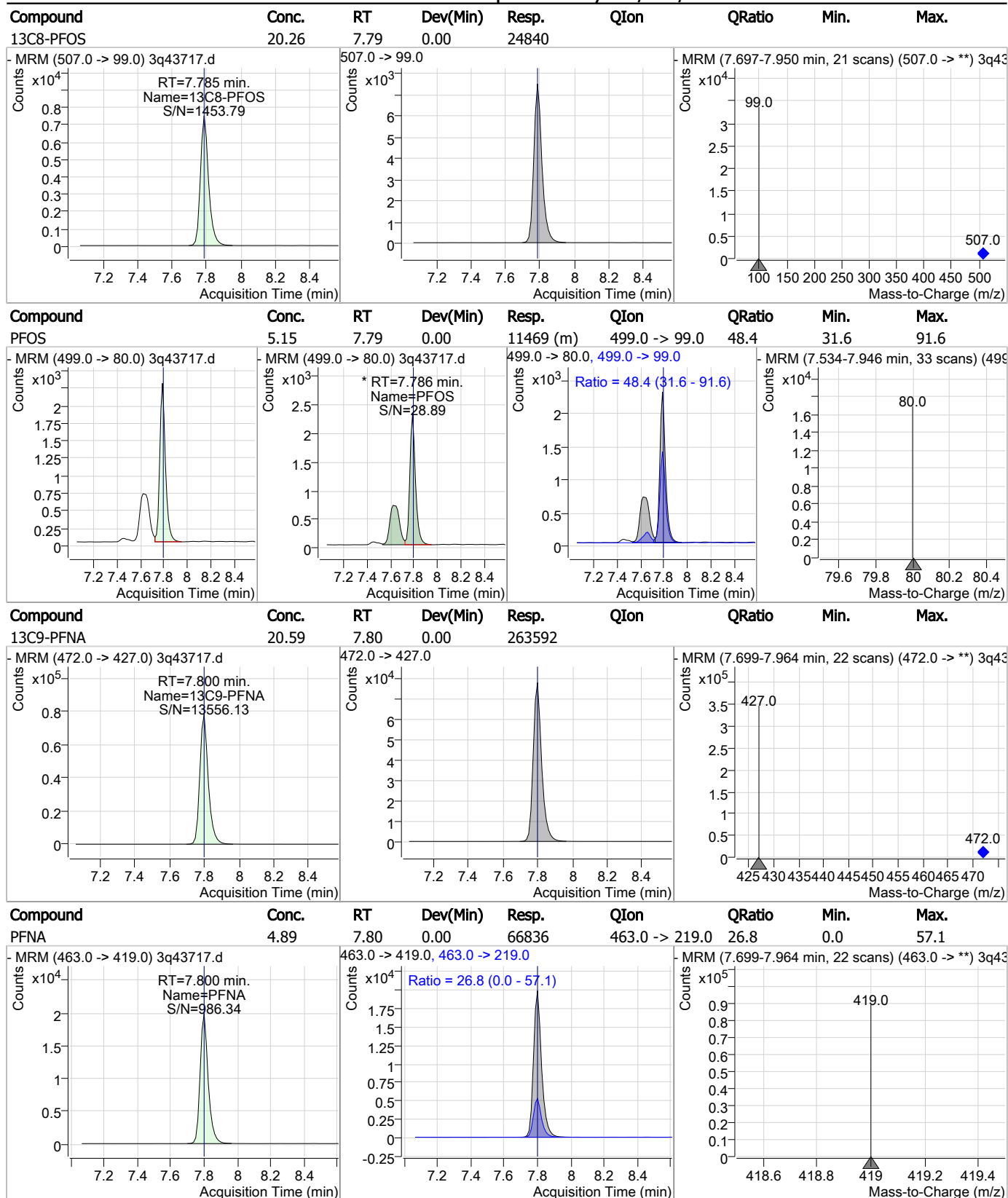
Perfluorinated Compounds by LC/MS/MS

10.5.5
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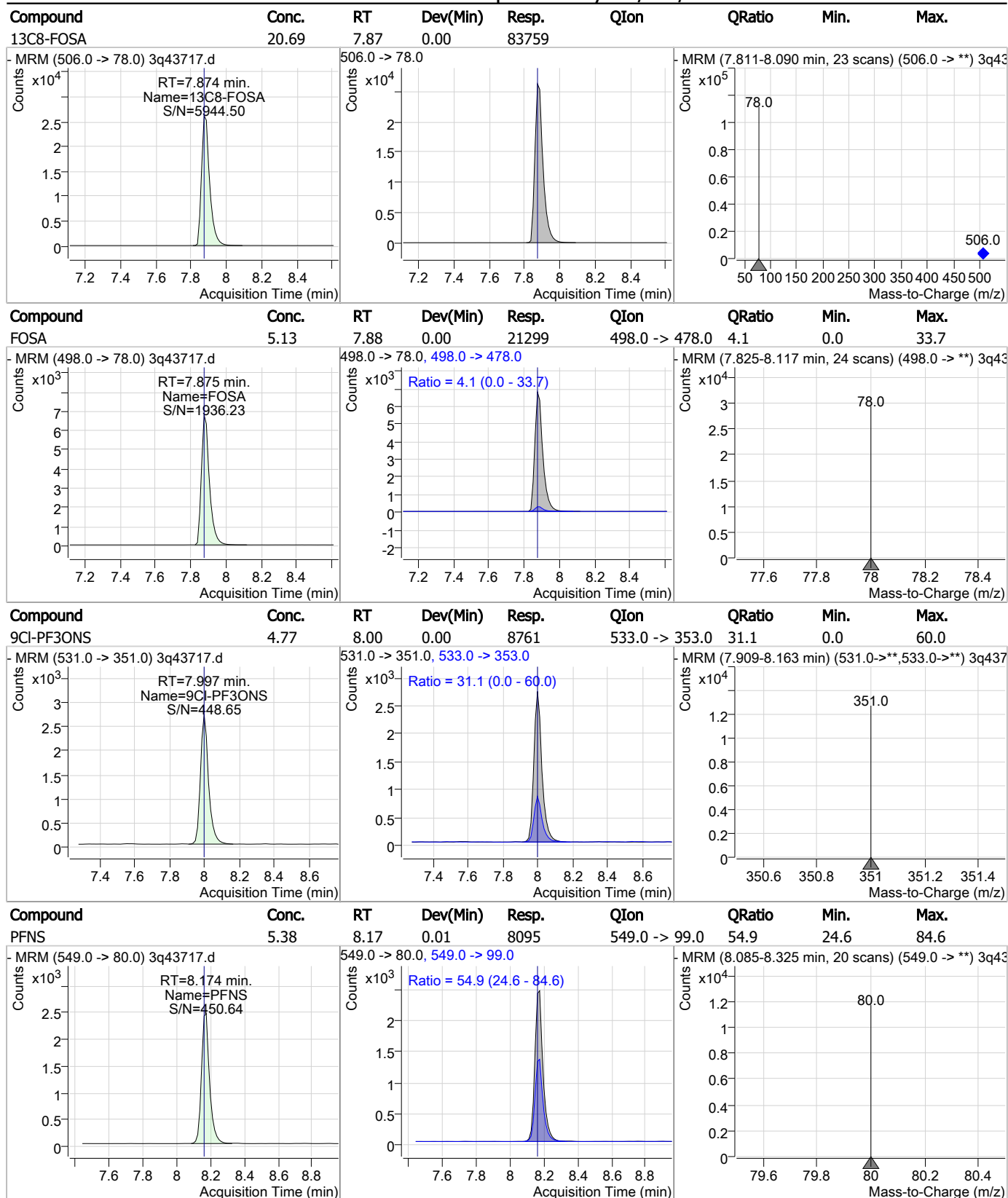
Perfluorinated Compounds by LC/MS/MS

10.5.5
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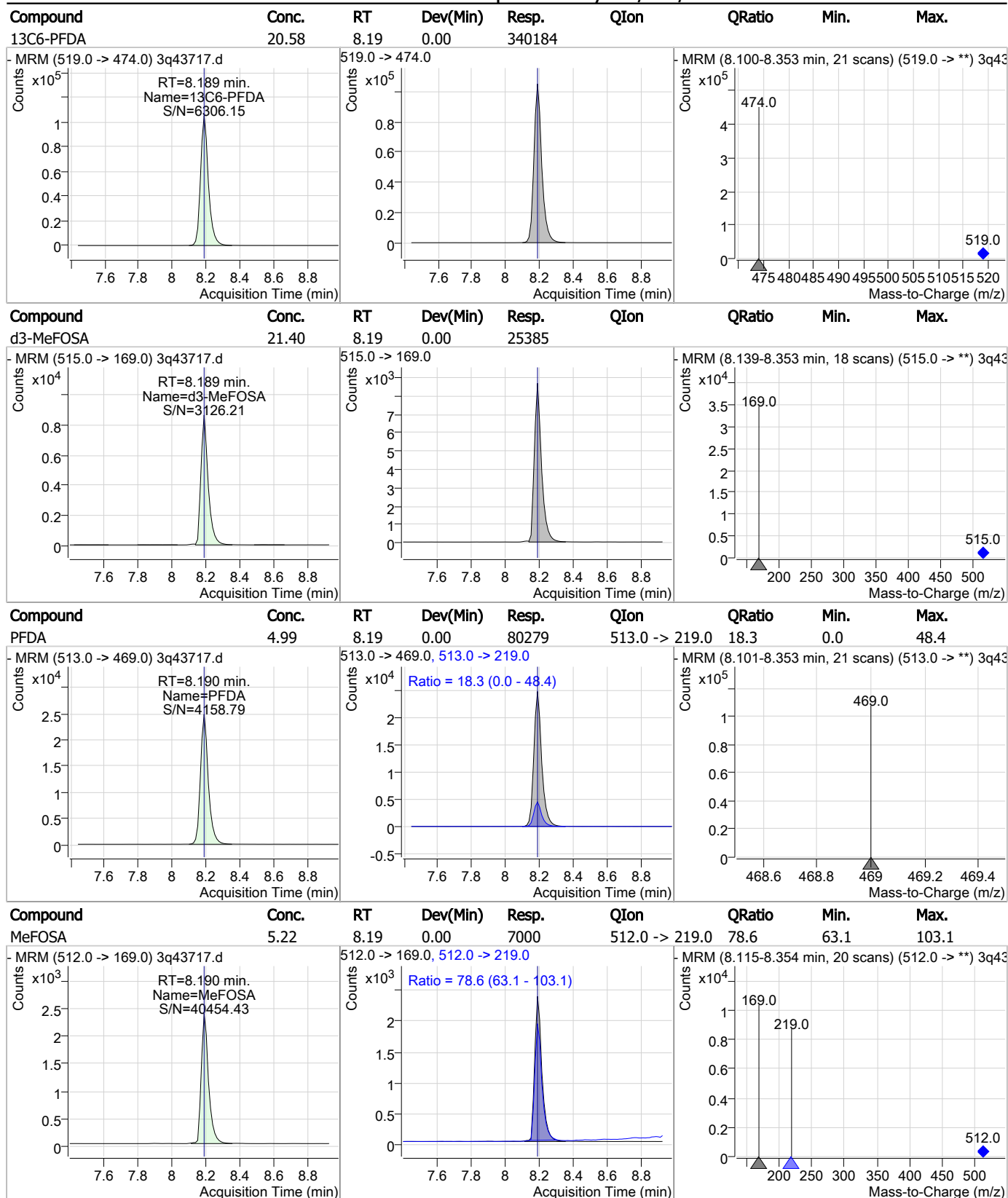
Perfluorinated Compounds by LC/MS/MS

10.5.5
10

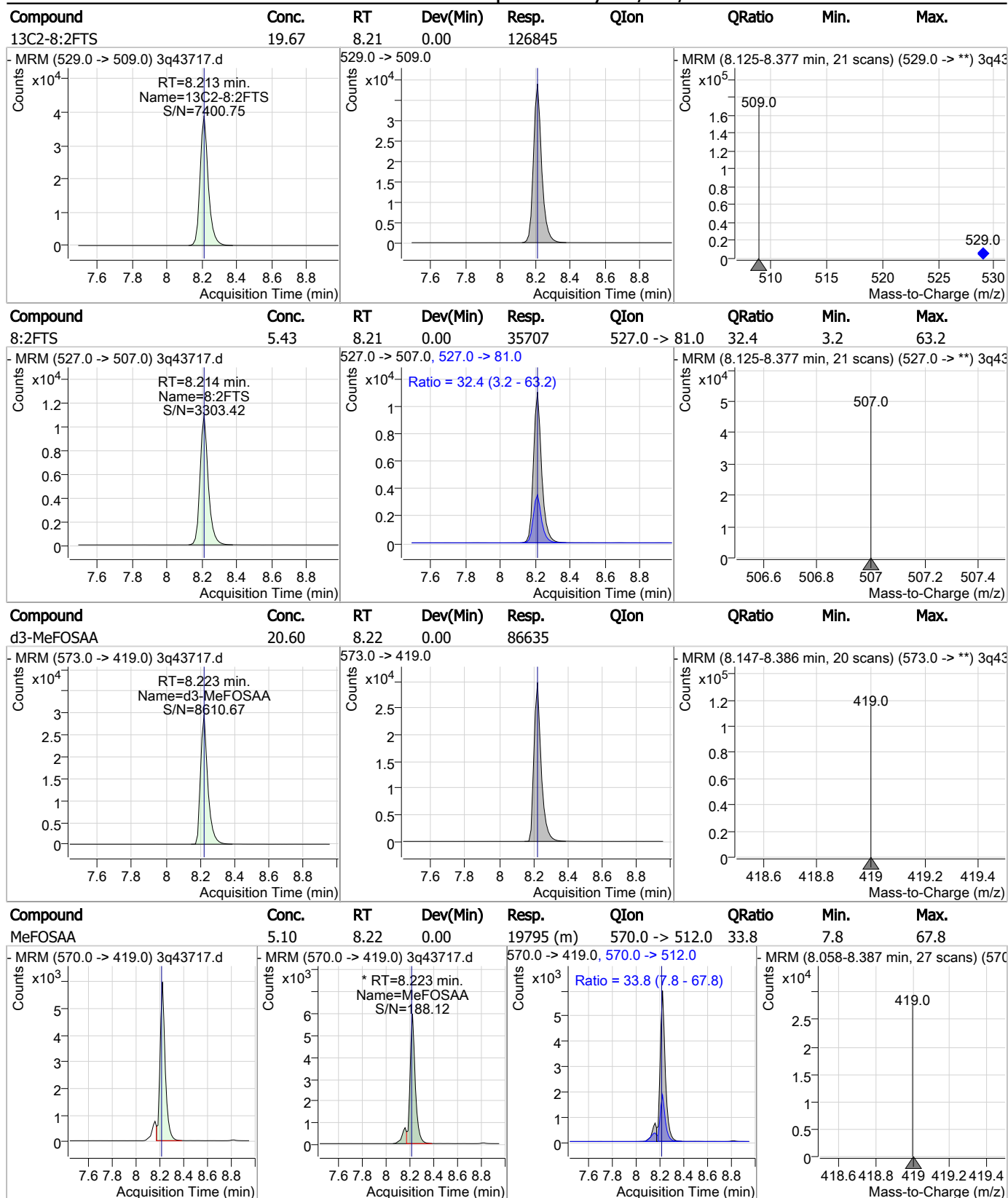
Perfluorinated Compounds by LC/MS/MS



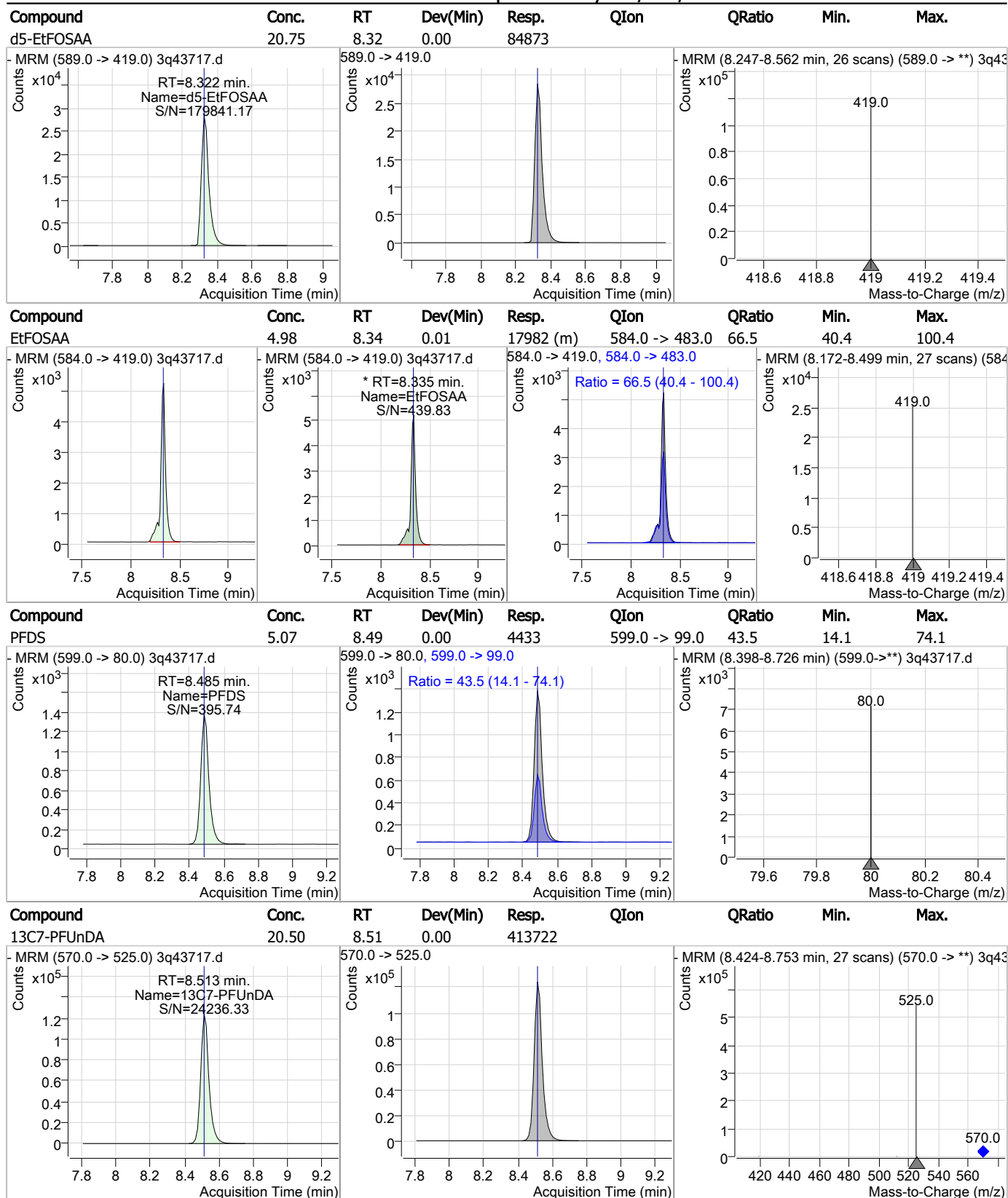
Perfluorinated Compounds by LC/MS/MS



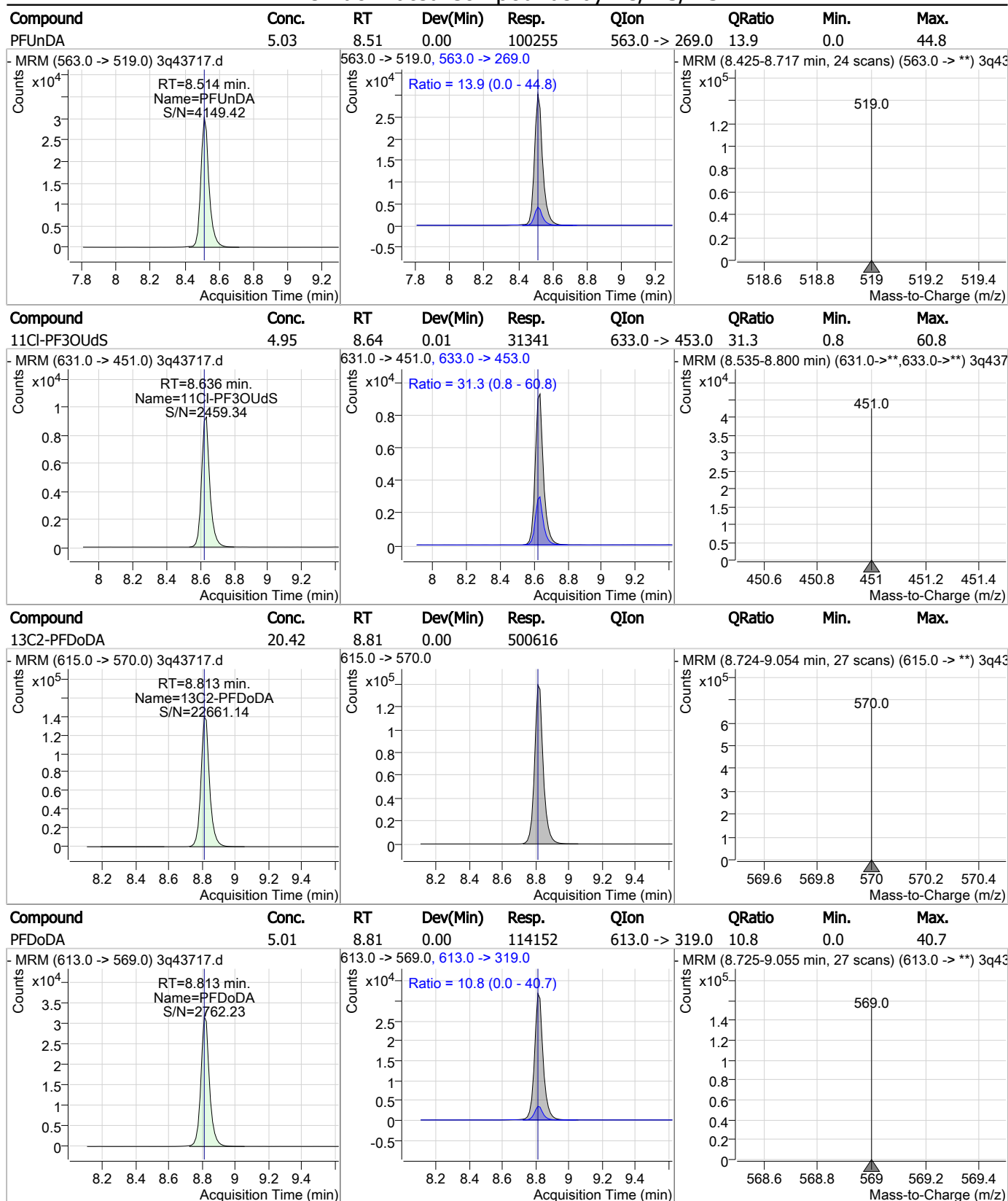
Perfluorinated Compounds by LC/MS/MS



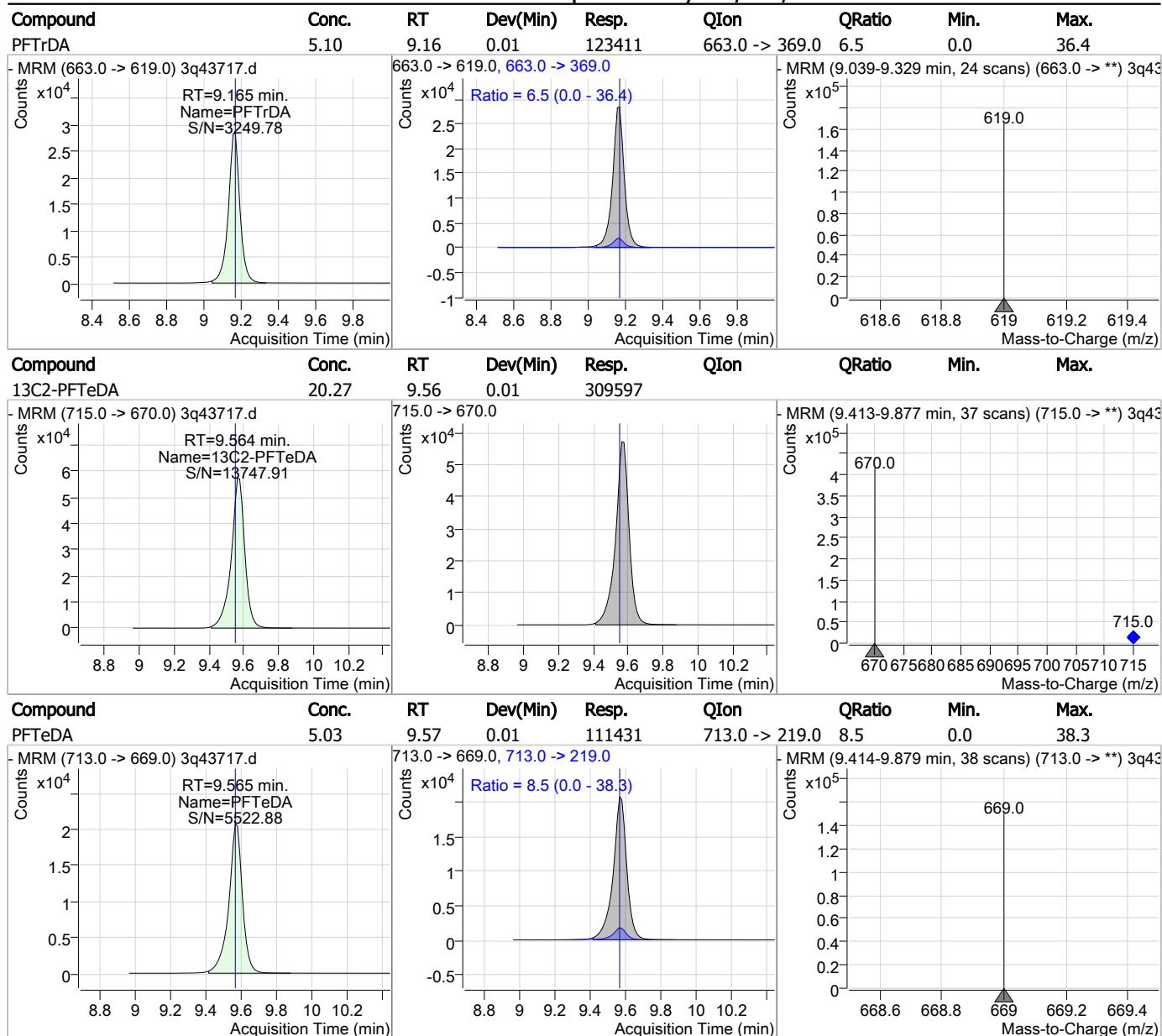
Perfluorinated Compounds by LC/MS/MS

10.5.5
10

Perfluorinated Compounds by LC/MS/MS

10.5.5
10

Perfluorinated Compounds by LC/MS/MS



10.5.5 10

Manual Integration Approval Summary

Sample Number:

S3Q637-IC637

Lab FileID:

3Q43717.D

Injection Time:

08/27/21 21:40

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43718.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 9:57:24 PM
 Sample Name : ic637-10
 Vial : P1-A6
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.739	217.0 -> 172.0	133218	20.00 µg/L	0.013
M5-PFPeA	3.949	268.0 -> 223.0	117832	20.00 µg/L	0.000
M5-PFHxA	5.563	318.0 -> 273.0	169572	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	200248	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	247339	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	259785	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	339028	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	410089	20.00 µg/L	0.000
M2-PFDoDA	8.825	615.0 -> 570.0	494329	20.00 µg/L	0.013
M2-PFTeDA	9.564	715.0 -> 670.0	308921	20.00 µg/L	0.013
M8-FOSA	7.874	506.0 -> 78.0	84521	20.00 µg/L	0.000
M3-PFBS	4.367	302.0 -> 99.0	14195	20.00 µg/L	0.013
M3-PFHxS	6.603	402.0 -> 99.0	16224	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	24591	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	93338	20.00 µg/L	0.000
M2-6:2FTS	7.268	429.0 -> 409.0	118530	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	127368	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	85429	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	18827	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	24755	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	82581	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	93338	19.49 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 97.5%		
13C2-6:2FTS	7.268	429.0 -> 409.0	118530	19.86 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C2-8:2FTS	8.213	529.0 -> 509.0	127368	19.76 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 98.8%		
13C2-PFDoDA	8.825	615.0 -> 570.0	494329	20.17 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C2-PFTeDA	9.564	715.0 -> 670.0	308921	20.22 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C3-PFBS	4.367	302.0 -> 99.0	14195	19.94 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.7%		
13C3-PFHxS	6.603	402.0 -> 99.0	16224	19.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C4-PFBA	1.739	217.0 -> 172.0	133218	20.07 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.4%		
13C4-PFHpA	6.556	367.0 -> 322.0	200248	20.07 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.3%		
13C5-PFHxA	5.563	318.0 -> 273.0	169572	20.11 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.5%		
13C5-PFPeA	3.949	268.0 -> 223.0	117832	20.05 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C6-PFDA	8.189	519.0 -> 474.0	339028	20.51 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

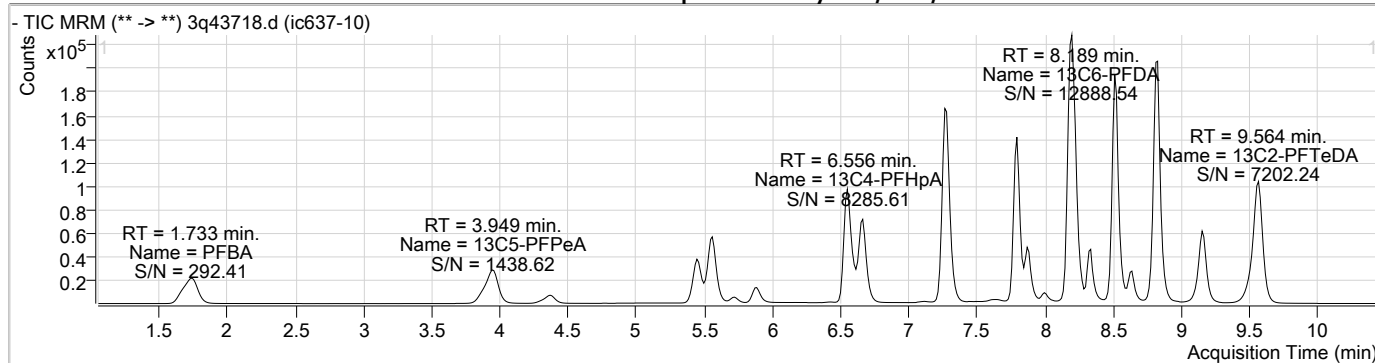
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C7-PFUnDA	8.513	570.0 -> 525.0	410089	20.32 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C8-FOSA	7.874	506.0 -> 78.0	84521	20.88 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C8-PFOA	7.283	421.0 -> 376.0	247339	20.35 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C8-PFOS	7.785	507.0 -> 99.0	24591	20.05 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C9-PFNA	7.800	472.0 -> 427.0	259785	20.29 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.5%	
d3-MeFOSAA	8.223	573.0 -> 419.0	85429	20.31 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	18826	20.20 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
d3-MeFOSA	8.189	515.0 -> 169.0	24755	20.86 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.3%	
d5-EtFOSAA	8.322	589.0 -> 419.0	82542	20.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%	

Target Compounds

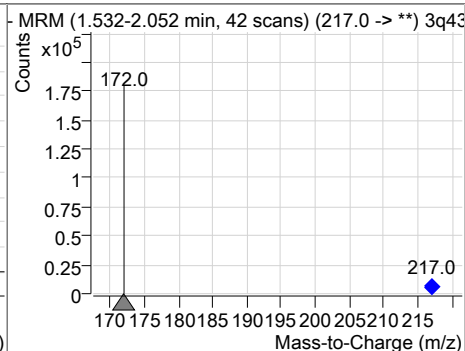
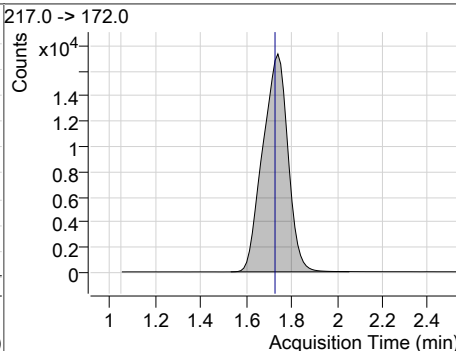
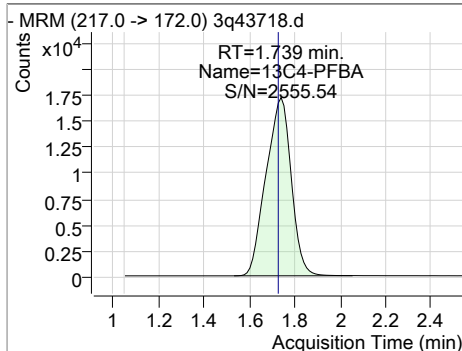
					QValue
4:2FTS	5.448	327.0 -> 307.0	55621	10.62 µg/L	99
6:2FTS	7.269	427.0 -> 407.0	62552	10.55 µg/L	98
8:2FTS	8.214	527.0 -> 507.0	70658	10.71 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	35417	10.09 µg/L	m 96
FOSA	7.875	498.0 -> 78.0	42336	10.10 µg/L	99
MeFOSAA	8.223	570.0 -> 419.0	38780	10.13 µg/L	m 98
PFBA	1.733	213.0 -> 169.0	33705	10.13 µg/L	100
PFBS	4.369	299.0 -> 80.0	19145	10.18 µg/L	99
PFDA	8.190	513.0 -> 469.0	158857	9.91 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	223558	9.94 µg/L	100
PFDS	8.485	599.0 -> 80.0	8499	9.80 µg/L	100
PFHpA	6.557	363.0 -> 319.0	164721	10.20 µg/L	100
PFHpS	7.293	449.0 -> 80.0	19064	10.28 µg/L	96
PFHxA	5.565	313.0 -> 269.0	74130	10.07 µg/L	100
PFHxS	6.603	399.0 -> 80.0	20063	10.20 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	133331	9.90 µg/L	99
PFNS	8.174	549.0 -> 80.0	15814	10.61 µg/L	98
PFOA	7.283	413.0 -> 369.0	129719	9.99 µg/L	99
PFOS	7.786	499.0 -> 80.0	22851	10.37 µg/L	m 81
PFPeA	3.951	263.0 -> 219.0	80384	10.05 µg/L	100
PFPeS	5.719	349.0 -> 80.0	14138	10.20 µg/L	99
PFTeDA	9.565	713.0 -> 669.0	222008	10.04 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	242790	10.05 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	197519	9.99 µg/L	99
11Cl-PF3OUdS	8.636	631.0 -> 451.0	63228	10.10 µg/L	98
9Cl-PF3ONS	7.997	531.0 -> 351.0	17114	9.36 µg/L	99
ADONA	6.667	377.0 -> 251.0	211358	10.01 µg/L	100
HFPO-DA	5.888	329.0 -> 169.0	30915	10.08 µg/L	99
MeFOSA	8.190	512.0 -> 169.0	13667	10.45 µg/L	98

= Qualifier out of range, m = manually integrated, + = Area summed

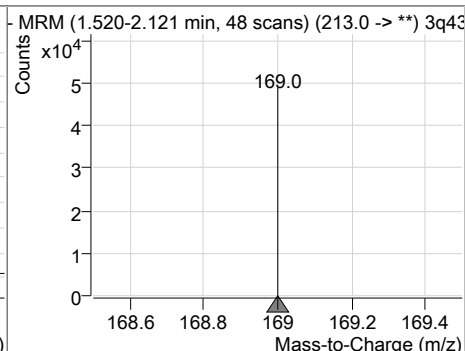
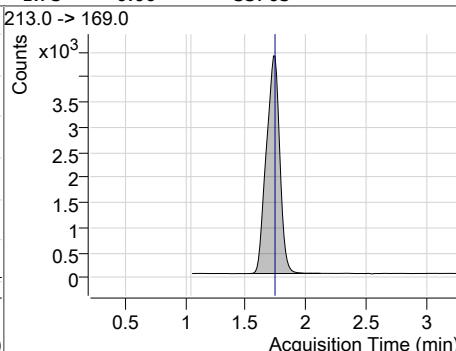
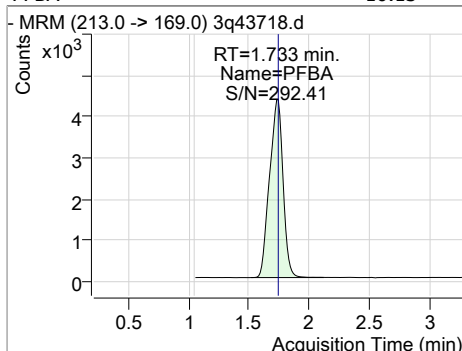
Perfluorinated Compounds by LC/MS/MS



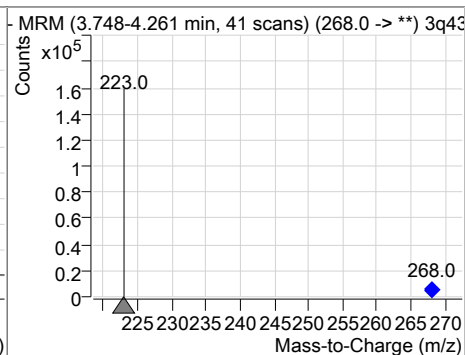
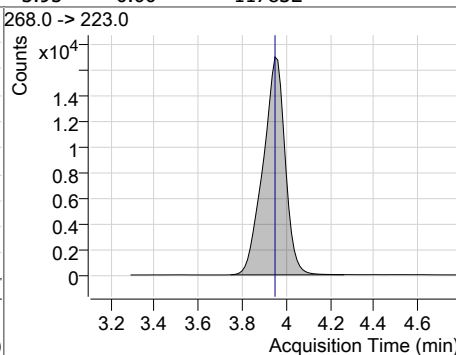
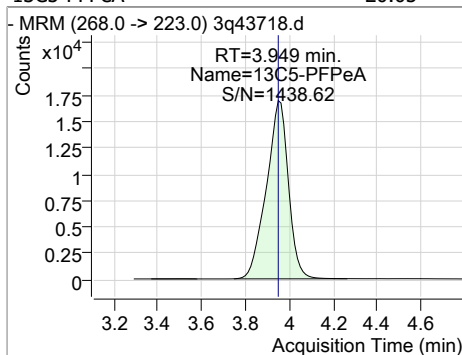
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.07	1.74	0.01	133218				



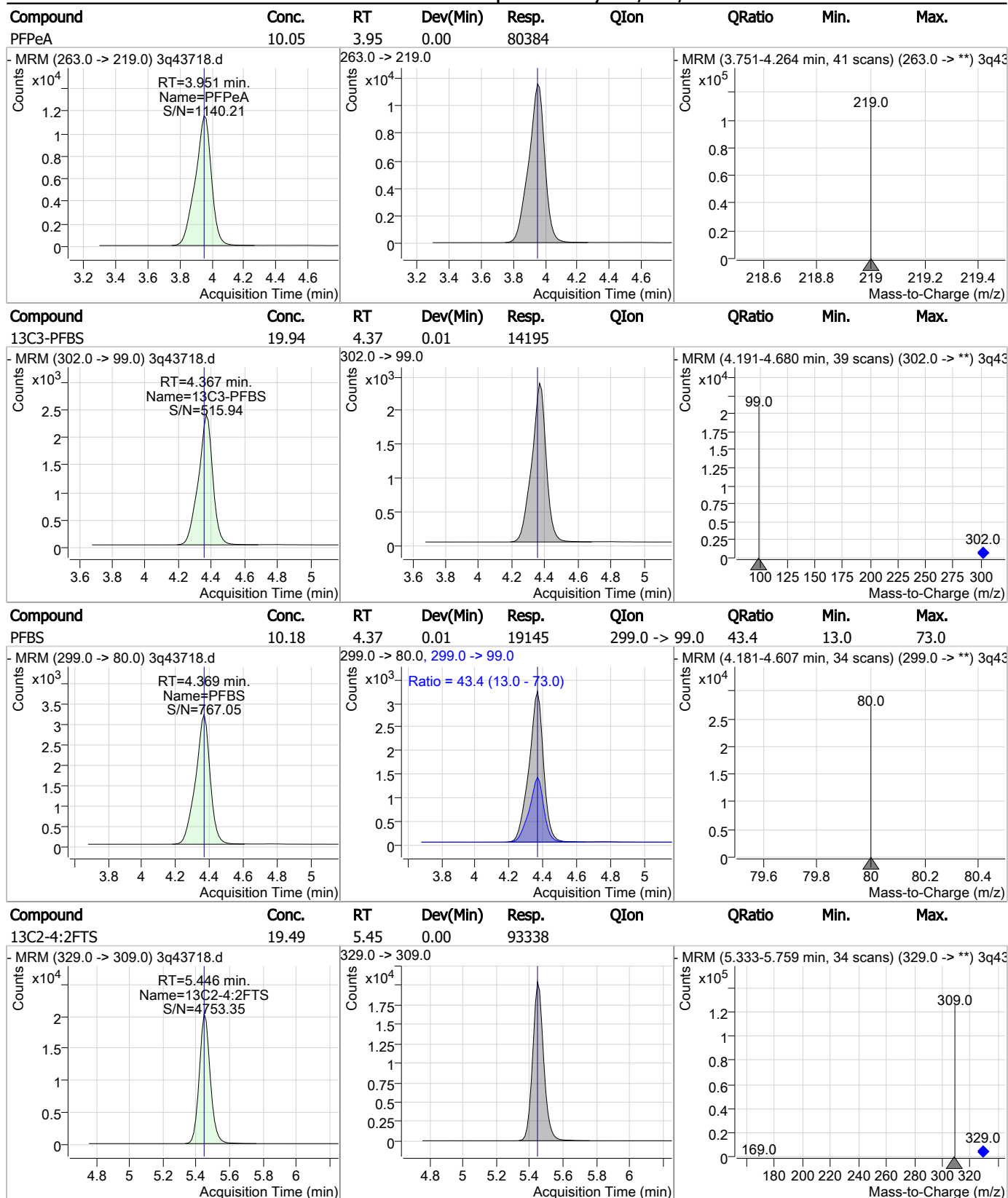
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	10.13	1.73	0.00	33705				



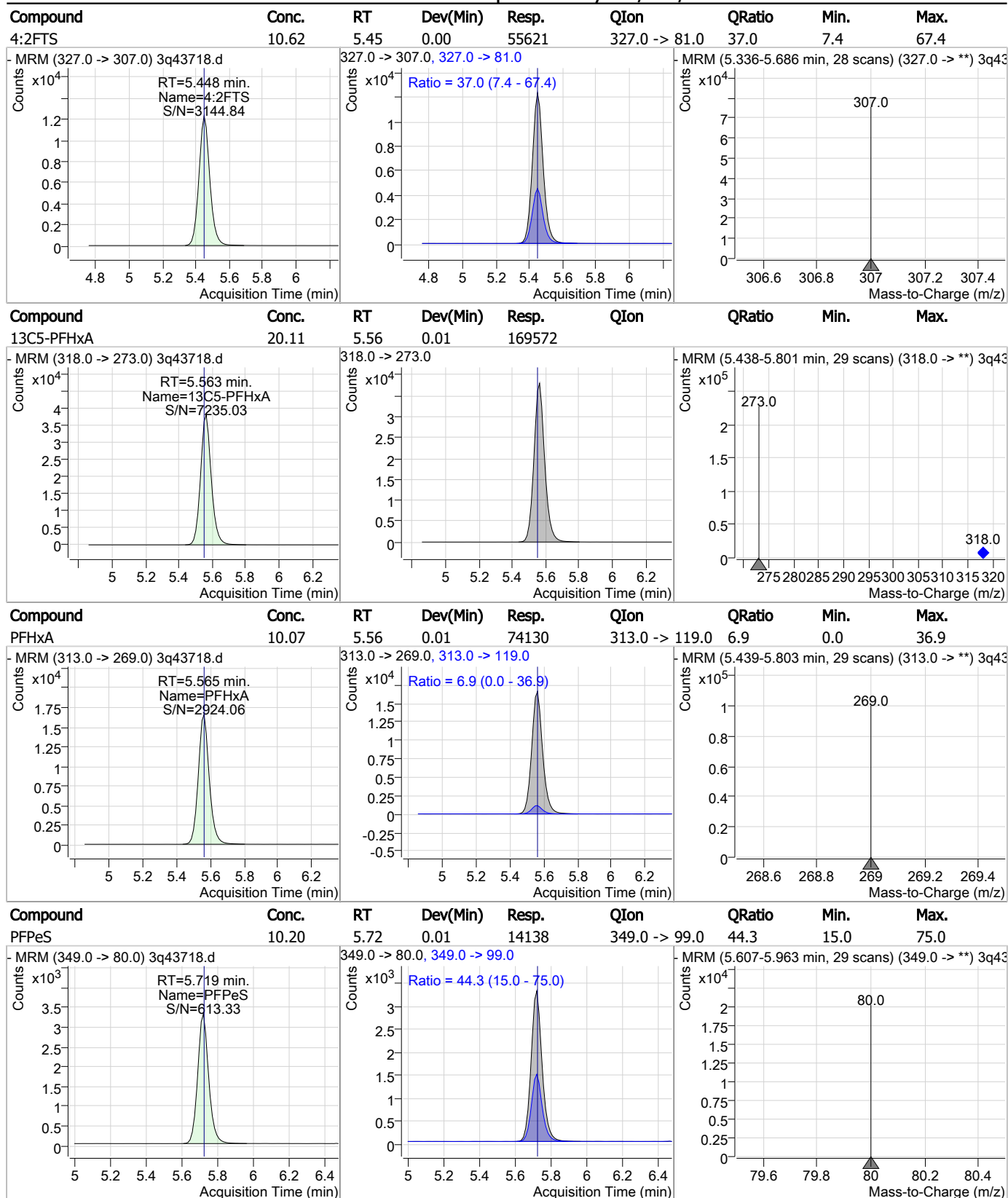
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.05	3.95	0.00	117832				



Perfluorinated Compounds by LC/MS/MS

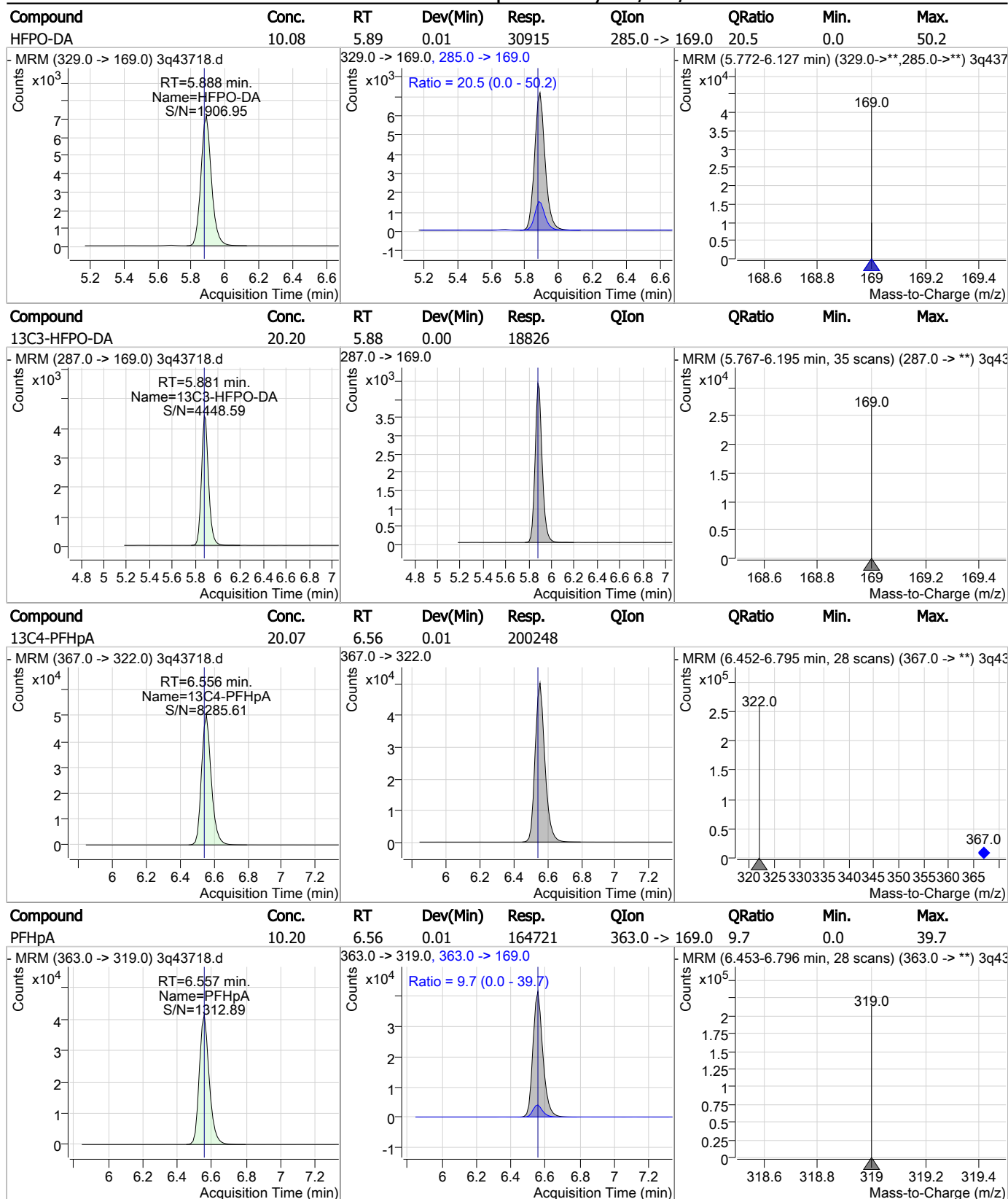


Perfluorinated Compounds by LC/MS/MS

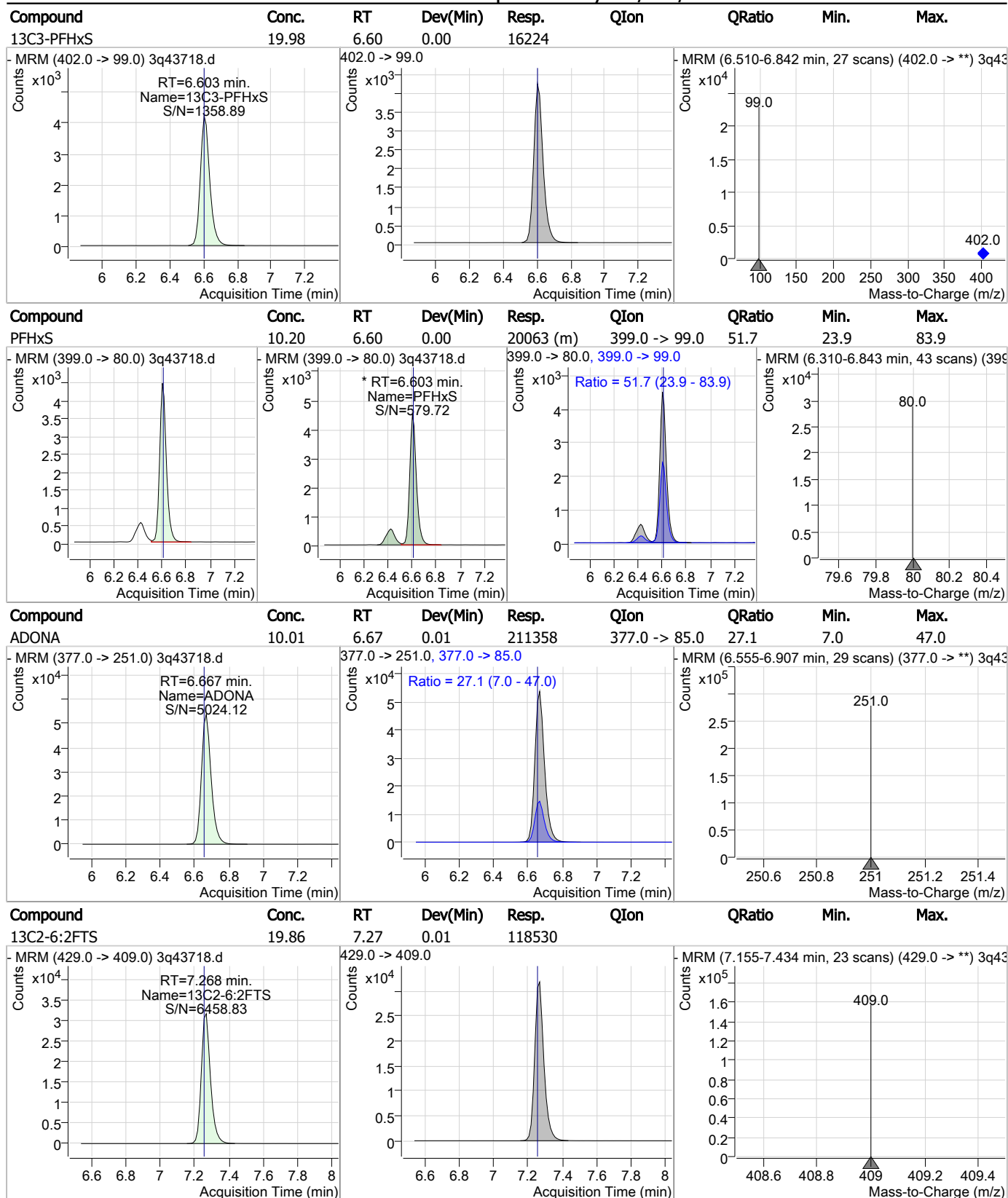


10.5.6 10

Perfluorinated Compounds by LC/MS/MS

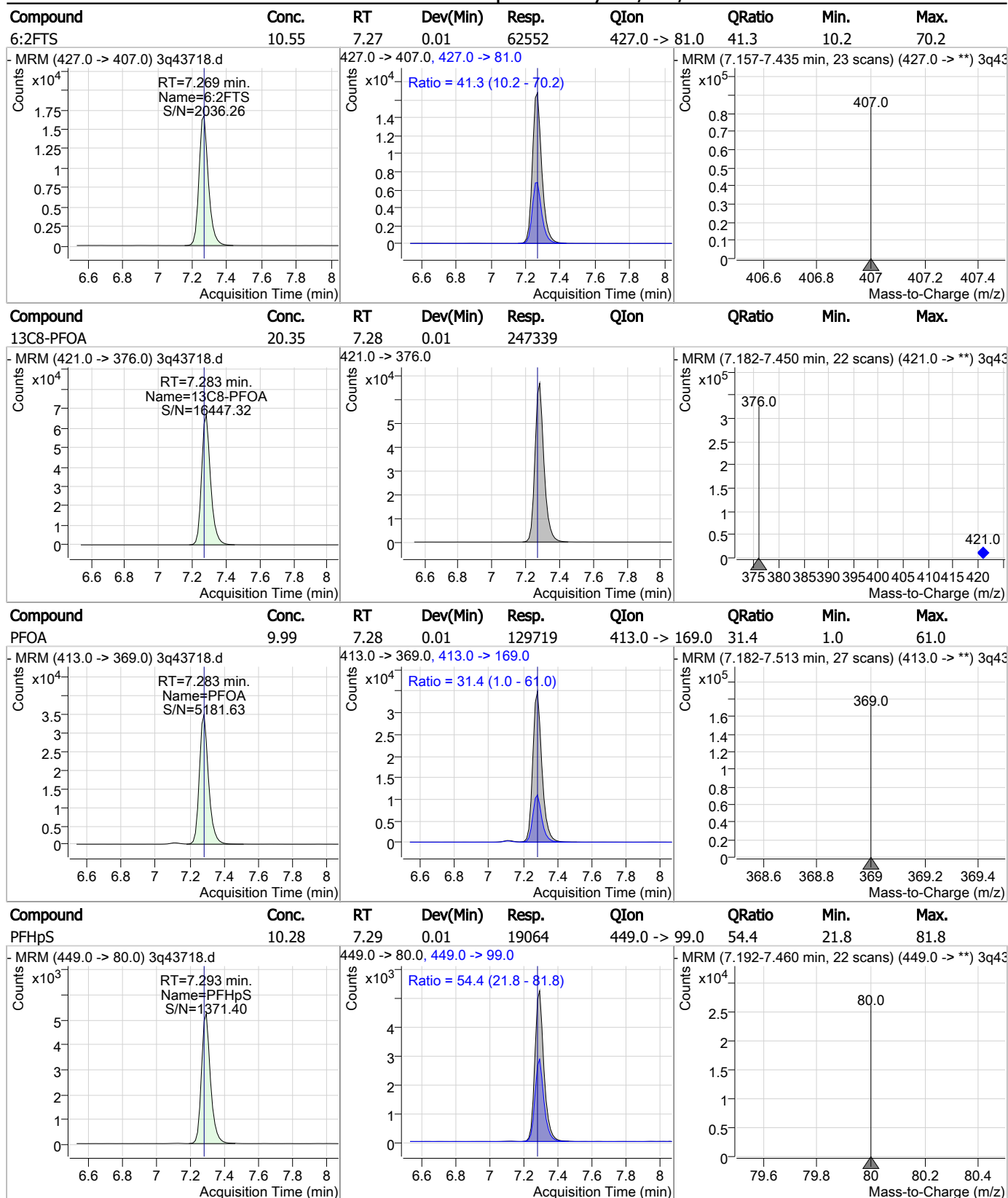


Perfluorinated Compounds by LC/MS/MS

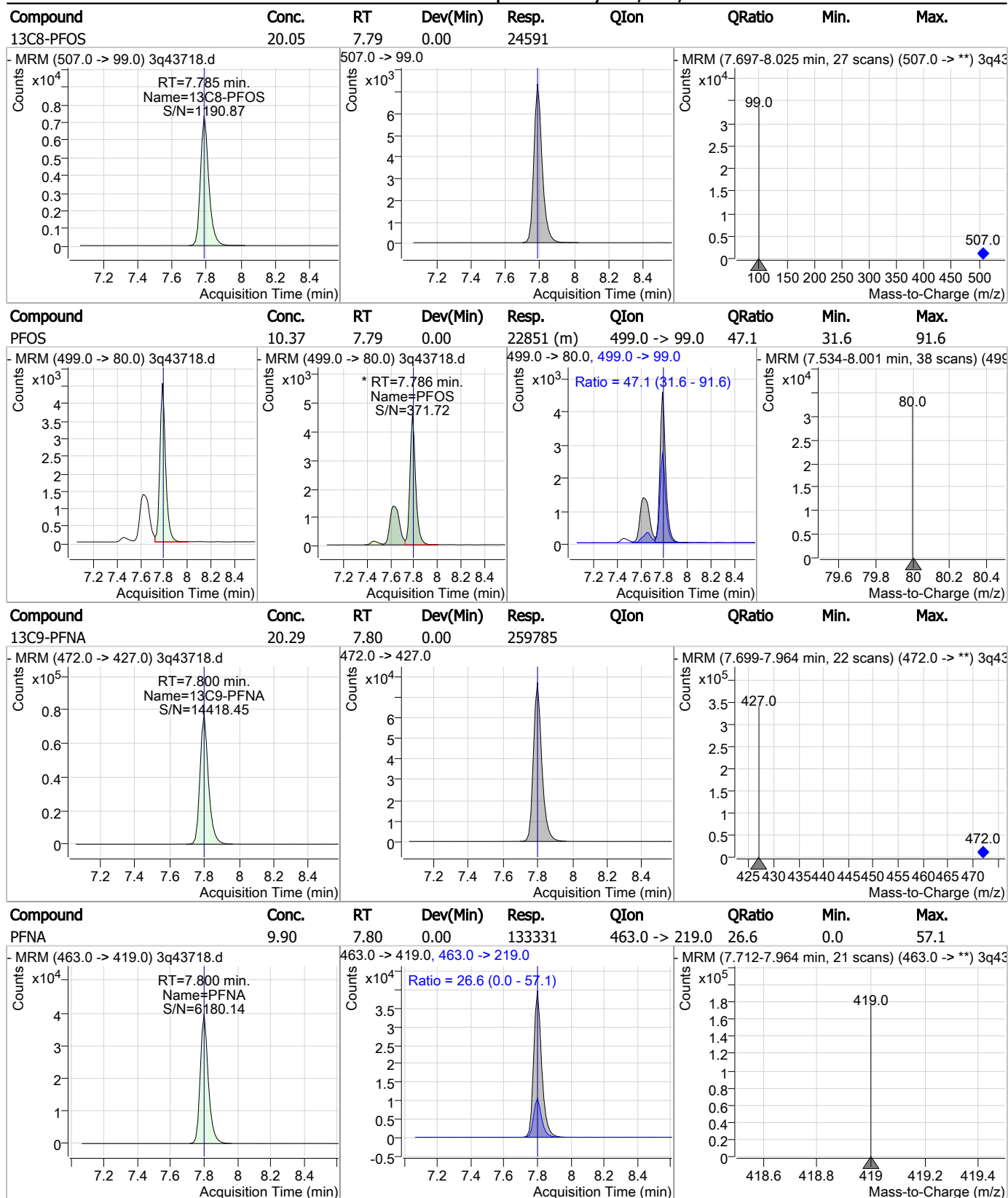


10.5.6 10

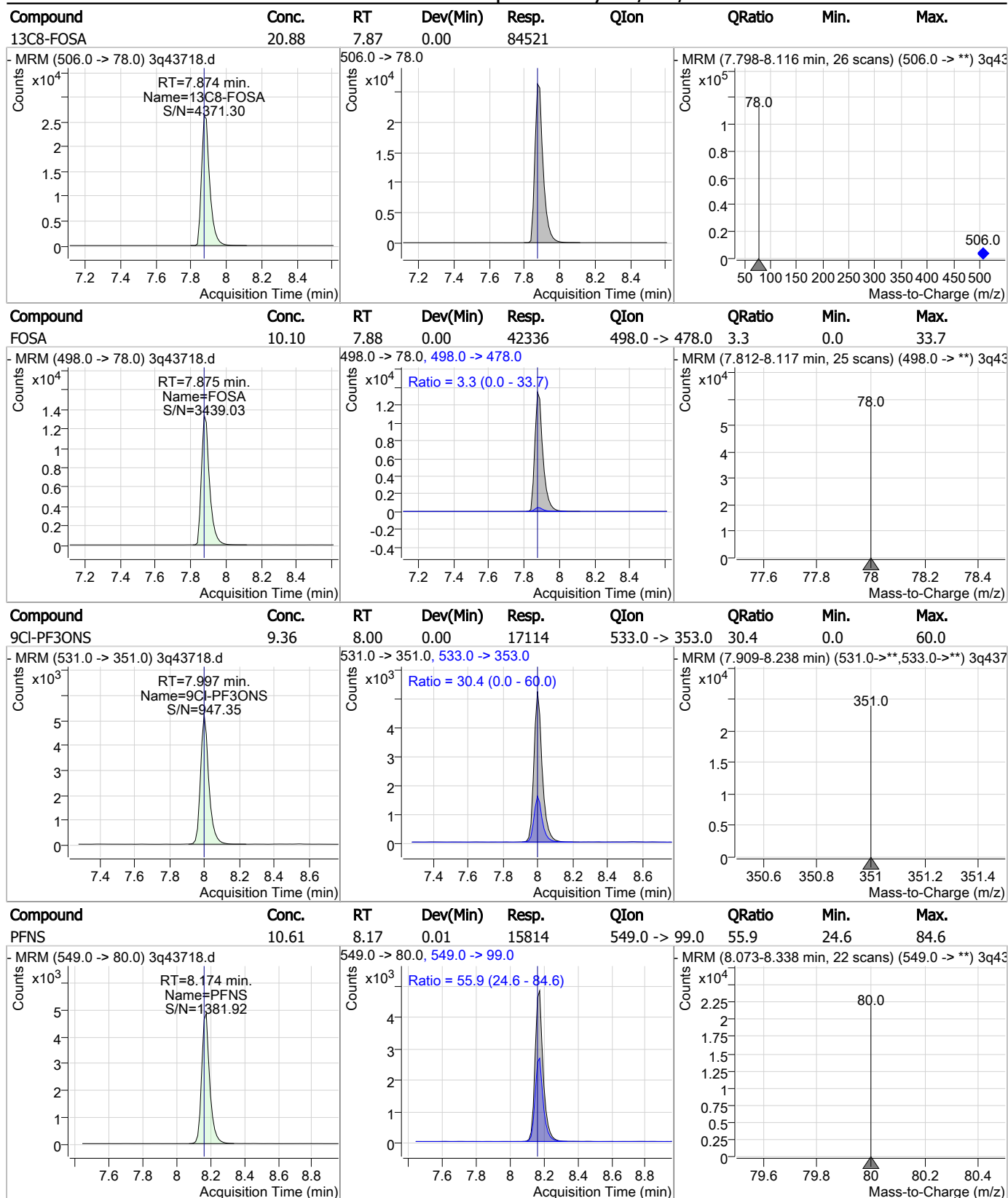
Perfluorinated Compounds by LC/MS/MS



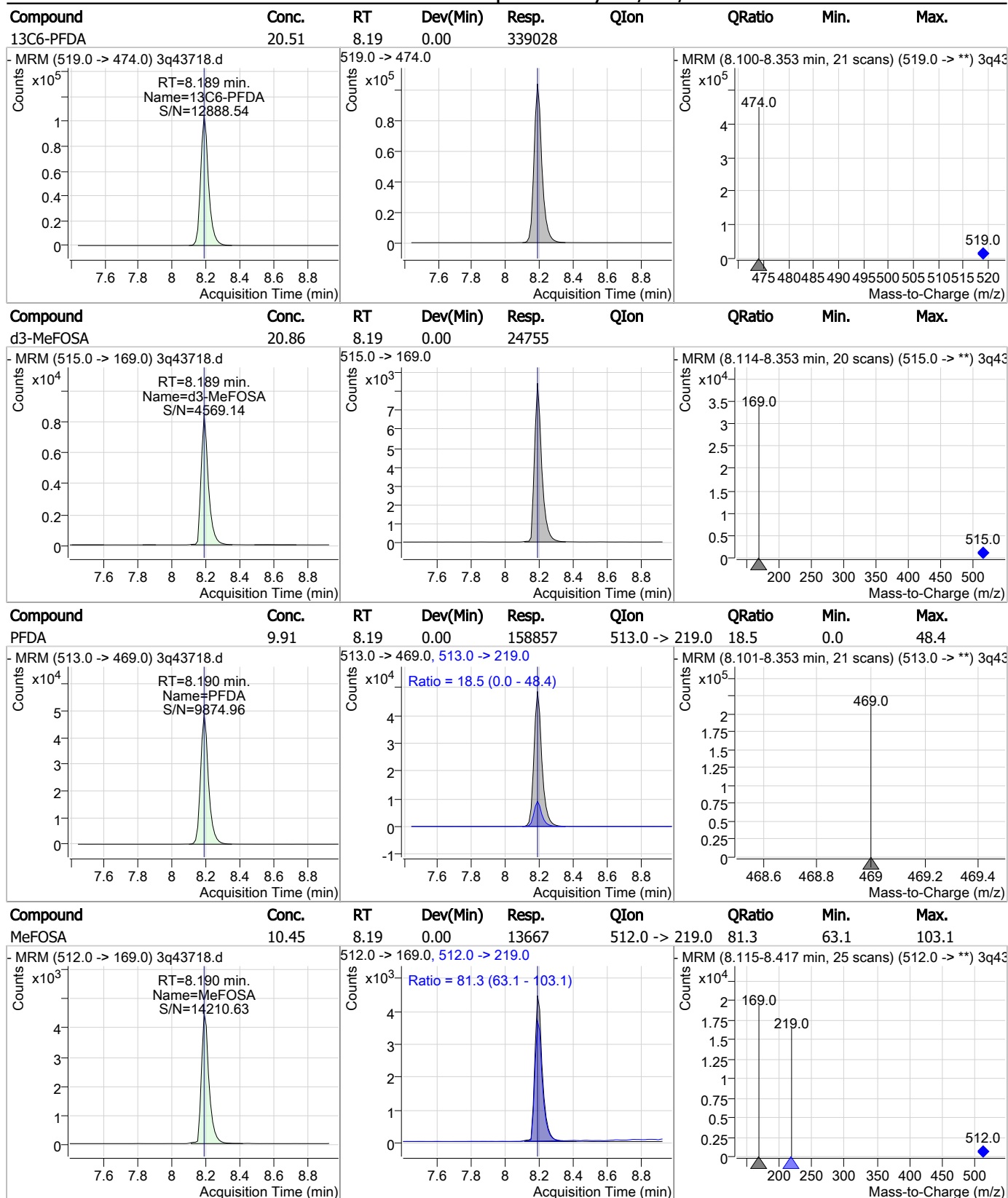
Perfluorinated Compounds by LC/MS/MS



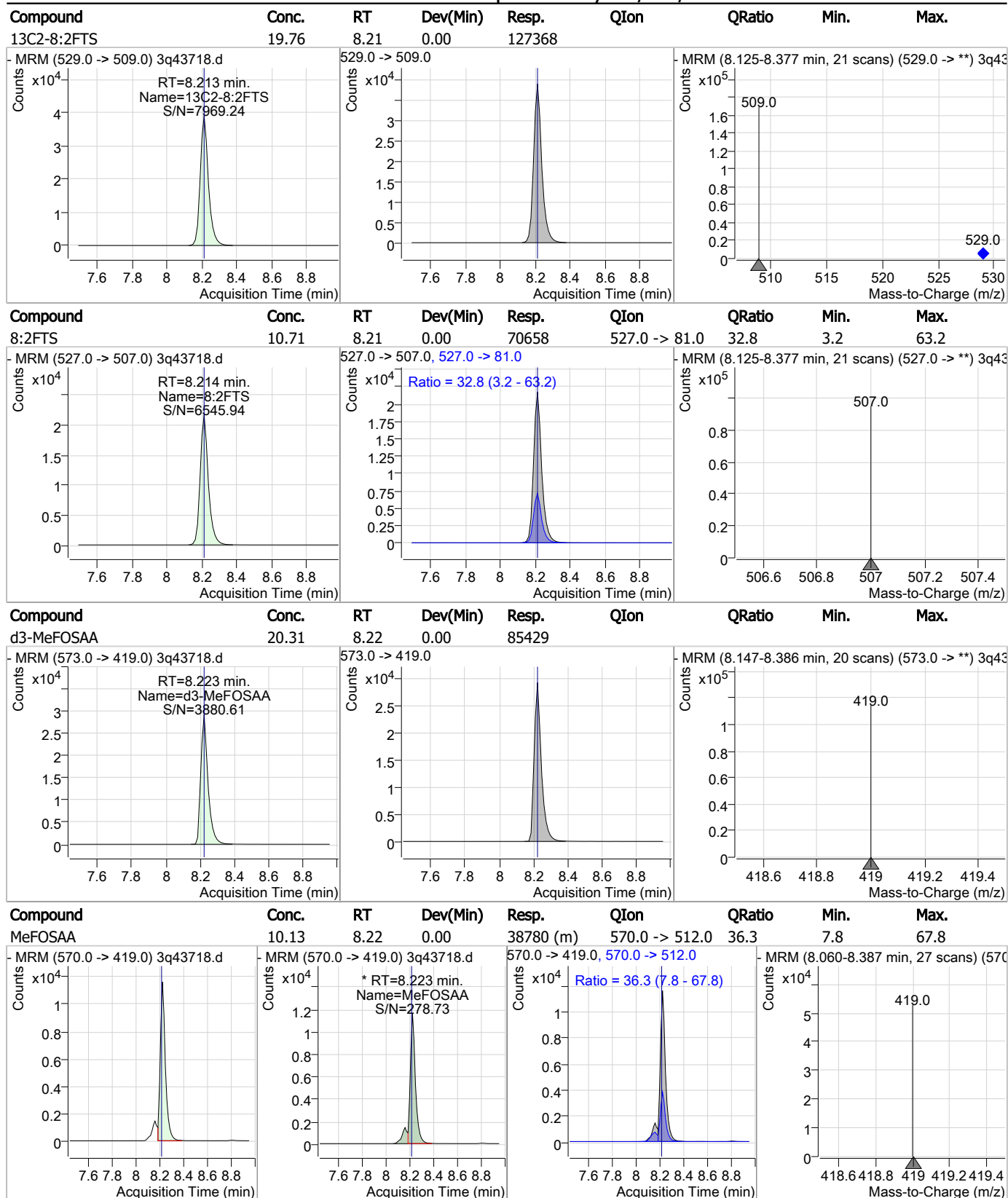
Perfluorinated Compounds by LC/MS/MS



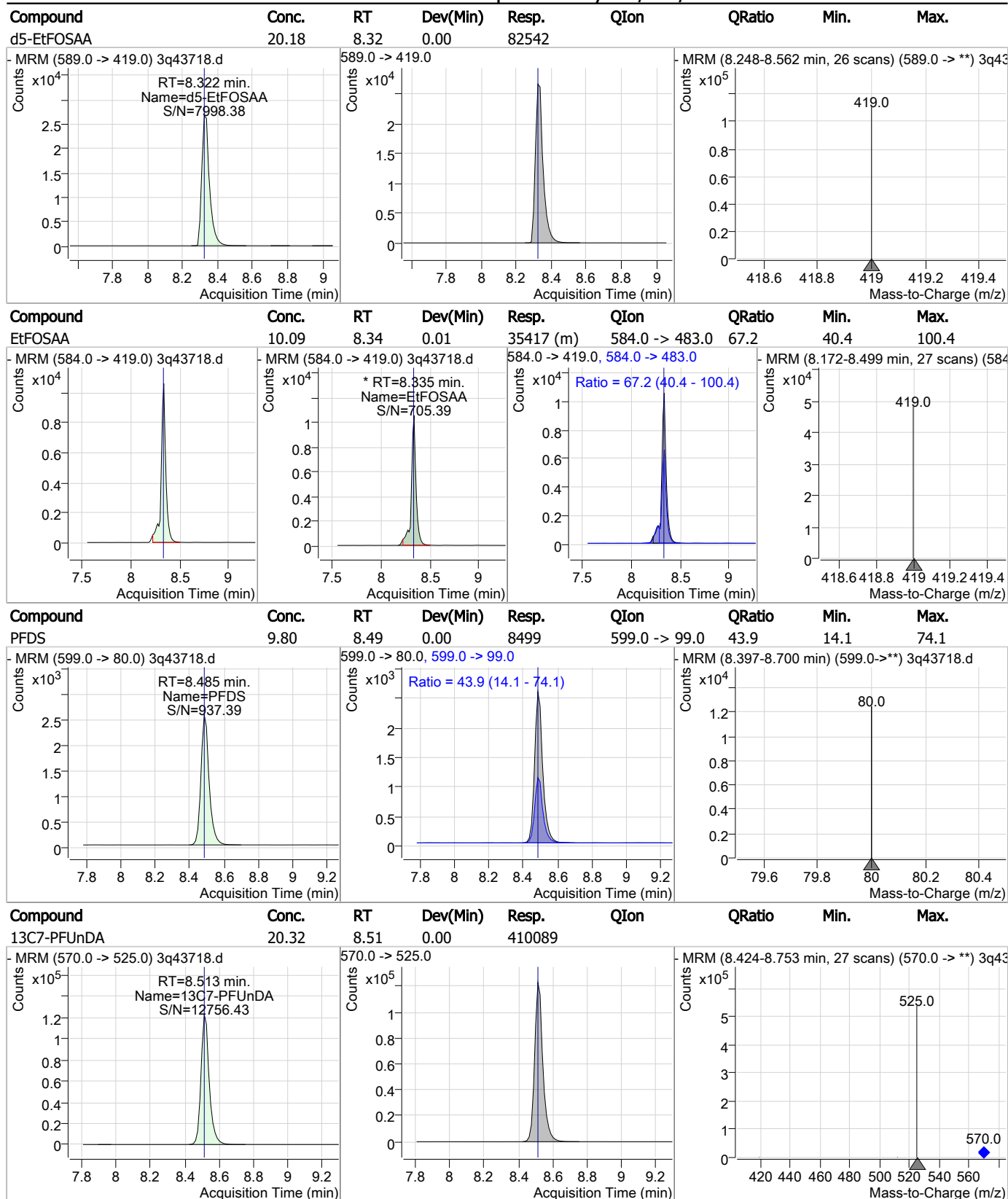
Perfluorinated Compounds by LC/MS/MS



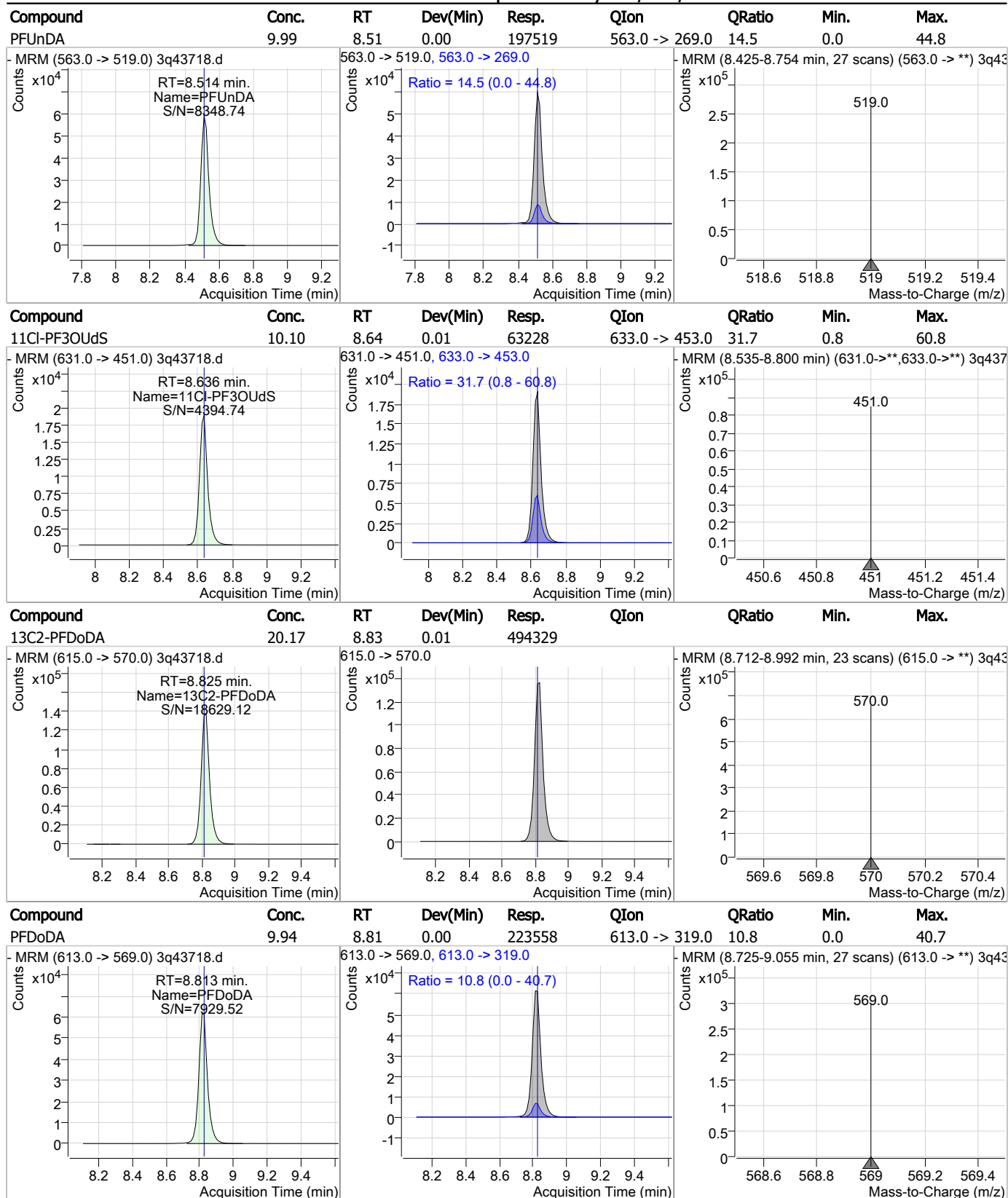
Perfluorinated Compounds by LC/MS/MS



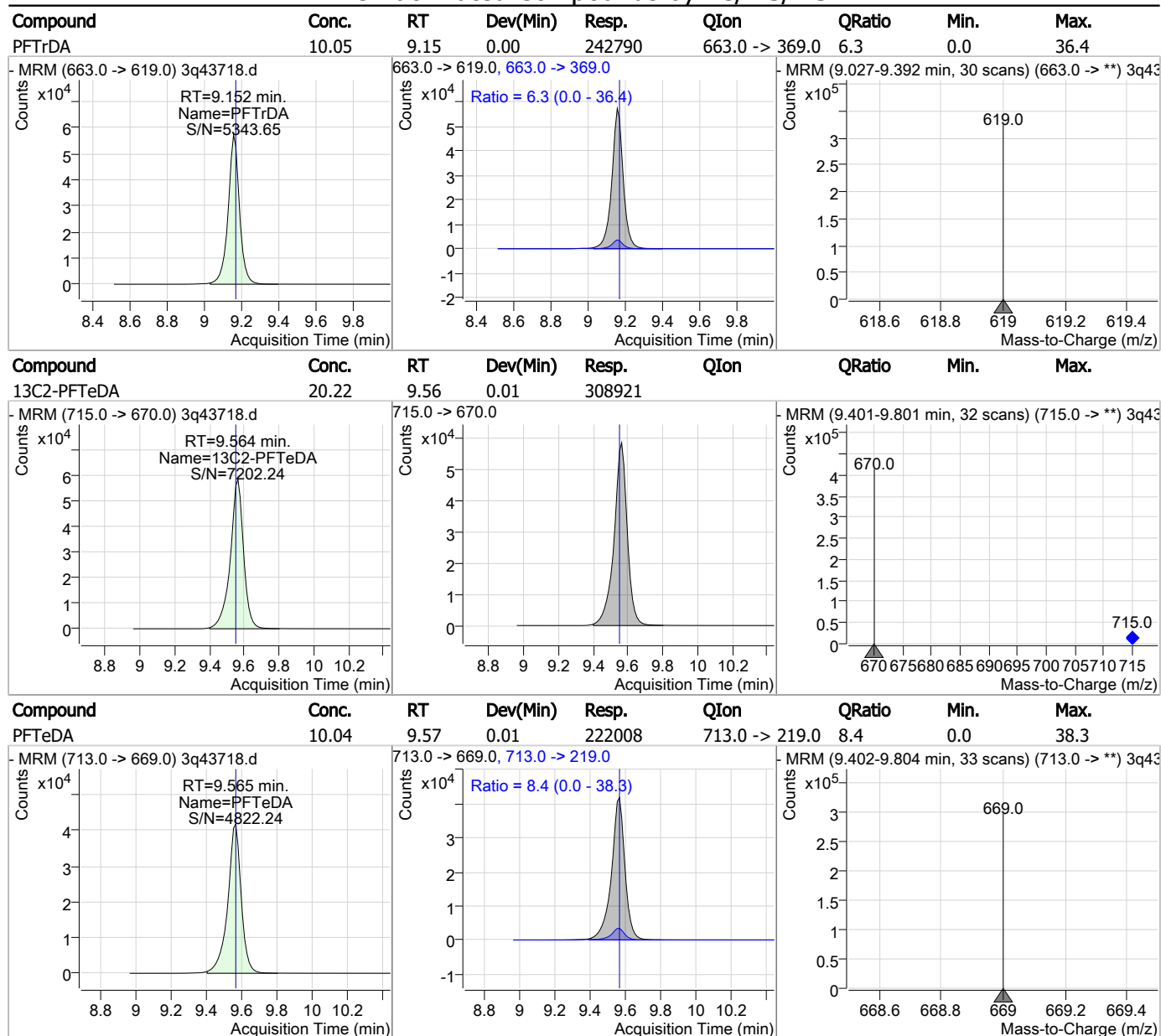
Perfluorinated Compounds by LC/MS/MS

10.5.6
10

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

S3Q637-IC637

Lab FileID:

3Q43718.D

Injection Time:

08/27/21 21:57

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.6.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43719.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 10:13:57 PM
 Sample Name : icc637-20
 Vial : P1-A7
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	134117	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	118790	20.00 µg/L	0.000
M5-PFHxA	5.551	318.0 -> 273.0	170149	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	200815	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	245671	20.00 µg/L	0.000
M9-PFNA	7.800	472.0 -> 427.0	257431	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	335166	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	401214	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	484886	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	302811	20.00 µg/L	0.000
M8-FOSA	7.874	506.0 -> 78.0	81868	20.00 µg/L	0.000
M3-PFBS	4.354	302.0 -> 99.0	14422	20.00 µg/L	0.000
M3-PFHxS	6.603	402.0 -> 99.0	16421	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	25018	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	95692	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	118889	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	129775	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	85736	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	18815	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	23827	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	82905	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	95692	19.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C2-6:2FTS	7.256	429.0 -> 409.0	118889	19.92 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-8:2FTS	8.213	529.0 -> 509.0	129775	20.13 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C2-PFDoDA	8.813	615.0 -> 570.0	484886	19.78 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 98.9%		
13C2-PFTeDA	9.551	715.0 -> 670.0	302811	19.82 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.1%		
13C3-PFBS	4.354	302.0 -> 99.0	14422	20.26 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.3%		
13C3-PFHxS	6.603	402.0 -> 99.0	16421	20.22 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C4-PFBA	1.727	217.0 -> 172.0	134117	20.21 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C4-PFHpA	6.543	367.0 -> 322.0	200815	20.12 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C5-PFHxA	5.551	318.0 -> 273.0	170149	20.17 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.9%		
13C5-PFPeA	3.949	268.0 -> 223.0	118790	20.21 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C6-PFDA	8.189	519.0 -> 474.0	335166	20.28 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

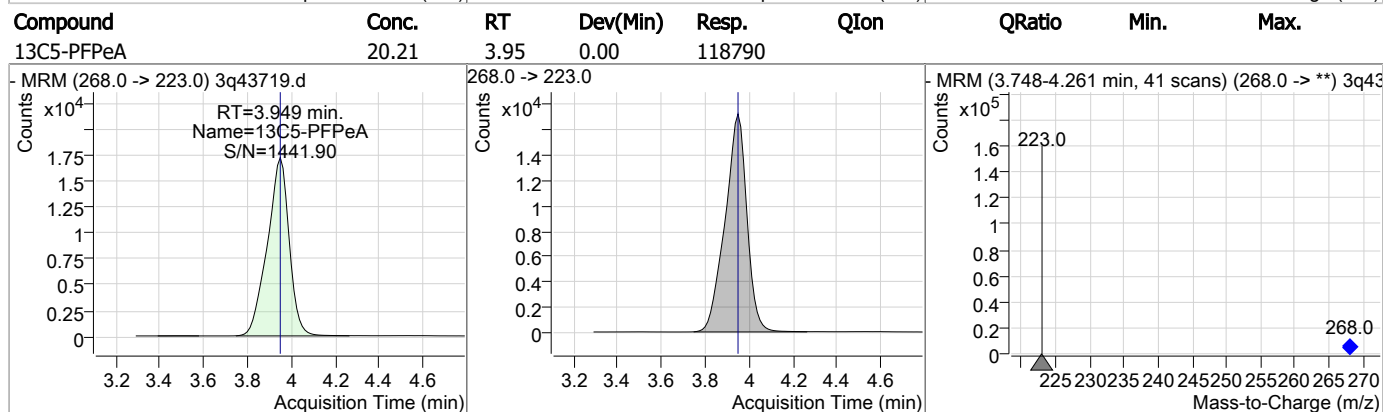
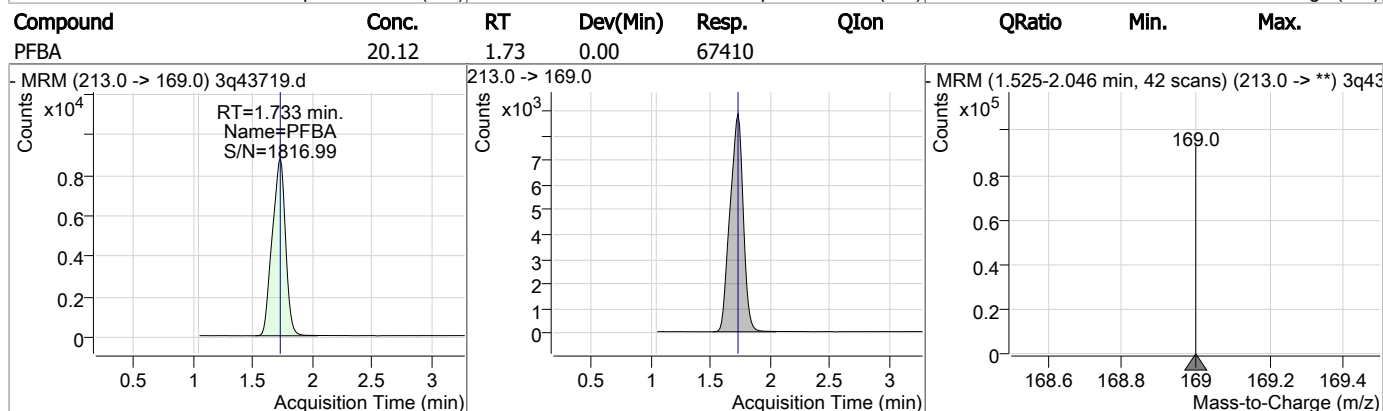
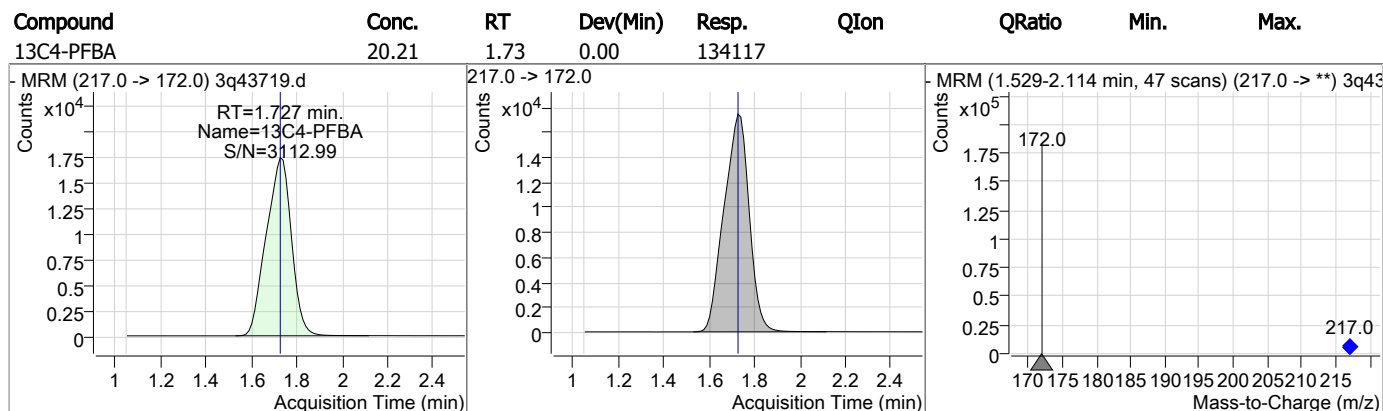
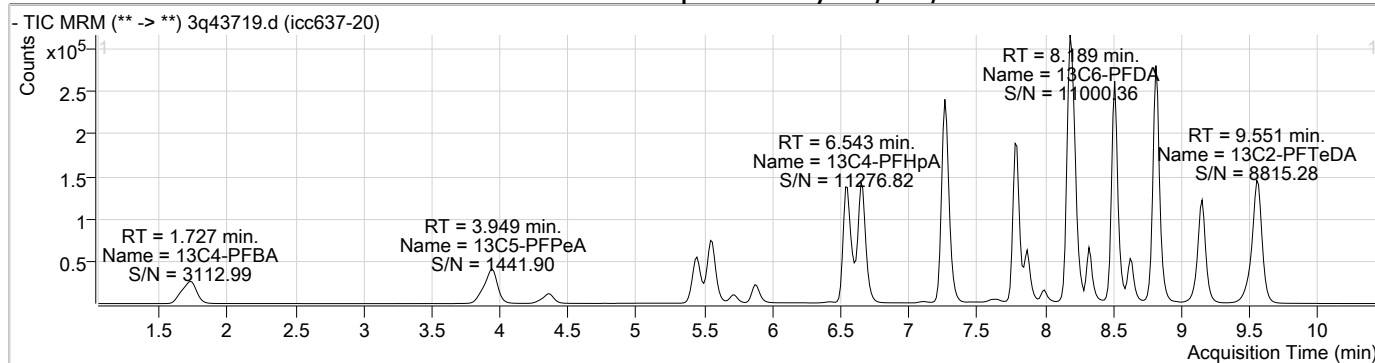
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C7-PFUnDA	8.513	570.0 -> 525.0	401214	19.88 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C8-FOSA	7.874	506.0 -> 78.0	81868	20.23 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C8-PFOA	7.270	421.0 -> 376.0	245671	20.22 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C8-PFOS	7.785	507.0 -> 99.0	25018	20.40 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C9-PFNA	7.800	472.0 -> 427.0	257431	20.11 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
d3-MeFOSAA	8.223	573.0 -> 419.0	85736	20.39 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.9%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	18814	20.19 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
d3-MeFOSA	8.189	515.0 -> 169.0	23827	20.08 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
d5-EtFOSAA	8.322	589.0 -> 419.0	82911	20.27 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.4%	

Target Compounds

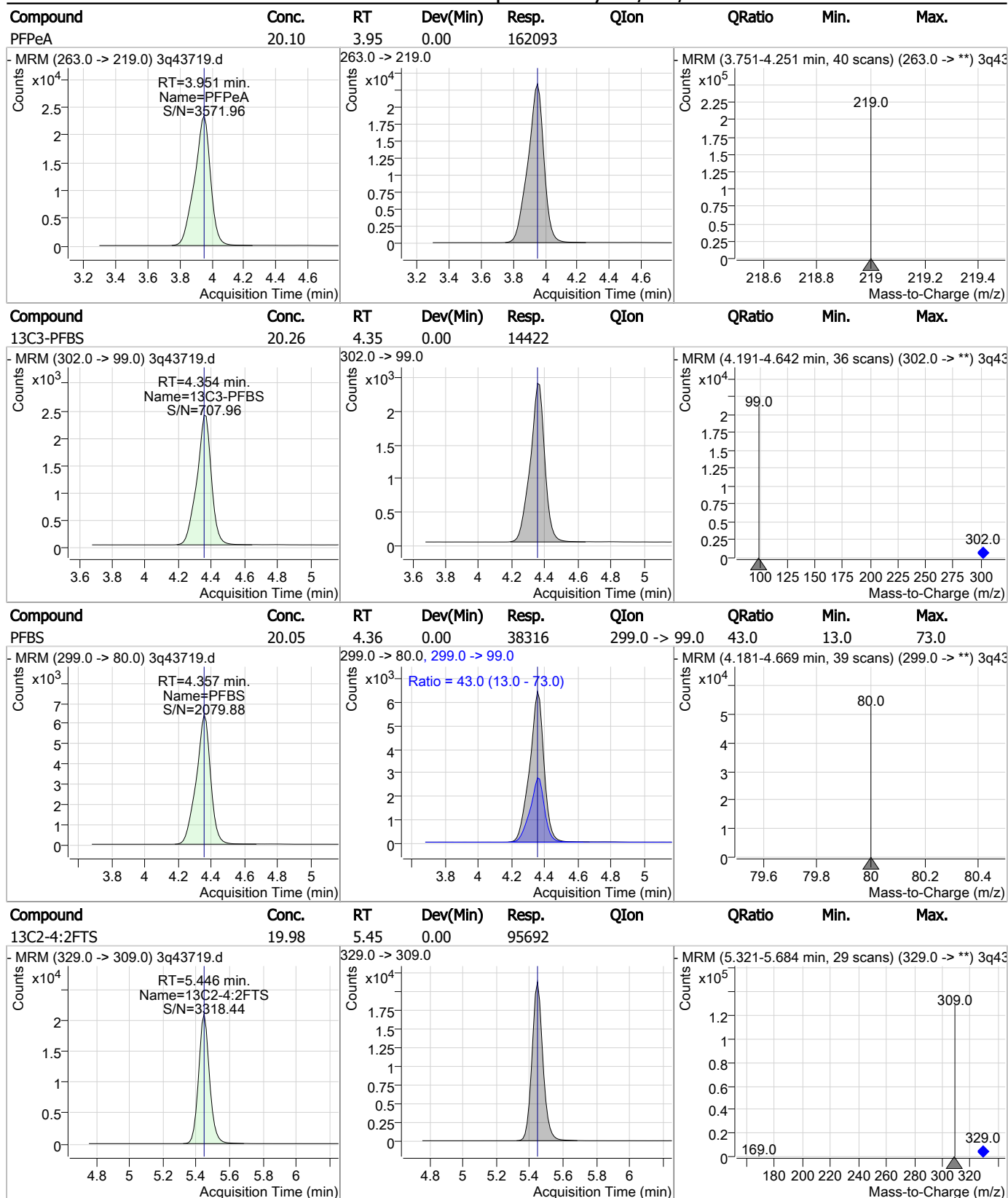
					QValue
4:2FTS	5.448	327.0 -> 307.0	110849	20.64 µg/L	100
6:2FTS	7.256	427.0 -> 407.0	124621	20.95 µg/L	100
8:2FTS	8.214	527.0 -> 507.0	137832	20.50 µg/L	100
EtFOSAA	8.323	584.0 -> 419.0	71476	20.28 µg/L	m 97
FOSA	7.875	498.0 -> 78.0	82127	20.22 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	73685	19.18 µg/L	m 99
PFBA	1.733	213.0 -> 169.0	67410	20.12 µg/L	100
PFBS	4.357	299.0 -> 80.0	38316	20.05 µg/L	100
PFDA	8.190	513.0 -> 469.0	313709	19.80 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	440572	19.97 µg/L	100
PFDS	8.485	599.0 -> 80.0	16574	19.54 µg/L	100
PFHpA	6.544	363.0 -> 319.0	323911	20.01 µg/L	100
PFHpS	7.280	449.0 -> 80.0	38665	20.50 µg/L	100
PFHxA	5.552	313.0 -> 269.0	147950	20.02 µg/L	100
PFHxS	6.603	399.0 -> 80.0	39457	19.81 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	260826	19.55 µg/L	100
PFNS	8.162	549.0 -> 80.0	31186	20.56 µg/L	100
PFOA	7.270	413.0 -> 369.0	257412	19.96 µg/L	100
PFOS	7.786	499.0 -> 80.0	44991	20.06 µg/L	m 82
PFPeA	3.951	263.0 -> 219.0	162093	20.10 µg/L	100
PFPeS	5.707	349.0 -> 80.0	28273	20.07 µg/L	100
PFTeDA	9.553	713.0 -> 669.0	432084	19.94 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	481531	20.34 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	383445	19.82 µg/L	100
11Cl-PF3OUdS	8.623	631.0 -> 451.0	126735	20.65 µg/L	100
9Cl-PF3ONS	7.997	531.0 -> 351.0	34005	18.80 µg/L	100
ADONA	6.655	377.0 -> 251.0	425110	19.90 µg/L	100
HFPO-DA	5.876	329.0 -> 169.0	61506	20.07 µg/L	100
MeFOSA	8.190	512.0 -> 169.0	25371	20.16 µg/L	100

= Qualifier out of range, m = manually integrated, + = Area summed

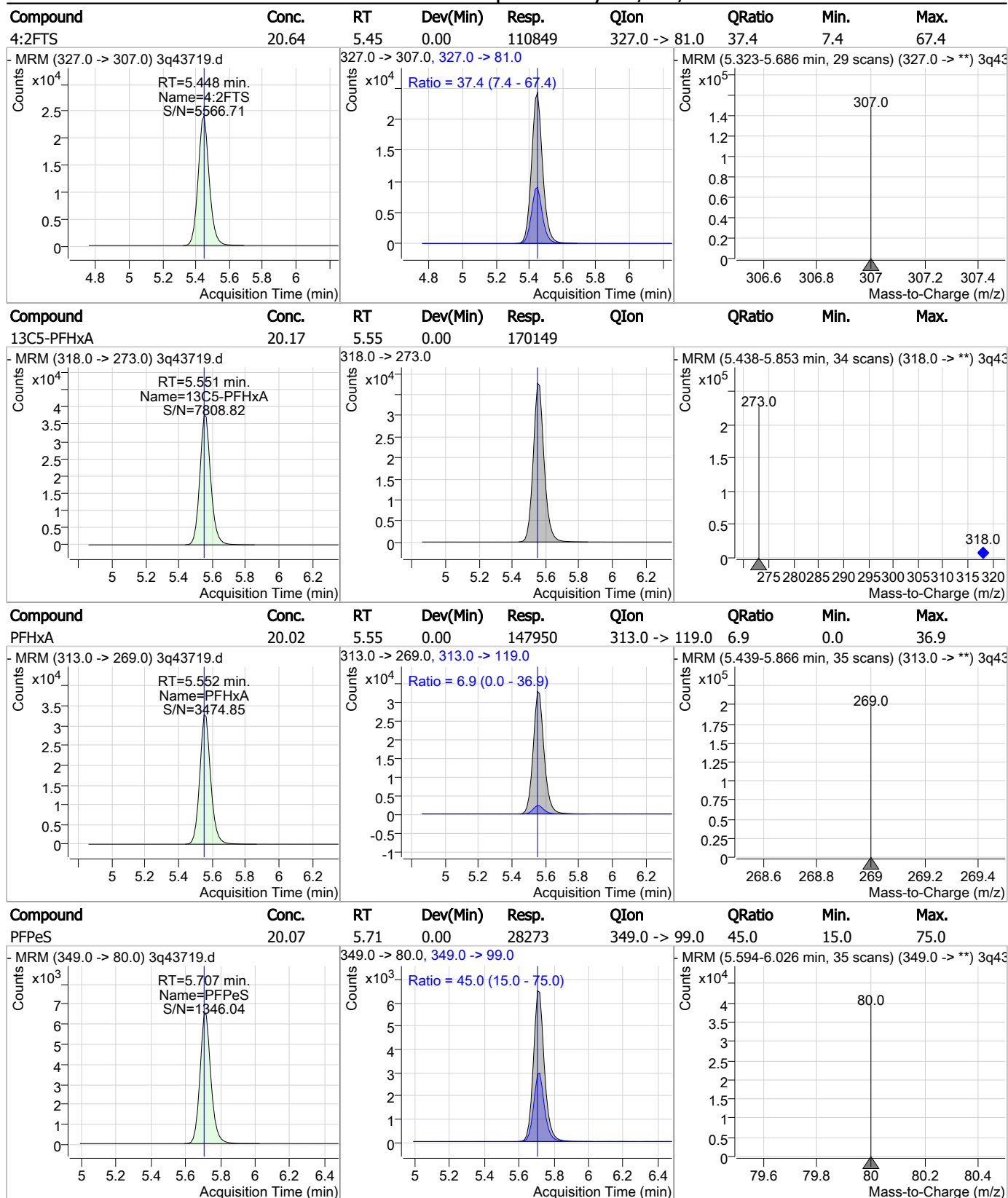
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

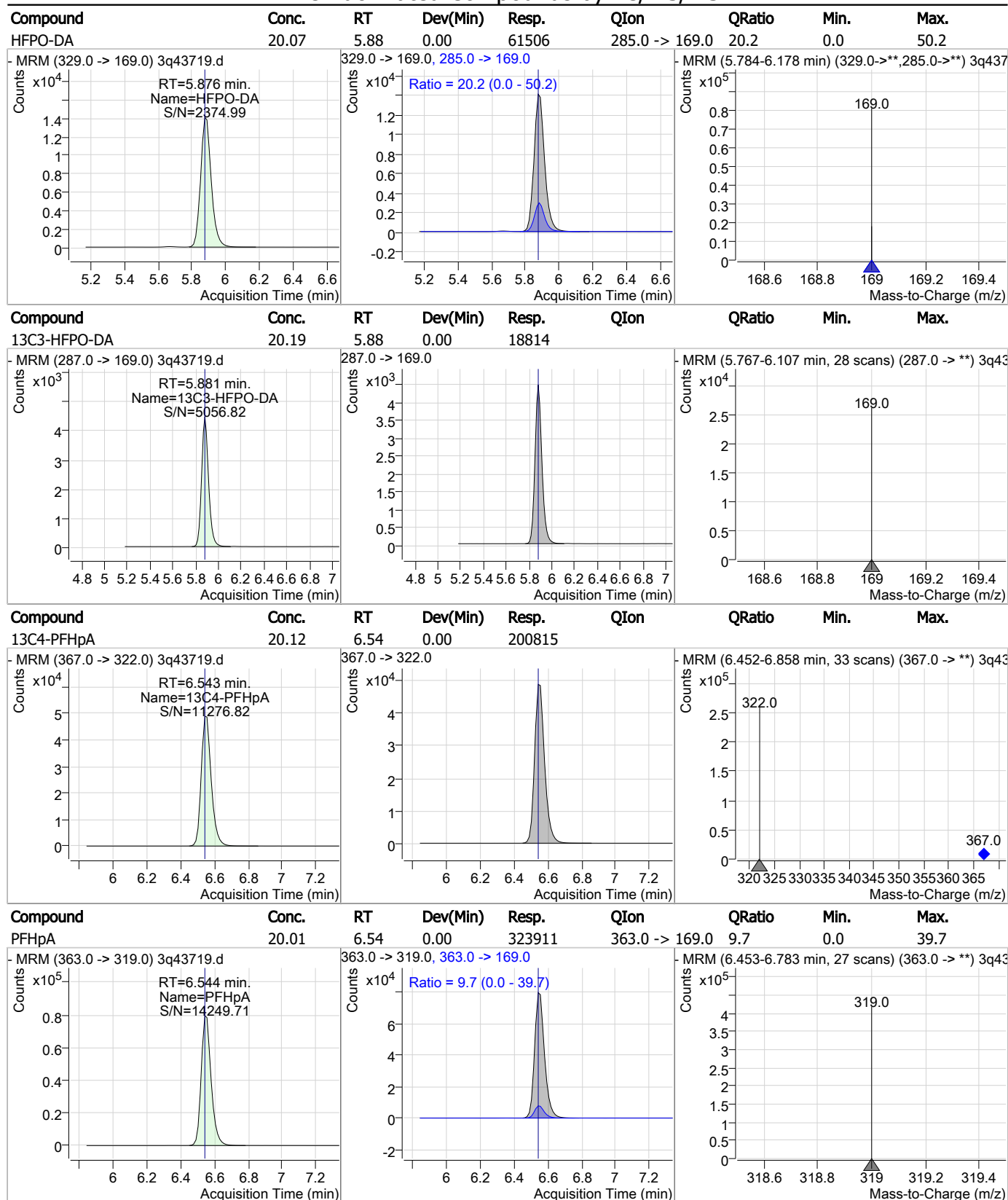


Perfluorinated Compounds by LC/MS/MS

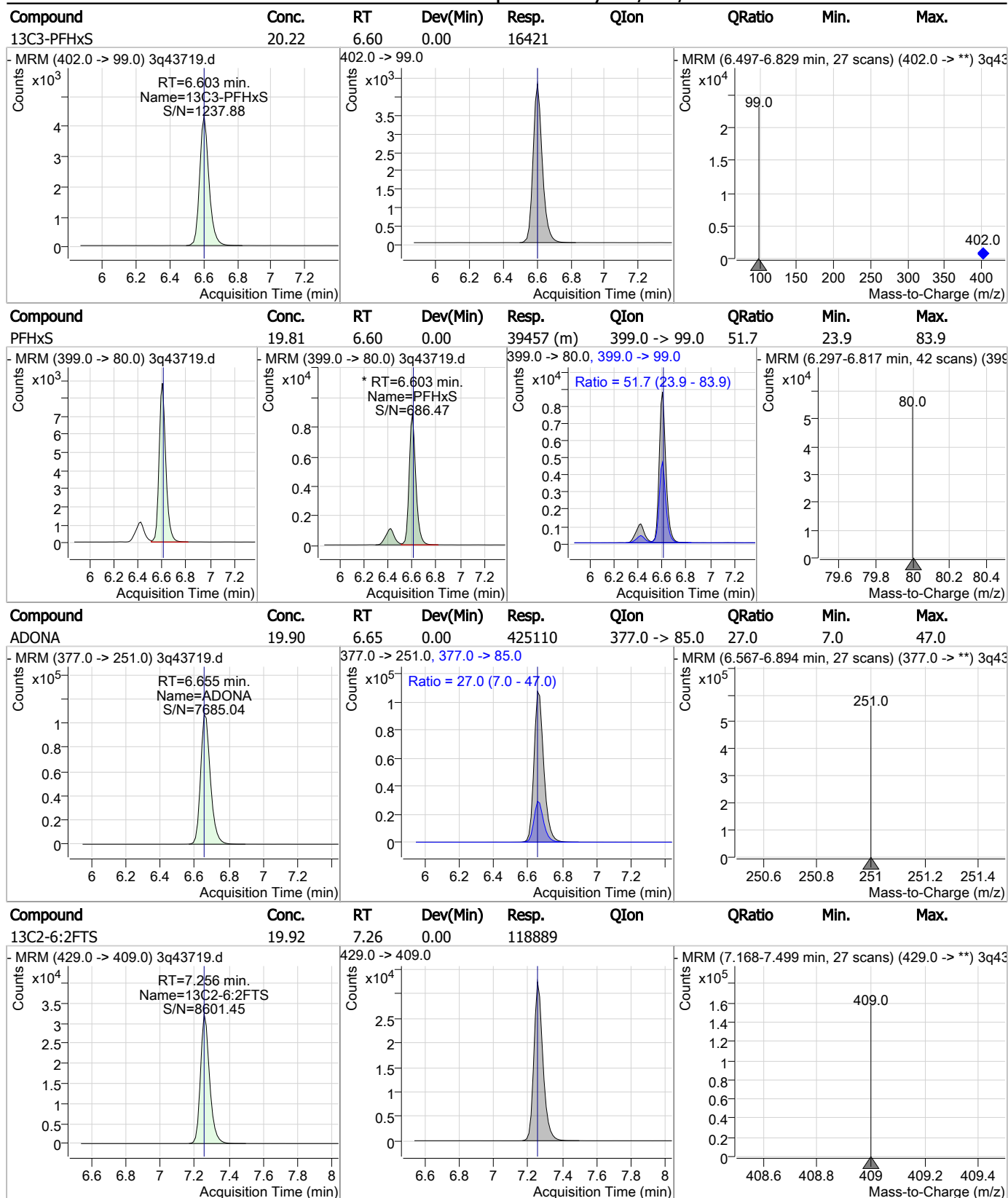


10.5.7 10

Perfluorinated Compounds by LC/MS/MS

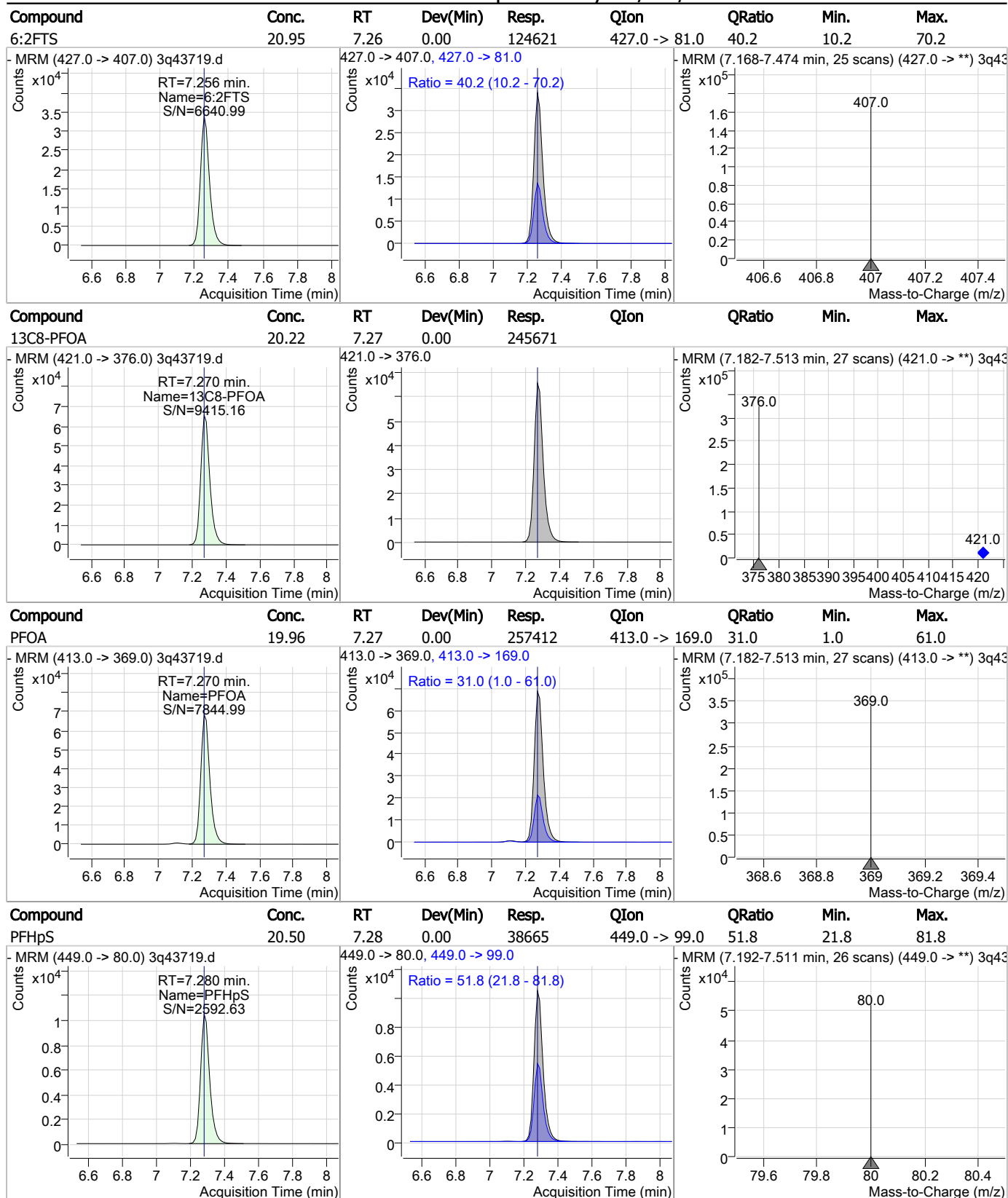
10.5.7
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Perfluorinated Compounds by LC/MS/MS

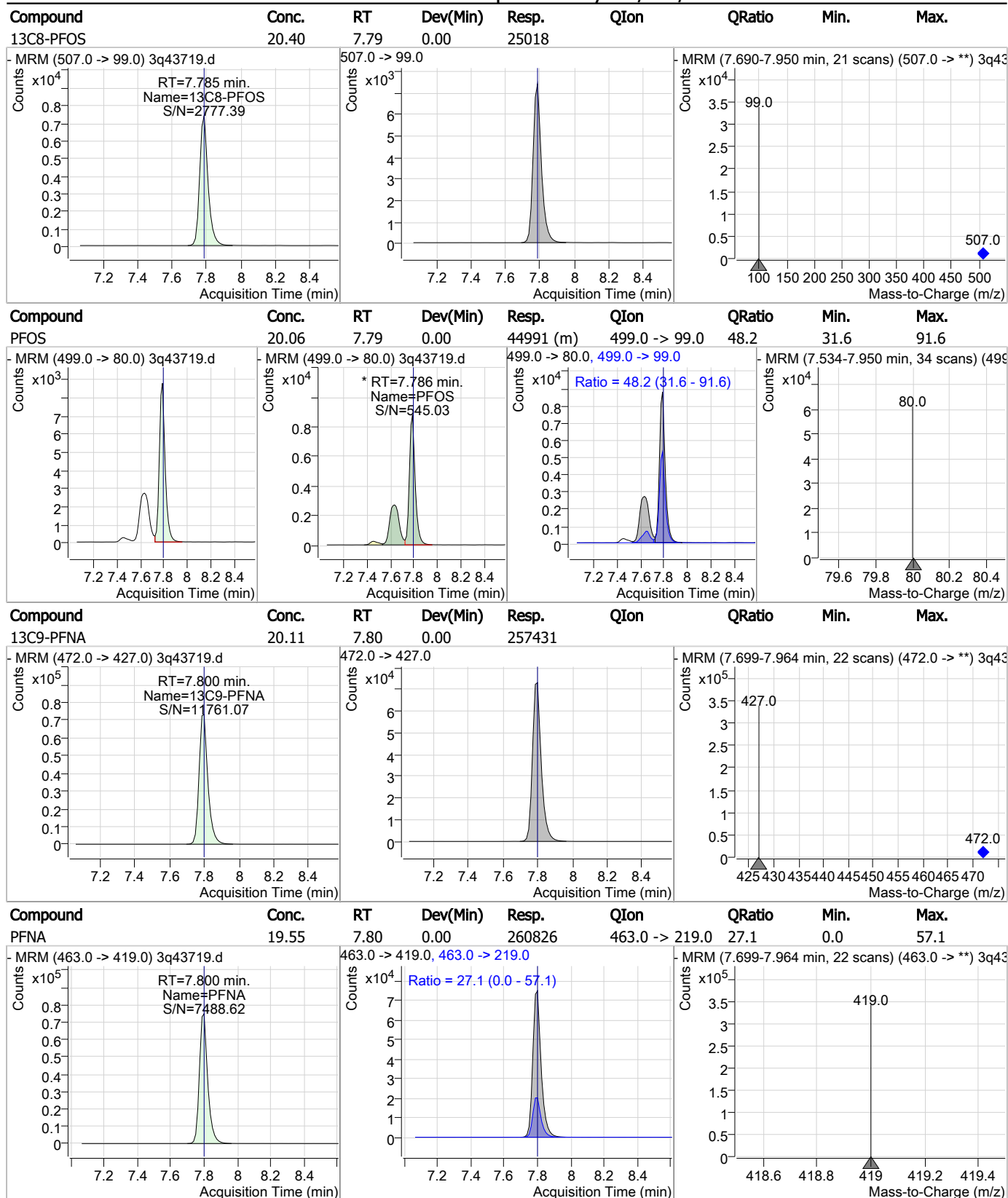


10.5.7 10

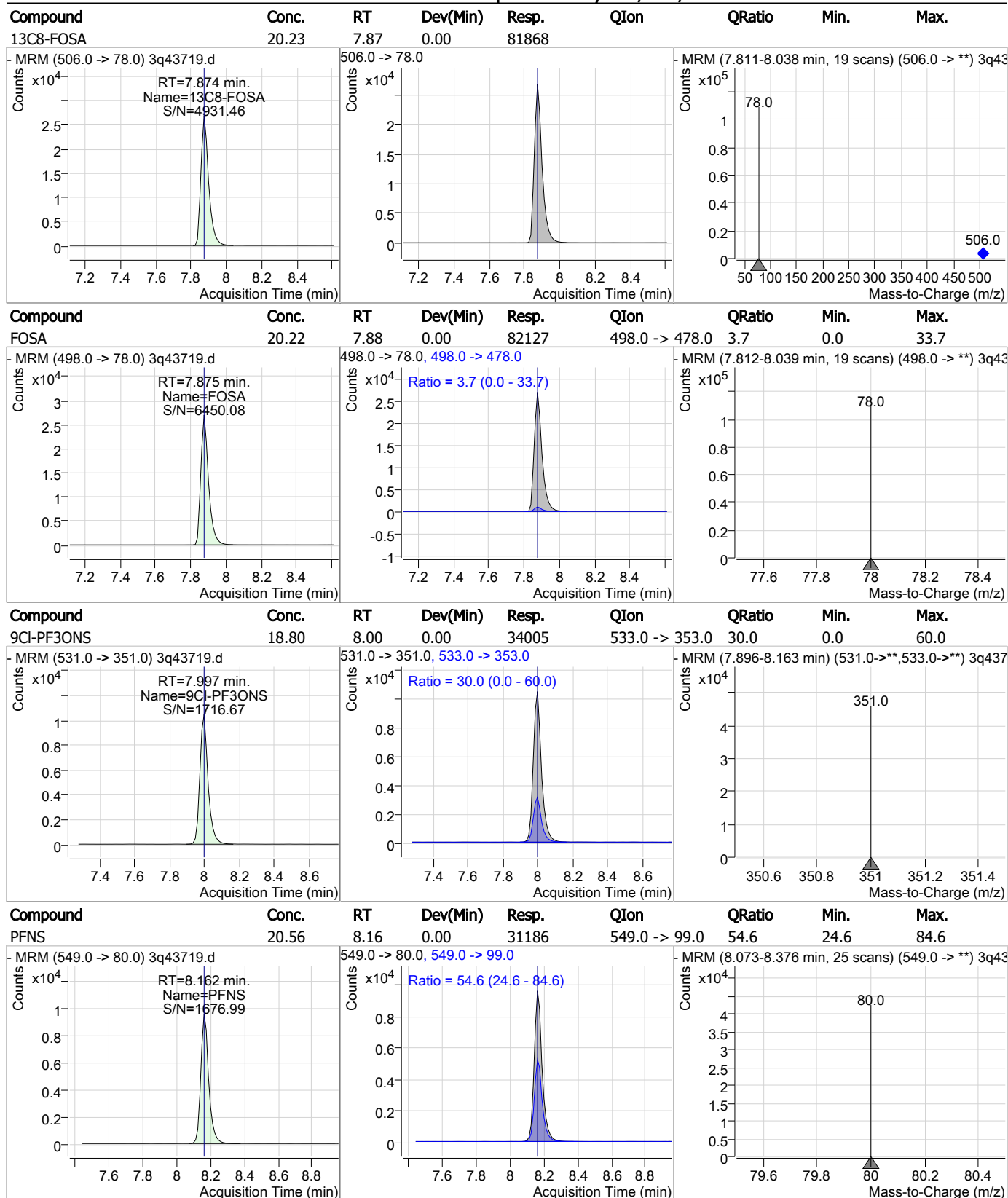
Perfluorinated Compounds by LC/MS/MS



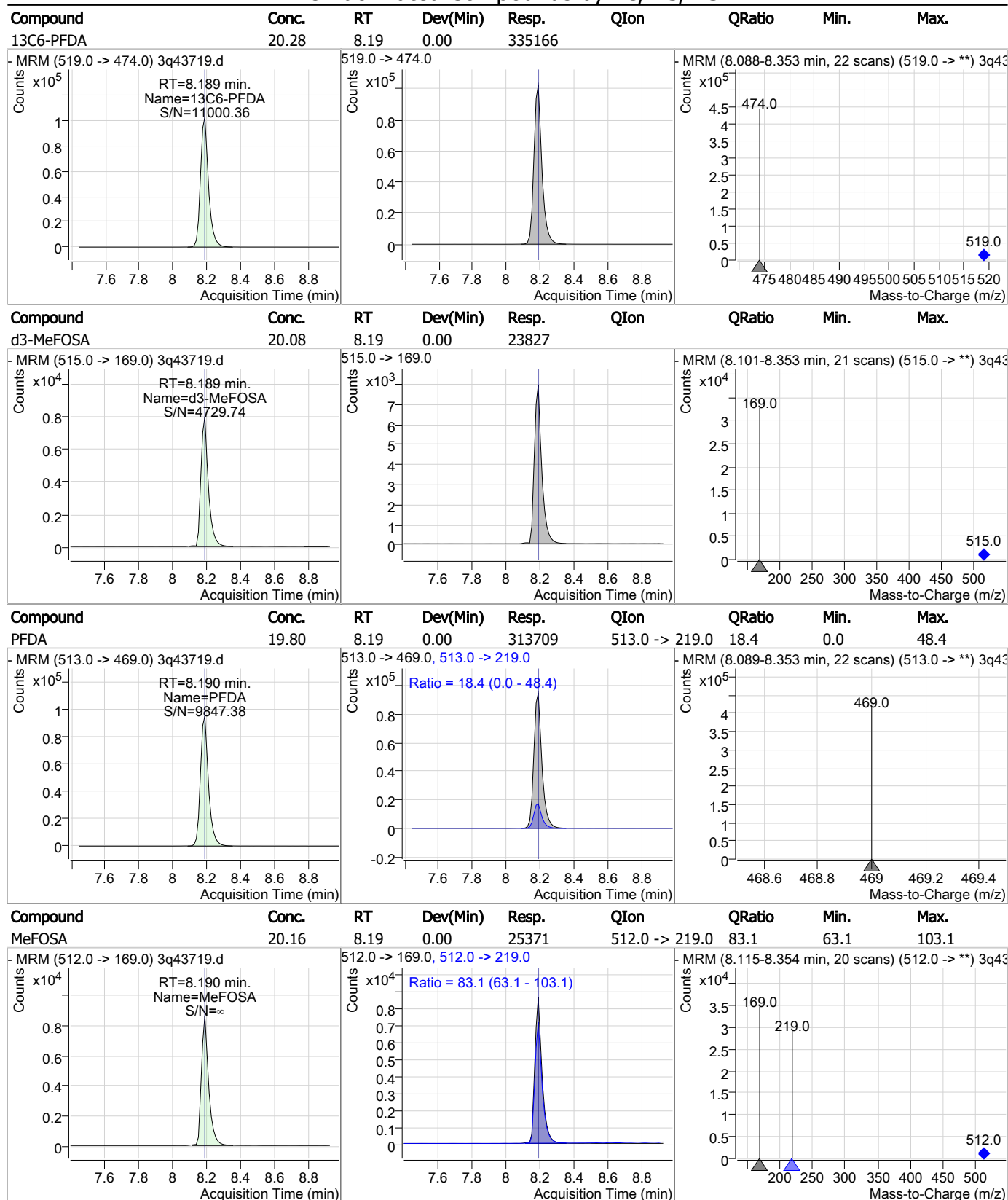
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

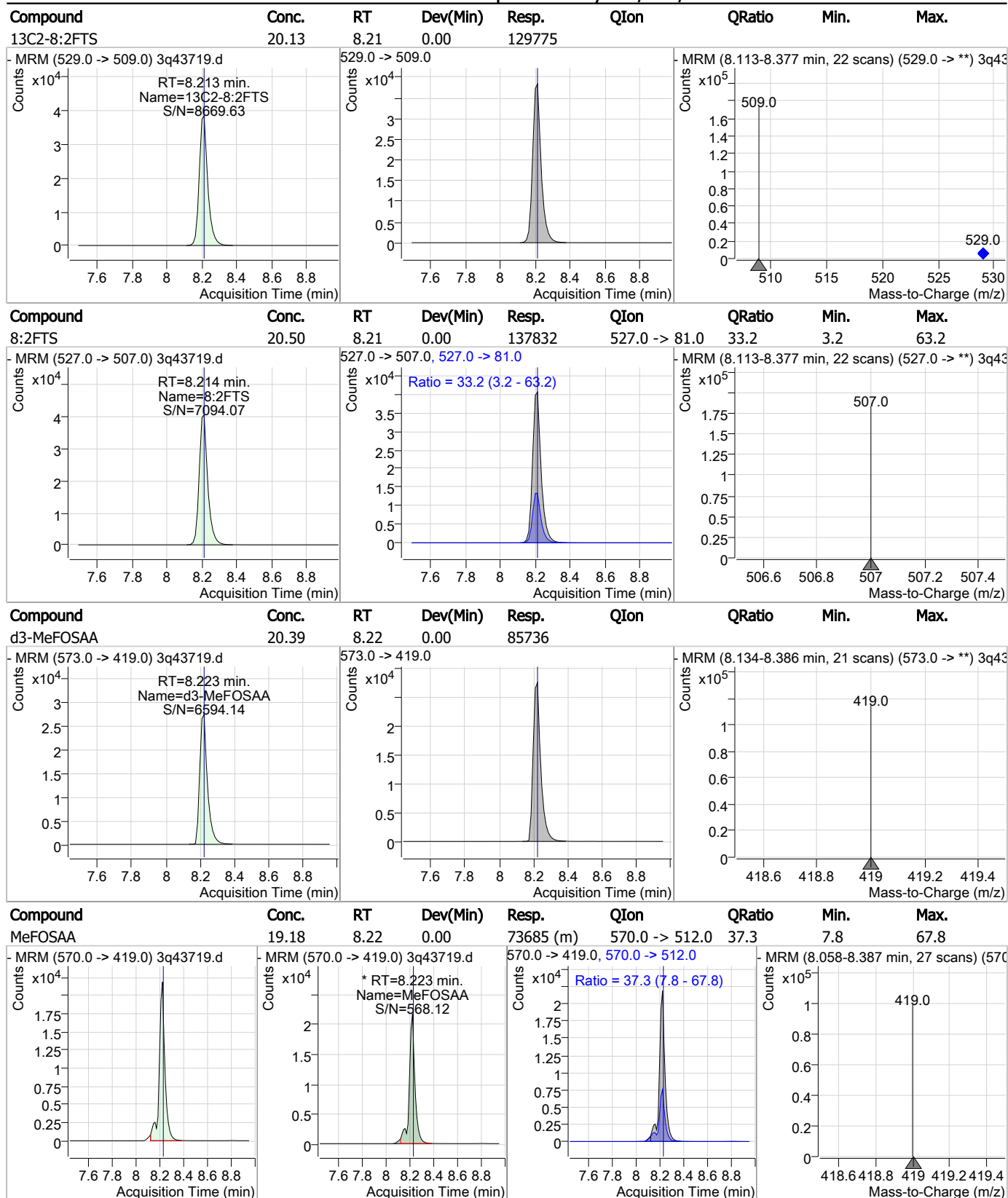


Perfluorinated Compounds by LC/MS/MS

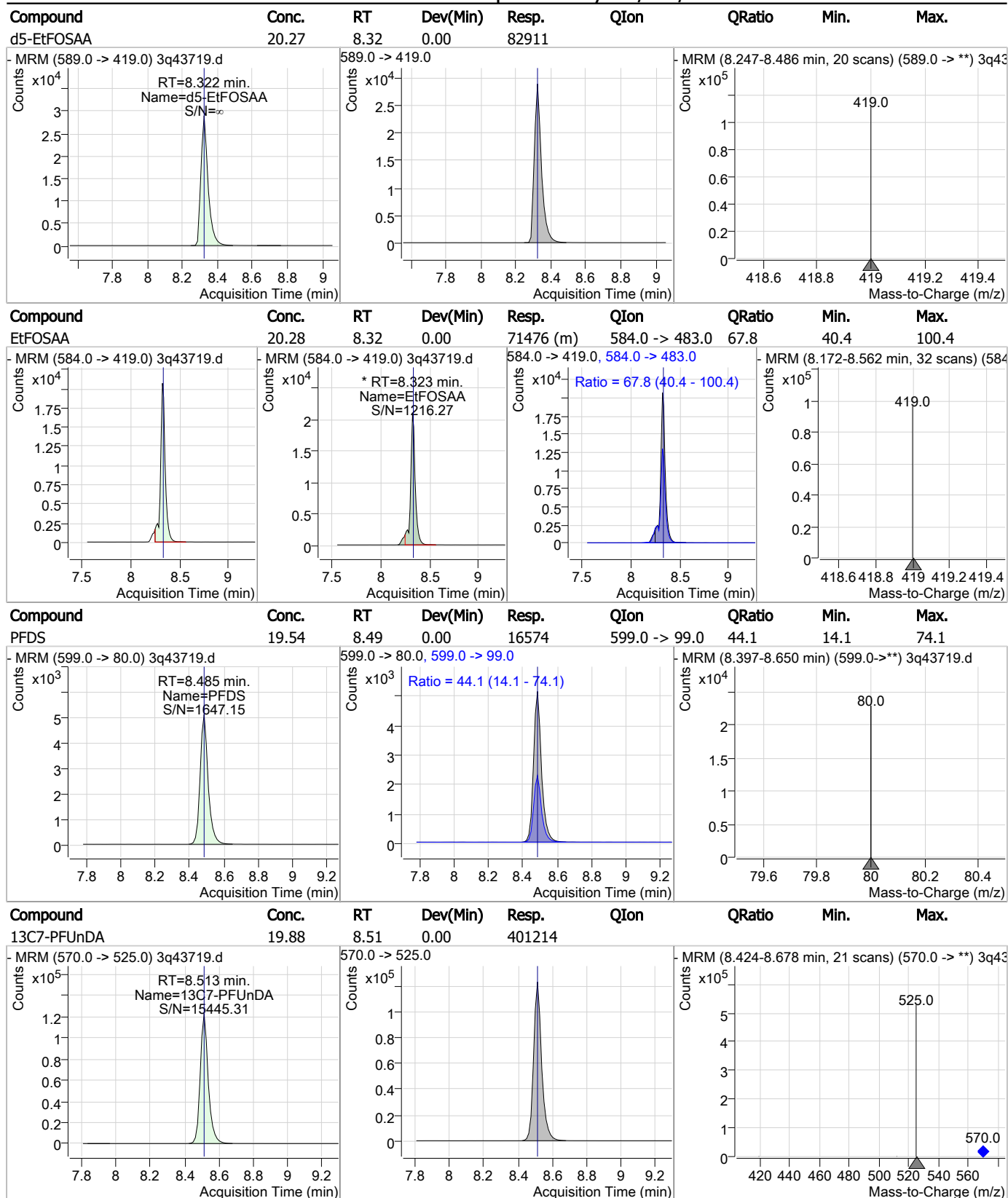


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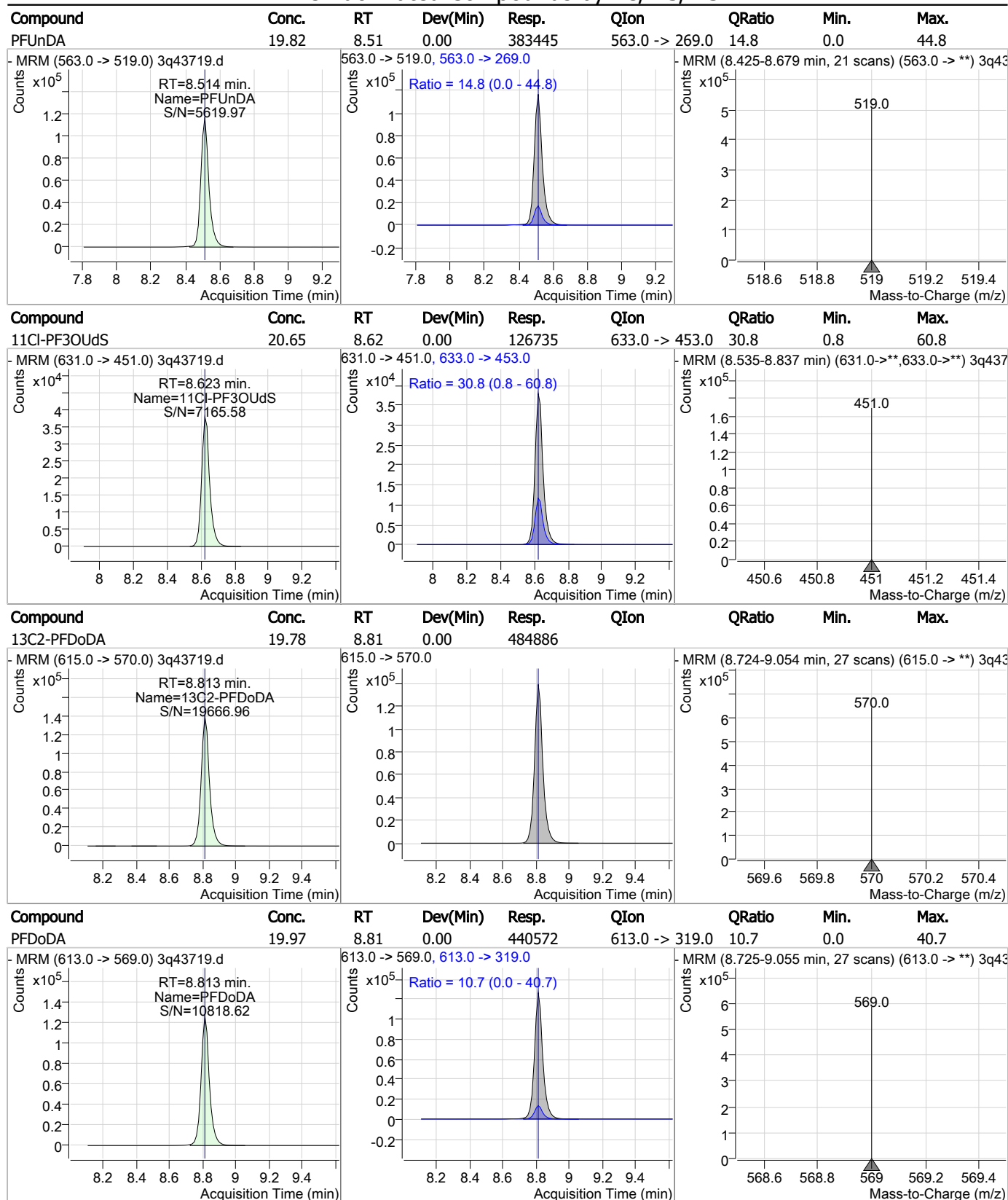
Perfluorinated Compounds by LC/MS/MS



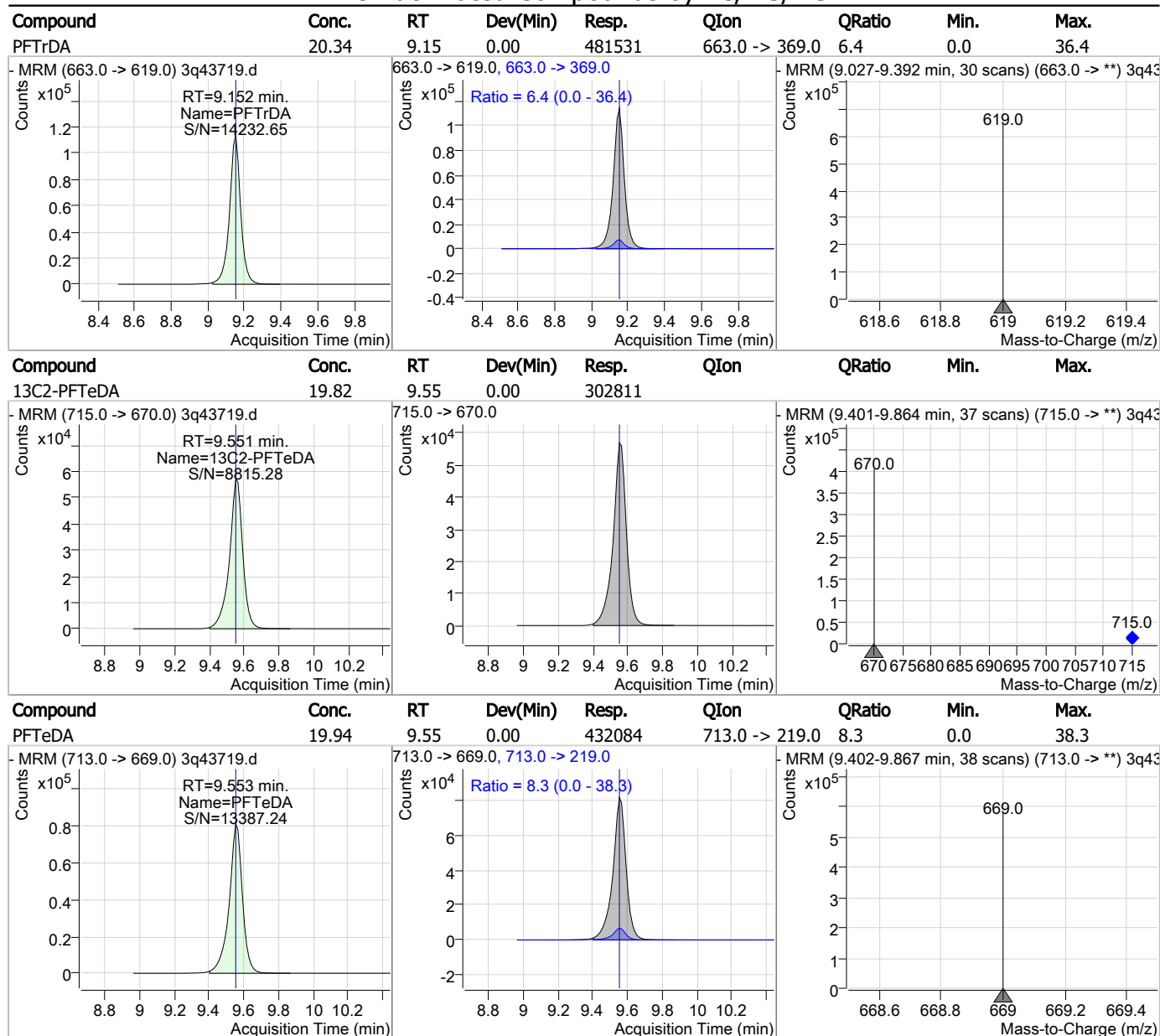
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

10.5.7
10

Perfluorinated Compounds by LC/MS/MS



10.5.7 10

Manual Integration Approval Summary

Sample Number:

S3Q637-ICC637

Lab FileID:

3Q43719.D

Injection Time:

08/27/21 22:13

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.32	Split peak

10.5.7.1
10

Manual Integrations
APPROVED
(compounds with "m" flag)

Mike Eger
08/28/21 17:25

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43720.d
Operator : marthav
Acq. Method : 537_ID.m
Acq. Date-Time : 8/27/2021 10:30:30 PM
Sample Name : ic637-50
Vial : P1-A8
DA Method File : ID_082821_S3Q637.quantmethod.xml
Batch Name : s3q637.batch.bin
Sample Information : op86590,S3Q637,250,,,1,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	132729	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	117089	20.00 µg/L	0.000
M5-PFHxA	5.551	318.0 -> 273.0	168417	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	197154	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	236372	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	248396	20.00 µg/L	-0.013
M6-PFDA	8.189	519.0 -> 474.0	313722	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	390498	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	484308	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	303741	20.00 µg/L	0.013
M8-FOSA	7.874	506.0 -> 78.0	76482	20.00 µg/L	0.000
M3-PFBS	4.354	302.0 -> 99.0	14228	20.00 µg/L	0.000
M3-PFHxS	6.590	402.0 -> 99.0	15929	20.00 µg/L	-0.013
M8-PFOS	7.785	507.0 -> 99.0	24134	20.00 µg/L	0.000
M2-4:2FTS	5.434	329.0 -> 309.0	102629	20.00 µg/L	-0.013
M2-6:2FTS	7.256	429.0 -> 409.0	124800	20.00 µg/L	0.000
M2-8:2FTS	8.201	529.0 -> 509.0	130899	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	82086	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	18980	20.00 µg/L	-0.013
M3-MeFOSA	8.189	515.0 -> 169.0	21635	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	79909	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.434	329.0 -> 309.0	102629	21.43 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 107.2%		
13C2-6:2FTS	7.256	429.0 -> 409.0	124800	20.91 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 104.6%		
13C2-8:2FTS	8.201	529.0 -> 509.0	130899	20.30 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C2-PFDoDA	8.813	615.0 -> 570.0	484308	19.76 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 98.8%		
13C2-PFTeDA	9.564	715.0 -> 670.0	303741	19.89 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.4%		
13C3-PFBS	4.354	302.0 -> 99.0	14228	19.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C3-PFHxS	6.590	402.0 -> 99.0	15929	19.62 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 98.1%		
13C4-PFBA	1.727	217.0 -> 172.0	132729	20.00 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.0%		
13C4-PFHpA	6.543	367.0 -> 322.0	197154	19.76 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 98.8%		
13C5-PFHxA	5.551	318.0 -> 273.0	168417	19.97 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.8%		
13C5-PFPeA	3.949	268.0 -> 223.0	117089	19.92 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C6-PFDA	8.189	519.0 -> 474.0	313722	18.98 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

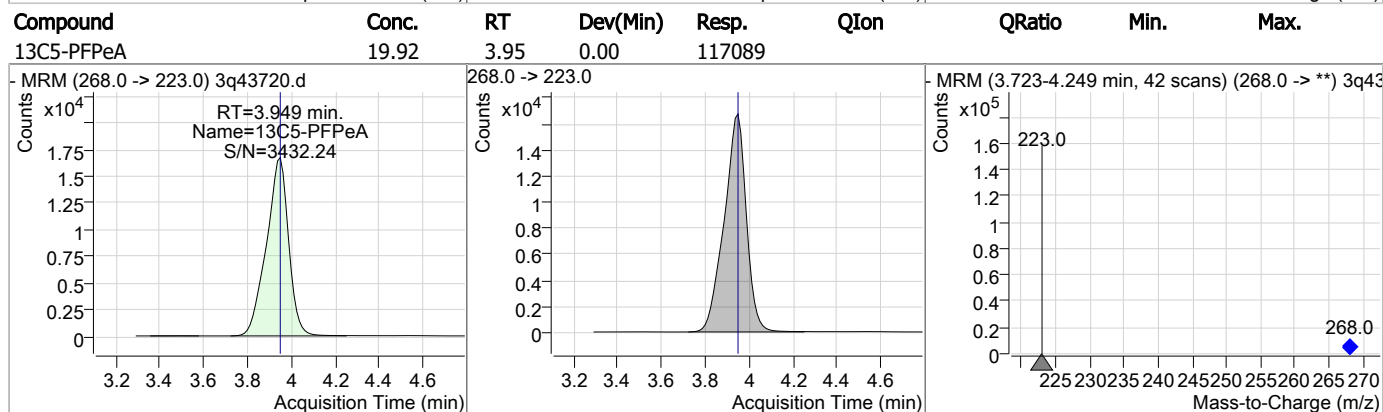
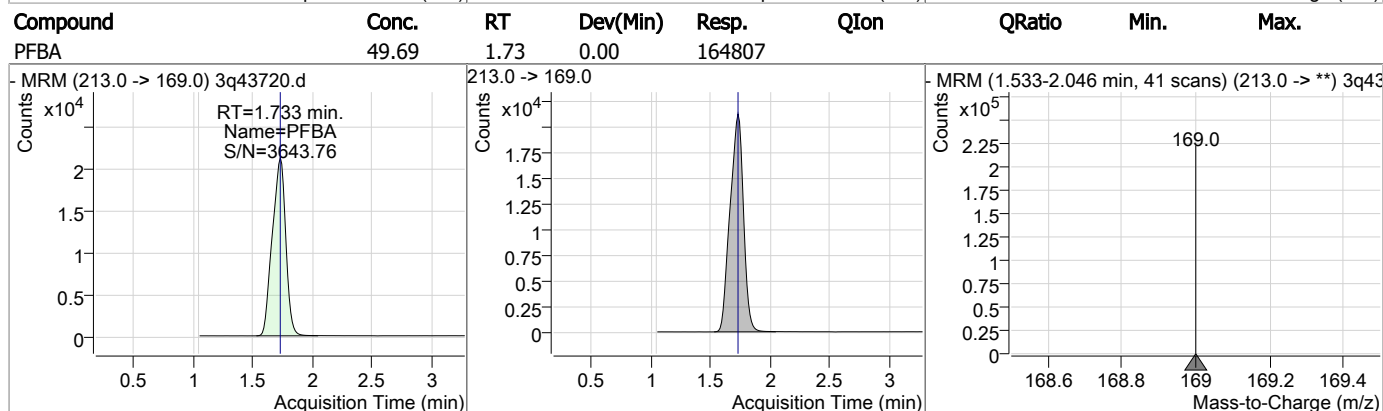
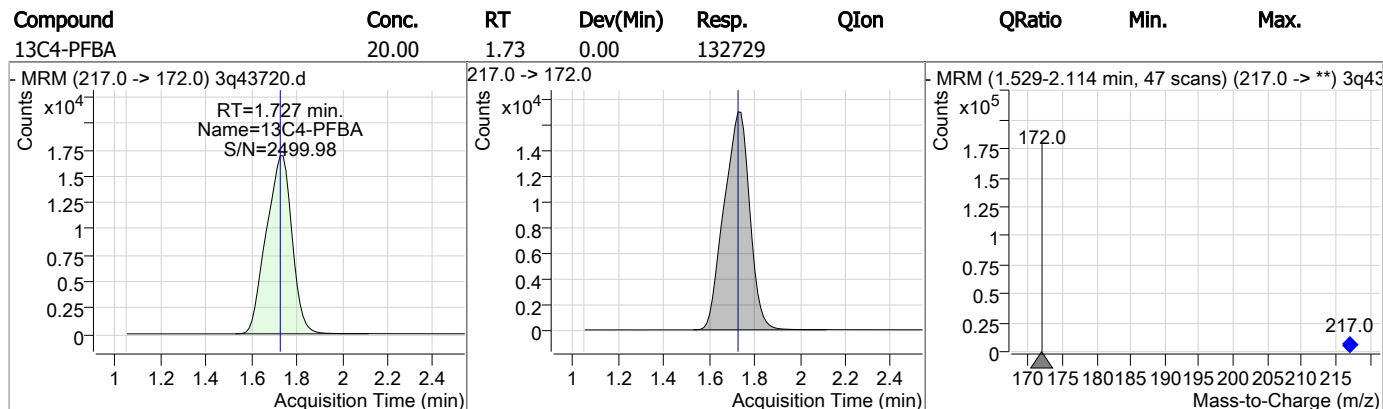
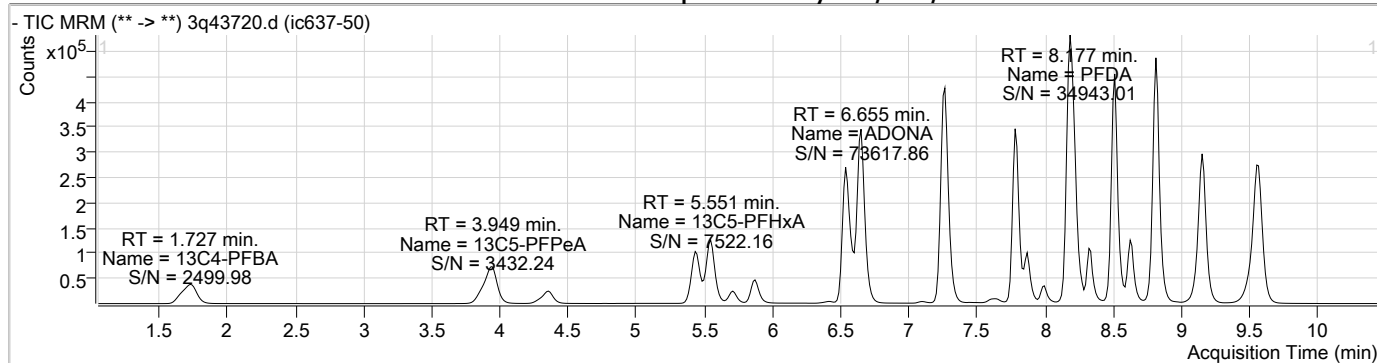
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.9%	
13C7-PFUnDA	8.513	570.0 -> 525.0	390498	19.35 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C8-FOSA	7.874	506.0 -> 78.0	76482	18.90 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.5%	
13C8-PFOA	7.270	421.0 -> 376.0	236372	19.45 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.3%	
13C8-PFOS	7.785	507.0 -> 99.0	24134	19.68 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C9-PFNA	7.787	472.0 -> 427.0	248396	19.40 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.0%	
d3-MeFOSAA	8.223	573.0 -> 419.0	82086	19.52 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C3-HFPO-DA	5.868	287.0 -> 169.0	18954	20.34 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.7%	
d3-MeFOSA	8.189	515.0 -> 169.0	21635	18.24 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.2%	
d5-EtFOSAA	8.322	589.0 -> 419.0	79916	19.54 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.7%	

Target Compounds

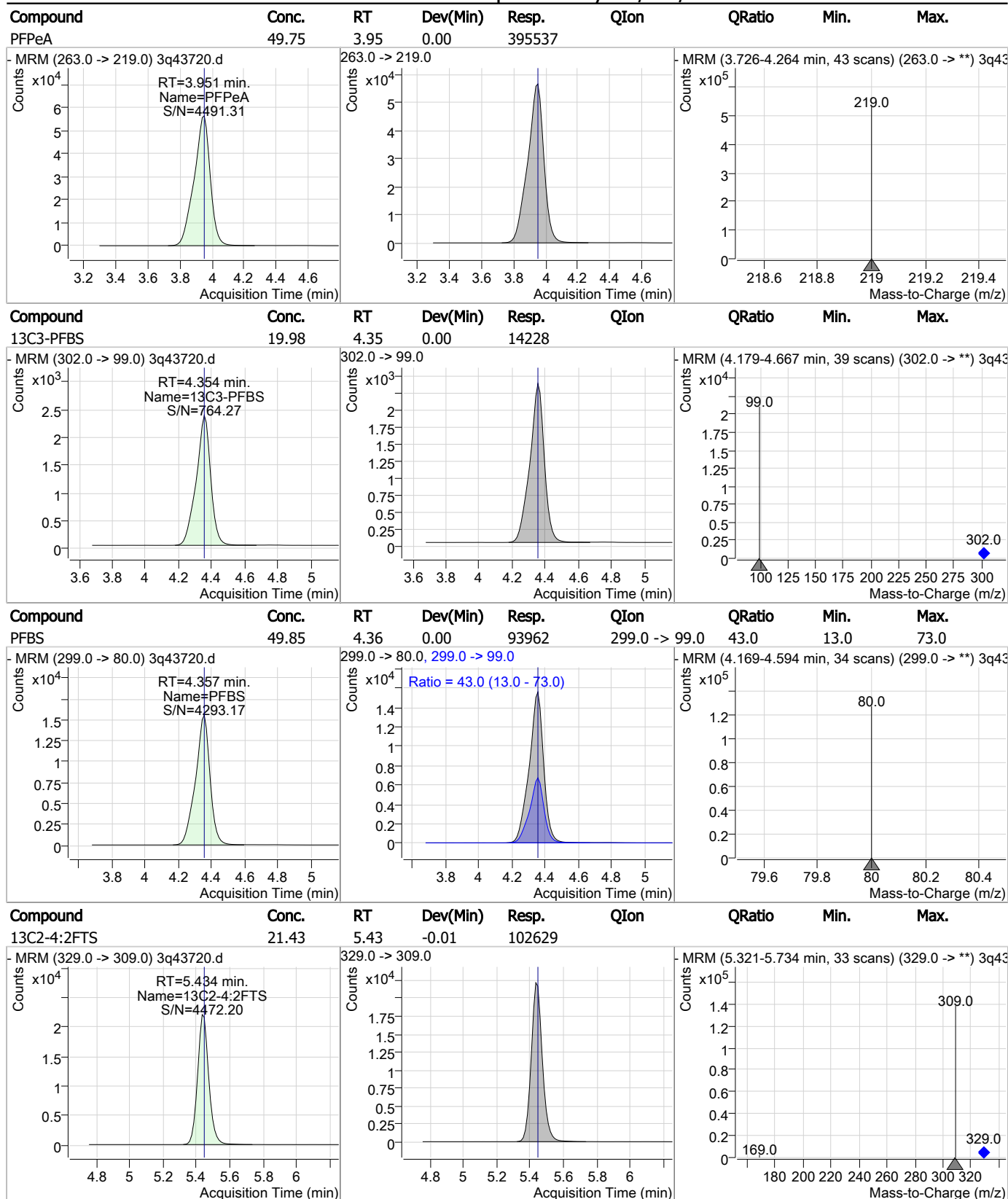
					QValue
4:2FTS	5.436	327.0 -> 307.0	270170	46.90 µg/L	99
6:2FTS	7.256	427.0 -> 407.0	289816	46.42 µg/L	98
8:2FTS	8.201	527.0 -> 507.0	317271	46.79 µg/L	100
EtFOSAA	8.335	584.0 -> 419.0	171766	50.57 µg/L	m 96
FOSA	7.875	498.0 -> 78.0	188884	49.78 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	180569	49.09 µg/L	m 98
PFBA	1.733	213.0 -> 169.0	164807	49.69 µg/L	100
PFBS	4.357	299.0 -> 80.0	93962	49.85 µg/L	100
PFDA	8.177	513.0 -> 469.0	739958	49.89 µg/L	99
PFDoDA	8.813	613.0 -> 569.0	1094134	49.65 µg/L	100
PFDS	8.485	599.0 -> 80.0	40752	49.36 µg/L	98
PFHpA	6.544	363.0 -> 319.0	788236	49.59 µg/L	100
PFHpS	7.280	449.0 -> 80.0	92506	50.85 µg/L	98
PFHxA	5.552	313.0 -> 269.0	361654	49.44 µg/L	100
PFHxS	6.591	399.0 -> 80.0	96159	49.78 µg/L	m 97
PFNA	7.788	463.0 -> 419.0	633818	49.23 µg/L	99
PFNS	8.162	549.0 -> 80.0	74319	50.80 µg/L	98
PFOA	7.270	413.0 -> 369.0	611711	49.29 µg/L	100
PFOS	7.773	499.0 -> 80.0	106760	49.34 µg/L	m 83
PFPeA	3.951	263.0 -> 219.0	395537	49.75 µg/L	100
PFPeS	5.707	349.0 -> 80.0	69804	50.22 µg/L	98
PFTeDA	9.553	713.0 -> 669.0	1081022	49.74 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	1175158	49.49 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	939947	49.92 µg/L	99
11Cl-PF3OUdS	8.623	631.0 -> 451.0	307822	50.21 µg/L	100
9Cl-PF3ONS	7.997	531.0 -> 351.0	82269	48.60 µg/L	98
ADONA	6.655	377.0 -> 251.0	1030142	49.71 µg/L	100
HFPO-DA	5.876	329.0 -> 169.0	152126	49.21 µg/L	99
MeFOSA	8.190	512.0 -> 169.0	55114	48.23 µg/L	99

= Qualifier out of range, m = manually integrated, + = Area summed

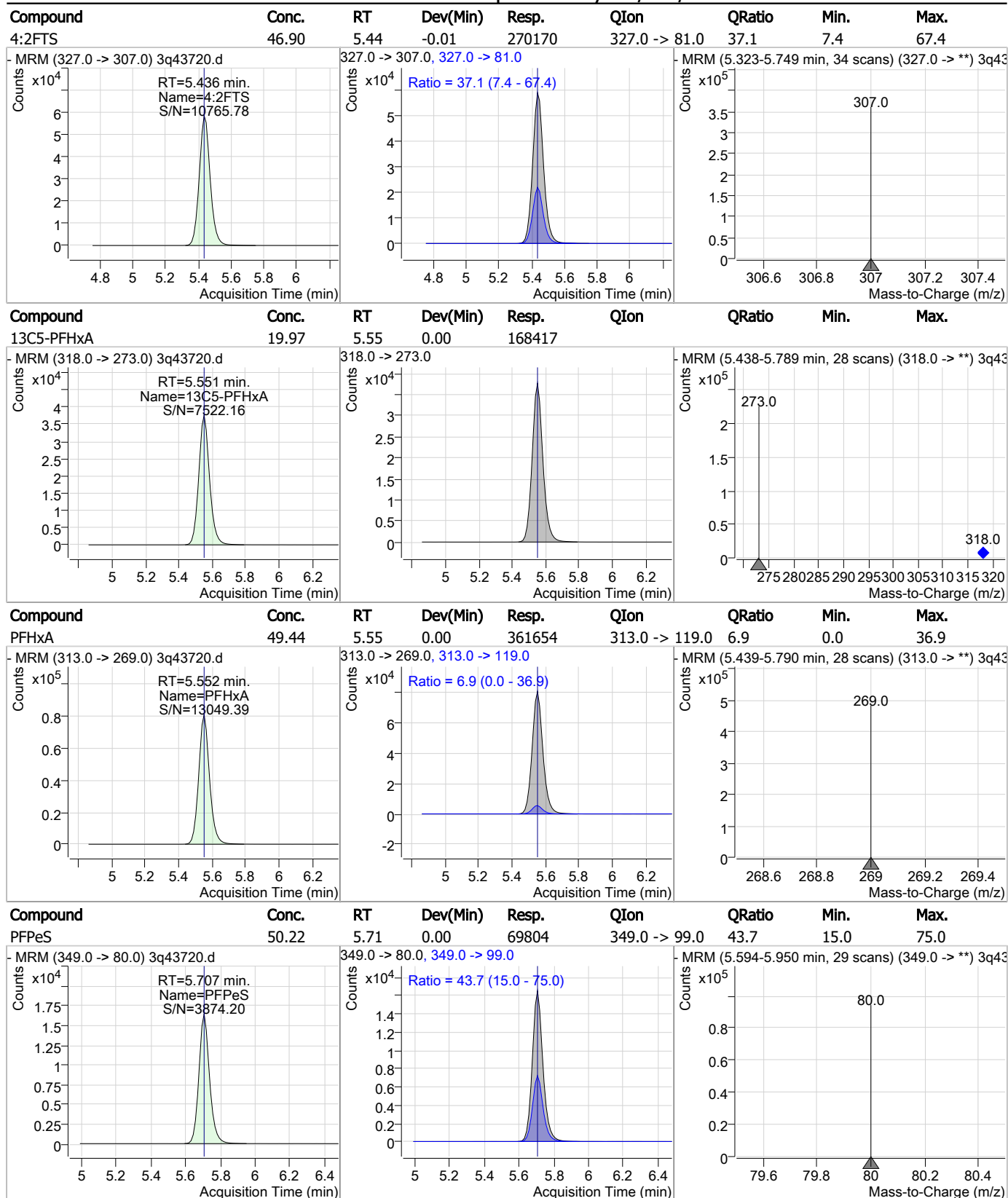
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

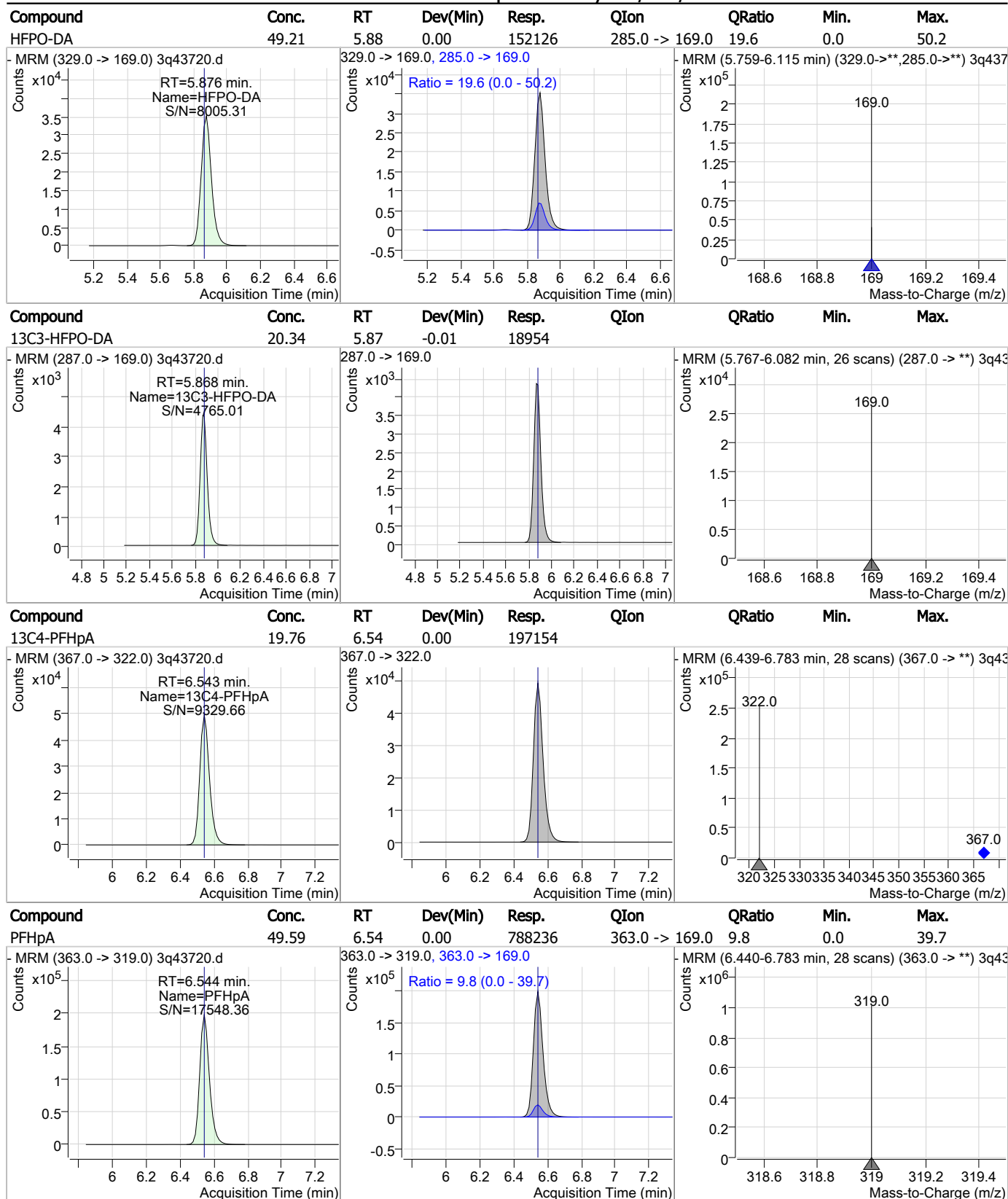


Perfluorinated Compounds by LC/MS/MS

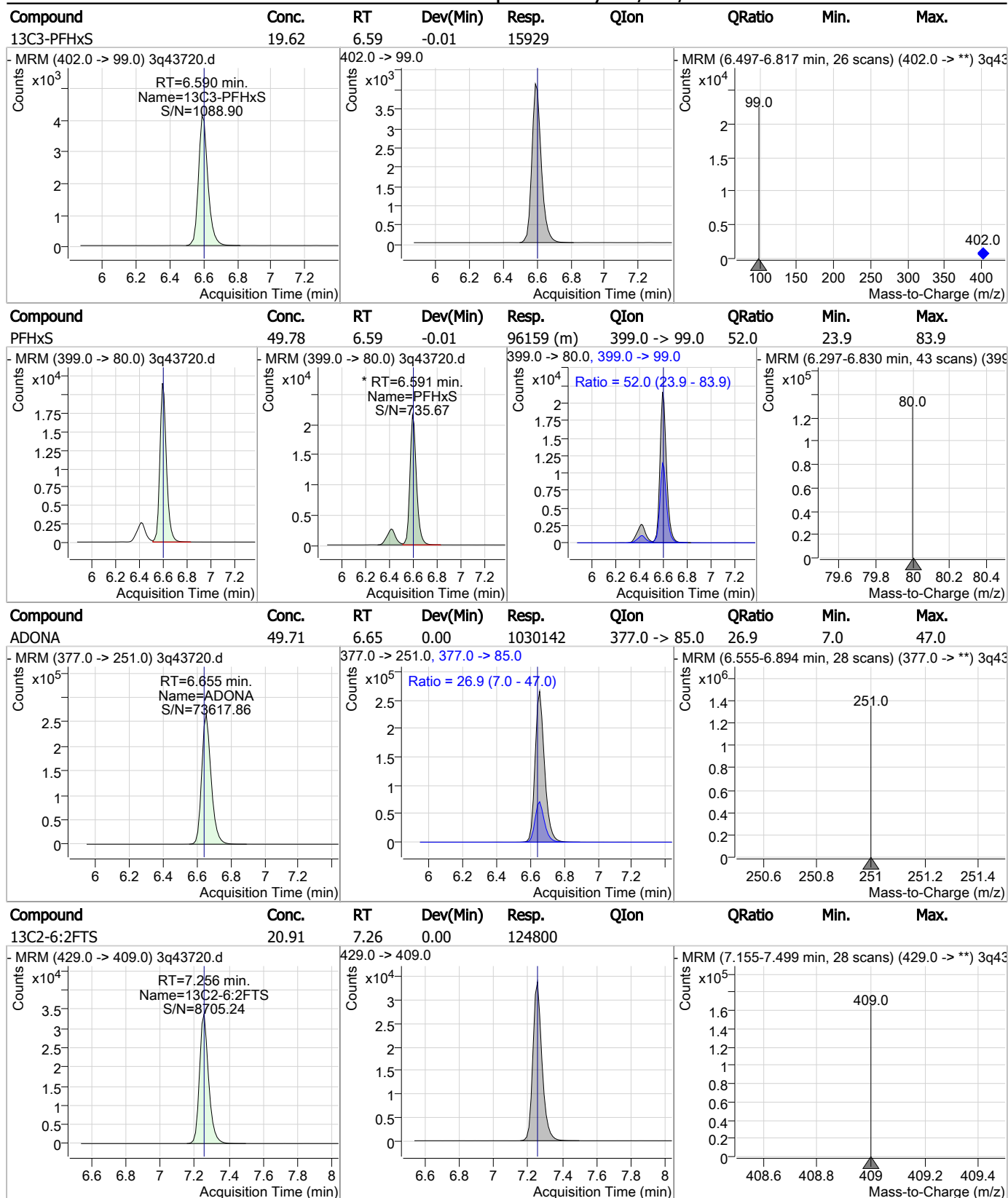


10.5.8 10

Perfluorinated Compounds by LC/MS/MS

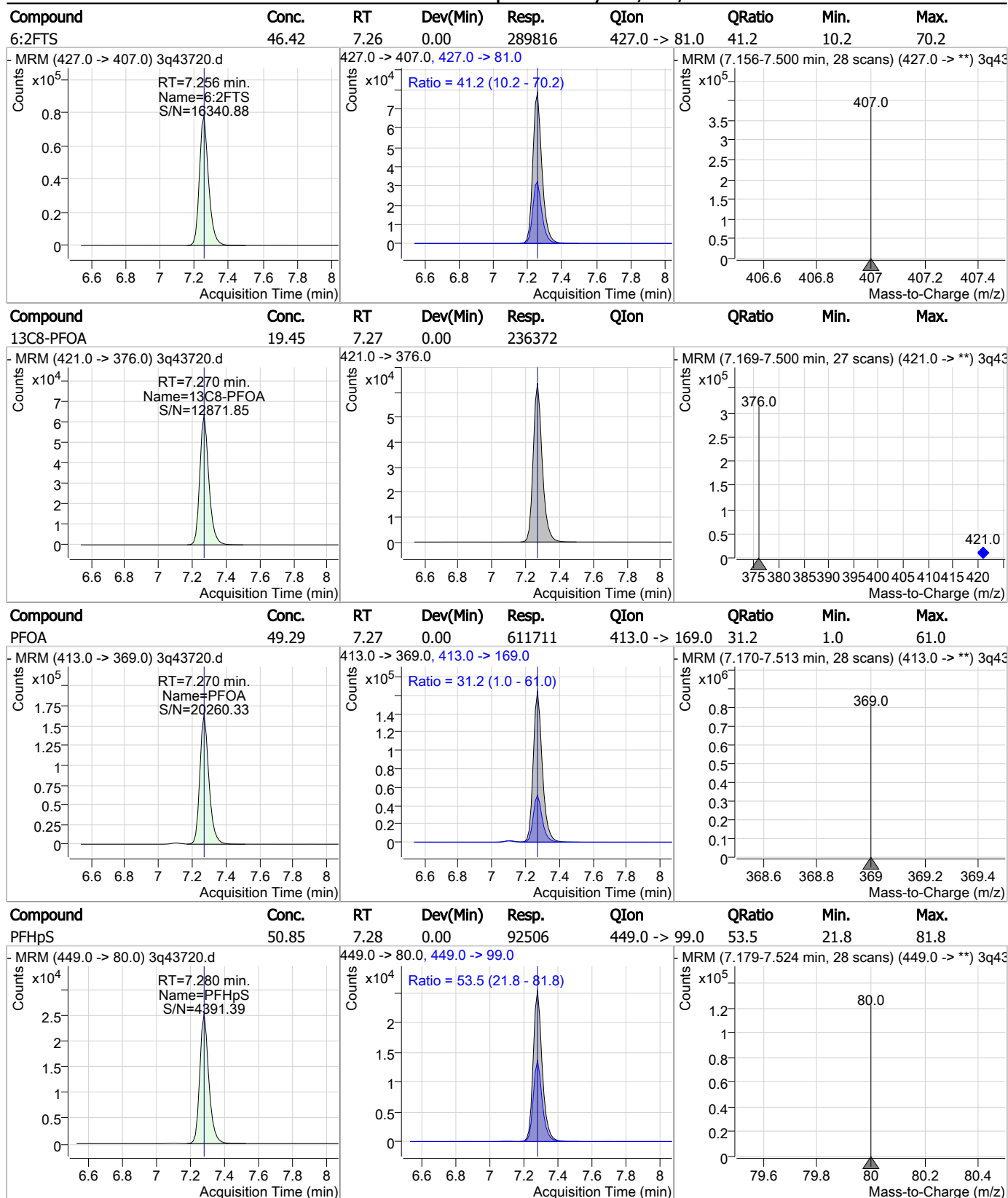
10.5.8
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Perfluorinated Compounds by LC/MS/MS



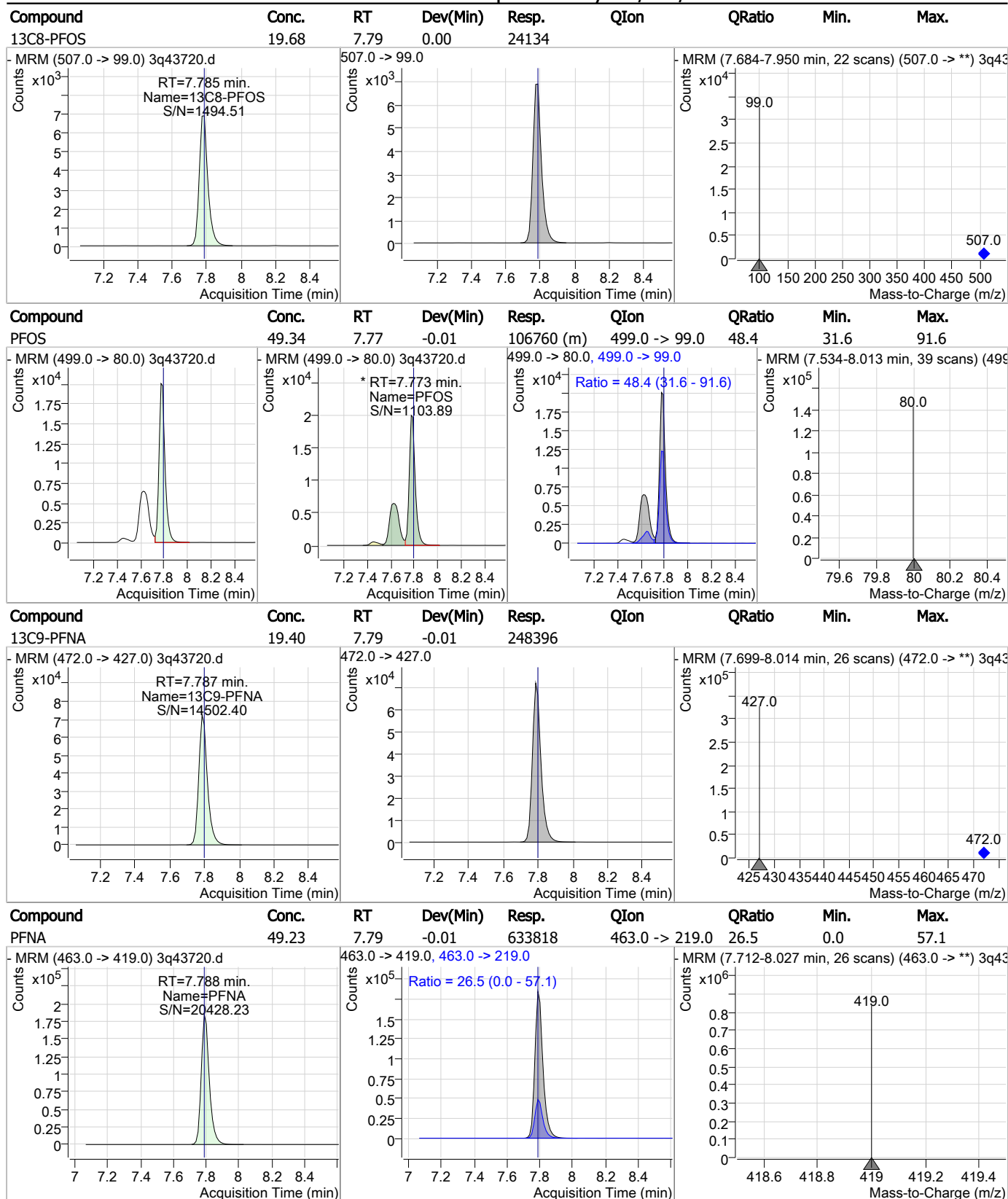
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Perfluorinated Compounds by LC/MS/MS

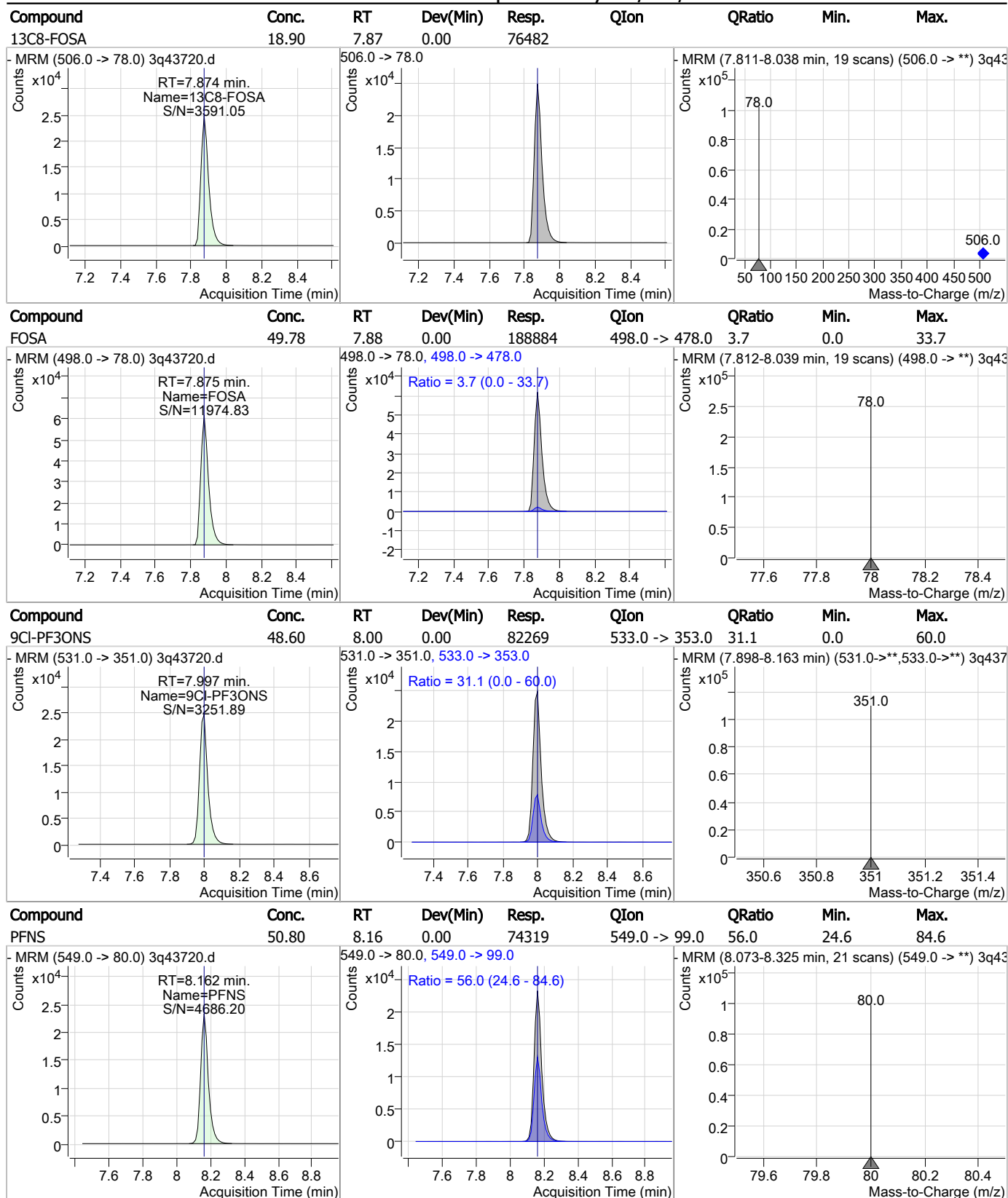


10.5.8 10

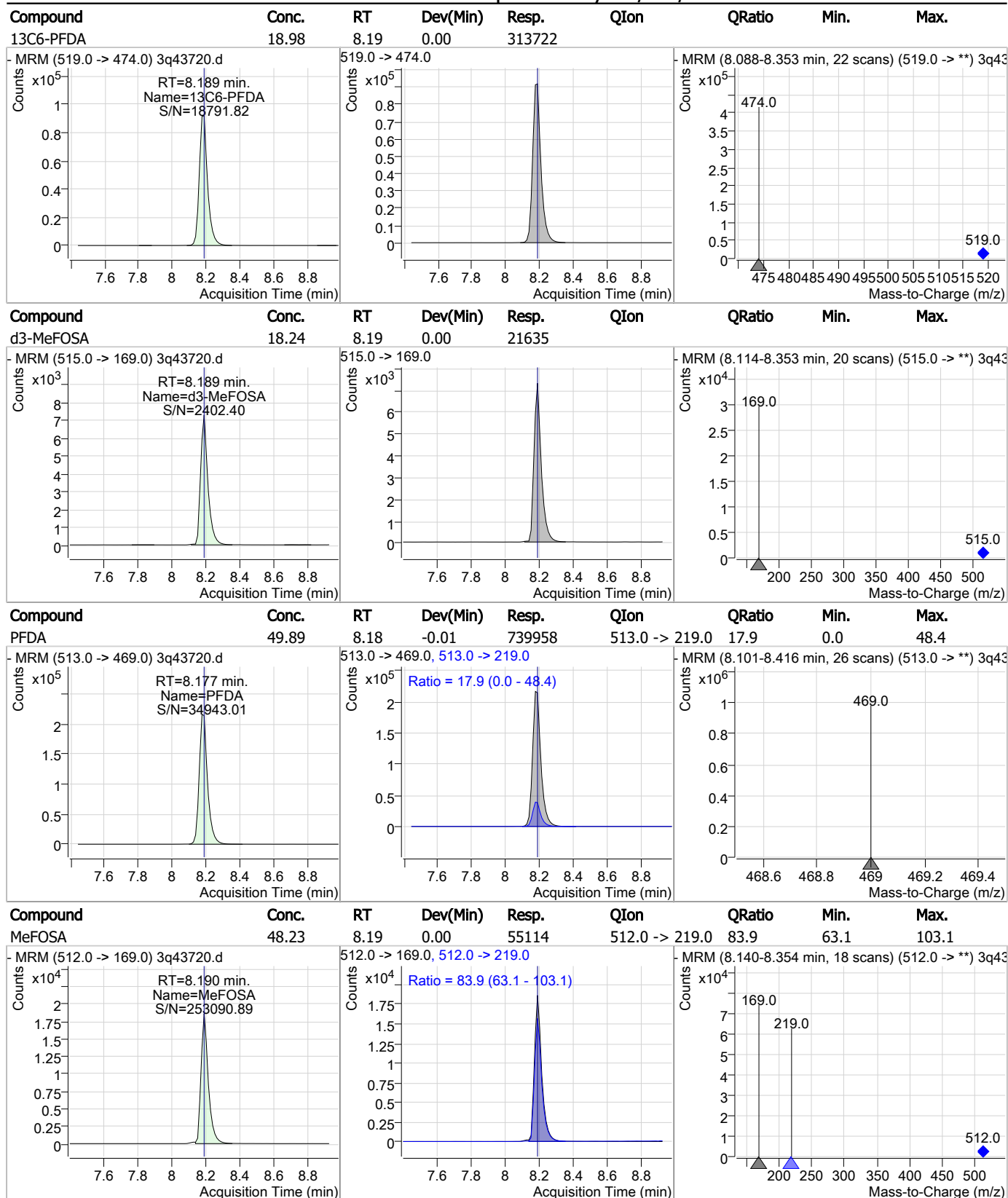
Perfluorinated Compounds by LC/MS/MS



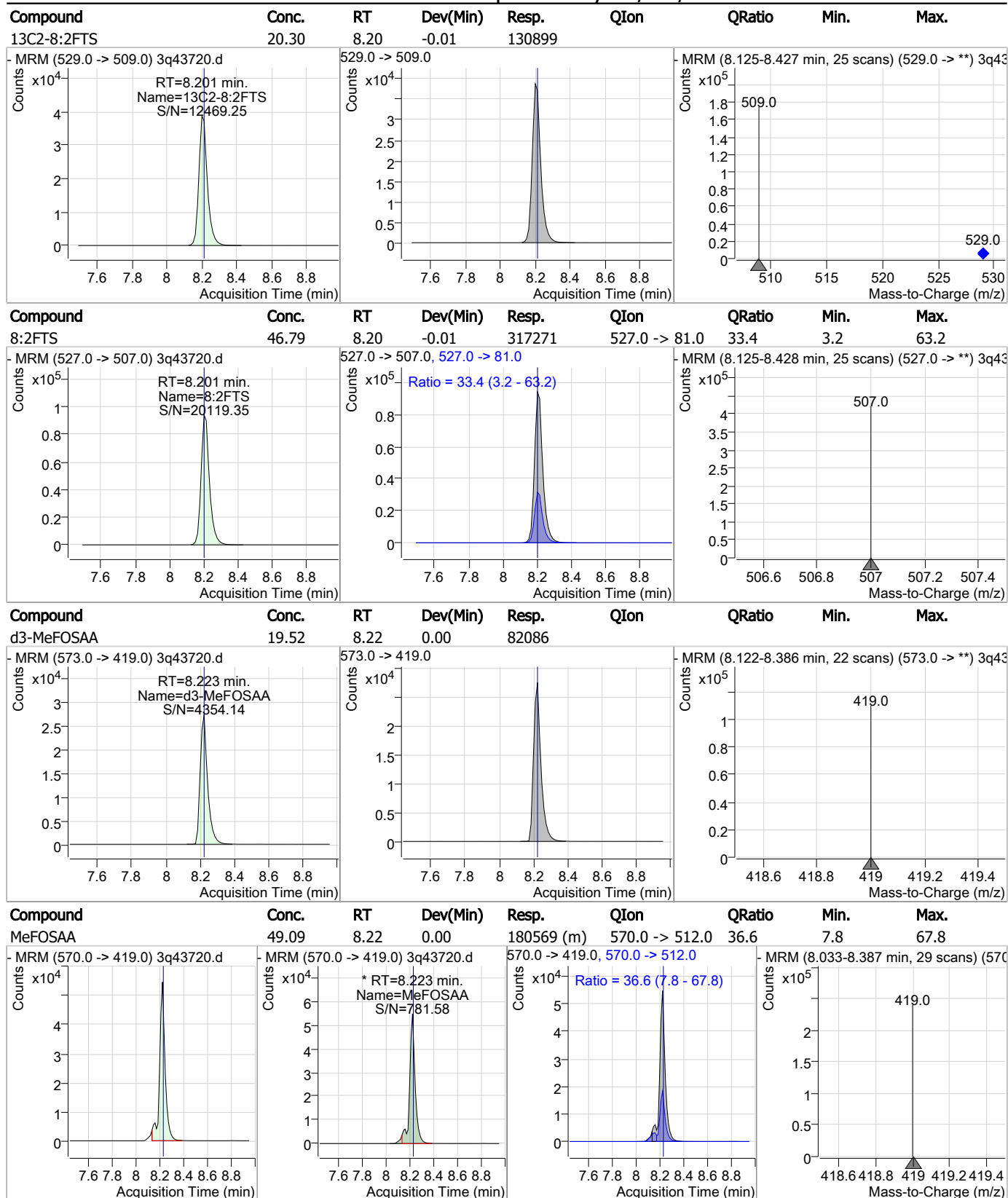
Perfluorinated Compounds by LC/MS/MS



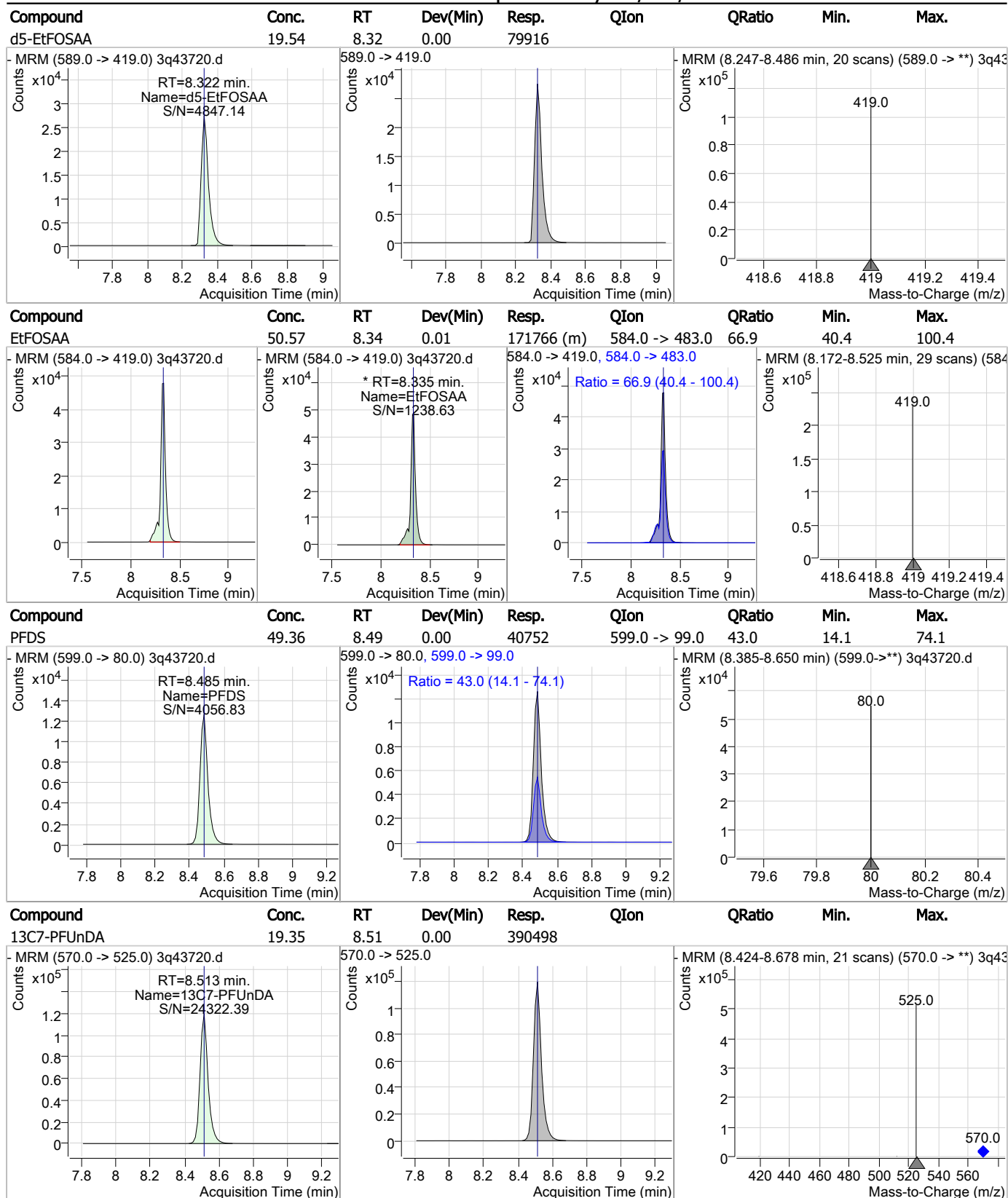
Perfluorinated Compounds by LC/MS/MS



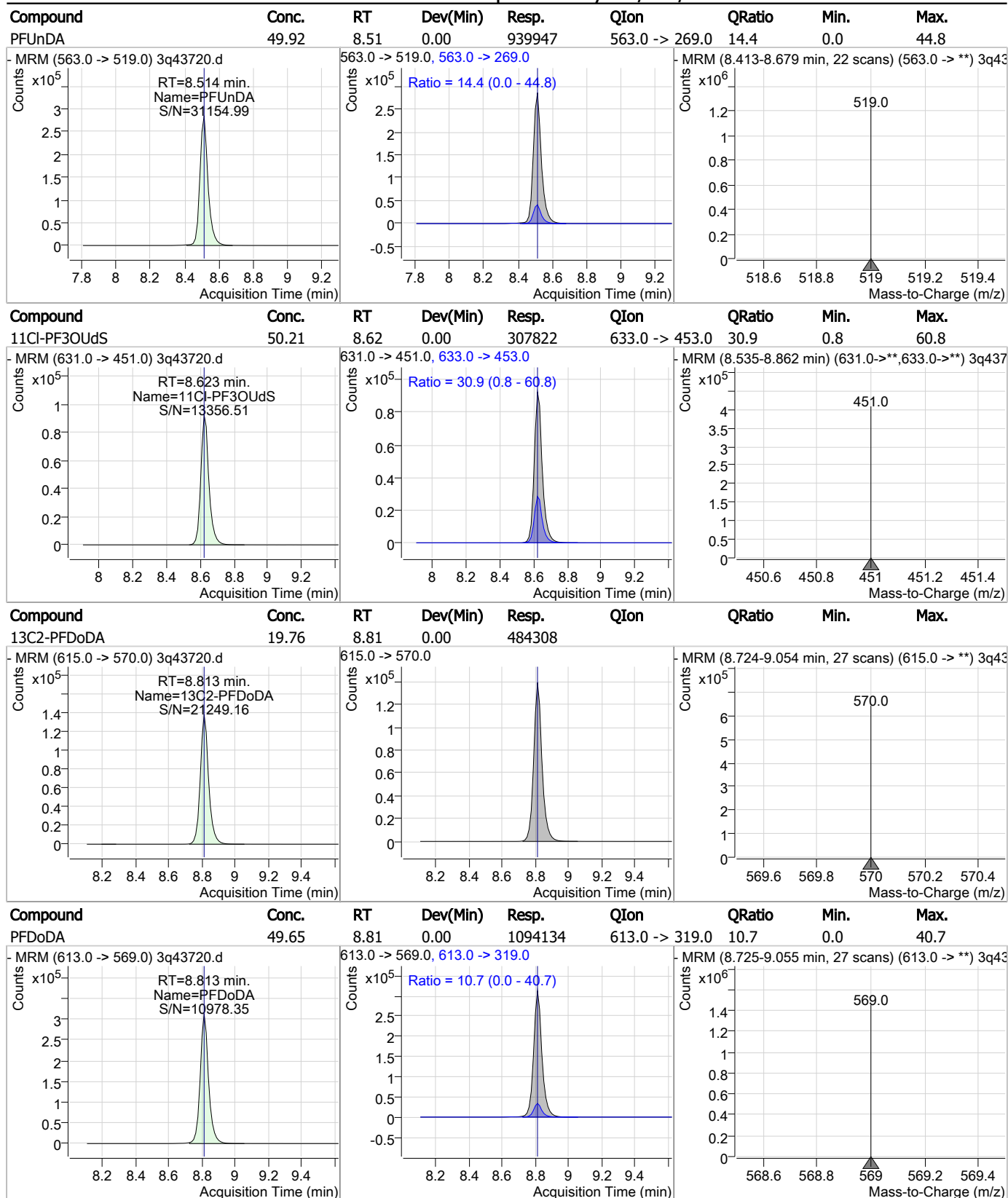
Perfluorinated Compounds by LC/MS/MS



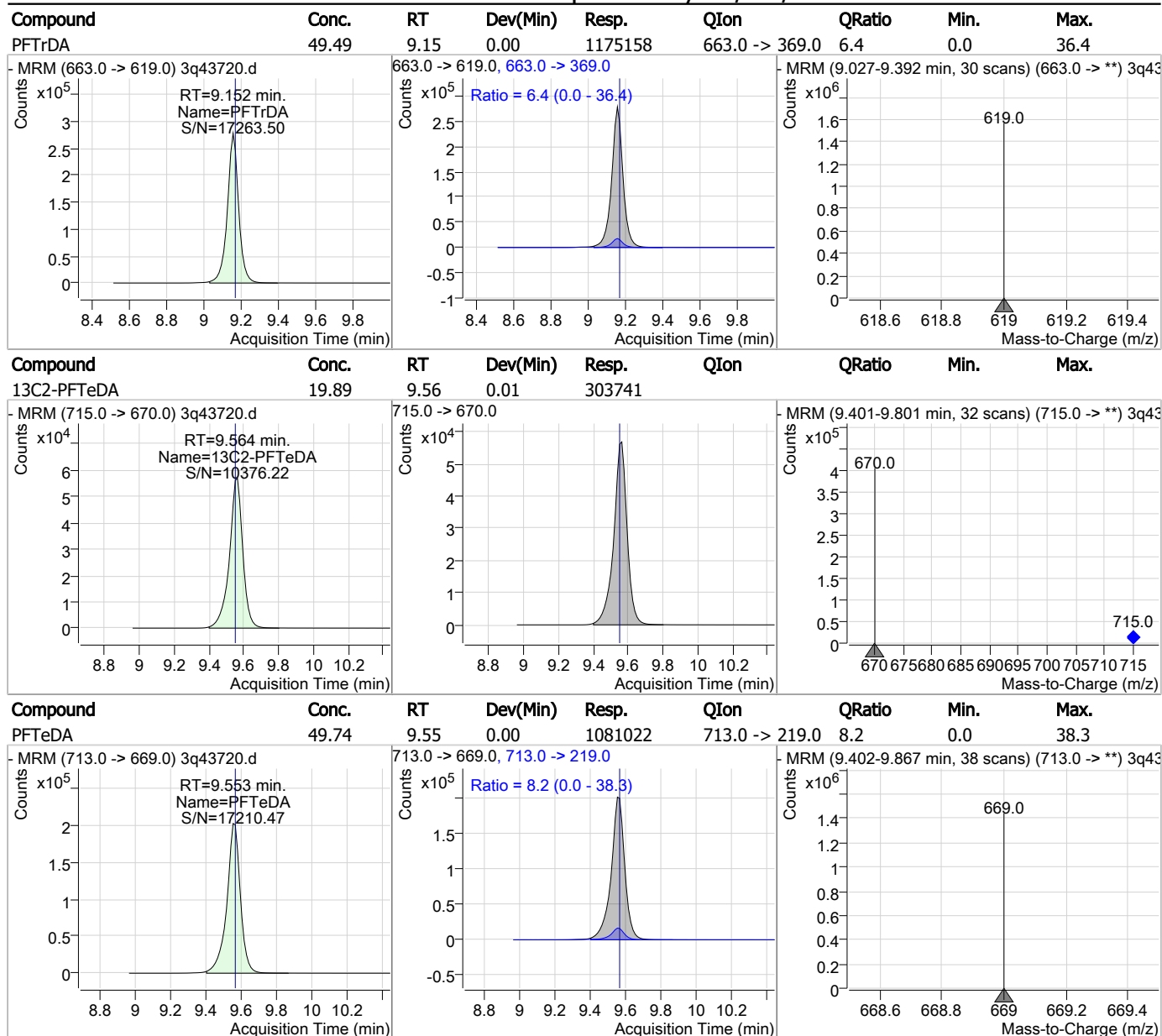
Perfluorinated Compounds by LC/MS/MS

10.5.8
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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.5.8 10

Manual Integration Approval Summary

Sample Number:

S3Q637-IC637

Lab FileID:

3Q43720.D

Injection Time:

08/27/21 22:30

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.59	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.77	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.8.1
10

Mike Eger
08/28/21 17:25

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43721.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 10:47:17 PM
 Sample Name : ic637-100
 Vial : P1-A9
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.752	217.0 -> 172.0	135179	20.00 µg/L	0.025
M5-PFPeA	3.961	268.0 -> 223.0	119390	20.00 µg/L	0.013
M5-PFHxA	5.551	318.0 -> 273.0	168580	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	197181	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	226213	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	242980	20.00 µg/L	-0.013
M6-PFDA	8.176	519.0 -> 474.0	302265	20.00 µg/L	-0.013
M7-PFUnDA	8.513	570.0 -> 525.0	381135	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	477926	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	304460	20.00 µg/L	0.000
M8-FOSA	7.874	506.0 -> 78.0	72780	20.00 µg/L	0.000
M3-PFBS	4.367	302.0 -> 99.0	14433	20.00 µg/L	0.013
M3-PFHxS	6.603	402.0 -> 99.0	16082	20.00 µg/L	0.000
M8-PFOS	7.772	507.0 -> 99.0	23997	20.00 µg/L	-0.013
M2-4:2FTS	5.446	329.0 -> 309.0	117375	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	133905	20.00 µg/L	0.000
M2-8:2FTS	8.201	529.0 -> 509.0	142129	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	79070	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	18806	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	18010	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	81178	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	117375	24.51 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 122.6%		
13C2-6:2FTS	7.256	429.0 -> 409.0	133905	22.44 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 112.2%		
13C2-8:2FTS	8.201	529.0 -> 509.0	142129	22.04 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 110.2%		
13C2-PFDoDA	8.813	615.0 -> 570.0	477926	19.50 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 97.5%		
13C2-PFTeDA	9.551	715.0 -> 670.0	304460	19.93 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.7%		
13C3-PFBS	4.367	302.0 -> 99.0	14433	20.27 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C3-PFHxS	6.603	402.0 -> 99.0	16082	19.81 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.0%		
13C4-PFBA	1.752	217.0 -> 172.0	135179	20.37 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.9%		
13C4-PFHpA	6.543	367.0 -> 322.0	197181	19.76 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 98.8%		
13C5-PFHxA	5.551	318.0 -> 273.0	168580	19.99 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C5-PFPeA	3.961	268.0 -> 223.0	119390	20.31 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.6%		
13C6-PFDA	8.176	519.0 -> 474.0	302265	18.29 µg/L	-0.013

Perfluorinated Compounds by LC/MS/MS

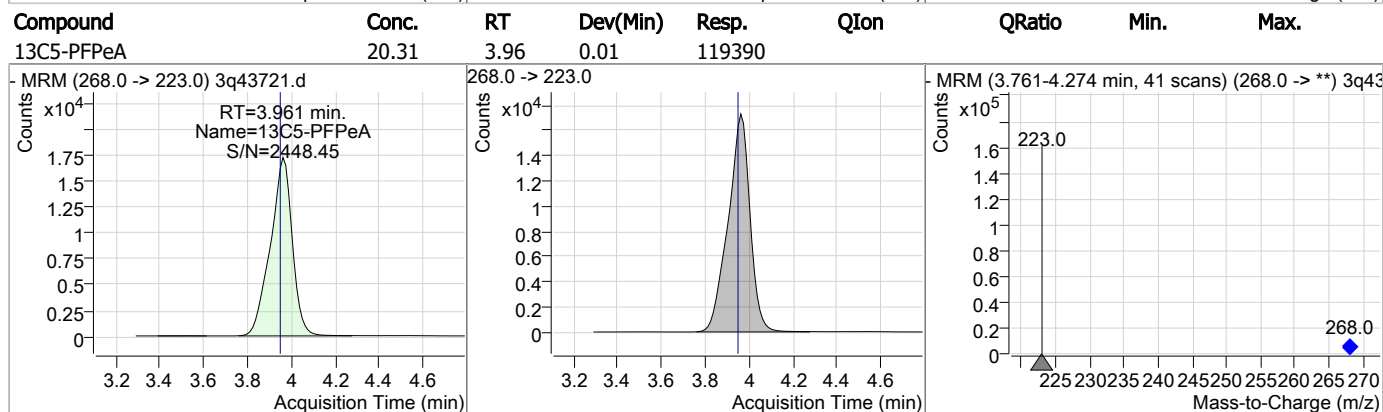
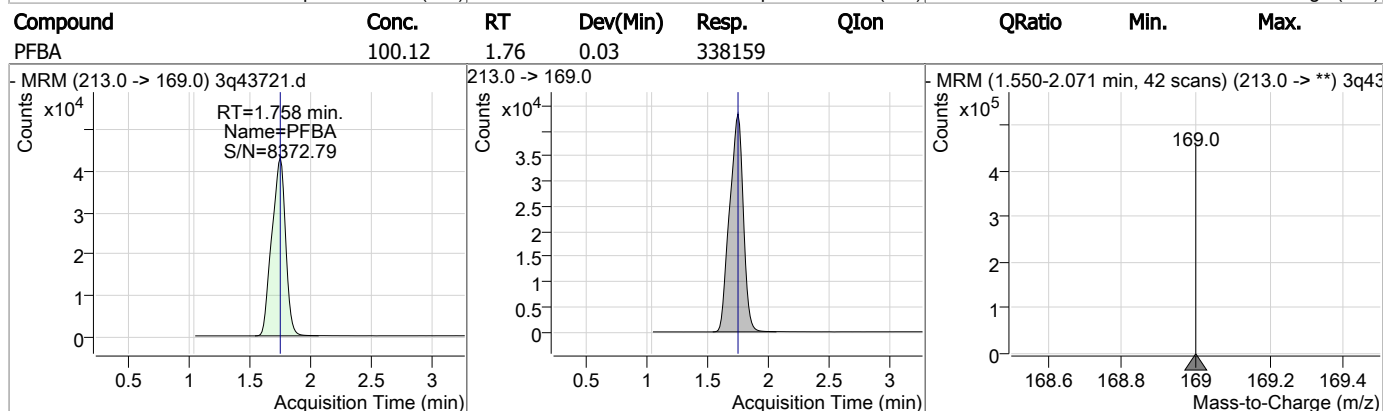
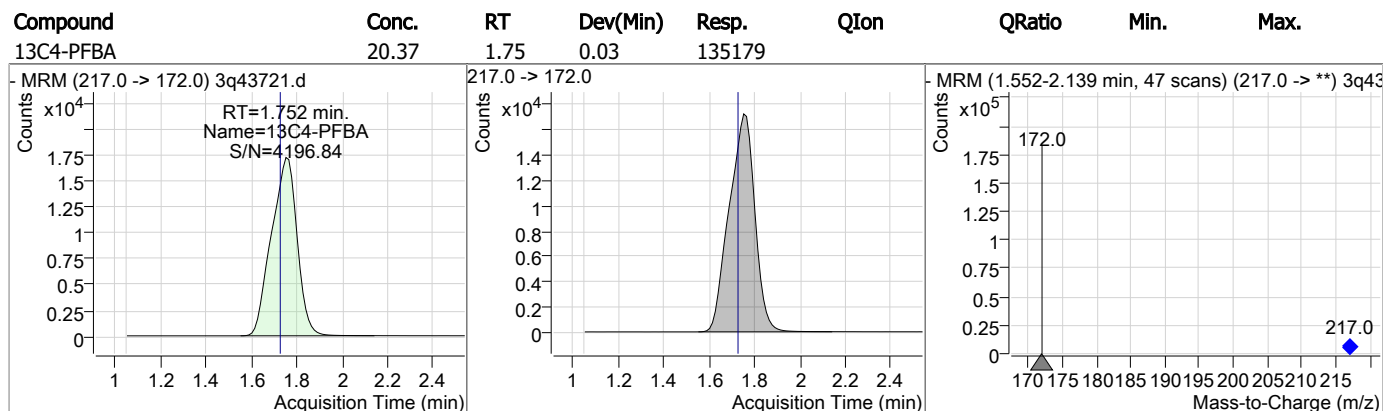
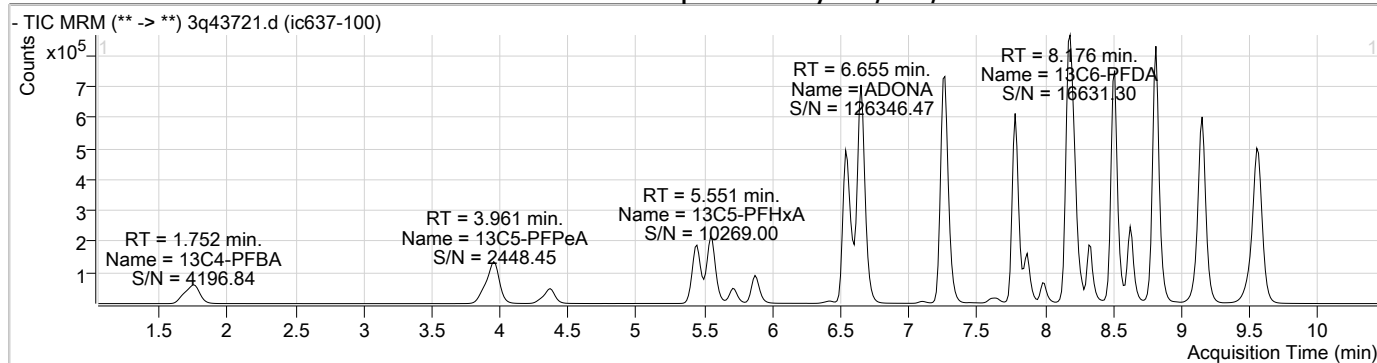
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.5%	
13C7-PFUnDA	8.513	570.0 -> 525.0	381135	18.89 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.4%	
13C8-FOSA	7.874	506.0 -> 78.0	72780	17.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.9%	
13C8-PFOA	7.270	421.0 -> 376.0	226213	18.61 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.1%	
13C8-PFOS	7.772	507.0 -> 99.0	23997	19.57 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C9-PFNA	7.787	472.0 -> 427.0	242980	18.98 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.9%	
d3-MeFOSAA	8.223	573.0 -> 419.0	79070	18.80 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.0%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	18804	20.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
d3-MeFOSA	8.189	515.0 -> 169.0	18010	15.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.9%	
d5-EtFOSAA	8.322	589.0 -> 419.0	81180	19.85 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.2%	

Target Compounds

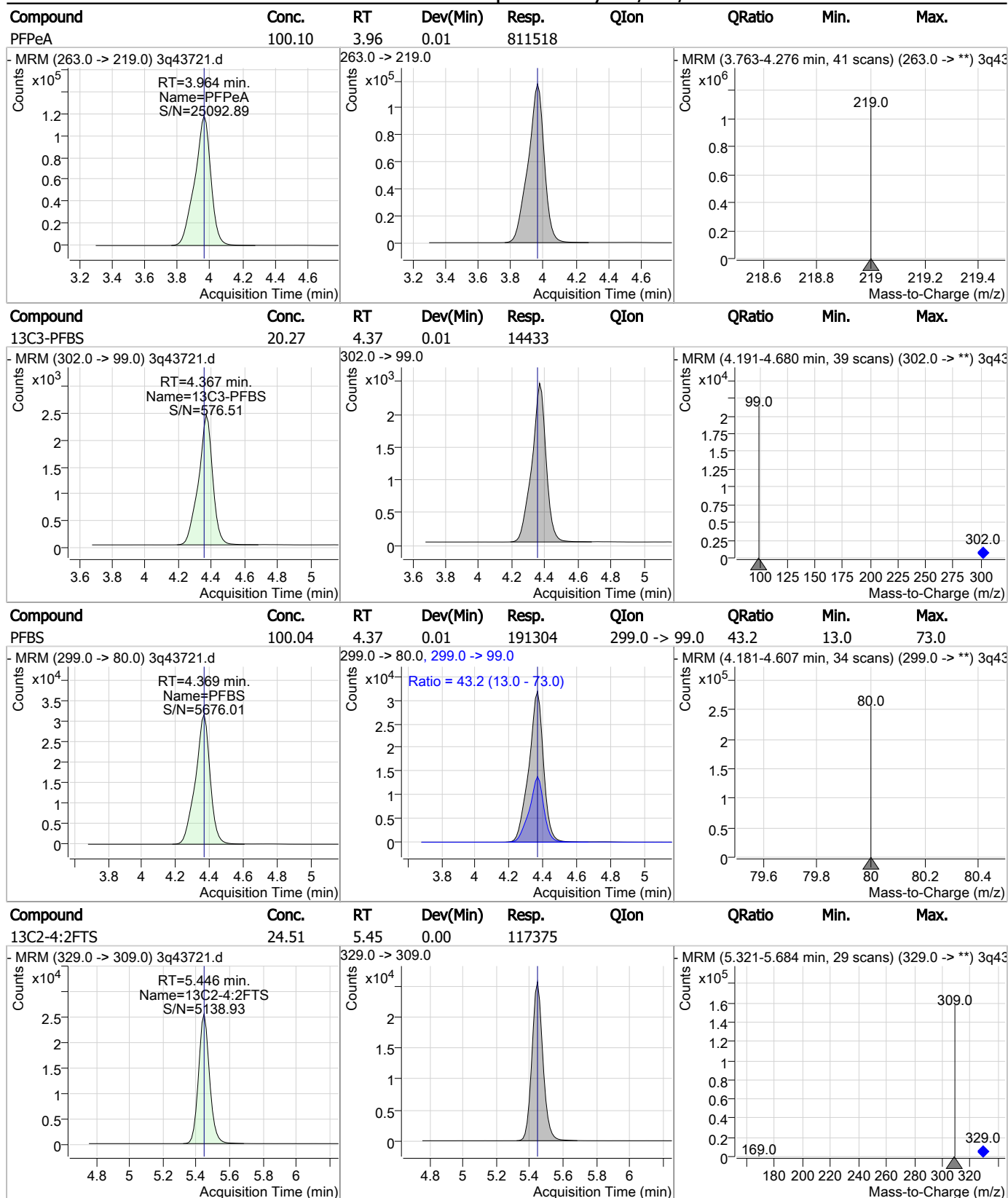
					QValue
4:2FTS	5.448	327.0 -> 307.0	545068	82.73 µg/L	100
6:2FTS	7.256	427.0 -> 407.0	562132	83.92 µg/L	99
8:2FTS	8.201	527.0 -> 507.0	609373	82.76 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	343875	99.65 µg/L	m 96
FOSA	7.875	498.0 -> 78.0	361260	100.05 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	356420	100.60 µg/L	m 97
PFBA	1.758	213.0 -> 169.0	338159	100.12 µg/L	100
PFBS	4.369	299.0 -> 80.0	191304	100.04 µg/L	100
PFDA	8.177	513.0 -> 469.0	1430433	100.11 µg/L	99
PFDoDA	8.813	613.0 -> 569.0	2178917	100.19 µg/L	99
PFDS	8.485	599.0 -> 80.0	80926	100.43 µg/L	97
PFHpA	6.544	363.0 -> 319.0	1592796	100.19 µg/L	100
PFHpS	7.280	449.0 -> 80.0	179893	99.44 µg/L	98
PFHxA	5.552	313.0 -> 269.0	734135	100.27 µg/L	100
PFHxS	6.591	399.0 -> 80.0	195287	100.13 µg/L	m 97
PFNA	7.788	463.0 -> 419.0	1265553	100.49 µg/L	99
PFNS	8.162	549.0 -> 80.0	144595	99.40 µg/L	97
PFOA	7.270	413.0 -> 369.0	1191996	100.37 µg/L	99
PFOS	7.773	499.0 -> 80.0	215719	100.27 µg/L	m 82
PFPeA	3.964	263.0 -> 219.0	811518	100.10 µg/L	100
PFPeS	5.707	349.0 -> 80.0	140789	99.85 µg/L	99
PFTeDA	9.553	713.0 -> 669.0	2181726	100.14 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	2384220	100.18 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	1839372	100.08 µg/L	99
11Cl-PF3OUdS	8.623	631.0 -> 451.0	603591	99.76 µg/L	99
9Cl-PF3ONS	7.985	531.0 -> 351.0	164771	101.02 µg/L	99
ADONA	6.655	377.0 -> 251.0	2095631	100.17 µg/L	100
HFPO-DA	5.876	329.0 -> 169.0	307374	100.36 µg/L	99
MeFOSA	8.190	512.0 -> 169.0	95882	100.80 µg/L	100

= Qualifier out of range, m = manually integrated, + = Area summed

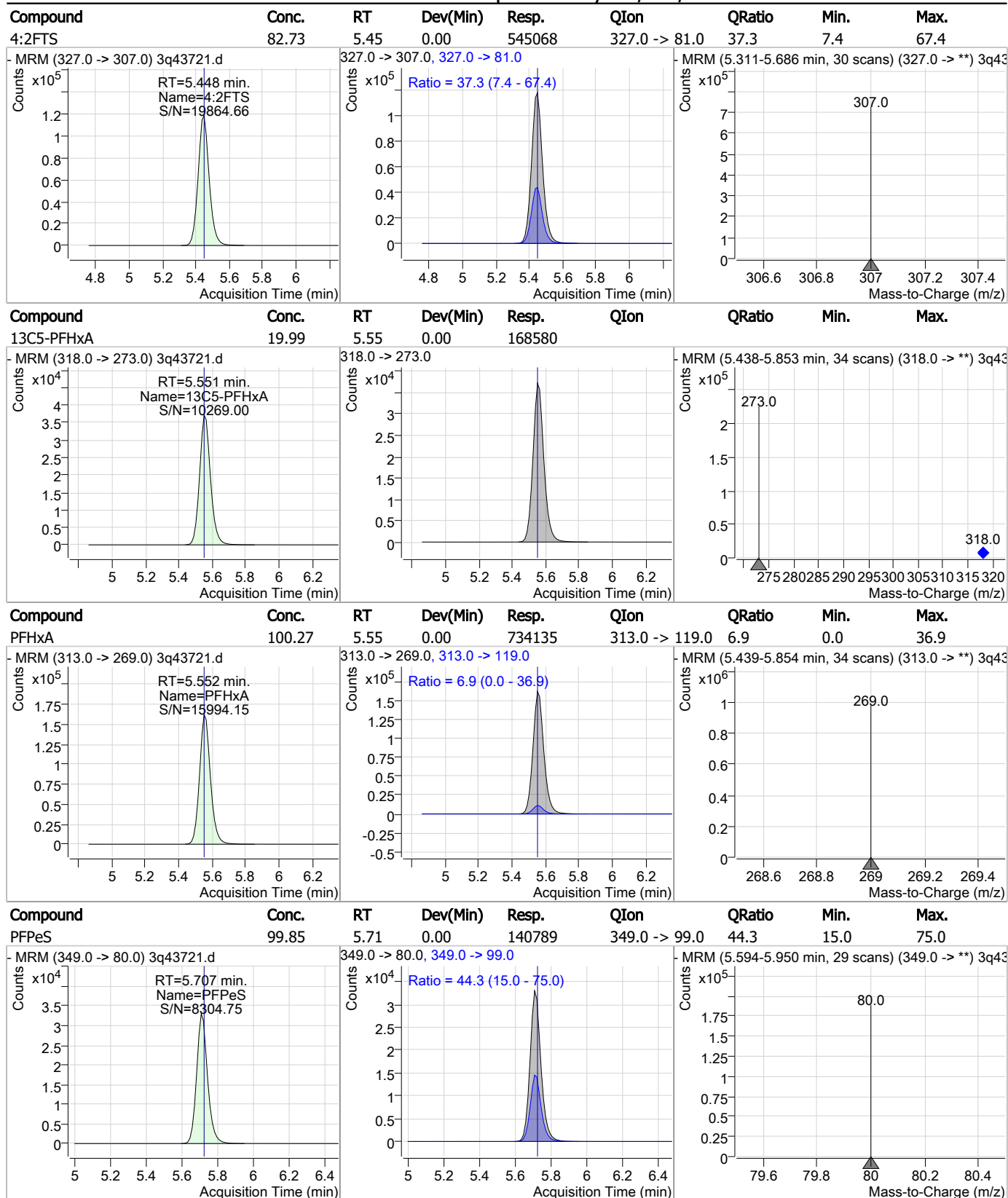
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

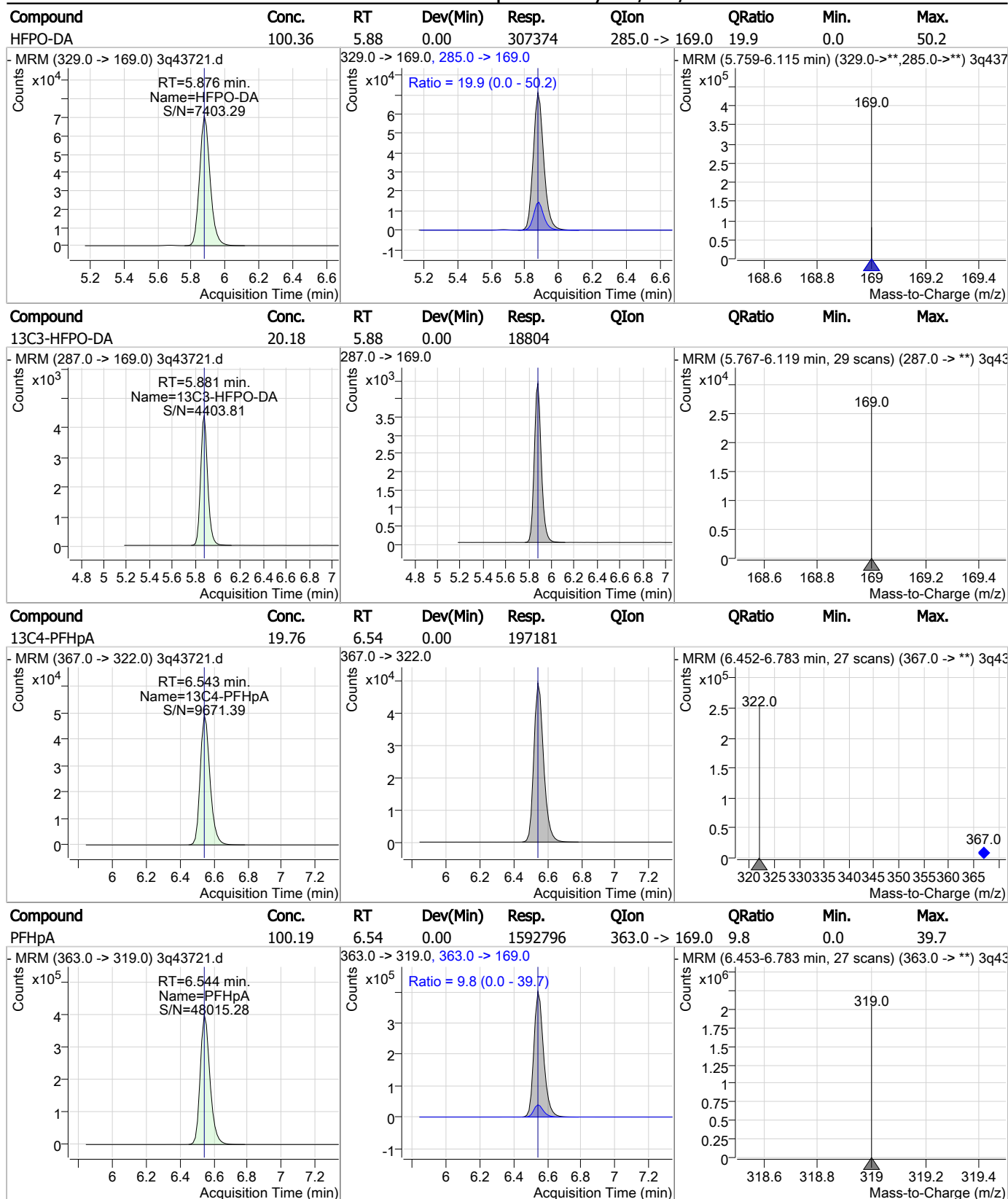


Perfluorinated Compounds by LC/MS/MS

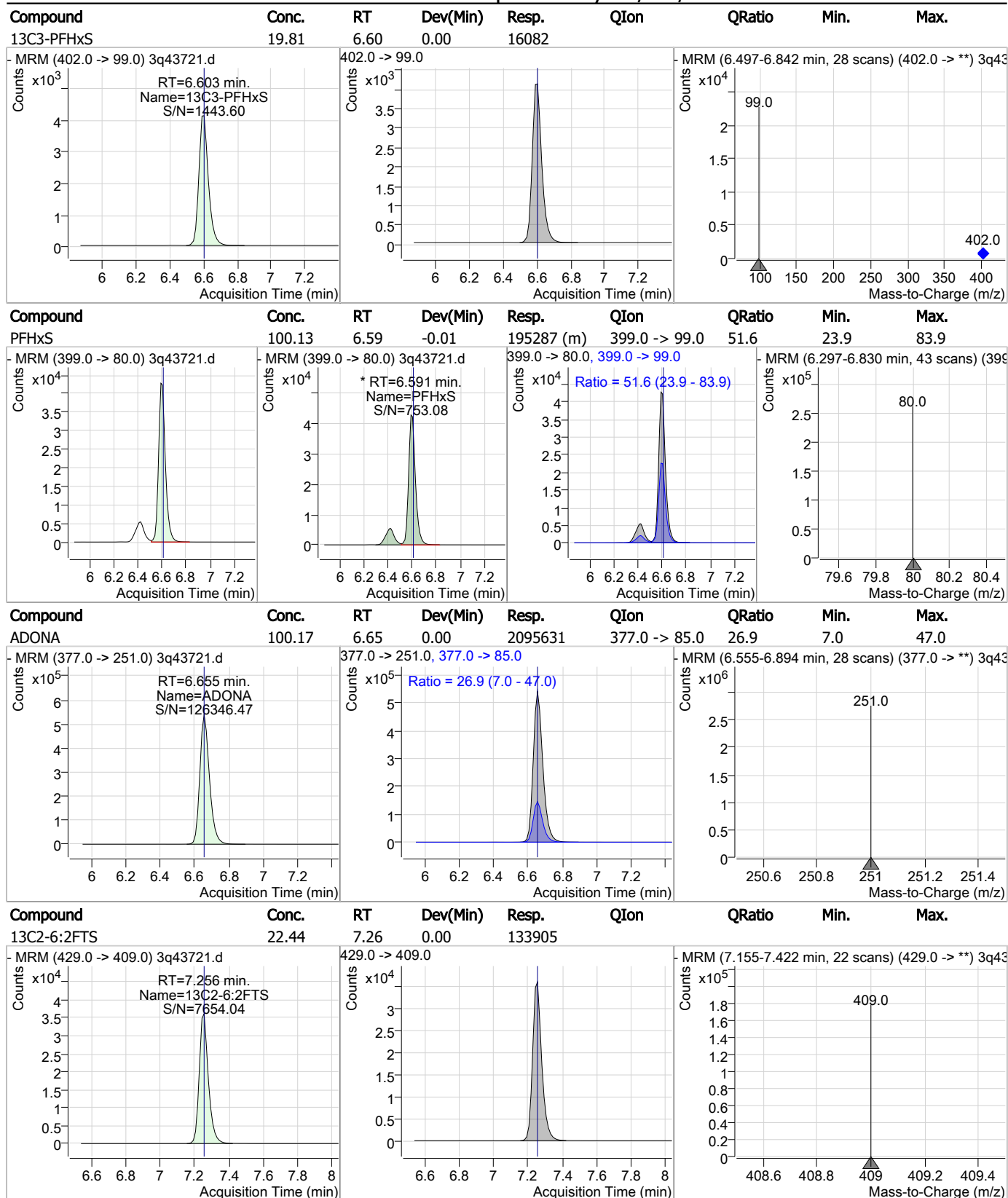


10.5.9 10

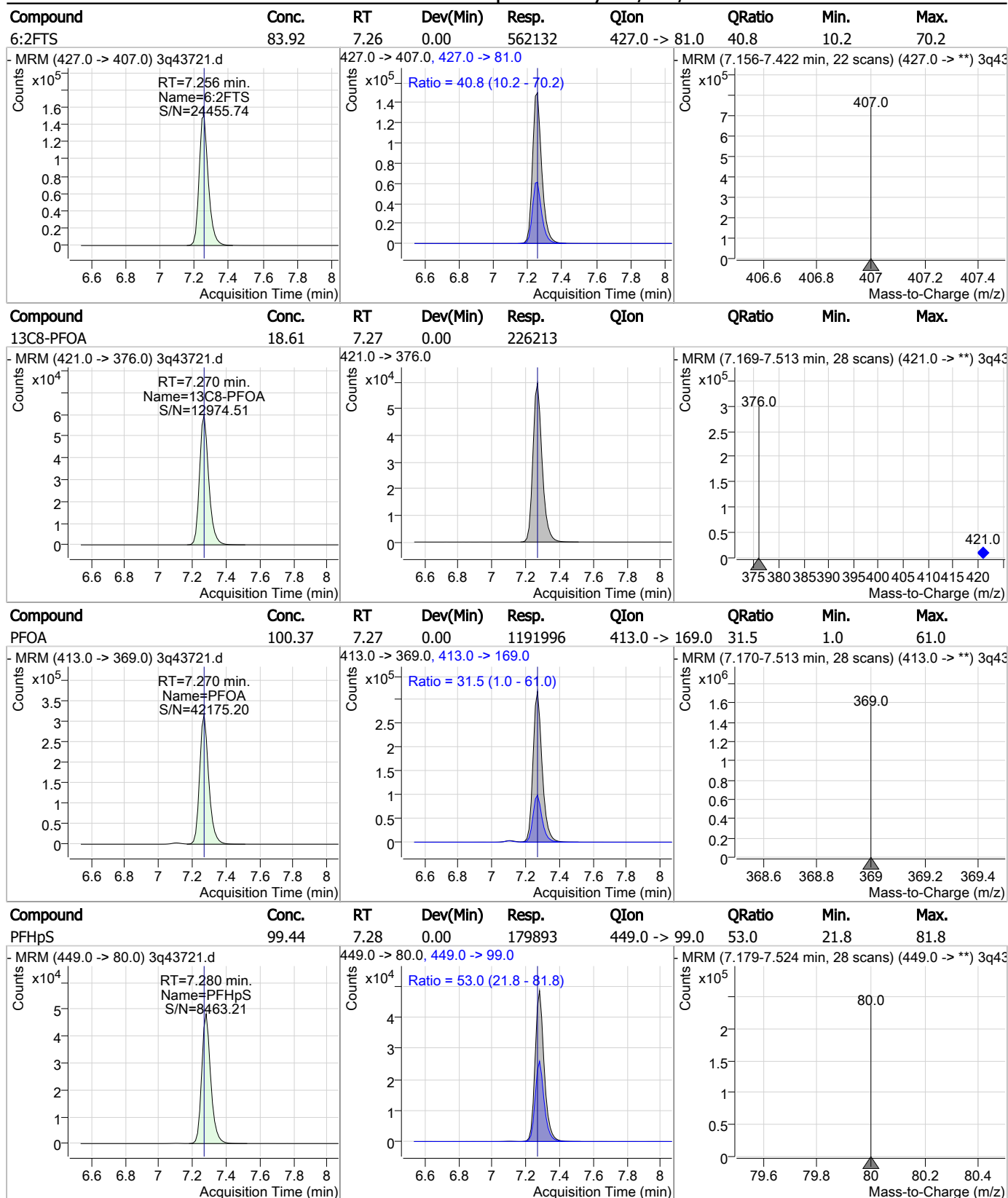
Perfluorinated Compounds by LC/MS/MS

10.5.9
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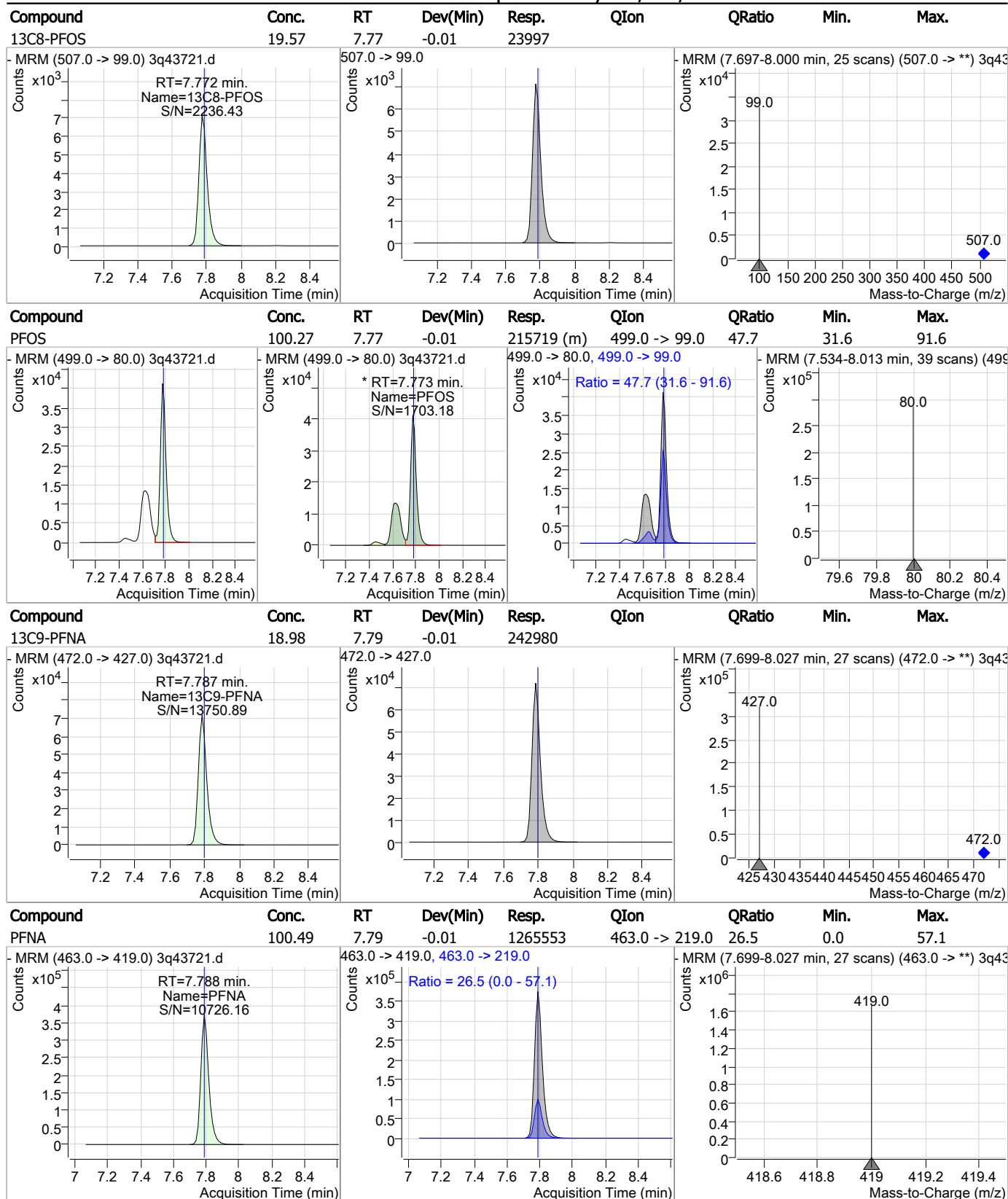
Perfluorinated Compounds by LC/MS/MS



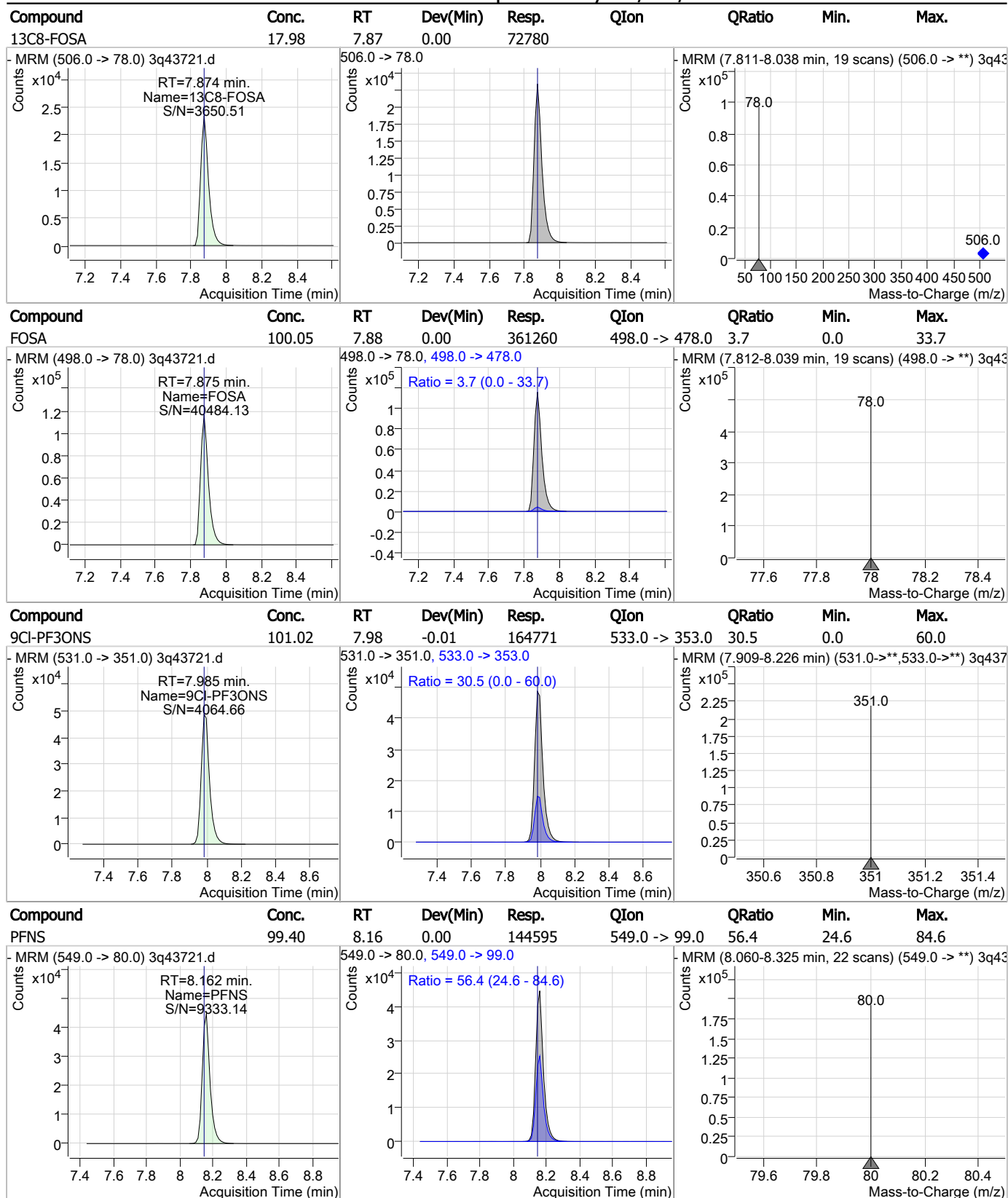
Perfluorinated Compounds by LC/MS/MS



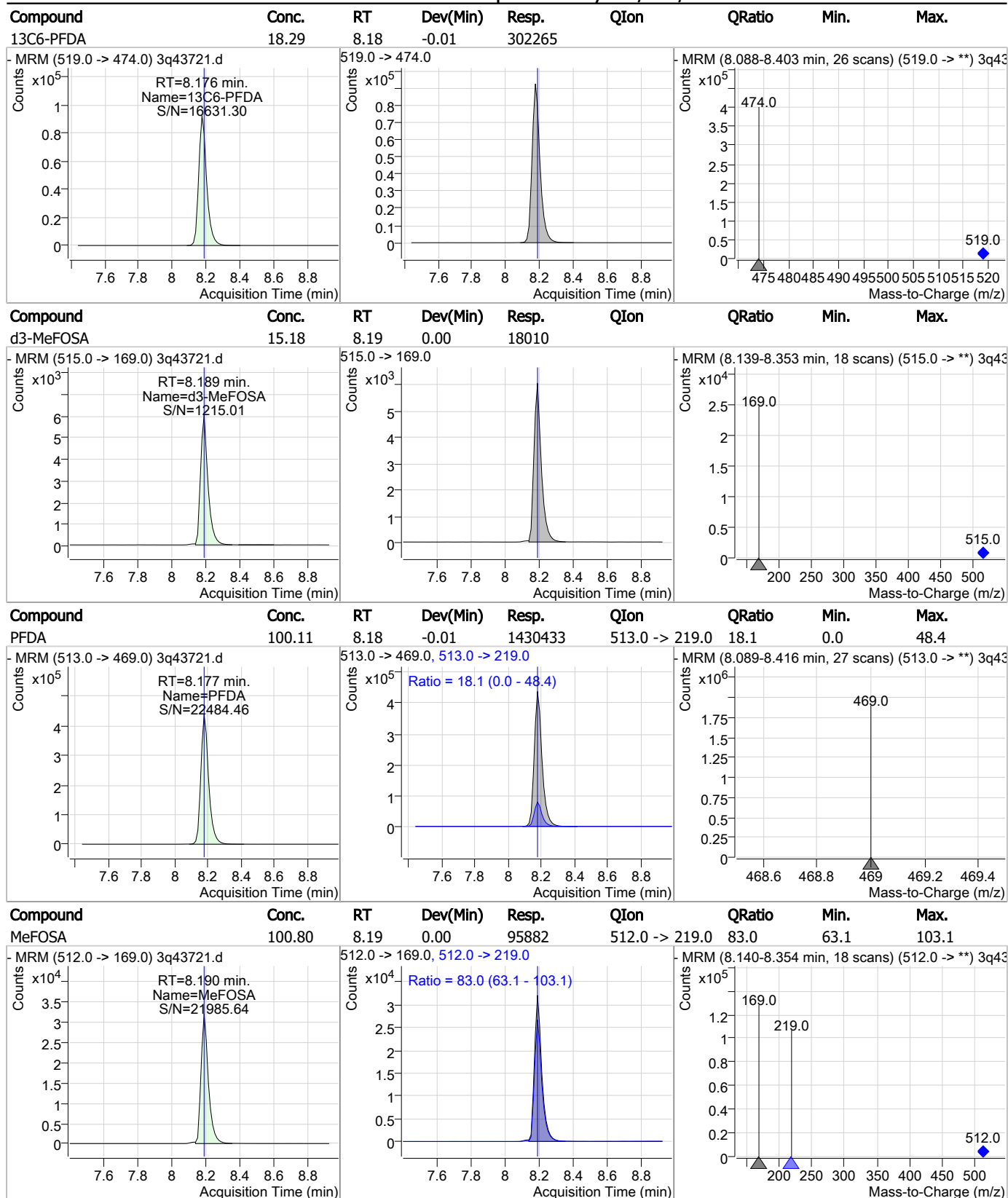
Perfluorinated Compounds by LC/MS/MS



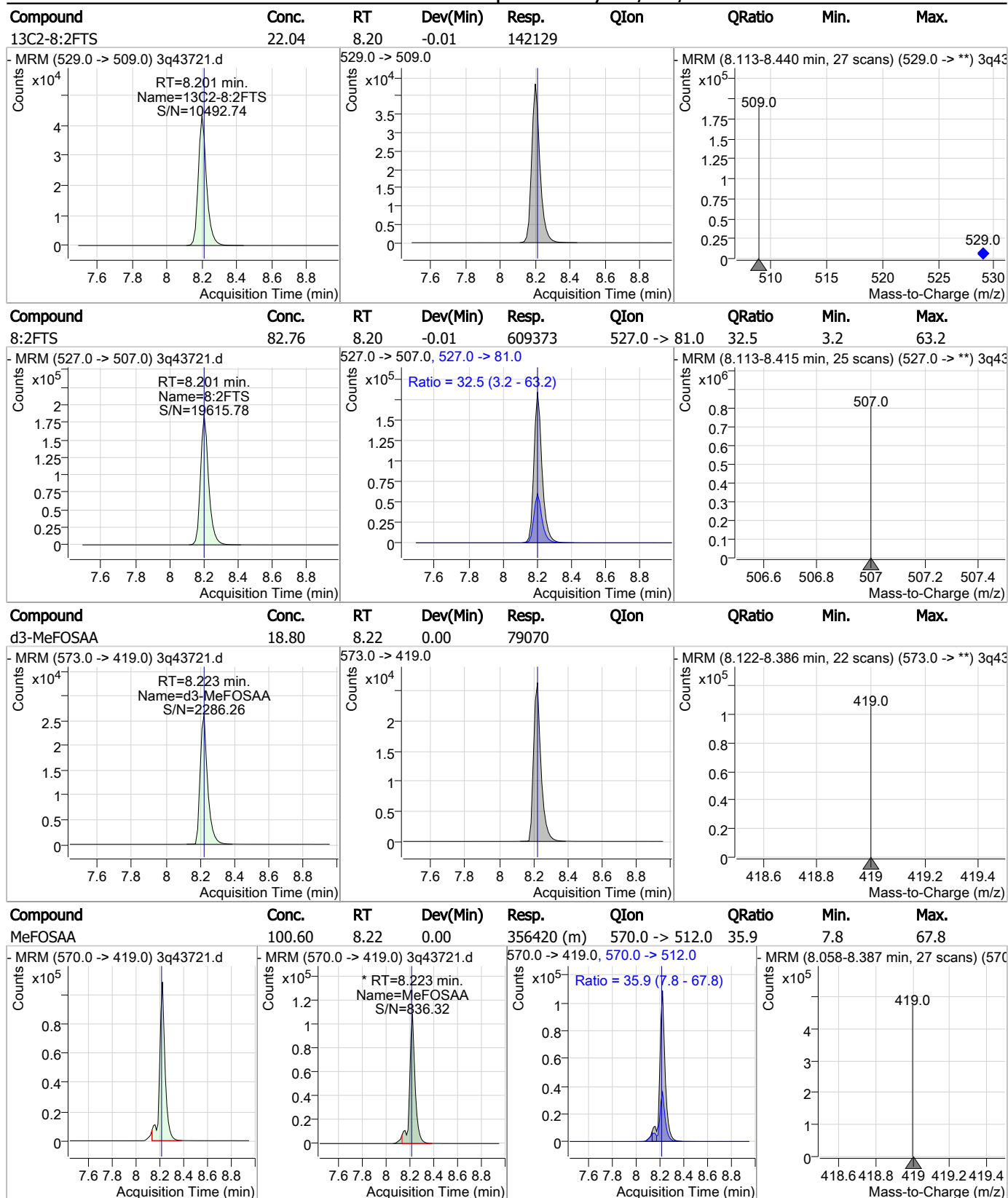
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

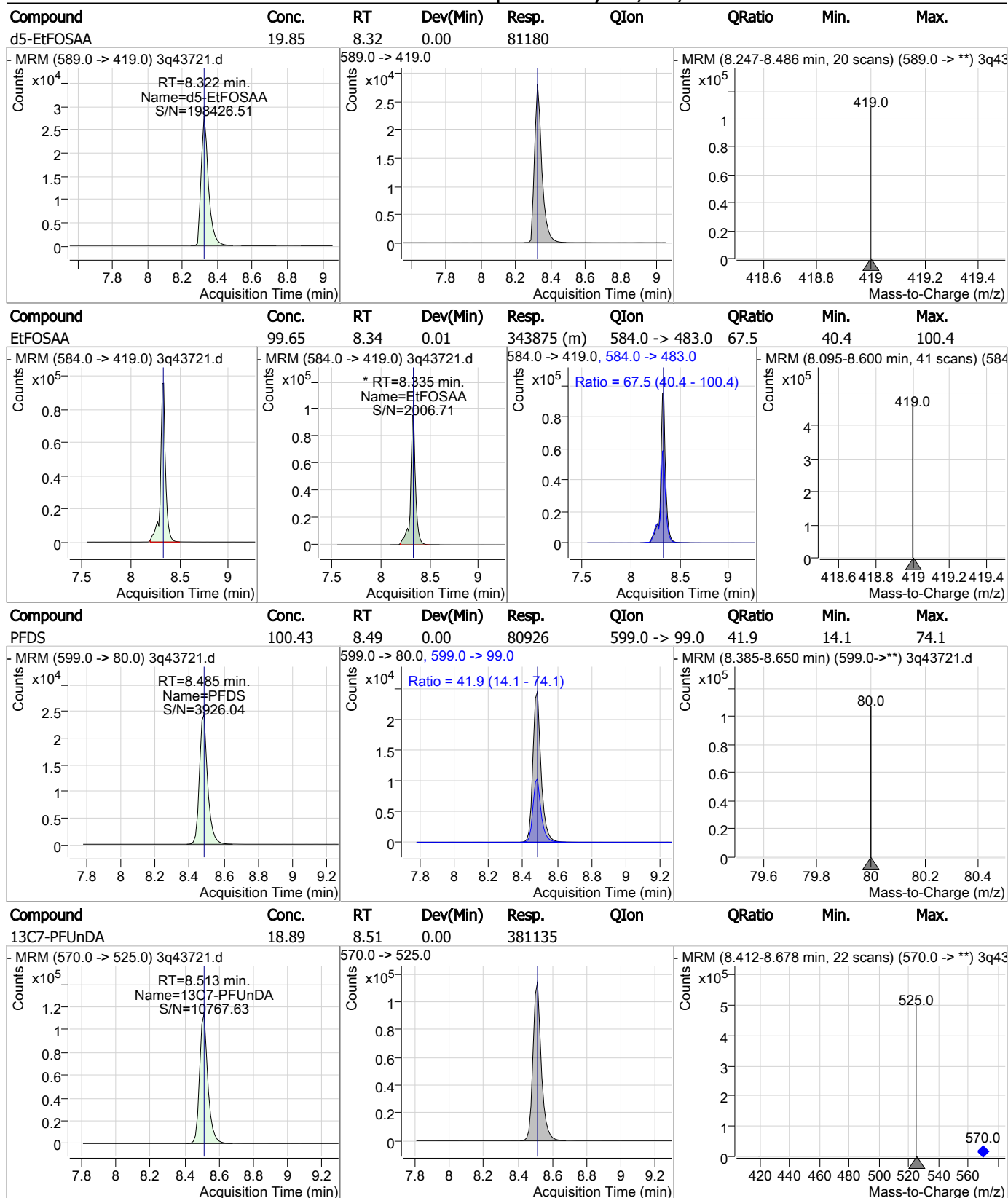


Perfluorinated Compounds by LC/MS/MS

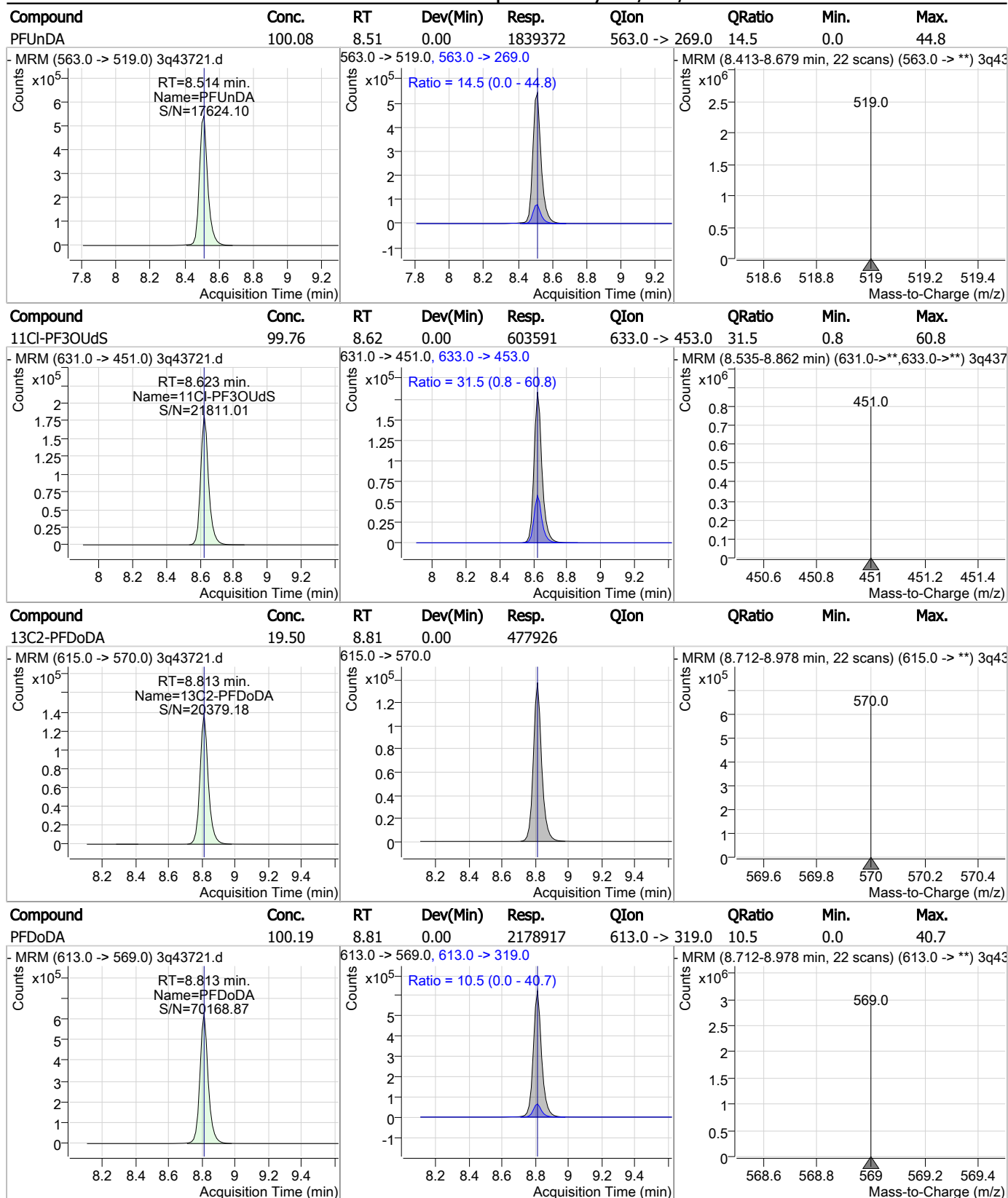


10.5.9 10

Perfluorinated Compounds by LC/MS/MS

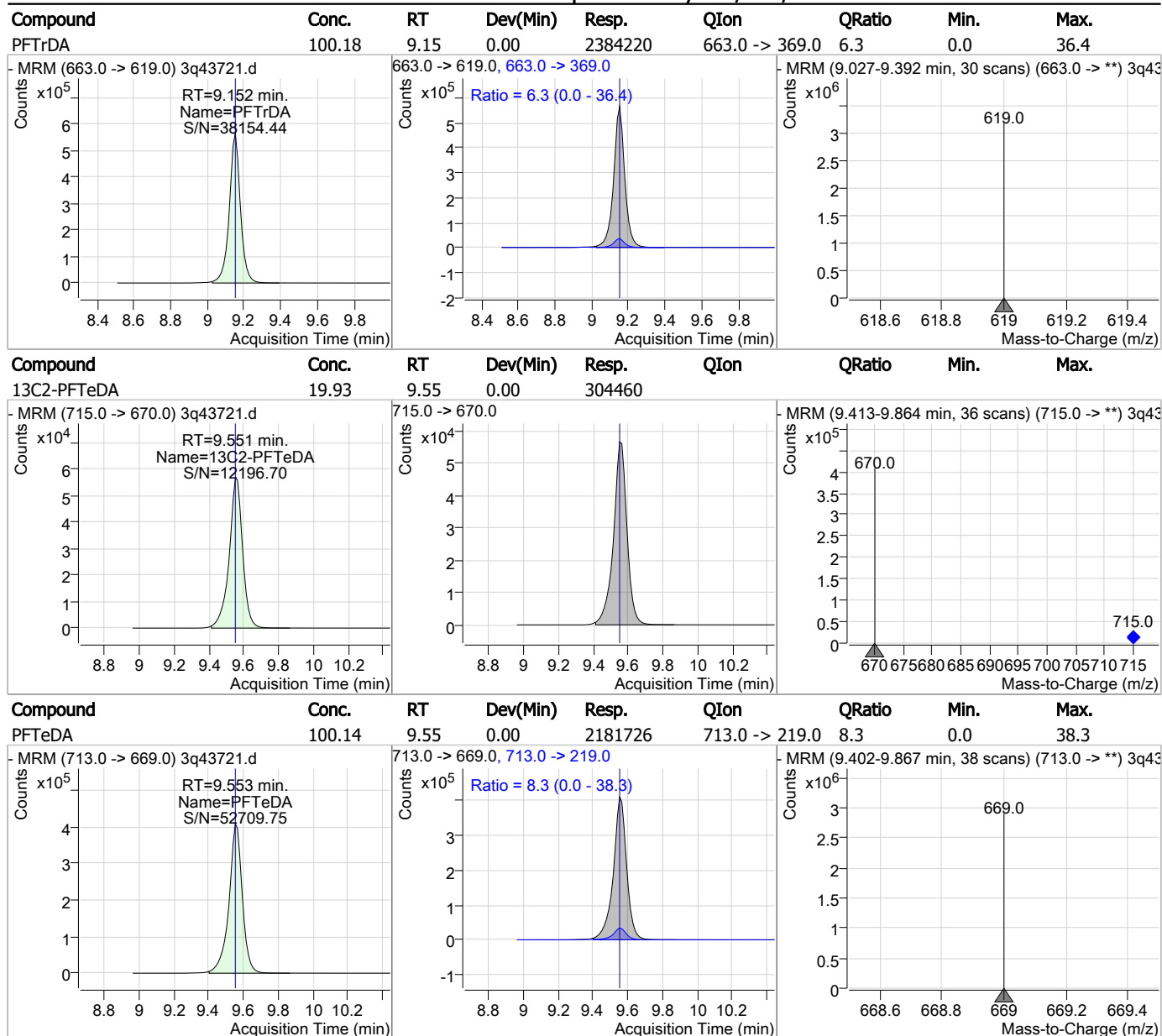


Perfluorinated Compounds by LC/MS/MS



10.5.9 10

Perfluorinated Compounds by LC/MS/MS



10.5.9 10

Manual Integration Approval Summary

Sample Number:

S3Q637-IC637

Lab FileID:

3Q43721.D

Injection Time:

08/27/21 22:47

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.59	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.77	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.9.1
10

Mike Eger
08/28/21 17:25

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43723.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 11:20:29 PM
 Sample Name : icv637-20
 Vial : P1-B1
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.739	217.0 -> 172.0	134167	20.00 µg/L	0.013
M5-PFPeA	3.949	268.0 -> 223.0	118534	20.00 µg/L	0.000
M5-PFHxA	5.551	318.0 -> 273.0	171027	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	202846	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	247229	20.00 µg/L	0.000
M9-PFNA	7.800	472.0 -> 427.0	255983	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	336177	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	407792	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	491299	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	309258	20.00 µg/L	0.000
M8-FOSA	7.874	506.0 -> 78.0	82855	20.00 µg/L	0.000
M3-PFBS	4.367	302.0 -> 99.0	14453	20.00 µg/L	0.013
M3-PFHxS	6.603	402.0 -> 99.0	16546	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	24428	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	95017	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	119812	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	128806	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	85956	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	19075	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	25429	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	82385	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	95017	19.84 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C2-6:2FTS	7.256	429.0 -> 409.0	119812	20.08 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.4%		
13C2-8:2FTS	8.213	529.0 -> 509.0	128806	19.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C2-PFDoDA	8.813	615.0 -> 570.0	491299	20.04 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C2-PFTeDA	9.551	715.0 -> 670.0	309258	20.25 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.2%		
13C3-PFBS	4.367	302.0 -> 99.0	14453	20.30 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C3-PFHxS	6.603	402.0 -> 99.0	16546	20.38 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.9%		
13C4-PFBA	1.739	217.0 -> 172.0	134167	20.22 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C4-PFHpA	6.543	367.0 -> 322.0	202846	20.33 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.6%		
13C5-PFHxA	5.551	318.0 -> 273.0	171027	20.28 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C5-PFPeA	3.949	268.0 -> 223.0	118534	20.17 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C6-PFDA	8.189	519.0 -> 474.0	336177	20.34 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

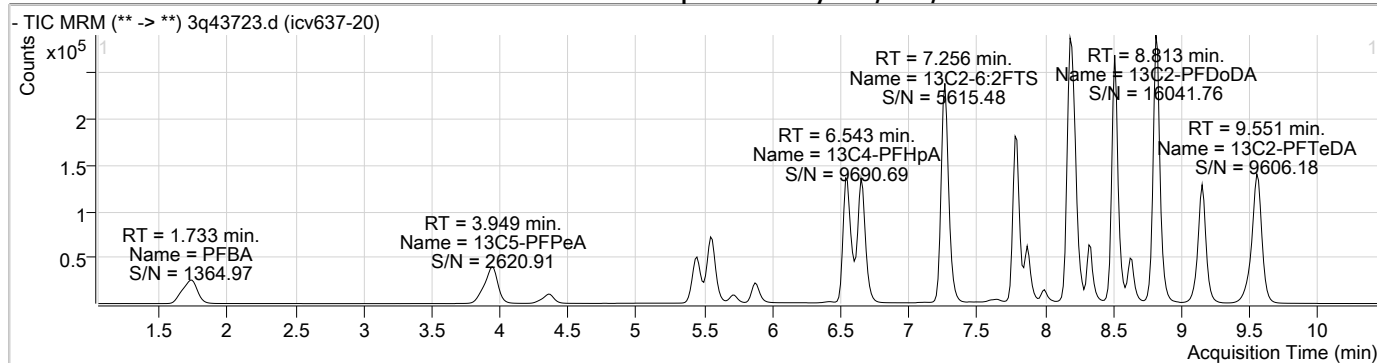
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C7-PFUnDA	8.513	570.0 -> 525.0	407792	20.21 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C8-FOSA	7.874	506.0 -> 78.0	82855	20.47 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C8-PFOA	7.270	421.0 -> 376.0	247229	20.34 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C8-PFOS	7.785	507.0 -> 99.0	24428	19.92 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C9-PFNA	7.800	472.0 -> 427.0	255983	20.00 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
d3-MeFOSAA	8.223	573.0 -> 419.0	85956	20.44 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	19074	20.47 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
d3-MeFOSA	8.189	515.0 -> 169.0	25429	21.43 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.2%	
d5-EtFOSAA	8.322	589.0 -> 419.0	82338	20.13 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.7%	

Target Compounds

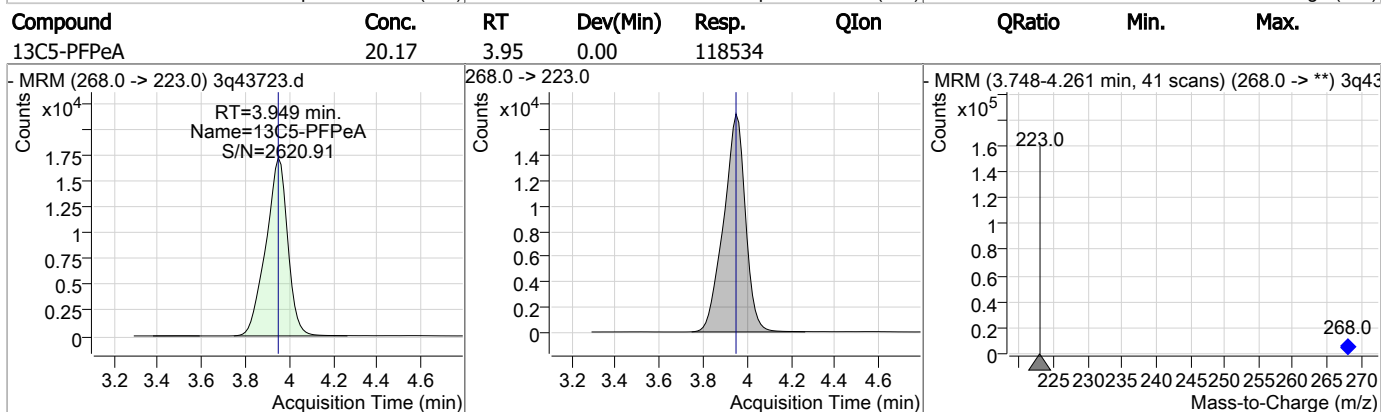
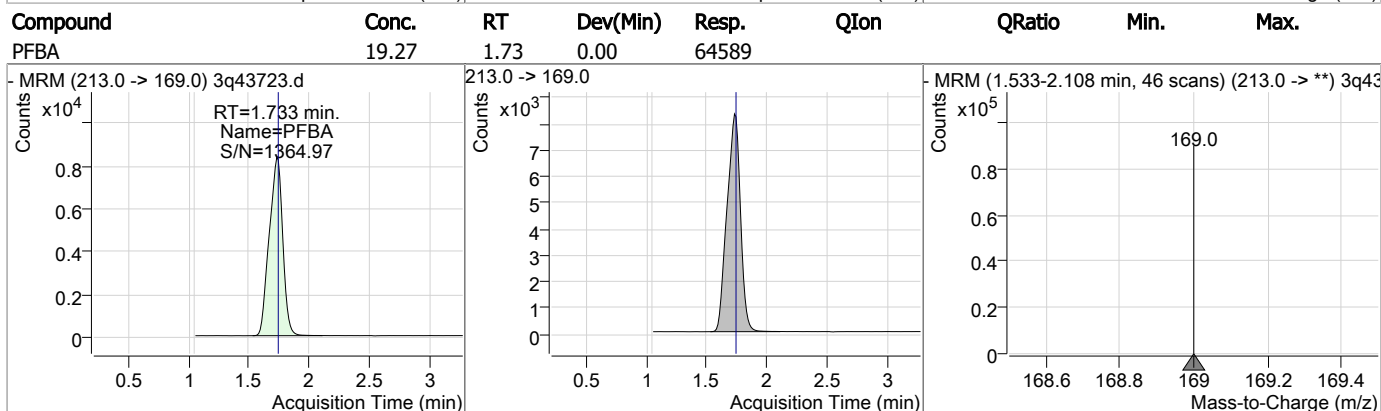
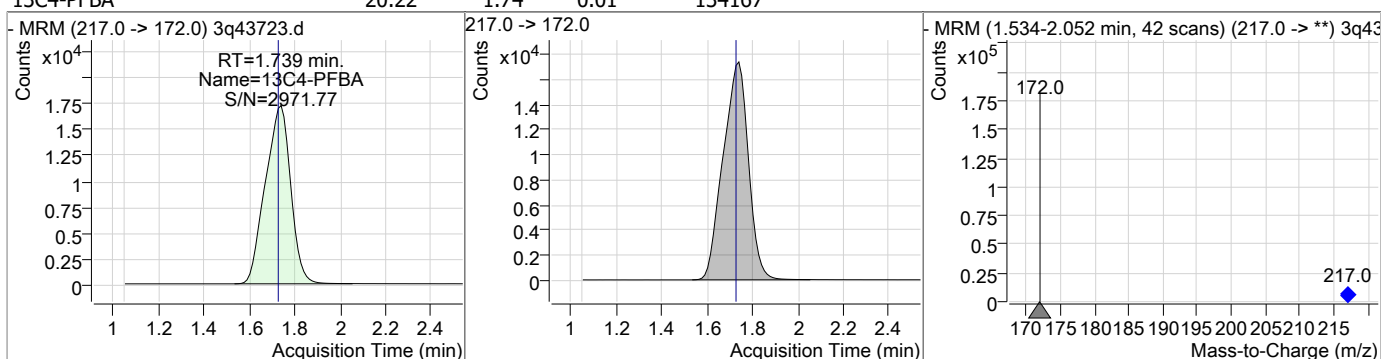
					QValue
4:2FTS	5.448	327.0 -> 307.0	97565	18.29 µg/L	100
6:2FTS	7.256	427.0 -> 407.0	117102	19.54 µg/L	99
8:2FTS	8.214	527.0 -> 507.0	128970	19.33 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	71464	20.41 µg/L	m 96
FOSA	7.875	498.0 -> 78.0	81756	19.89 µg/L	99
MeFOSAA	8.223	570.0 -> 419.0	73871	19.18 µg/L	m 97
PFBA	1.733	213.0 -> 169.0	64589	19.27 µg/L	100
PFBS	4.357	299.0 -> 80.0	32677	17.07 µg/L	99
PFDA	8.190	513.0 -> 469.0	293976	18.50 µg/L	99
PFDoDA	8.813	613.0 -> 569.0	486287	21.75 µg/L	100
PFDS	8.485	599.0 -> 80.0	15983	18.54 µg/L	97
PFHpA	6.544	363.0 -> 319.0	312293	19.09 µg/L	99
PFHpS	7.280	449.0 -> 80.0	36799	19.98 µg/L	99
PFHxA	5.552	313.0 -> 269.0	137343	18.49 µg/L	100
PFHxS	6.603	399.0 -> 80.0	35650	17.77 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	240359	18.12 µg/L	99
PFNS	8.162	549.0 -> 80.0	29225	19.74 µg/L	99
PFOA	7.270	413.0 -> 369.0	258417	19.91 µg/L	99
PFOS	7.786	499.0 -> 80.0	44436	20.29 µg/L	m 85
PFPeA	3.951	263.0 -> 219.0	156255	19.41 µg/L	100
PFPeS	5.707	349.0 -> 80.0	25537	18.09 µg/L	100
PFTeDA	9.553	713.0 -> 669.0	396808	17.93 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	503871	20.84 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	398301	20.26 µg/L	99
11Cl-PF3OUdS	8.623	631.0 -> 451.0	118709	19.09 µg/L	99
9Cl-PF3ONS	7.997	531.0 -> 351.0	31476	17.35 µg/L	99
ADONA	6.655	377.0 -> 251.0	399769	18.57 µg/L	100
HFPO-DA	5.876	329.0 -> 169.0	61968	19.95 µg/L	99
MeFOSA	8.190	512.0 -> 169.0	0	0.00 µg/L	m 1

= Qualifier out of range, m = manually integrated, + = Area summed

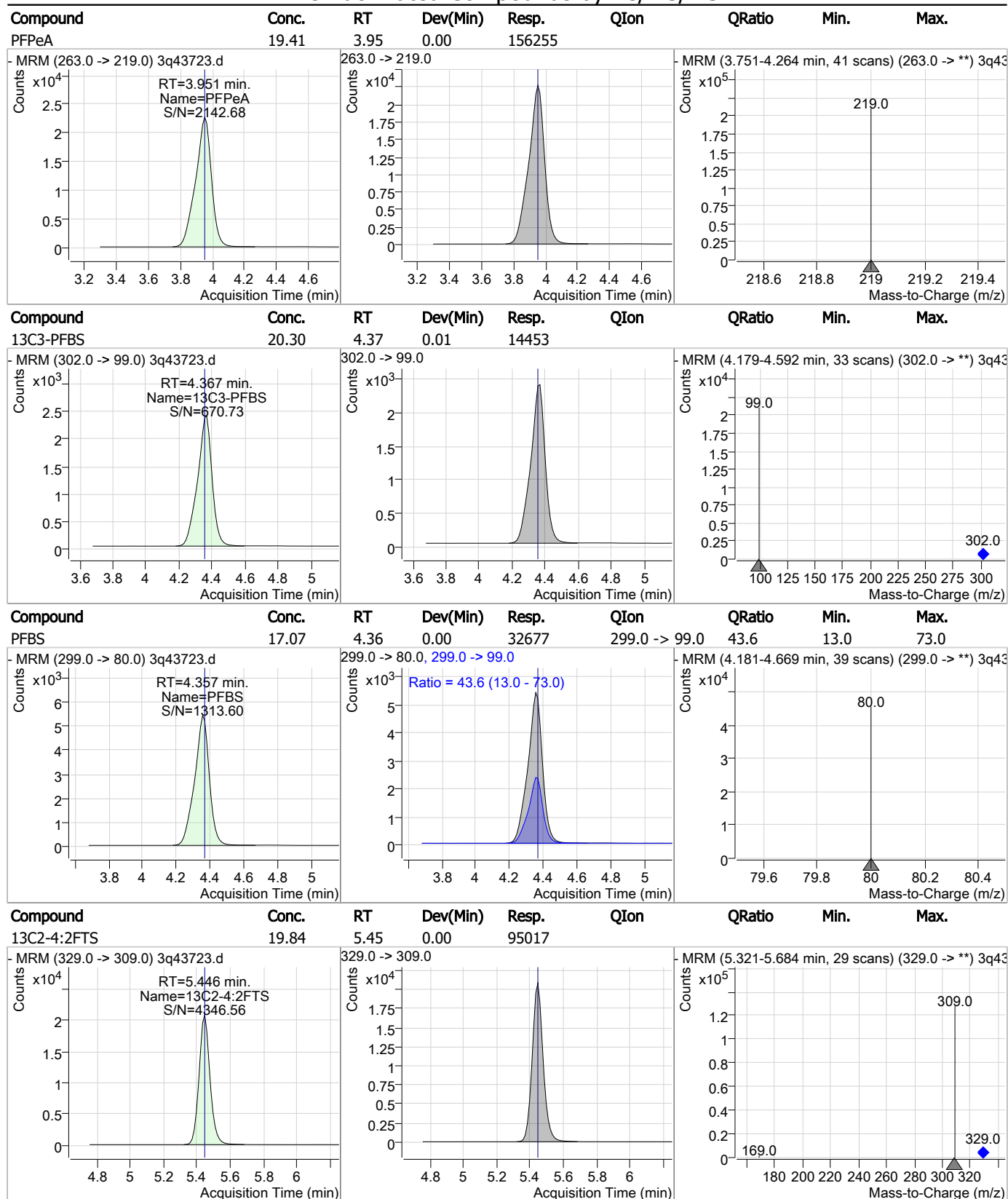
Perfluorinated Compounds by LC/MS/MS



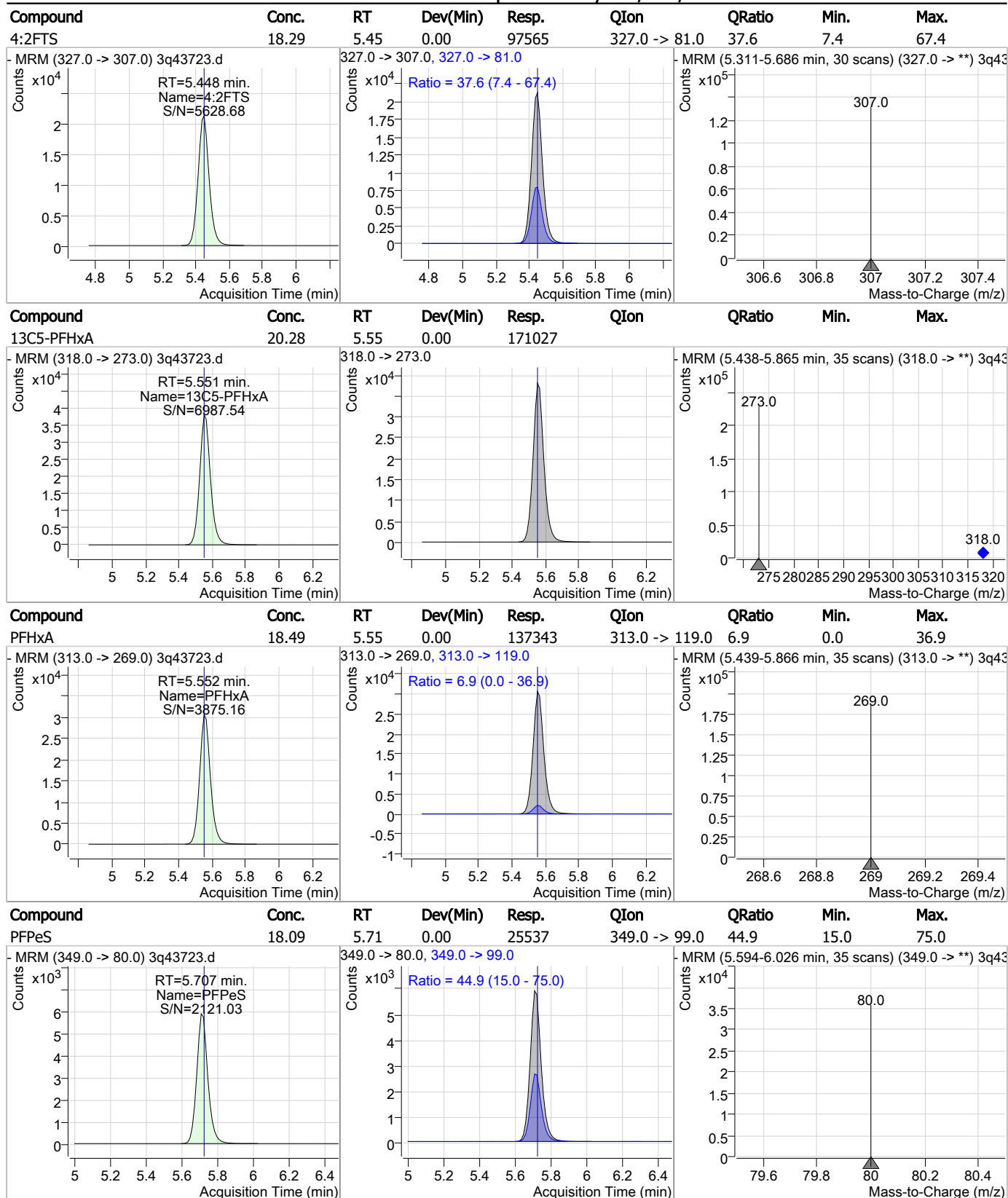
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



Perfluorinated Compounds by LC/MS/MS

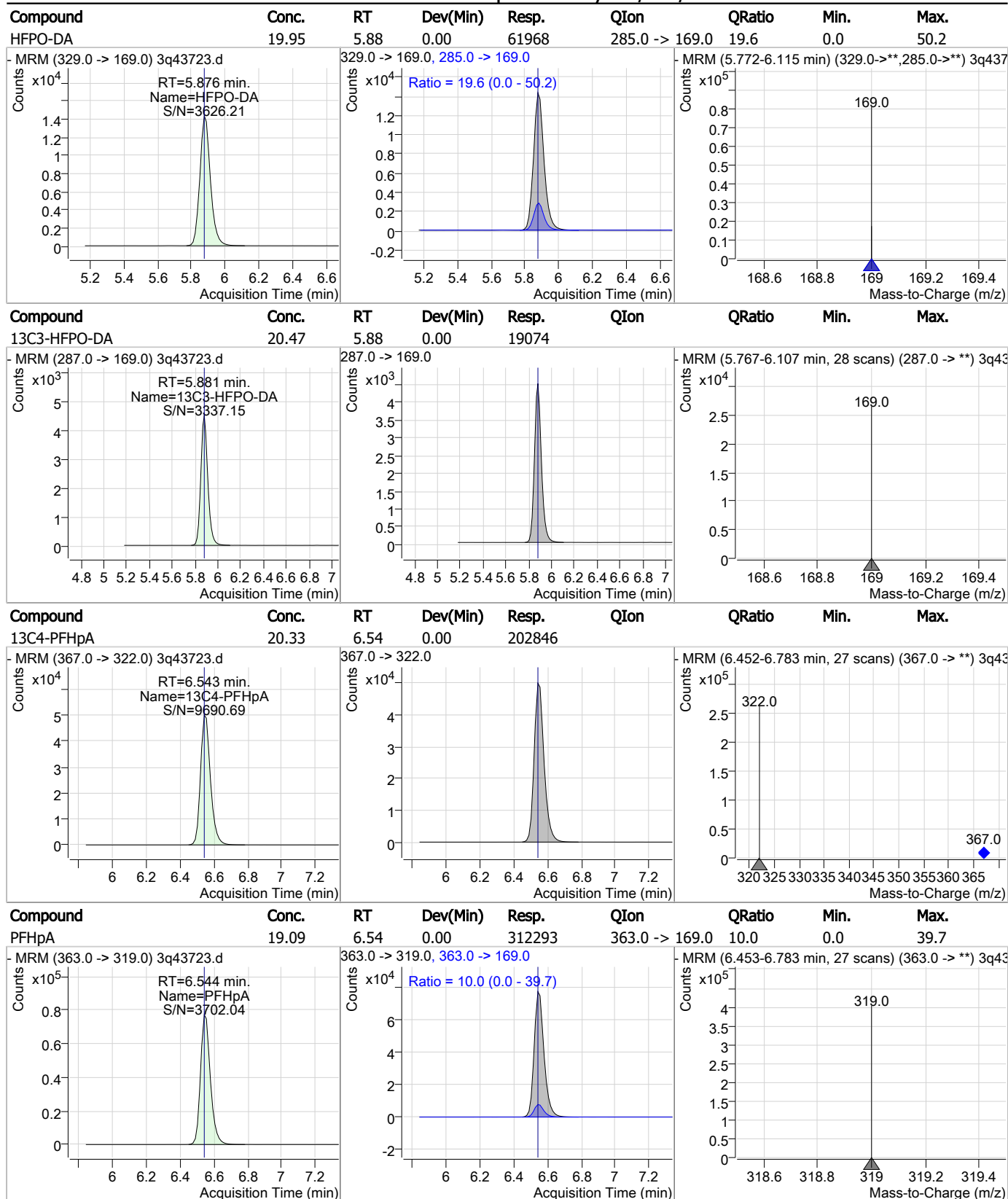


Perfluorinated Compounds by LC/MS/MS

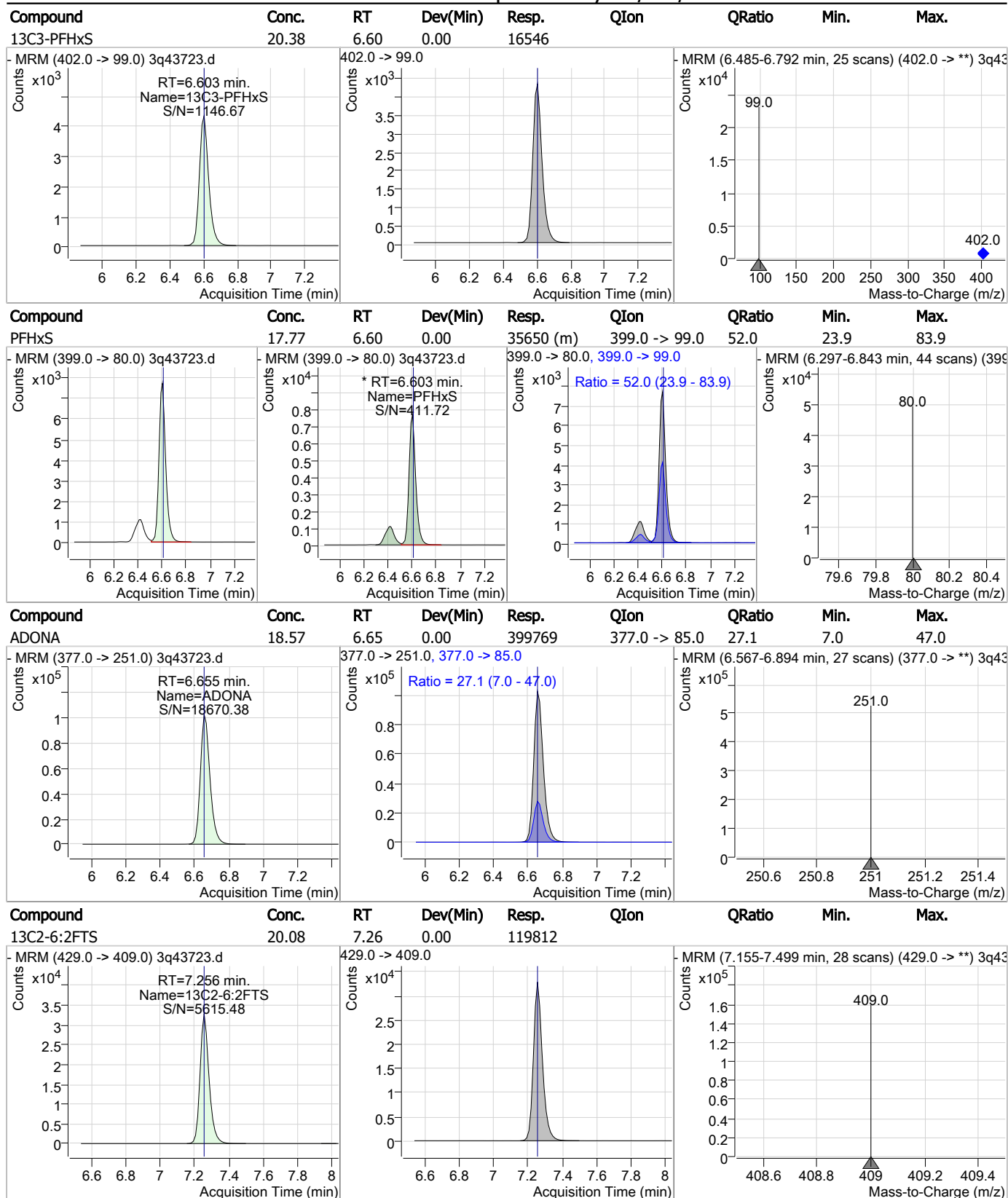


10.5.10 10

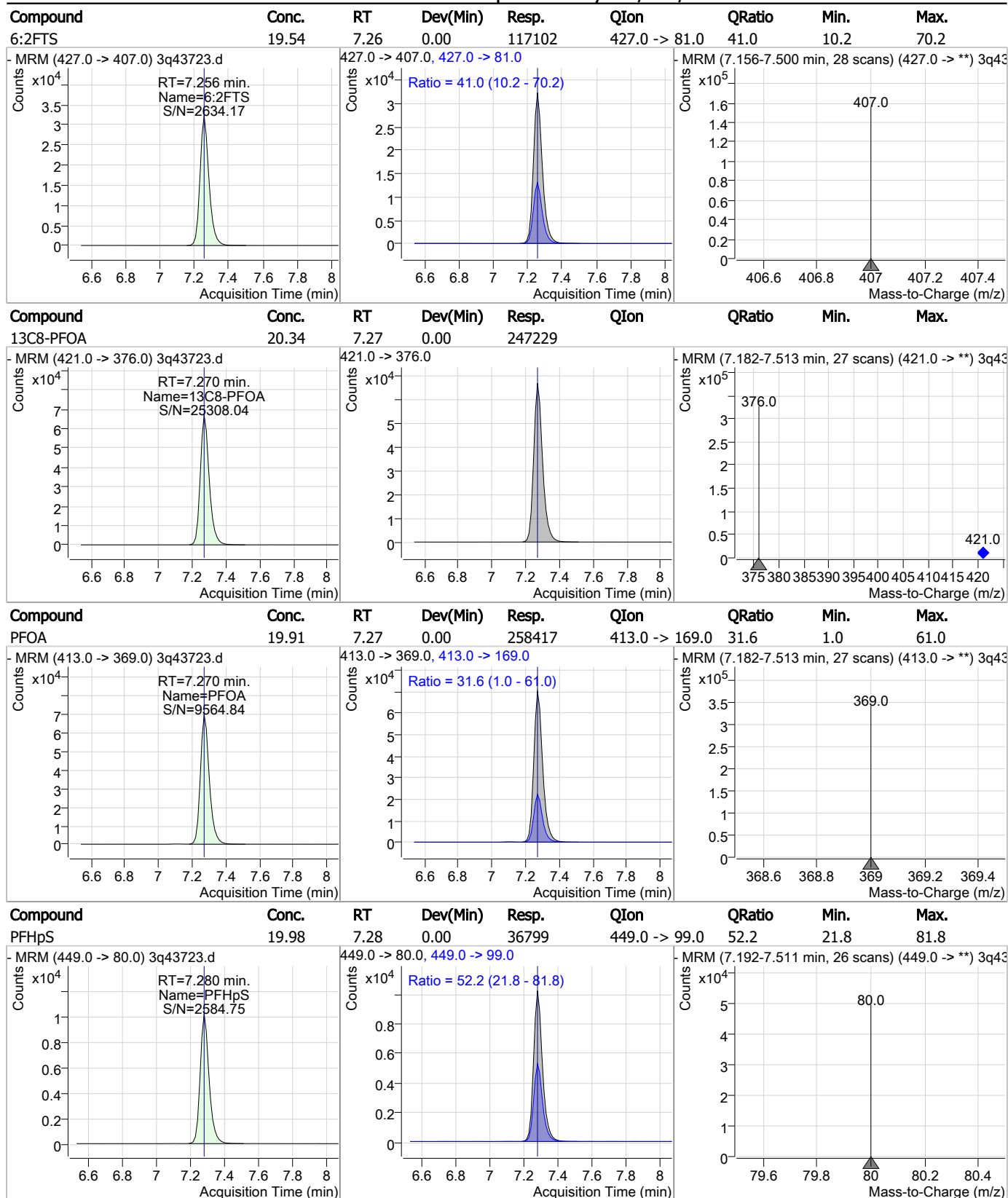
Perfluorinated Compounds by LC/MS/MS



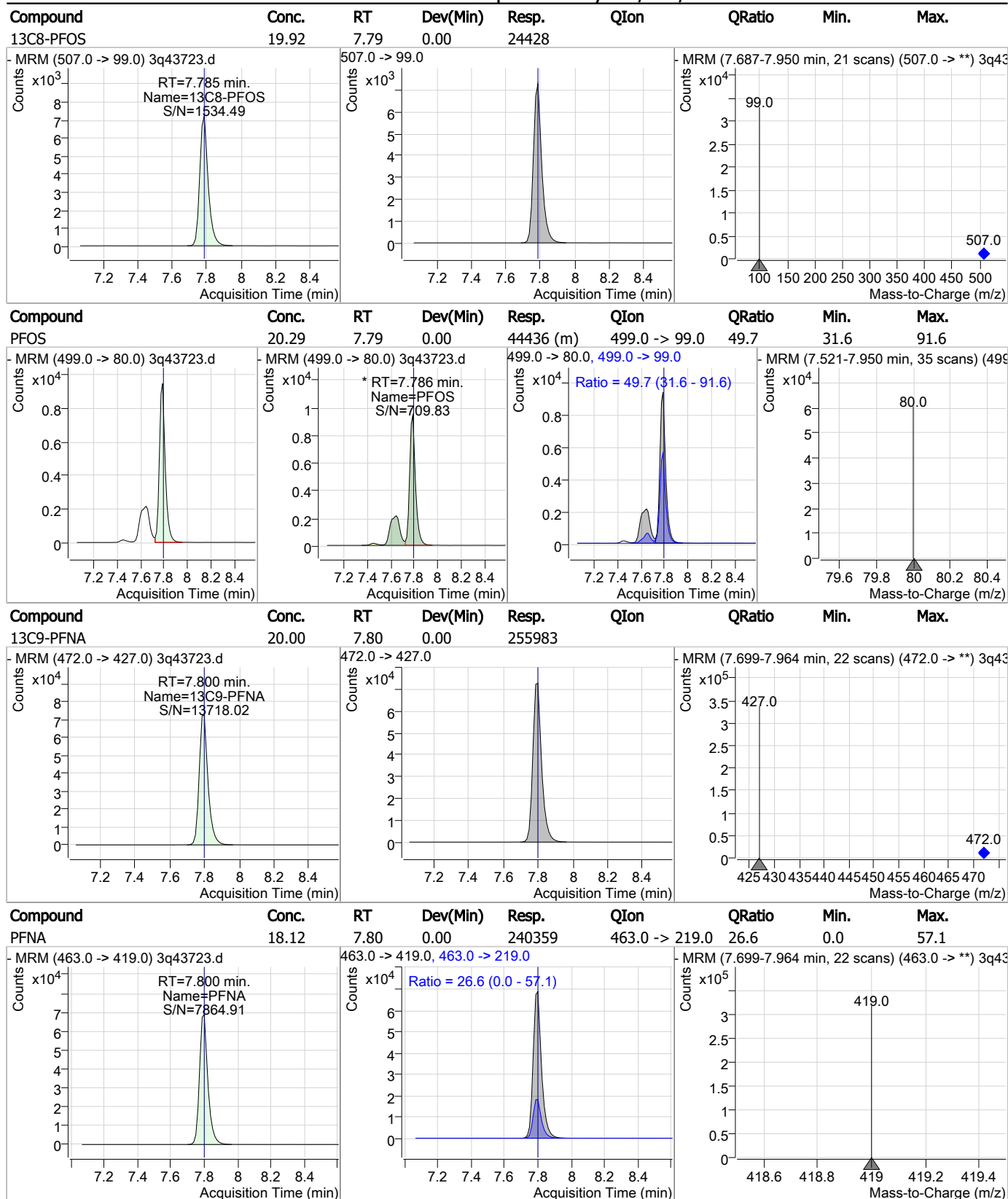
Perfluorinated Compounds by LC/MS/MS



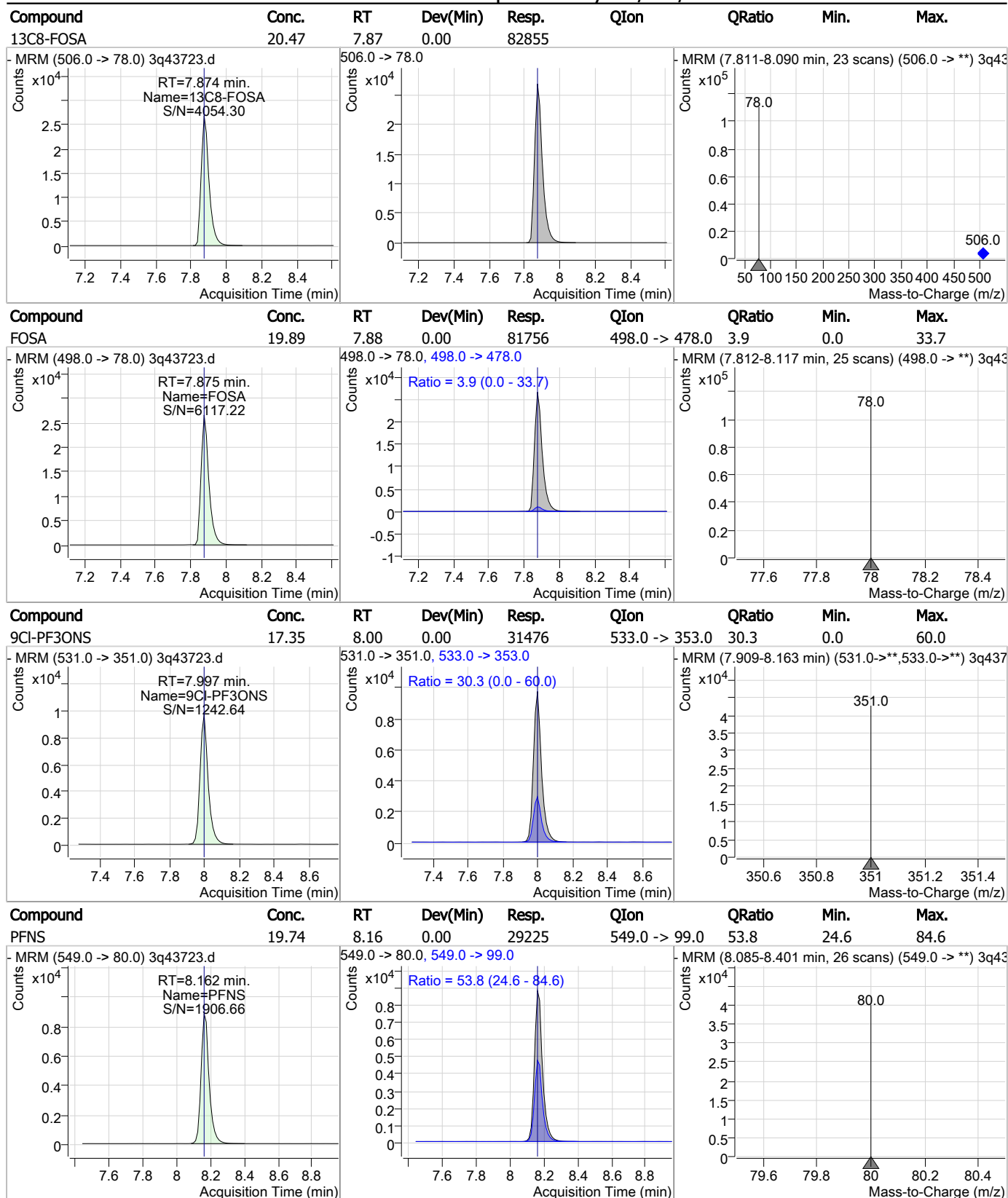
Perfluorinated Compounds by LC/MS/MS



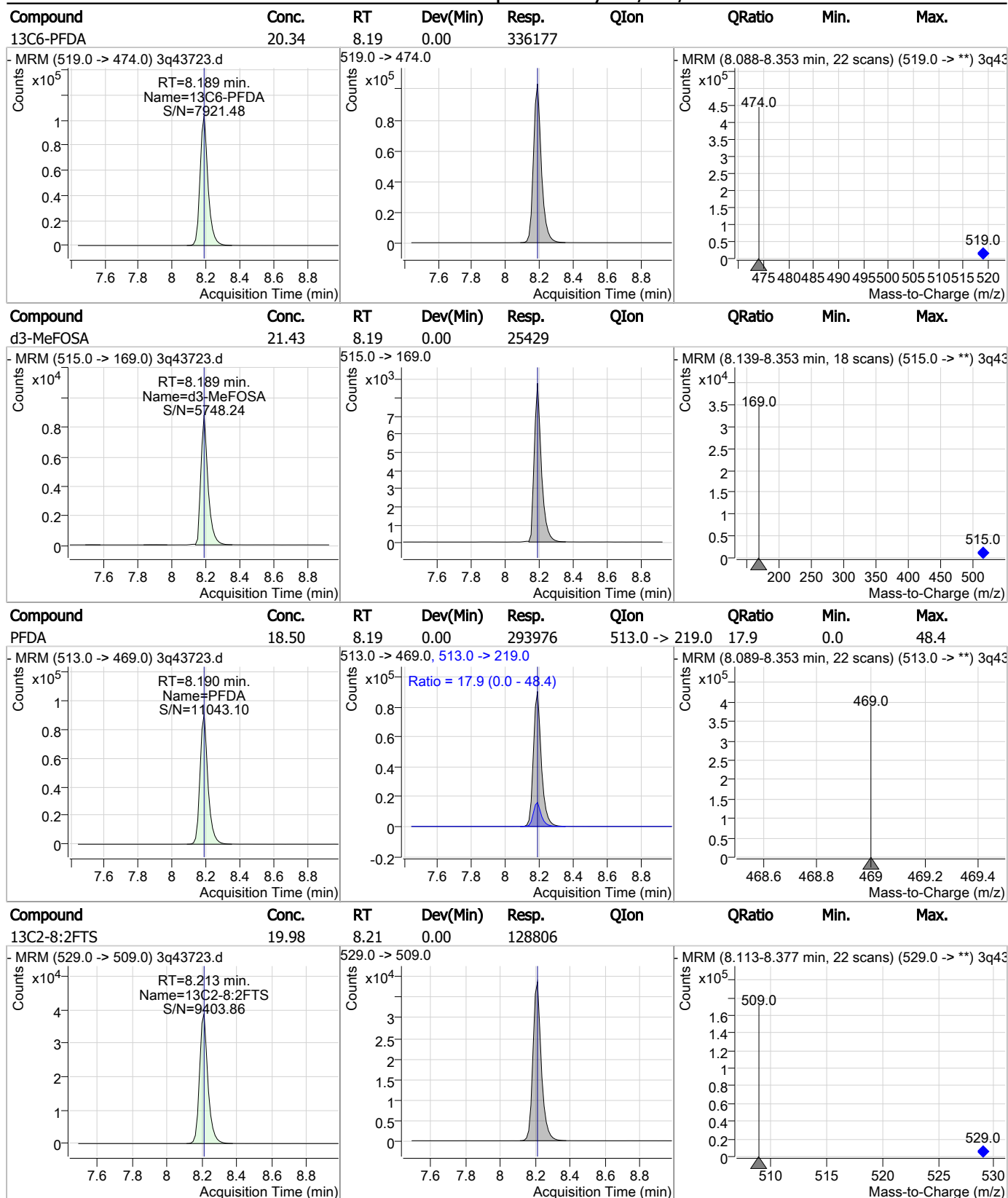
Perfluorinated Compounds by LC/MS/MS



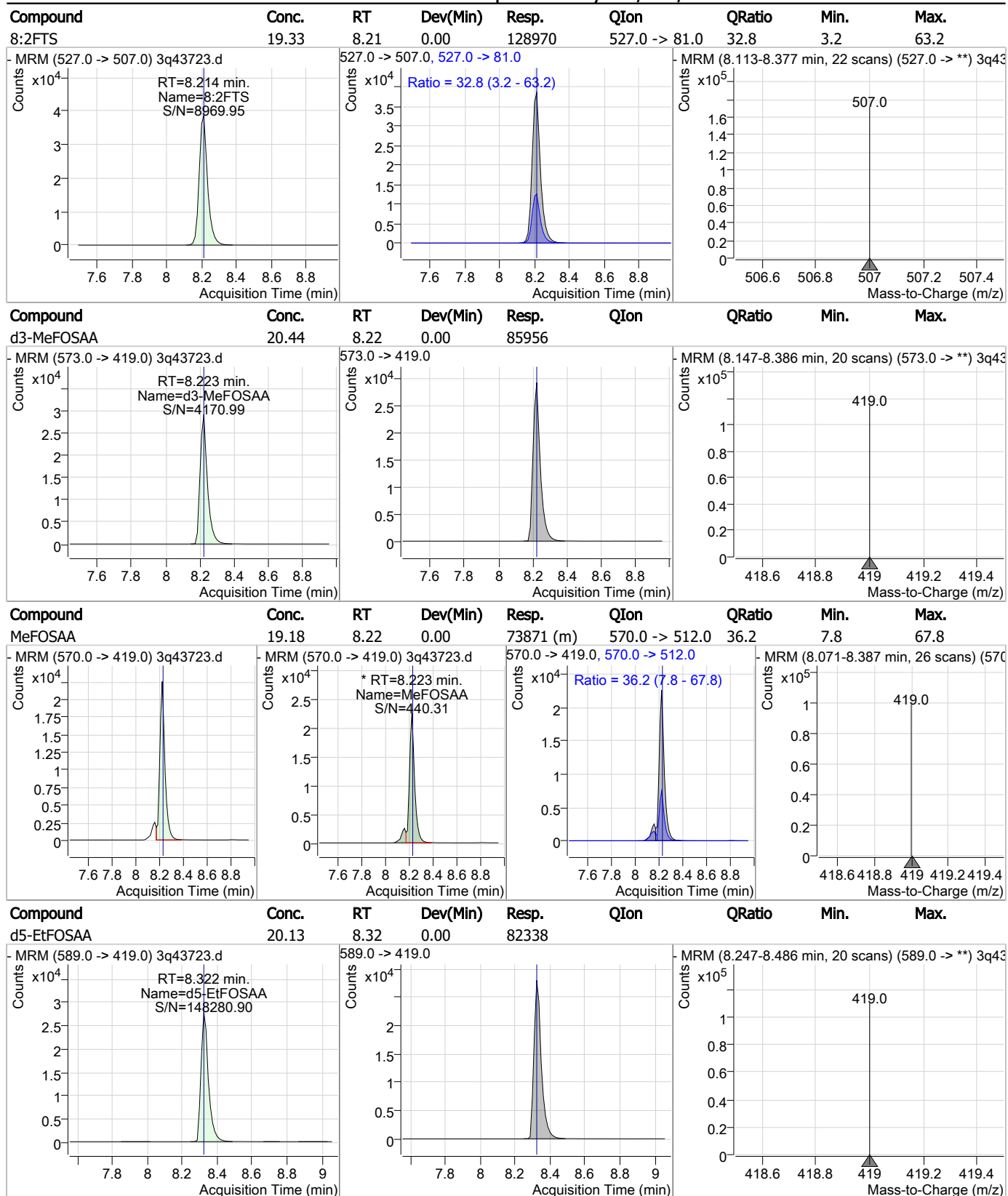
Perfluorinated Compounds by LC/MS/MS



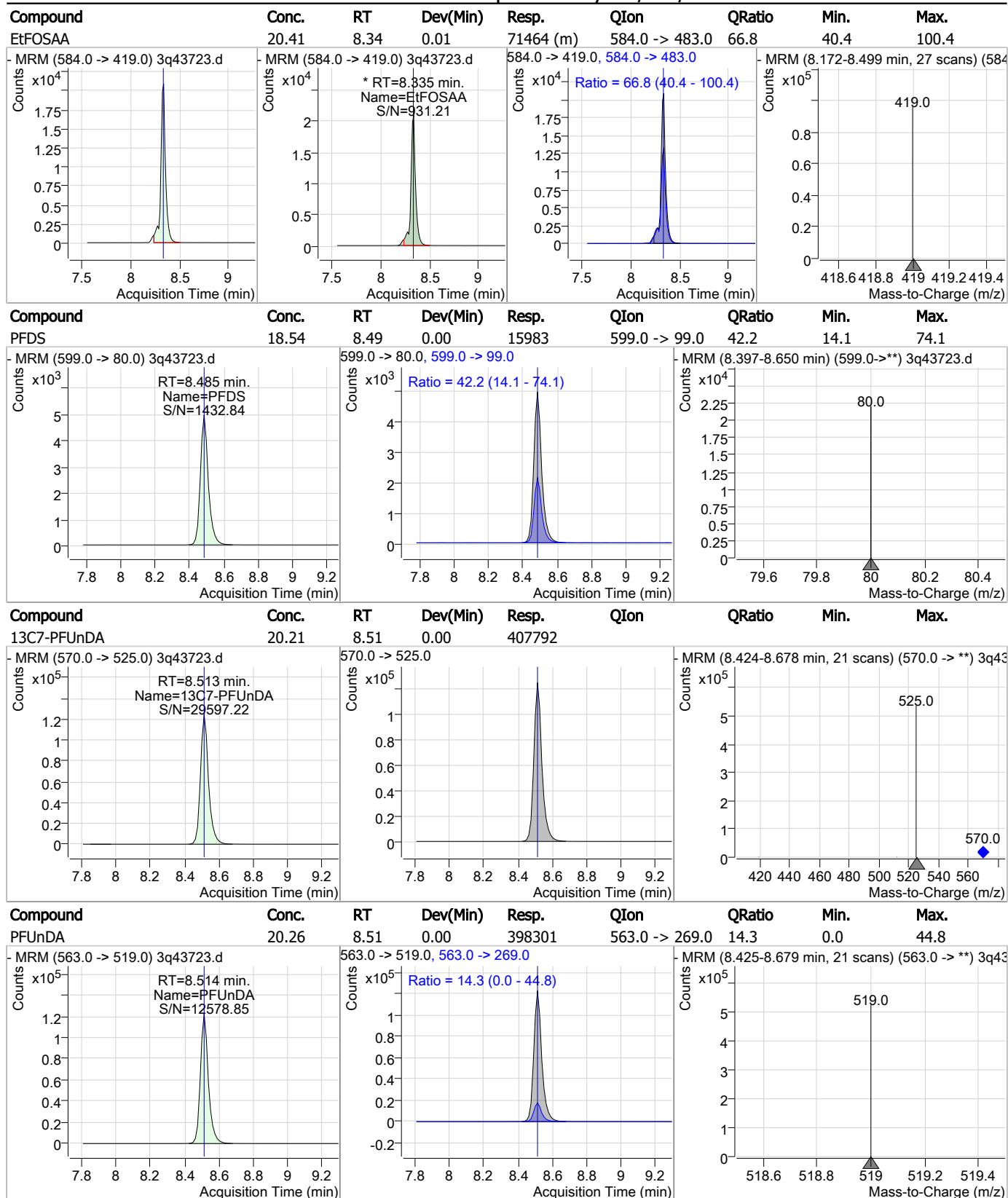
Perfluorinated Compounds by LC/MS/MS



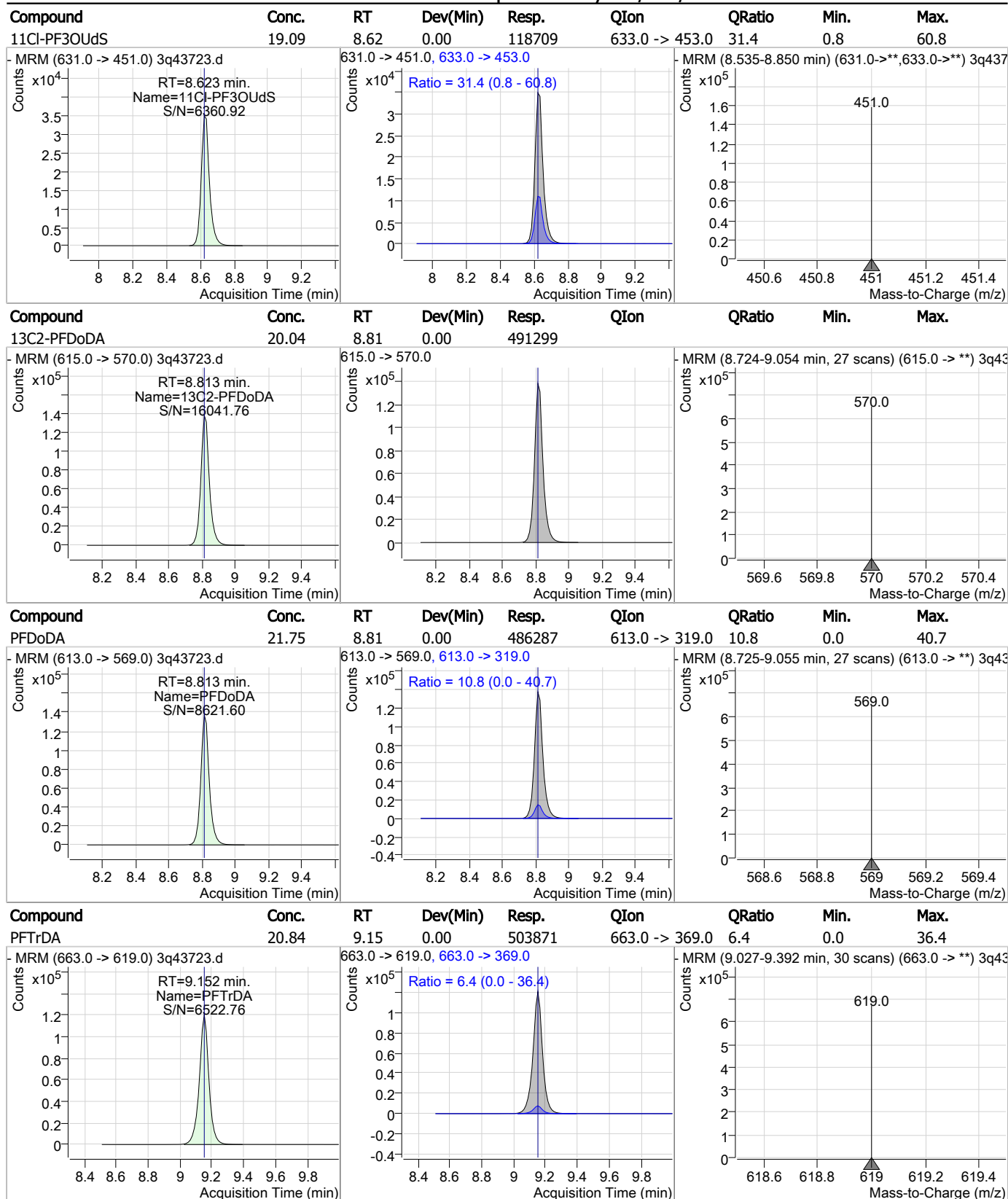
Perfluorinated Compounds by LC/MS/MS



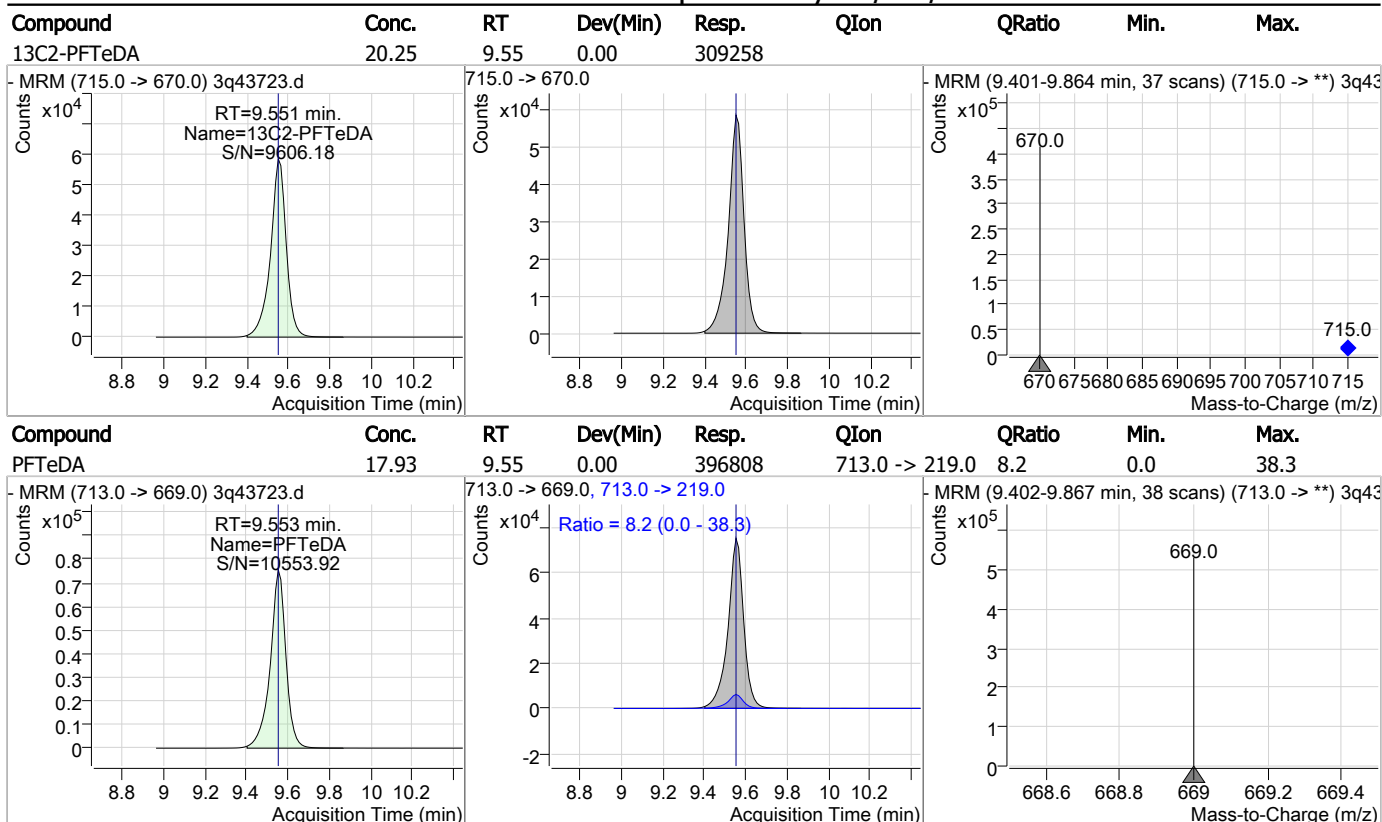
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number:

S3Q637-ICV637

Lab FileID:

3Q43723.D

Injection Time:

08/27/21 23:20

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

08/28/21 11:11 Martha Valls

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.10.1
10

Mike Eger
08/28/21 17:25

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43724.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/27/2021 11:37:03 PM
 Sample Name : icv637-20 T-pfoa
 Vial : P1-B2
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q637.batch.bin
 Sample Information : op86590,S3Q637,250,,,1,1,water

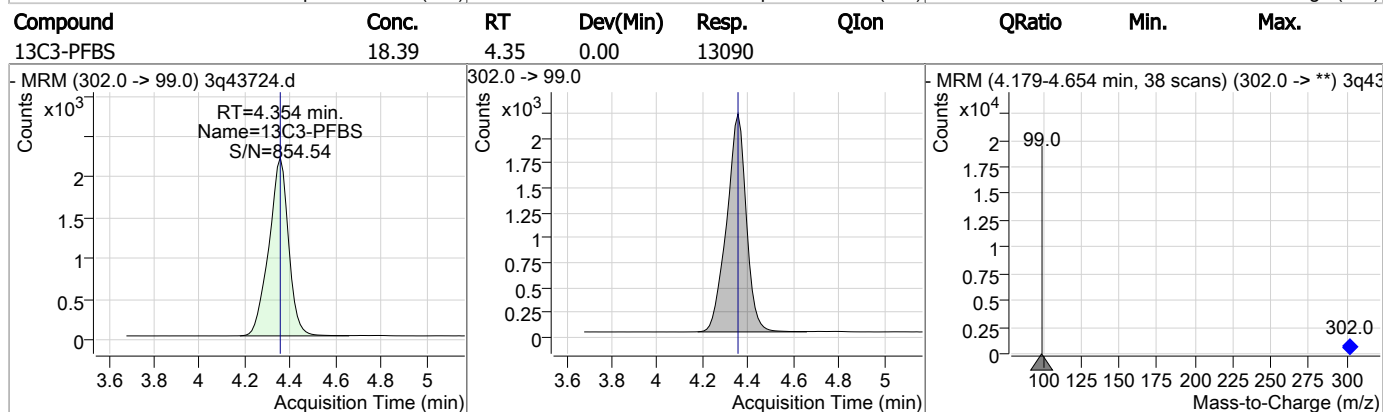
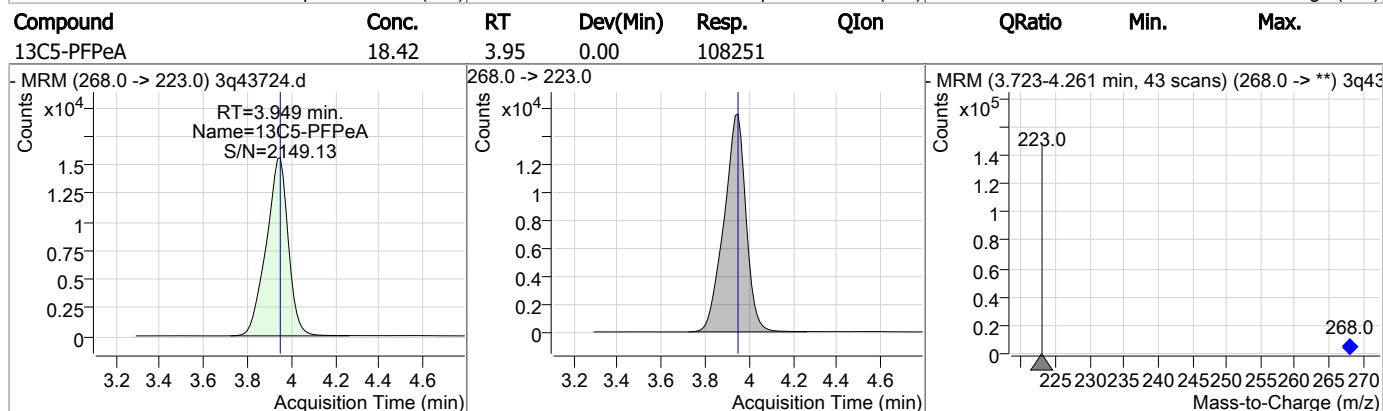
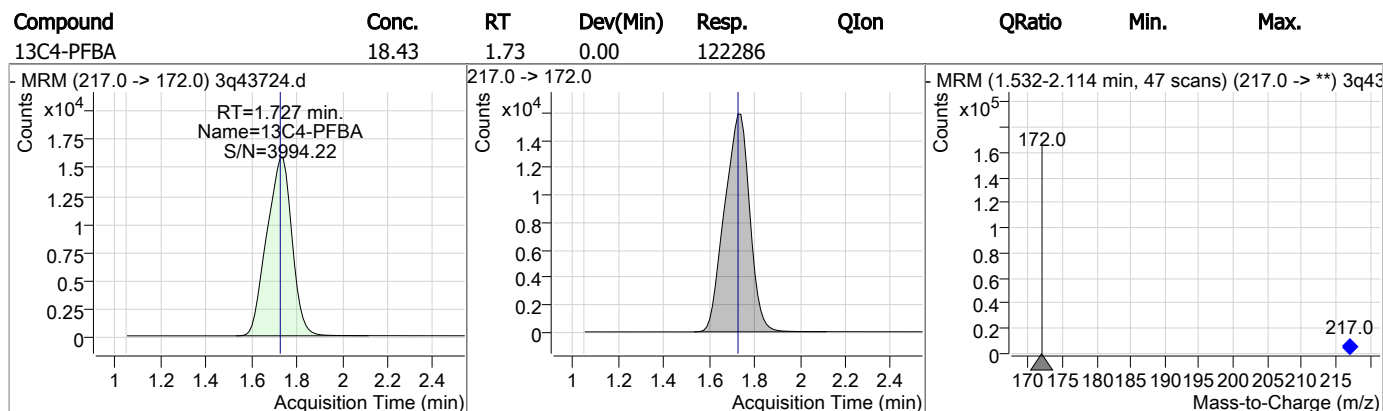
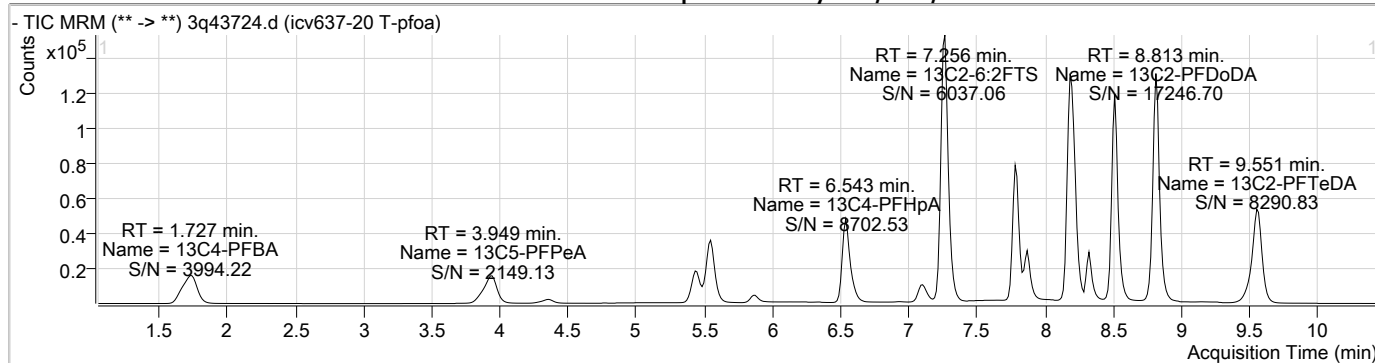
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	122286	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	108251	20.00 µg/L	0.000
M5-PFHxA	5.551	318.0 -> 273.0	156123	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	182875	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	227794	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	241883	20.00 µg/L	-0.013
M6-PFDA	8.189	519.0 -> 474.0	312211	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	381253	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	447772	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	279917	20.00 µg/L	0.000
M8-FOSA	7.874	506.0 -> 78.0	77941	20.00 µg/L	0.000
M3-PFBS	4.354	302.0 -> 99.0	13090	20.00 µg/L	0.000
M3-PFHxS	6.590	402.0 -> 99.0	15057	20.00 µg/L	-0.013
M8-PFOS	7.785	507.0 -> 99.0	22584	20.00 µg/L	0.000
M2-4:2FTS	5.434	329.0 -> 309.0	82560	20.00 µg/L	-0.013
M2-6:2FTS	7.256	429.0 -> 409.0	106084	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	116020	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	78771	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	17390	20.00 µg/L	-0.013
M3-MeFOSA	8.189	515.0 -> 169.0	23242	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	75727	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.434	329.0 -> 309.0	82560	17.24 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 86.2%		
13C2-6:2FTS	7.256	429.0 -> 409.0	106084	17.78 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 88.9%		
13C2-8:2FTS	8.213	529.0 -> 509.0	116020	18.00 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 90.0%		
13C2-PFDoDA	8.813	615.0 -> 570.0	447772	18.27 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 91.3%		
13C2-PFTeDA	9.551	715.0 -> 670.0	279917	18.33 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 91.6%		
13C3-PFBS	4.354	302.0 -> 99.0	13090	18.39 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 91.9%		
13C3-PFHxS	6.590	402.0 -> 99.0	15057	18.54 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 92.7%		
13C4-PFBA	1.727	217.0 -> 172.0	122286	18.43 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 92.1%		
13C4-PFHpA	6.543	367.0 -> 322.0	182875	18.33 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 91.6%		
13C5-PFHxA	5.551	318.0 -> 273.0	156123	18.51 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 92.6%		
13C5-PFPeA	3.949	268.0 -> 223.0	108251	18.42 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 92.1%		
13C6-PFDA	8.189	519.0 -> 474.0	312211	18.89 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

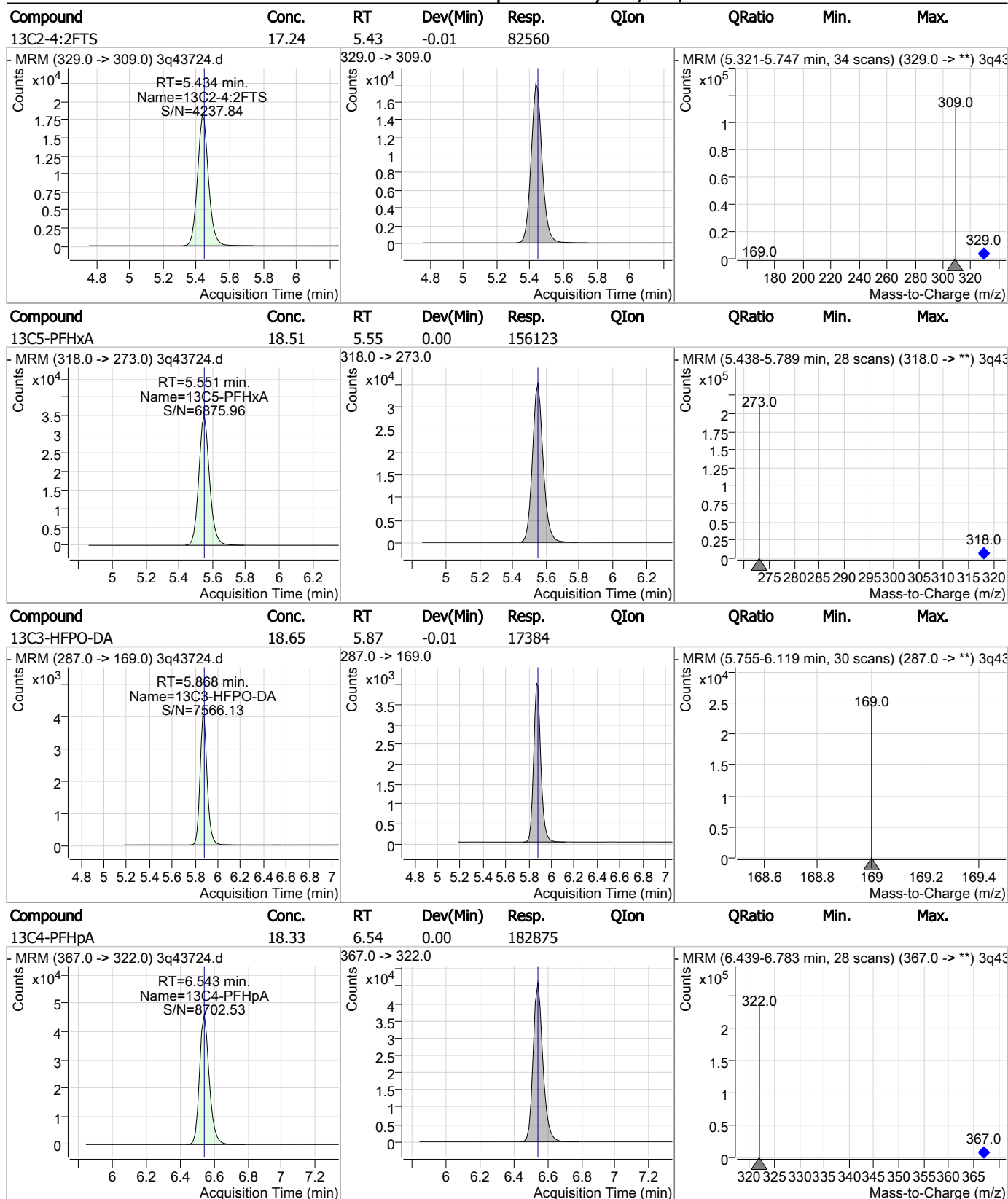
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.5%		
13C7-PFUnDA	8.513	570.0 -> 525.0	381253	18.90	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.5%		
13C8-FOSA	7.874	506.0 -> 78.0	77941	19.26	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.3%		
13C8-PFOA	7.270	421.0 -> 376.0	227794	18.74	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.7%		
13C8-PFOS	7.785	507.0 -> 99.0	22584	18.42	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.1%		
13C9-PFNA	7.787	472.0 -> 427.0	241883	18.90	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.5%		
d3-MeFOSAA	8.223	573.0 -> 419.0	78771	18.73	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.7%		
13C3-HFPO-DA	5.868	287.0 -> 169.0	17384	18.65	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.3%		
d3-MeFOSA	8.189	515.0 -> 169.0	23242	19.59	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.9%		
d5-EtFOSAA	8.322	589.0 -> 419.0	75656	18.50	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.5%		
Target Compounds						QValue
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	6.544	363.0 -> 319.0	0	0.00	µg/L m	1
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	7.270	413.0 -> 369.0	219329	18.34	µg/L m	95
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		
MeFOSA	-	512.0 -> 169.0	-	N.D.		

= Qualifier out of range, m = manually integrated, + = Area summed

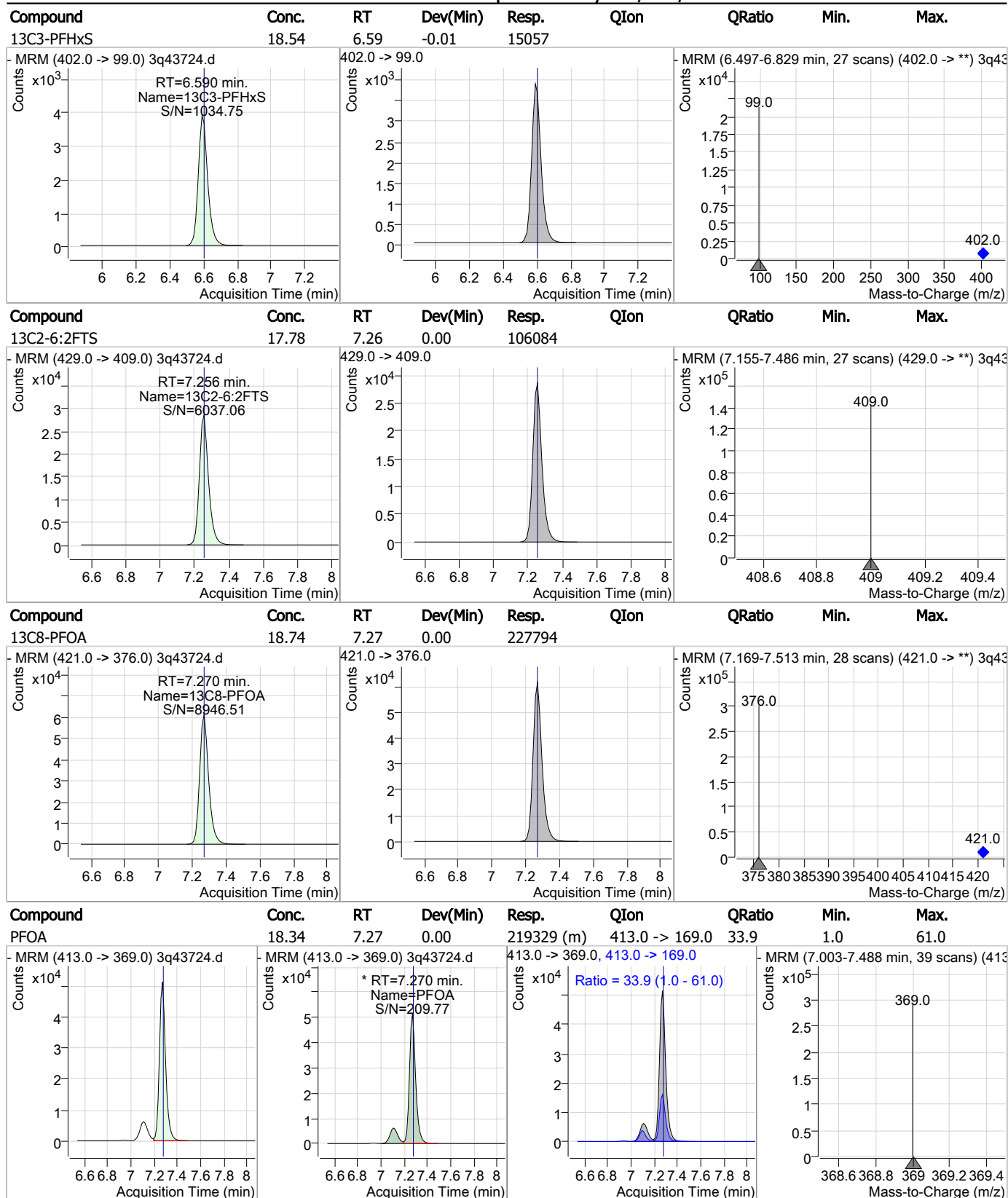
Perfluorinated Compounds by LC/MS/MS



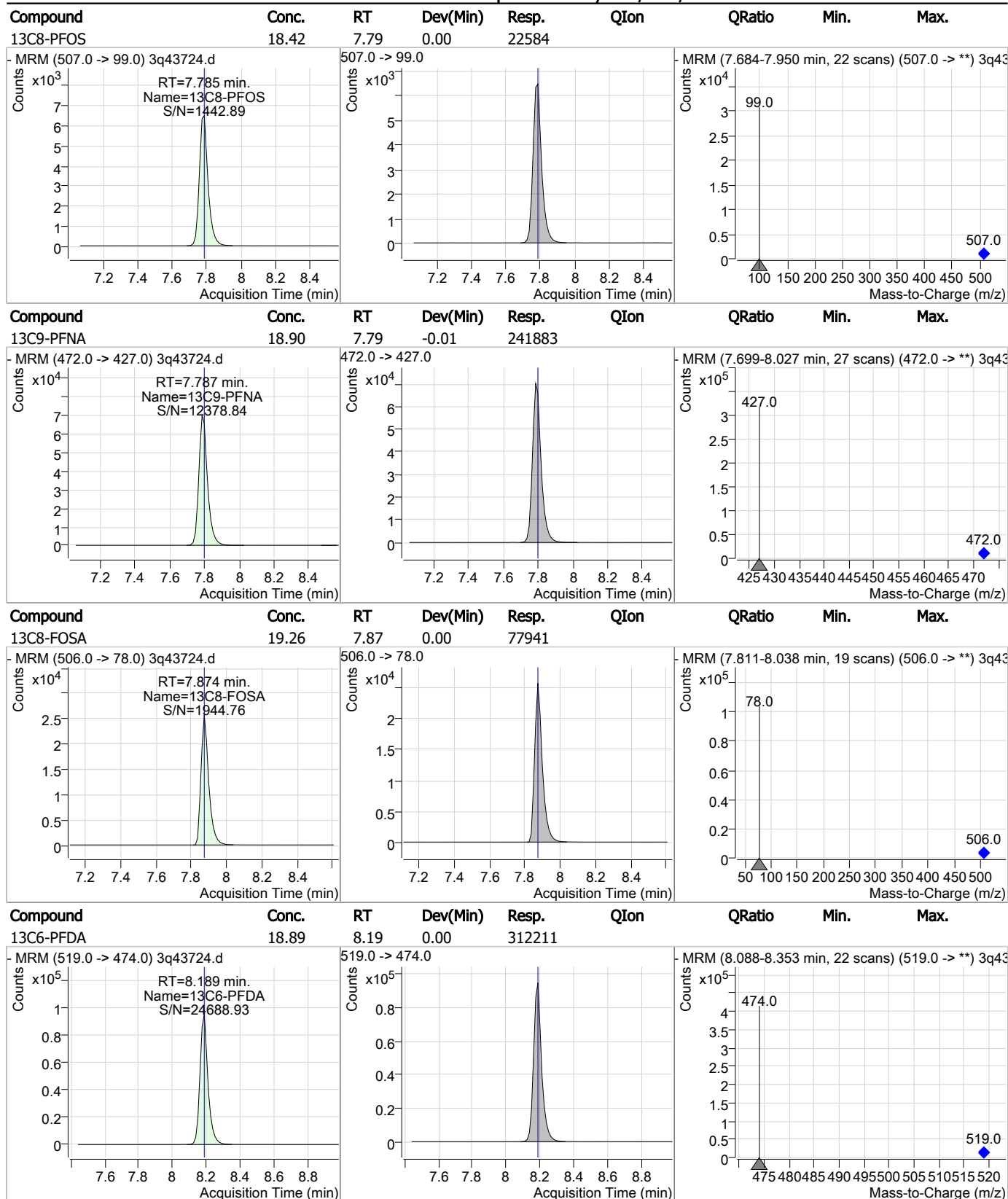
Perfluorinated Compounds by LC/MS/MS



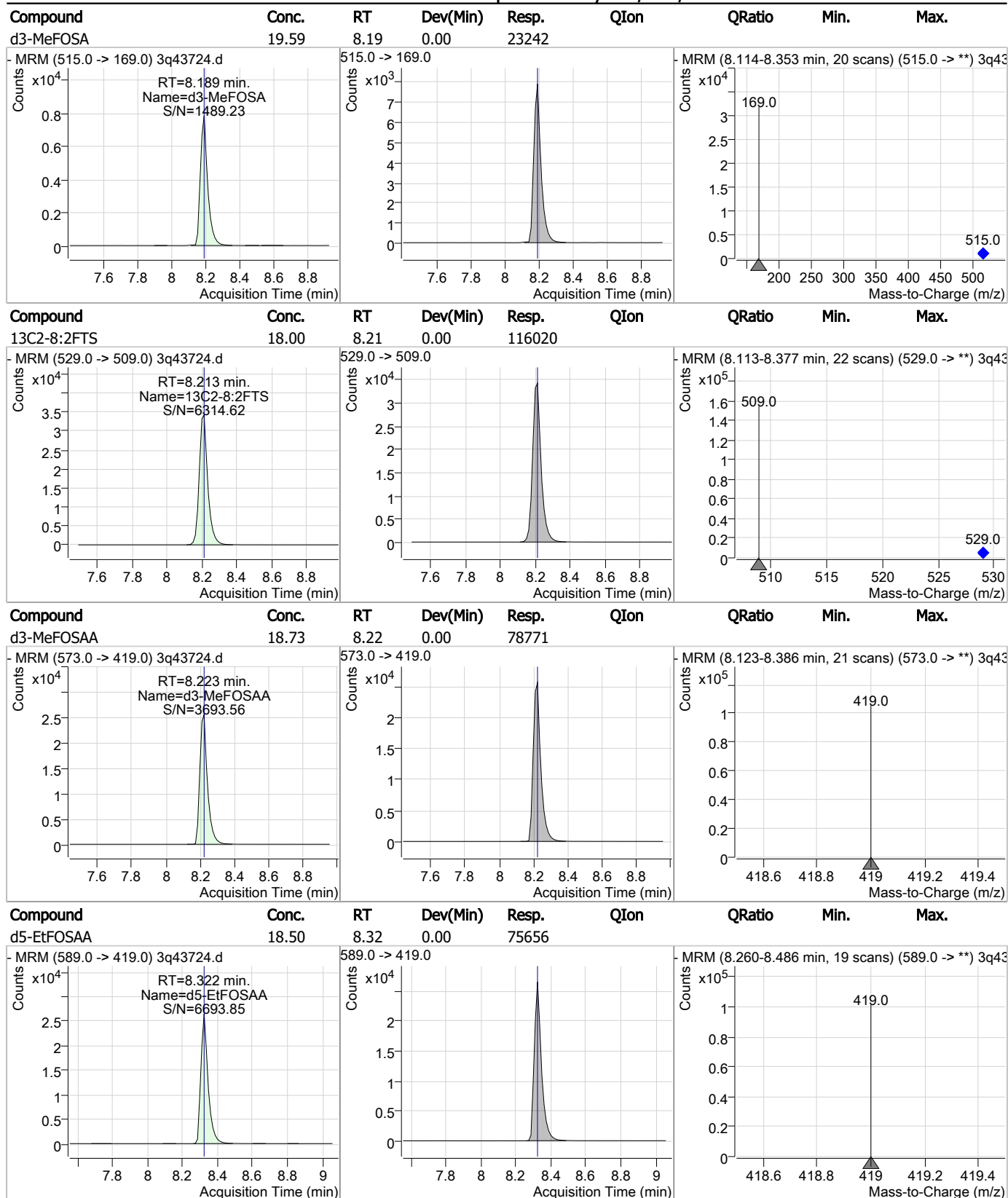
Perfluorinated Compounds by LC/MS/MS



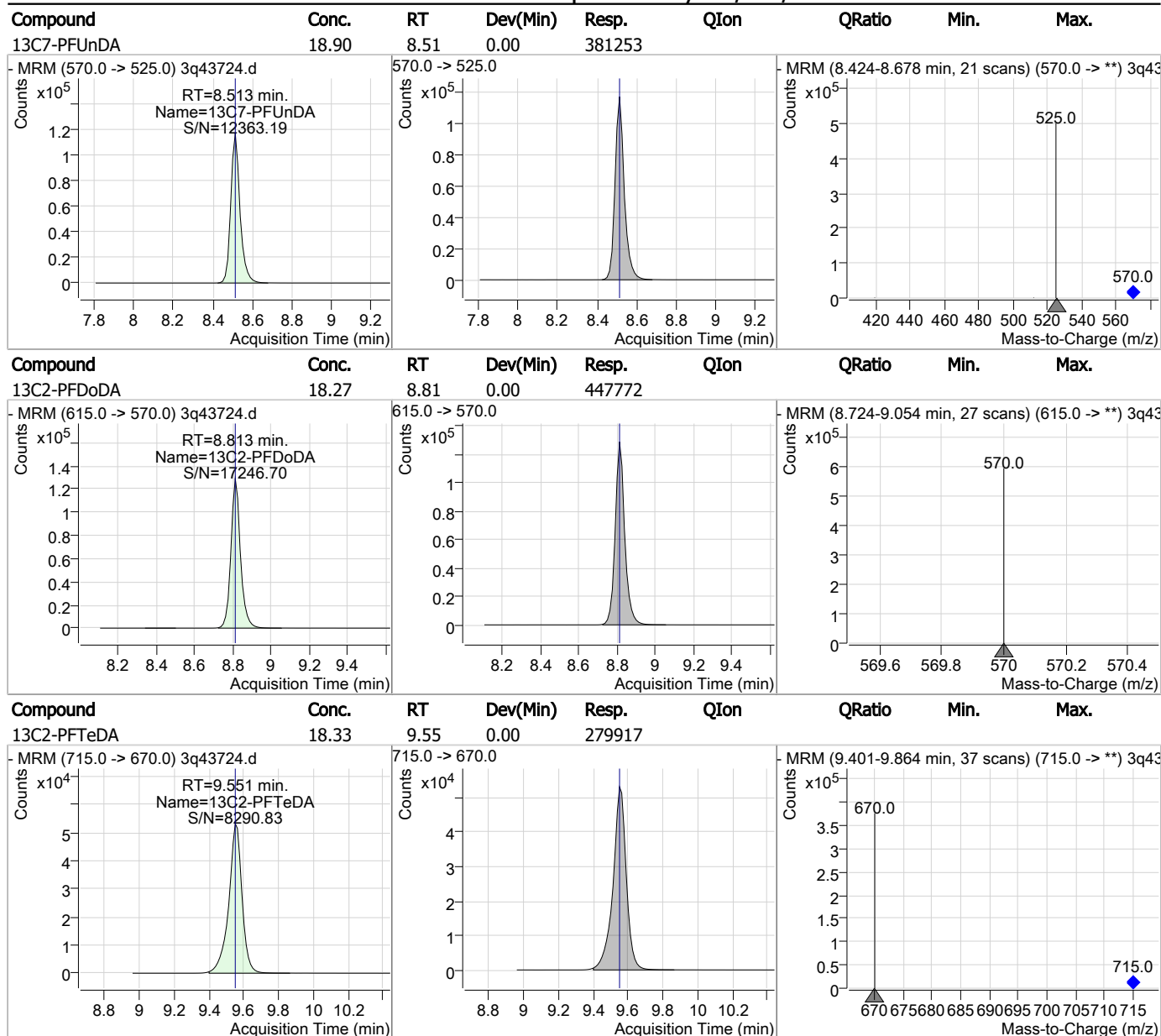
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.5.11 10

Manual Integration Approval Summary

Sample Number:

S3Q637-ICV637

Method:

EPA 537M QSM5.3 B-15

Lab FileID:

3Q43724.D

Analyst approved:

08/28/21 11:11 Martha Valls

Injection Time:

08/27/21 23:37

Supervisor approved:

08/28/21 17:25 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.27	Split peak

10.5.11.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43975.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/31/2021 3:14:48 PM
 Sample Name : cc637-1.0LL
 Vial : P1-A3
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86590,S3Q638,250,,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	135975	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	121037	20.00 µg/L	0.000
M5-PFHxA	5.551	318.0 -> 273.0	174690	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	205002	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	261200	20.00 µg/L	0.000
M9-PFNA	7.800	472.0 -> 427.0	270912	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	360976	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	430765	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	518844	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	327611	20.00 µg/L	0.013
M8-FOSA	7.874	506.0 -> 78.0	86507	20.00 µg/L	0.000
M3-PFBS	4.354	302.0 -> 99.0	14970	20.00 µg/L	0.000
M3-PFHxS	6.603	402.0 -> 99.0	17212	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	25868	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	93095	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	124084	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	134228	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	64248	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	18493	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	28156	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	57880	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	93095	19.44 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C2-6:2FTS	7.256	429.0 -> 409.0	124084	20.79 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.0%	
13C2-8:2FTS	8.213	529.0 -> 509.0	134228	20.82 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C2-PFDoDA	8.813	615.0 -> 570.0	518844	21.17 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C2-PFTeDA	9.564	715.0 -> 670.0	327611	21.45 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C3-PFBS	4.354	302.0 -> 99.0	14970	21.03 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C3-PFHxS	6.603	402.0 -> 99.0	17212	21.20 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.0%	
13C4-PFBA	1.727	217.0 -> 172.0	135975	20.49 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C4-PFHpA	6.543	367.0 -> 322.0	205002	20.54 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C5-PFHxA	5.551	318.0 -> 273.0	174690	20.71 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.6%	
13C5-PFPeA	3.949	268.0 -> 223.0	121037	20.59 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C6-PFDA	8.189	519.0 -> 474.0	360976	21.84 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

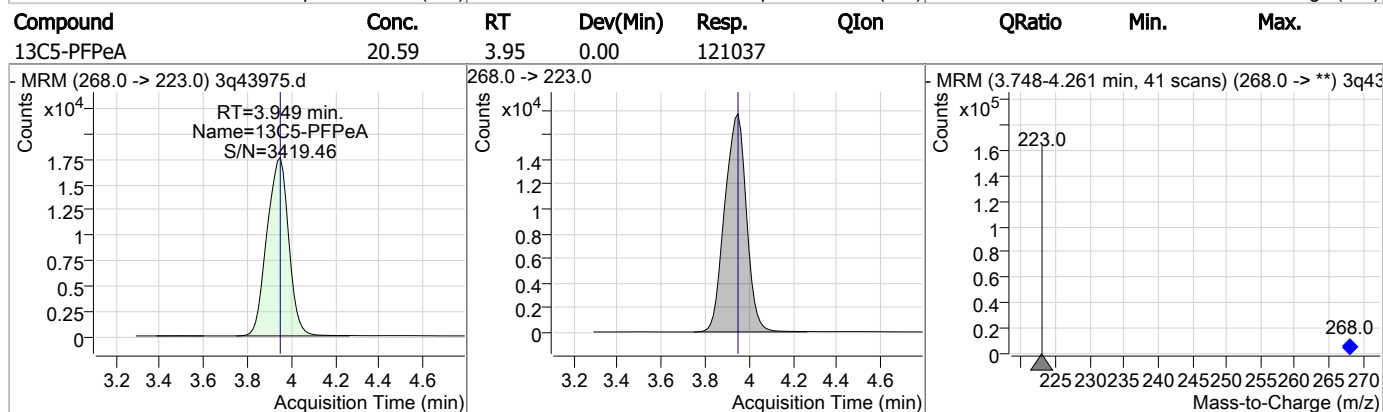
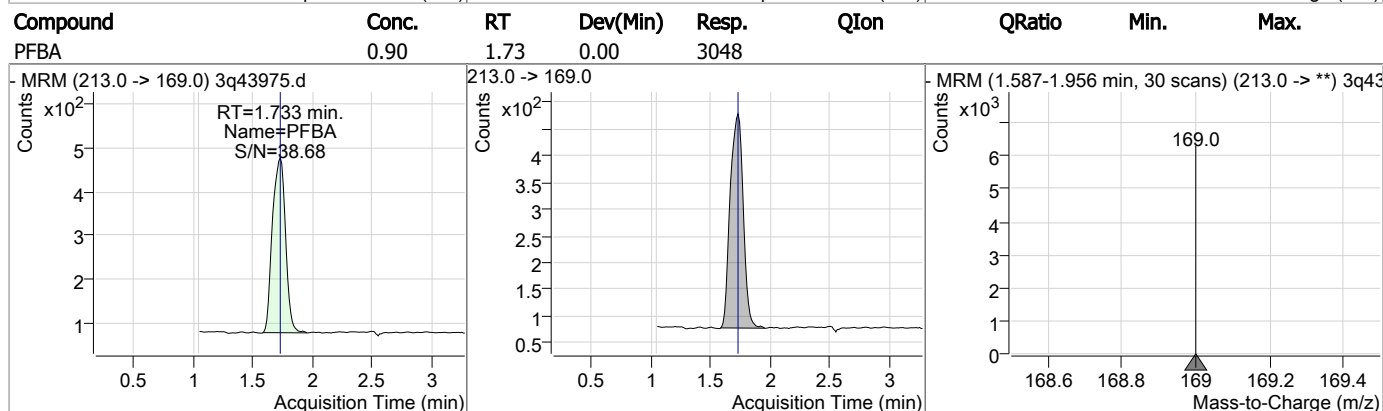
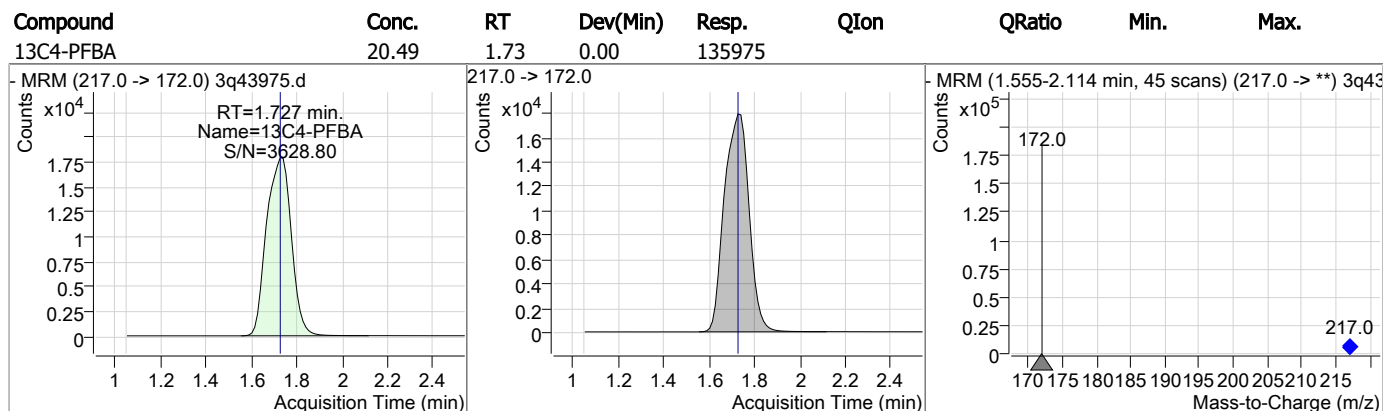
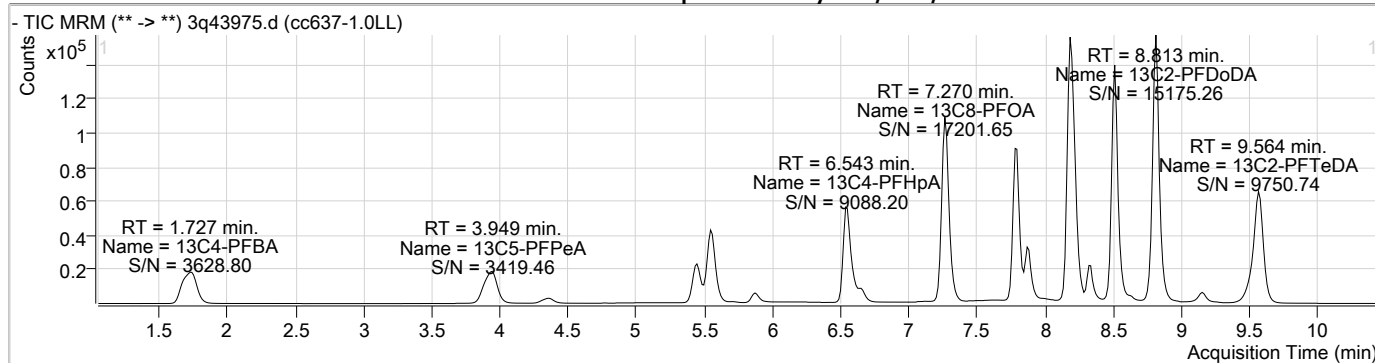
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.2%	
13C7-PFUnDA	8.513	570.0 -> 525.0	430765	21.35 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C8-FOSA	7.874	506.0 -> 78.0	86507	21.37 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C8-PFOA	7.270	421.0 -> 376.0	261200	21.49 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.5%	
13C8-PFOS	7.785	507.0 -> 99.0	25868	21.09 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.5%	
13C9-PFNA	7.800	472.0 -> 427.0	270912	21.16 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
d3-MeFOSAA	8.223	573.0 -> 419.0	64248	15.28 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 76.4%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	18490	19.84 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
d3-MeFOSA	8.189	515.0 -> 169.0	28156	23.73 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 118.7%	
d5-EtFOSAA	8.322	589.0 -> 419.0	57846	14.14 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 70.7%	

Target Compounds

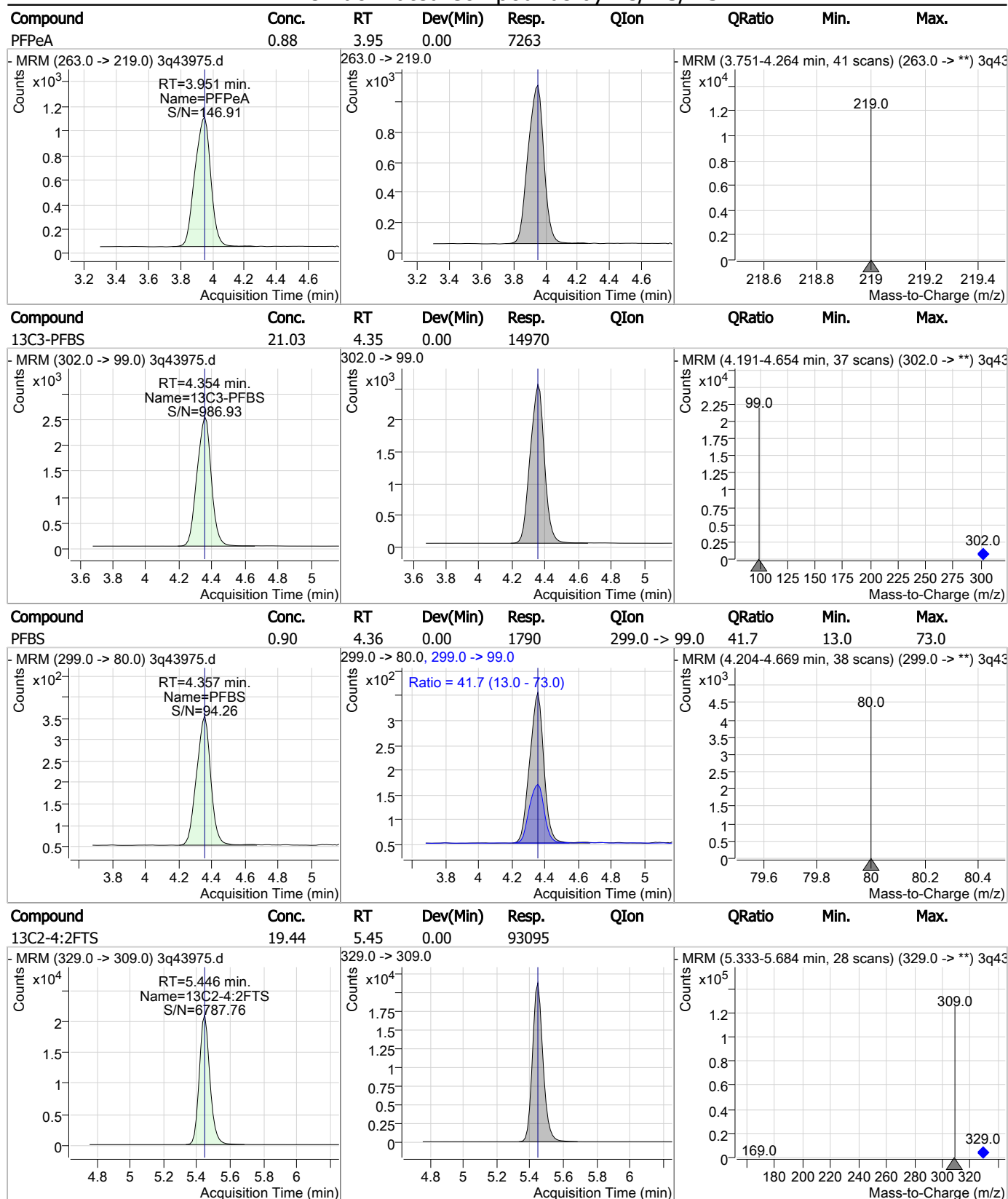
Compound	RT	QIon	Resp.	Conc. Units	QValue
4:2FTS	5.448	327.0 -> 307.0	5049	0.97 µg/L	93
6:2FTS	7.256	427.0 -> 407.0	5828	0.94 µg/L	97
8:2FTS	8.214	527.0 -> 507.0	6694	0.96 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	2473	1.01 µg/L	m 90
FOSA	7.875	498.0 -> 78.0	3714	0.87 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	2607	0.91 µg/L	m 98
PFBA	1.733	213.0 -> 169.0	3048	0.90 µg/L	100
PFBS	4.357	299.0 -> 80.0	1790	0.90 µg/L	98
PFDA	8.190	513.0 -> 469.0	14559	0.85 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	20971	0.89 µg/L	99
PFDS	8.485	599.0 -> 80.0	861	0.95 µg/L	98
PFHpA	6.544	363.0 -> 319.0	14682	0.89 µg/L	99
PFHpS	7.280	449.0 -> 80.0	1909	0.98 µg/L	94
PFHxA	5.552	313.0 -> 269.0	6807	0.90 µg/L	99
PFHxS	6.603	399.0 -> 80.0	1829	0.88 µg/L	m 95
PFNA	7.800	463.0 -> 419.0	12068	0.86 µg/L	98
PFNS	8.162	549.0 -> 80.0	1516	0.97 µg/L	96
PFOA	7.270	413.0 -> 369.0	11831	0.86 µg/L	98
PFOS	7.786	499.0 -> 80.0	2163	0.93 µg/L	m 92
PFPeA	3.951	263.0 -> 219.0	7263	0.88 µg/L	100
PFPeS	5.707	349.0 -> 80.0	1341	0.92 µg/L	97
PFTeDA	9.565	713.0 -> 669.0	20553	0.88 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	22802	0.89 µg/L	99
PFUnDA	8.514	563.0 -> 519.0	18010	0.87 µg/L	99
11Cl-PF3OUdS	8.623	631.0 -> 451.0	5721	0.87 µg/L	100
9Cl-PF3ONS	7.997	531.0 -> 351.0	1382	0.71 µg/L	89
ADONA	6.655	377.0 -> 251.0	19051	0.85 µg/L	98
HFPO-DA	5.876	329.0 -> 169.0	2874	0.95 µg/L	99
MeFOSA	8.190	512.0 -> 169.0	1357	0.91 µg/L	89

= Qualifier out of range, m = manually integrated, + = Area summed

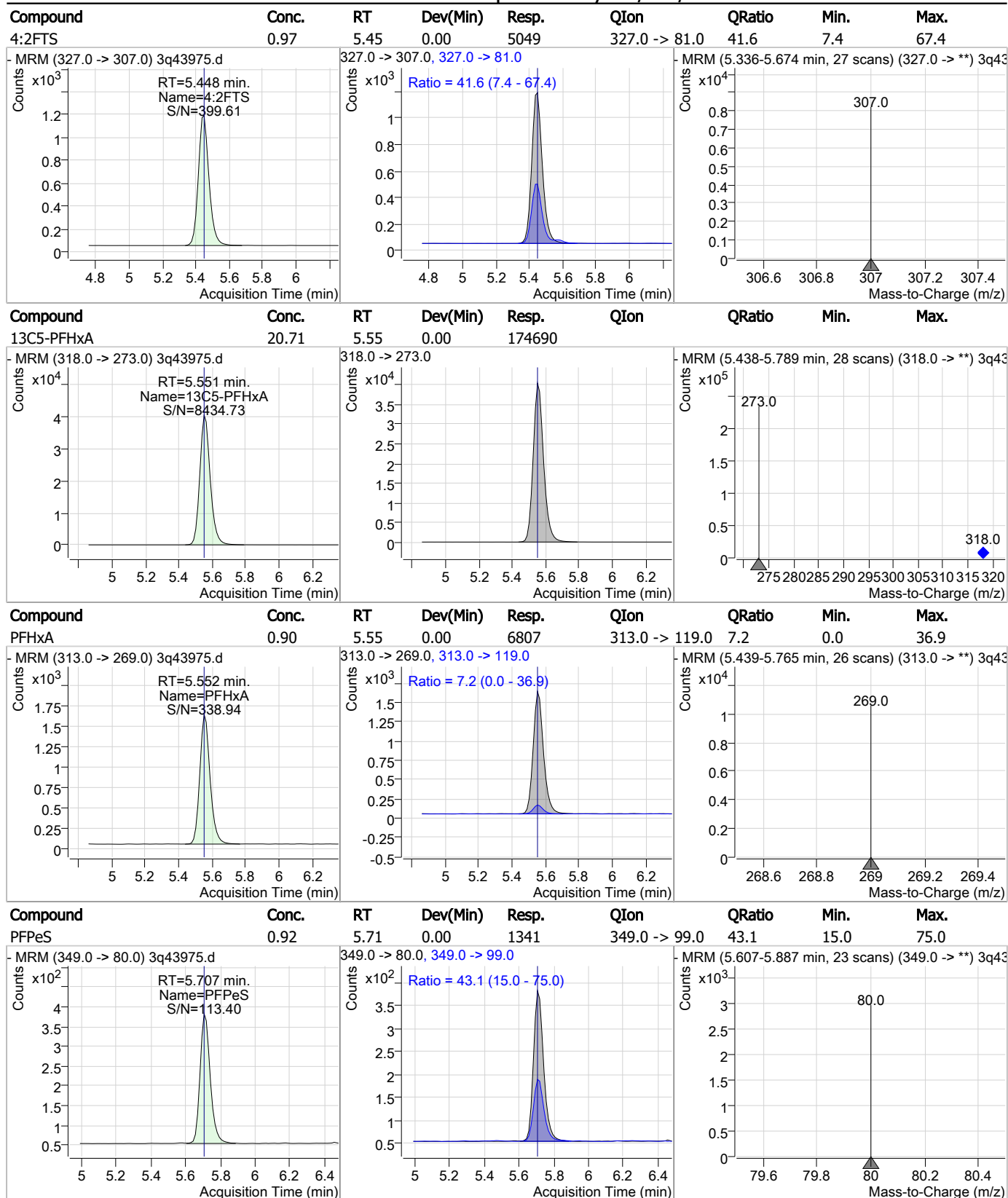
Perfluorinated Compounds by LC/MS/MS



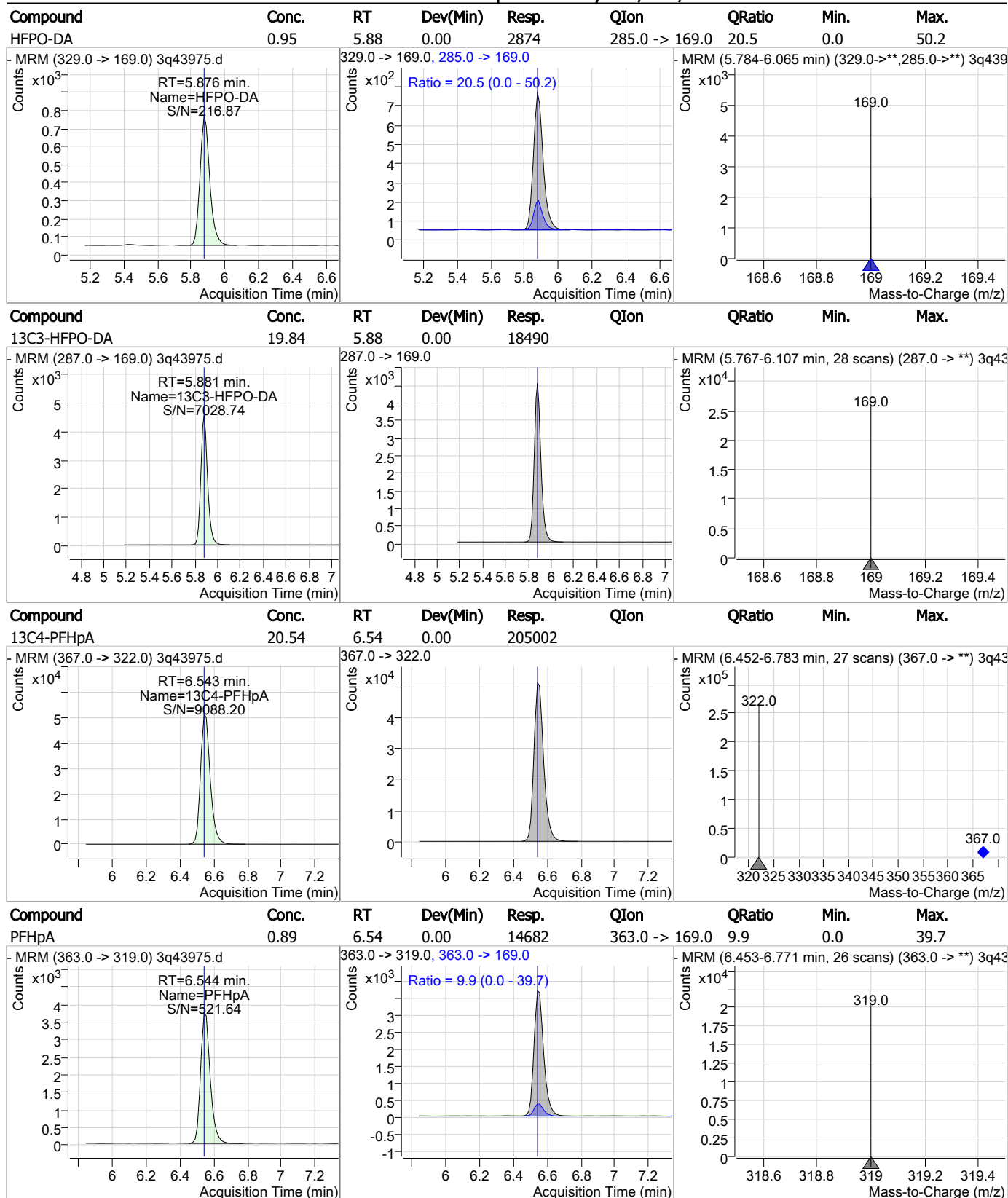
Perfluorinated Compounds by LC/MS/MS



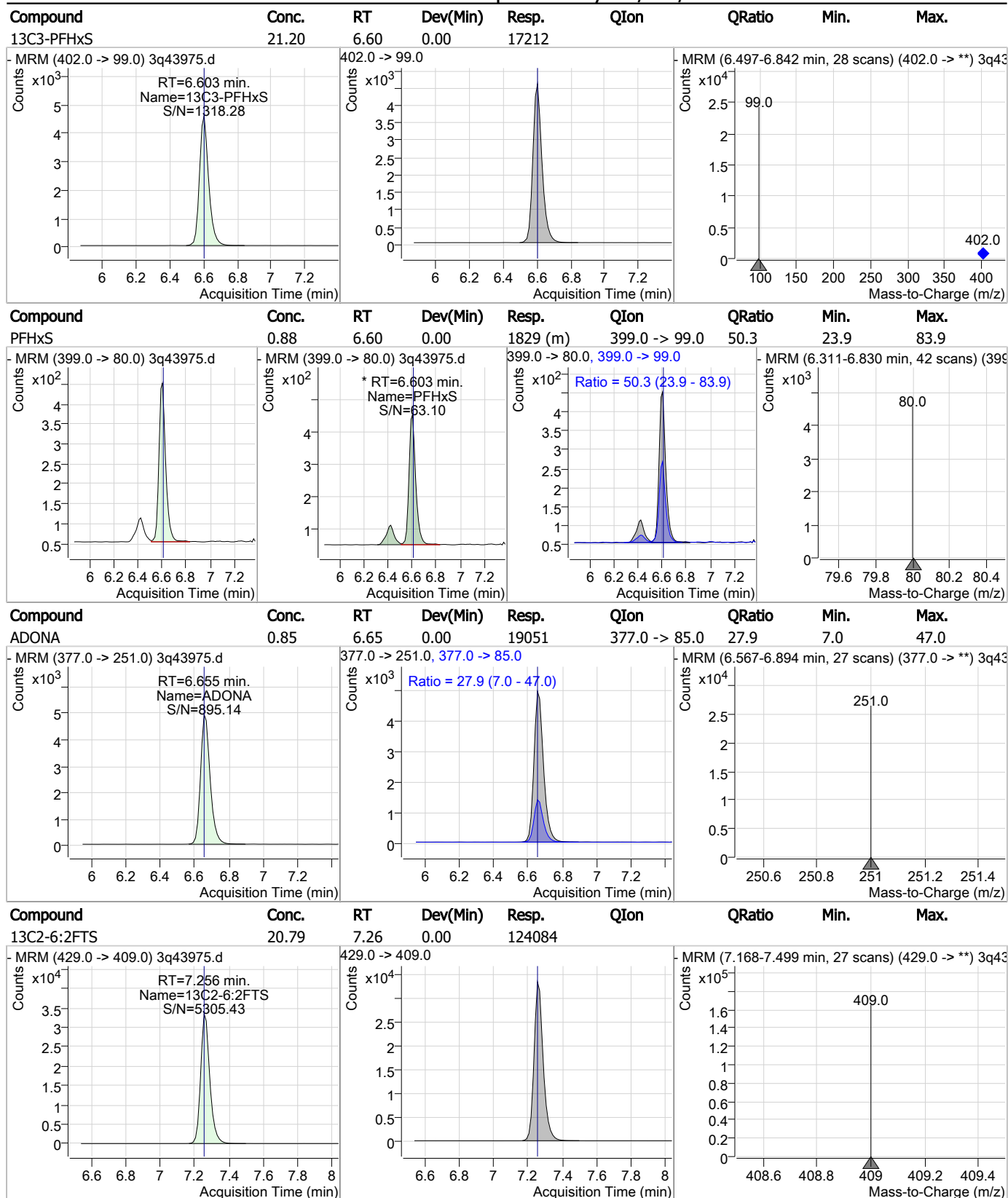
Perfluorinated Compounds by LC/MS/MS



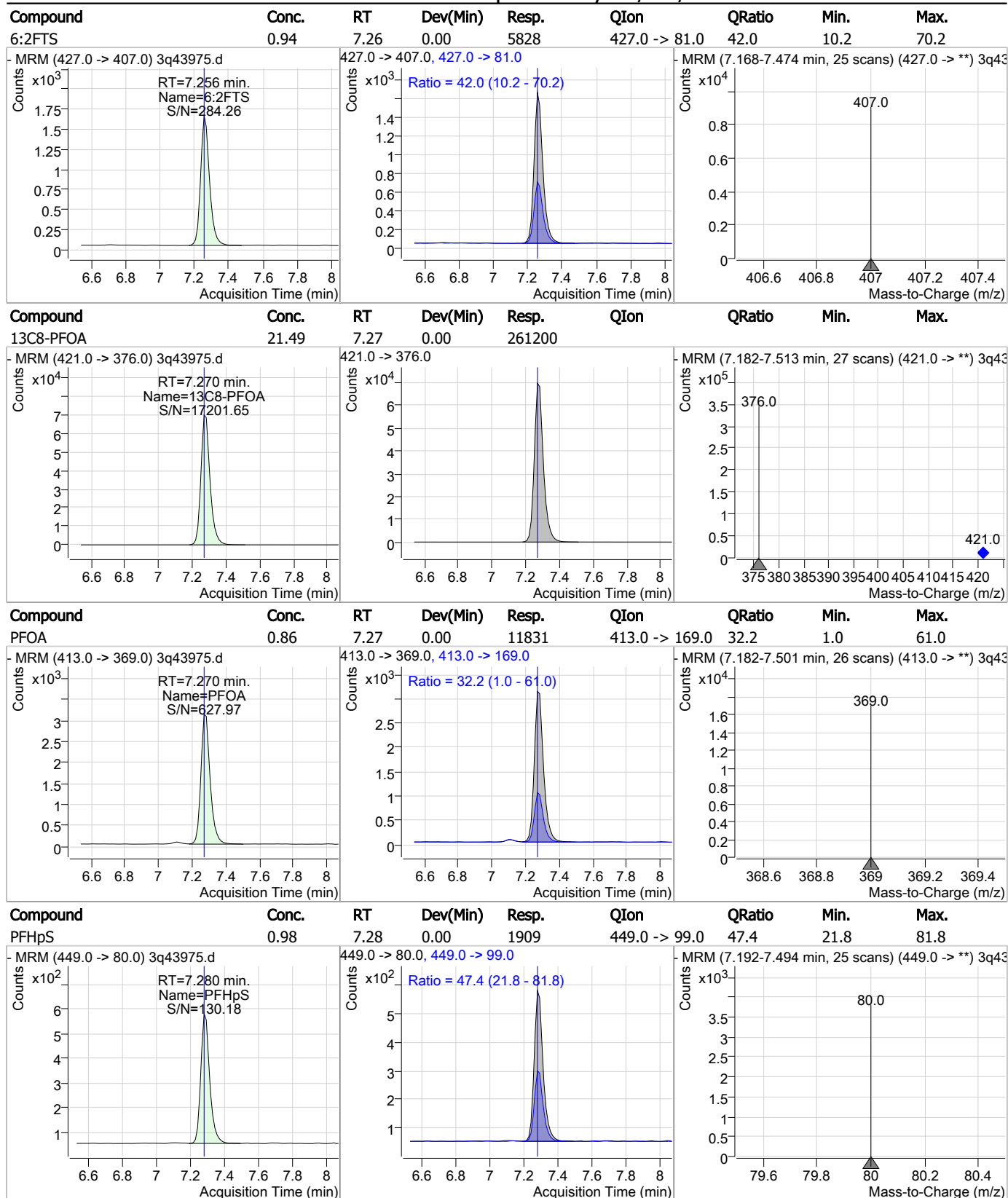
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

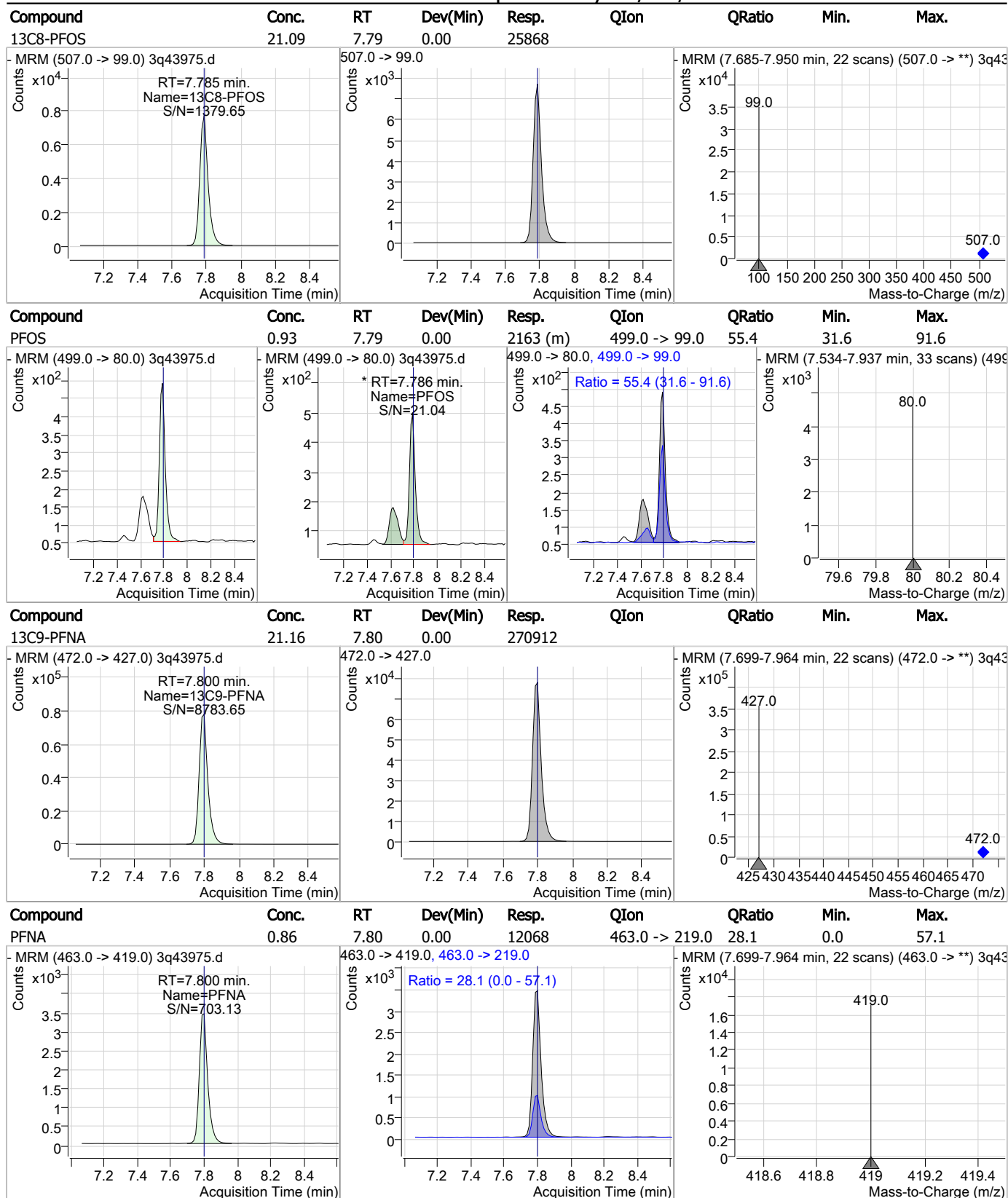


Perfluorinated Compounds by LC/MS/MS

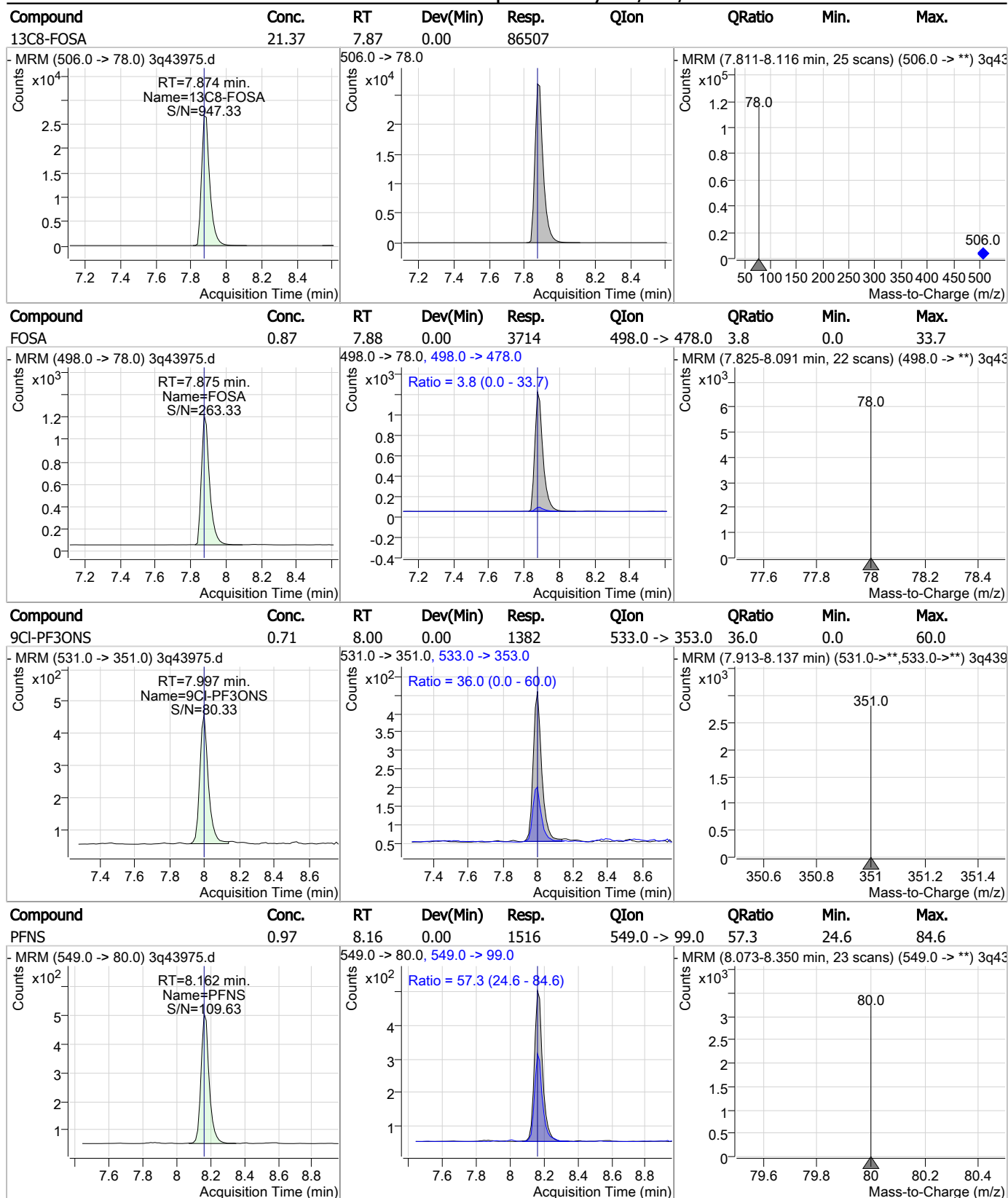


10.5.12 10

Perfluorinated Compounds by LC/MS/MS

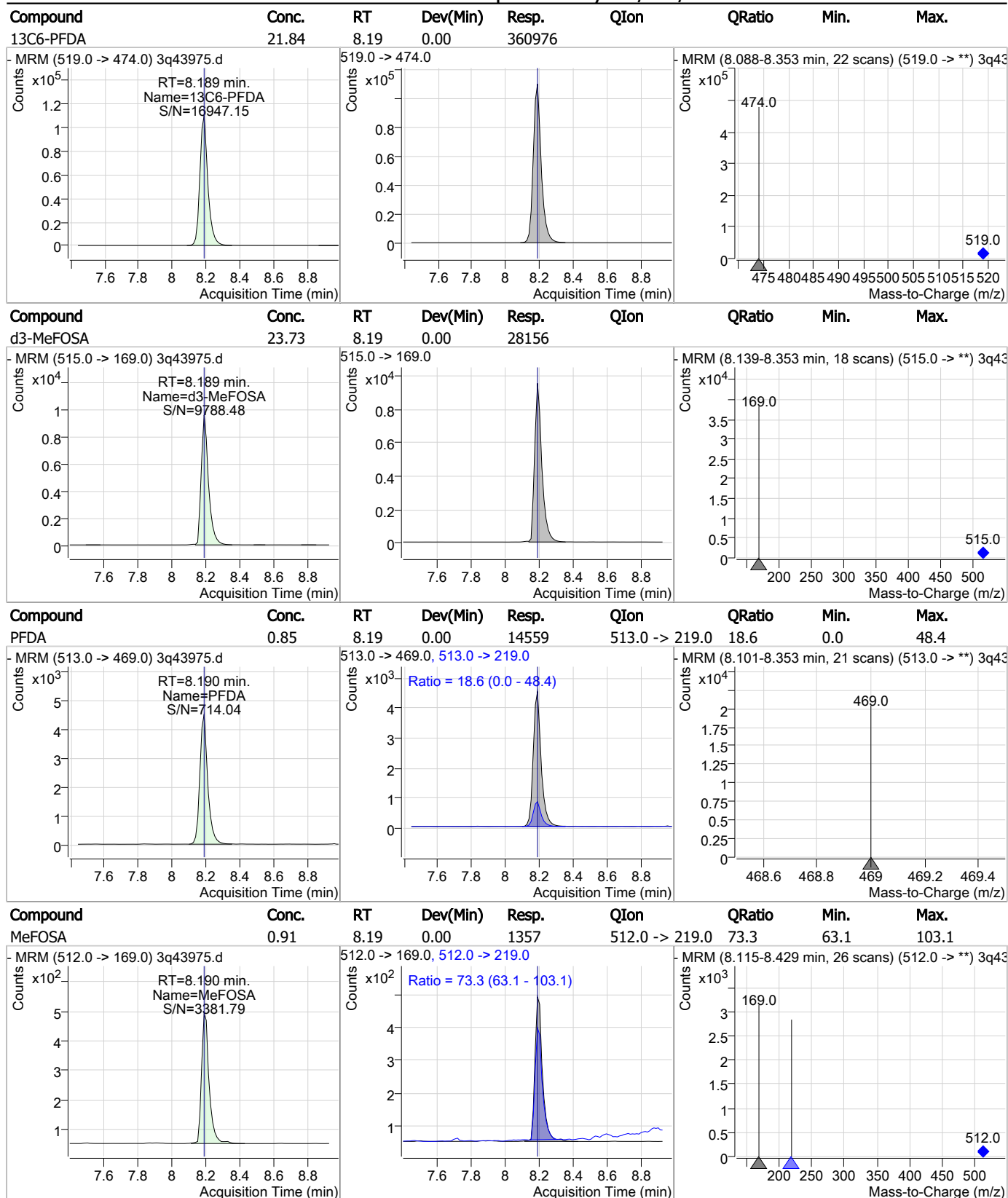


Perfluorinated Compounds by LC/MS/MS

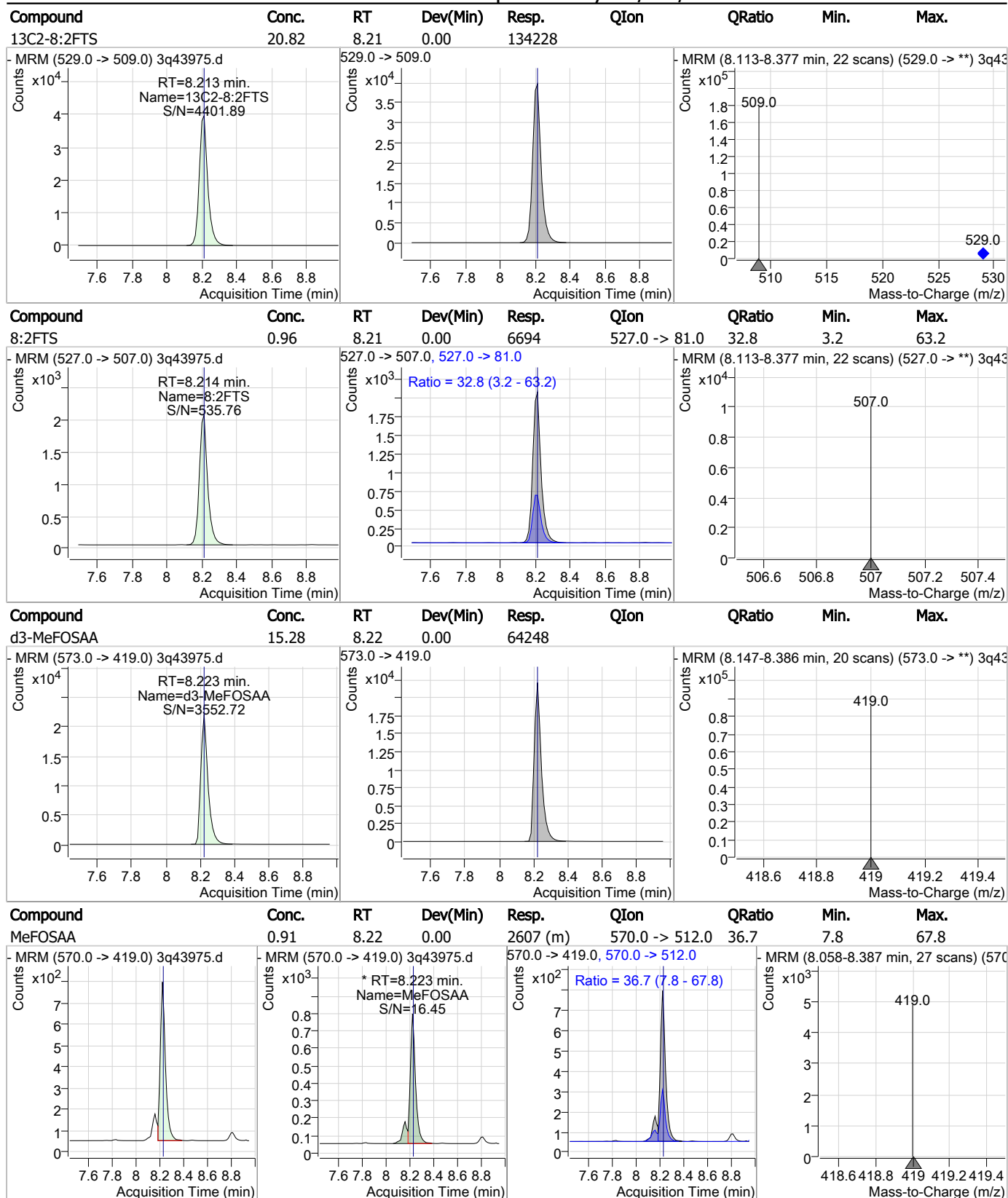


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Perfluorinated Compounds by LC/MS/MS

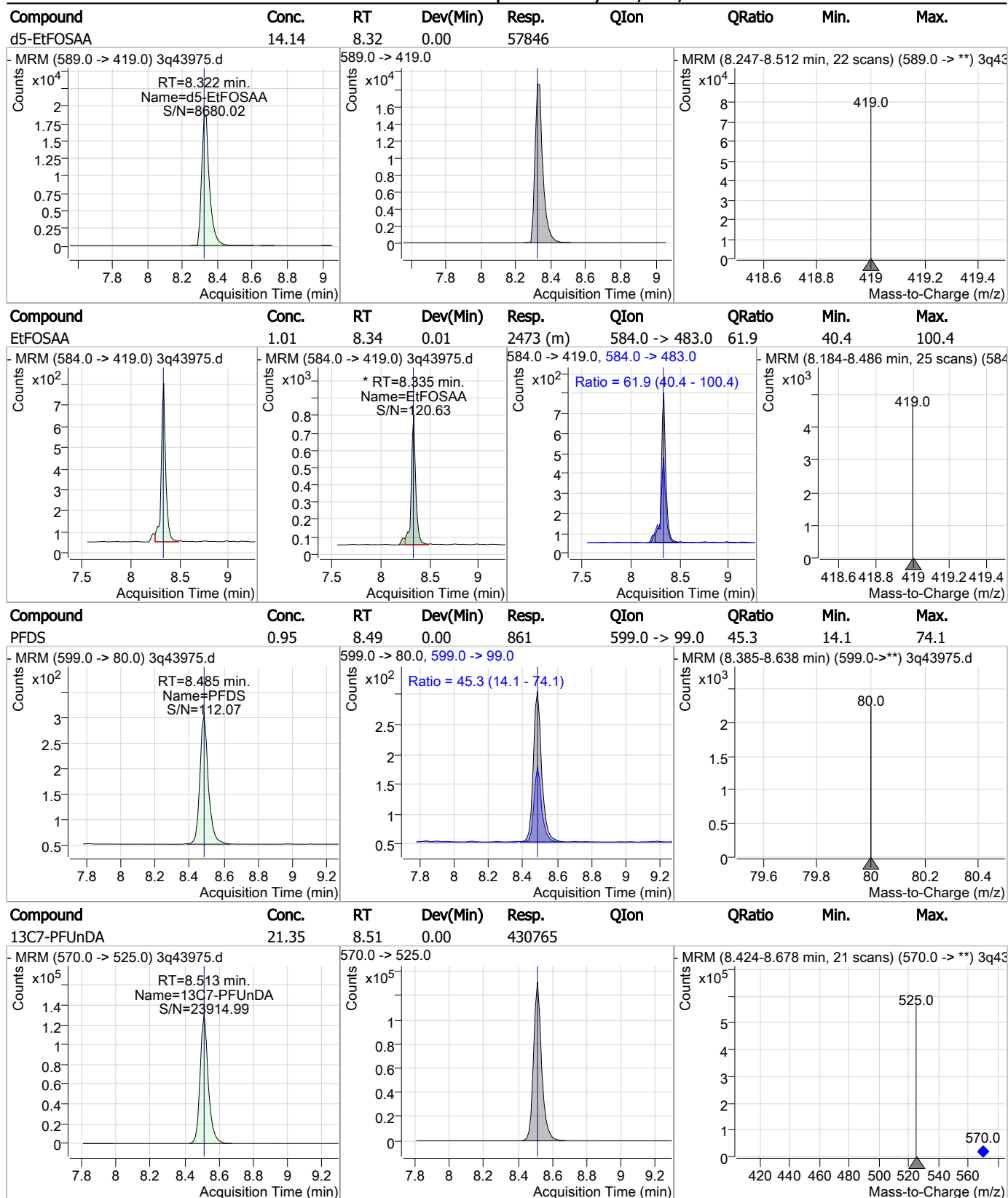


Perfluorinated Compounds by LC/MS/MS

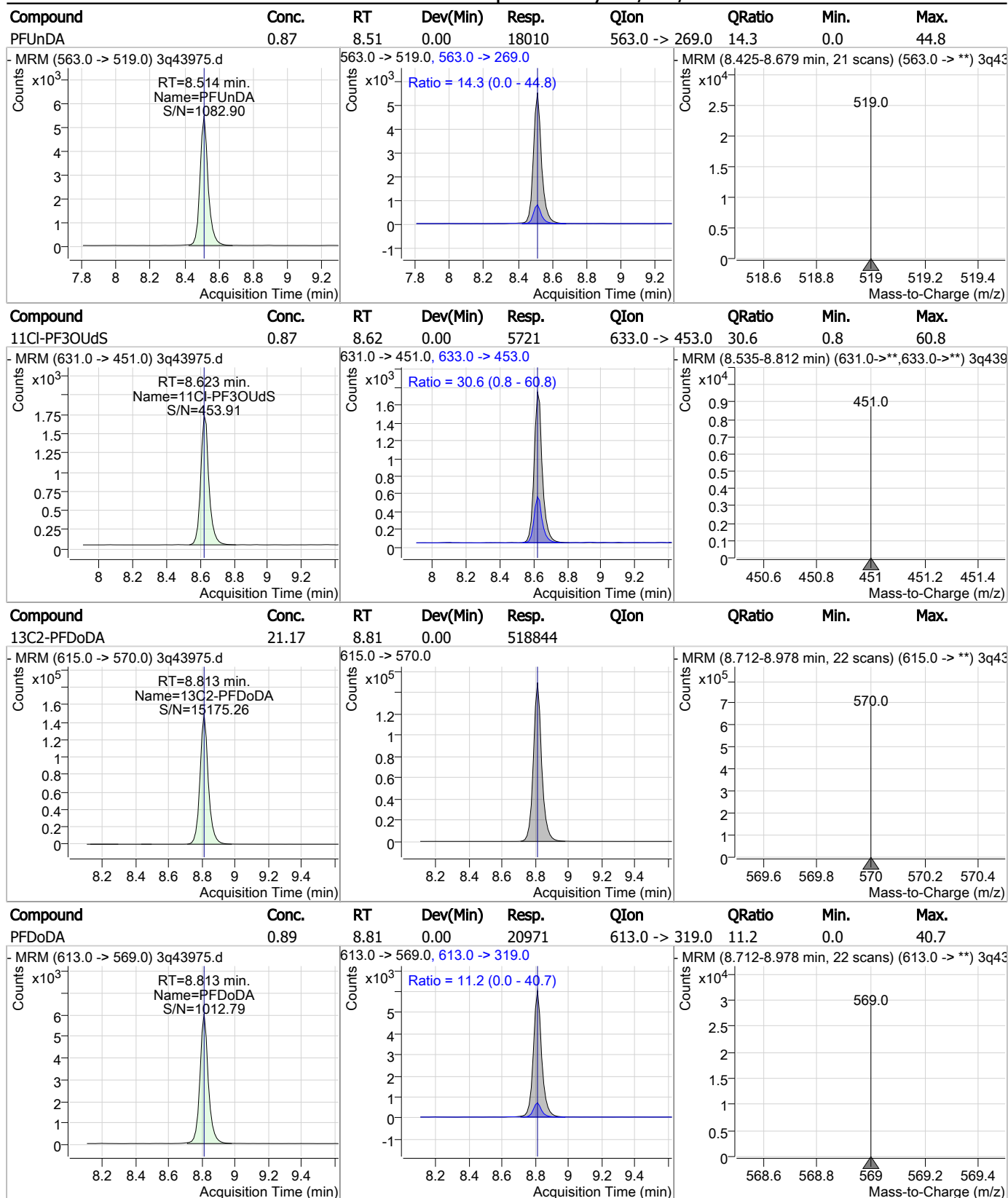


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Perfluorinated Compounds by LC/MS/MS

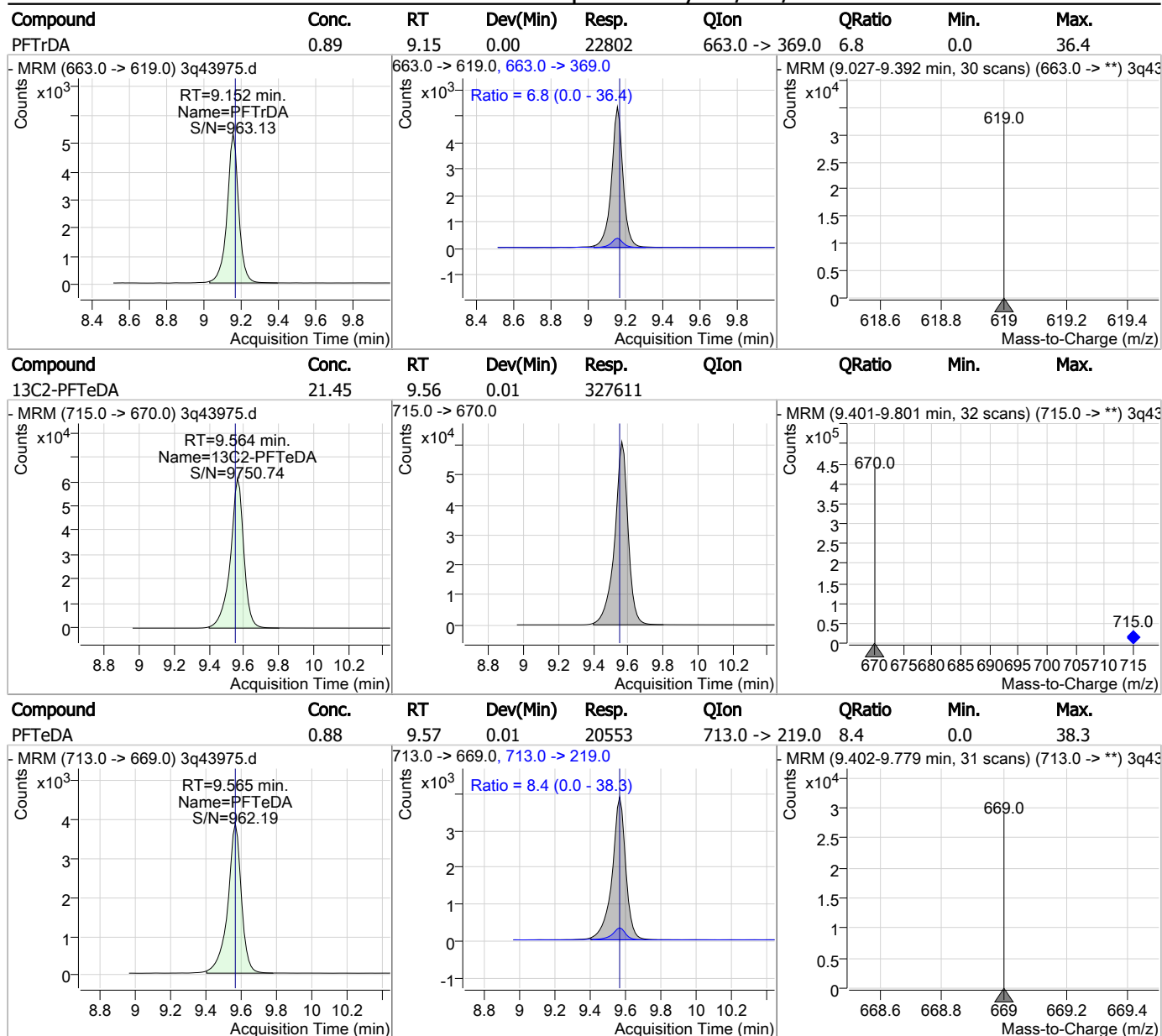


Perfluorinated Compounds by LC/MS/MS



10.5.12 10

Perfluorinated Compounds by LC/MS/MS



10.5.12 10

Manual Integration Approval Summary

Sample Number:

S3Q638-CC637

Lab FileID:

3Q43975.D

Injection Time:

08/31/21 15:14

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/01/21 10:24 Mike Eger

Supervisor approved:

09/01/21 13:33 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.12.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43986.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/31/2021 6:06:41 PM
 Sample Name : cc637-20
 Vial : P1-A7
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86590,S3Q638,250,,,1,1,water

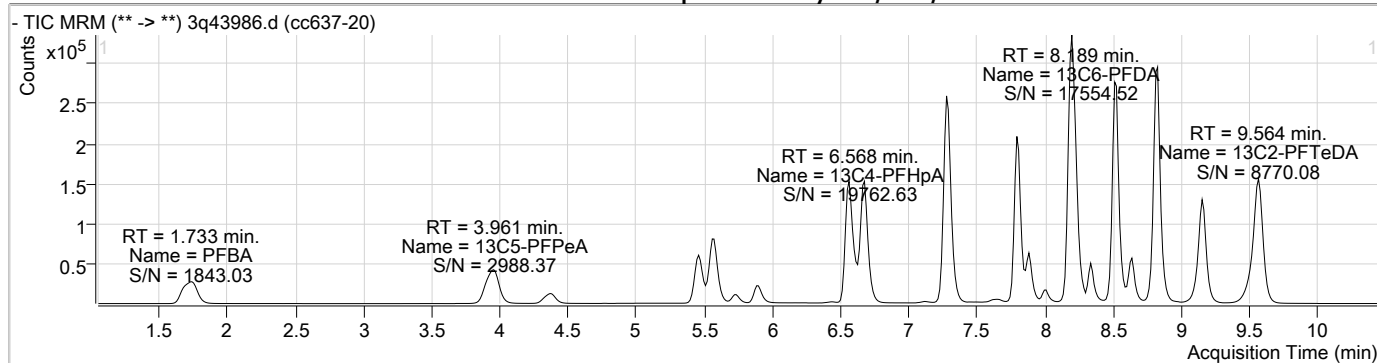
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.739	217.0 -> 172.0	138952	20.00 µg/L	0.013
M5-PFPeA	3.961	268.0 -> 223.0	124496	20.00 µg/L	0.013
M5-PFHxA	5.576	318.0 -> 273.0	178899	20.00 µg/L	0.025
M4-PFHpA	6.568	367.0 -> 322.0	213844	20.00 µg/L	0.025
M8-PFOA	7.295	421.0 -> 376.0	264411	20.00 µg/L	0.026
M9-PFNA	7.800	472.0 -> 427.0	280602	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	363898	20.00 µg/L	0.000
M7-PFUnDA	8.525	570.0 -> 525.0	443464	20.00 µg/L	0.013
M2-PFDoDA	8.825	615.0 -> 570.0	520093	20.00 µg/L	0.013
M2-PFTeDA	9.564	715.0 -> 670.0	332093	20.00 µg/L	0.013
M8-FOSA	7.887	506.0 -> 78.0	83320	20.00 µg/L	0.013
M3-PFBS	4.367	302.0 -> 99.0	15263	20.00 µg/L	0.013
M3-PFHxS	6.615	402.0 -> 99.0	17399	20.00 µg/L	0.013
M8-PFOS	7.798	507.0 -> 99.0	26787	20.00 µg/L	0.013
M2-4:2FTS	5.459	329.0 -> 309.0	101497	20.00 µg/L	0.013
M2-6:2FTS	7.268	429.0 -> 409.0	129686	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	140862	20.00 µg/L	0.000
M3-MeFOSAA	8.235	573.0 -> 419.0	64792	20.00 µg/L	0.013
M3-HFPO-DA	5.893	287.0 -> 169.0	17304	20.00 µg/L	0.013
M3-MeFOSA	8.202	515.0 -> 169.0	26023	20.00 µg/L	0.013
M5-EtFOSAA	8.335	589.0 -> 419.0	61286	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.459	329.0 -> 309.0	101497	21.19 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 106.0%		
13C2-6:2FTS	7.268	429.0 -> 409.0	129686	21.73 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 108.7%		
13C2-8:2FTS	8.213	529.0 -> 509.0	140862	21.85 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 109.2%		
13C2-PFDoDA	8.825	615.0 -> 570.0	520093	21.22 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 106.1%		
13C2-PFTeDA	9.564	715.0 -> 670.0	332093	21.74 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 108.7%		
13C3-PFBS	4.367	302.0 -> 99.0	15263	21.44 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 107.2%		
13C3-PFHxS	6.615	402.0 -> 99.0	17399	21.43 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 107.1%		
13C4-PFBA	1.739	217.0 -> 172.0	138952	20.94 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 104.7%		
13C4-PFHpA	6.568	367.0 -> 322.0	213844	21.43 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 107.1%		
13C5-PFHxA	5.576	318.0 -> 273.0	178899	21.21 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 106.1%		
13C5-PFPeA	3.961	268.0 -> 223.0	124496	21.18 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 105.9%		
13C6-PFDA	8.189	519.0 -> 474.0	363898	22.02 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

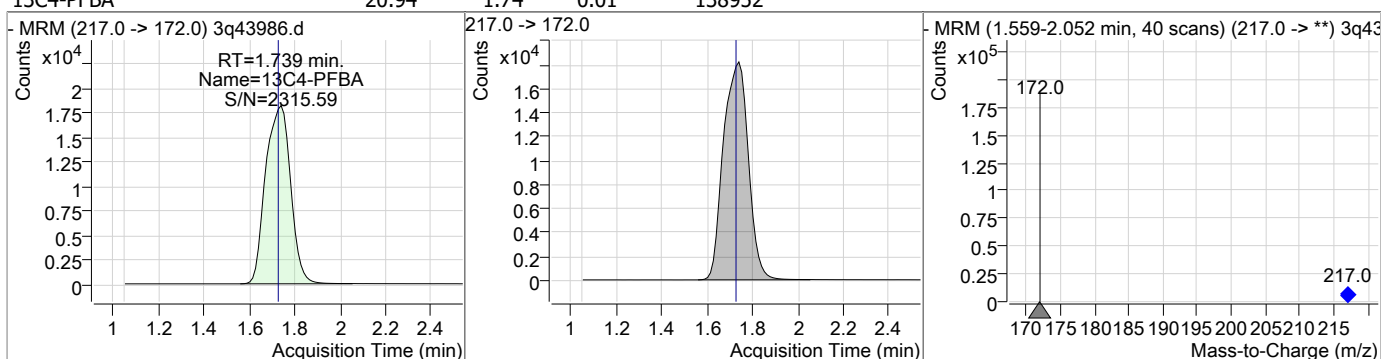
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 110.1%	
13C7-PFUnDA	8.525	570.0 -> 525.0	443464	21.98 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.9%	
13C8-FOSA	7.887	506.0 -> 78.0	83320	20.59 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-PFOA	7.295	421.0 -> 376.0	264411	21.76 µg/L	0.026
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.8%	
13C8-PFOS	7.798	507.0 -> 99.0	26787	21.84 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.2%	
13C9-PFNA	7.800	472.0 -> 427.0	280602	21.92 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.6%	
d3-MeFOSAA	8.235	573.0 -> 419.0	64792	15.41 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 77.0%	
13C3-HFPO-DA	5.893	287.0 -> 169.0	17304	18.57 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.8%	
d3-MeFOSA	8.202	515.0 -> 169.0	26023	21.93 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.7%	
d5-EtFOSAA	8.335	589.0 -> 419.0	61293	14.99 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 74.9%	
Target Compounds					QValue
4:2FTS	5.461	327.0 -> 307.0	118044	20.72 µg/L	99
6:2FTS	7.269	427.0 -> 407.0	133781	20.62 µg/L	98
8:2FTS	8.214	527.0 -> 507.0	150890	20.68 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	53582	20.57 µg/L	96
FOSA	7.888	498.0 -> 78.0	83029	20.09 µg/L	100
MeFOSAA	8.235	570.0 -> 419.0	57353	19.76 µg/L	99
PFBA	1.733	213.0 -> 169.0	70453	20.29 µg/L	100
PFBS	4.369	299.0 -> 80.0	40690	20.12 µg/L	99
PFDA	8.190	513.0 -> 469.0	335933	19.53 µg/L	100
PFDoDA	8.826	613.0 -> 569.0	487073	20.58 µg/L	100
PFDS	8.485	599.0 -> 80.0	19168	20.44 µg/L	97
PFHpA	6.569	363.0 -> 319.0	344392	19.97 µg/L	99
PFHpS	7.293	449.0 -> 80.0	41231	20.42 µg/L	97
PFHxA	5.577	313.0 -> 269.0	158151	20.35 µg/L	100
PFHxS	6.616	399.0 -> 80.0	42725	20.25 µg/L	m 96
PFNA	7.800	463.0 -> 419.0	276931	19.04 µg/L	99
PFNS	8.174	549.0 -> 80.0	33976	20.92 µg/L	100
PFOA	7.296	413.0 -> 369.0	269217	19.39 µg/L	98
PFOS	7.799	499.0 -> 80.0	48175	20.06 µg/L	m 82
PFPeA	3.964	263.0 -> 219.0	166211	19.66 µg/L	100
PFPeS	5.732	349.0 -> 80.0	30057	20.16 µg/L	99
PFTeDA	9.565	713.0 -> 669.0	466381	19.63 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	517419	19.93 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	422878	19.78 µg/L	100
11Cl-PF3OUdS	8.636	631.0 -> 451.0	135046	20.51 µg/L	99
9Cl-PF3ONS	8.010	531.0 -> 351.0	37200	18.94 µg/L	98
ADONA	6.681	377.0 -> 251.0	451937	19.97 µg/L	100
HFPO-DA	5.901	329.0 -> 169.0	62427	22.15 µg/L	96
MeFOSA	8.203	512.0 -> 169.0	28717	20.89 µg/L	97

= Qualifier out of range, m = manually integrated, + = Area summed

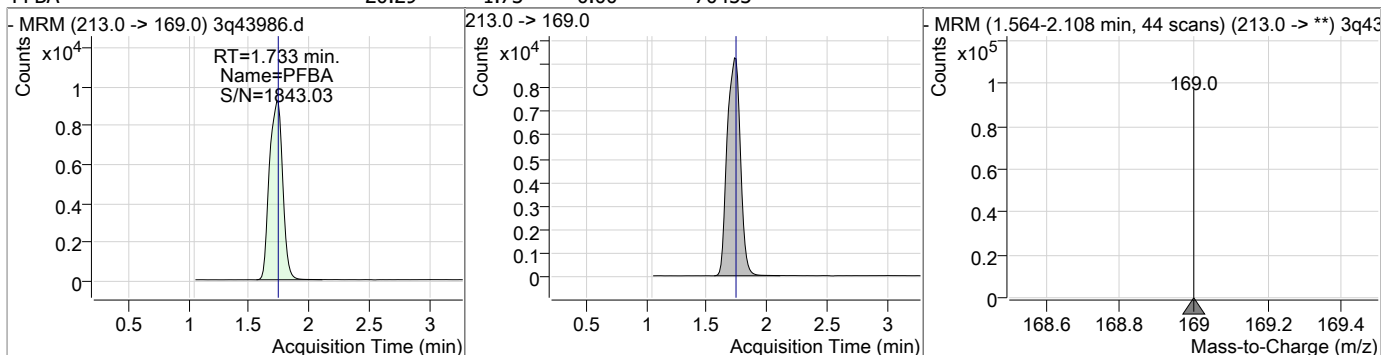
Perfluorinated Compounds by LC/MS/MS



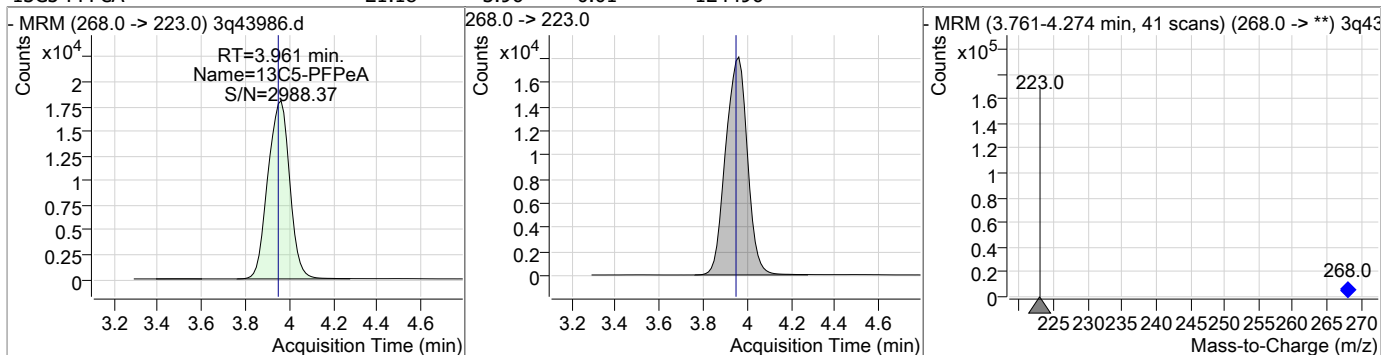
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



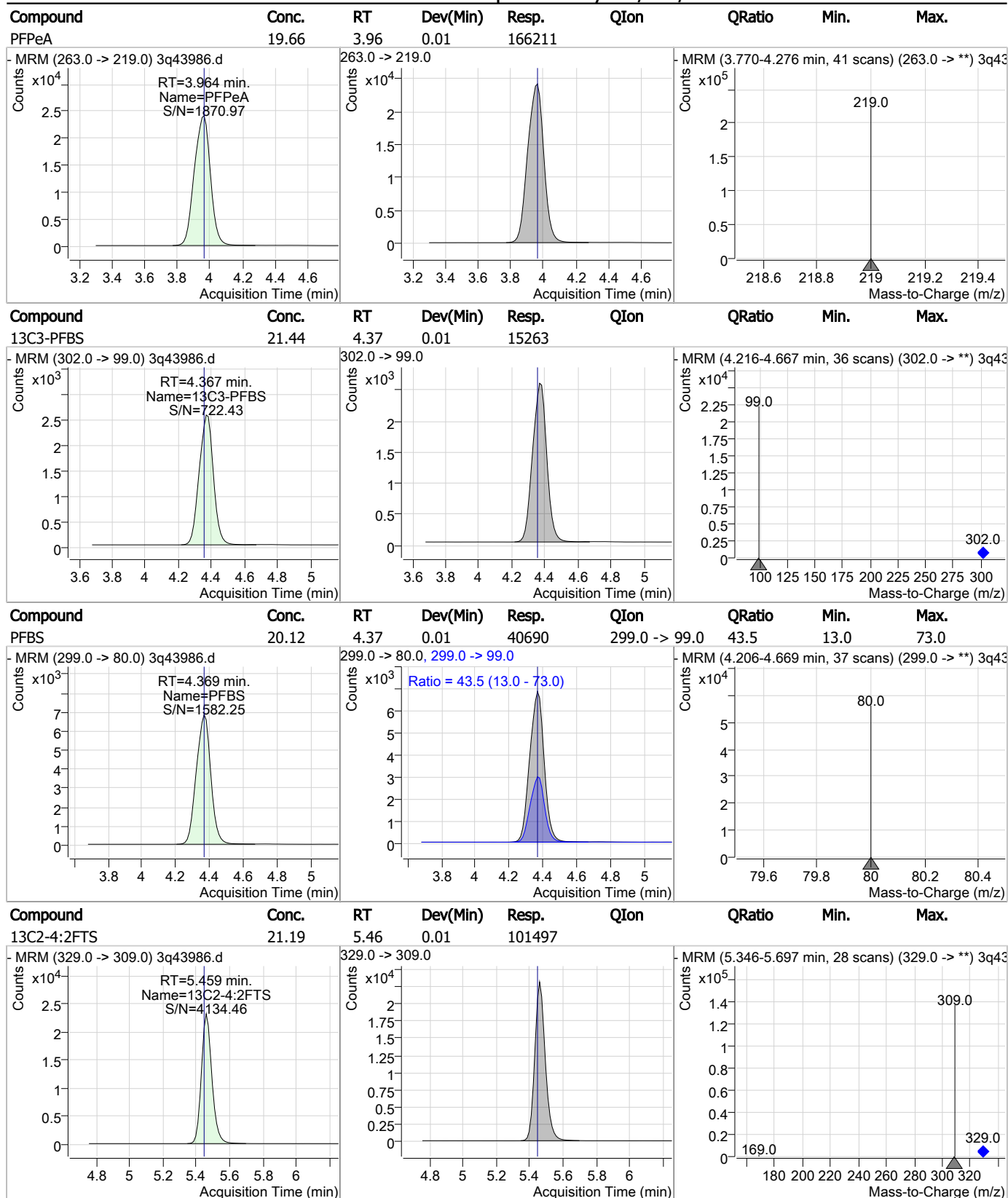
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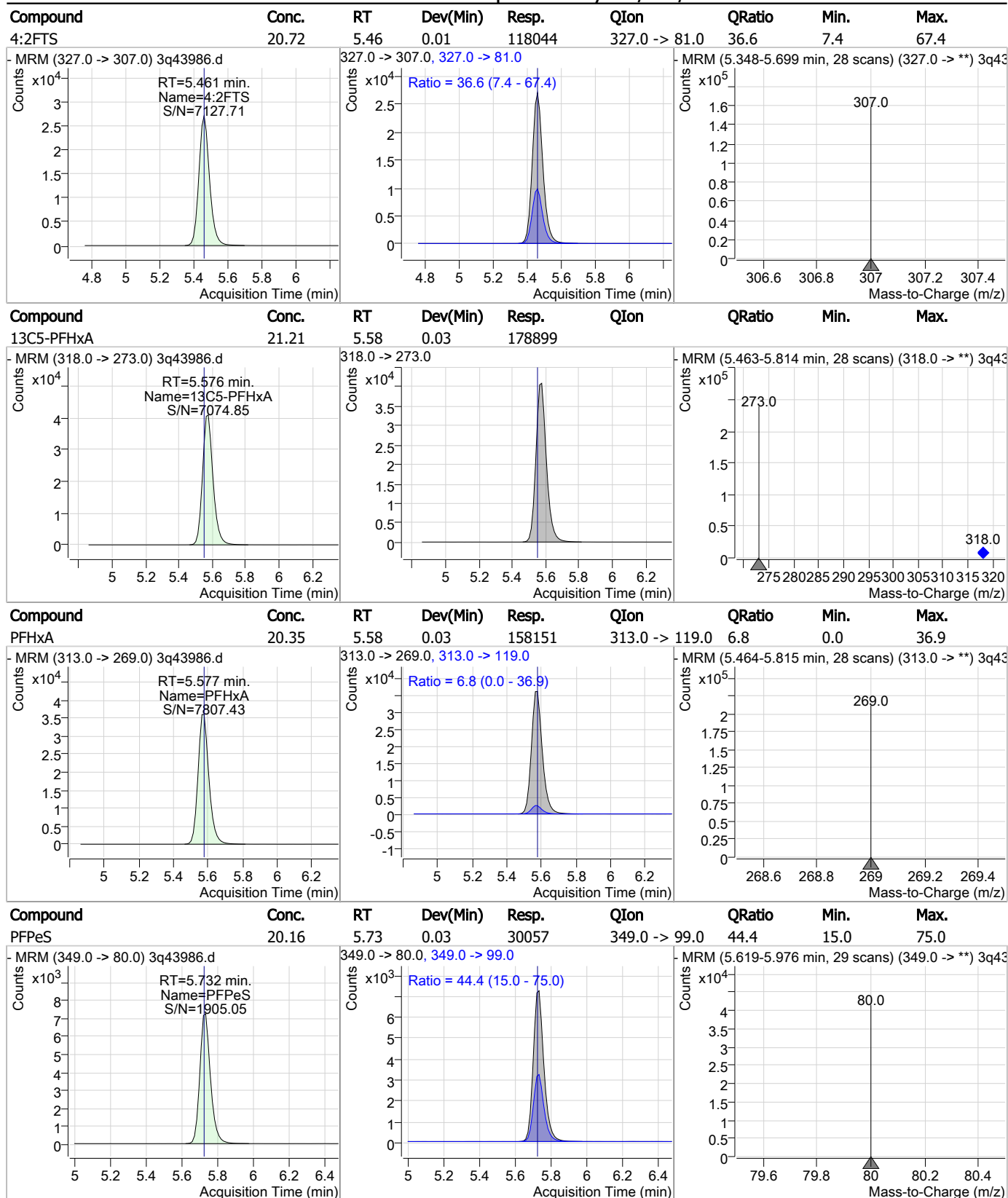
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



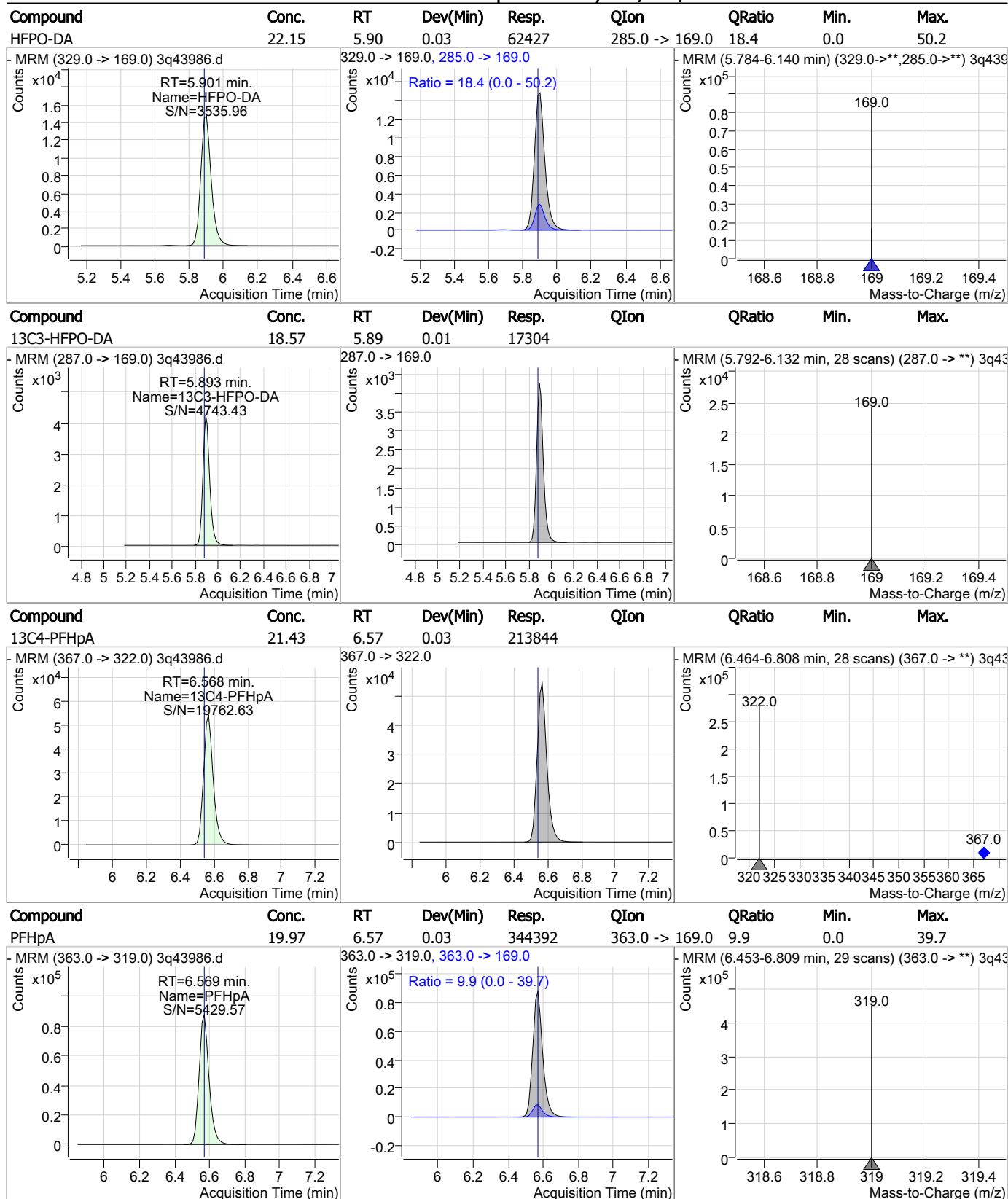
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

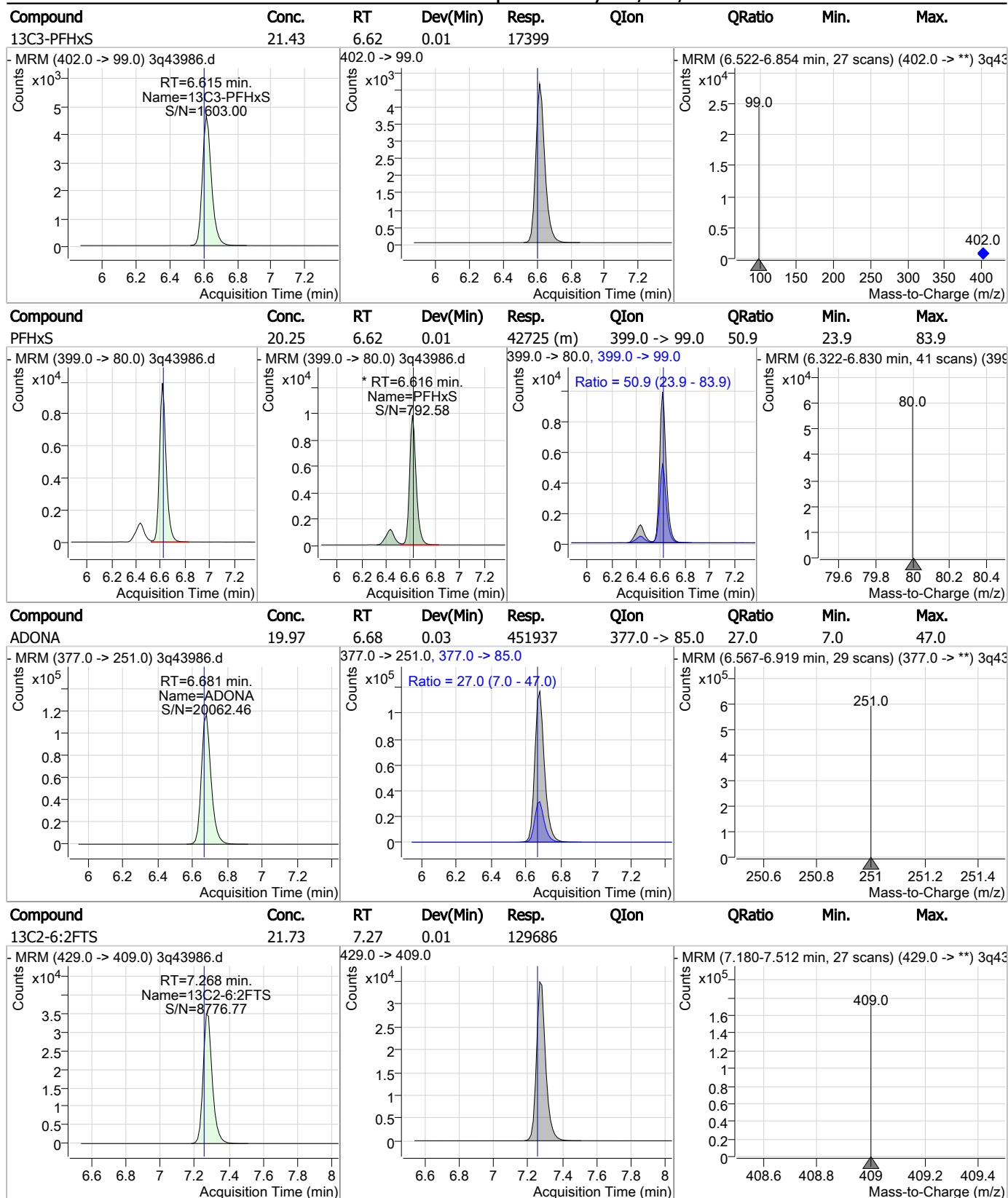


Perfluorinated Compounds by LC/MS/MS

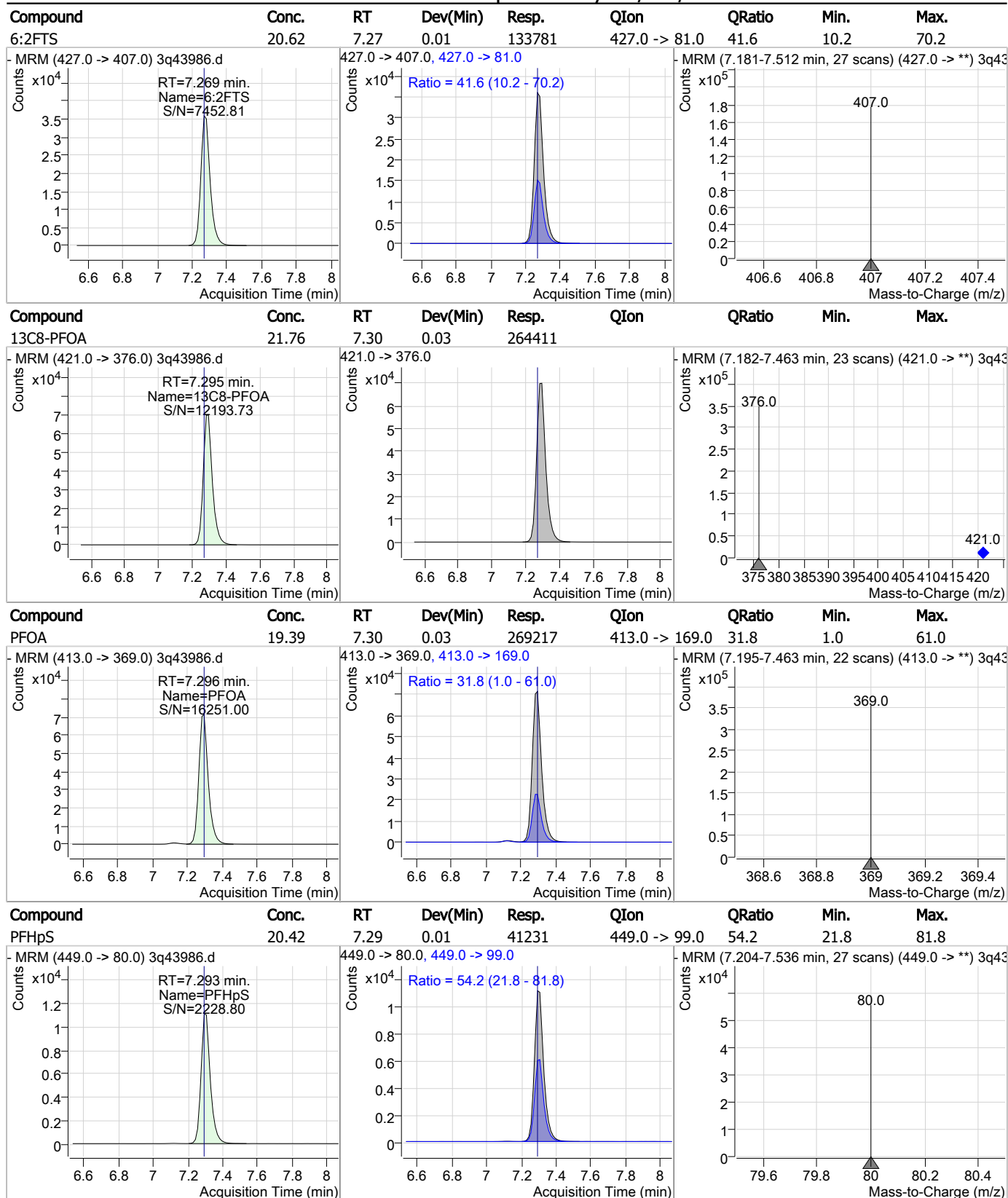


10.5.13 10

Perfluorinated Compounds by LC/MS/MS

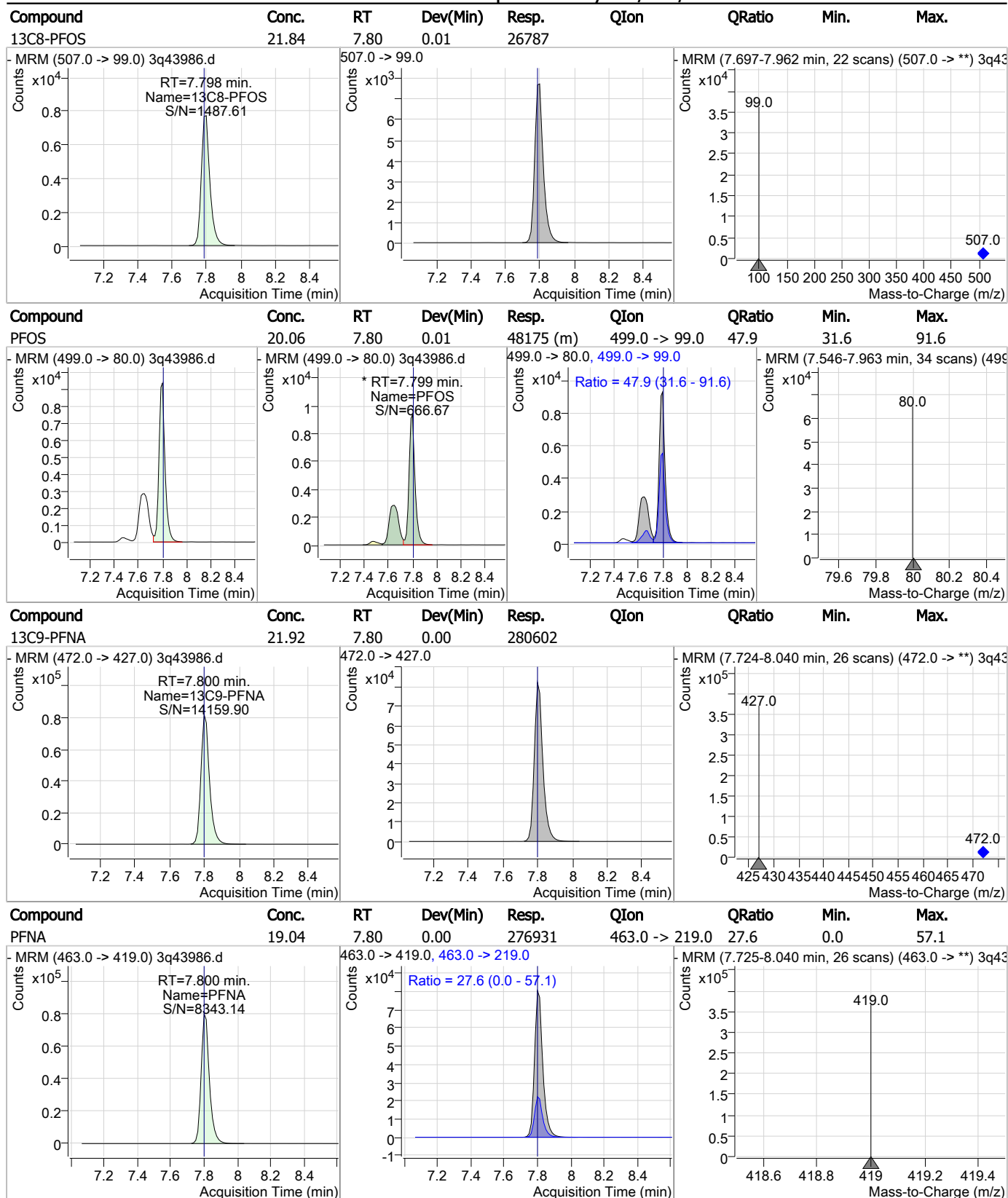


Perfluorinated Compounds by LC/MS/MS

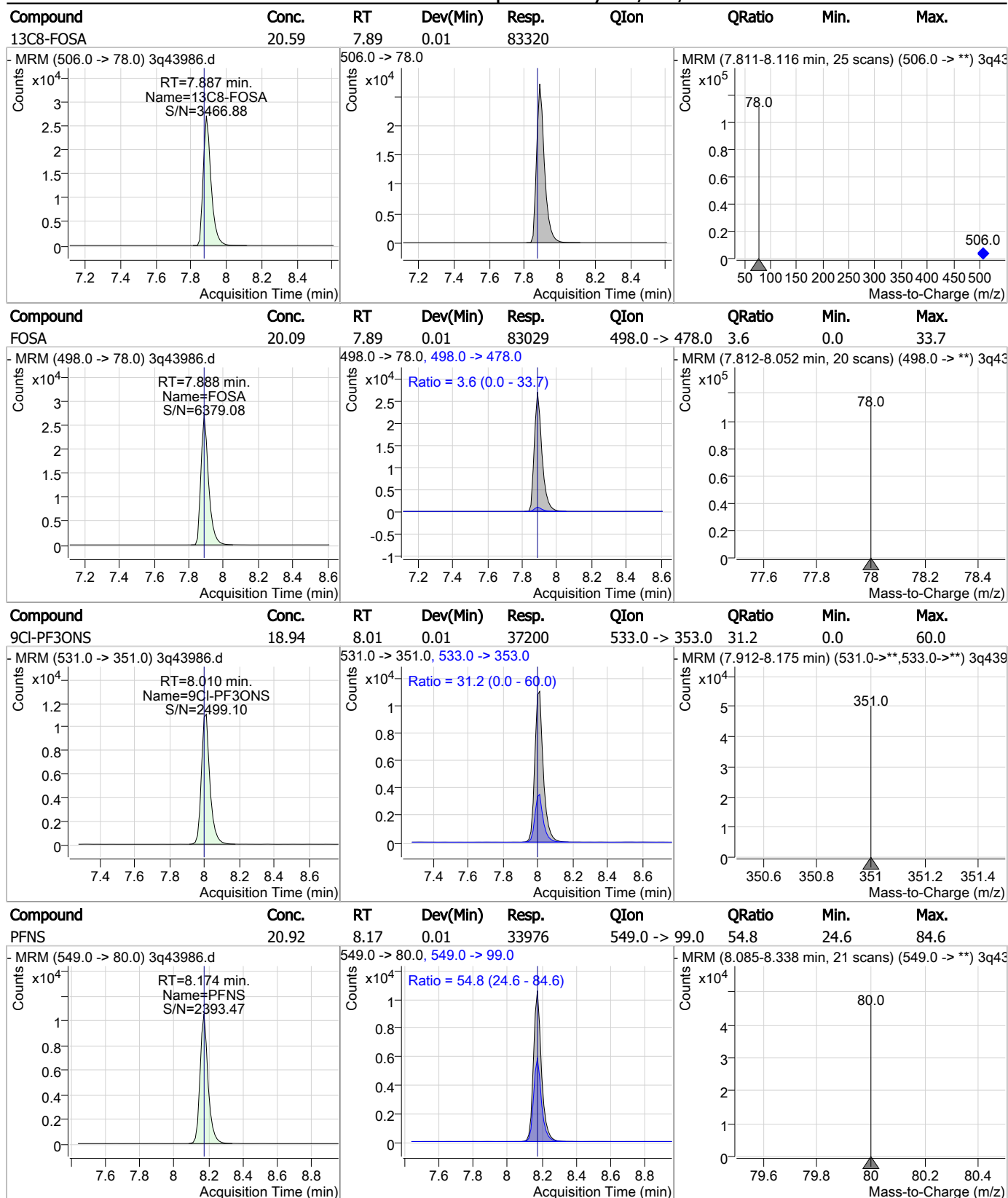


10.5.13 10

Perfluorinated Compounds by LC/MS/MS

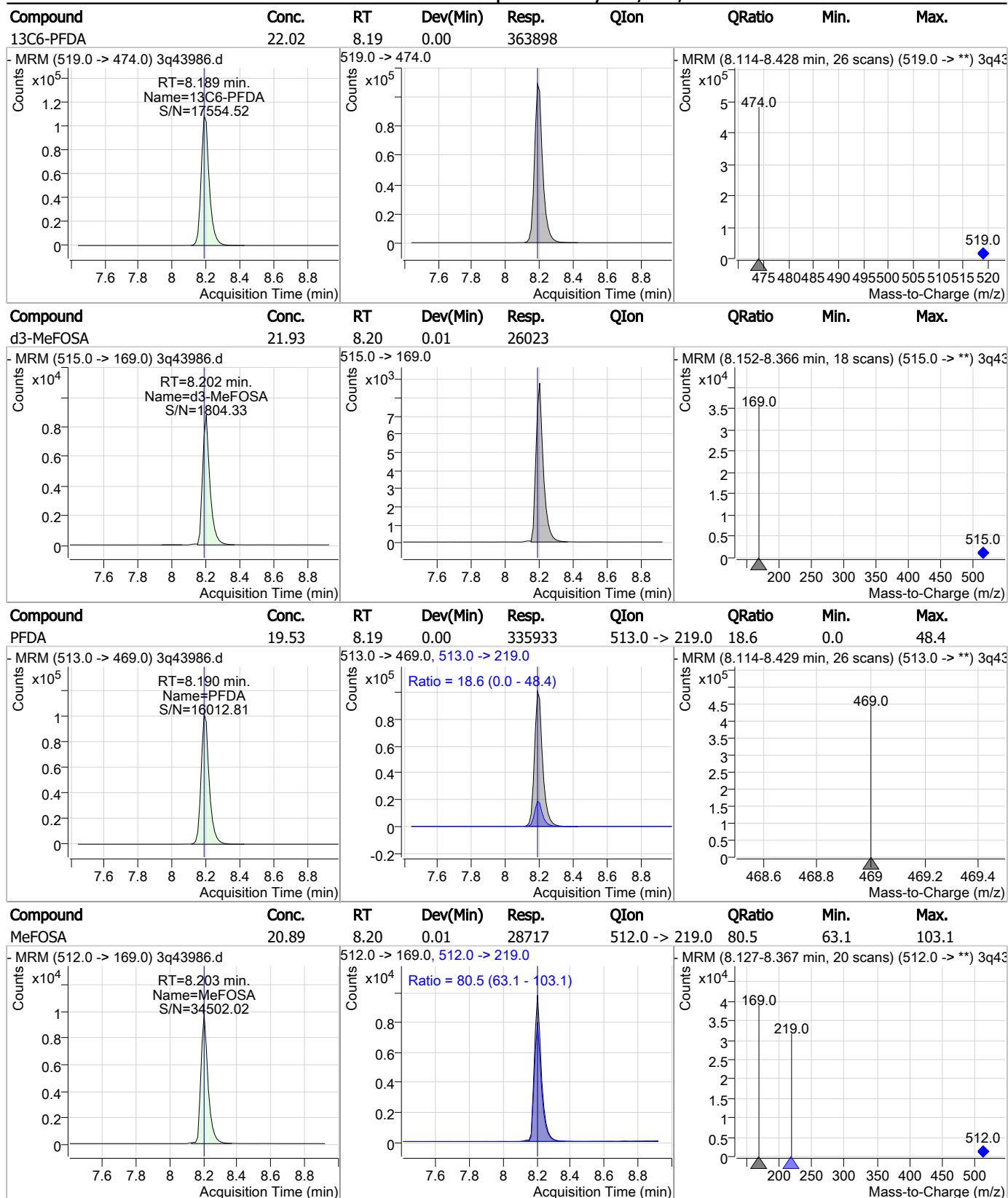


Perfluorinated Compounds by LC/MS/MS

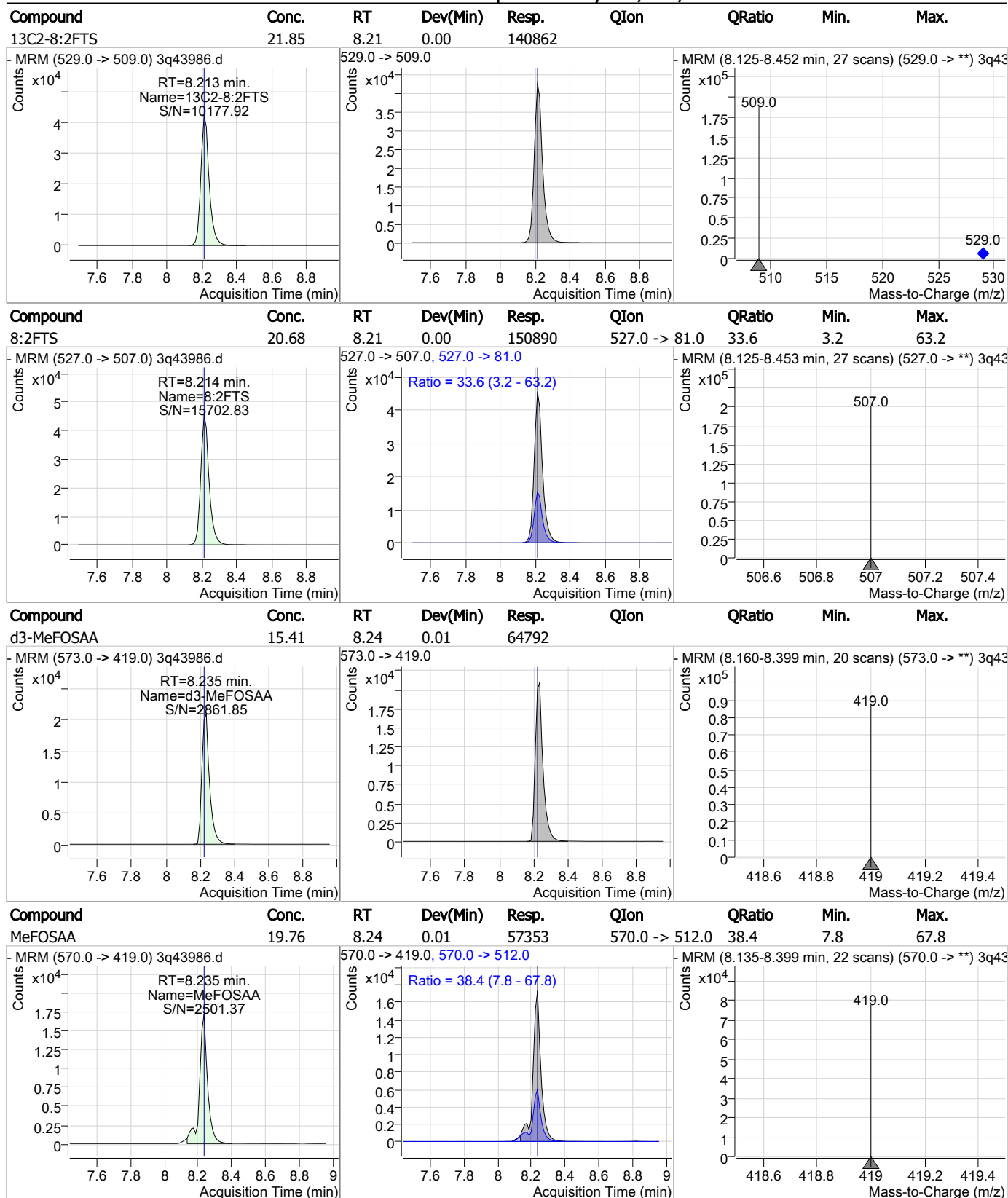


10.5.13 10

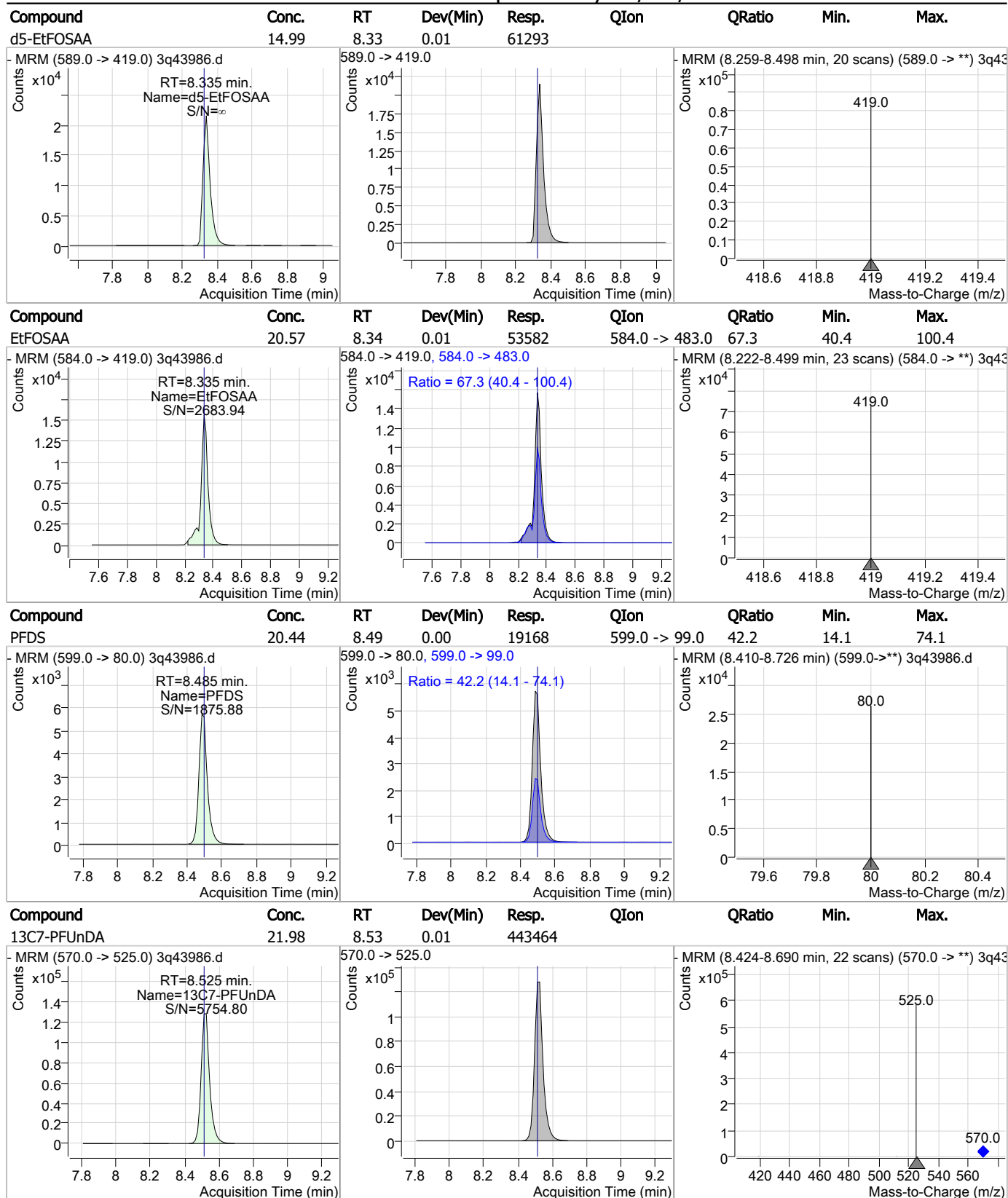
Perfluorinated Compounds by LC/MS/MS



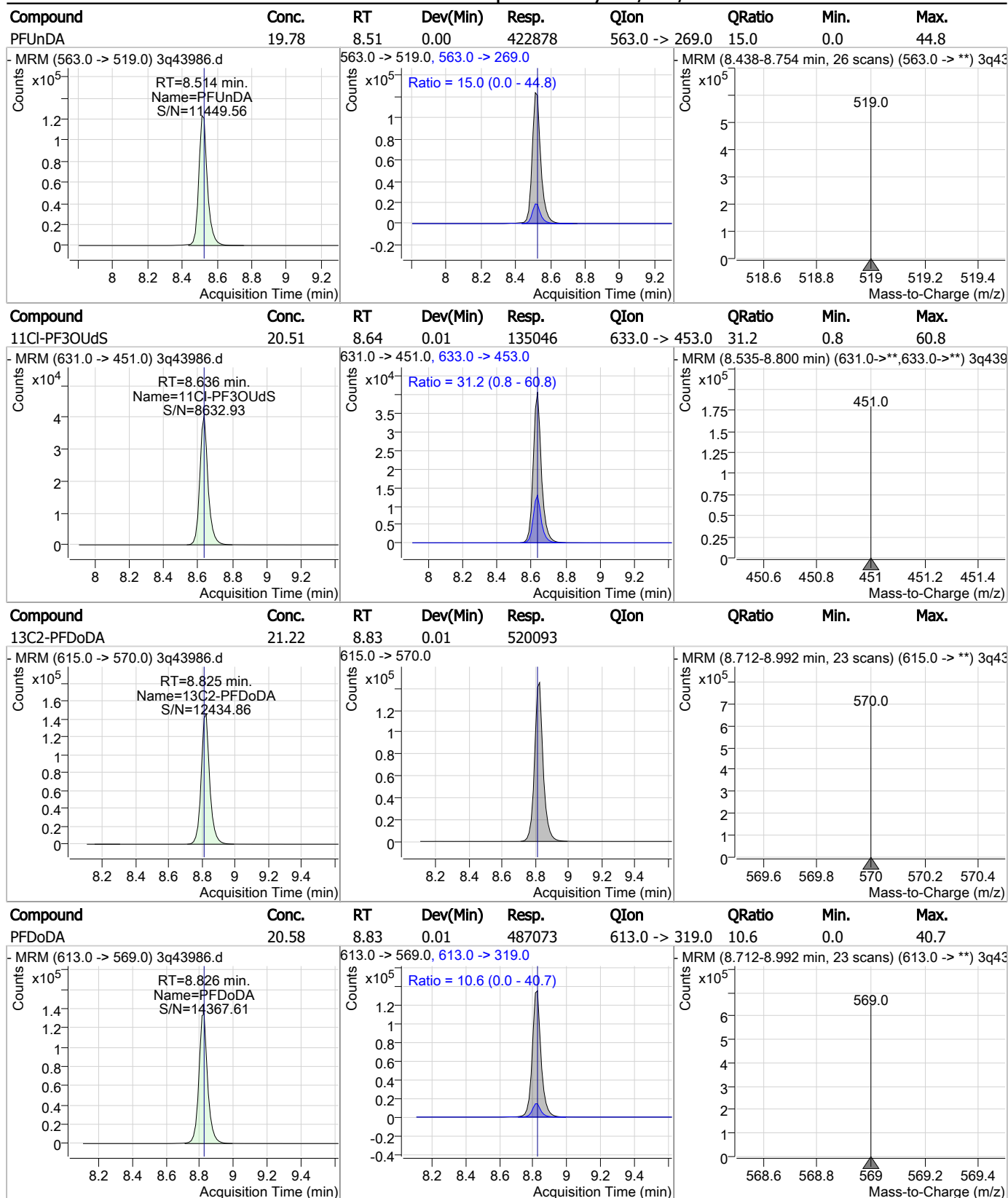
Perfluorinated Compounds by LC/MS/MS



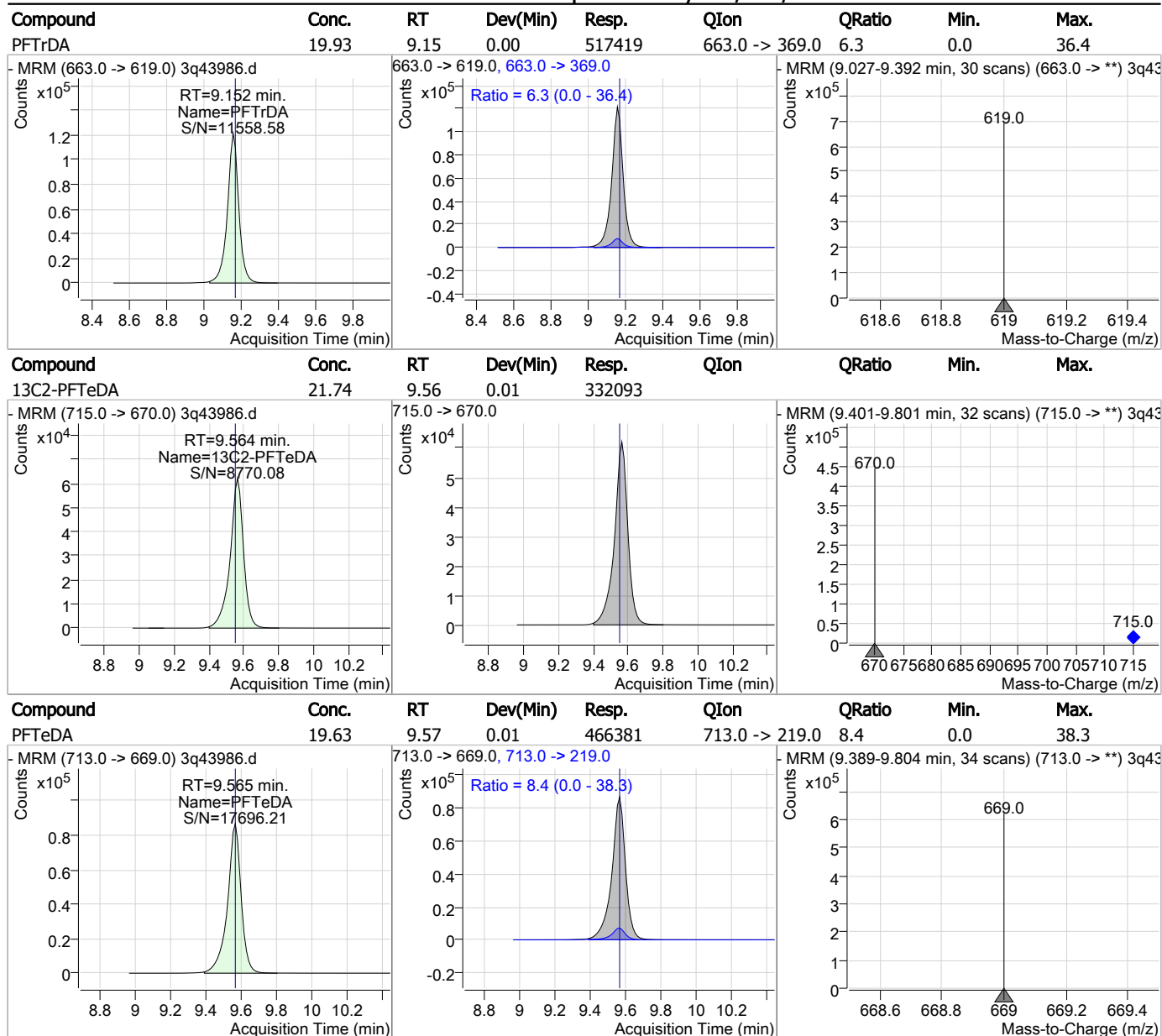
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.5.13 10

Manual Integration Approval Summary

Sample Number:

S3Q638-CC637

Lab FileID:

3Q43986.D

Injection Time:

08/31/21 18:06

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/01/21 10:24 Mike Eger

Supervisor approved:

09/01/21 13:33 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.62	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.80	Split peak

10.5.13.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q43998.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 8/31/2021 9:25:21 PM
 Sample Name : cc637-20
 Vial : P1-A7
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86590,S3Q638,250,,,1,1,water

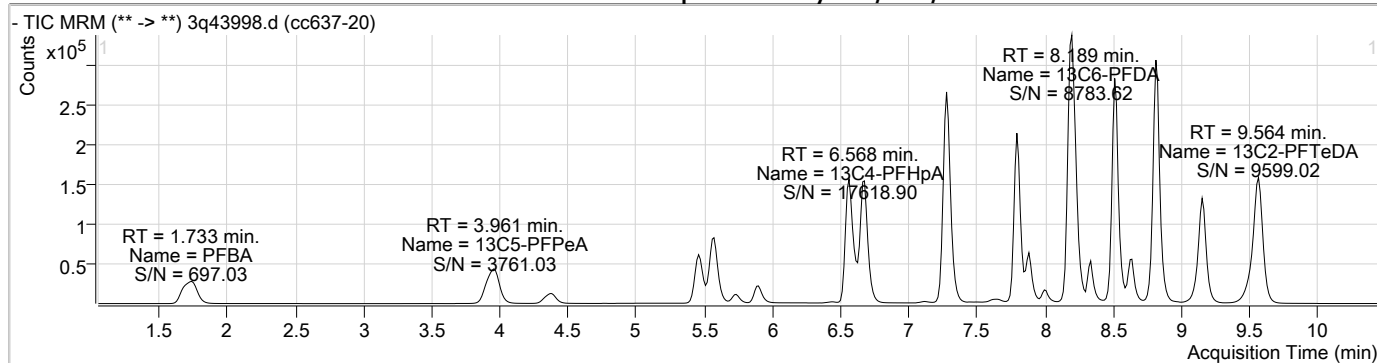
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.739	217.0 -> 172.0	141298	20.00 µg/L	0.013
M5-PFPeA	3.961	268.0 -> 223.0	126593	20.00 µg/L	0.013
M5-PFHxA	5.576	318.0 -> 273.0	182879	20.00 µg/L	0.025
M4-PFHpA	6.568	367.0 -> 322.0	218254	20.00 µg/L	0.025
M8-PFOA	7.283	421.0 -> 376.0	270154	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	282587	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	370517	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	439849	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	532402	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	334010	20.00 µg/L	0.013
M8-FOSA	7.887	506.0 -> 78.0	85014	20.00 µg/L	0.013
M3-PFBS	4.379	302.0 -> 99.0	15541	20.00 µg/L	0.025
M3-PFHxS	6.615	402.0 -> 99.0	18199	20.00 µg/L	0.013
M8-PFOS	7.785	507.0 -> 99.0	27368	20.00 µg/L	0.000
M2-4:2FTS	5.459	329.0 -> 309.0	102179	20.00 µg/L	0.013
M2-6:2FTS	7.268	429.0 -> 409.0	131750	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	143371	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	69557	20.00 µg/L	0.000
M3-HFPO-DA	5.893	287.0 -> 169.0	17671	20.00 µg/L	0.013
M3-MeFOSA	8.202	515.0 -> 169.0	26806	20.00 µg/L	0.013
M5-EtFOSAA	8.335	589.0 -> 419.0	65441	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.459	329.0 -> 309.0	102179	21.34 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C2-6:2FTS	7.268	429.0 -> 409.0	131750	22.08 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 110.4%	
13C2-8:2FTS	8.213	529.0 -> 509.0	143371	22.24 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.2%	
13C2-PFDoDA	8.813	615.0 -> 570.0	532402	21.72 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.6%	
13C2-PFTeDA	9.564	715.0 -> 670.0	334010	21.87 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.3%	
13C3-PFBS	4.379	302.0 -> 99.0	15541	21.83 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.1%	
13C3-PFHxS	6.615	402.0 -> 99.0	18199	22.41 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.1%	
13C4-PFBA	1.739	217.0 -> 172.0	141298	21.29 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.5%	
13C4-PFHpA	6.568	367.0 -> 322.0	218254	21.87 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.4%	
13C5-PFHxA	5.576	318.0 -> 273.0	182879	21.68 µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.4%	
13C5-PFPeA	3.961	268.0 -> 223.0	126593	21.54 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.7%	
13C6-PFDA	8.189	519.0 -> 474.0	370517	22.42 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

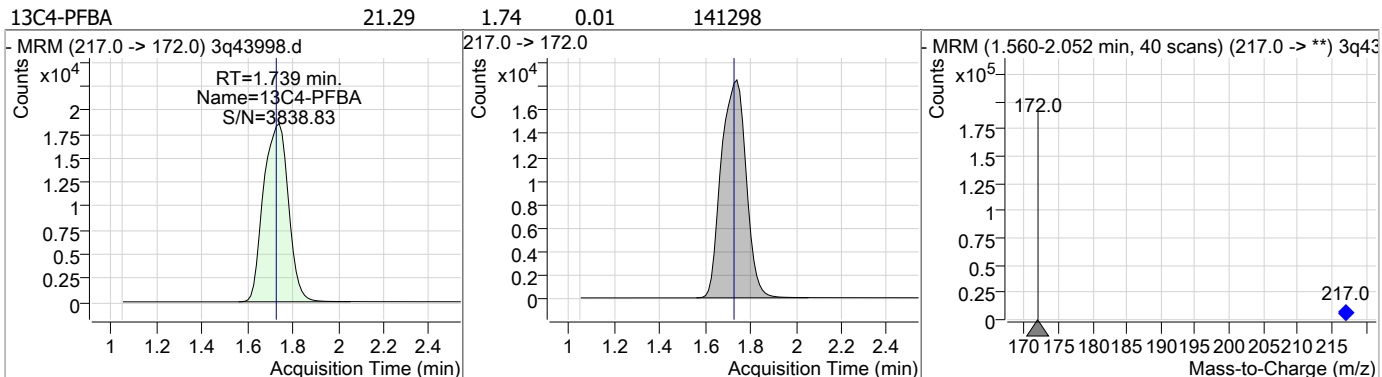
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.1%	
13C7-PFUnDA	8.513	570.0 -> 525.0	439849	21.80 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.0%	
13C8-FOSA	7.887	506.0 -> 78.0	85014	21.00 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C8-PFOA	7.283	421.0 -> 376.0	270154	22.23 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.1%	
13C8-PFOS	7.785	507.0 -> 99.0	27368	22.32 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.6%	
13C9-PFNA	7.800	472.0 -> 427.0	282587	22.07 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 110.4%	
d3-MeFOSAA	8.223	573.0 -> 419.0	69557	16.54 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 82.7%	
13C3-HFPO-DA	5.893	287.0 -> 169.0	17661	18.95 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.8%	
d3-MeFOSA	8.202	515.0 -> 169.0	26806	22.59 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.0%	
d5-EtFOSAA	8.335	589.0 -> 419.0	65452	16.00 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.0%	
Target Compounds					QValue
4:2FTS	5.461	327.0 -> 307.0	119110	20.77 µg/L	100
6:2FTS	7.269	427.0 -> 407.0	135622	20.58 µg/L	98
8:2FTS	8.214	527.0 -> 507.0	154248	20.77 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	57345	20.61 µg/L	96
FOSA	7.888	498.0 -> 78.0	84206	19.96 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	61972	19.88 µg/L	m 98
PFBA	1.733	213.0 -> 169.0	71653	20.30 µg/L	100
PFBS	4.369	299.0 -> 80.0	41352	20.08 µg/L	100
PFDA	8.190	513.0 -> 469.0	344507	19.67 µg/L	99
PFDoDA	8.813	613.0 -> 569.0	490270	20.24 µg/L	100
PFDS	8.485	599.0 -> 80.0	18848	20.27 µg/L	97
PFHpA	6.569	363.0 -> 319.0	350270	19.90 µg/L	100
PFHpS	7.293	449.0 -> 80.0	42211	20.46 µg/L	99
PFHxA	5.577	313.0 -> 269.0	160412	20.20 µg/L	100
PFHxS	6.616	399.0 -> 80.0	43056	19.51 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	285131	19.47 µg/L	99
PFNS	8.174	549.0 -> 80.0	34701	20.92 µg/L	99
PFOA	7.283	413.0 -> 369.0	276220	19.47 µg/L	98
PFOS	7.786	499.0 -> 80.0	49519	20.18 µg/L	m 81
PFPeA	3.964	263.0 -> 219.0	169316	19.70 µg/L	100
PFPeS	5.732	349.0 -> 80.0	30569	20.13 µg/L	100
PFTeDA	9.565	713.0 -> 669.0	473530	19.81 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	525476	20.13 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	421887	19.89 µg/L	99
11Cl-PF3OUdS	8.636	631.0 -> 451.0	136488	20.25 µg/L	99
9Cl-PF3ONS	7.997	531.0 -> 351.0	37180	18.60 µg/L	99
ADONA	6.681	377.0 -> 251.0	458735	19.38 µg/L	100
HFPO-DA	5.901	329.0 -> 169.0	60788	21.12 µg/L	97
MeFOSA	8.203	512.0 -> 169.0	28238	19.95 µg/L	99

= Qualifier out of range, m = manually integrated, + = Area summed

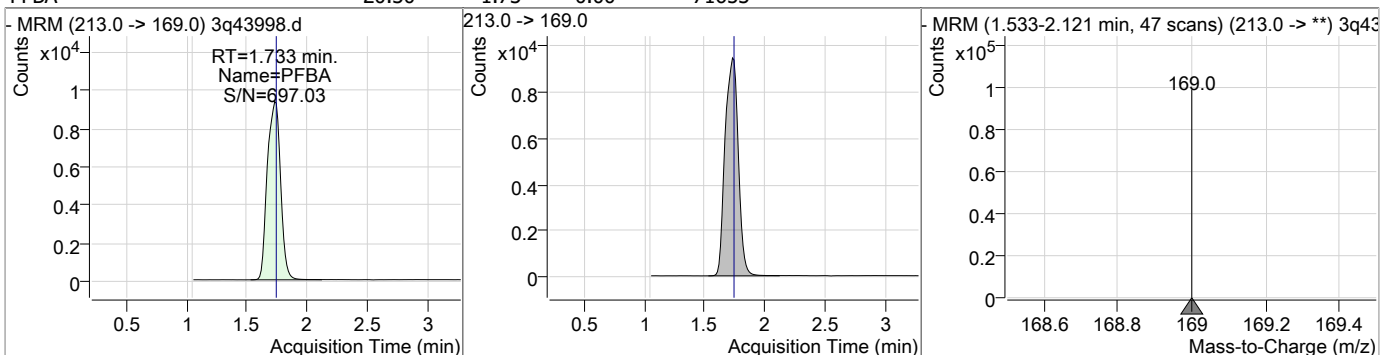
Perfluorinated Compounds by LC/MS/MS



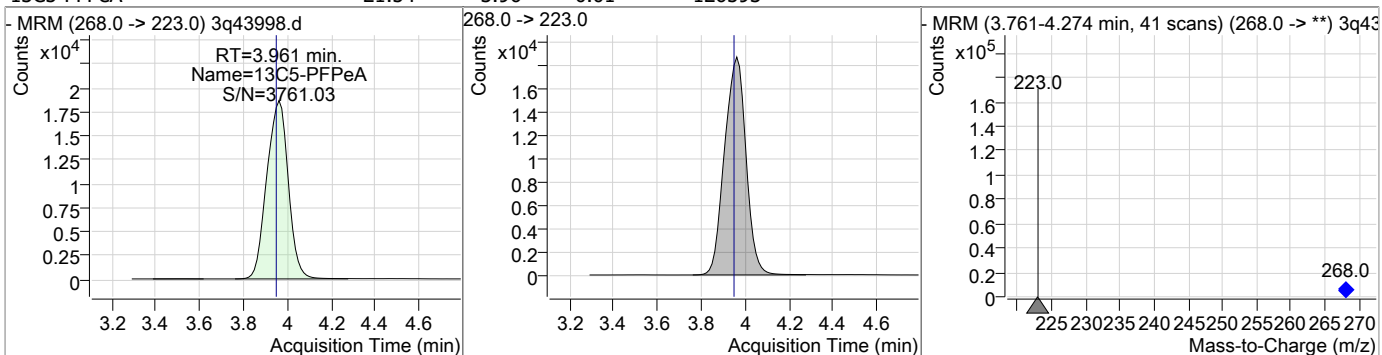
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



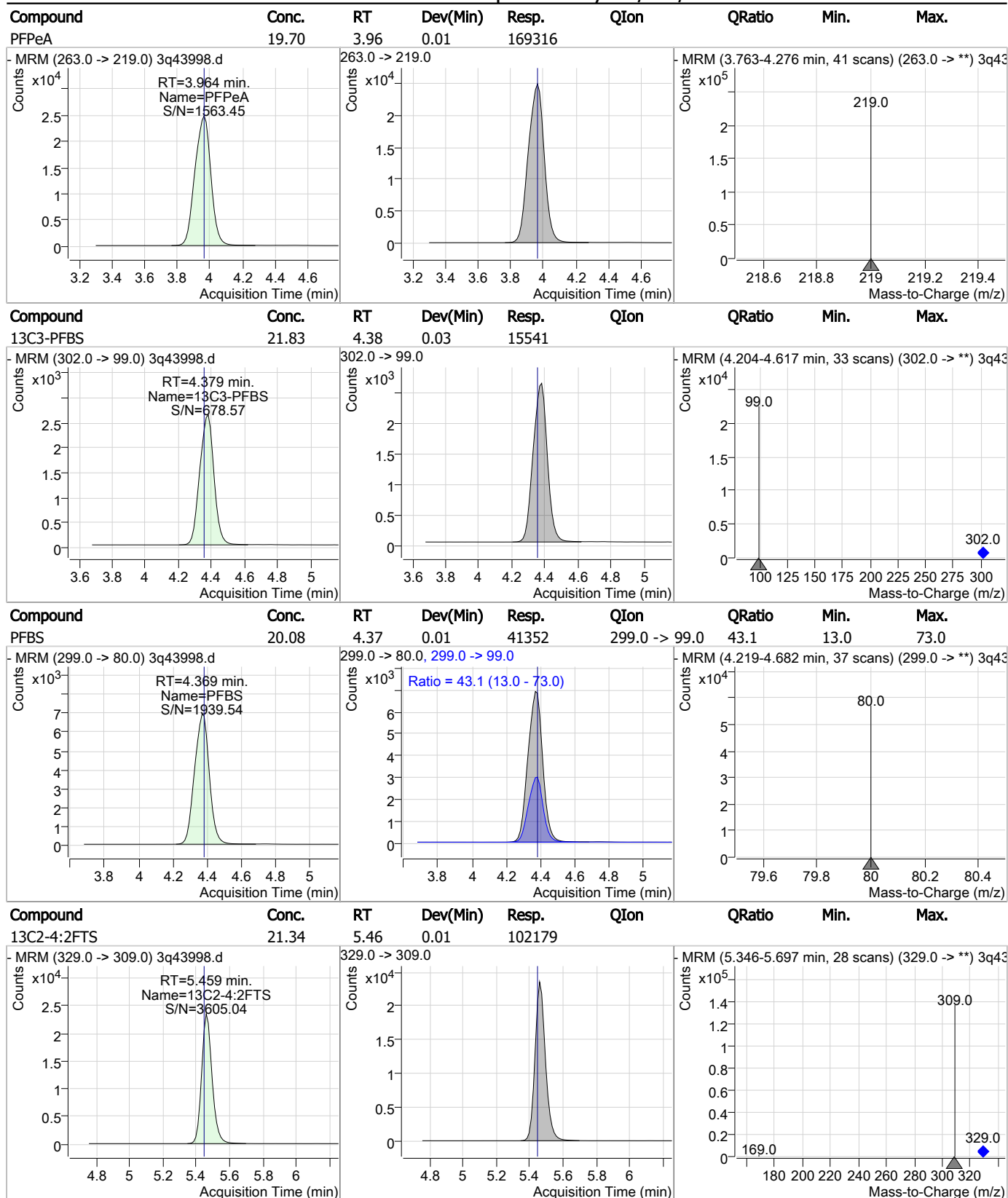
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



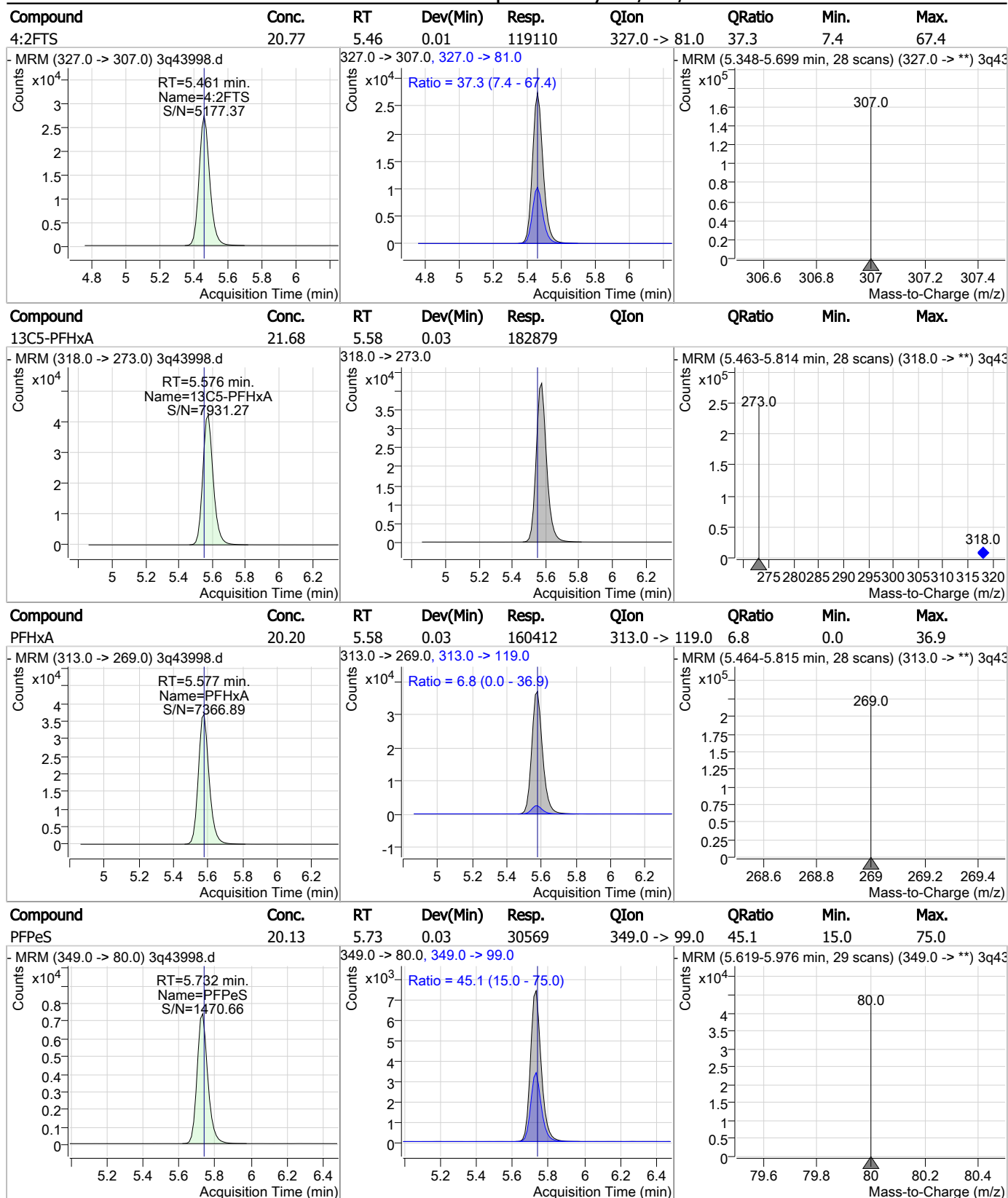
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



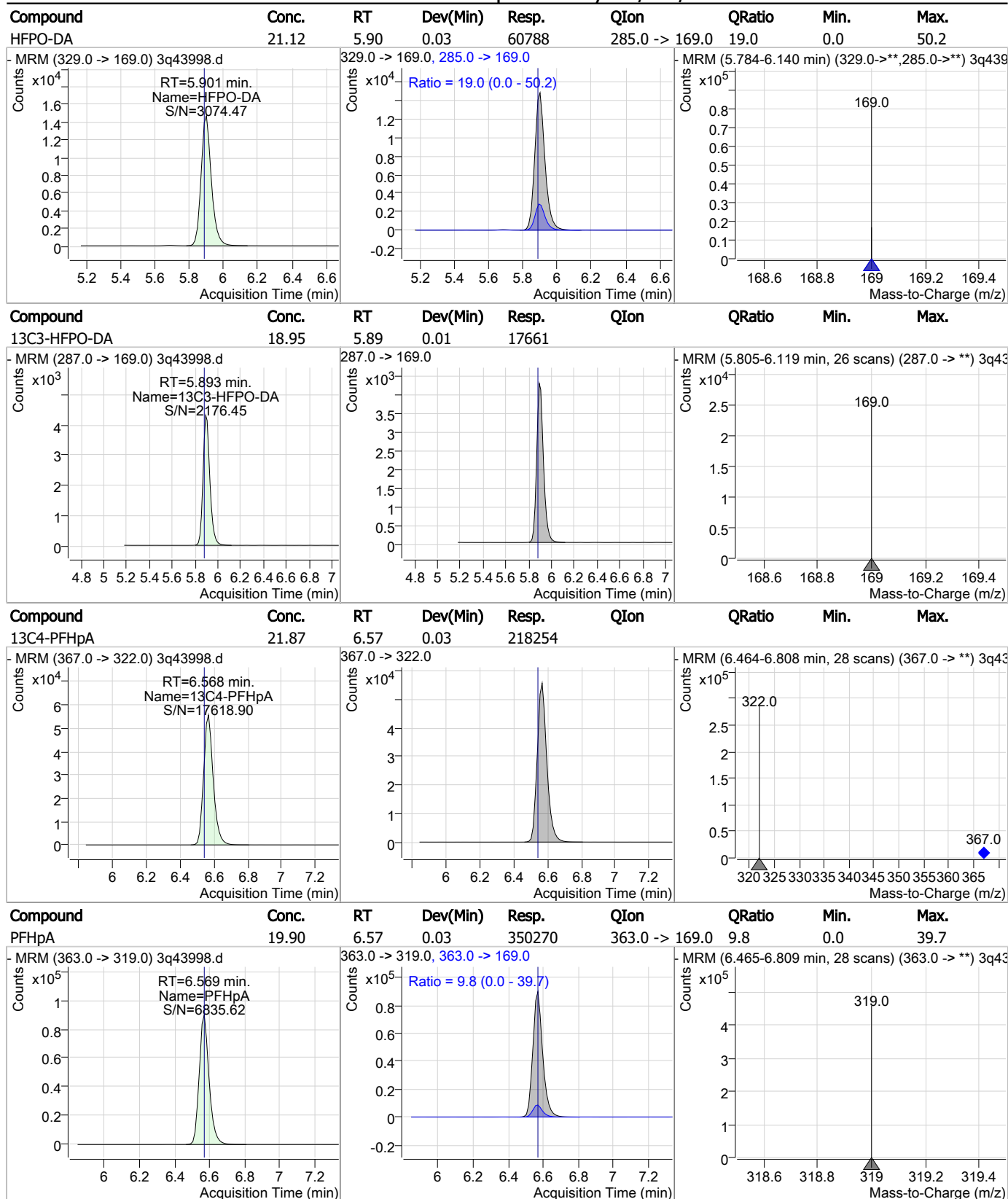
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

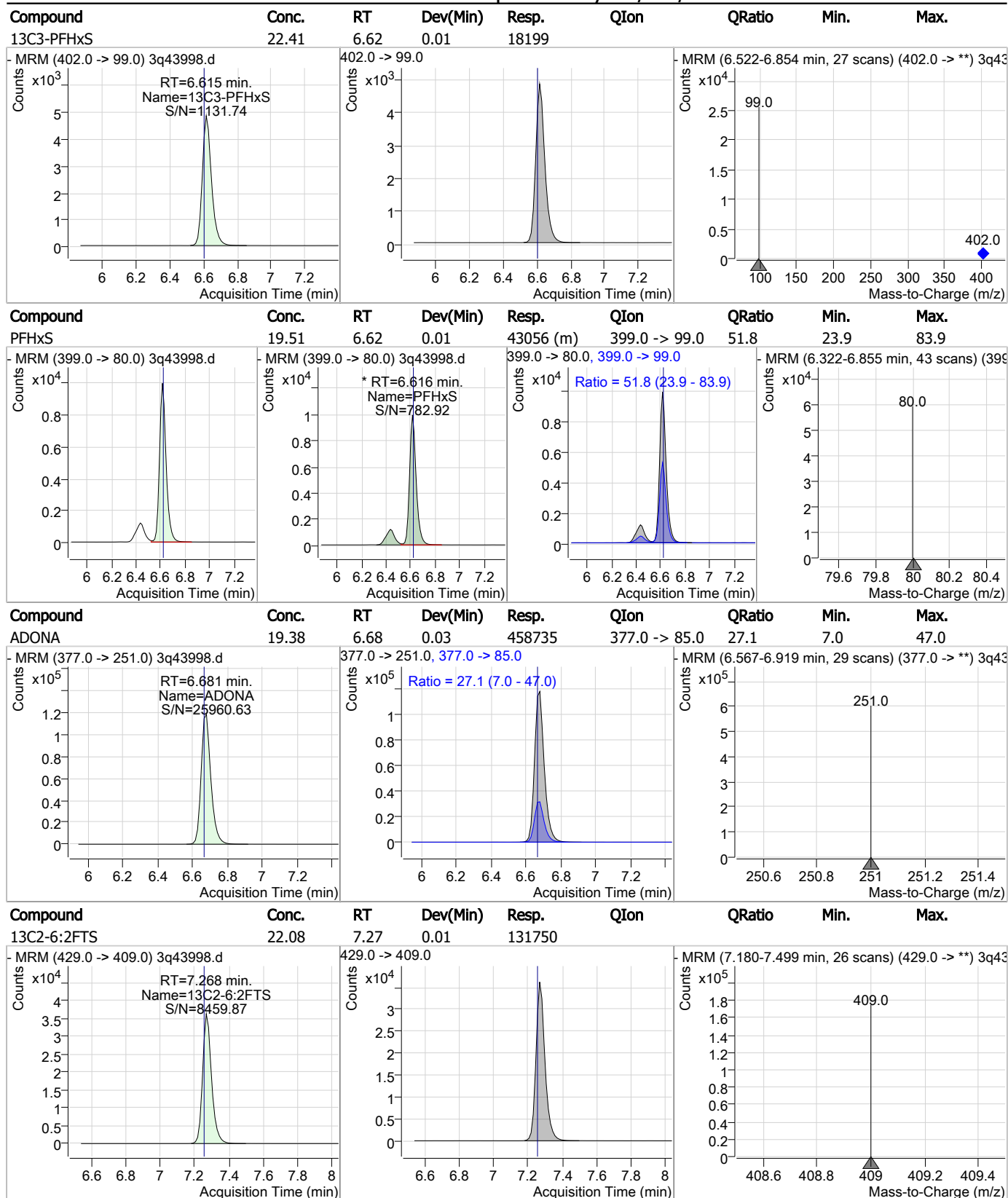


Perfluorinated Compounds by LC/MS/MS

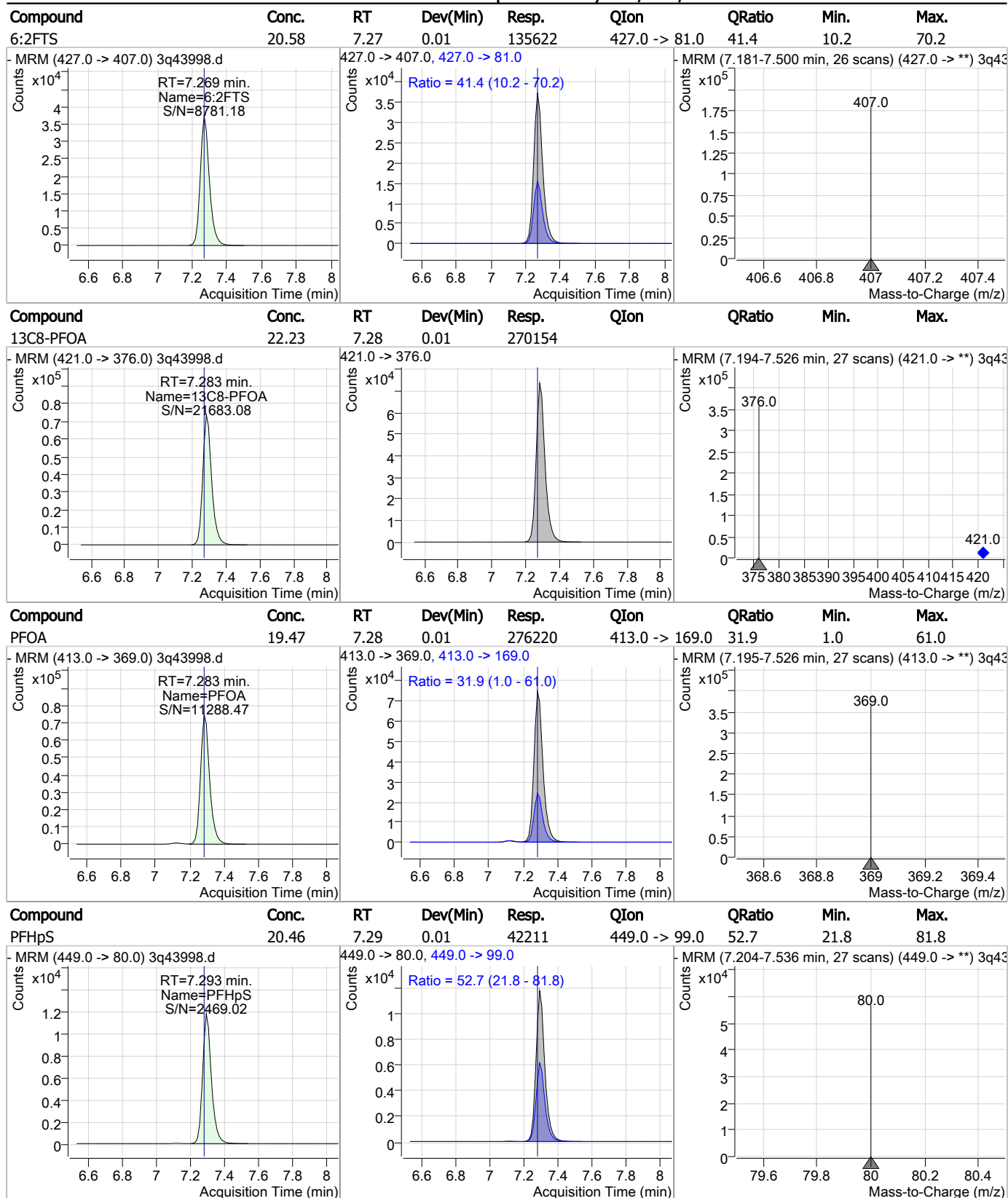


10.5.14 10

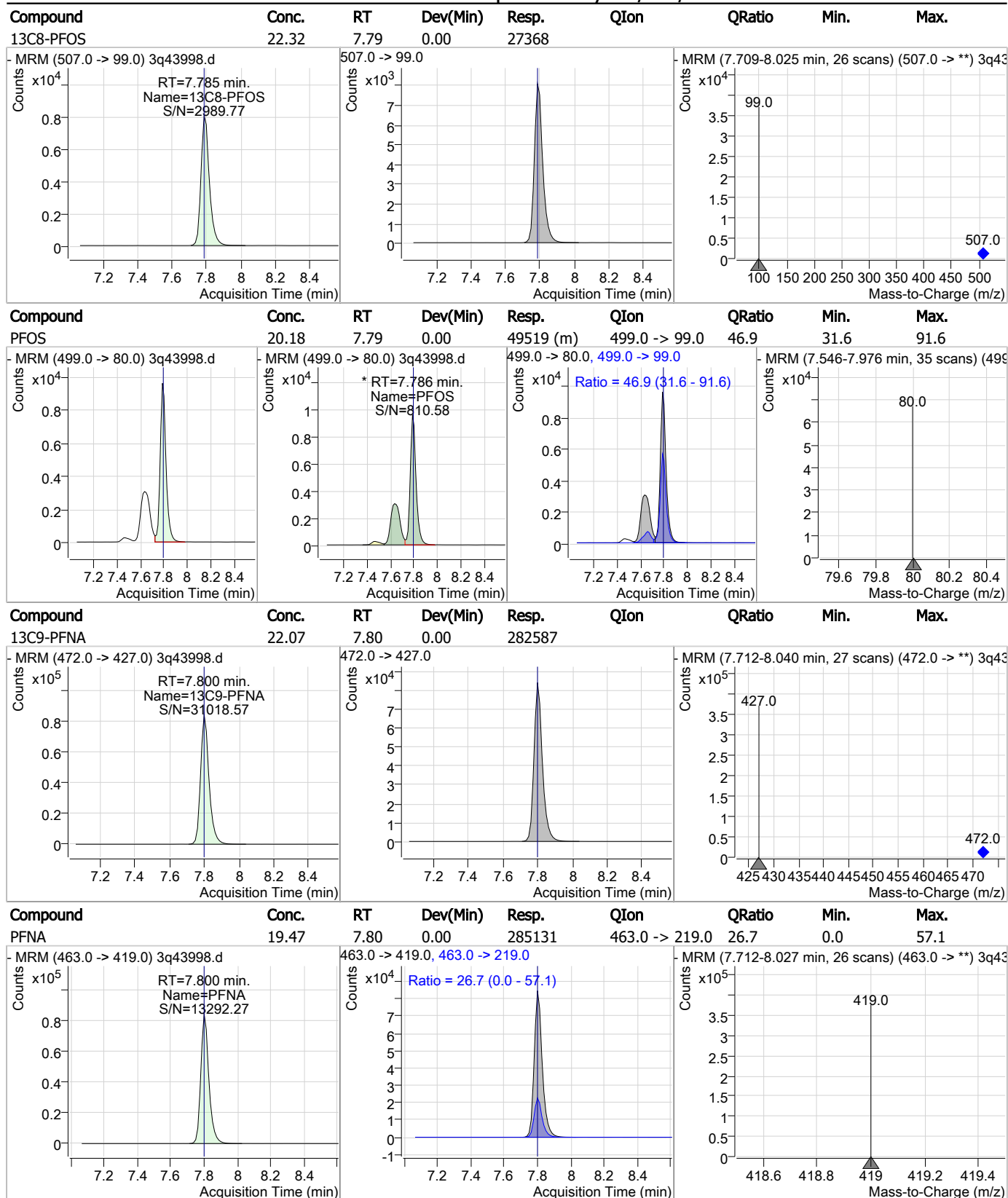
Perfluorinated Compounds by LC/MS/MS



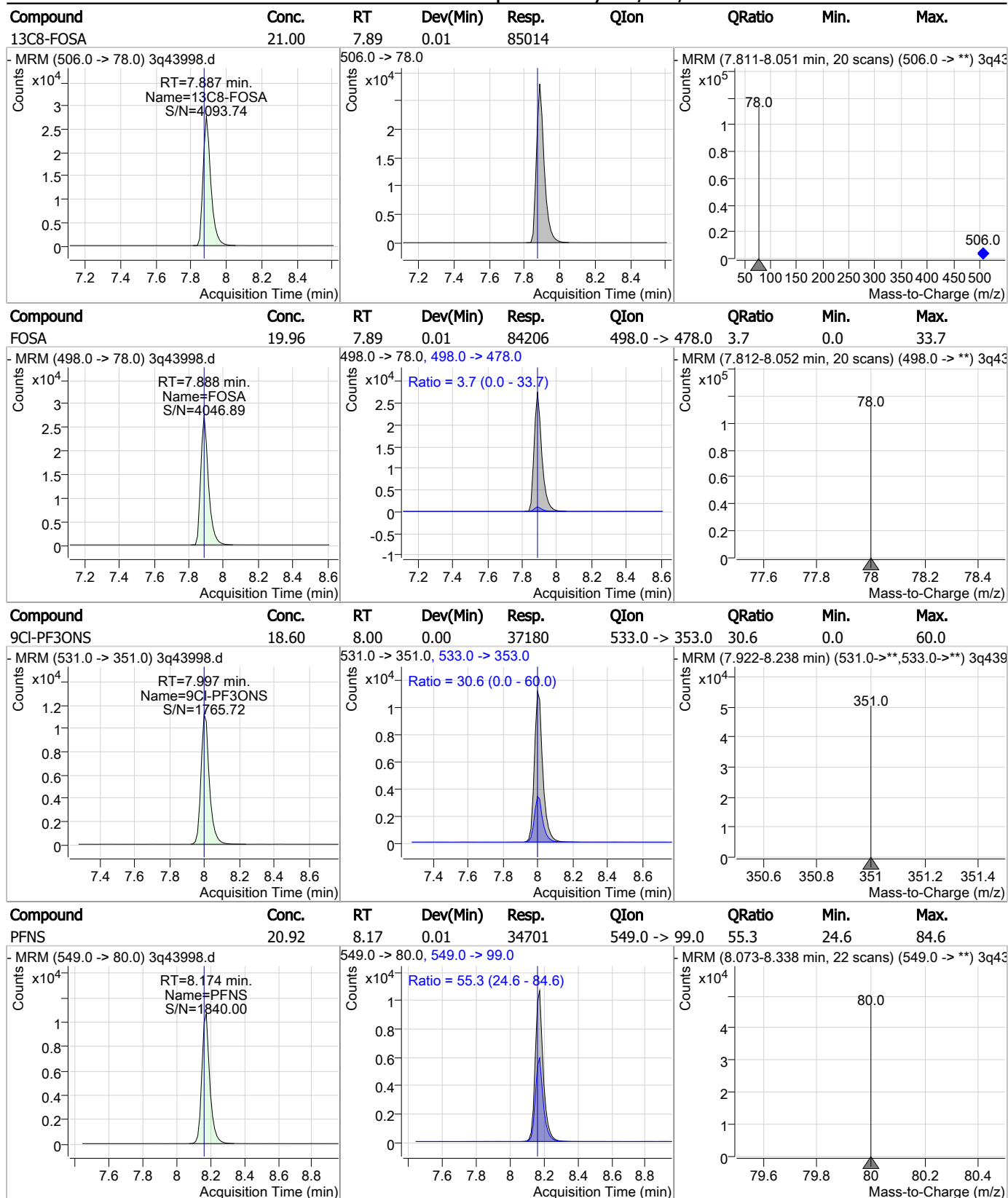
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

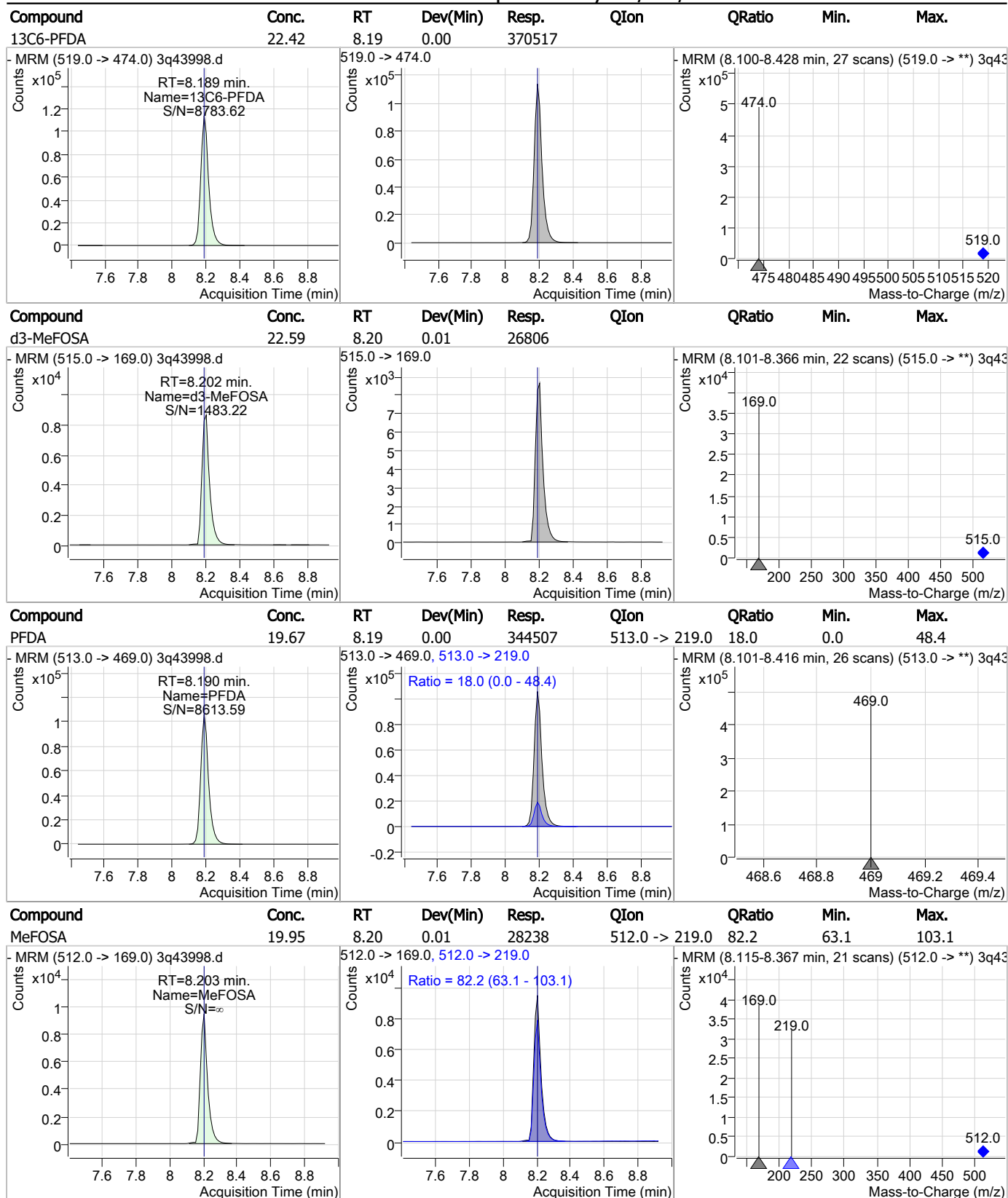


Perfluorinated Compounds by LC/MS/MS

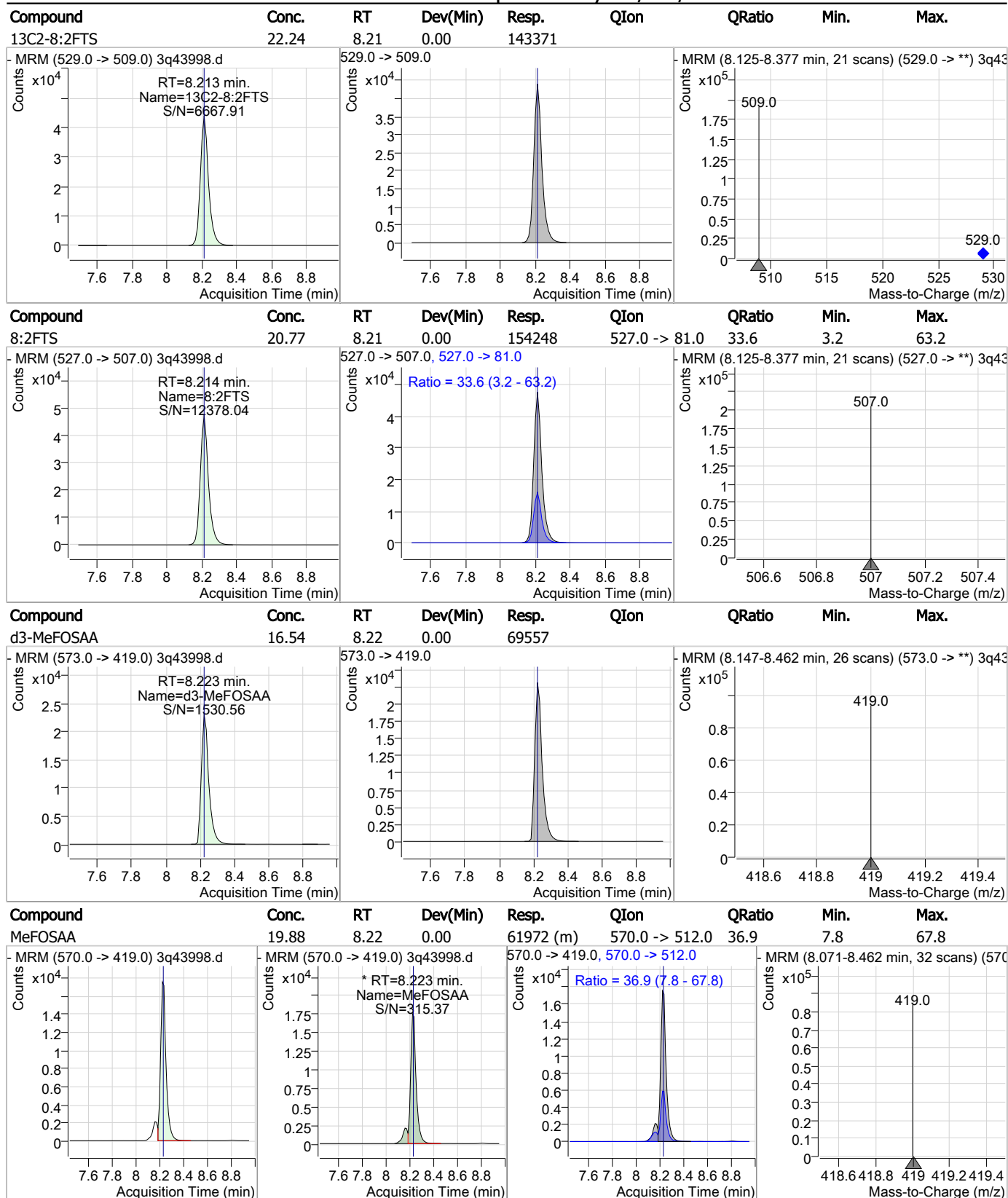


10.5.14 10

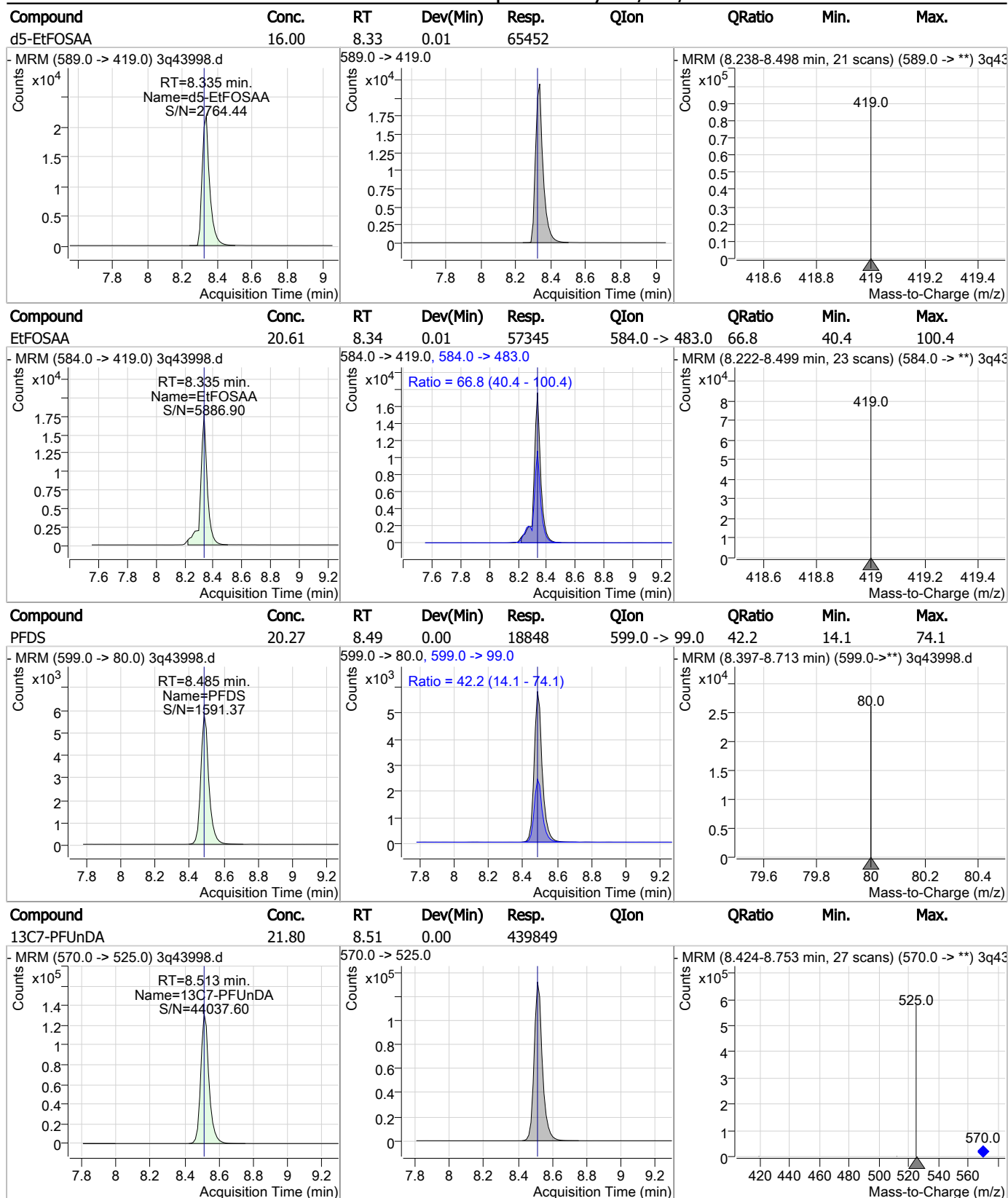
Perfluorinated Compounds by LC/MS/MS



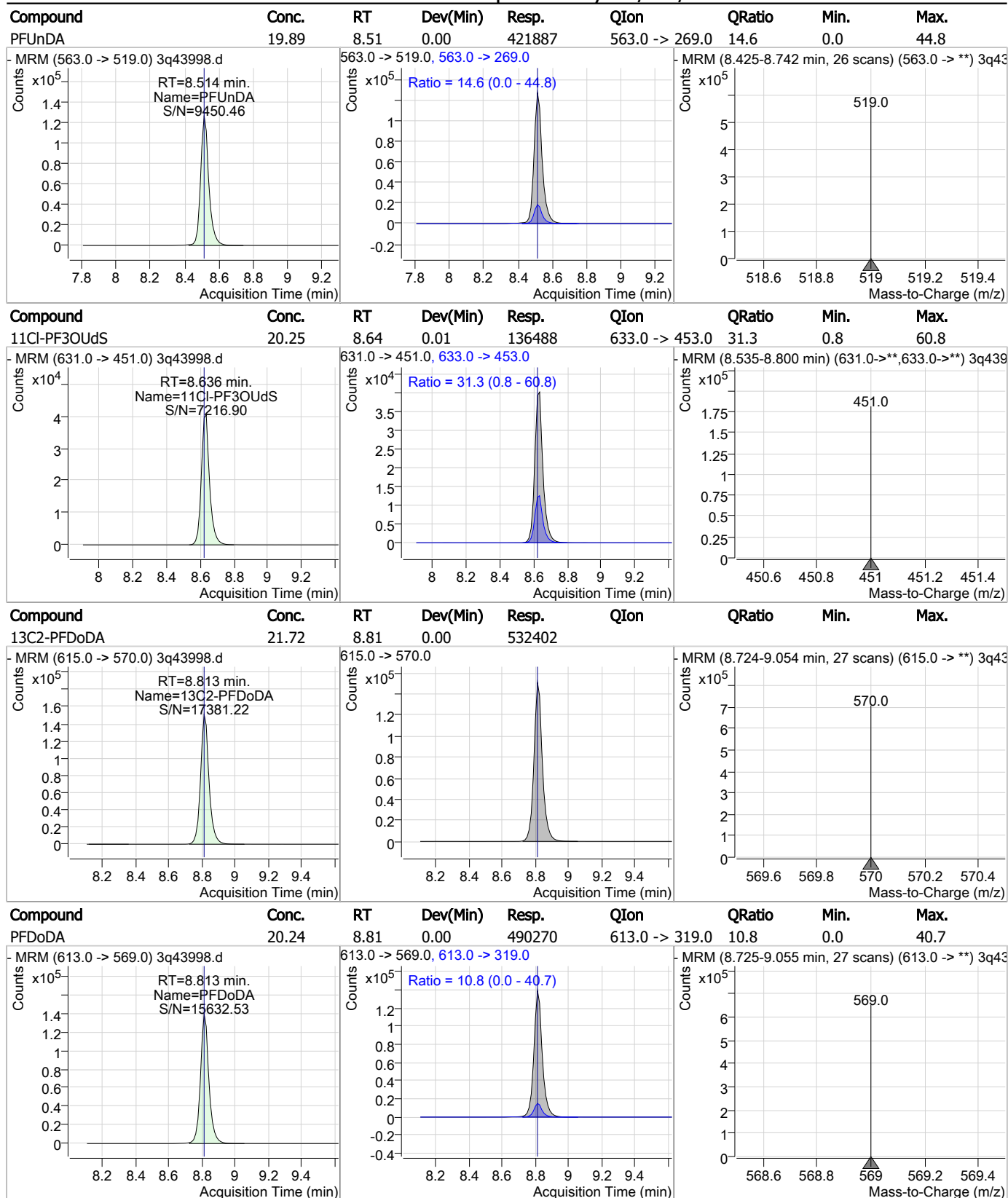
Perfluorinated Compounds by LC/MS/MS



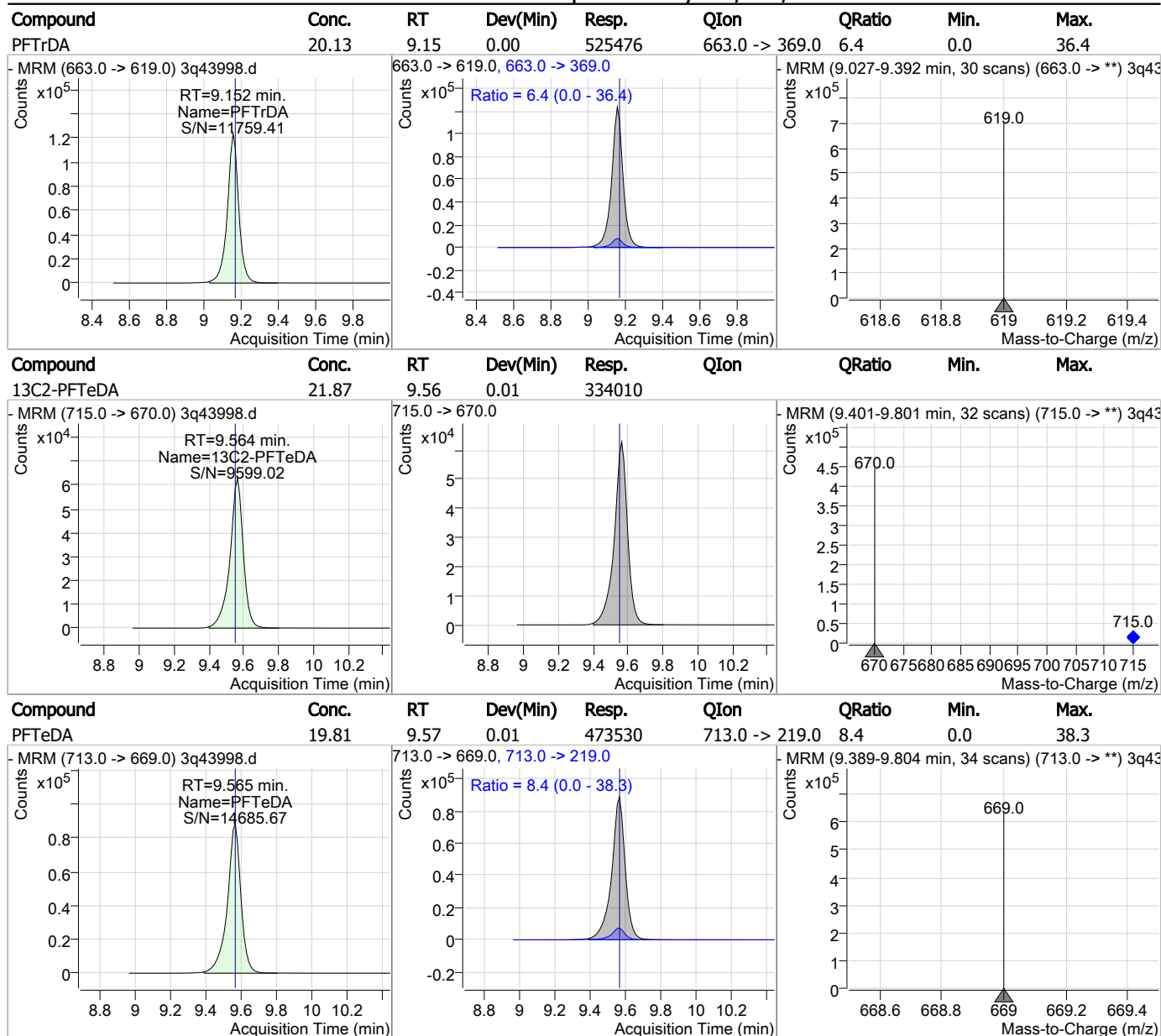
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.5.14 10

Manual Integration Approval Summary

Sample Number:

S3Q638-CC637

Lab FileID:

3Q43998.D

Injection Time:

08/31/21 21:25

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/01/21 10:24 Mike Eger

Supervisor approved:

09/03/21 13:47 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.62	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak

10.5.14.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44010.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 12:43:58 AM
 Sample Name : cc637-20
 Vial : P1-A7
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : S3Q638.batch.bin
 Sample Information : op86590,S3Q638,250,,,1,1,water

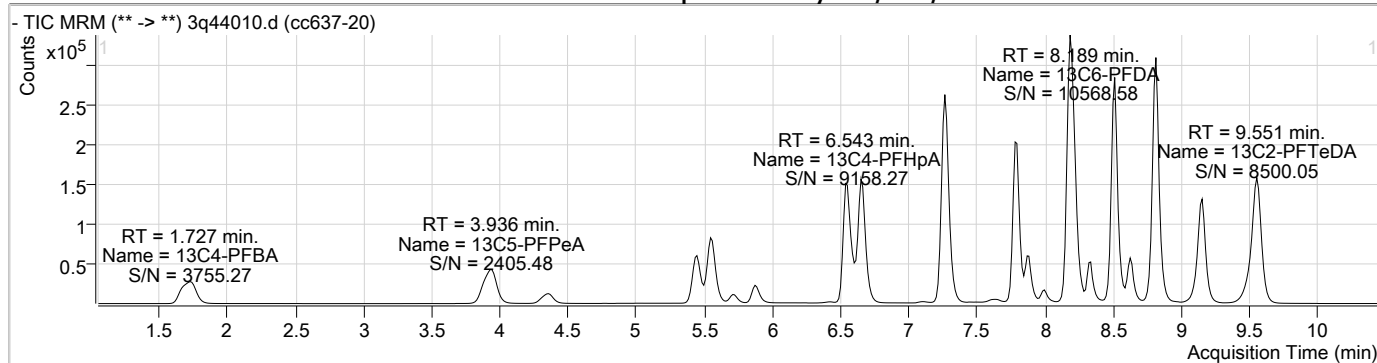
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	143371	20.00 µg/L	0.000
M5-PFPeA	3.936	268.0 -> 223.0	127122	20.00 µg/L	-0.013
M5-PFHxA	5.551	318.0 -> 273.0	183249	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	214132	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	265650	20.00 µg/L	0.000
M9-PFNA	7.800	472.0 -> 427.0	280248	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	363534	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	443431	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	539767	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	332119	20.00 µg/L	0.000
M8-FOSA	7.887	506.0 -> 78.0	85667	20.00 µg/L	0.013
M3-PFBS	4.354	302.0 -> 99.0	15460	20.00 µg/L	0.000
M3-PFHxS	6.603	402.0 -> 99.0	18051	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	27329	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	102990	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	133091	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	141627	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	72154	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	18108	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	27888	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	68769	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	102990	21.51 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 107.5%		
13C2-6:2FTS	7.256	429.0 -> 409.0	133091	22.30 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 111.5%		
13C2-8:2FTS	8.213	529.0 -> 509.0	141627	21.97 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 109.8%		
13C2-PFDoDA	8.813	615.0 -> 570.0	539767	22.02 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 110.1%		
13C2-PFTeDA	9.551	715.0 -> 670.0	332119	21.74 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 108.7%		
13C3-PFBS	4.354	302.0 -> 99.0	15460	21.71 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 108.6%		
13C3-PFHxS	6.603	402.0 -> 99.0	18051	22.23 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 111.2%		
13C4-PFBA	1.727	217.0 -> 172.0	143371	21.60 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 108.0%		
13C4-PFHpA	6.543	367.0 -> 322.0	214132	21.46 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 107.3%		
13C5-PFHxA	5.551	318.0 -> 273.0	183249	21.73 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 108.6%		
13C5-PFPeA	3.936	268.0 -> 223.0	127122	21.63 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 108.1%		
13C6-PFDA	8.189	519.0 -> 474.0	363534	22.00 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

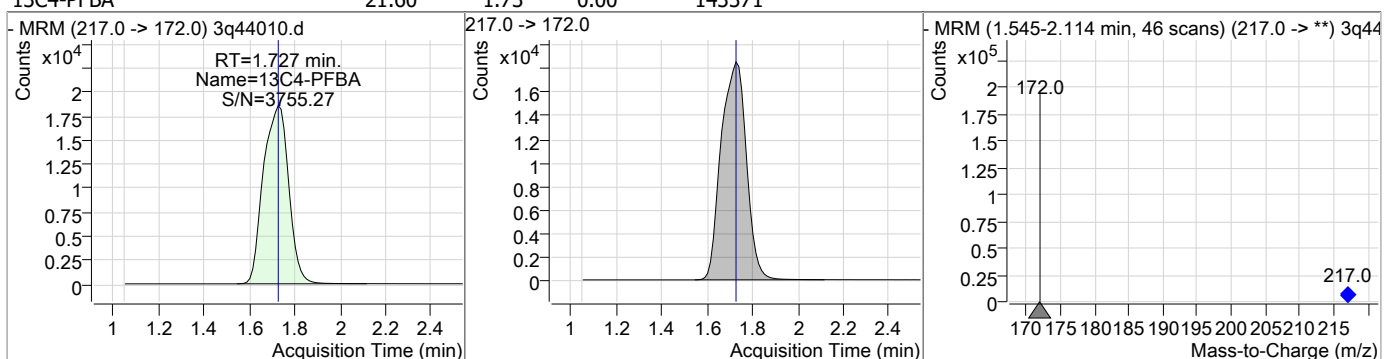
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 110.0%	
13C7-PFUnDA	8.513	570.0 -> 525.0	443431	21.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.9%	
13C8-FOSA	7.887	506.0 -> 78.0	85667	21.17 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C8-PFOA	7.270	421.0 -> 376.0	265650	21.86 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.3%	
13C8-PFOS	7.785	507.0 -> 99.0	27329	22.29 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.4%	
13C9-PFNA	7.800	472.0 -> 427.0	280248	21.89 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.5%	
d3-MeFOSAA	8.223	573.0 -> 419.0	72154	17.16 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.8%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	18110	19.43 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.2%	
d3-MeFOSA	8.189	515.0 -> 169.0	27888	23.51 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 117.5%	
d5-EtFOSAA	8.322	589.0 -> 419.0	68733	16.80 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.0%	
Target Compounds					QValue
4:2FTS	5.448	327.0 -> 307.0	119204	20.62 µg/L	100
6:2FTS	7.256	427.0 -> 407.0	137482	20.65 µg/L	99
8:2FTS	8.214	527.0 -> 507.0	153084	20.87 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	59384	20.31 µg/L	97
FOSA	7.888	498.0 -> 78.0	84299	19.83 µg/L	99
MeFOSAA	8.223	570.0 -> 419.0	66042	20.43 µg/L	m 96
PFBA	1.733	213.0 -> 169.0	71600	19.99 µg/L	100
PFBS	4.357	299.0 -> 80.0	41206	20.12 µg/L	99
PFDA	8.190	513.0 -> 469.0	340641	19.82 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	495675	20.18 µg/L	100
PFDS	8.485	599.0 -> 80.0	19622	20.93 µg/L	94
PFHpA	6.544	363.0 -> 319.0	352075	20.39 µg/L	99
PFHpS	7.280	449.0 -> 80.0	42357	20.56 µg/L	98
PFHxA	5.552	313.0 -> 269.0	159748	20.07 µg/L	100
PFHxS	6.603	399.0 -> 80.0	42882	19.59 µg/L	m 98
PFNA	7.800	463.0 -> 419.0	283220	19.50 µg/L	100
PFNS	8.162	549.0 -> 80.0	34327	20.72 µg/L	97
PFOA	7.270	413.0 -> 369.0	278173	19.95 µg/L	99
PFOS	7.786	499.0 -> 80.0	49001	20.00 µg/L	m 83
PFPeA	3.938	263.0 -> 219.0	171419	19.86 µg/L	100
PFPeS	5.707	349.0 -> 80.0	31062	20.57 µg/L	98
PFTeDA	9.553	713.0 -> 669.0	473493	19.92 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	529554	20.40 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	420687	19.67 µg/L	100
11Cl-PF3OUdS	8.623	631.0 -> 451.0	135814	19.88 µg/L	98
9Cl-PF3ONS	7.997	531.0 -> 351.0	36910	18.82 µg/L	97
ADONA	6.655	377.0 -> 251.0	458947	19.54 µg/L	100
HFPO-DA	5.876	329.0 -> 169.0	62278	21.12 µg/L	97
MeFOSA	8.190	512.0 -> 169.0	28785	19.54 µg/L	99

= Qualifier out of range, m = manually integrated, + = Area summed

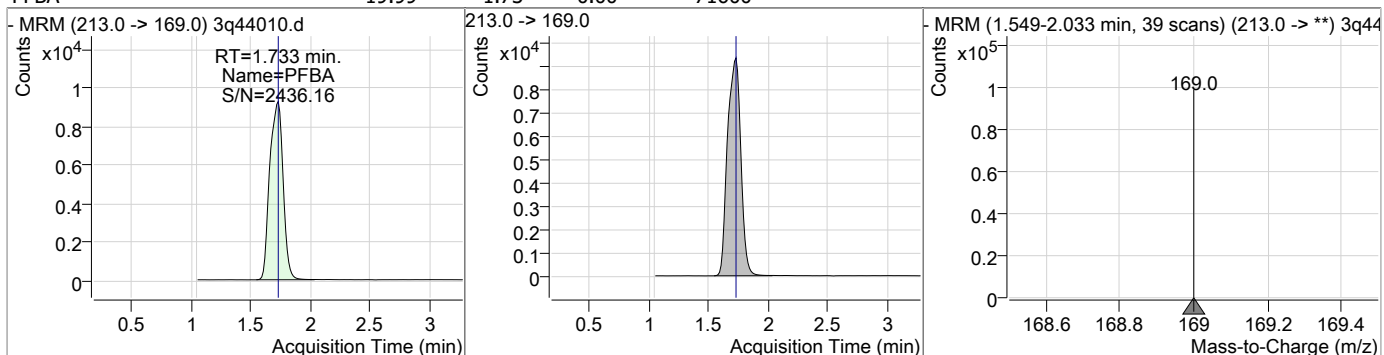
Perfluorinated Compounds by LC/MS/MS



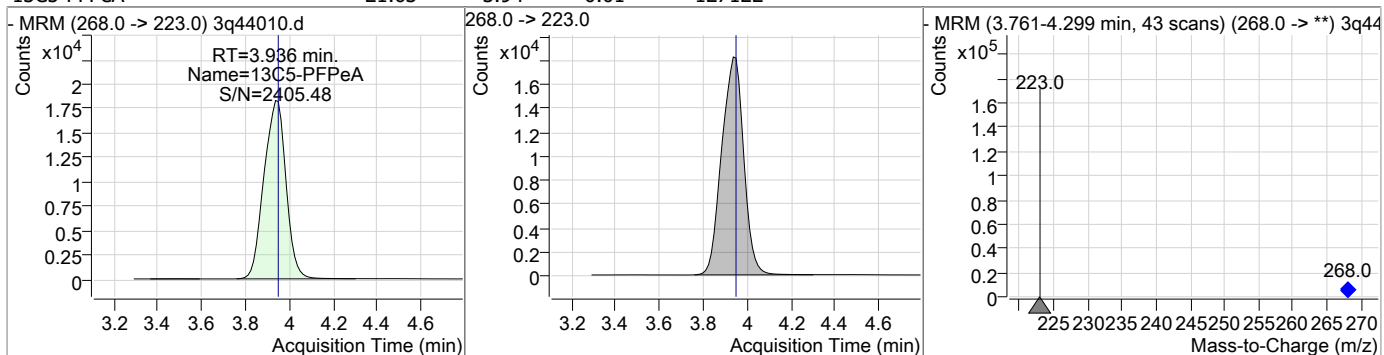
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



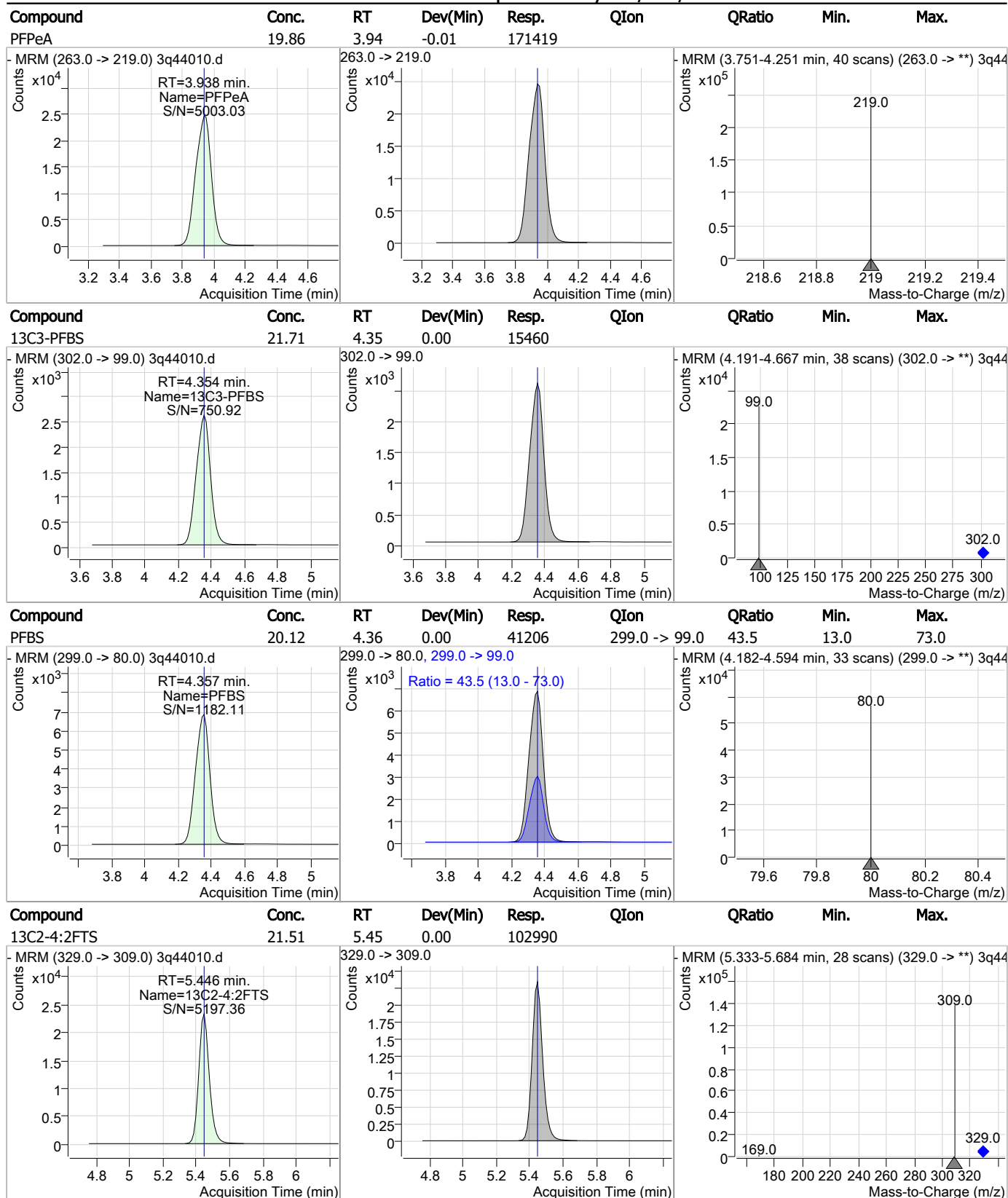
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.

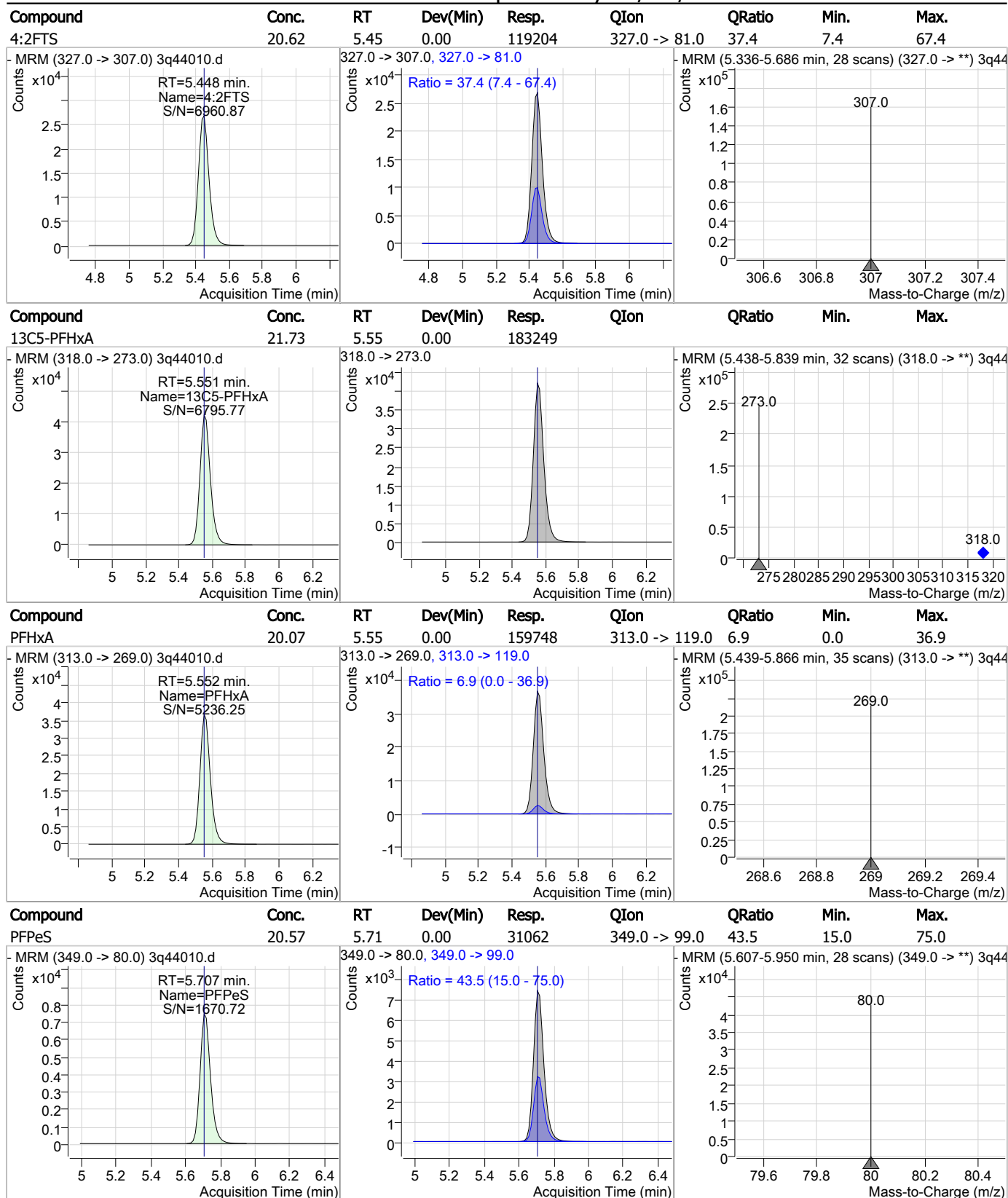


Perfluorinated Compounds by LC/MS/MS



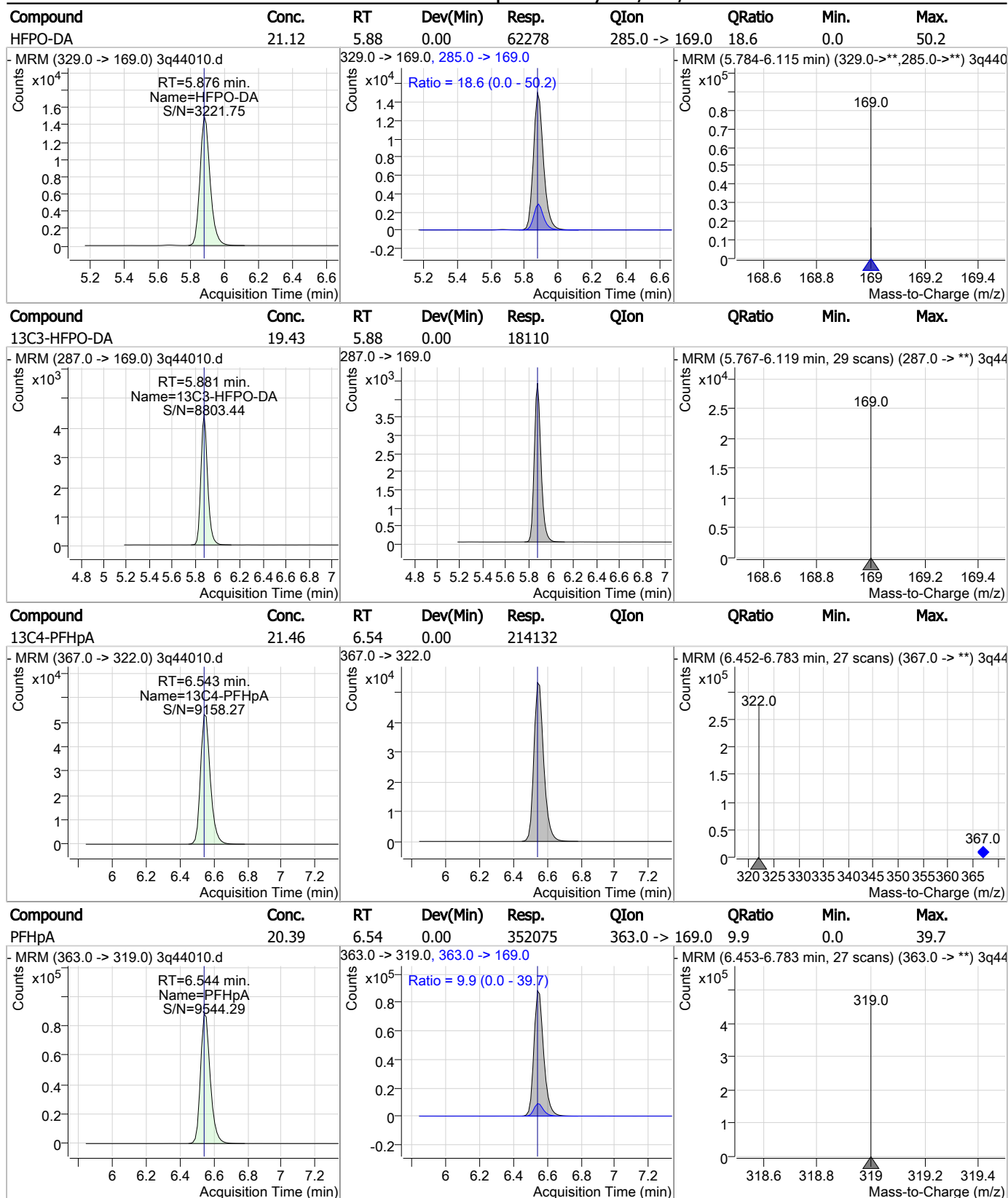
10.5.15 10

Perfluorinated Compounds by LC/MS/MS



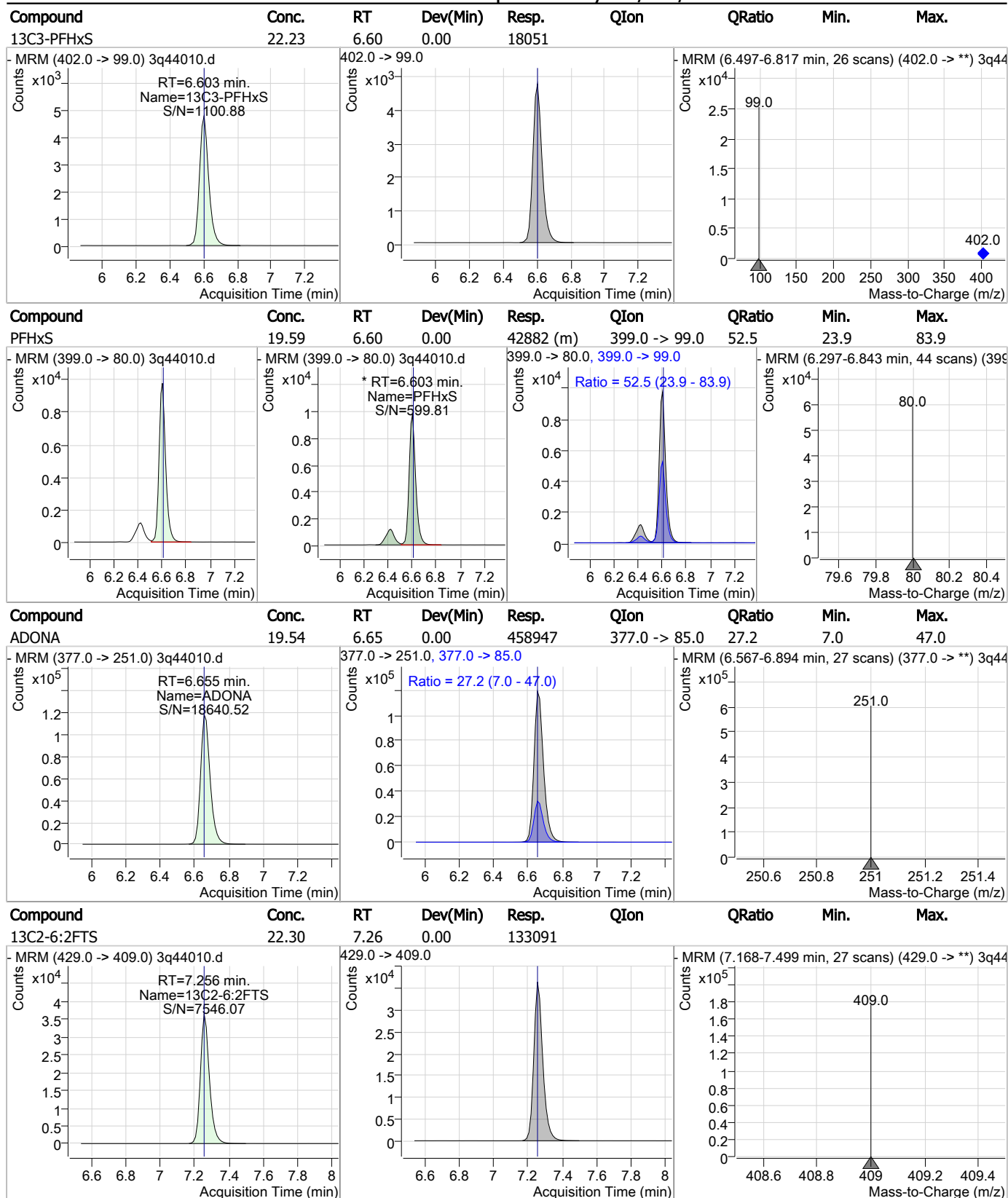
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Perfluorinated Compounds by LC/MS/MS

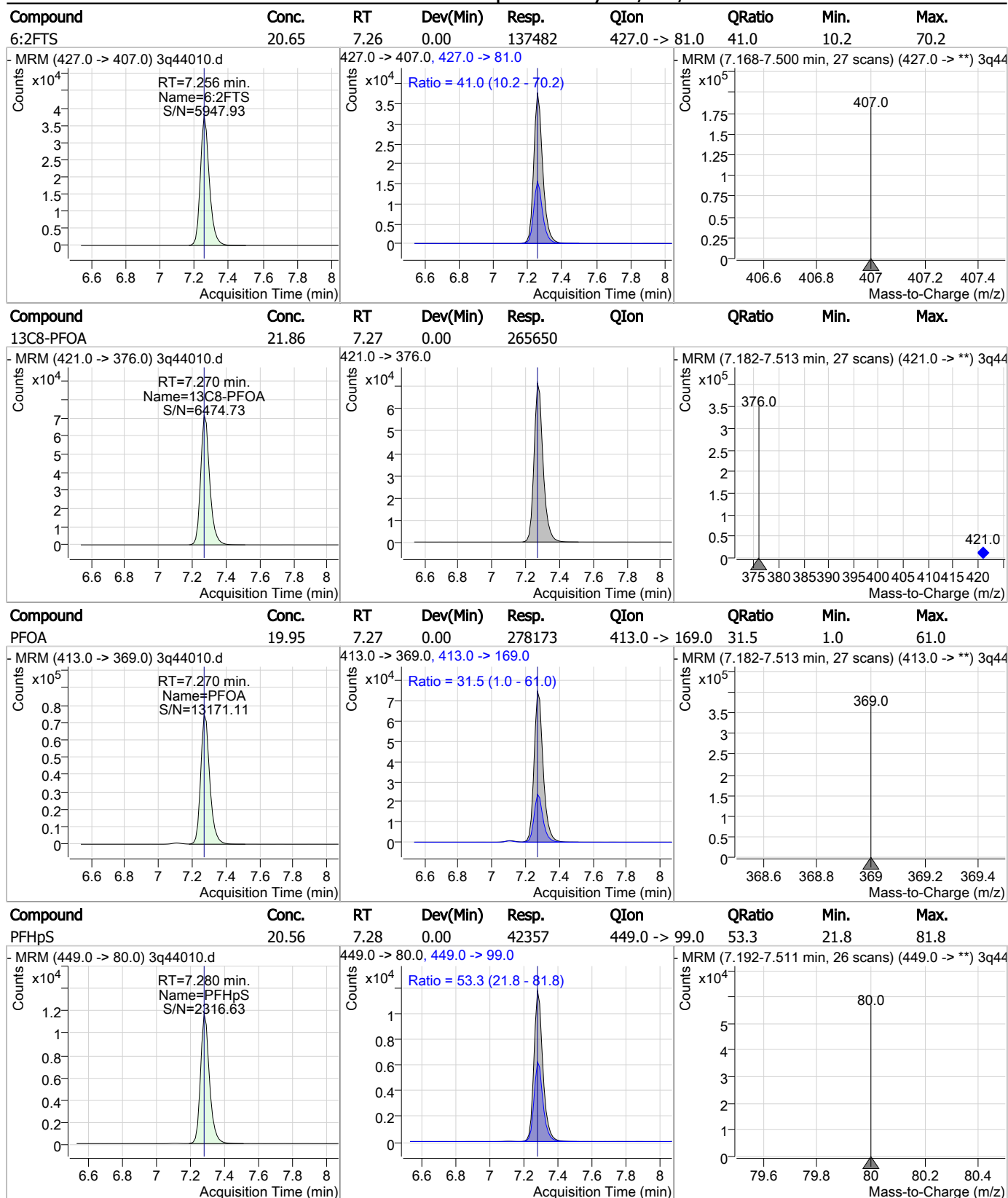


10.5.15 10

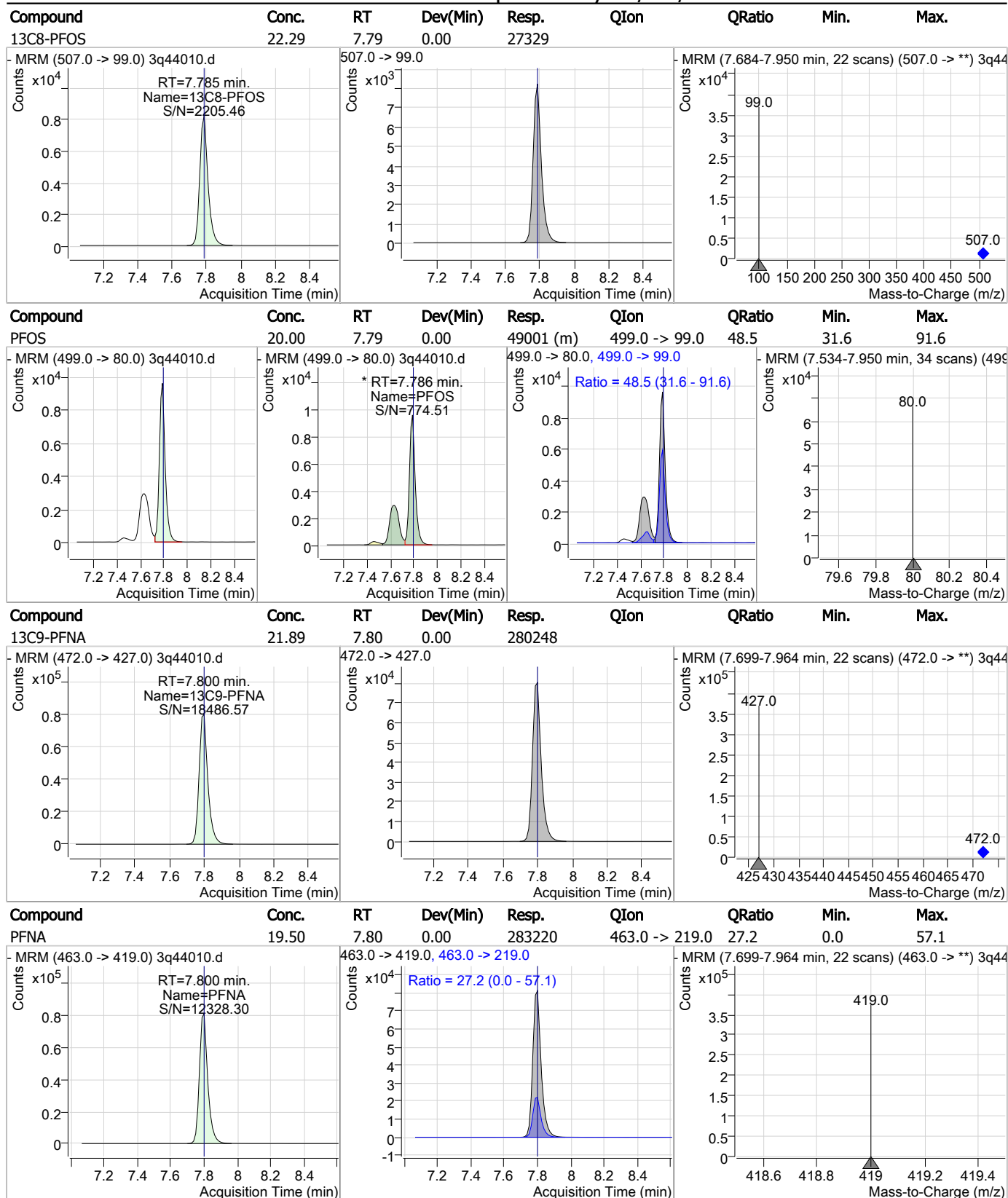
Perfluorinated Compounds by LC/MS/MS



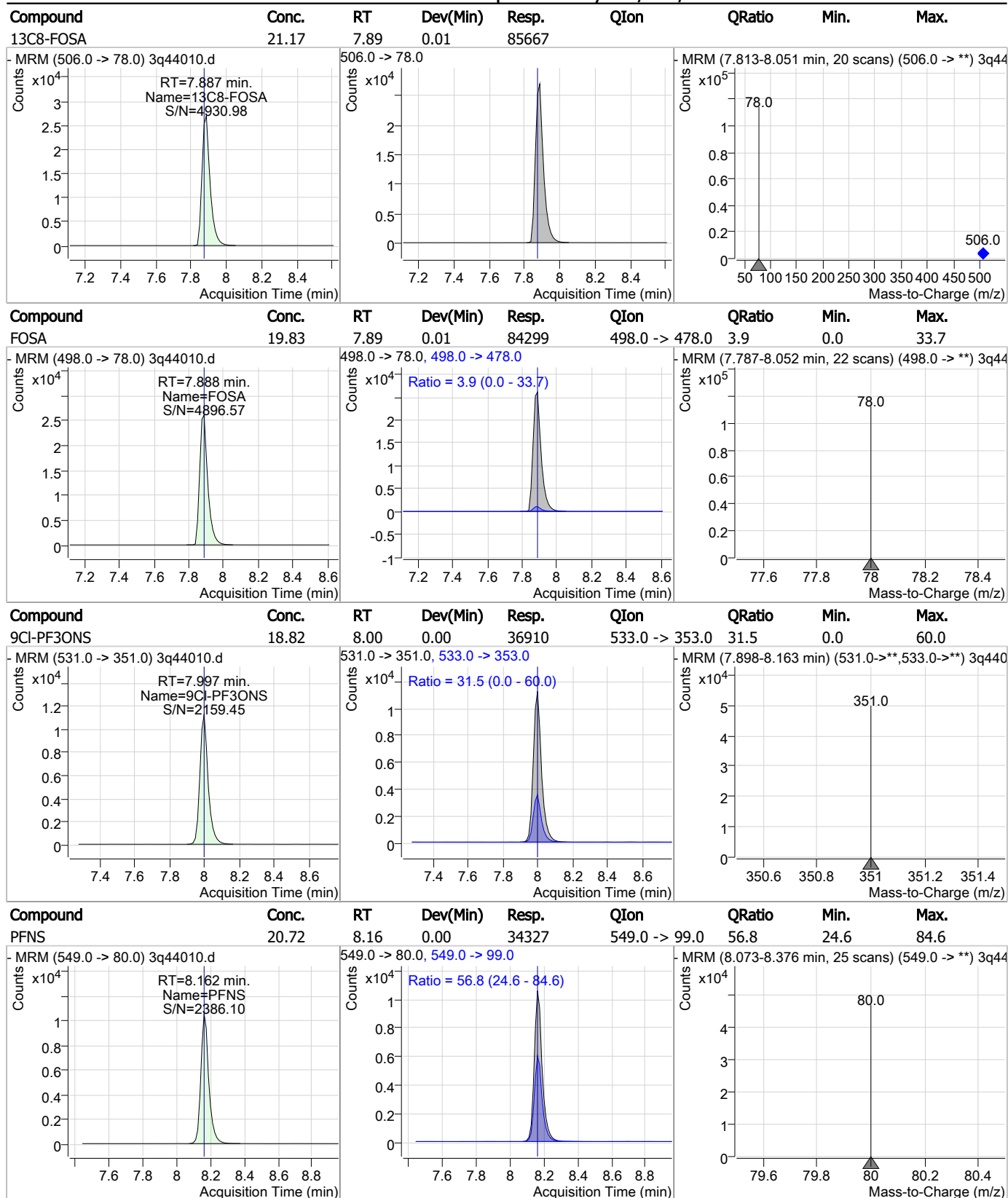
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

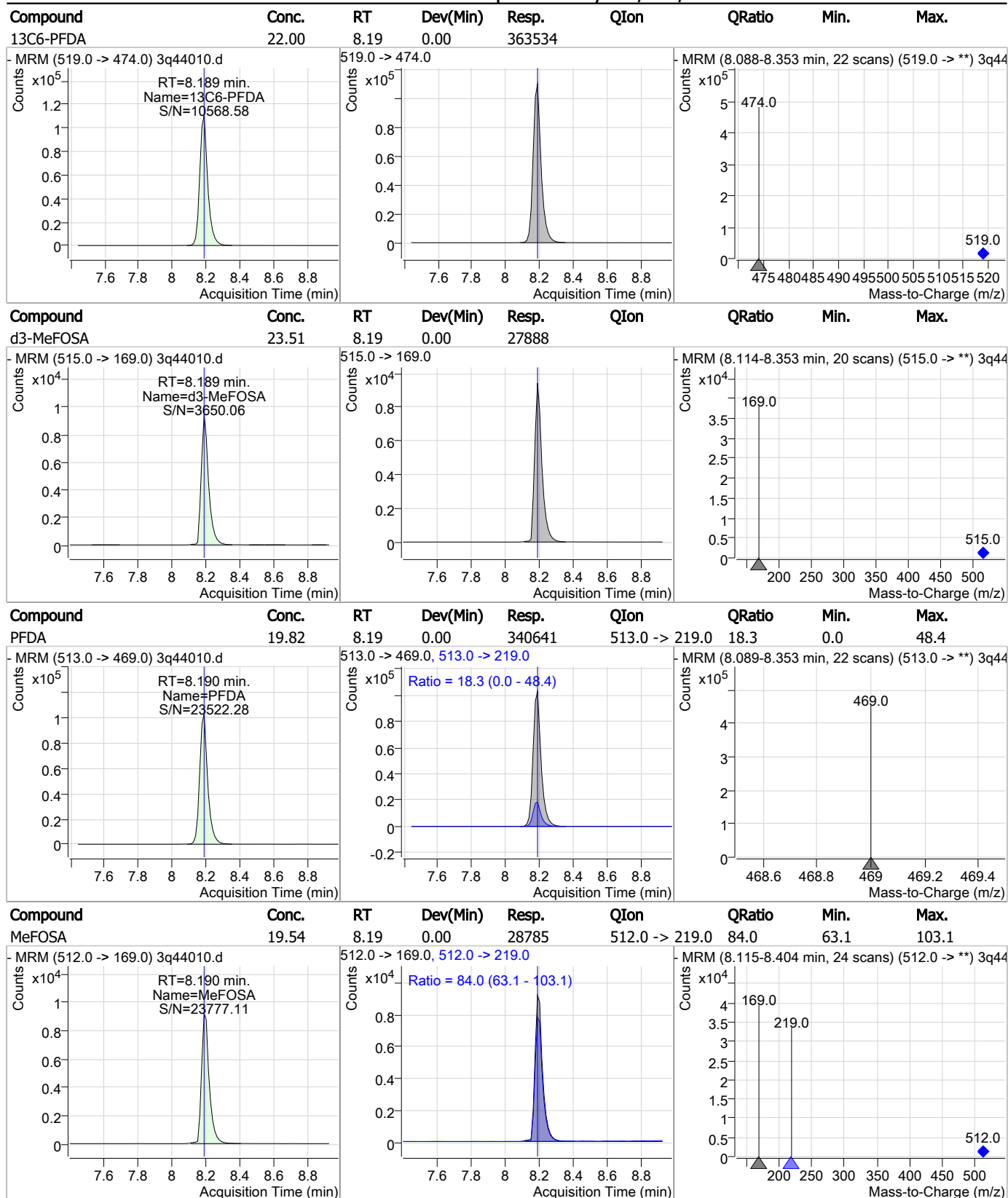


Perfluorinated Compounds by LC/MS/MS

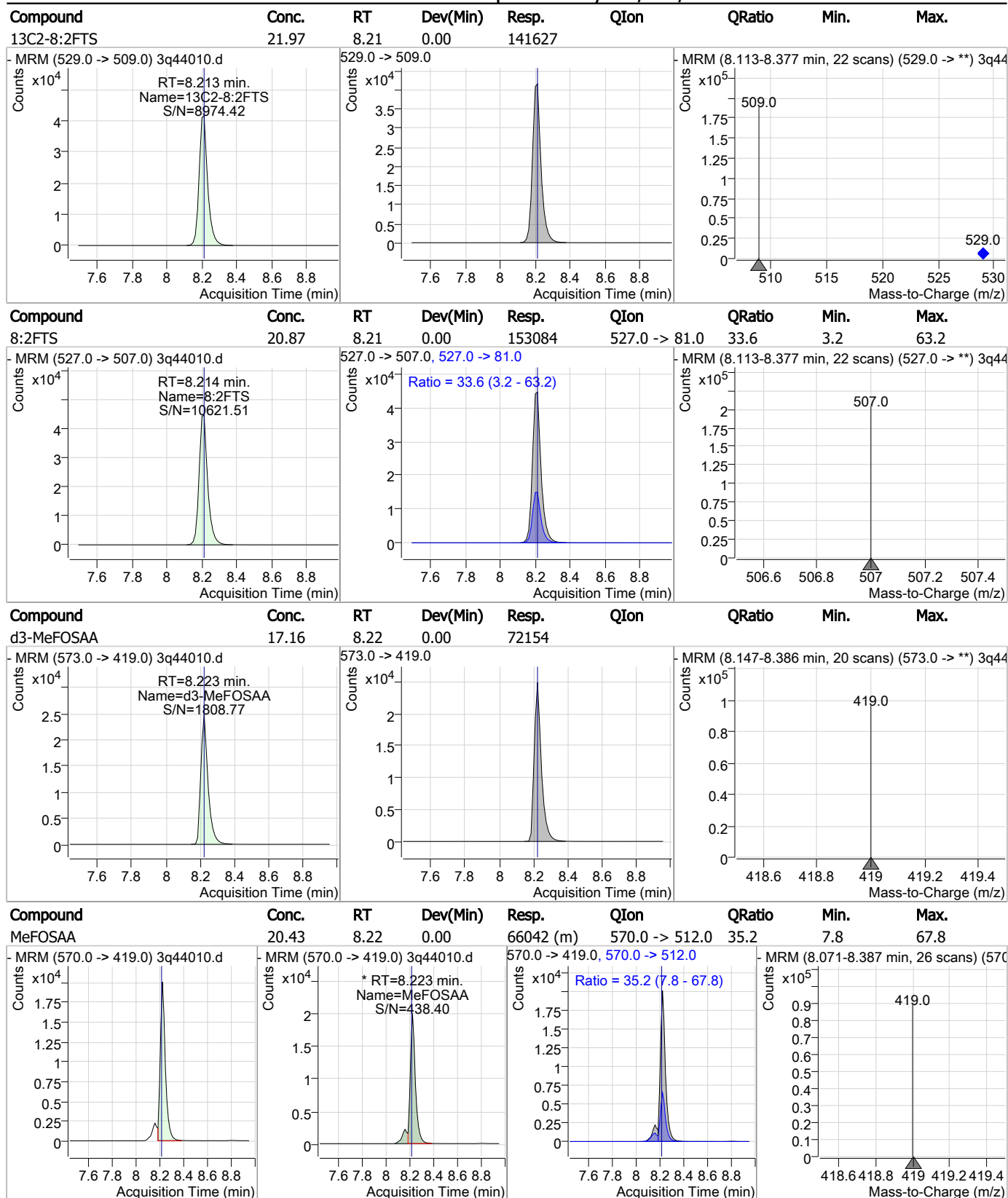


10.5.15 10

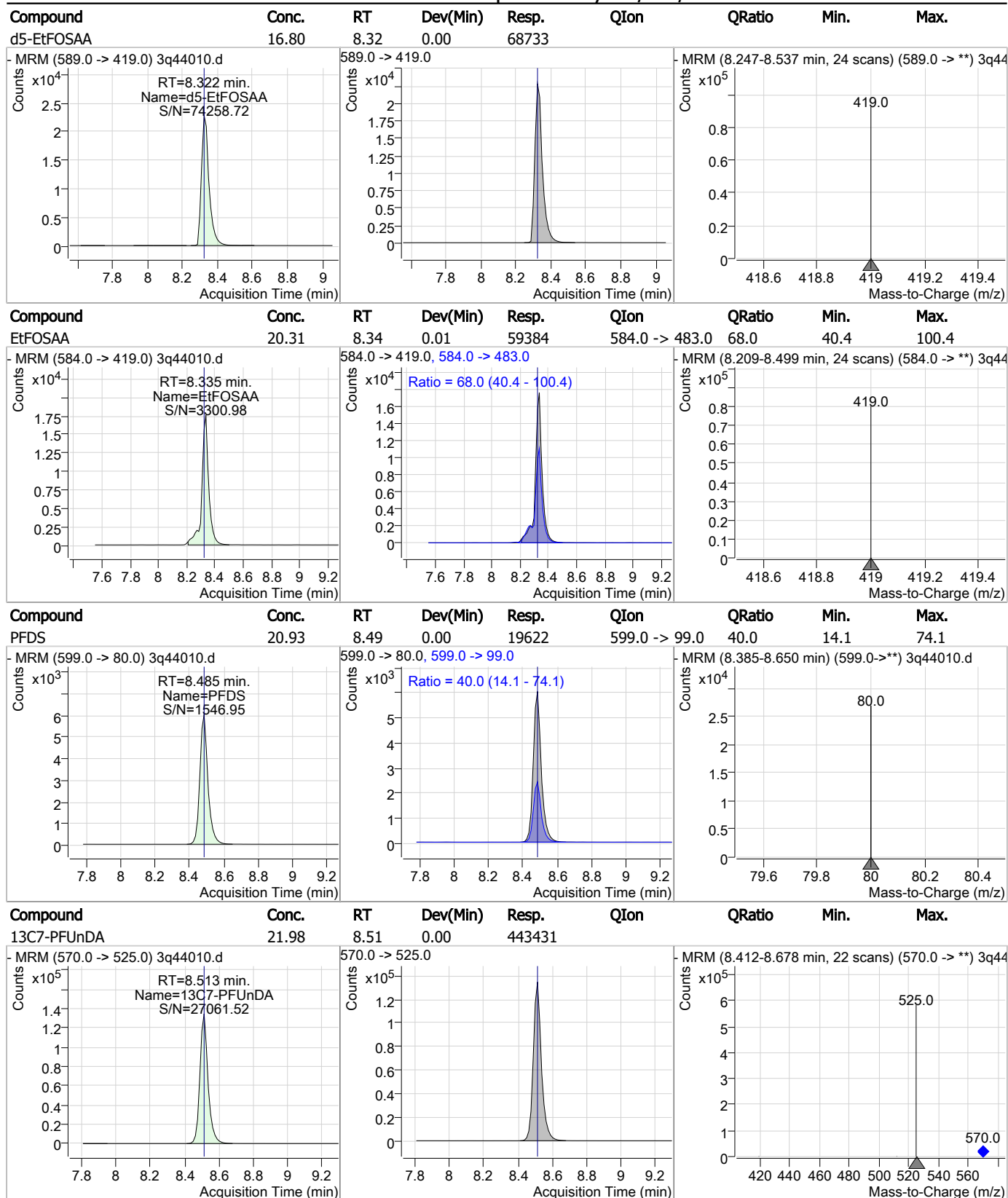
Perfluorinated Compounds by LC/MS/MS



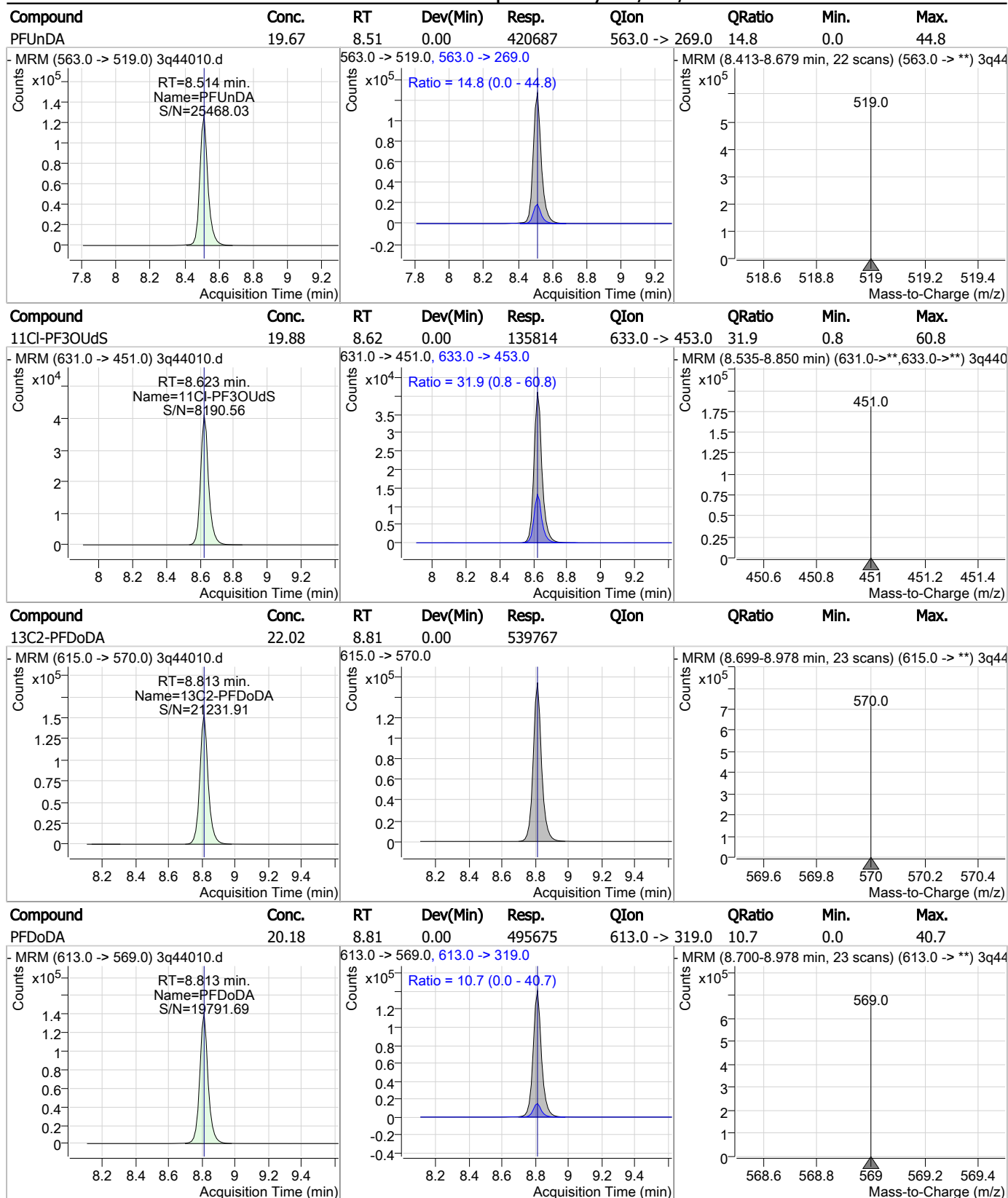
Perfluorinated Compounds by LC/MS/MS



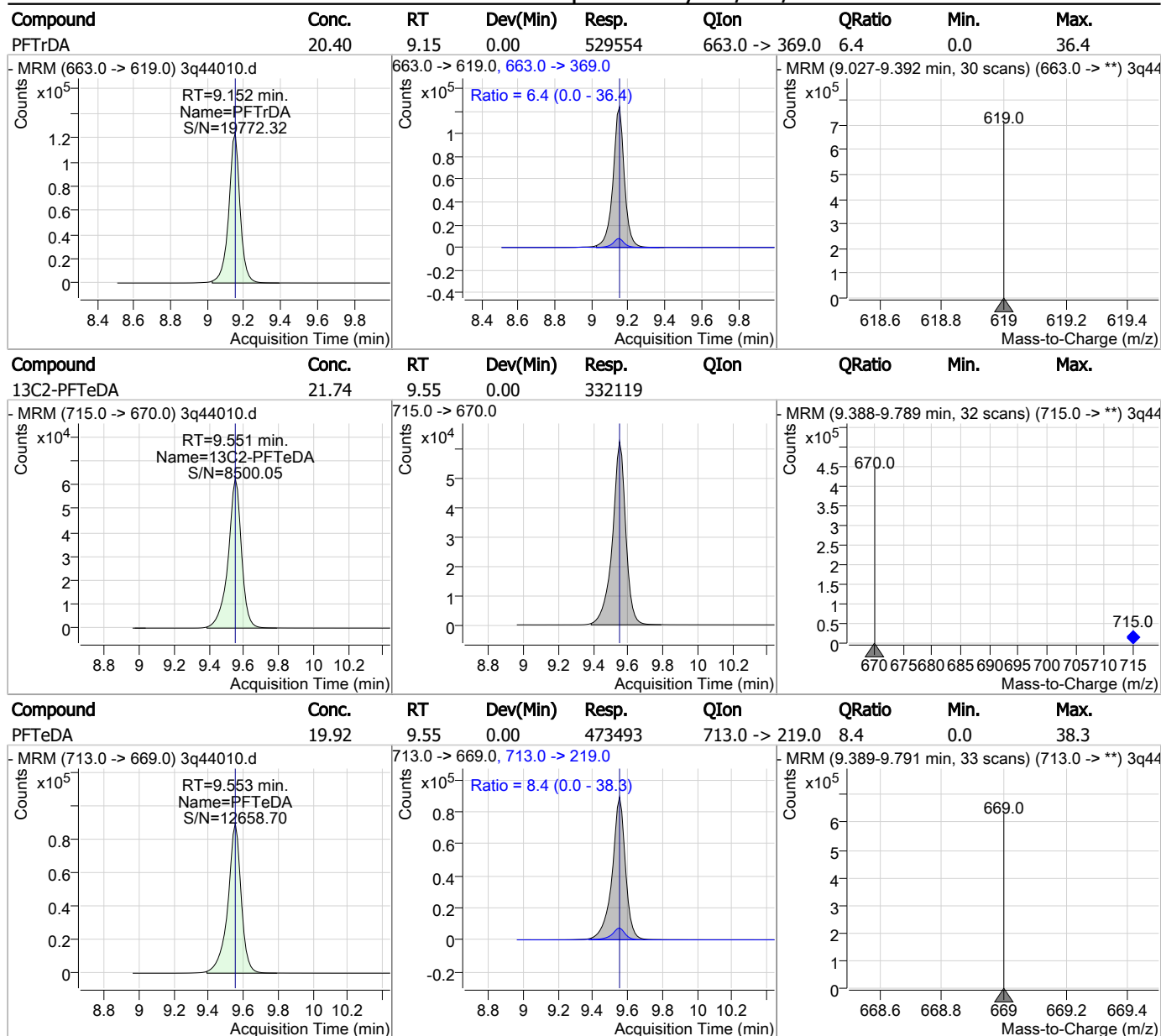
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.5.15 10

Manual Integration Approval Summary

Sample Number:

S3Q638-CC637

Lab FileID:

3Q44010.D

Injection Time:

09/01/21 00:43

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/01/21 10:24 Mike Eger

Supervisor approved:

09/03/21 13:47 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak

10.5.15.1
10

Norman Farmer
09/02/21 17:06

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44040.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 9:09:33 AM
 Sample Name : cc637-1.0LL
 Vial : P1-A3
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86590,S3Q639,250,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	136515	20.00 µg/L	0.000
M5-PFPeA	3.936	268.0 -> 223.0	120510	20.00 µg/L	-0.013
M5-PFHxA	5.538	318.0 -> 273.0	174519	20.00 µg/L	-0.013
M4-PFHpA	6.543	367.0 -> 322.0	205626	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	261223	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	274076	20.00 µg/L	-0.013
M6-PFDA	8.176	519.0 -> 474.0	357477	20.00 µg/L	-0.013
M7-PFUnDA	8.513	570.0 -> 525.0	433663	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	518825	20.00 µg/L	0.000
M2-PFTeDA	9.538	715.0 -> 670.0	321085	20.00 µg/L	-0.013
M8-FOSA	7.874	506.0 -> 78.0	88248	20.00 µg/L	0.000
M3-PFBS	4.354	302.0 -> 99.0	14867	20.00 µg/L	0.000
M3-PFHxS	6.590	402.0 -> 99.0	17198	20.00 µg/L	-0.013
M8-PFOS	7.772	507.0 -> 99.0	26306	20.00 µg/L	-0.013
M2-4:2FTS	5.434	329.0 -> 309.0	92232	20.00 µg/L	-0.013
M2-6:2FTS	7.256	429.0 -> 409.0	124040	20.00 µg/L	0.000
M2-8:2FTS	8.201	529.0 -> 509.0	135743	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	66071	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	19180	20.00 µg/L	-0.013
M3-MeFOSA	8.189	515.0 -> 169.0	28354	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	61762	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.434	329.0 -> 309.0	92232	19.26 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 96.3%		
13C2-6:2FTS	7.256	429.0 -> 409.0	124040	20.78 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.9%		
13C2-8:2FTS	8.201	529.0 -> 509.0	135743	21.05 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 105.3%		
13C2-PFDoDA	8.813	615.0 -> 570.0	518825	21.17 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 105.8%		
13C2-PFTeDA	9.538	715.0 -> 670.0	321085	21.02 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 105.1%		
13C3-PFBS	4.354	302.0 -> 99.0	14867	20.88 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 104.4%		
13C3-PFHxS	6.590	402.0 -> 99.0	17198	21.18 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 105.9%		
13C4-PFBA	1.727	217.0 -> 172.0	136515	20.57 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.9%		
13C4-PFHpA	6.543	367.0 -> 322.0	205626	20.61 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C5-PFHxA	5.538	318.0 -> 273.0	174519	20.69 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 103.5%		
13C5-PFPeA	3.936	268.0 -> 223.0	120510	20.50 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 102.5%		
13C6-PFDA	8.176	519.0 -> 474.0	357477	21.63 µg/L	-0.013

Perfluorinated Compounds by LC/MS/MS

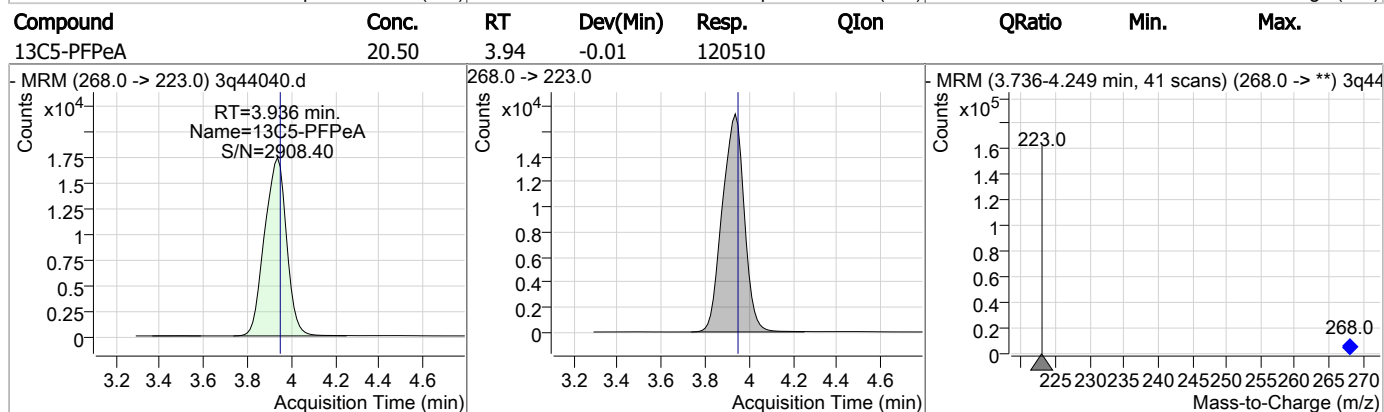
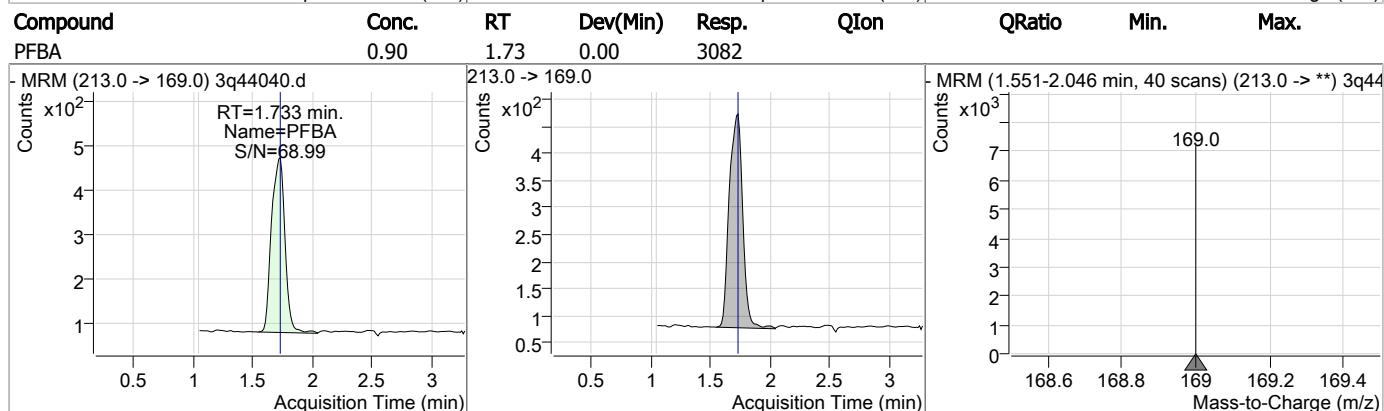
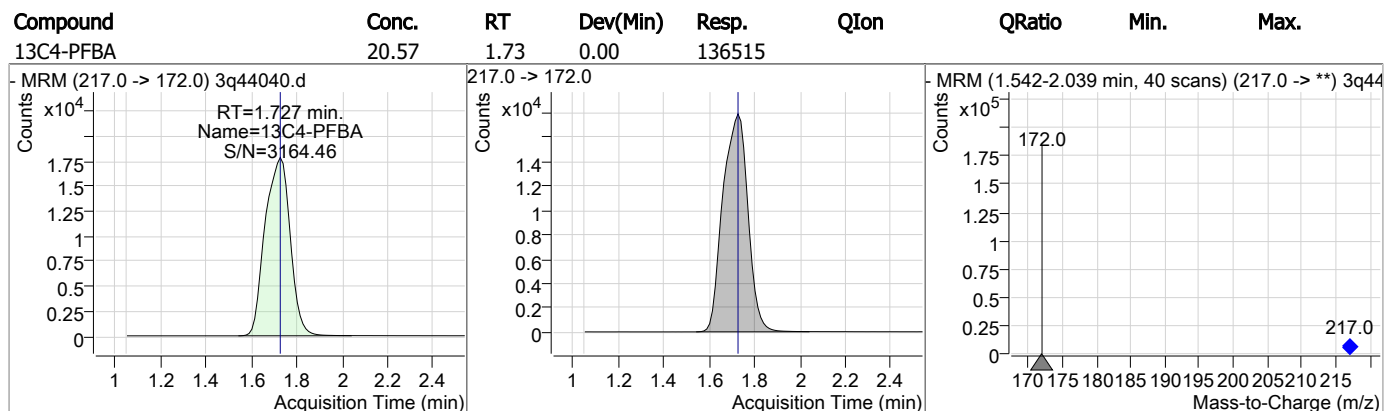
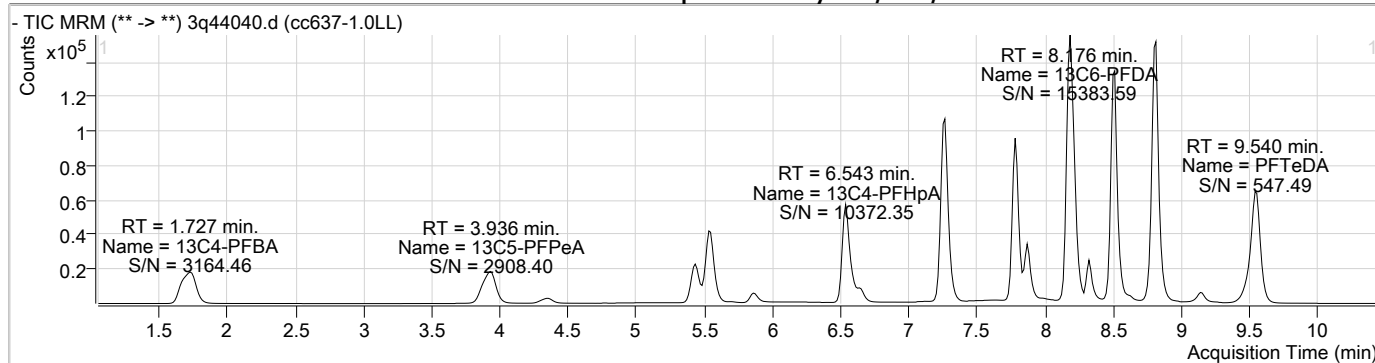
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.2%	
13C7-PFUnDA	8.513	570.0 -> 525.0	433663	21.49 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.5%	
13C8-FOSA	7.874	506.0 -> 78.0	88248	21.80 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.0%	
13C8-PFOA	7.270	421.0 -> 376.0	261223	21.50 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.5%	
13C8-PFOS	7.772	507.0 -> 99.0	26306	21.45 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C9-PFNA	7.787	472.0 -> 427.0	274076	21.41 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.0%	
d3-MeFOSAA	8.223	573.0 -> 419.0	66071	15.71 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.6%	
13C3-HFPO-DA	5.868	287.0 -> 169.0	19178	20.58 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.9%	
d3-MeFOSA	8.189	515.0 -> 169.0	28354	23.90 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 119.5%	
d5-EtFOSAA	8.322	589.0 -> 419.0	61717	15.09 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.4%	

Target Compounds

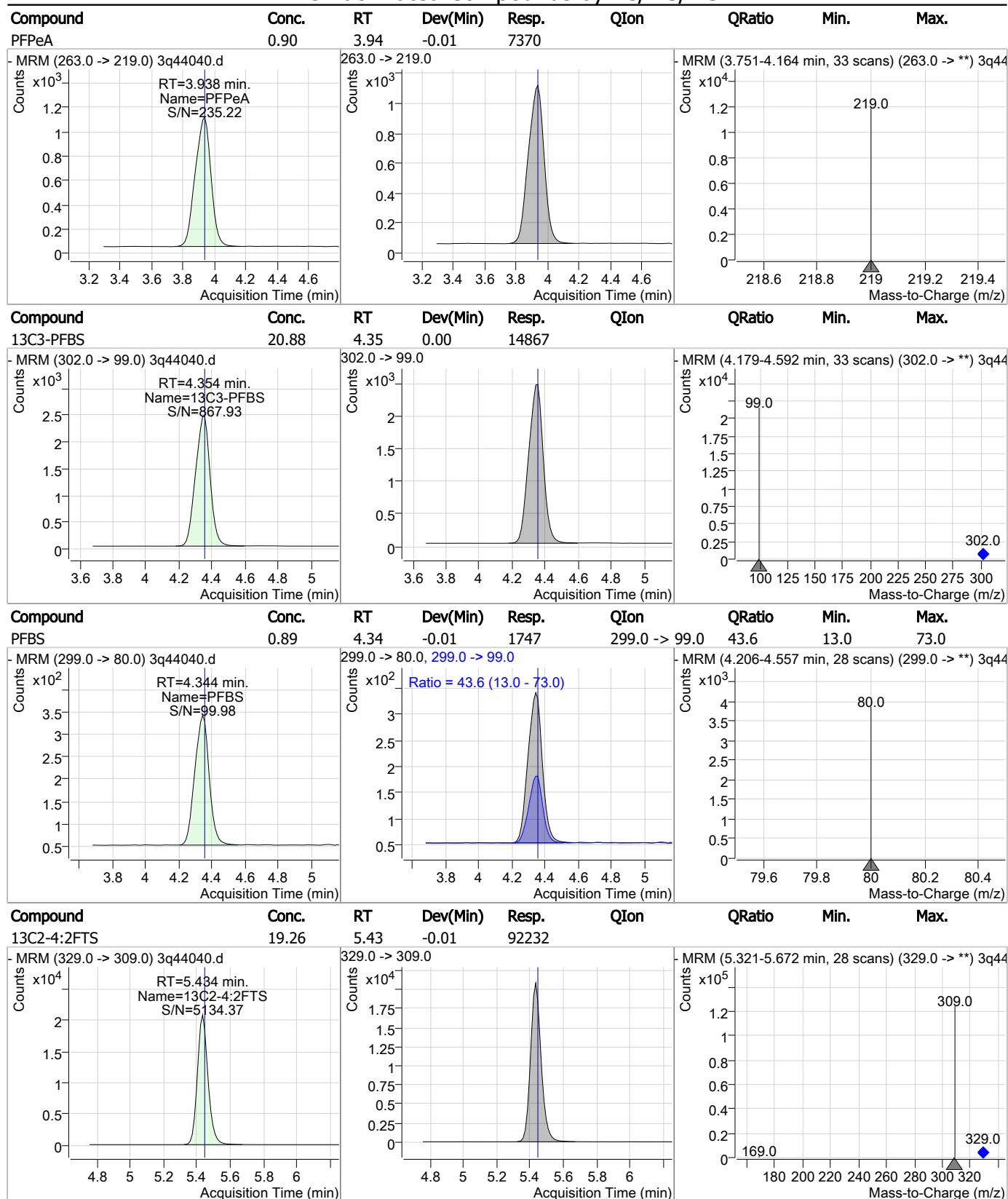
					QValue
4:2FTS	5.436	327.0 -> 307.0	4941	0.95 µg/L	96
6:2FTS	7.256	427.0 -> 407.0	6035	0.97 µg/L	97
8:2FTS	8.201	527.0 -> 507.0	6795	0.97 µg/L	97
EtFOSAA	8.323	584.0 -> 419.0	2360	0.90 µg/L	98
FOSA	7.875	498.0 -> 78.0	3800	0.87 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	2571	0.87 µg/L	96
PFBA	1.733	213.0 -> 169.0	3082	0.90 µg/L	100
PFBS	4.344	299.0 -> 80.0	1747	0.89 µg/L	99
PFDA	8.177	513.0 -> 469.0	14408	0.85 µg/L	98
PFDoDA	8.813	613.0 -> 569.0	21280	0.90 µg/L	98
PFDS	8.485	599.0 -> 80.0	829	0.90 µg/L	98
PFHpA	6.544	363.0 -> 319.0	14710	0.89 µg/L	99
PFHpS	7.280	449.0 -> 80.0	1844	0.93 µg/L	100
PFHxA	5.552	313.0 -> 269.0	6682	0.88 µg/L	99
PFHxS	6.591	399.0 -> 80.0	1863	0.89 µg/L	95
PFNA	7.788	463.0 -> 419.0	12279	0.86 µg/L	99
PFNS	8.162	549.0 -> 80.0	1481	0.93 µg/L	96
PFOA	7.270	413.0 -> 369.0	12006	0.88 µg/L	99
PFOS	7.773	499.0 -> 80.0	2280	0.97 µg/L	78
PFPeA	3.938	263.0 -> 219.0	7370	0.90 µg/L	100
PFPeS	5.694	349.0 -> 80.0	1298	0.89 µg/L	95
PFTeDA	9.540	713.0 -> 669.0	20654	0.90 µg/L	99
PFTTrDA	9.140	663.0 -> 619.0	22537	0.90 µg/L	99
PFUnDA	8.514	563.0 -> 519.0	17817	0.85 µg/L	99
11Cl-PF3OUdS	8.623	631.0 -> 451.0	5697	0.87 µg/L	99
9Cl-PF3ONS	7.985	531.0 -> 351.0	1735	0.90 µg/L	93
ADONA	6.655	377.0 -> 251.0	19417	0.87 µg/L	100
HFPO-DA	5.862	329.0 -> 169.0	2908	0.93 µg/L	100
MeFOSA	8.190	512.0 -> 169.0	1270	0.85 µg/L	98

= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

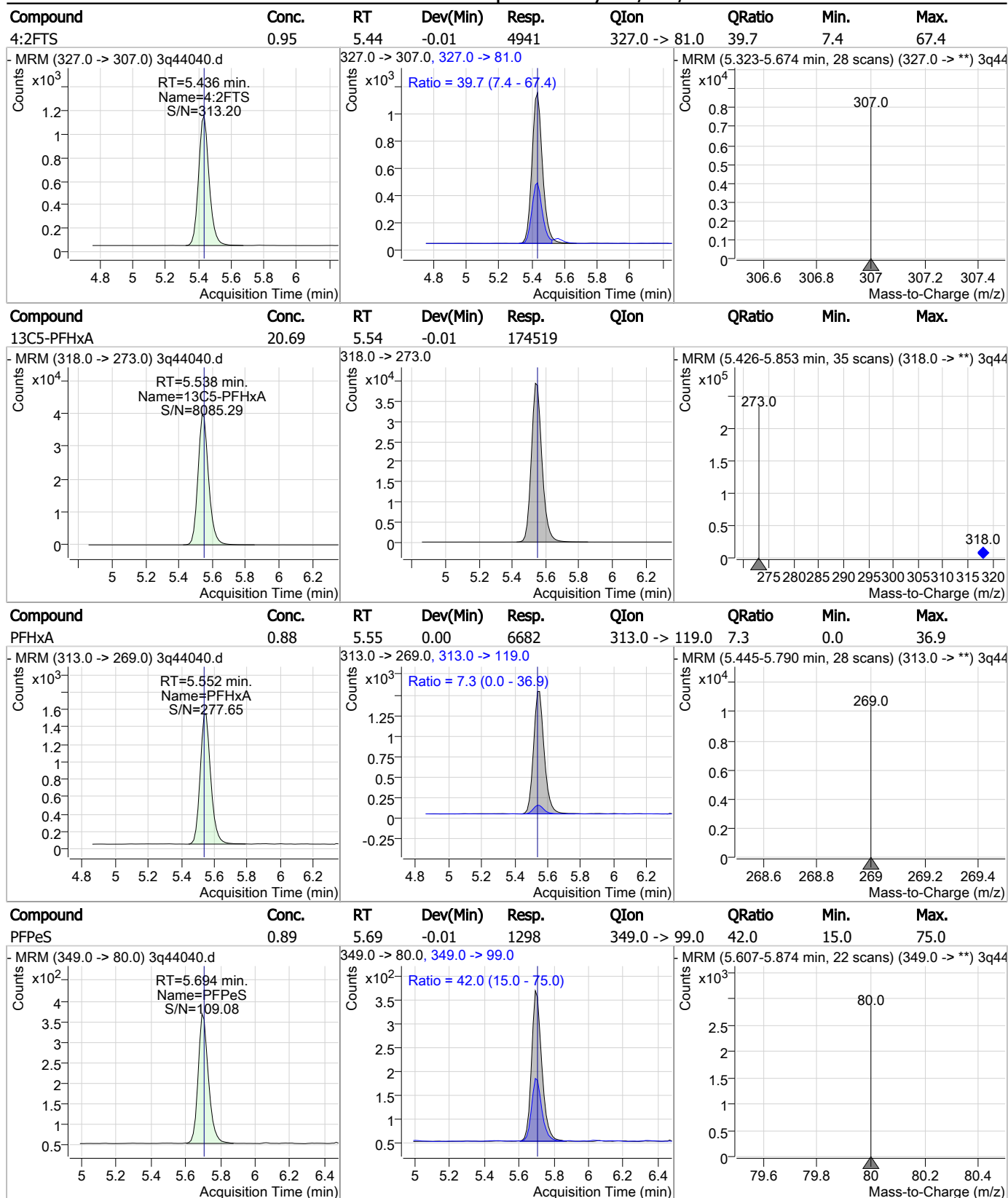


Perfluorinated Compounds by LC/MS/MS

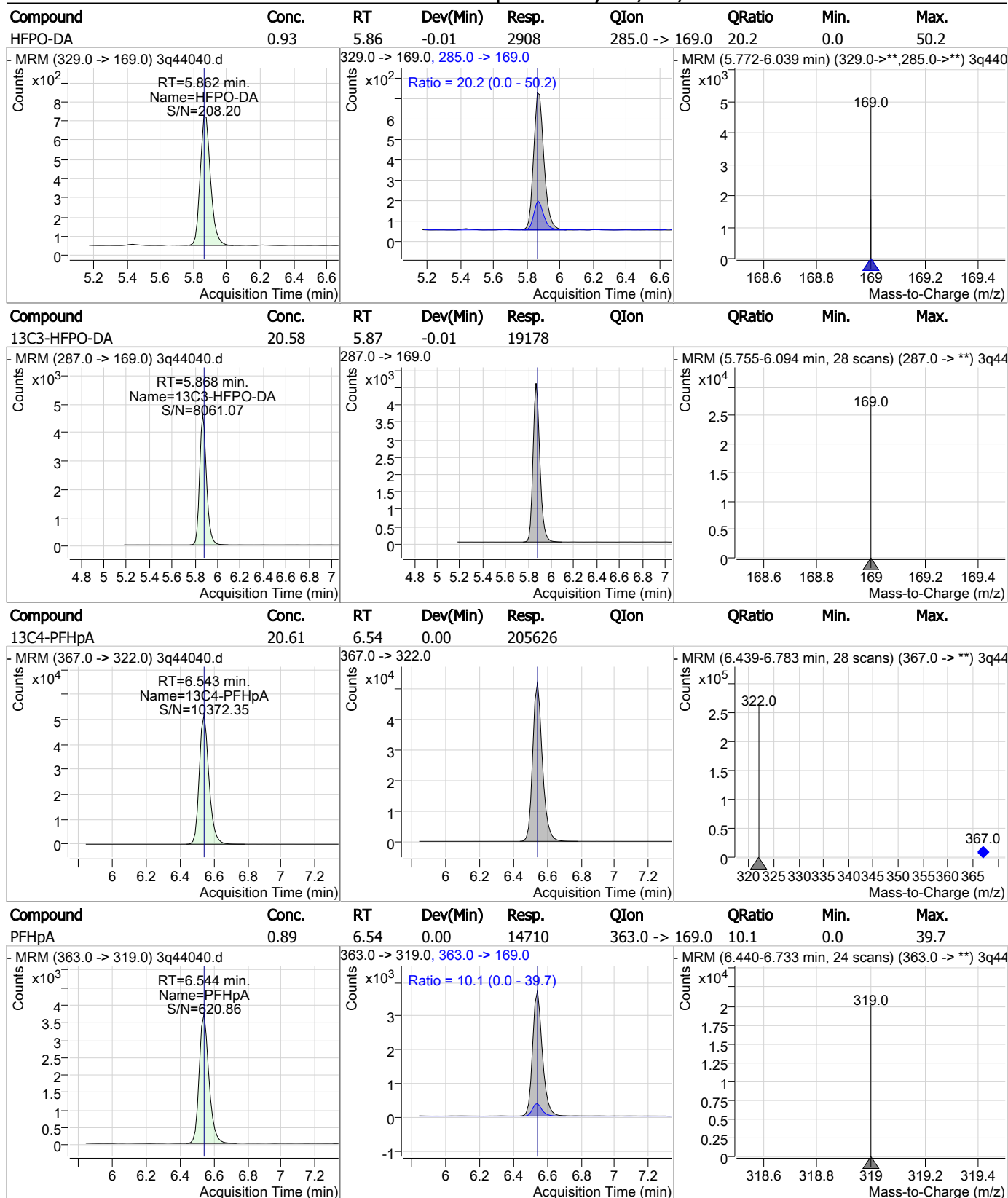


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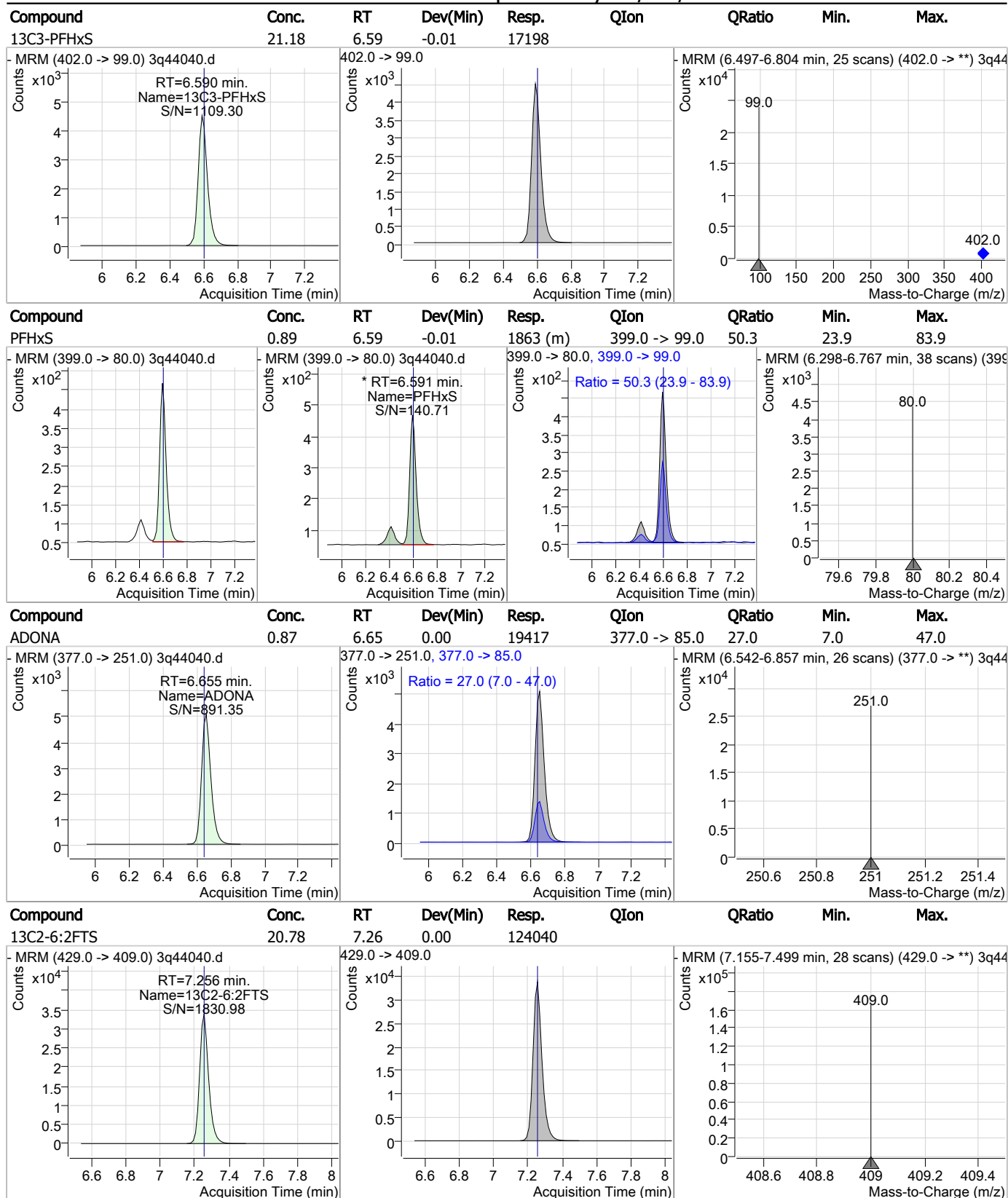
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

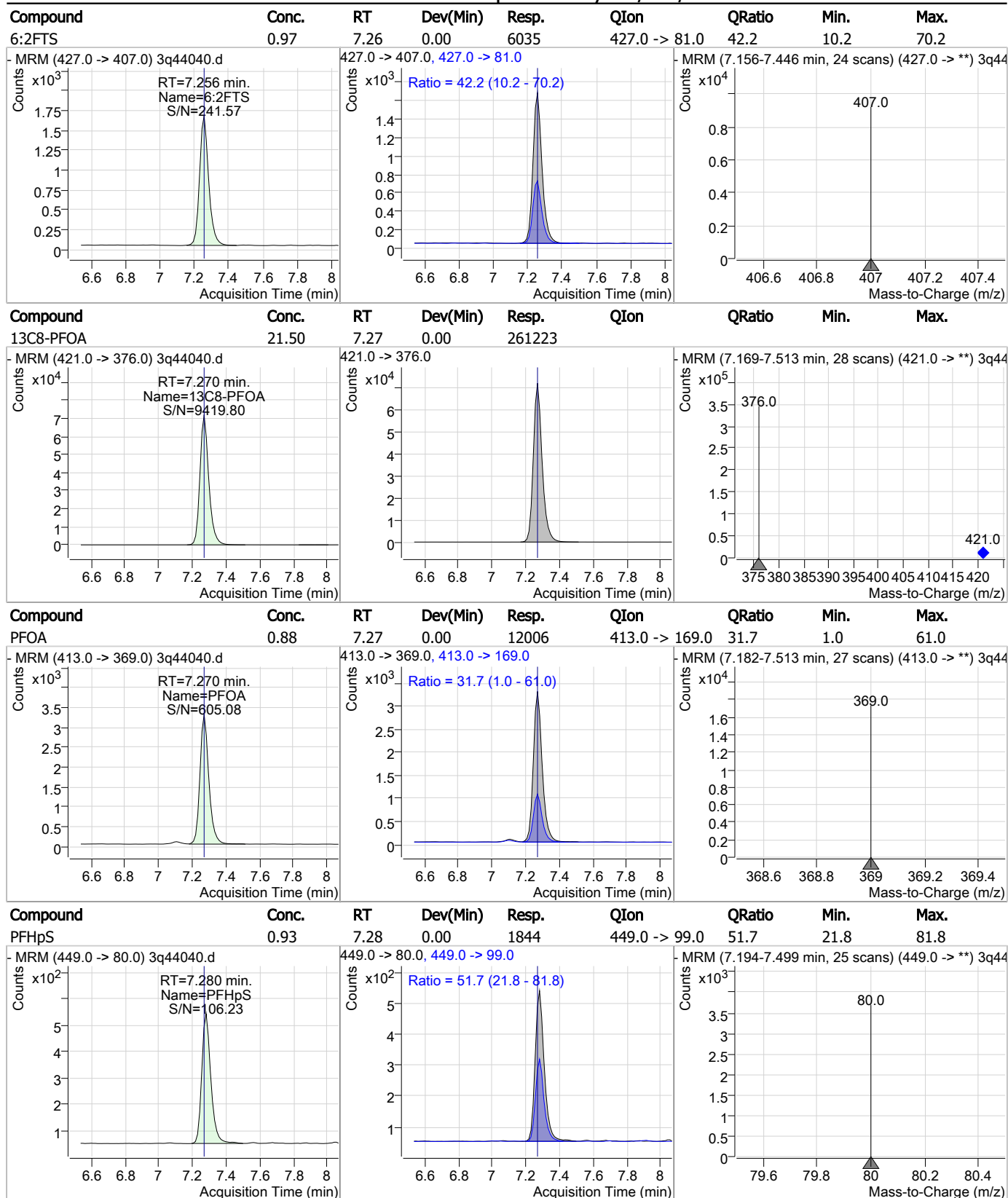


Perfluorinated Compounds by LC/MS/MS

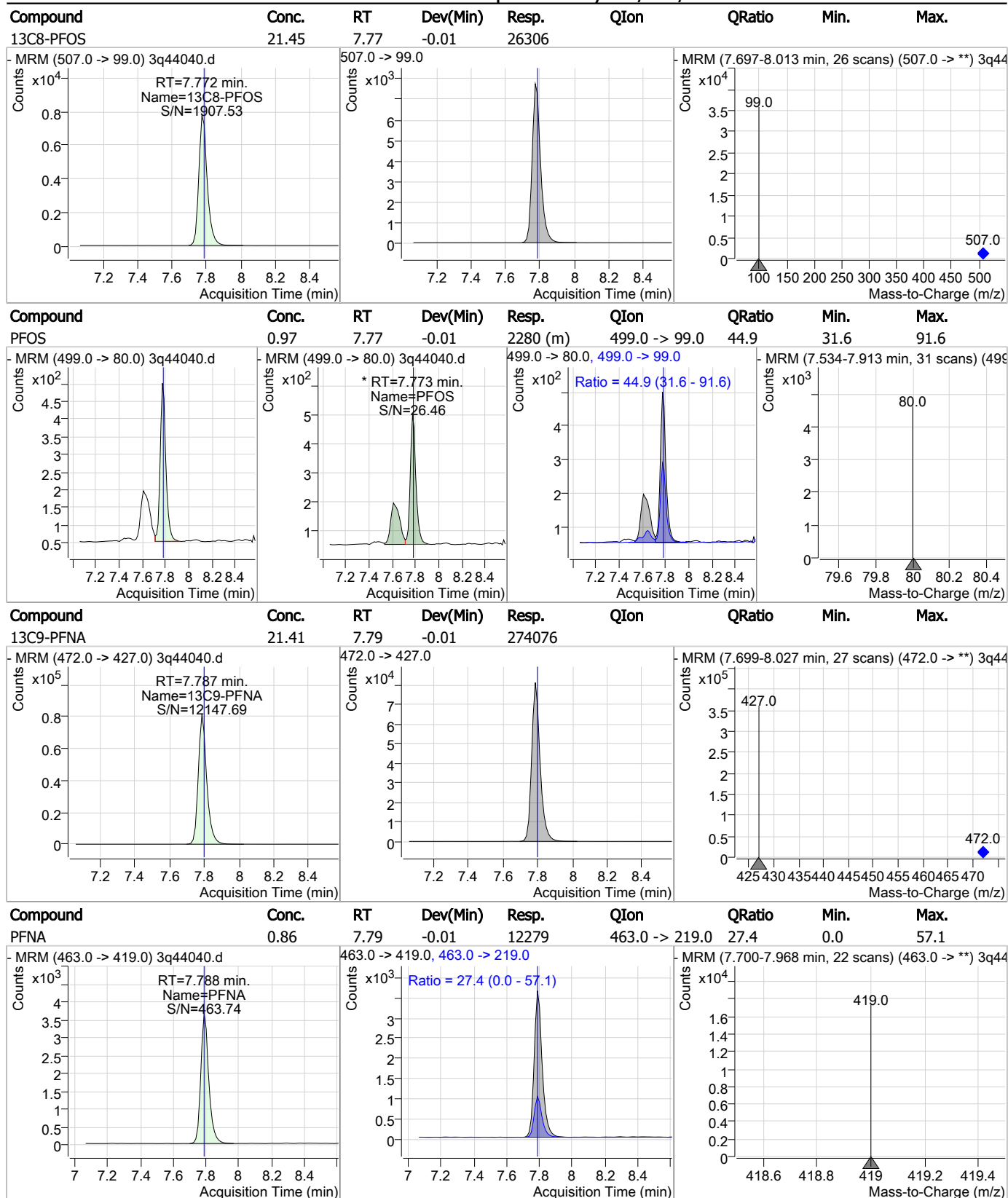


10.5.16 10

Perfluorinated Compounds by LC/MS/MS

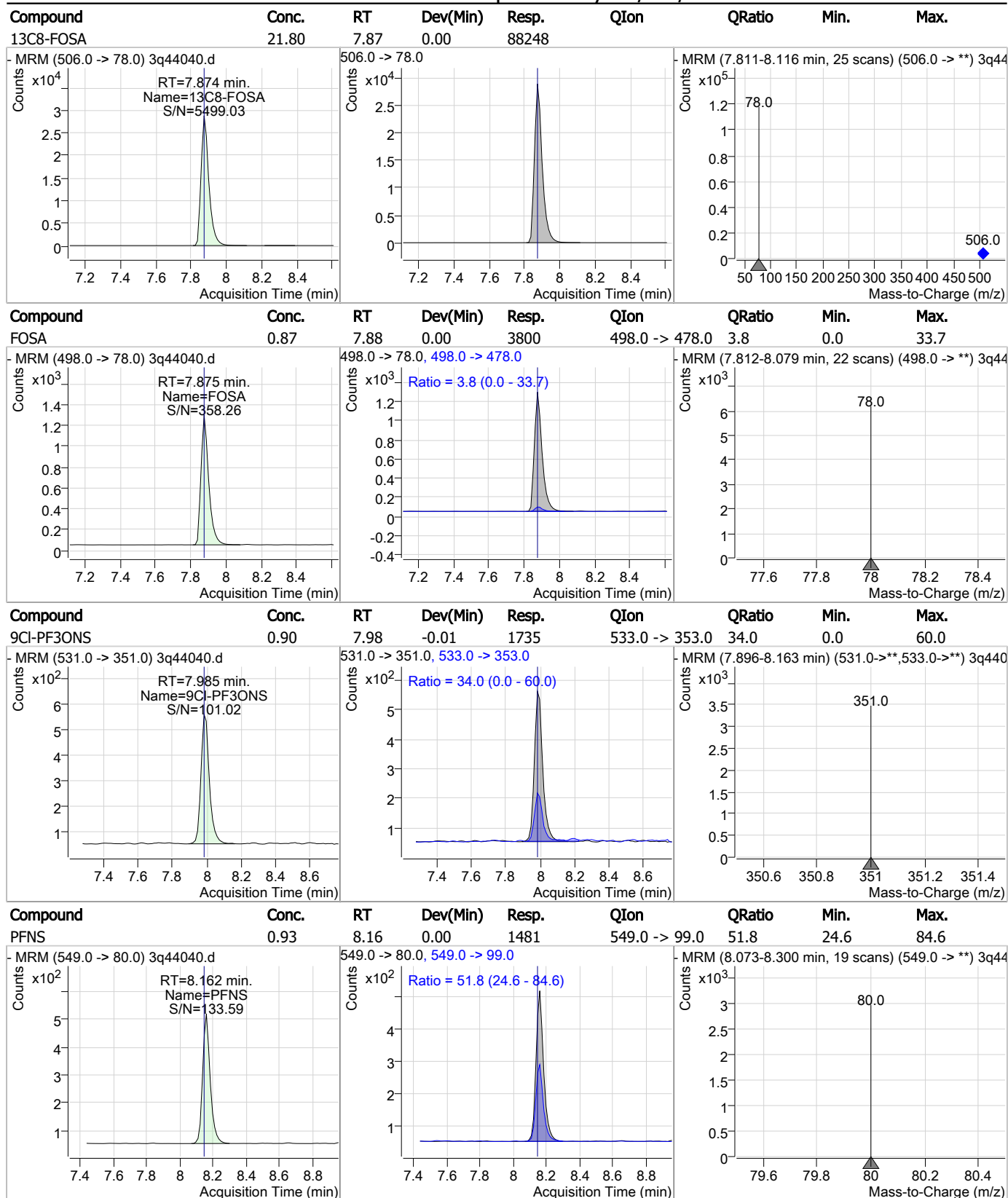


Perfluorinated Compounds by LC/MS/MS



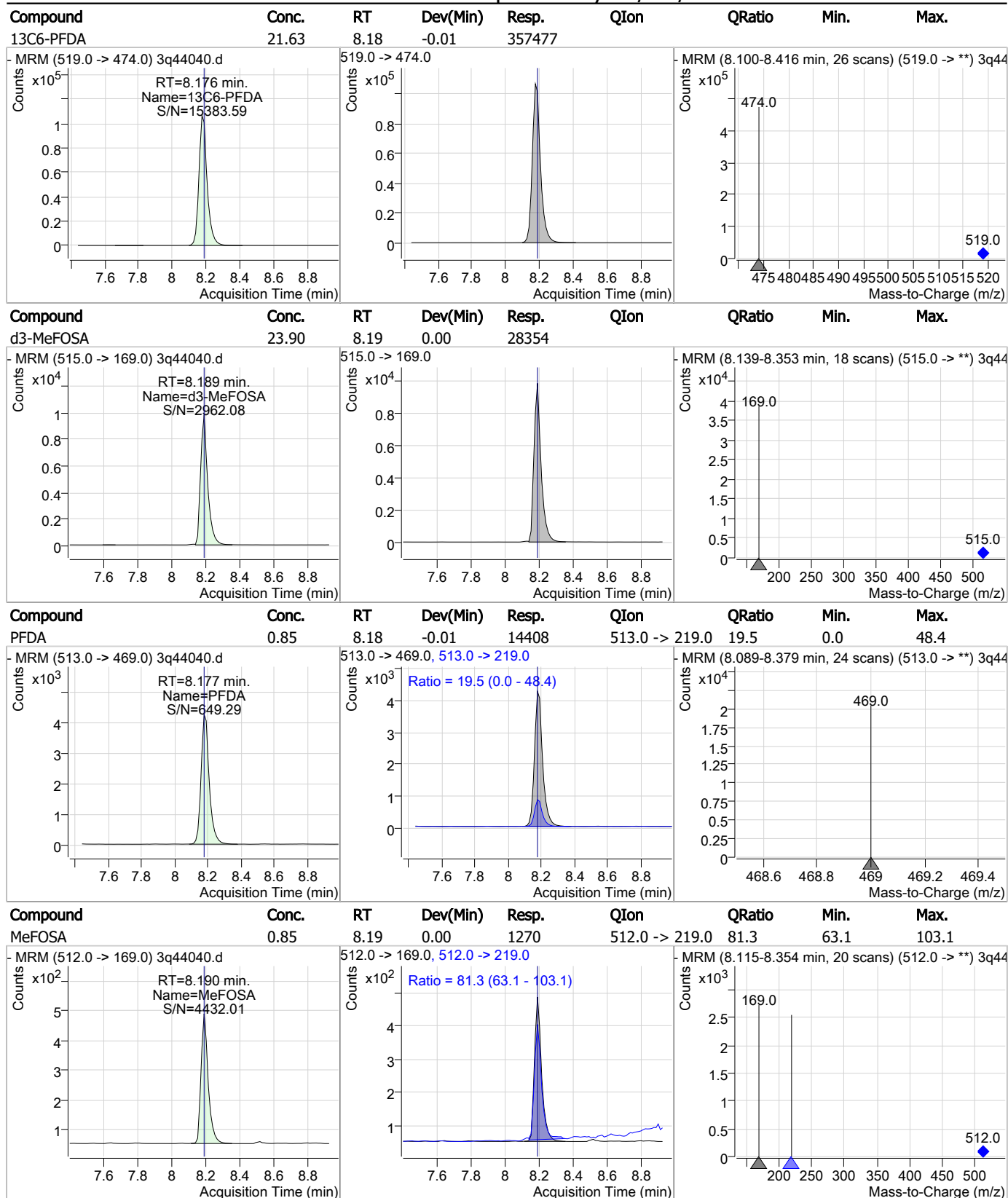
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Perfluorinated Compounds by LC/MS/MS



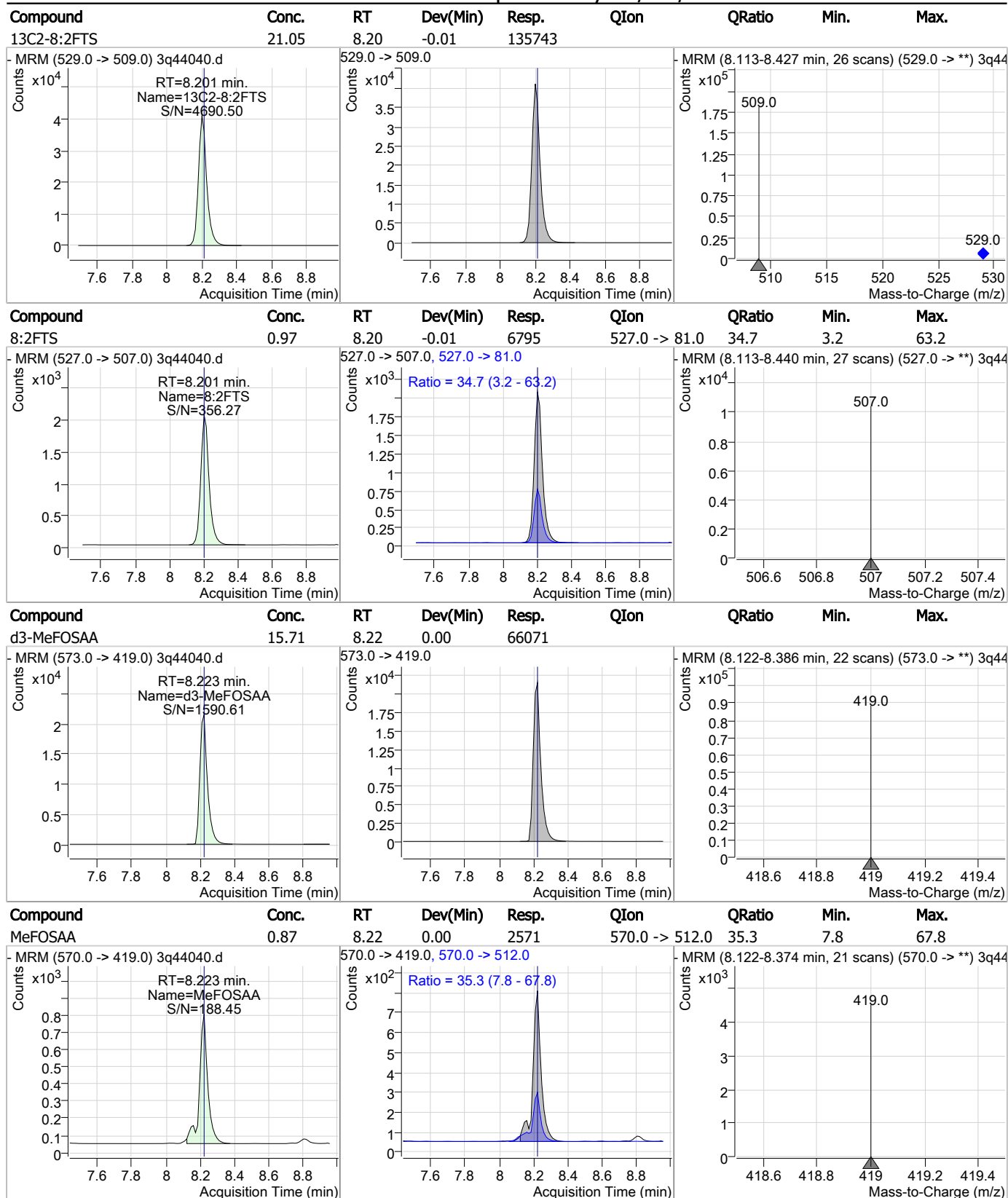
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Perfluorinated Compounds by LC/MS/MS

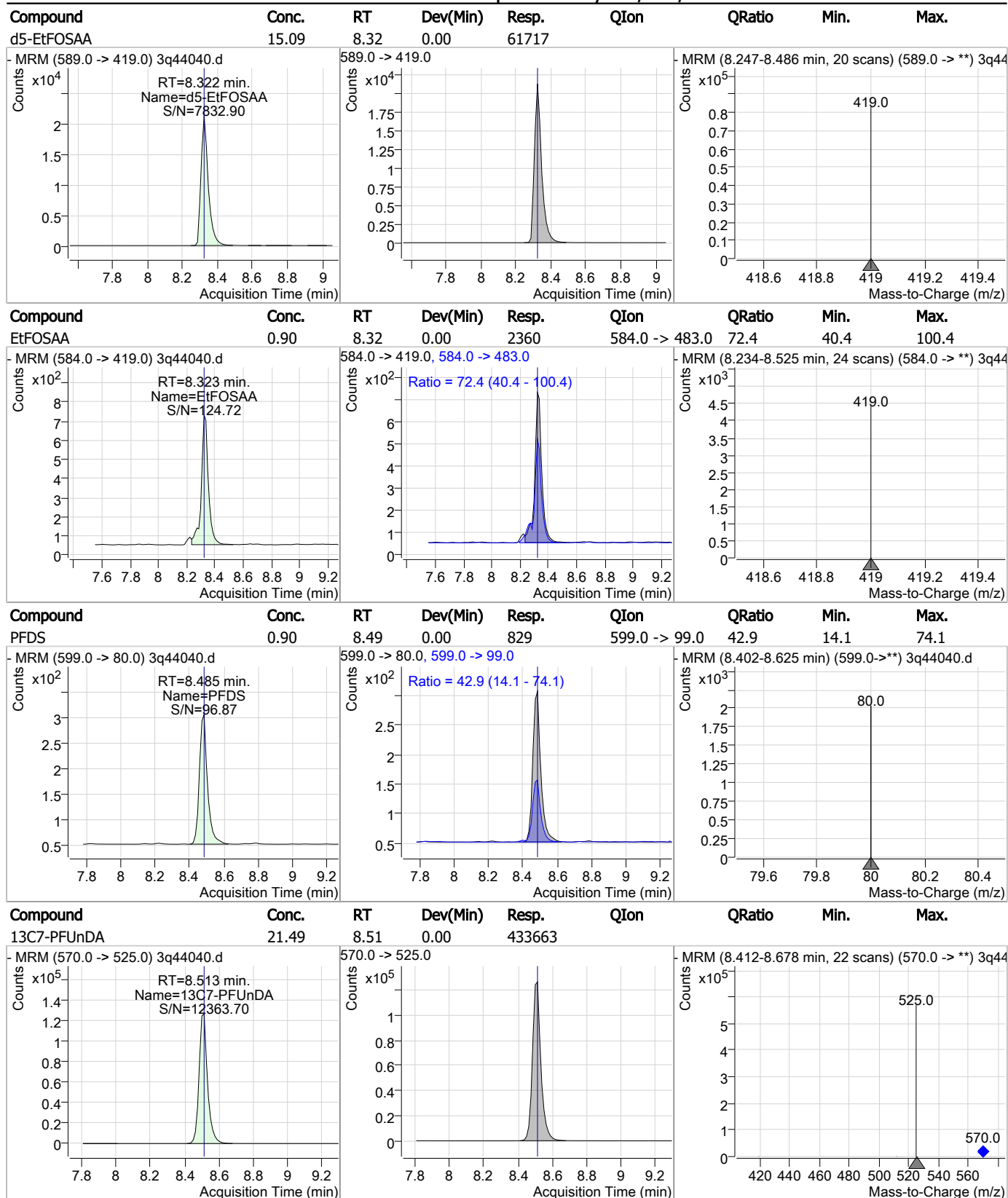


10.5.16 10

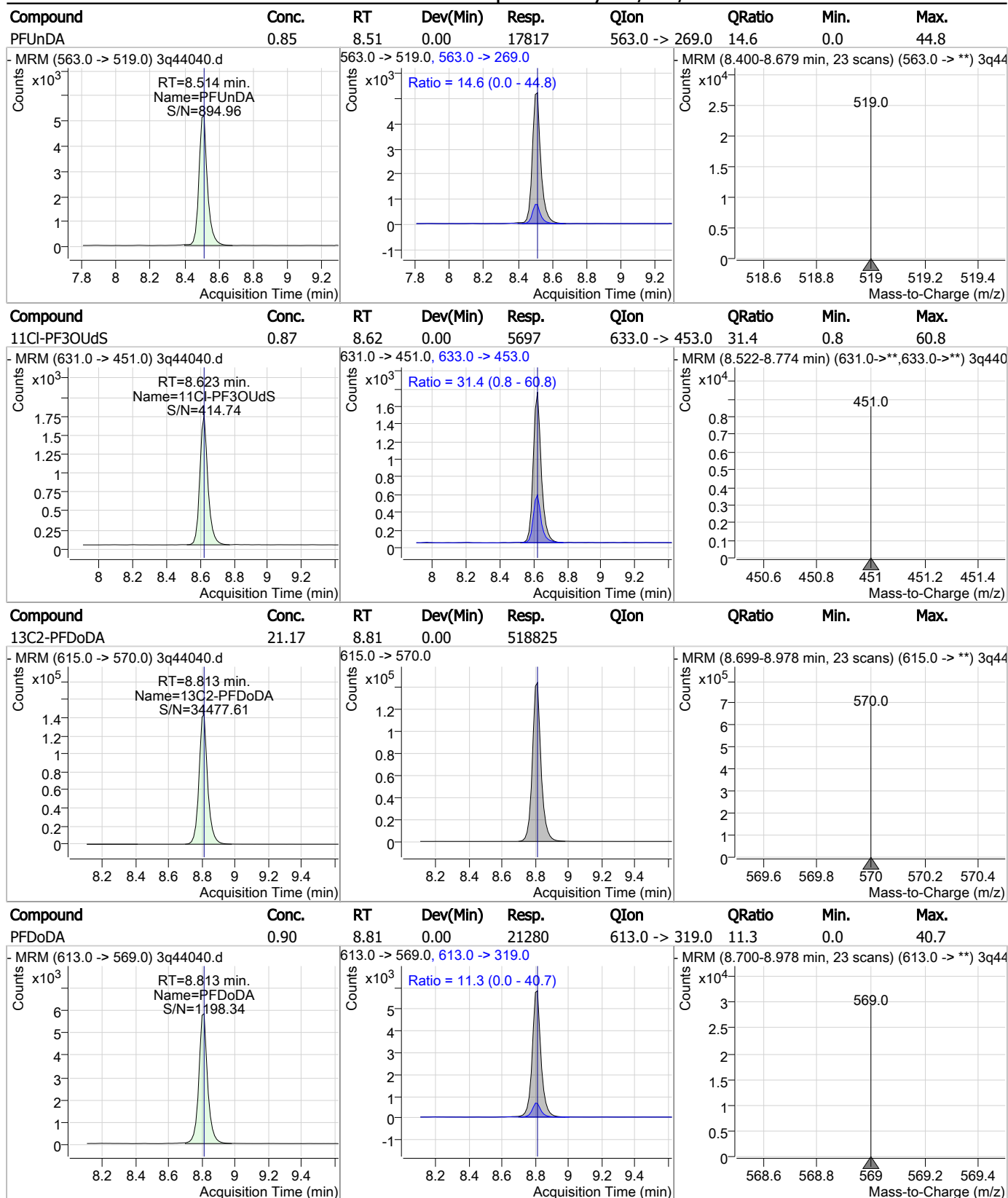
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

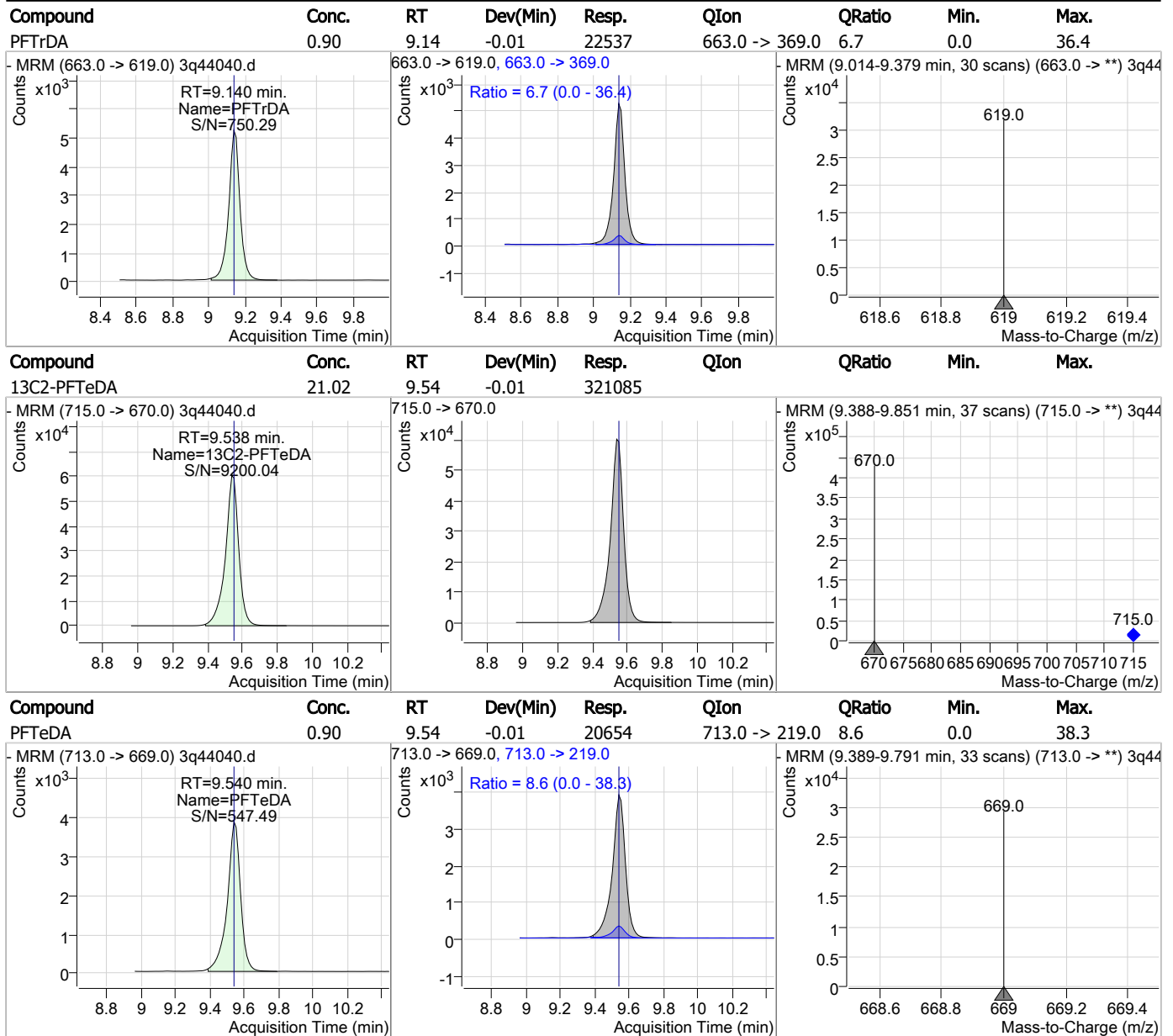


Perfluorinated Compounds by LC/MS/MS



10.5.16 10

Perfluorinated Compounds by LC/MS/MS



10.5.16 10

Manual Integration Approval Summary

Sample Number:

S3Q639-CC637

Lab FileID:

3Q44040.D

Injection Time:

09/01/21 09:09

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/02/21 12:02 Natasha Gumtie

Supervisor approved:

09/02/21 17:06 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.59	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.77	Split peak

10.5.16.1
10

Norman Farmer
09/02/21 17:06

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44041.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 9:29:23 AM
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 Vial : P1-A7
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86590,S3Q639,250,,,1,1,water

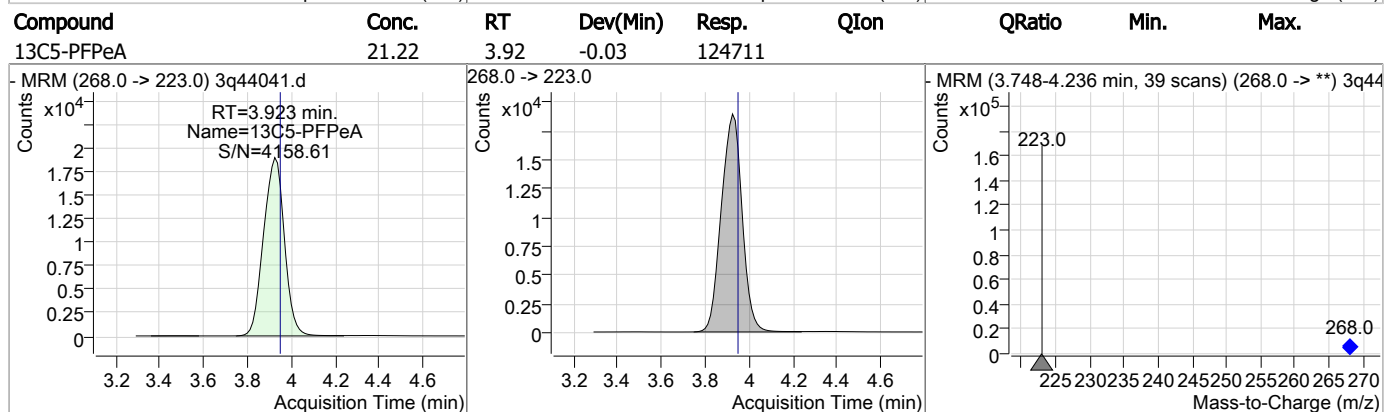
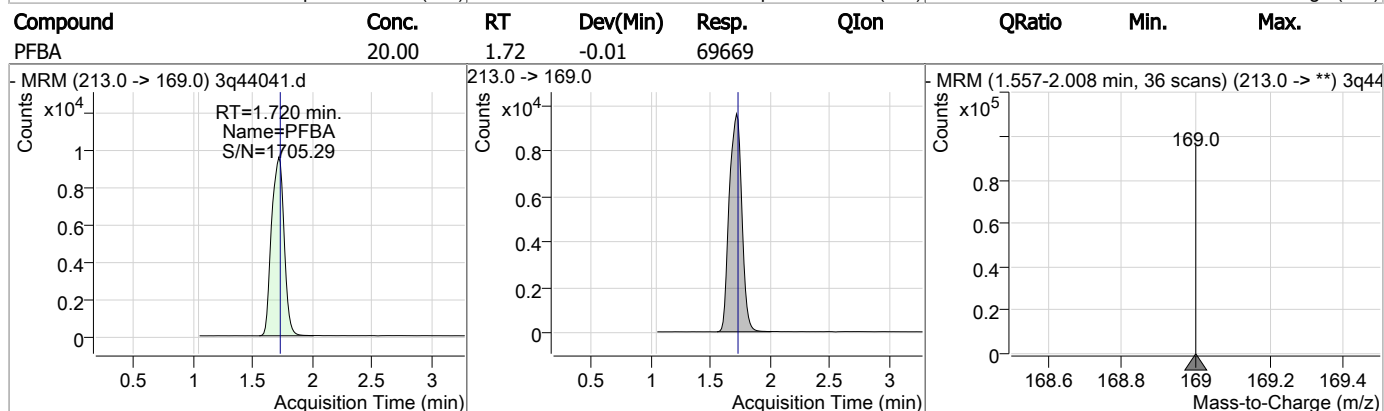
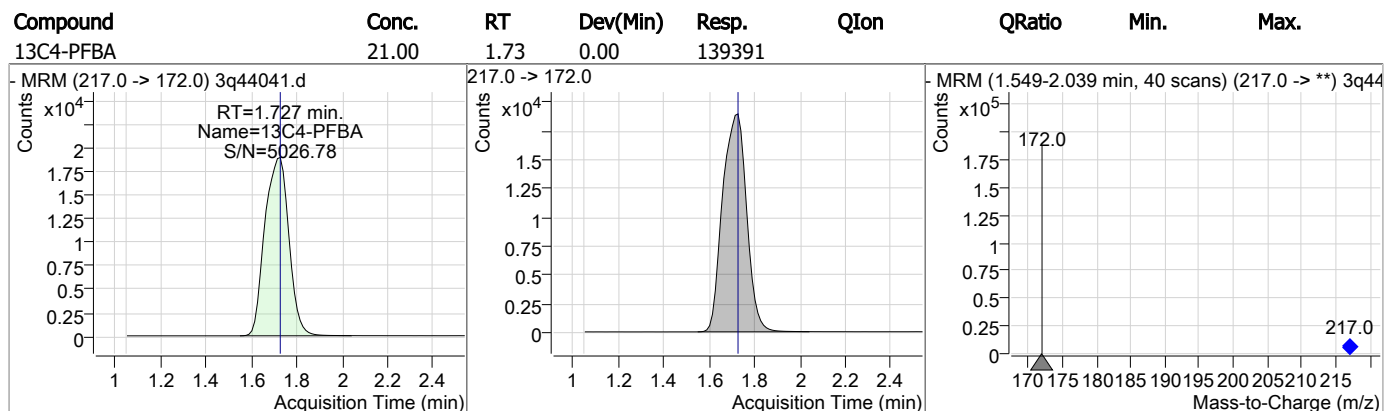
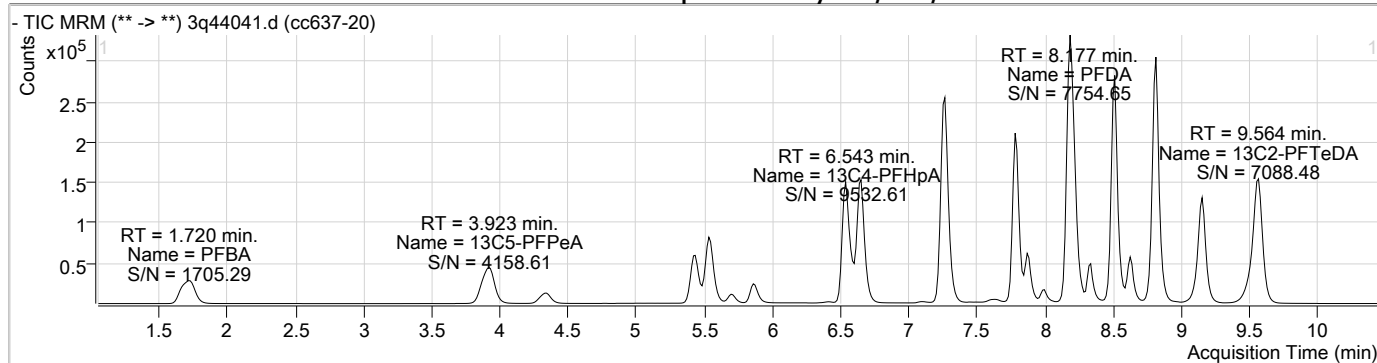
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	139391	20.00 µg/L	0.000
M5-PFPeA	3.923	268.0 -> 223.0	124711	20.00 µg/L	-0.025
M5-PFHxA	5.538	318.0 -> 273.0	179108	20.00 µg/L	-0.013
M4-PFHpA	6.543	367.0 -> 322.0	209342	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	261595	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	276073	20.00 µg/L	-0.013
M6-PFDA	8.189	519.0 -> 474.0	358297	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	436676	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	529637	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	326883	20.00 µg/L	0.013
M8-FOSA	7.874	506.0 -> 78.0	85053	20.00 µg/L	0.000
M3-PFBS	4.342	302.0 -> 99.0	15443	20.00 µg/L	-0.013
M3-PFHxS	6.590	402.0 -> 99.0	18027	20.00 µg/L	-0.013
M8-PFOS	7.785	507.0 -> 99.0	26989	20.00 µg/L	0.000
M2-4:2FTS	5.434	329.0 -> 309.0	101364	20.00 µg/L	-0.013
M2-6:2FTS	7.256	429.0 -> 409.0	130928	20.00 µg/L	0.000
M2-8:2FTS	8.201	529.0 -> 509.0	140845	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	66788	20.00 µg/L	0.000
M3-HFPO-DA	5.868	287.0 -> 169.0	19304	20.00 µg/L	-0.013
M3-MeFOSA	8.189	515.0 -> 169.0	26707	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	62706	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.434	329.0 -> 309.0	101364	21.17 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C2-6:2FTS	7.256	429.0 -> 409.0	130928	21.94 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.7%	
13C2-8:2FTS	8.201	529.0 -> 509.0	140845	21.85 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.2%	
13C2-PFDoDA	8.813	615.0 -> 570.0	529637	21.61 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.0%	
13C2-PFTeDA	9.564	715.0 -> 670.0	326883	21.40 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.0%	
13C3-PFBS	4.342	302.0 -> 99.0	15443	21.69 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.5%	
13C3-PFHxS	6.590	402.0 -> 99.0	18027	22.20 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.0%	
13C4-PFBA	1.727	217.0 -> 172.0	139391	21.00 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C4-PFHpA	6.543	367.0 -> 322.0	209342	20.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.9%	
13C5-PFHxA	5.538	318.0 -> 273.0	179108	21.24 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C5-PFPeA	3.923	268.0 -> 223.0	124711	21.22 µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.1%	
13C6-PFDA	8.189	519.0 -> 474.0	358297	21.68 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

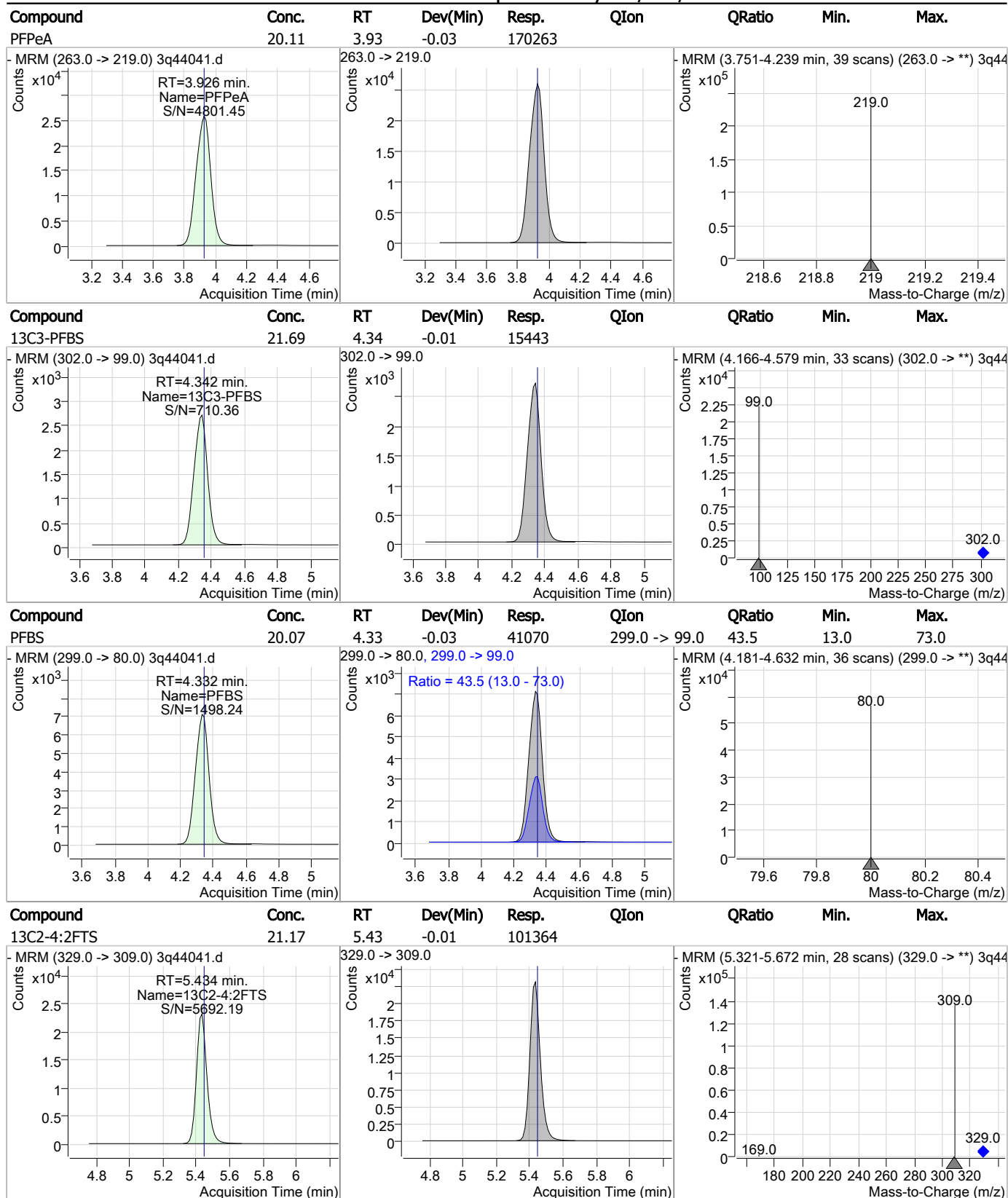
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.4%	
13C7-PFUnDA	8.513	570.0 -> 525.0	436676	21.64 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.2%	
13C8-FOSA	7.874	506.0 -> 78.0	85053	21.01 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C8-PFOA	7.270	421.0 -> 376.0	261595	21.53 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.6%	
13C8-PFOS	7.785	507.0 -> 99.0	26989	22.01 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 110.0%	
13C9-PFNA	7.787	472.0 -> 427.0	276073	21.57 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.8%	
d3-MeFOSAA	8.223	573.0 -> 419.0	66788	15.88 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 79.4%	
13C3-HFPO-DA	5.868	287.0 -> 169.0	19297	20.71 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.5%	
d3-MeFOSA	8.189	515.0 -> 169.0	26707	22.51 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.5%	
d5-EtFOSAA	8.322	589.0 -> 419.0	62723	15.34 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 76.7%	
Target Compounds					QValue
4:2FTS	5.423	327.0 -> 307.0	117030	20.57 µg/L	99
6:2FTS	7.256	427.0 -> 407.0	134673	20.56 µg/L	98
8:2FTS	8.201	527.0 -> 507.0	151307	20.74 µg/L	100
EtFOSAA	8.335	584.0 -> 419.0	55494	20.82 µg/L	95
FOSA	7.875	498.0 -> 78.0	84919	20.12 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	60311	20.15 µg/L	m 99
PFBA	1.720	213.0 -> 169.0	69669	20.00 µg/L	100
PFBS	4.332	299.0 -> 80.0	41070	20.07 µg/L	99
PFDA	8.177	513.0 -> 469.0	333651	19.70 µg/L	99
PFDoDA	8.813	613.0 -> 569.0	485862	20.16 µg/L	100
PFDS	8.485	599.0 -> 80.0	18693	20.25 µg/L	99
PFHpA	6.544	363.0 -> 319.0	339477	20.11 µg/L	100
PFHpS	7.280	449.0 -> 80.0	42267	20.77 µg/L	98
PFHxA	5.539	313.0 -> 269.0	155046	19.93 µg/L	100
PFHxS	6.591	399.0 -> 80.0	42677	19.52 µg/L	m 98
PFNA	7.788	463.0 -> 419.0	285776	19.97 µg/L	99
PFNS	8.162	549.0 -> 80.0	33862	20.70 µg/L	100
PFOA	7.270	413.0 -> 369.0	274649	20.00 µg/L	99
PFOS	7.773	499.0 -> 80.0	48445	20.02 µg/L	m 83
PFPeA	3.926	263.0 -> 219.0	170263	20.11 µg/L	100
PFPeS	5.694	349.0 -> 80.0	30773	20.40 µg/L	98
PFTeDA	9.565	713.0 -> 669.0	466461	19.94 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	520354	20.36 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	418404	19.87 µg/L	100
11Cl-PF3OUdS	8.623	631.0 -> 451.0	135209	20.17 µg/L	98
9Cl-PF3ONS	7.997	531.0 -> 351.0	37724	19.51 µg/L	100
ADONA	6.655	377.0 -> 251.0	451576	19.26 µg/L	99
HFPO-DA	5.862	329.0 -> 169.0	67983	21.62 µg/L	97
MeFOSA	8.190	512.0 -> 169.0	28644	20.31 µg/L	99

= Qualifier out of range, m = manually integrated, + = Area summed

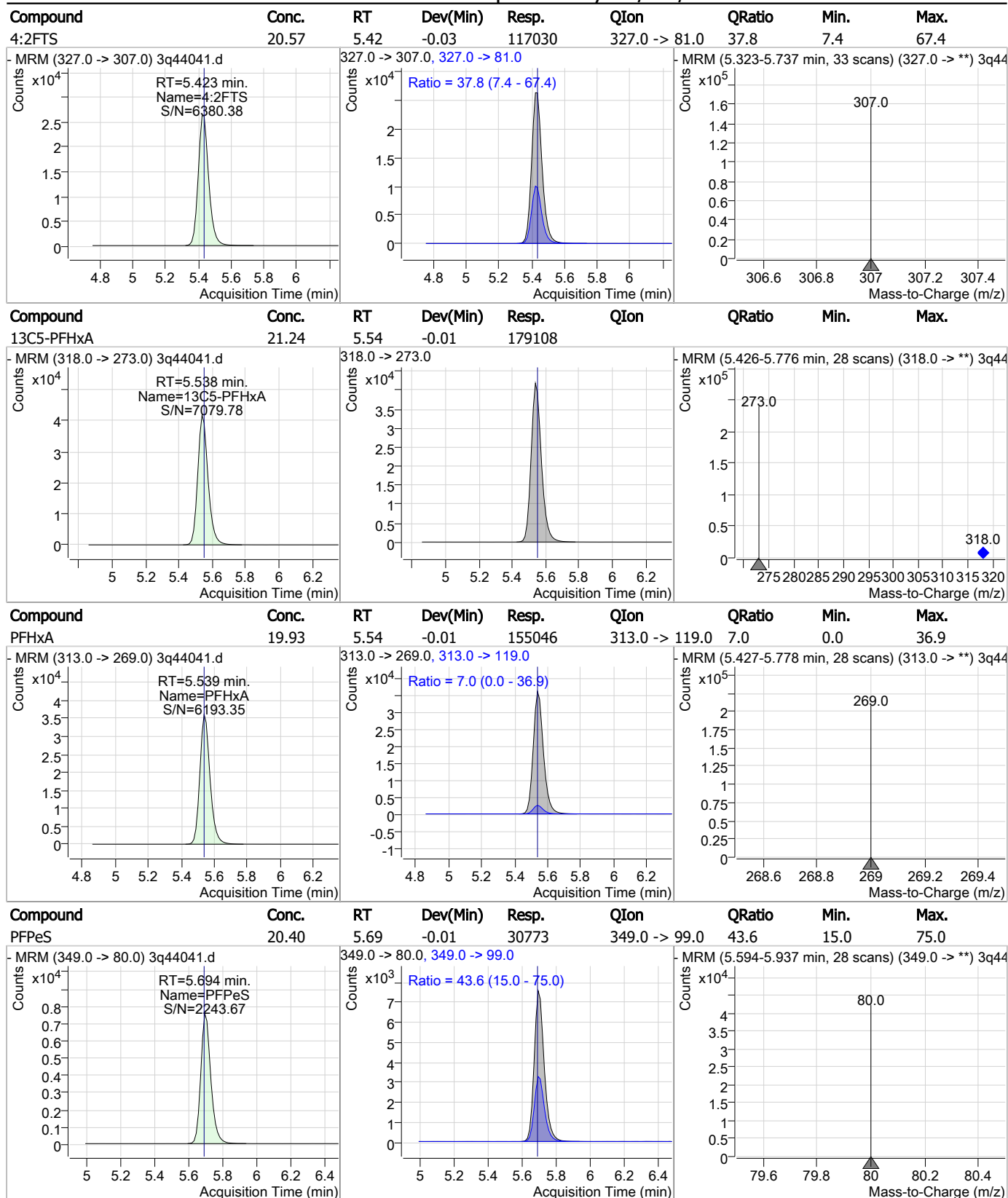
Perfluorinated Compounds by LC/MS/MS



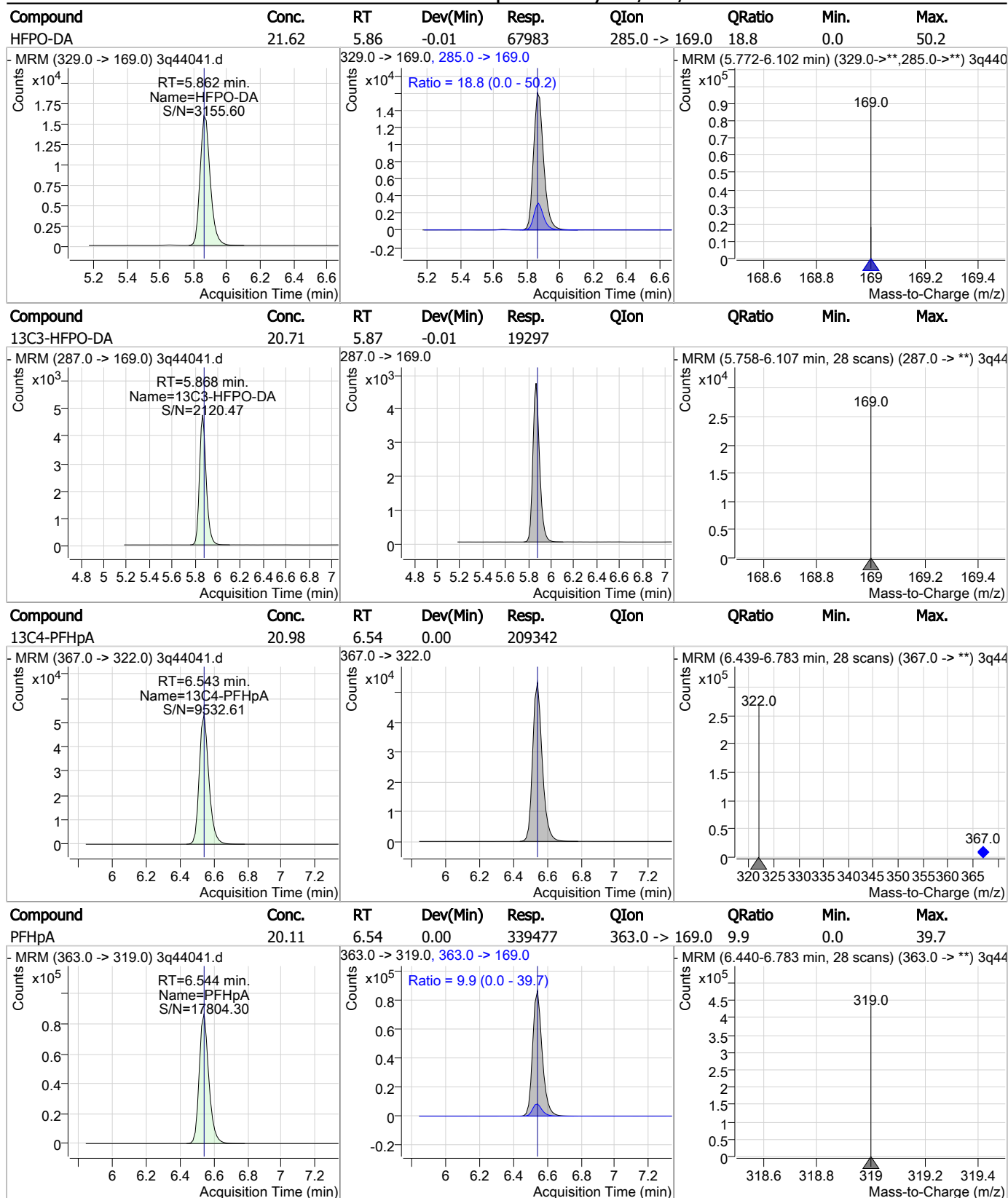
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

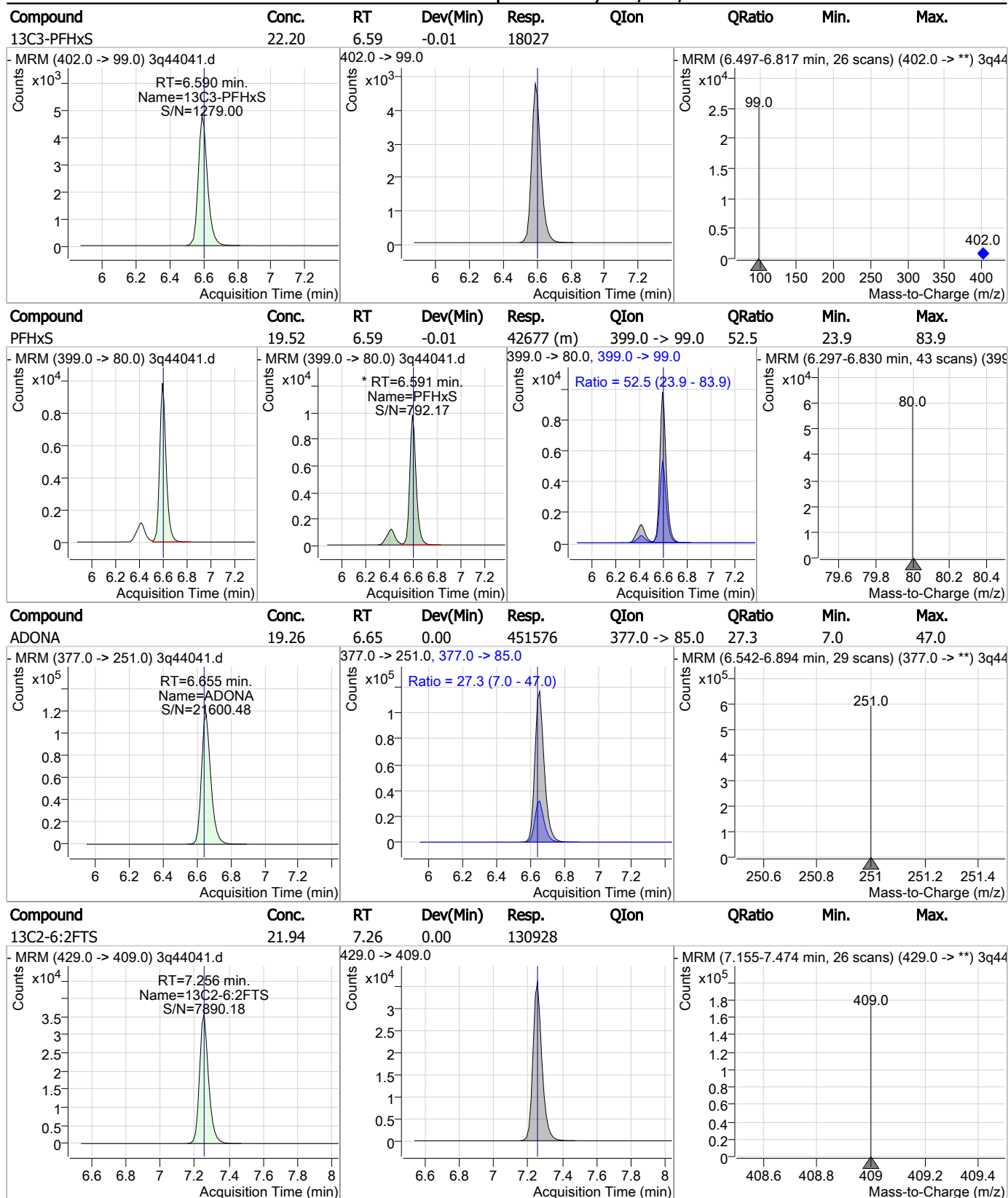


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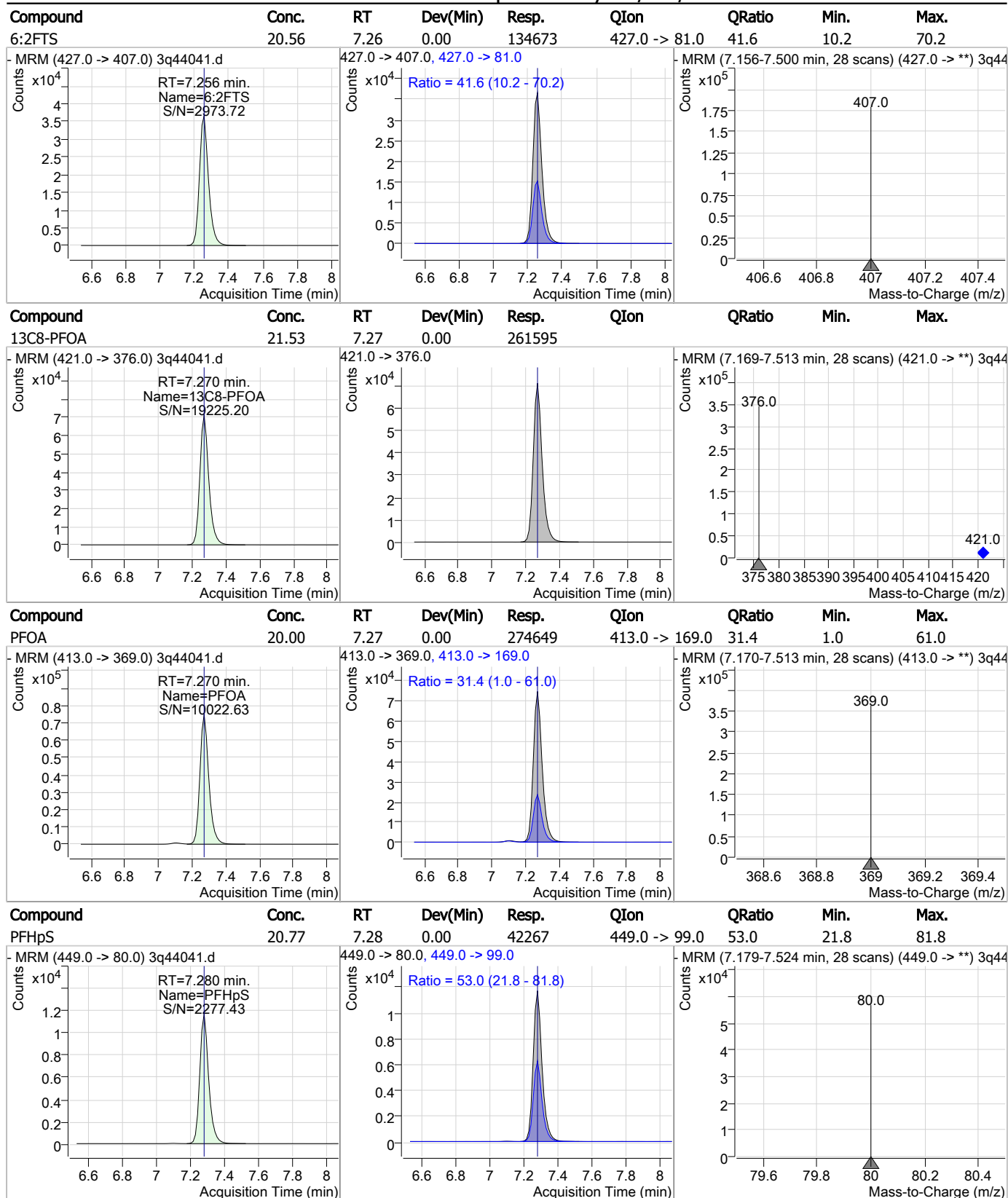


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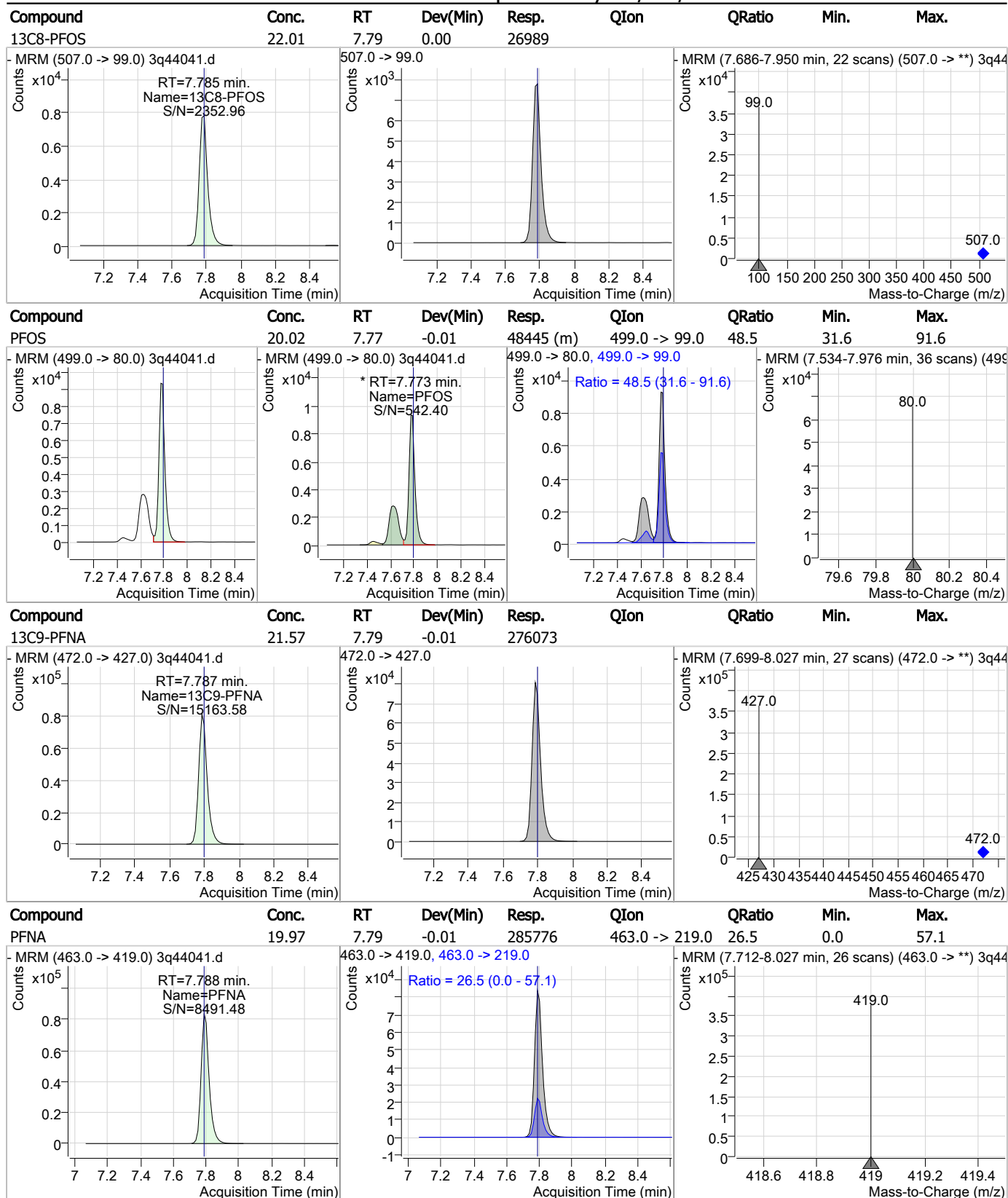
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

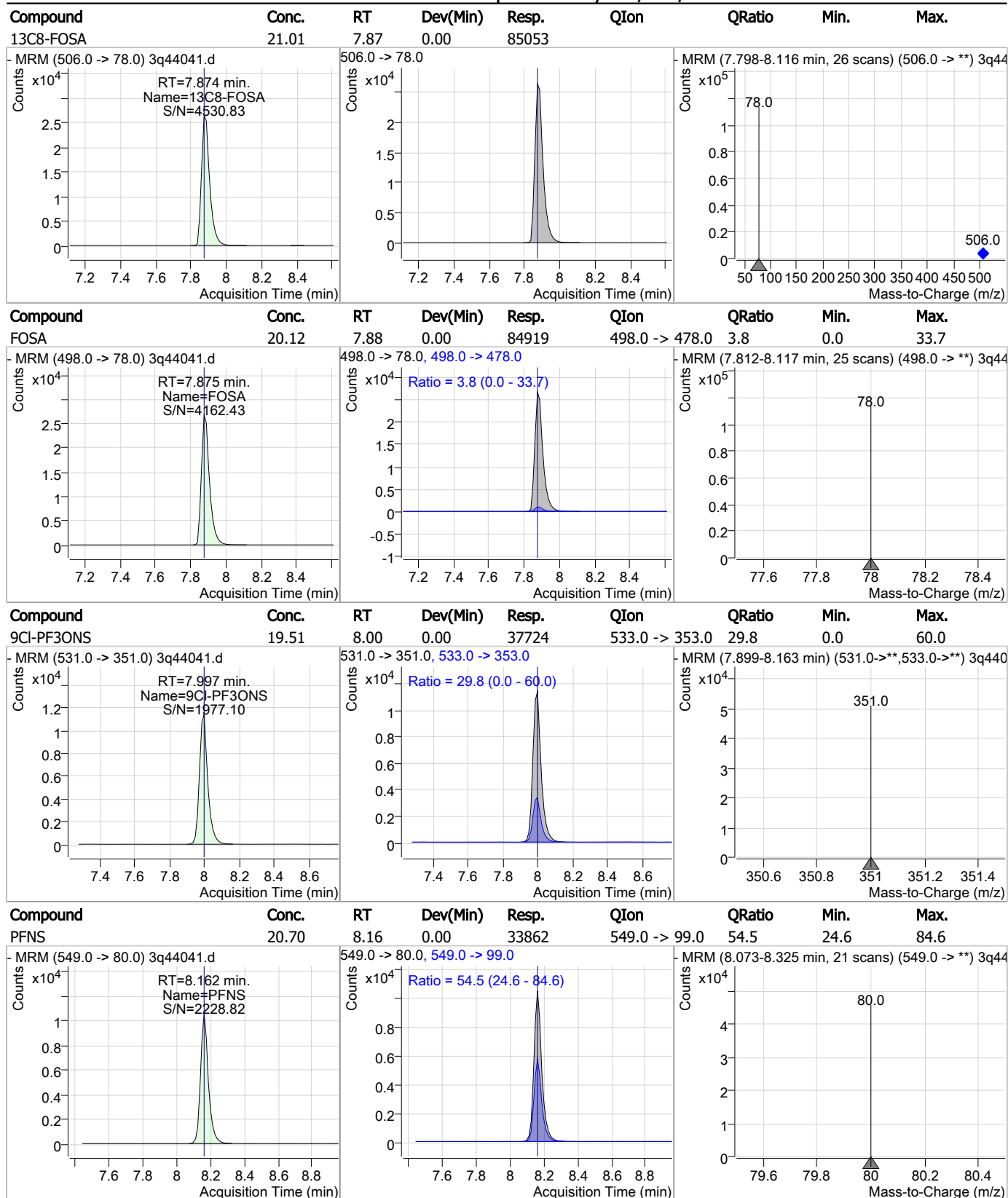


Perfluorinated Compounds by LC/MS/MS



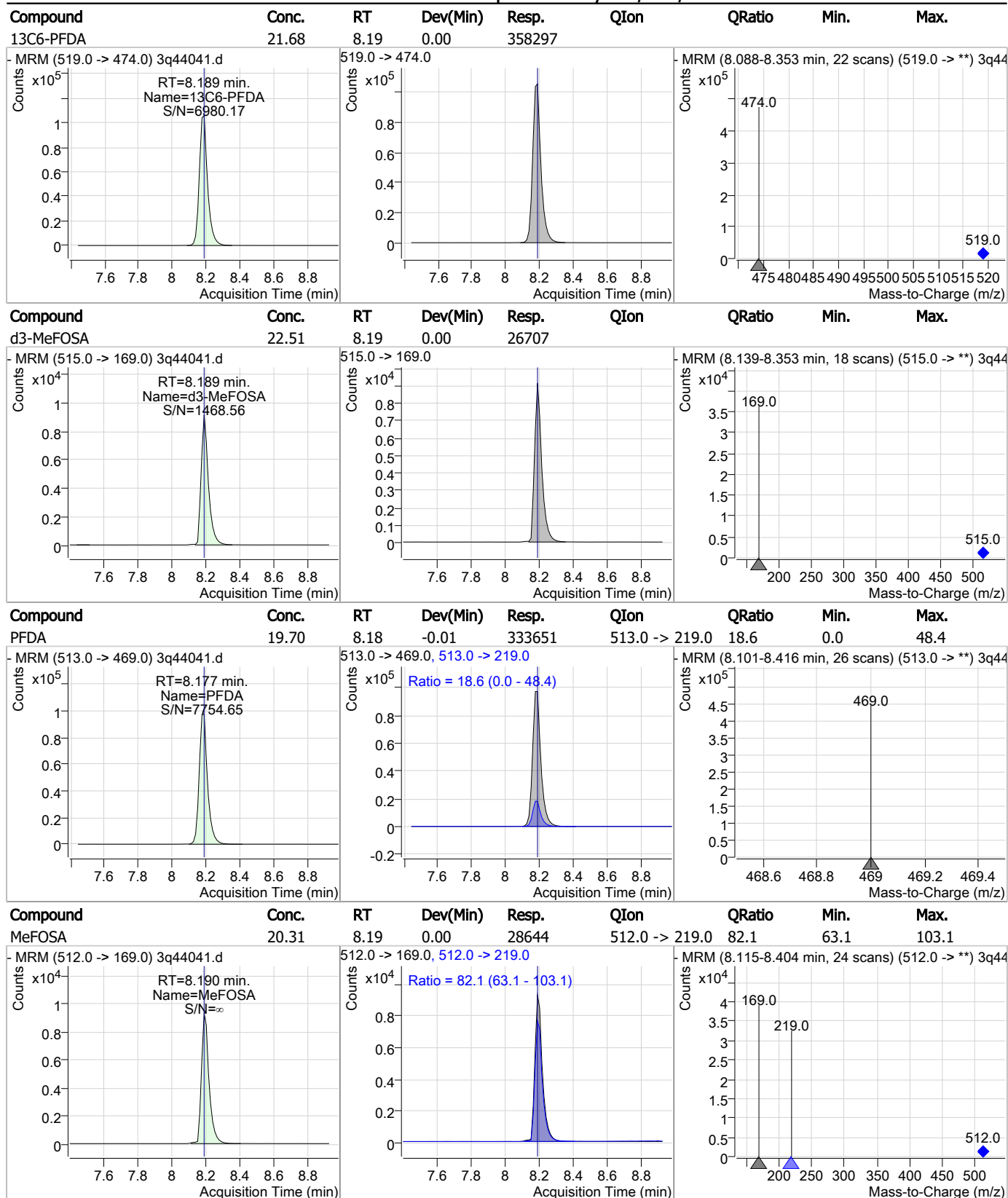
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Perfluorinated Compounds by LC/MS/MS

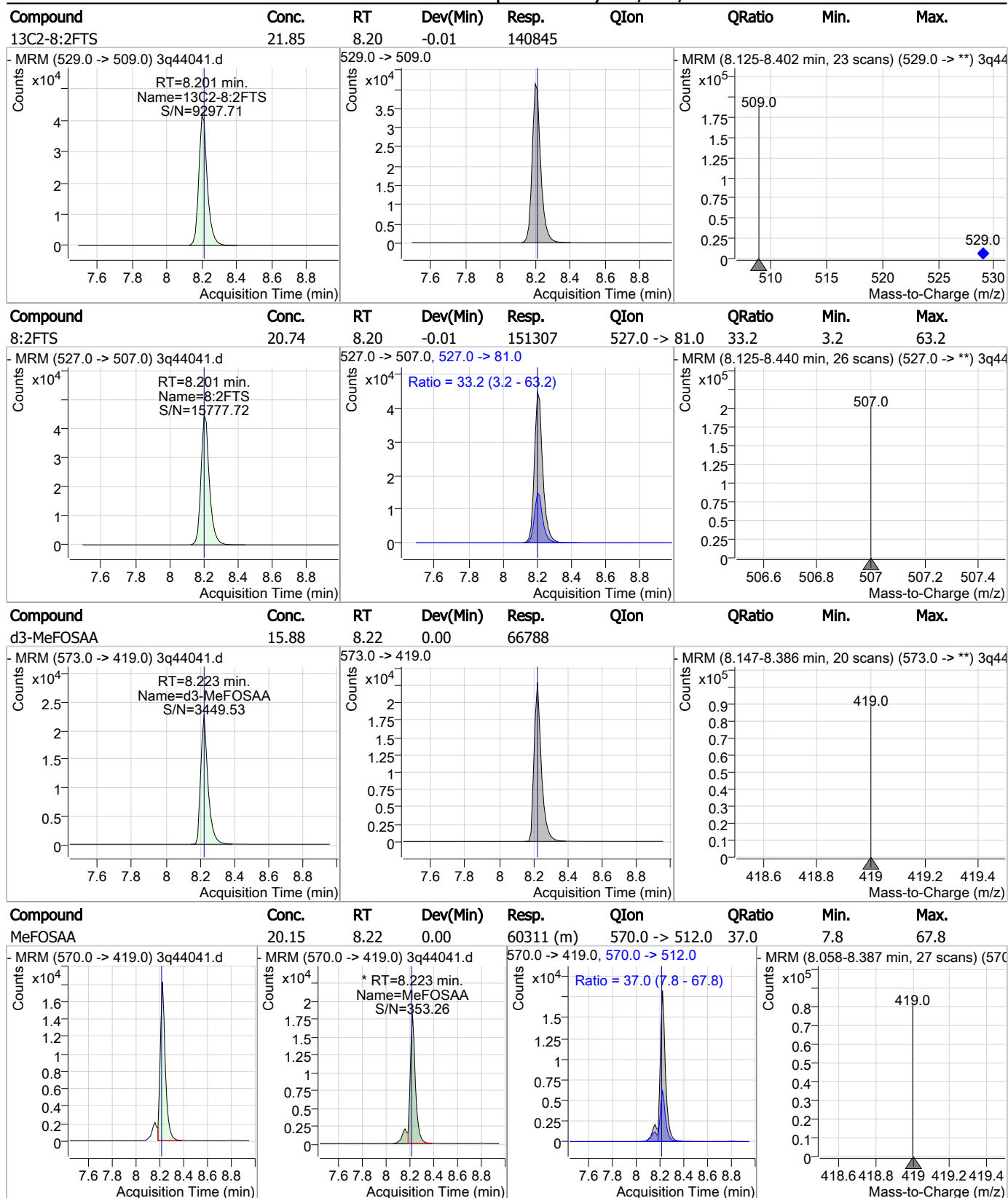


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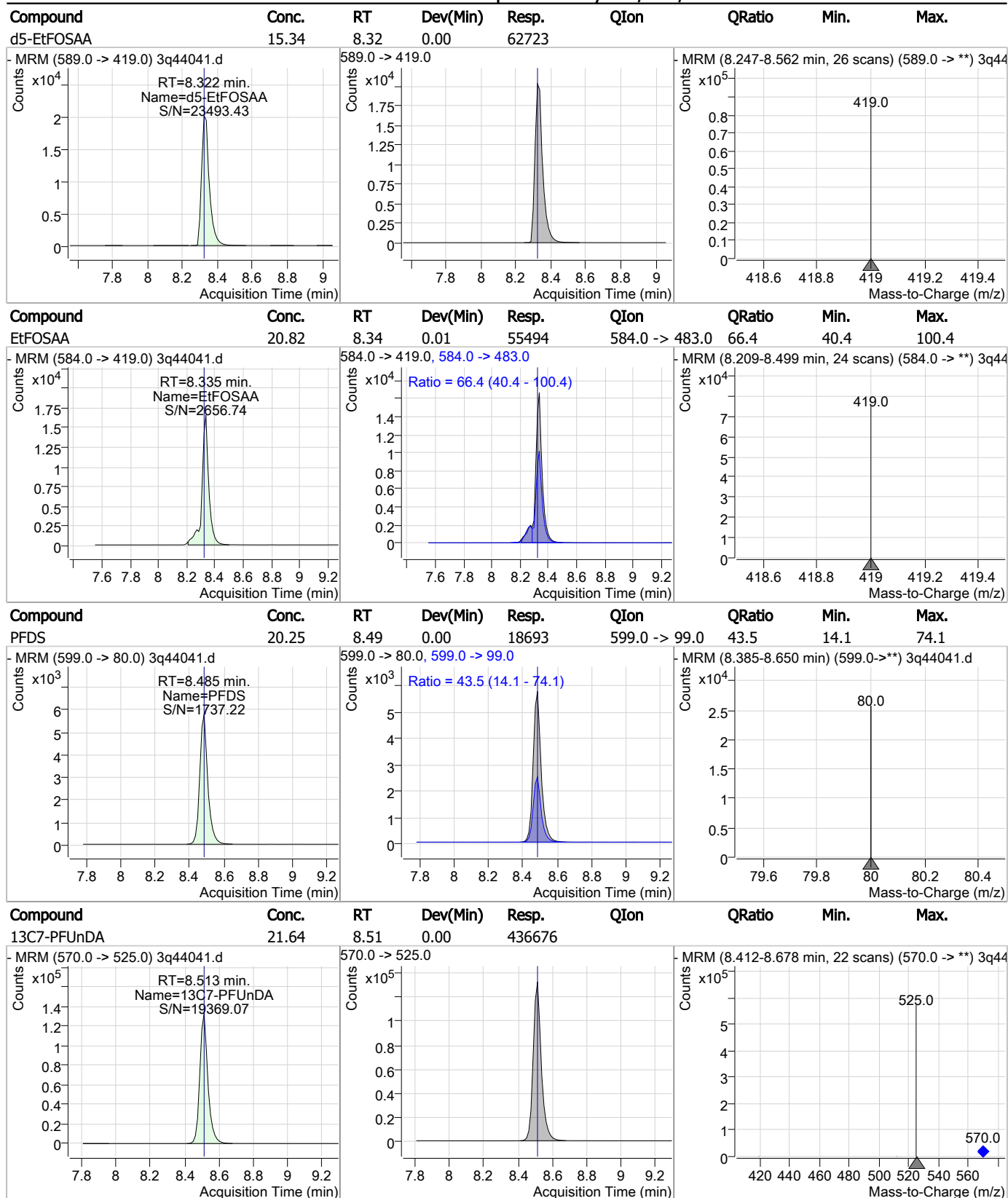
Perfluorinated Compounds by LC/MS/MS



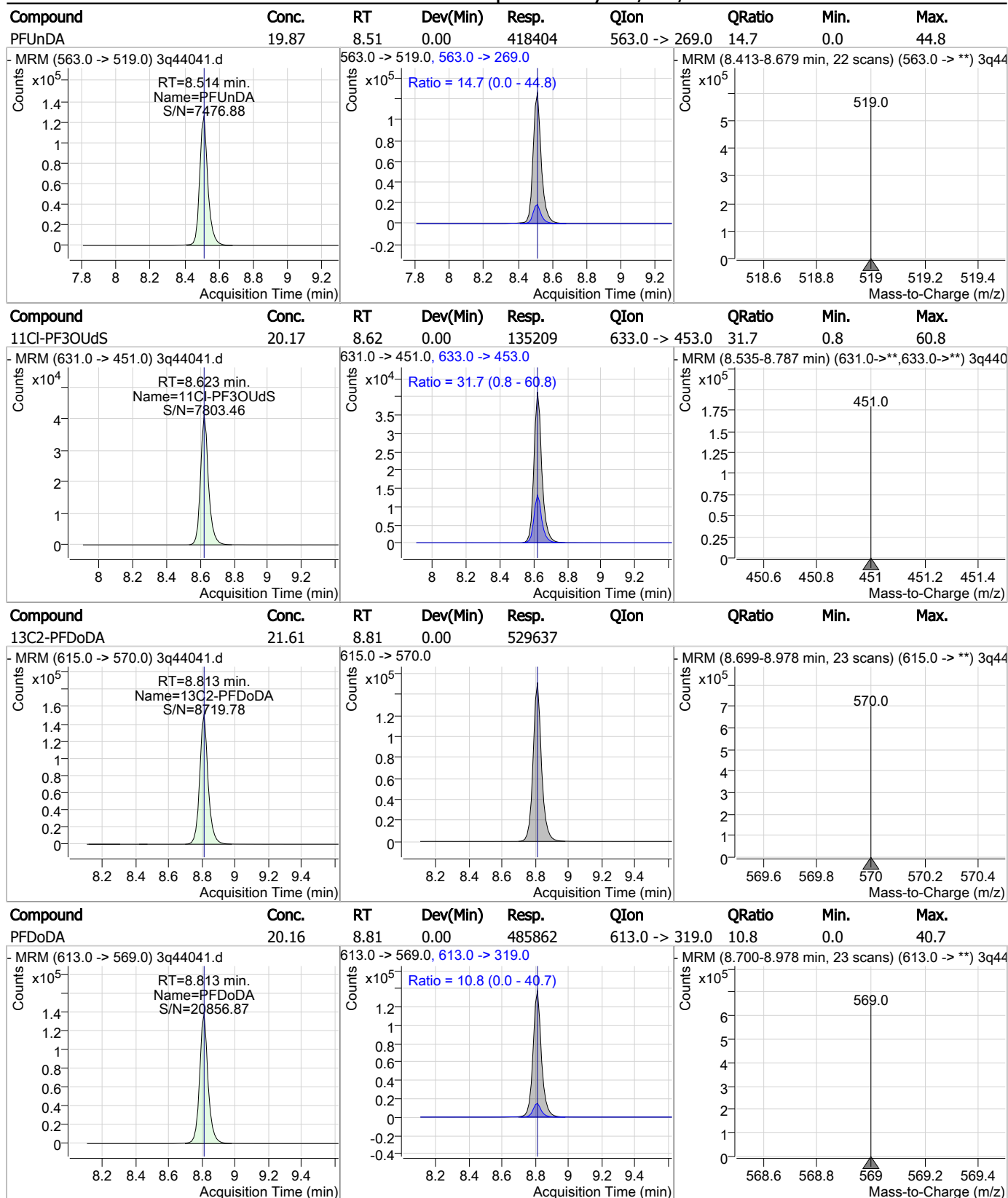
Perfluorinated Compounds by LC/MS/MS



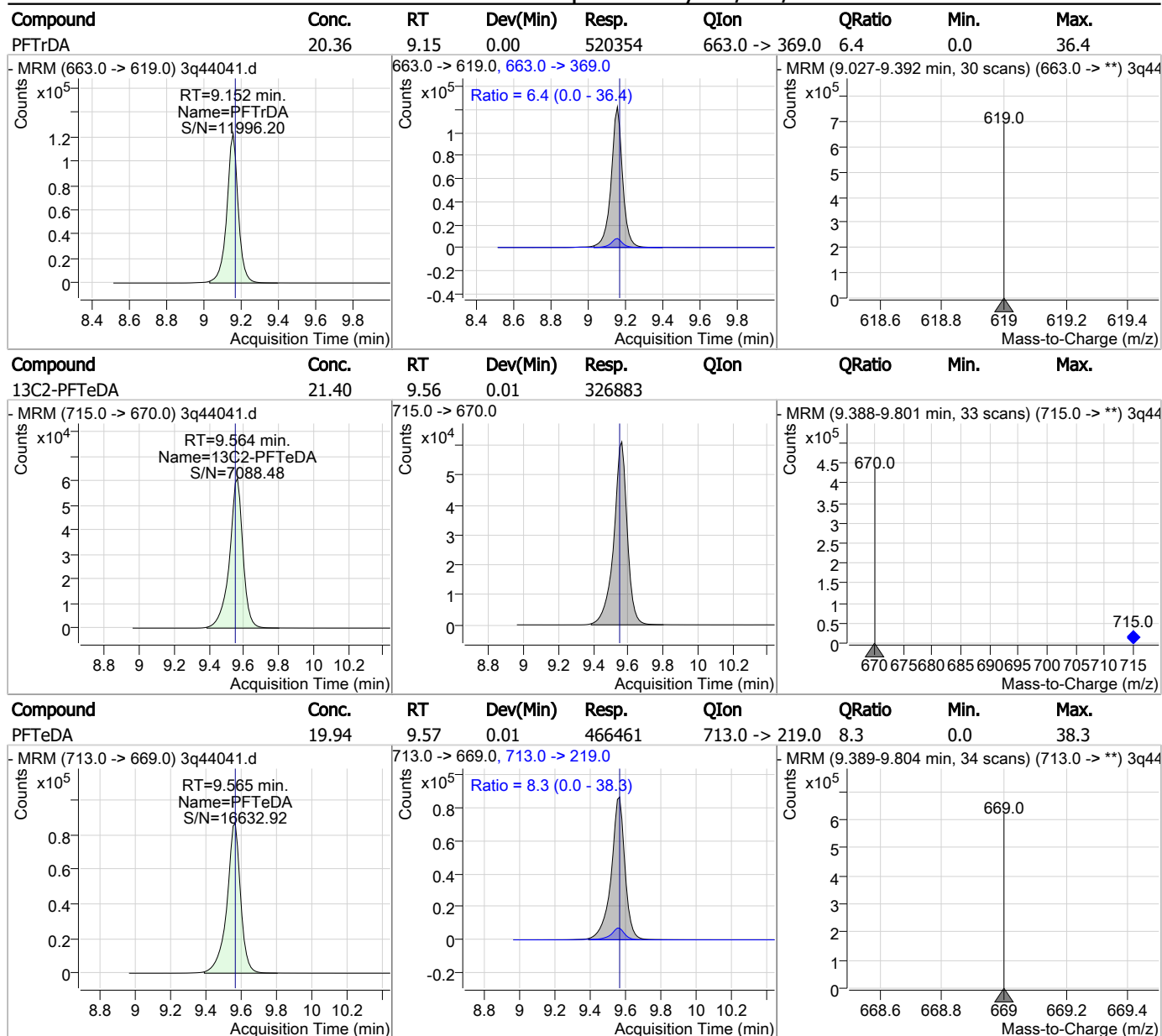
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.5.17 10

Manual Integration Approval Summary

Sample Number:

S3Q639-CC637

Lab FileID:

3Q44041.D

Injection Time:

09/01/21 09:29

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/02/21 12:02 Natasha Gumtie

Supervisor approved:

09/02/21 17:06 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.59	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.77	Split peak
MeFOSAA	2355-31-9		8.22	Split peak

10.5.17.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44073.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 6:46:32 PM
 Sample Name : cc637-20
 Vial : P1-A7
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86590,S3Q639,250,,,1,1,water

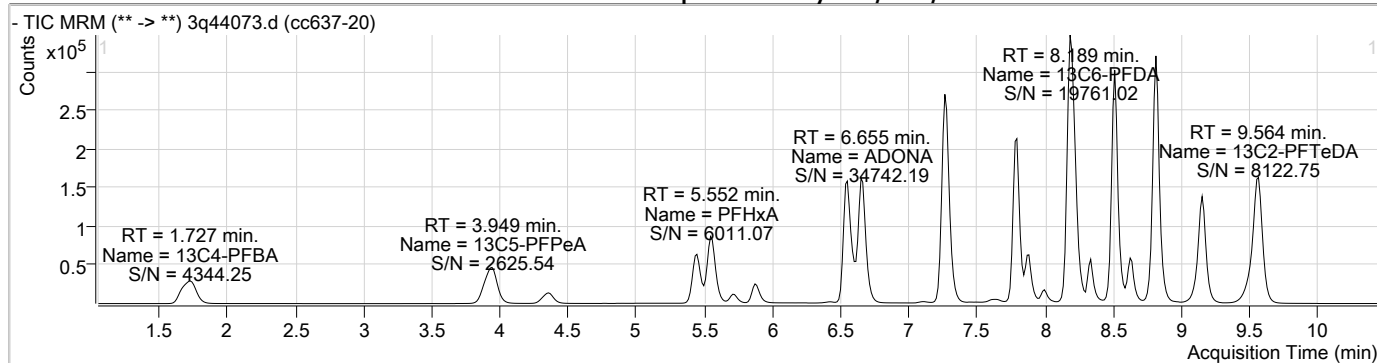
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	148800	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	131281	20.00 µg/L	0.000
M5-PFHxA	5.551	318.0 -> 273.0	190111	20.00 µg/L	0.000
M4-PFHpA	6.556	367.0 -> 322.0	223825	20.00 µg/L	0.013
M8-PFOA	7.270	421.0 -> 376.0	275218	20.00 µg/L	0.000
M9-PFNA	7.800	472.0 -> 427.0	291147	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	379466	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	464791	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	556778	20.00 µg/L	0.000
M2-PFTeDA	9.564	715.0 -> 670.0	345269	20.00 µg/L	0.013
M8-FOSA	7.887	506.0 -> 78.0	88503	20.00 µg/L	0.013
M3-PFBS	4.354	302.0 -> 99.0	16386	20.00 µg/L	0.000
M3-PFHxS	6.603	402.0 -> 99.0	18915	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	27827	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	106590	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	136814	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	146084	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	75508	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	20251	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	28011	20.00 µg/L	0.000
M5-EtFOSAA	8.335	589.0 -> 419.0	70251	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	106590	22.26 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.3%	
13C2-6:2FTS	7.256	429.0 -> 409.0	136814	22.92 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.6%	
13C2-8:2FTS	8.213	529.0 -> 509.0	146084	22.66 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.3%	
13C2-PFDoDA	8.813	615.0 -> 570.0	556778	22.71 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.6%	
13C2-PFTeDA	9.564	715.0 -> 670.0	345269	22.60 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.0%	
13C3-PFBS	4.354	302.0 -> 99.0	16386	23.02 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 115.1%	
13C3-PFHxS	6.603	402.0 -> 99.0	18915	23.29 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 116.5%	
13C4-PFBA	1.727	217.0 -> 172.0	148800	22.42 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.1%	
13C4-PFHpA	6.556	367.0 -> 322.0	223825	22.43 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.2%	
13C5-PFHxA	5.551	318.0 -> 273.0	190111	22.54 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.7%	
13C5-PFPeA	3.949	268.0 -> 223.0	131281	22.34 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.7%	
13C6-PFDA	8.189	519.0 -> 474.0	379466	22.96 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

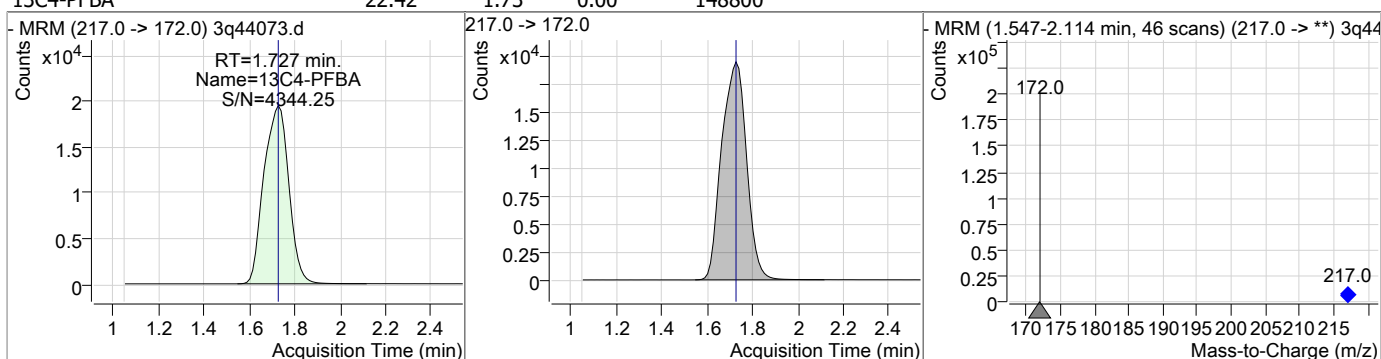
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.8%	
13C7-PFUnDA	8.513	570.0 -> 525.0	464791	23.04 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 115.2%	
13C8-FOSA	7.887	506.0 -> 78.0	88503	21.87 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.3%	
13C8-PFOA	7.270	421.0 -> 376.0	275218	22.65 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.2%	
13C8-PFOS	7.785	507.0 -> 99.0	27827	22.69 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.5%	
13C9-PFNA	7.800	472.0 -> 427.0	291147	22.74 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.7%	
d3-MeFOSAA	8.223	573.0 -> 419.0	75508	17.96 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.8%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	20252	21.73 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.7%	
d3-MeFOSA	8.189	515.0 -> 169.0	28011	23.61 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 118.0%	
d5-EtFOSAA	8.335	589.0 -> 419.0	70242	17.17 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.9%	
Target Compounds					QValue
4:2FTS	5.448	327.0 -> 307.0	123647	20.67 µg/L	100
6:2FTS	7.256	427.0 -> 407.0	140833	20.58 µg/L	98
8:2FTS	8.214	527.0 -> 507.0	156134	20.63 µg/L	100
EtFOSAA	8.335	584.0 -> 419.0	62677	20.99 µg/L	m 95
FOSA	7.888	498.0 -> 78.0	89552	20.40 µg/L	99
MeFOSAA	8.223	570.0 -> 419.0	69428	20.52 µg/L	m 96
PFBA	1.733	213.0 -> 169.0	74100	19.93 µg/L	100
PFBS	4.357	299.0 -> 80.0	43070	19.84 µg/L	99
PFDA	8.190	513.0 -> 469.0	353010	19.68 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	504476	19.91 µg/L	100
PFDS	8.485	599.0 -> 80.0	19363	19.70 µg/L	98
PFHpA	6.557	363.0 -> 319.0	363790	20.16 µg/L	99
PFHpS	7.280	449.0 -> 80.0	43489	20.73 µg/L	97
PFHxA	5.552	313.0 -> 269.0	164119	19.88 µg/L	100
PFHxS	6.603	399.0 -> 80.0	44840	19.55 µg/L	m 97
PFNA	7.800	463.0 -> 419.0	296911	19.68 µg/L	99
PFNS	8.162	549.0 -> 80.0	35706	21.17 µg/L	100
PFOA	7.283	413.0 -> 369.0	287066	19.87 µg/L	99
PFOS	7.786	499.0 -> 80.0	50520	20.25 µg/L	m 82
PFPeA	3.951	263.0 -> 219.0	178441	20.02 µg/L	100
PFPeS	5.707	349.0 -> 80.0	32264	20.16 µg/L	99
PFTeDA	9.565	713.0 -> 669.0	493529	19.98 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	547842	20.30 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	439491	19.61 µg/L	100
11Cl-PF3OUdS	8.623	631.0 -> 451.0	141161	20.03 µg/L	100
9Cl-PF3ONS	7.997	531.0 -> 351.0	38533	18.82 µg/L	100
ADONA	6.655	377.0 -> 251.0	476156	19.35 µg/L	100
HFPO-DA	5.876	329.0 -> 169.0	68109	20.65 µg/L	98
MeFOSA	8.203	512.0 -> 169.0	28971	19.58 µg/L	97

= Qualifier out of range, m = manually integrated, + = Area summed

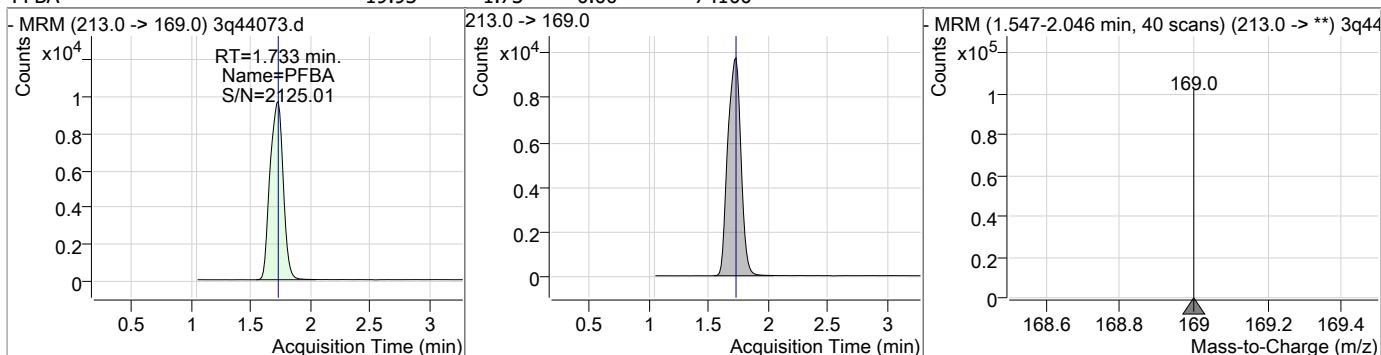
Perfluorinated Compounds by LC/MS/MS



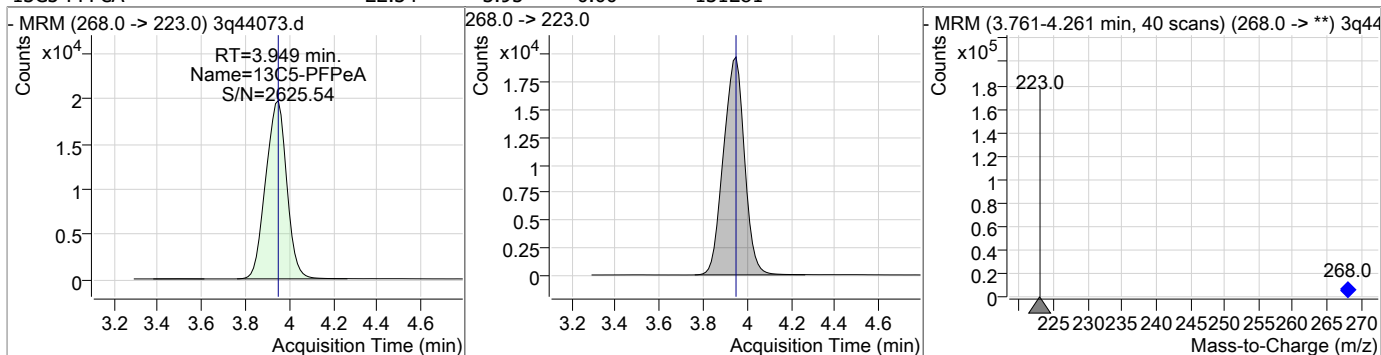
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



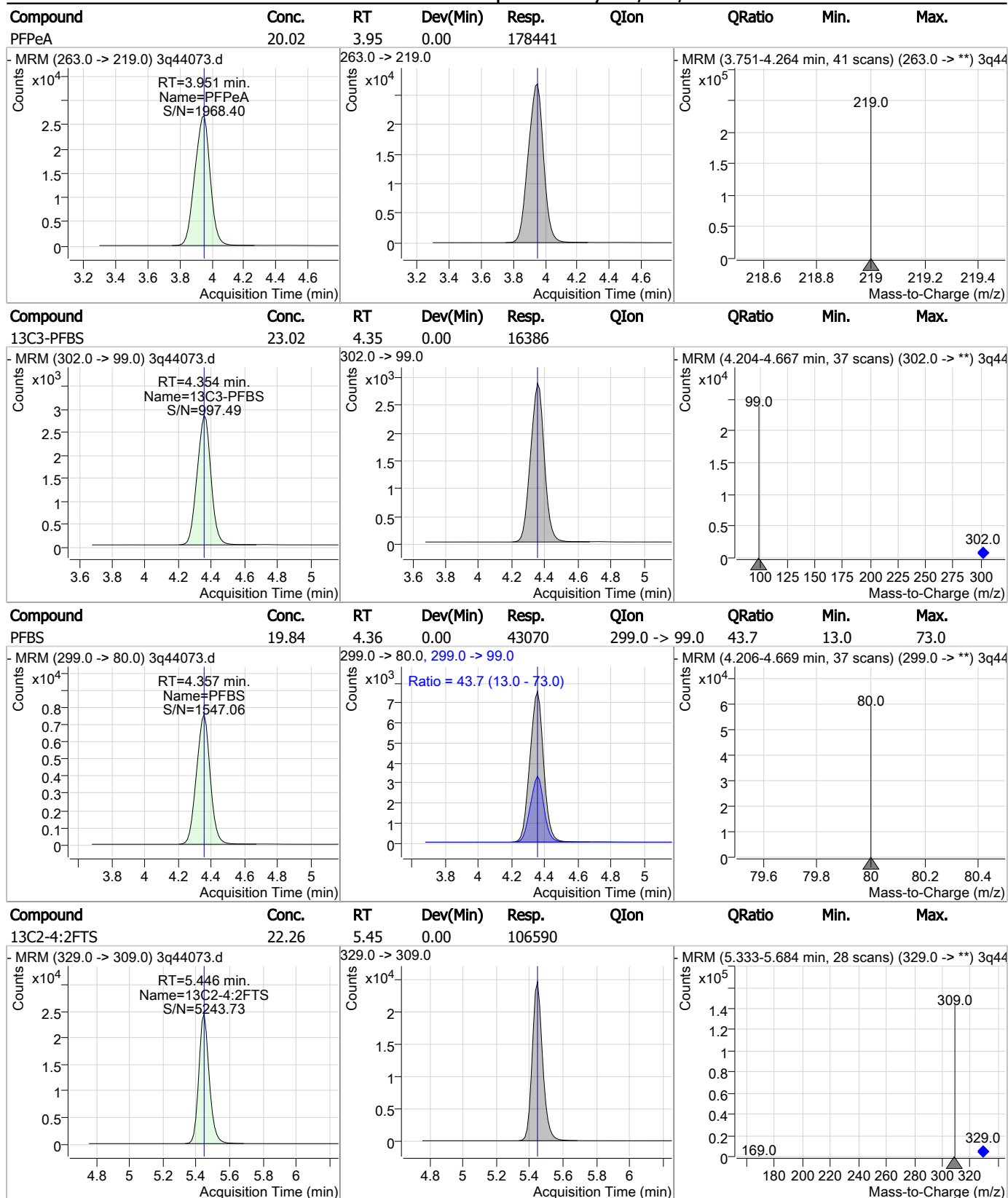
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.

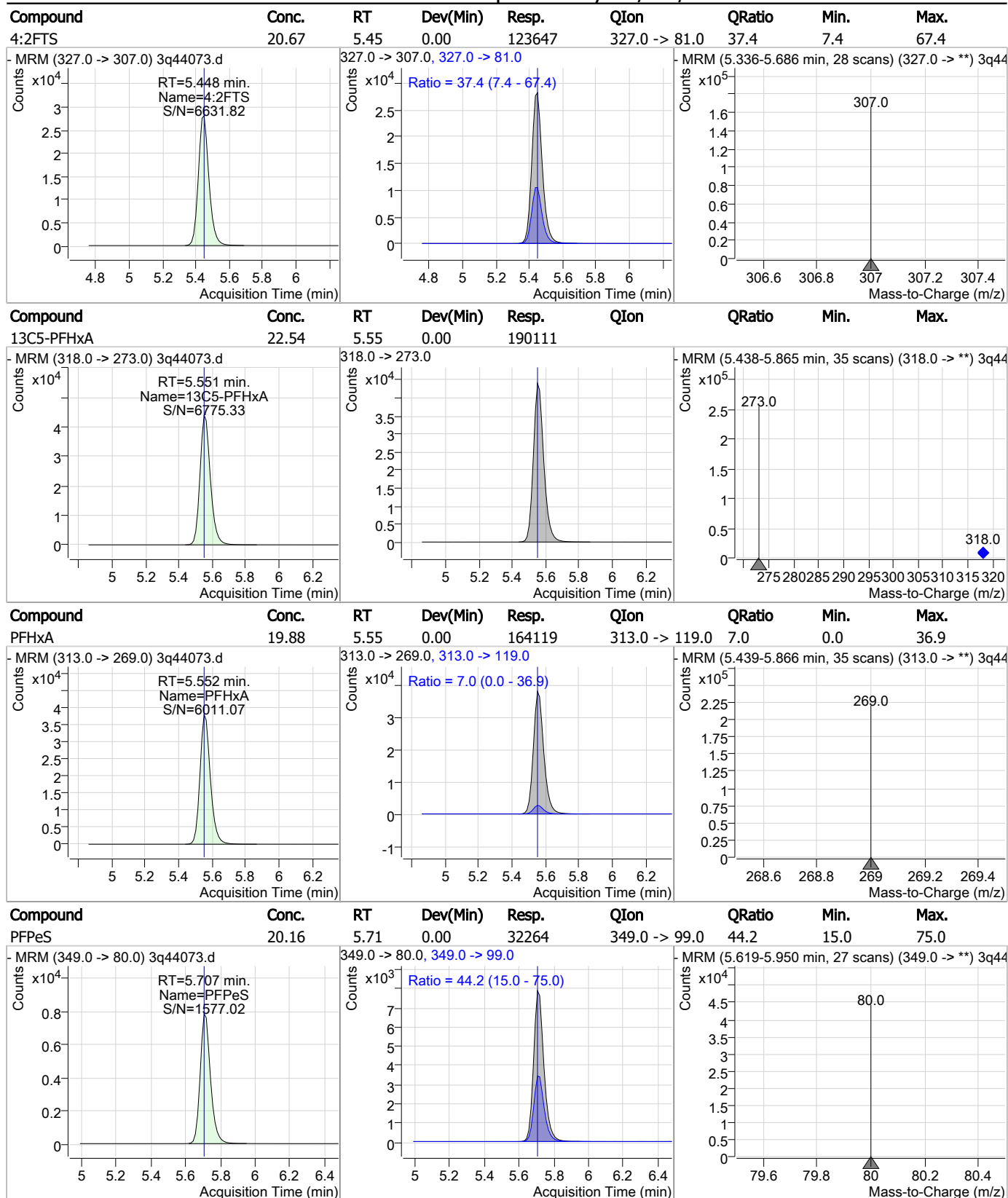


Perfluorinated Compounds by LC/MS/MS

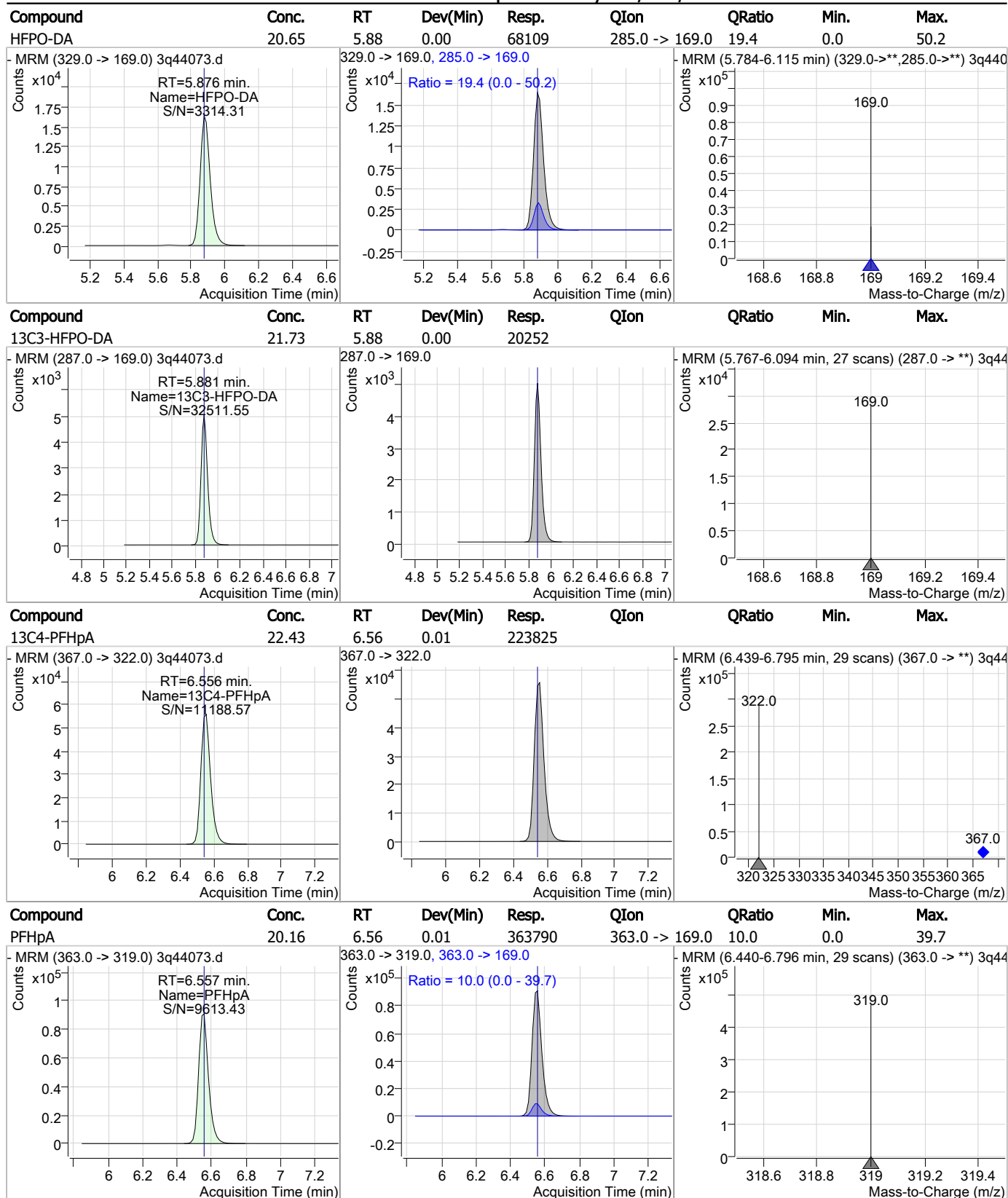


10.5.18 10

Perfluorinated Compounds by LC/MS/MS

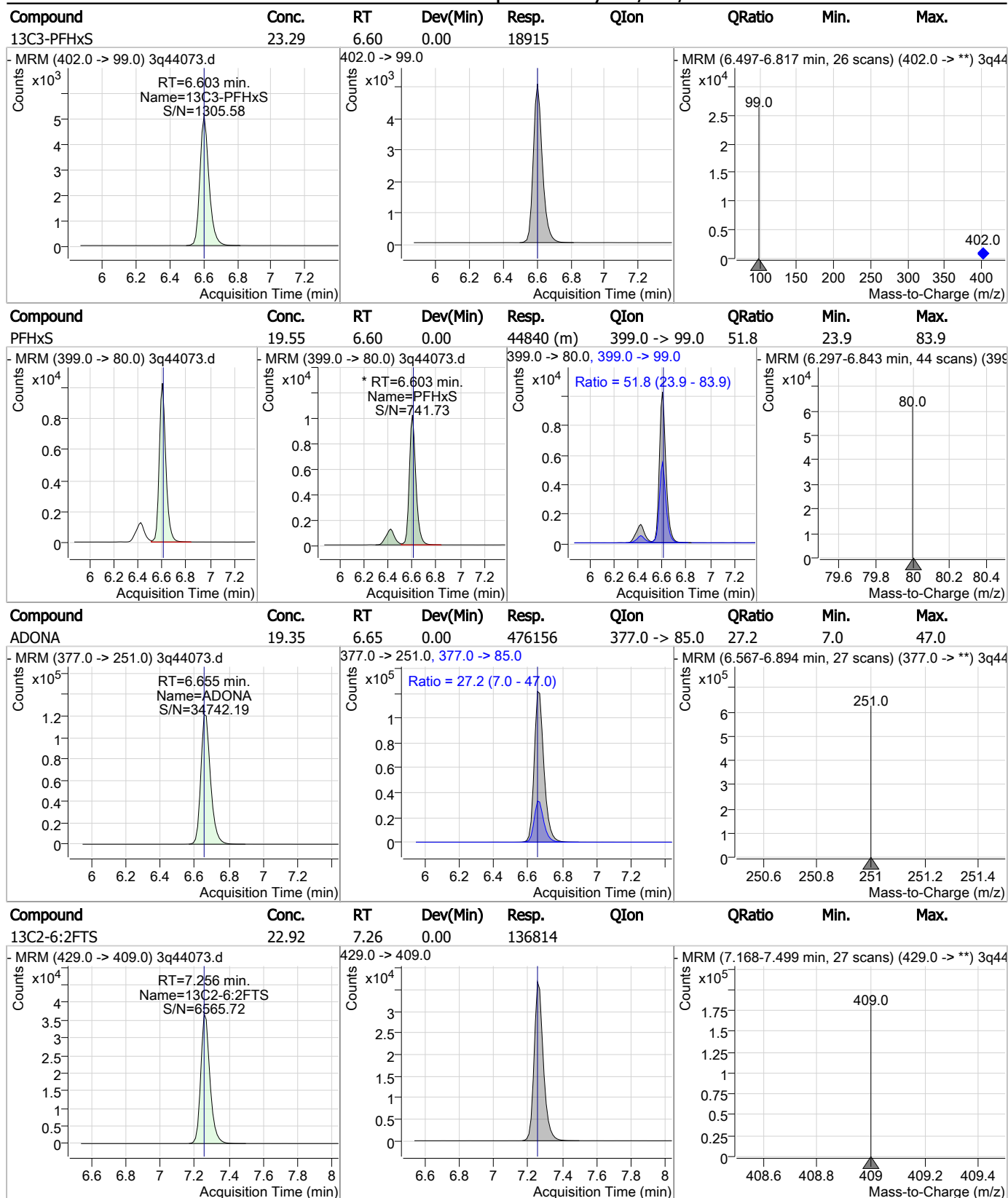


Perfluorinated Compounds by LC/MS/MS

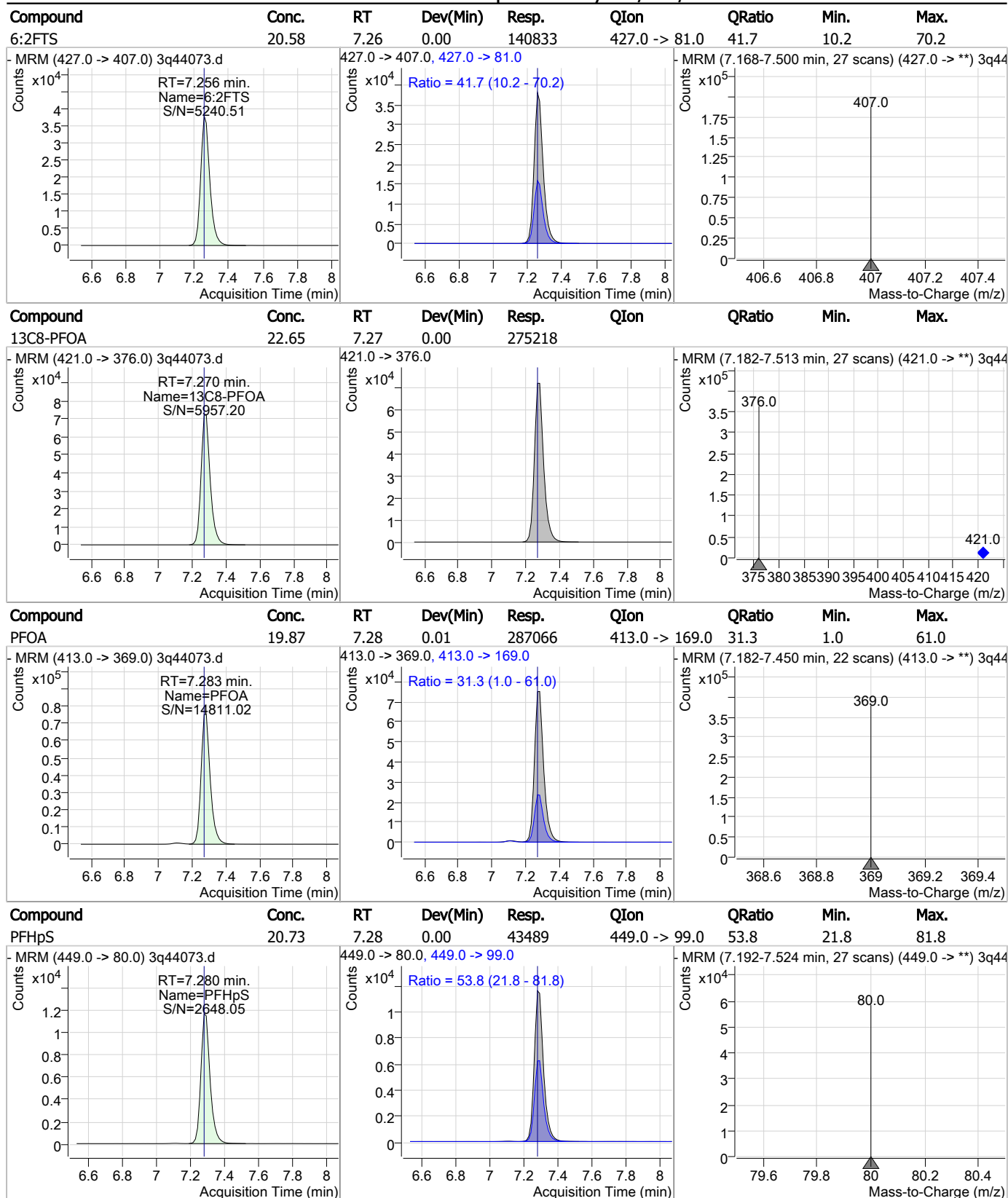


10.5.18 10

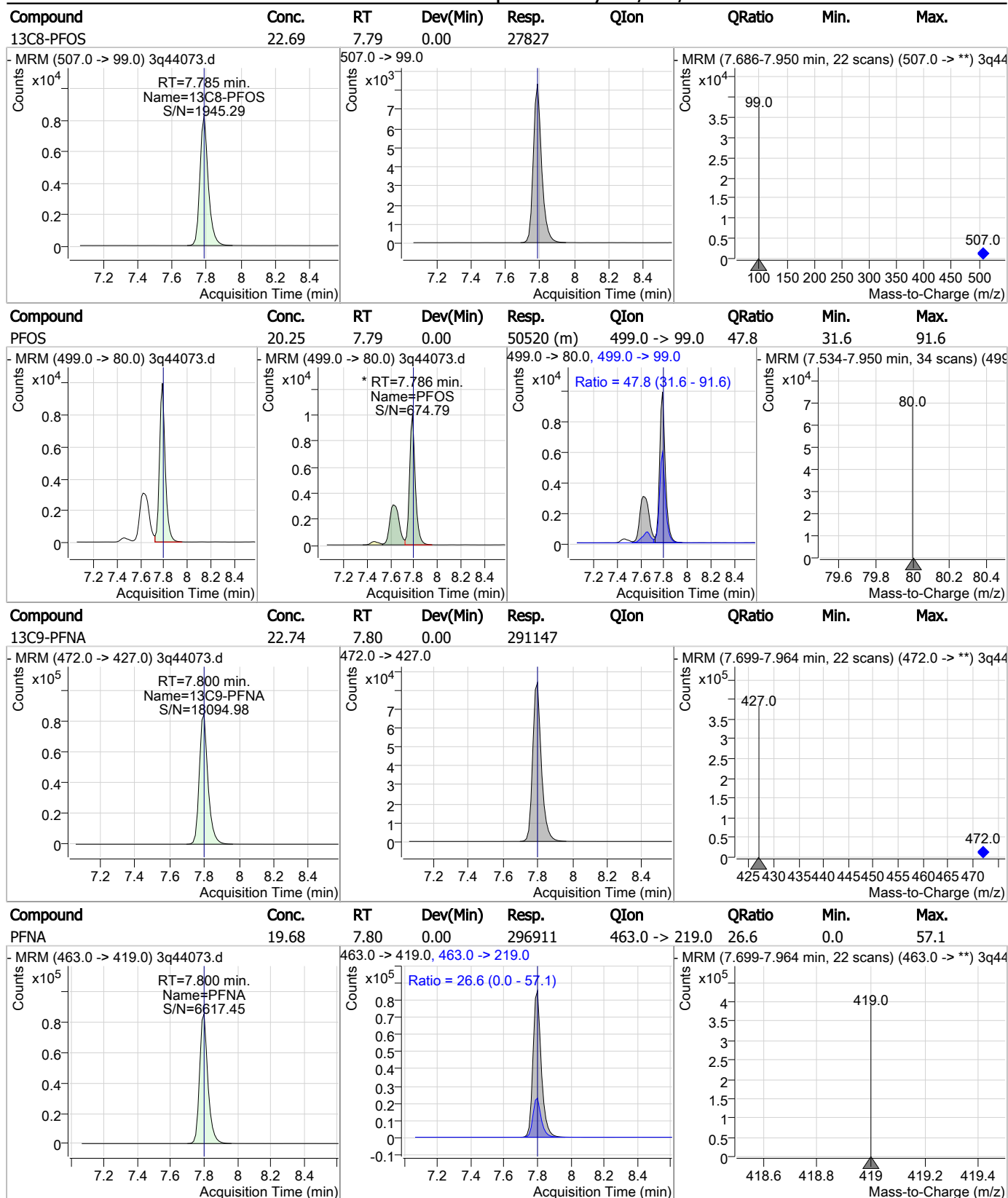
Perfluorinated Compounds by LC/MS/MS



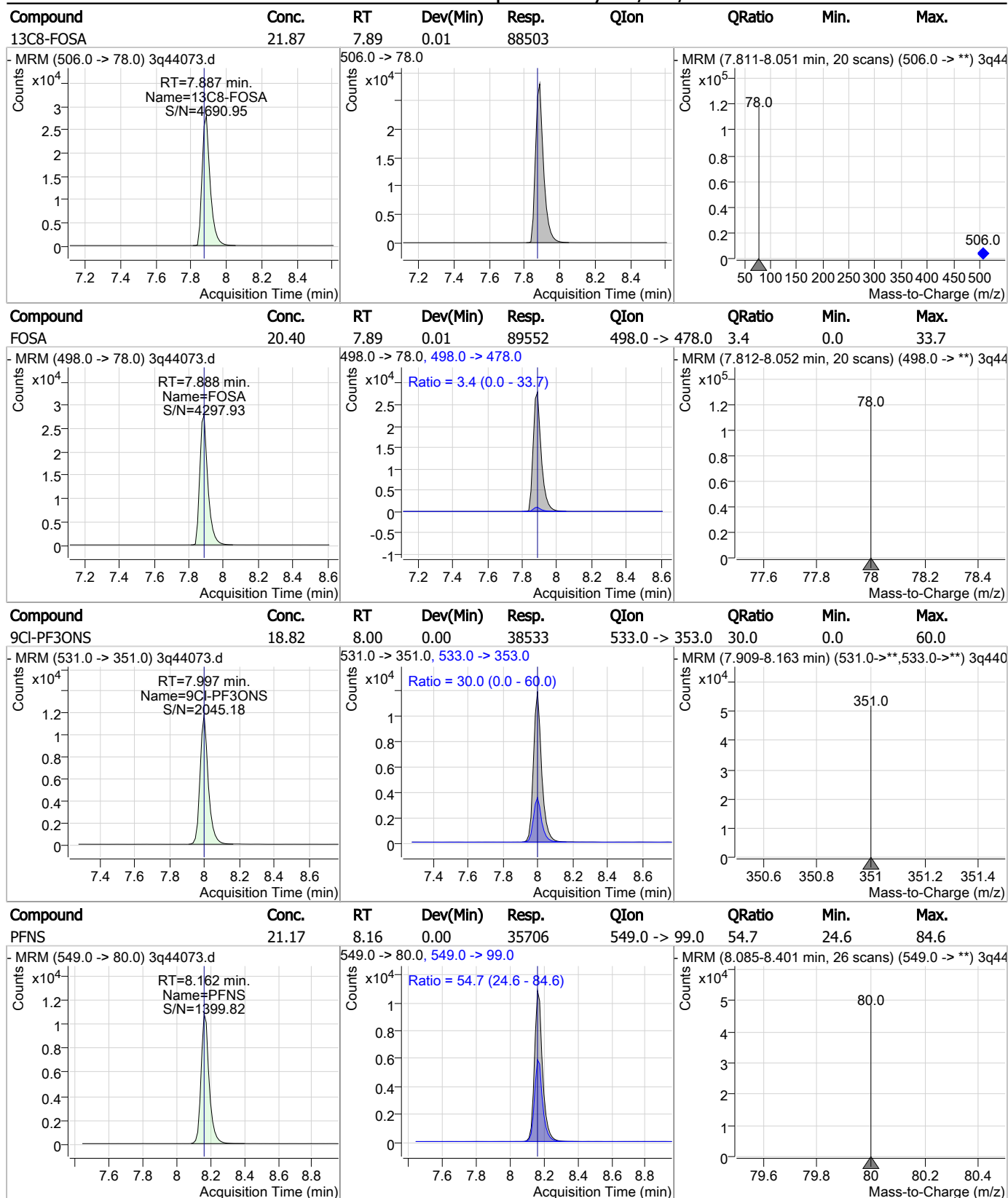
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

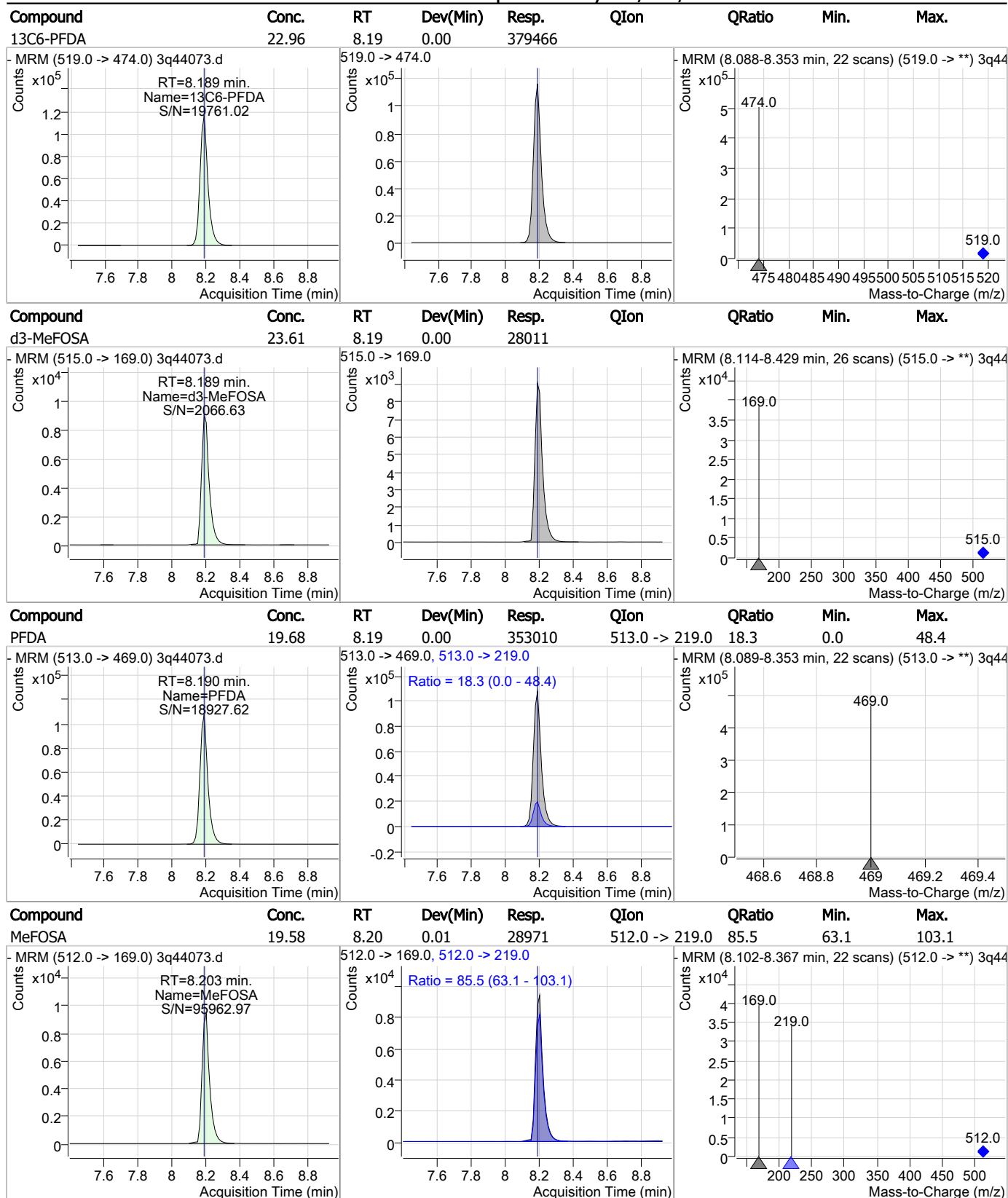


Perfluorinated Compounds by LC/MS/MS

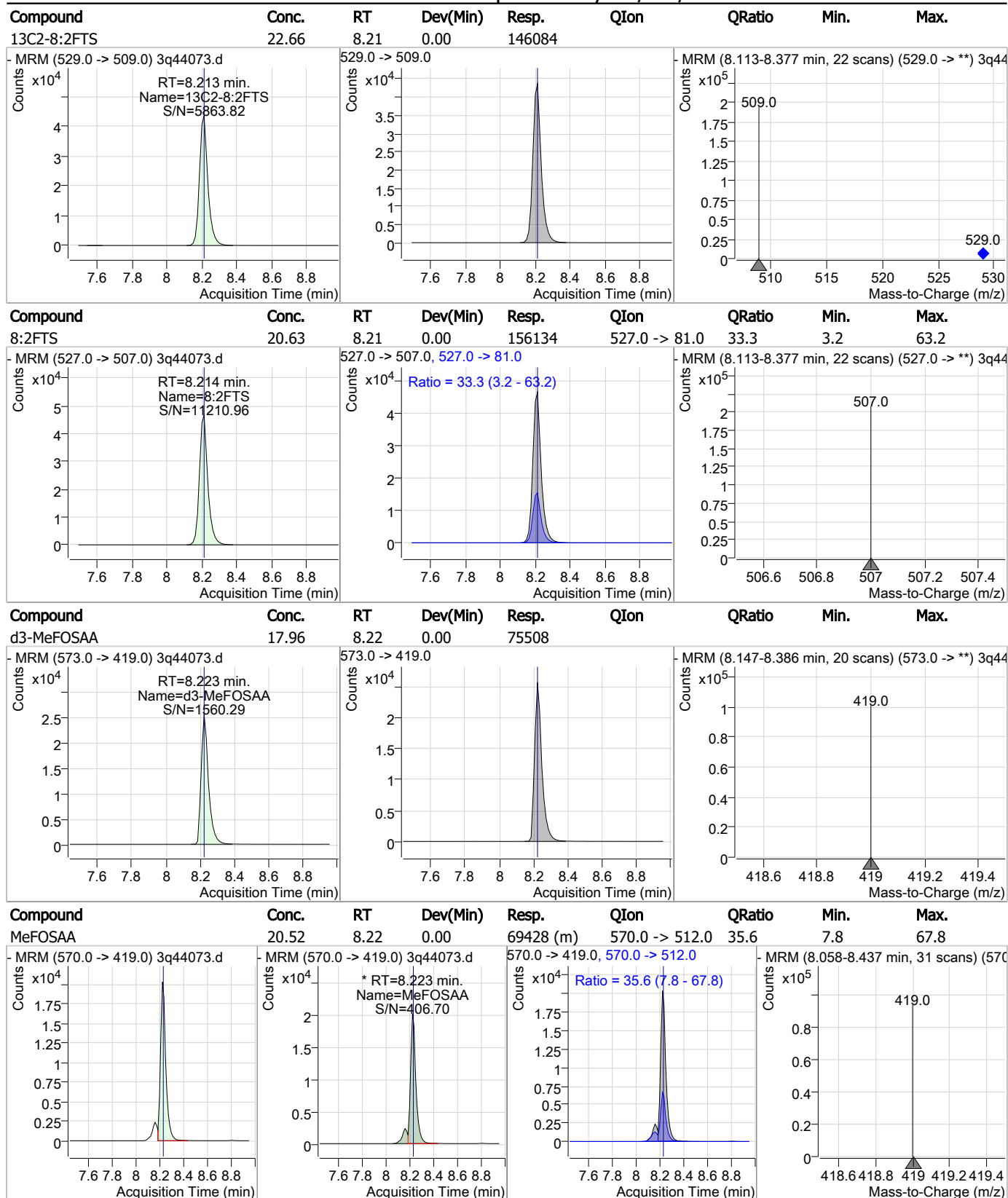


10.5.18 10

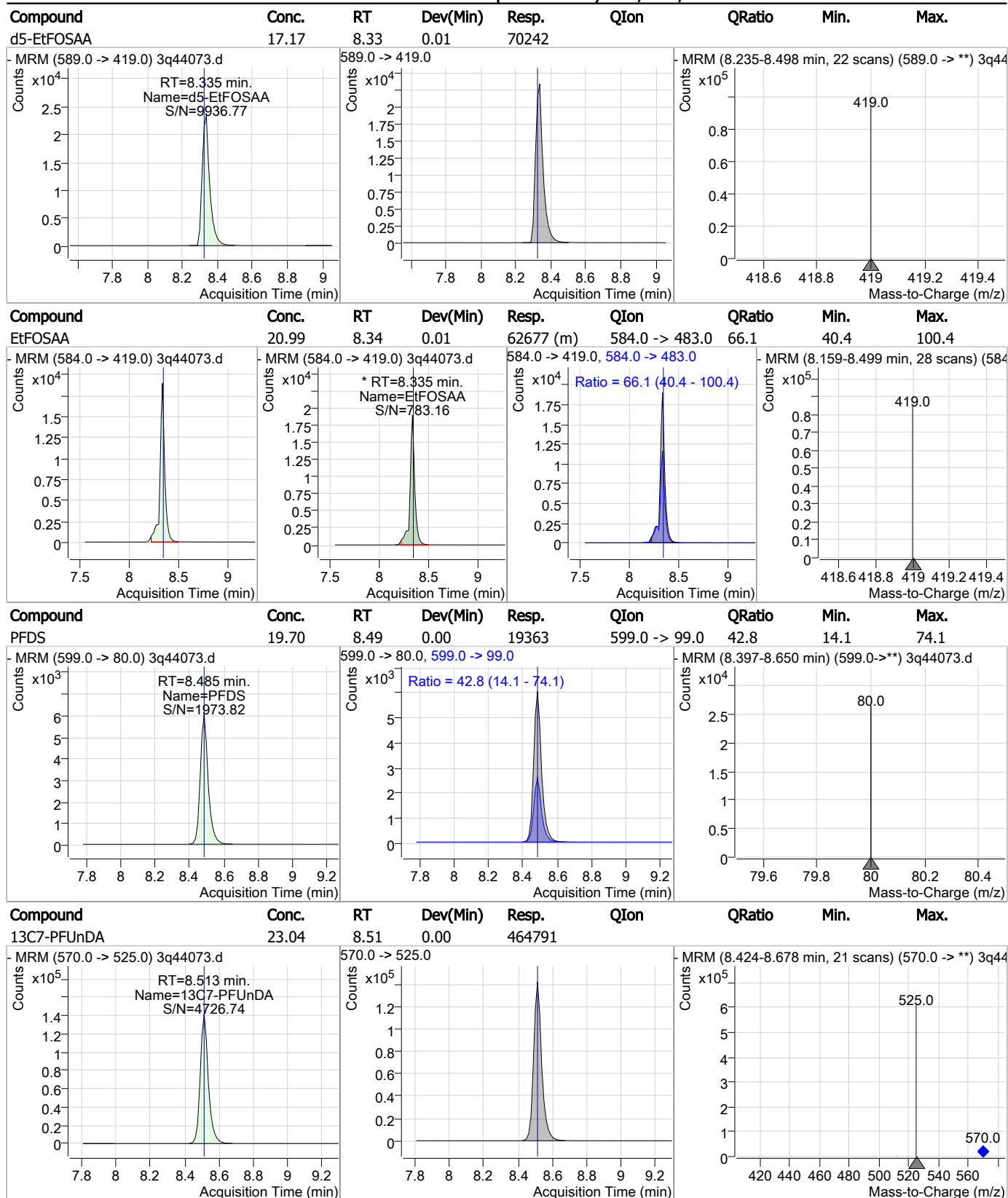
Perfluorinated Compounds by LC/MS/MS



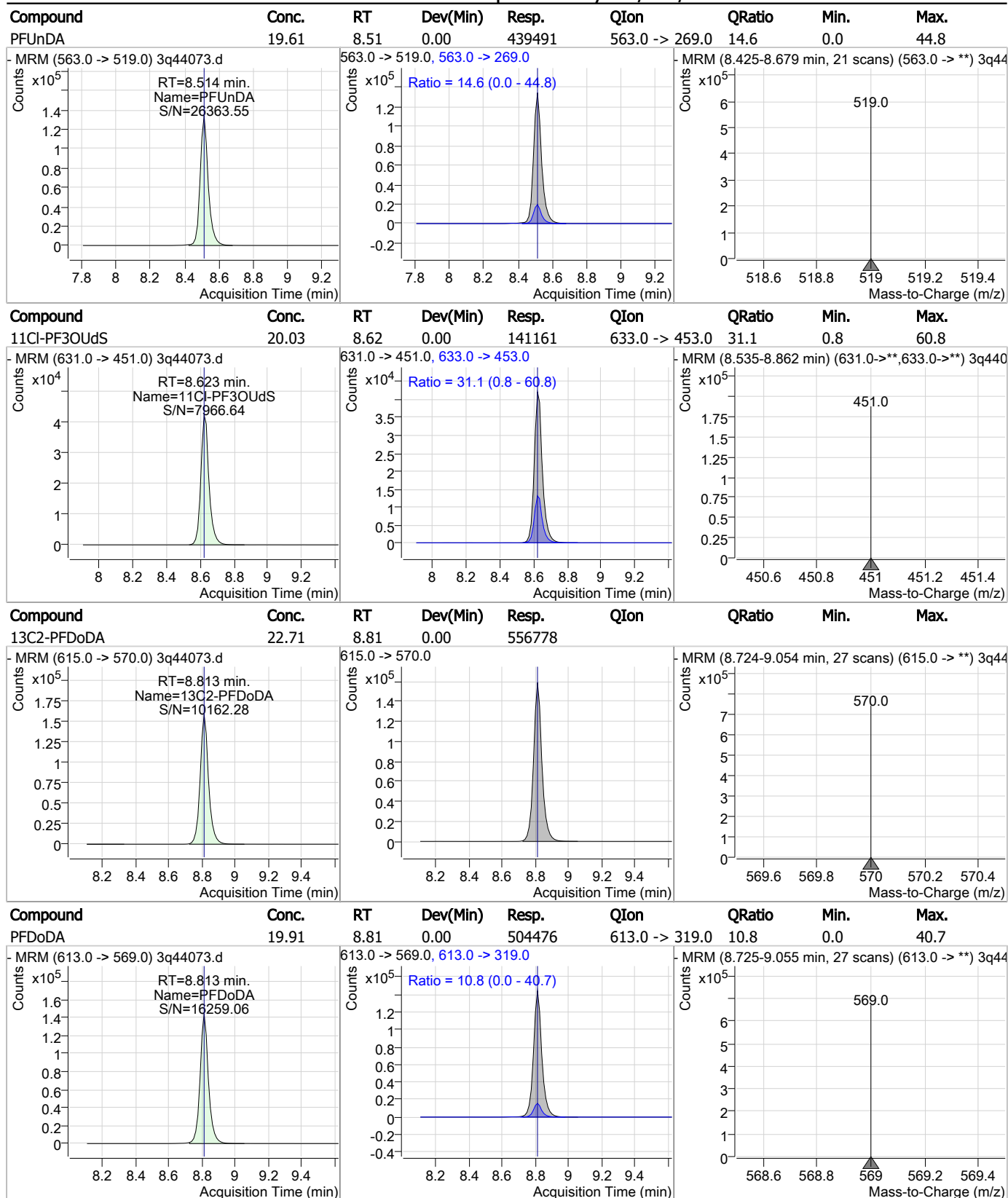
Perfluorinated Compounds by LC/MS/MS



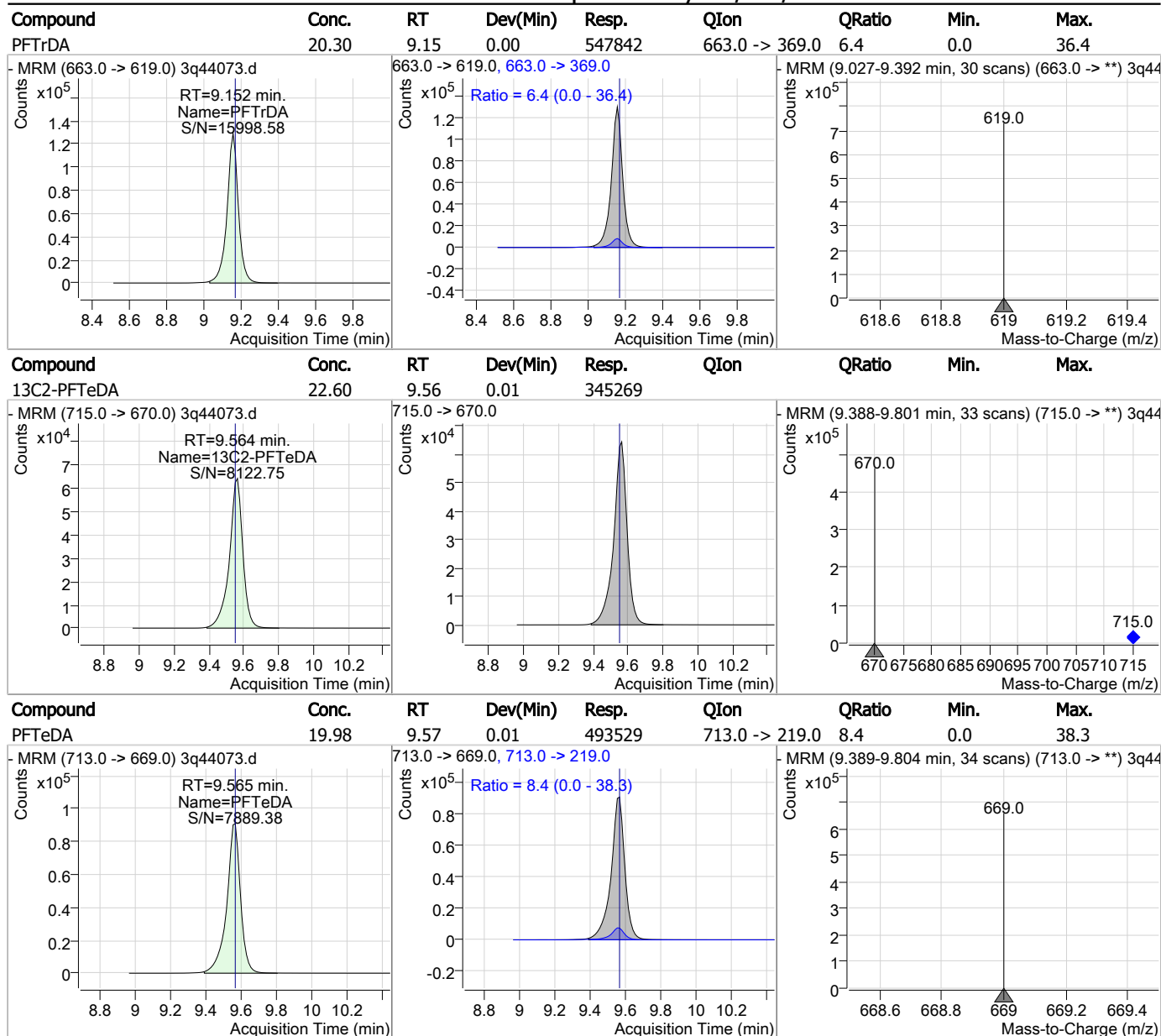
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.5.18 10

Manual Integration Approval Summary

Sample Number:

S3Q639-CC637

Lab FileID:

3Q44073.D

Injection Time:

09/01/21 18:46

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/02/21 12:02 Natasha Gumtie

Supervisor approved:

09/02/21 17:06 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.18.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44084.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/1/2021 9:49:00 PM
 Sample Name : cc637-20
 Vial : P1-A7
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86590,S3Q639,250,,,1,1,water

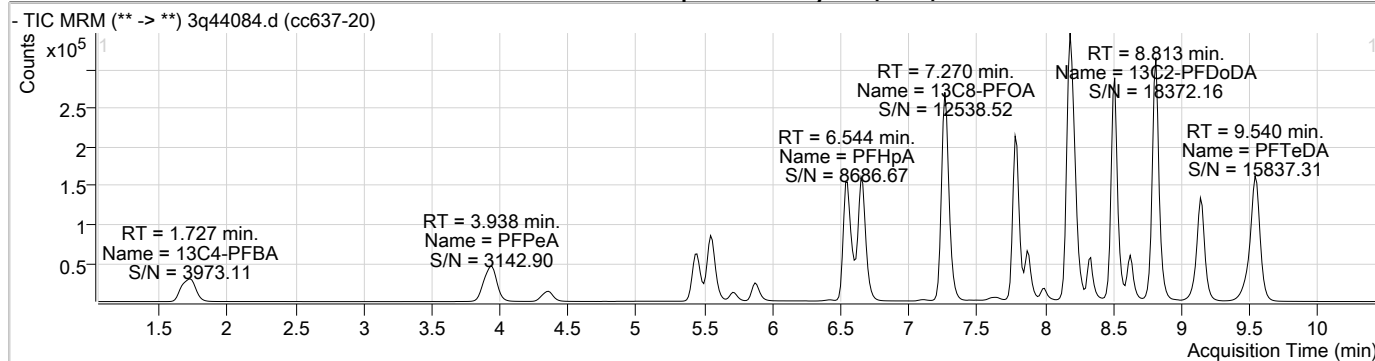
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	147883	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	130338	20.00 µg/L	0.000
M5-PFHxA	5.551	318.0 -> 273.0	187919	20.00 µg/L	0.000
M4-PFHpA	6.556	367.0 -> 322.0	223534	20.00 µg/L	0.013
M8-PFOA	7.270	421.0 -> 376.0	273619	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	284363	20.00 µg/L	-0.013
M6-PFDA	8.189	519.0 -> 474.0	380623	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	454961	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	549442	20.00 µg/L	0.000
M2-PFTeDA	9.538	715.0 -> 670.0	334174	20.00 µg/L	-0.013
M8-FOSA	7.874	506.0 -> 78.0	89554	20.00 µg/L	0.000
M3-PFBS	4.354	302.0 -> 99.0	15952	20.00 µg/L	0.000
M3-PFHxS	6.603	402.0 -> 99.0	18501	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	28264	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	105989	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	135864	20.00 µg/L	0.000
M2-8:2FTS	8.201	529.0 -> 509.0	143960	20.00 µg/L	-0.013
M3-MeFOSAA	8.223	573.0 -> 419.0	76845	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	19739	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	27381	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	73282	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	105989	22.13 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 110.7%		
13C2-6:2FTS	7.256	429.0 -> 409.0	135864	22.77 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 113.8%		
13C2-8:2FTS	8.201	529.0 -> 509.0	143960	22.33 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 111.6%		
13C2-PFDoDA	8.813	615.0 -> 570.0	549442	22.42 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 112.1%		
13C2-PFTeDA	9.538	715.0 -> 670.0	334174	21.88 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 109.4%		
13C3-PFBS	4.354	302.0 -> 99.0	15952	22.41 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 112.0%		
13C3-PFHxS	6.603	402.0 -> 99.0	18501	22.78 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 113.9%		
13C4-PFBA	1.727	217.0 -> 172.0	147883	22.28 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 111.4%		
13C4-PFHpA	6.556	367.0 -> 322.0	223534	22.40 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 112.0%		
13C5-PFHxA	5.551	318.0 -> 273.0	187919	22.28 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 111.4%		
13C5-PFPeA	3.949	268.0 -> 223.0	130338	22.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 110.9%		
13C6-PFDA	8.189	519.0 -> 474.0	380623	23.03 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

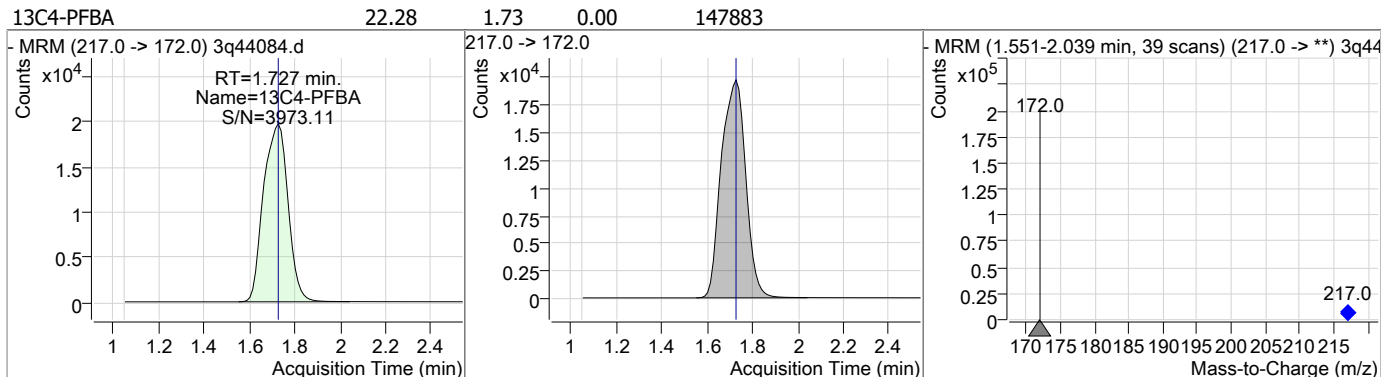
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 115.2%	
13C7-PFUnDA	8.513	570.0 -> 525.0	454961	22.55 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.7%	
13C8-FOSA	7.874	506.0 -> 78.0	89554	22.13 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 110.6%	
13C8-PFOA	7.270	421.0 -> 376.0	273619	22.52 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.6%	
13C8-PFOS	7.785	507.0 -> 99.0	28264	23.05 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 115.2%	
13C9-PFNA	7.787	472.0 -> 427.0	284363	22.21 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 111.1%	
d3-MeFOSAA	8.223	573.0 -> 419.0	76845	18.27 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.4%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	19736	21.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.9%	
d3-MeFOSA	8.189	515.0 -> 169.0	27381	23.08 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 115.4%	
d5-EtFOSAA	8.322	589.0 -> 419.0	73280	17.92 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.6%	
Target Compounds					QValue
4:2FTS	5.436	327.0 -> 307.0	122617	20.61 µg/L	100
6:2FTS	7.256	427.0 -> 407.0	141021	20.75 µg/L	98
8:2FTS	8.201	527.0 -> 507.0	156061	20.93 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	64728	20.78 µg/L	94
FOSA	7.875	498.0 -> 78.0	89724	20.19 µg/L	99
MeFOSAA	8.223	570.0 -> 419.0	69541	20.20 µg/L	m 99
PFBA	1.733	213.0 -> 169.0	73402	19.86 µg/L	100
PFBS	4.357	299.0 -> 80.0	42659	20.19 µg/L	99
PFDA	8.190	513.0 -> 469.0	349839	19.44 µg/L	99
PFDoDA	8.813	613.0 -> 569.0	500672	20.03 µg/L	100
PFDS	8.485	599.0 -> 80.0	19408	20.18 µg/L	97
PFHpA	6.544	363.0 -> 319.0	362371	20.11 µg/L	100
PFHpS	7.280	449.0 -> 80.0	43476	20.40 µg/L	98
PFHxA	5.552	313.0 -> 269.0	160899	19.71 µg/L	100
PFHxS	6.603	399.0 -> 80.0	44683	19.91 µg/L	m 97
PFNA	7.788	463.0 -> 419.0	294413	19.98 µg/L	100
PFNS	8.162	549.0 -> 80.0	35125	20.50 µg/L	100
PFOA	7.270	413.0 -> 369.0	286070	19.91 µg/L	98
PFOS	7.786	499.0 -> 80.0	50562	19.95 µg/L	m 82
PFPeA	3.938	263.0 -> 219.0	178456	20.16 µg/L	100
PFPeS	5.707	349.0 -> 80.0	32021	20.55 µg/L	99
PFTeDA	9.540	713.0 -> 669.0	484280	20.25 µg/L	100
PFTTrDA	9.140	663.0 -> 619.0	536003	20.52 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	430420	19.62 µg/L	100
11Cl-PF3OUdS	8.623	631.0 -> 451.0	141079	20.28 µg/L	98
9Cl-PF3ONS	7.997	531.0 -> 351.0	38018	18.51 µg/L	99
ADONA	6.655	377.0 -> 251.0	473105	19.66 µg/L	99
HFPO-DA	5.876	329.0 -> 169.0	65633	20.42 µg/L	98
MeFOSA	8.190	512.0 -> 169.0	29810	20.61 µg/L	98

= Qualifier out of range, m = manually integrated, + = Area summed

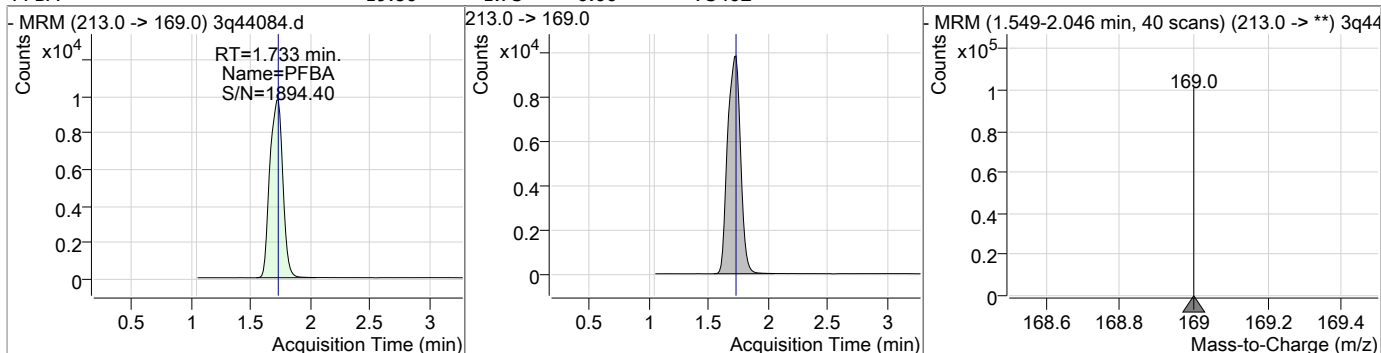
Perfluorinated Compounds by LC/MS/MS



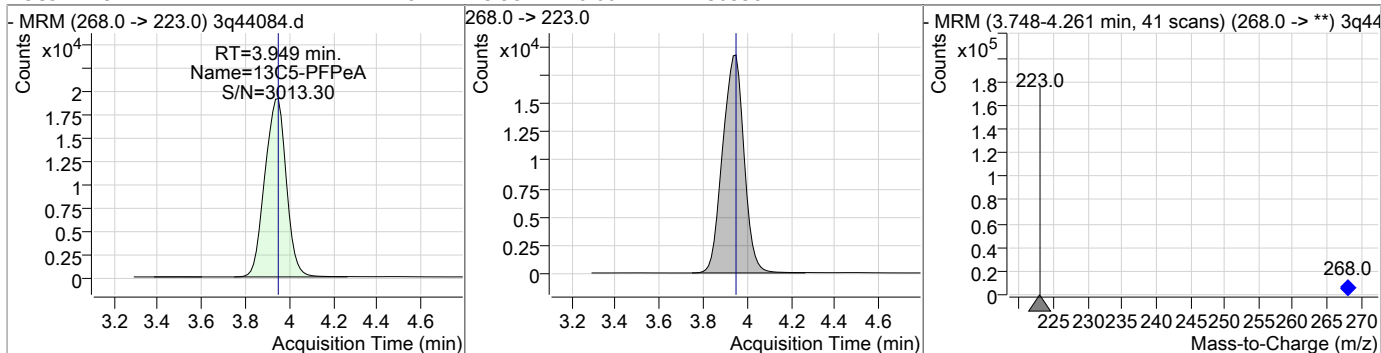
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



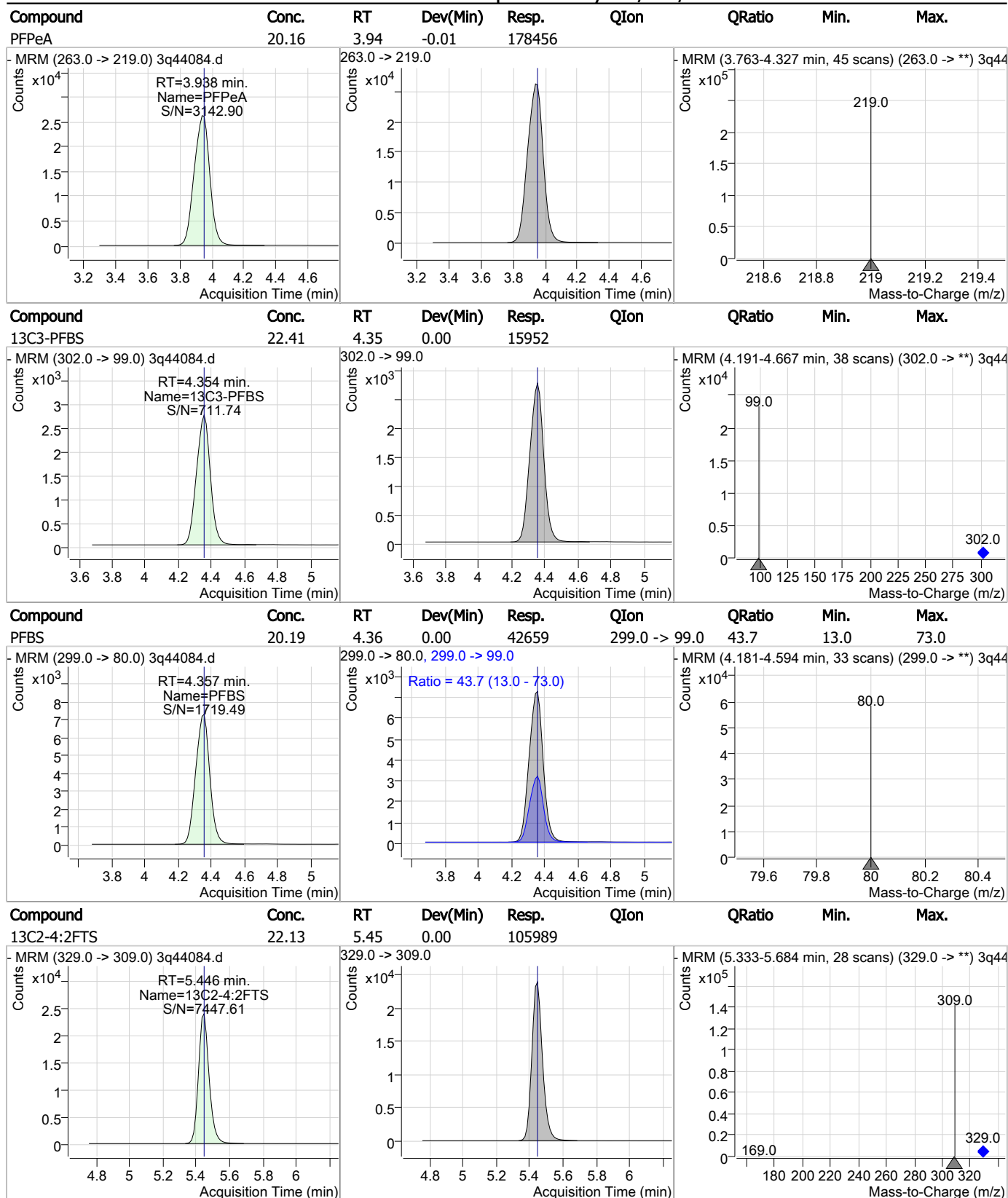
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



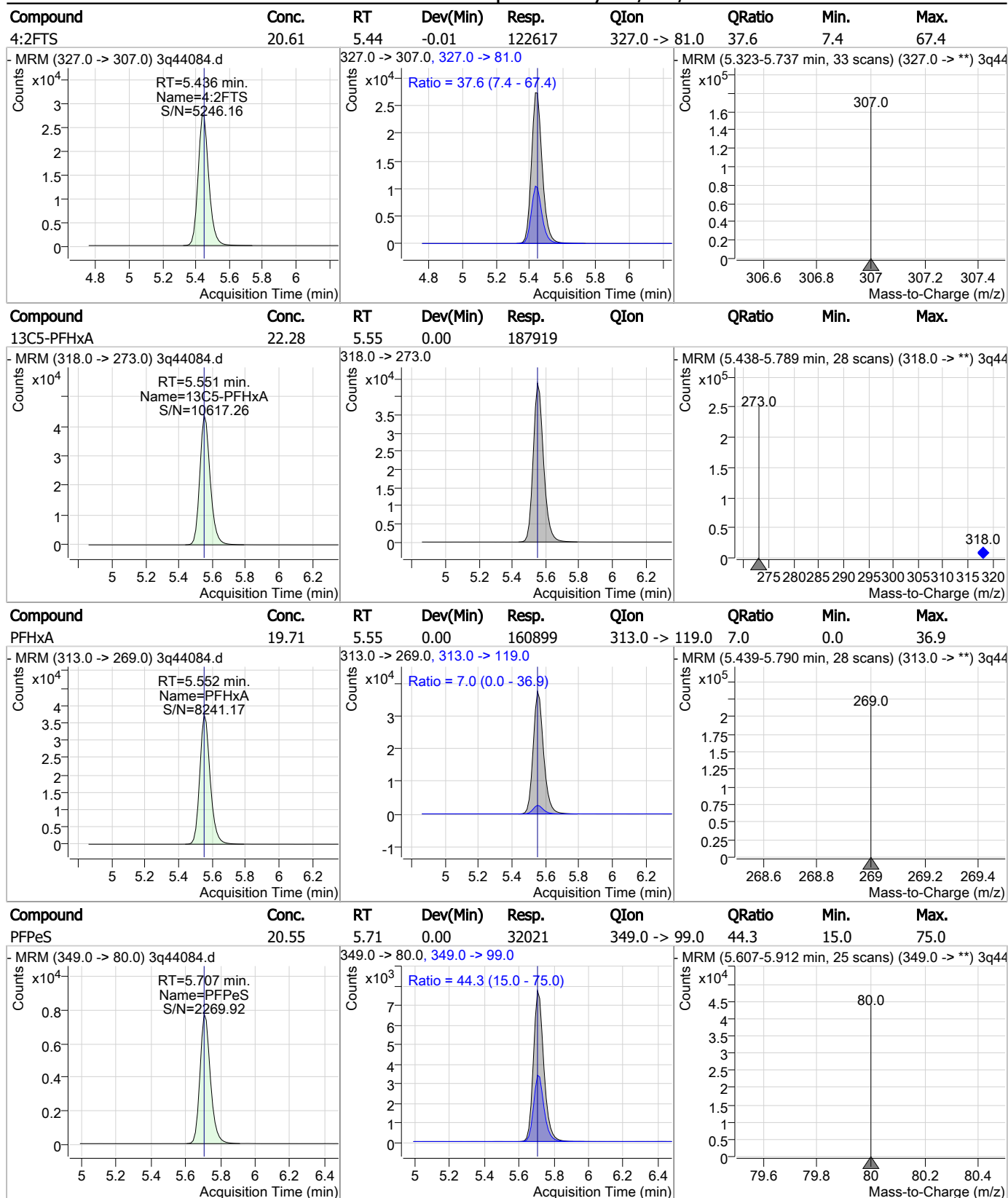
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.



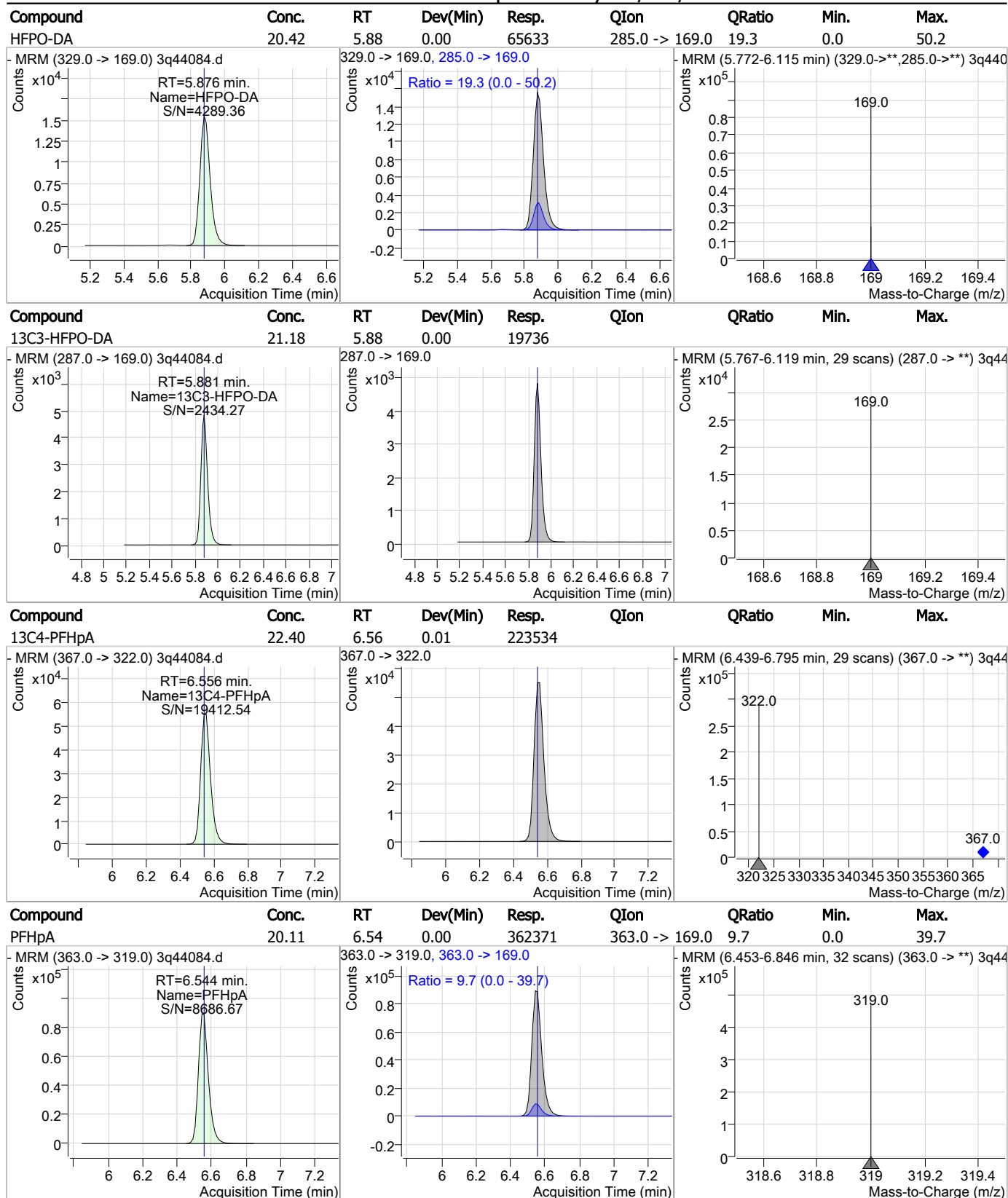
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

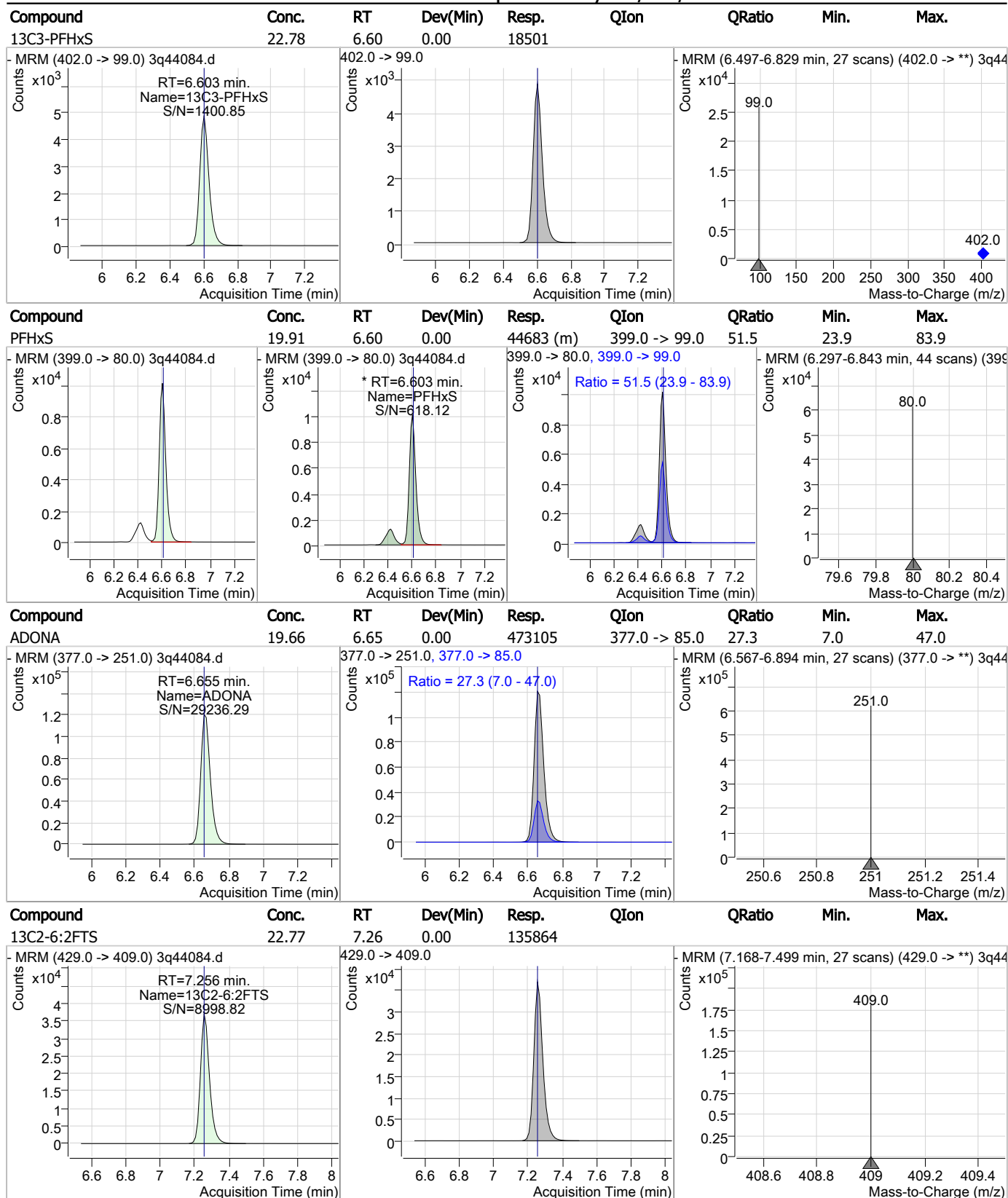


Perfluorinated Compounds by LC/MS/MS

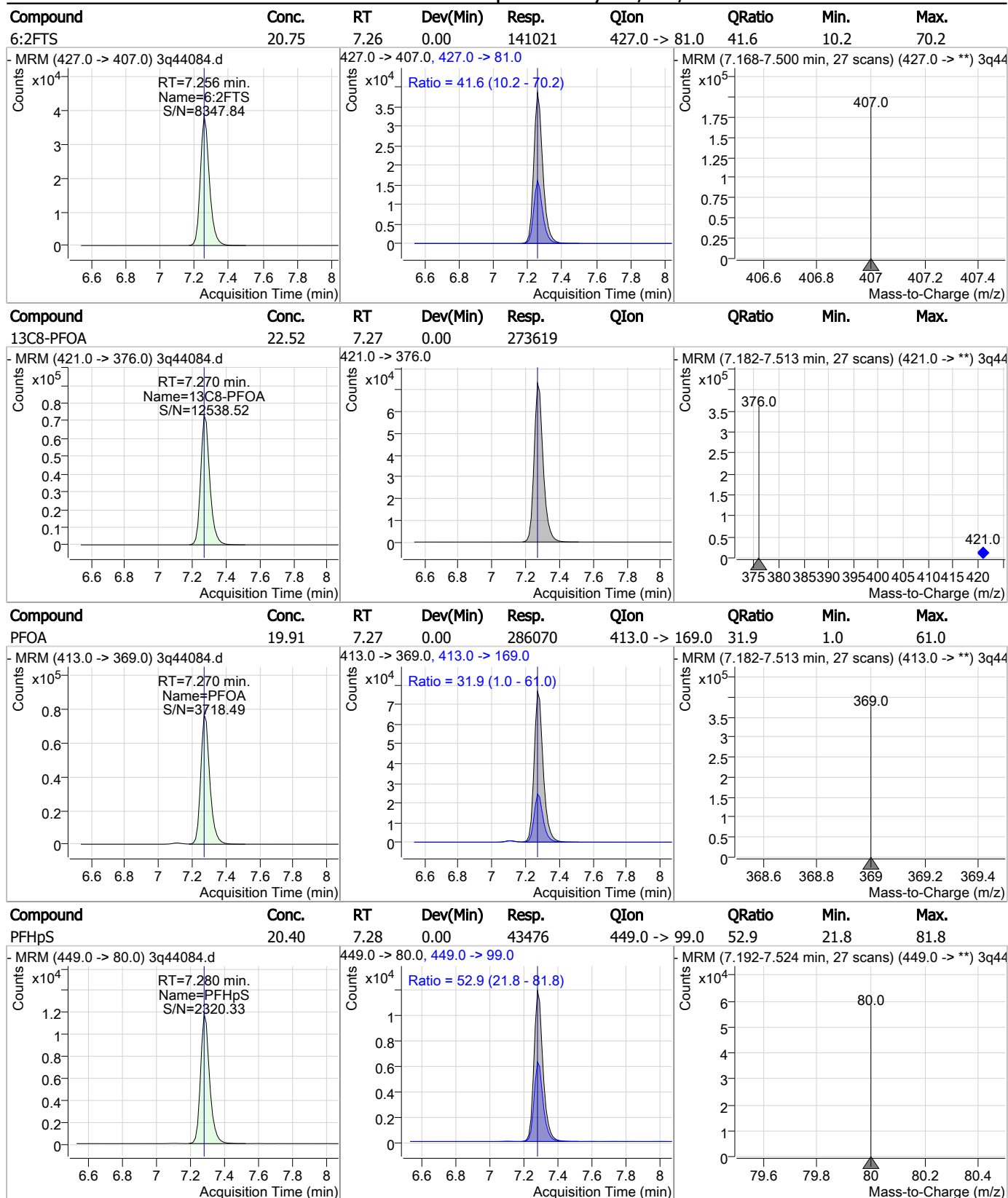


10.5.19 10

Perfluorinated Compounds by LC/MS/MS

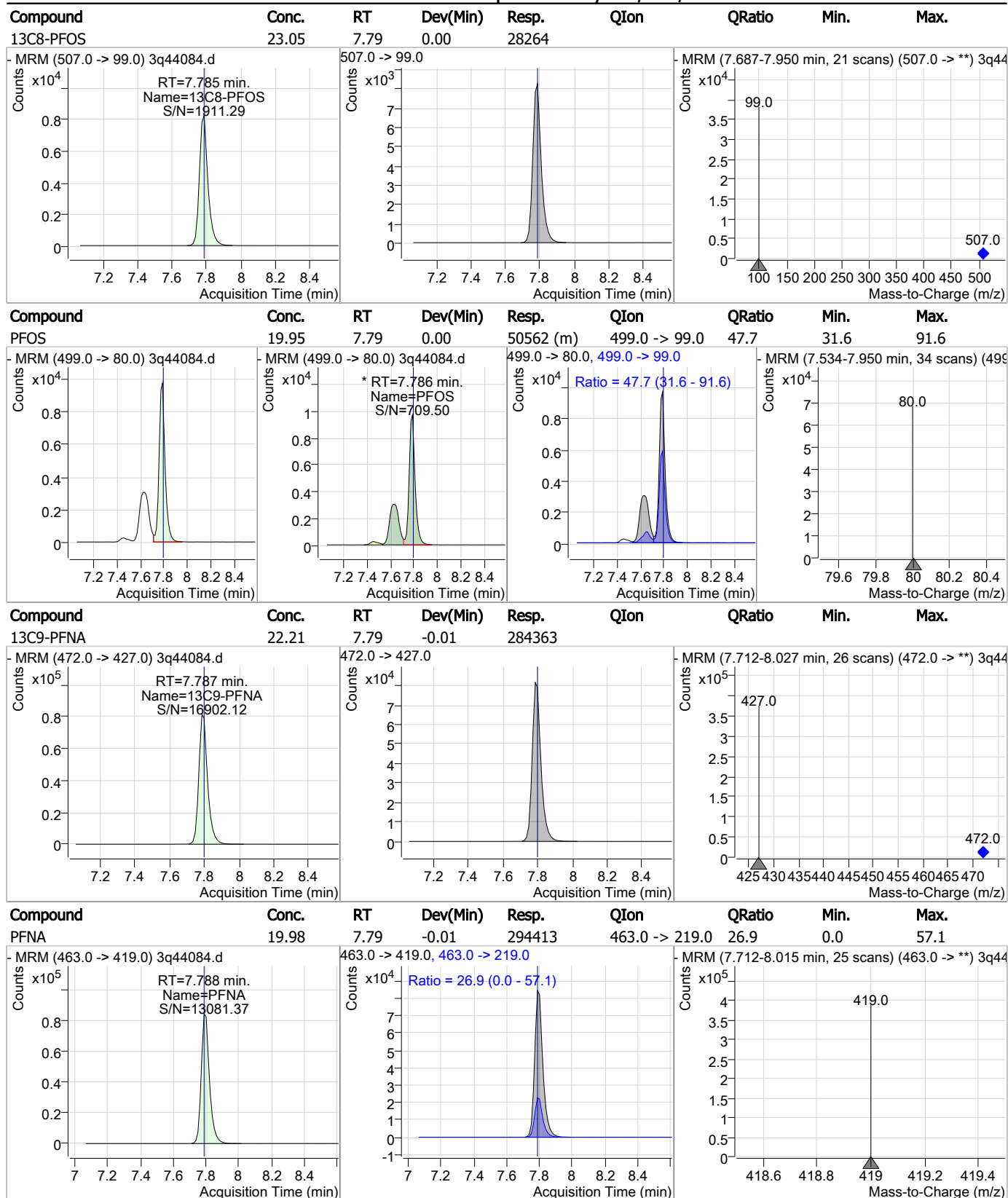


Perfluorinated Compounds by LC/MS/MS



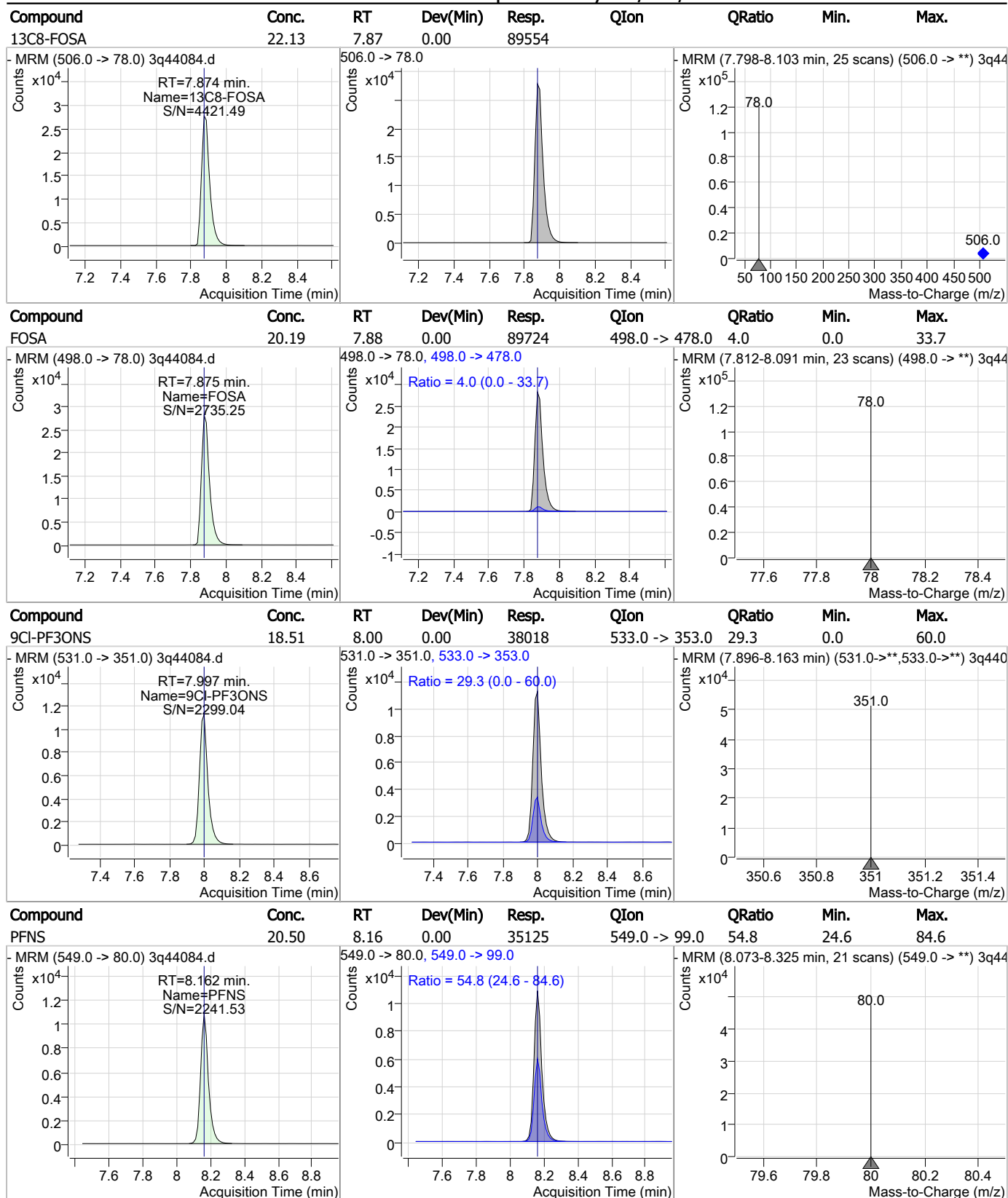
10.5.19 10

Perfluorinated Compounds by LC/MS/MS

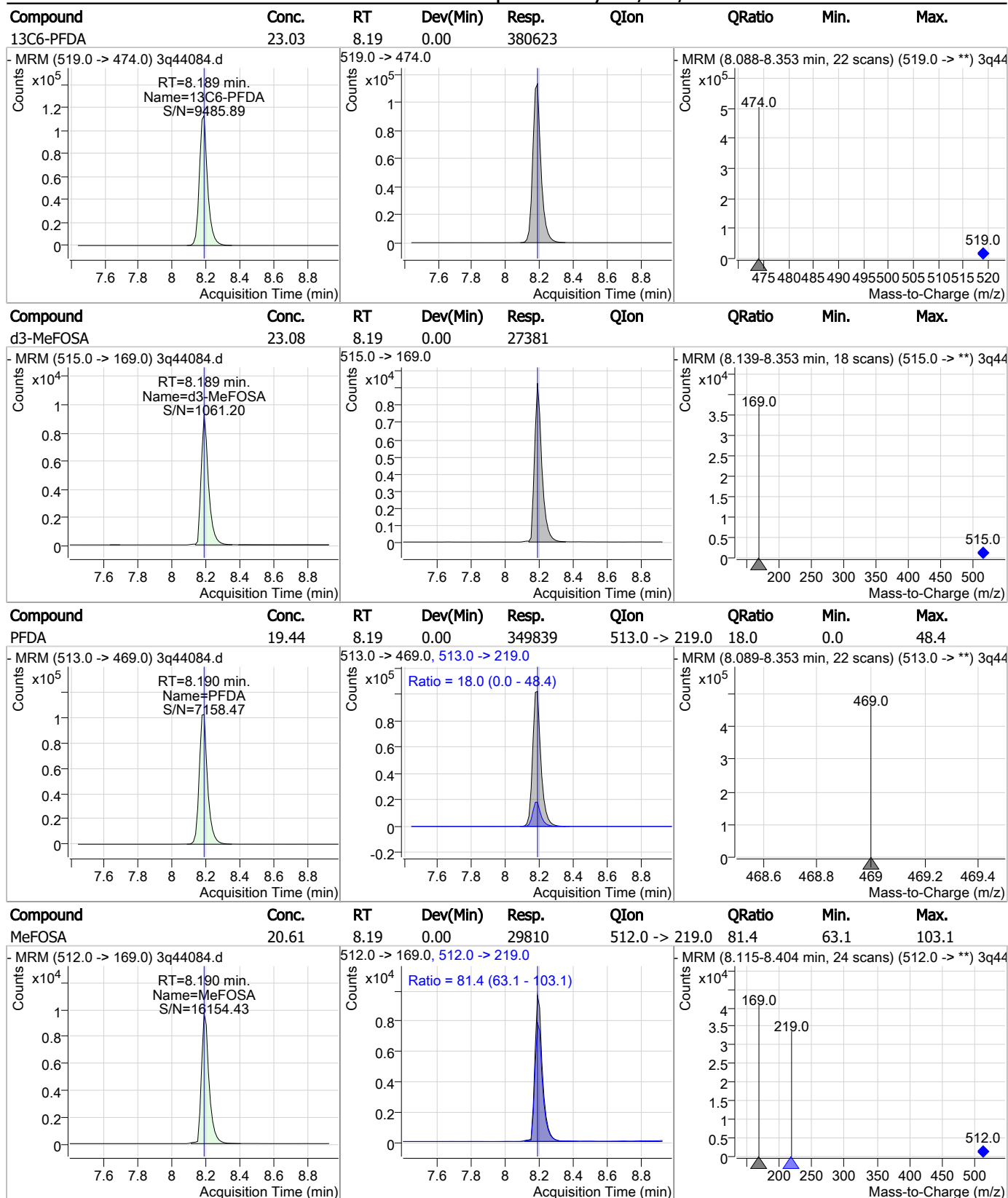


10.5.19 10

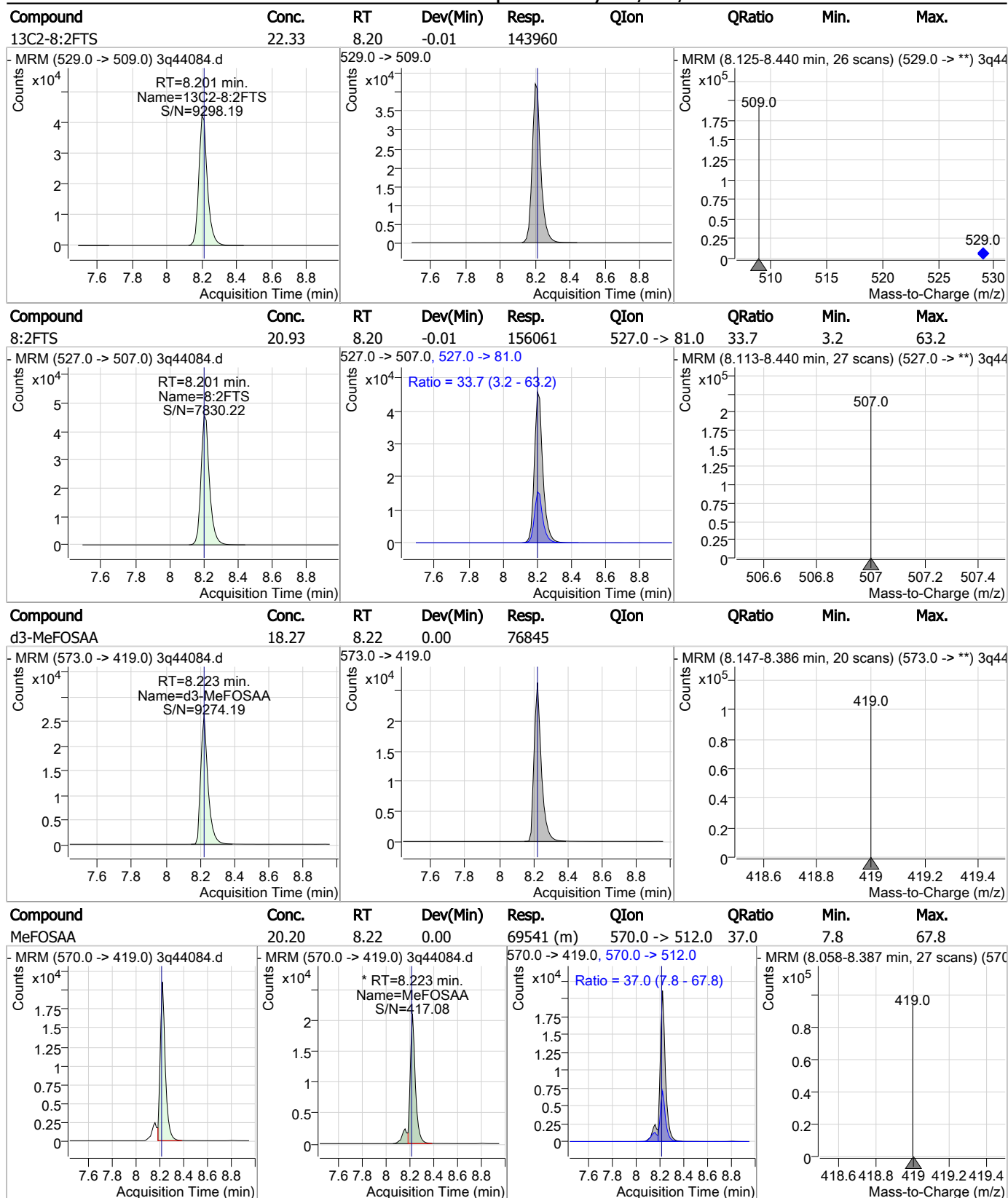
Perfluorinated Compounds by LC/MS/MS



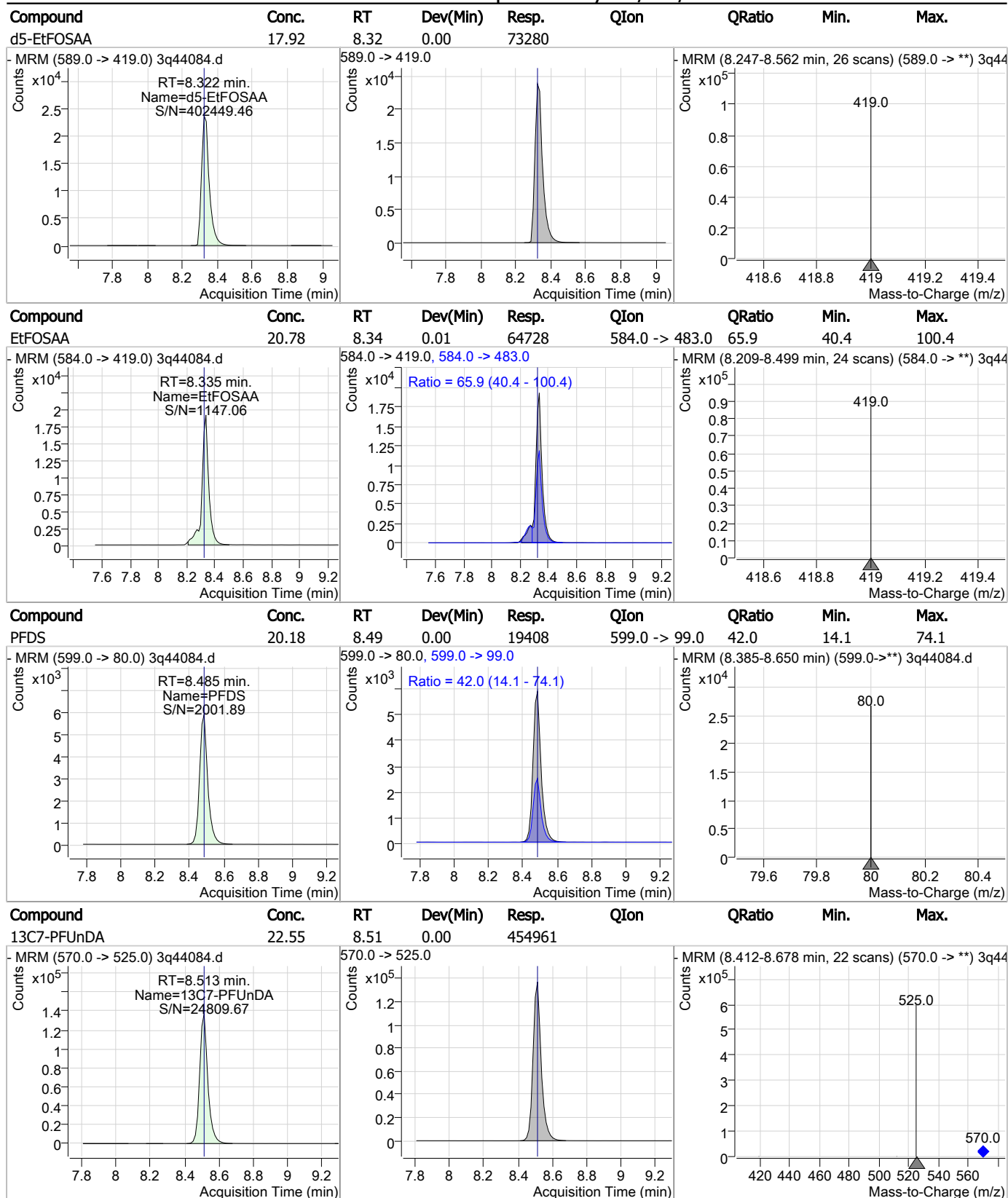
Perfluorinated Compounds by LC/MS/MS



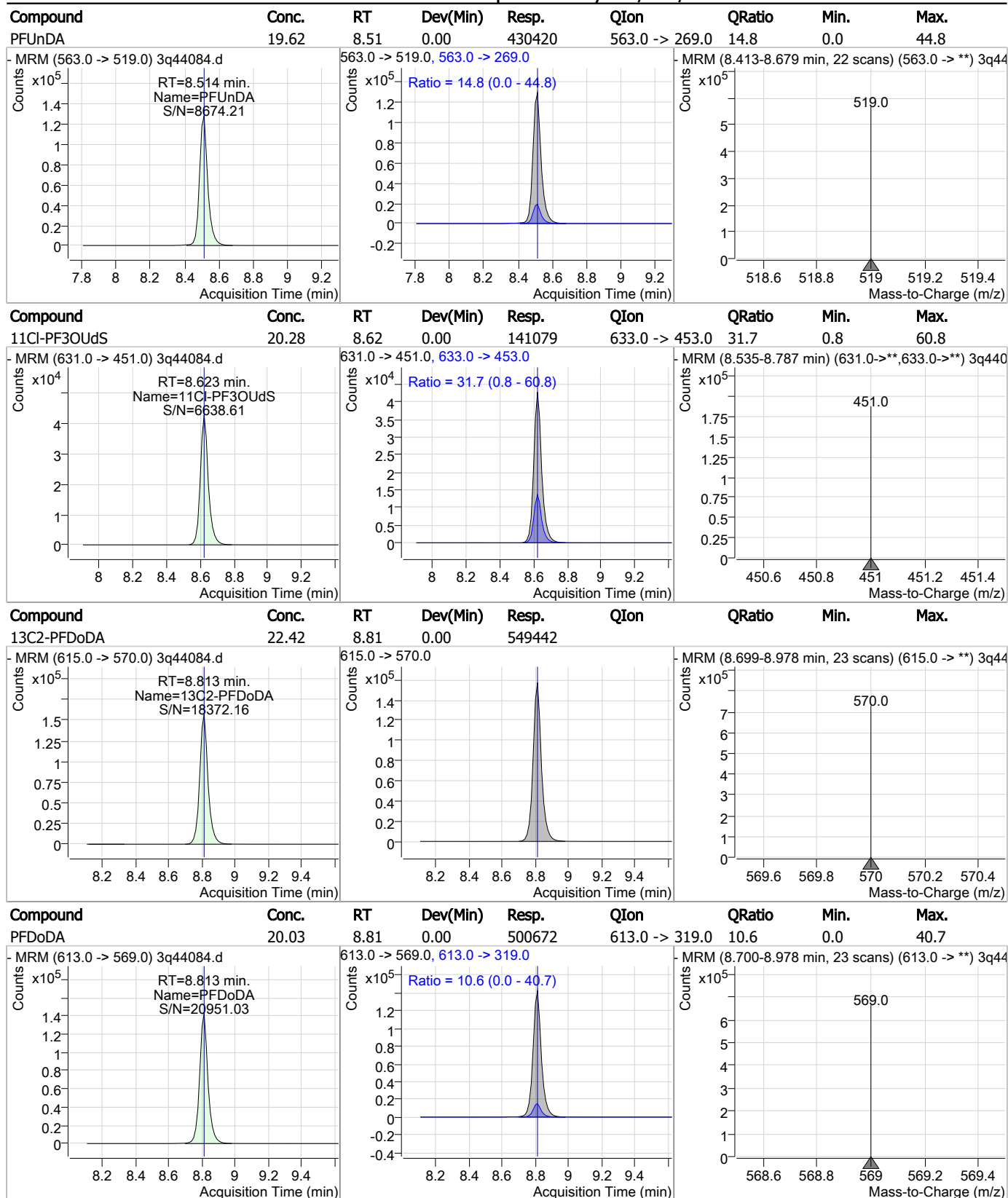
Perfluorinated Compounds by LC/MS/MS



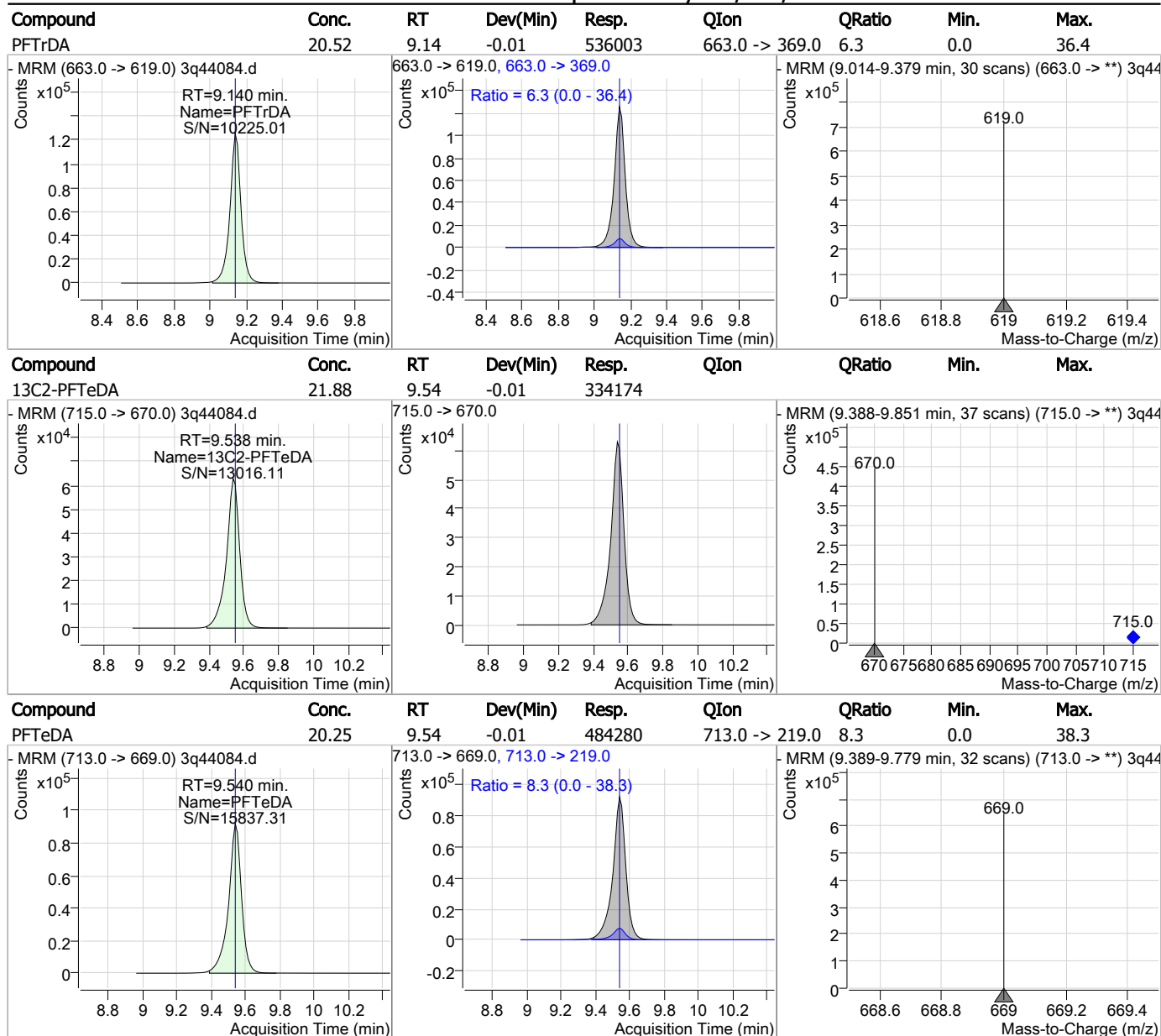
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



10.5.19 10

Manual Integration Approval Summary

Sample Number:

S3Q639-CC637

Lab FileID:

3Q44084.D

Injection Time:

09/01/21 21:49

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/02/21 12:02 Natasha Gumtie

Supervisor approved:

09/02/21 17:09 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak

10.5.19.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44096.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/2/2021 1:07:32 AM
 Sample Name : cc637-1.0LL
 Vial : P1-A3
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86590,S3Q639,250,,,,1,1,water

Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.727	217.0 -> 172.0	147868	20.00 µg/L	0.000
M5-PFPeA	3.949	268.0 -> 223.0	129217	20.00 µg/L	0.000
M5-PFHxA	5.551	318.0 -> 273.0	187033	20.00 µg/L	0.000
M4-PFHpA	6.543	367.0 -> 322.0	221302	20.00 µg/L	0.000
M8-PFOA	7.270	421.0 -> 376.0	277588	20.00 µg/L	0.000
M9-PFNA	7.787	472.0 -> 427.0	293111	20.00 µg/L	-0.013
M6-PFDA	8.189	519.0 -> 474.0	380170	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	456643	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	554102	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	341472	20.00 µg/L	0.000
M8-FOSA	7.874	506.0 -> 78.0	94452	20.00 µg/L	0.000
M3-PFBS	4.354	302.0 -> 99.0	15973	20.00 µg/L	0.000
M3-PFHxS	6.603	402.0 -> 99.0	18567	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	28030	20.00 µg/L	0.000
M2-4:2FTS	5.446	329.0 -> 309.0	99818	20.00 µg/L	0.000
M2-6:2FTS	7.256	429.0 -> 409.0	131649	20.00 µg/L	0.000
M2-8:2FTS	8.213	529.0 -> 509.0	144363	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	82003	20.00 µg/L	0.000
M3-HFPO-DA	5.881	287.0 -> 169.0	19476	20.00 µg/L	0.000
M3-MeFOSA	8.189	515.0 -> 169.0	29543	20.00 µg/L	0.000
M5-EtFOSAA	8.322	589.0 -> 419.0	78106	20.00 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.446	329.0 -> 309.0	99818	20.84 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 104.2%		
13C2-6:2FTS	7.256	429.0 -> 409.0	131649	22.06 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 110.3%		
13C2-8:2FTS	8.213	529.0 -> 509.0	144363	22.39 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 112.0%		
13C2-PFDoDA	8.813	615.0 -> 570.0	554102	22.61 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 113.0%		
13C2-PFTeDA	9.551	715.0 -> 670.0	341472	22.36 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 111.8%		
13C3-PFBS	4.354	302.0 -> 99.0	15973	22.44 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 112.2%		
13C3-PFHxS	6.603	402.0 -> 99.0	18567	22.87 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 114.3%		
13C4-PFBA	1.727	217.0 -> 172.0	147868	22.28 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 111.4%		
13C4-PFHpA	6.543	367.0 -> 322.0	221302	22.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 110.9%		
13C5-PFHxA	5.551	318.0 -> 273.0	187033	22.18 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 110.9%		
13C5-PFPeA	3.949	268.0 -> 223.0	129217	21.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%		Recovery = 109.9%		
13C6-PFDA	8.189	519.0 -> 474.0	380170	23.00 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

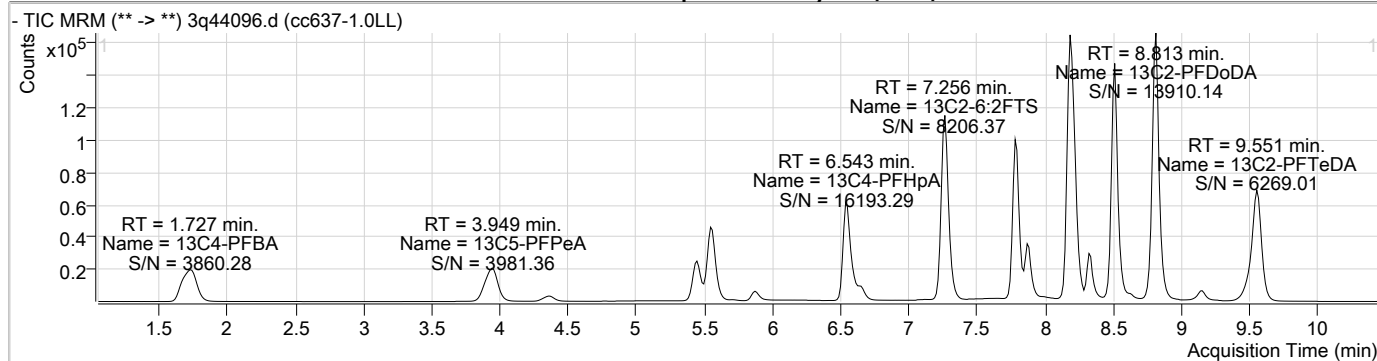
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 115.0%	
13C7-PFUnDA	8.513	570.0 -> 525.0	456643	22.63 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.2%	
13C8-FOSA	7.874	506.0 -> 78.0	94452	23.34 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 116.7%	
13C8-PFOA	7.270	421.0 -> 376.0	277588	22.84 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.2%	
13C8-PFOS	7.785	507.0 -> 99.0	28030	22.86 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.3%	
13C9-PFNA	7.787	472.0 -> 427.0	293111	22.90 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.5%	
d3-MeFOSAA	8.223	573.0 -> 419.0	82003	19.50 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C3-HFPO-DA	5.881	287.0 -> 169.0	19470	20.89 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.5%	
d3-MeFOSA	8.189	515.0 -> 169.0	29543	24.90 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 124.5%	
d5-EtFOSAA	8.322	589.0 -> 419.0	78118	19.10 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.5%	

Target Compounds

					QValue
4:2FTS	5.448	327.0 -> 307.0	5335	0.95 µg/L	94
6:2FTS	7.256	427.0 -> 407.0	6310	0.96 µg/L	94
8:2FTS	8.201	527.0 -> 507.0	7522	1.01 µg/L	94
EtFOSAA	8.335	584.0 -> 419.0	2927	0.88 µg/L	m 99
FOSA	7.875	498.0 -> 78.0	4214	0.90 µg/L	98
MeFOSAA	8.223	570.0 -> 419.0	3132	0.85 µg/L	m 94
PFBA	1.733	213.0 -> 169.0	3292	0.89 µg/L	100
PFBS	4.357	299.0 -> 80.0	1906	0.90 µg/L	100
PFDA	8.190	513.0 -> 469.0	15370	0.86 µg/L	97
PFDoDA	8.813	613.0 -> 569.0	22150	0.88 µg/L	99
PFDS	8.485	599.0 -> 80.0	870	0.90 µg/L	95
PFHpA	6.544	363.0 -> 319.0	15698	0.88 µg/L	98
PFHpS	7.280	449.0 -> 80.0	2063	0.98 µg/L	99
PFHxA	5.552	313.0 -> 269.0	7111	0.88 µg/L	98
PFHxS	6.603	399.0 -> 80.0	2019	0.90 µg/L	m 98
PFNA	7.788	463.0 -> 419.0	13546	0.89 µg/L	100
PFNS	8.162	549.0 -> 80.0	1590	0.94 µg/L	100
PFOA	7.270	413.0 -> 369.0	12852	0.88 µg/L	98
PFOS	7.786	499.0 -> 80.0	2217	0.88 µg/L	m 86
PFPeA	3.951	263.0 -> 219.0	7941	0.90 µg/L	100
PFPeS	5.707	349.0 -> 80.0	1390	0.89 µg/L	95
PFTeDA	9.553	713.0 -> 669.0	22058	0.90 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	24042	0.90 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	19252	0.87 µg/L	100
11Cl-PF3OUdS	8.623	631.0 -> 451.0	6280	0.90 µg/L	100
9Cl-PF3ONS	7.997	531.0 -> 351.0	1600	0.78 µg/L	93
ADONA	6.655	377.0 -> 251.0	20390	0.84 µg/L	97
HFPO-DA	5.876	329.0 -> 169.0	3004	0.95 µg/L	98
MeFOSA	8.190	512.0 -> 169.0	1328	0.85 µg/L	98

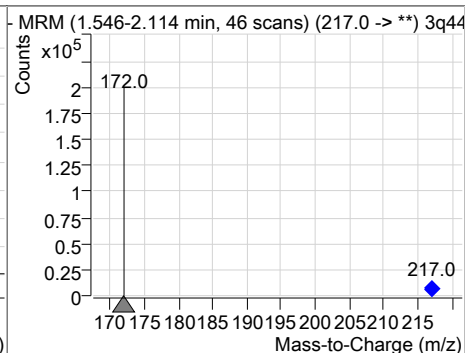
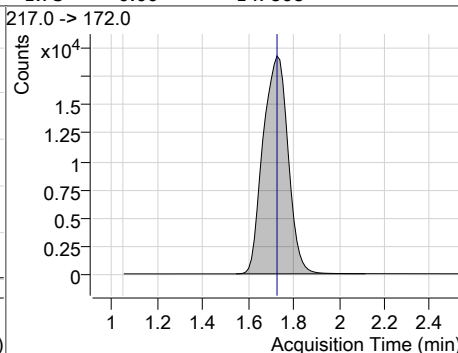
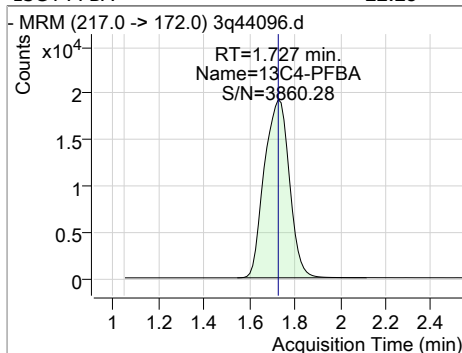
= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS



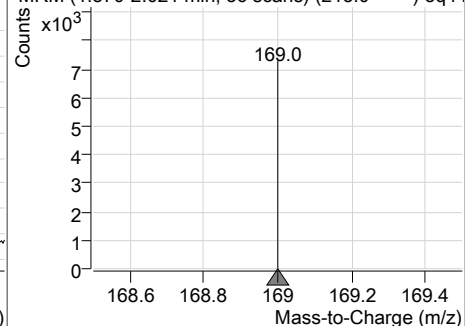
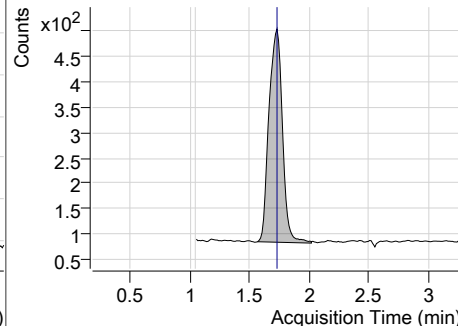
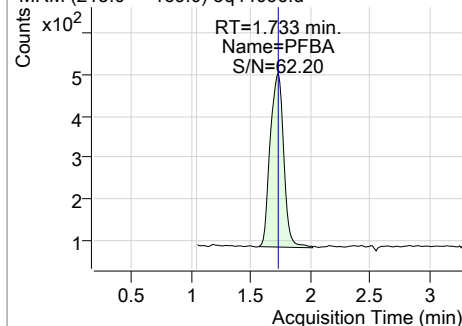
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.

13C4-PFBA	22.28	1.73	0.00	147868				



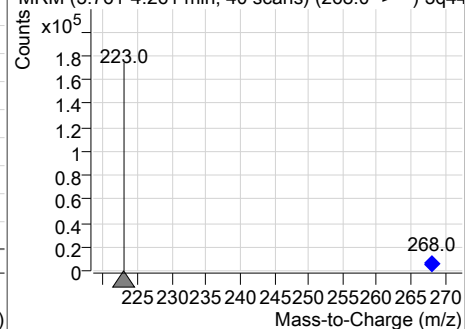
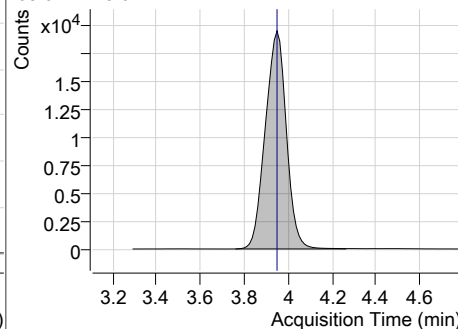
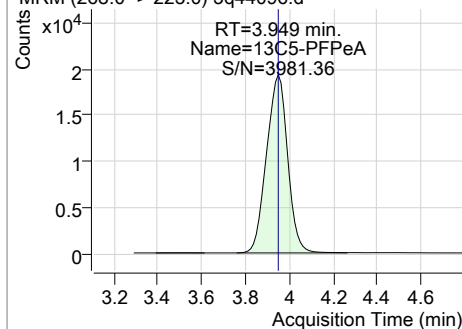
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.

PFBA	0.89	1.73	0.00	3292				

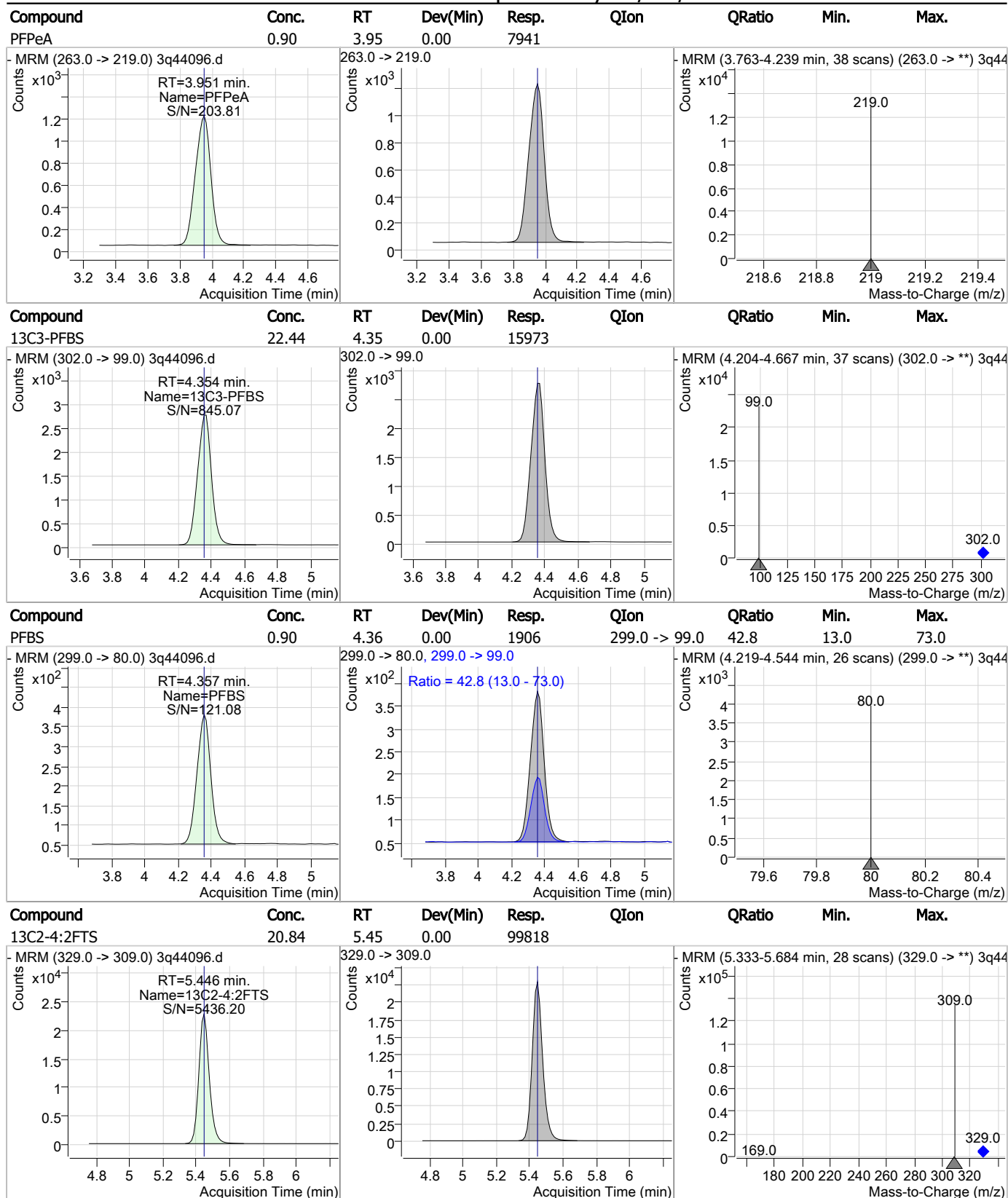


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.

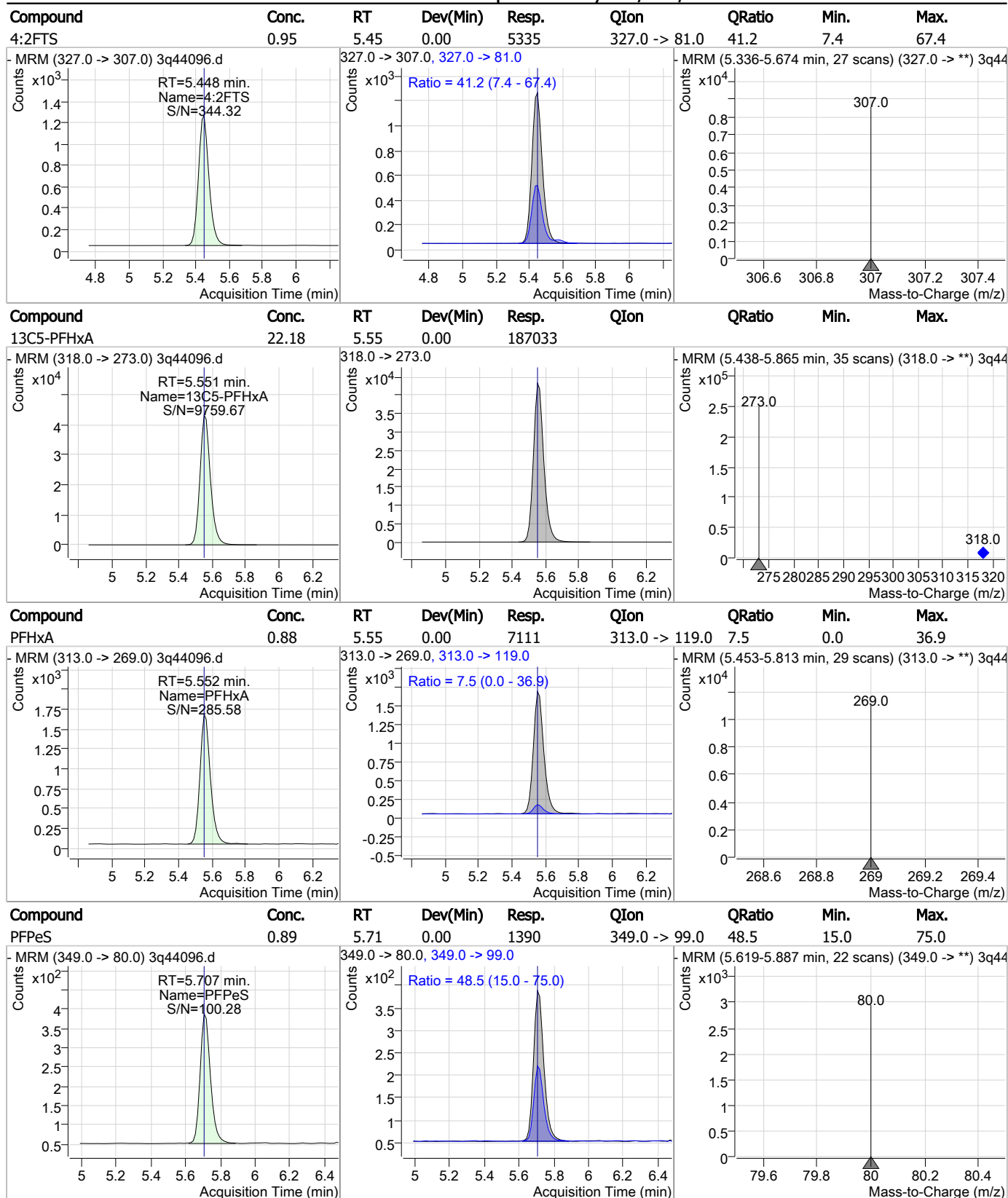
13C5-PFPeA	21.98	3.95	0.00	129217				



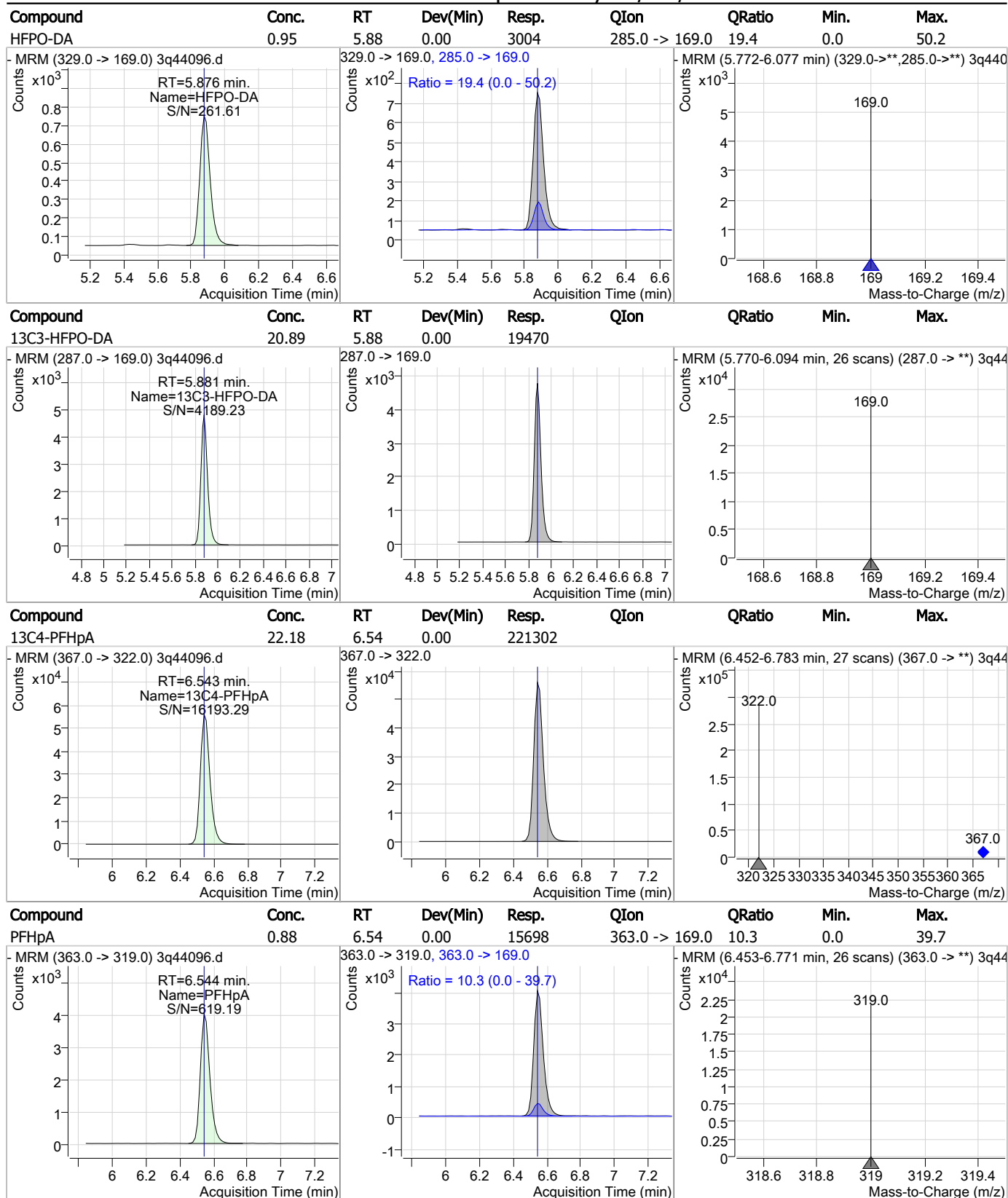
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

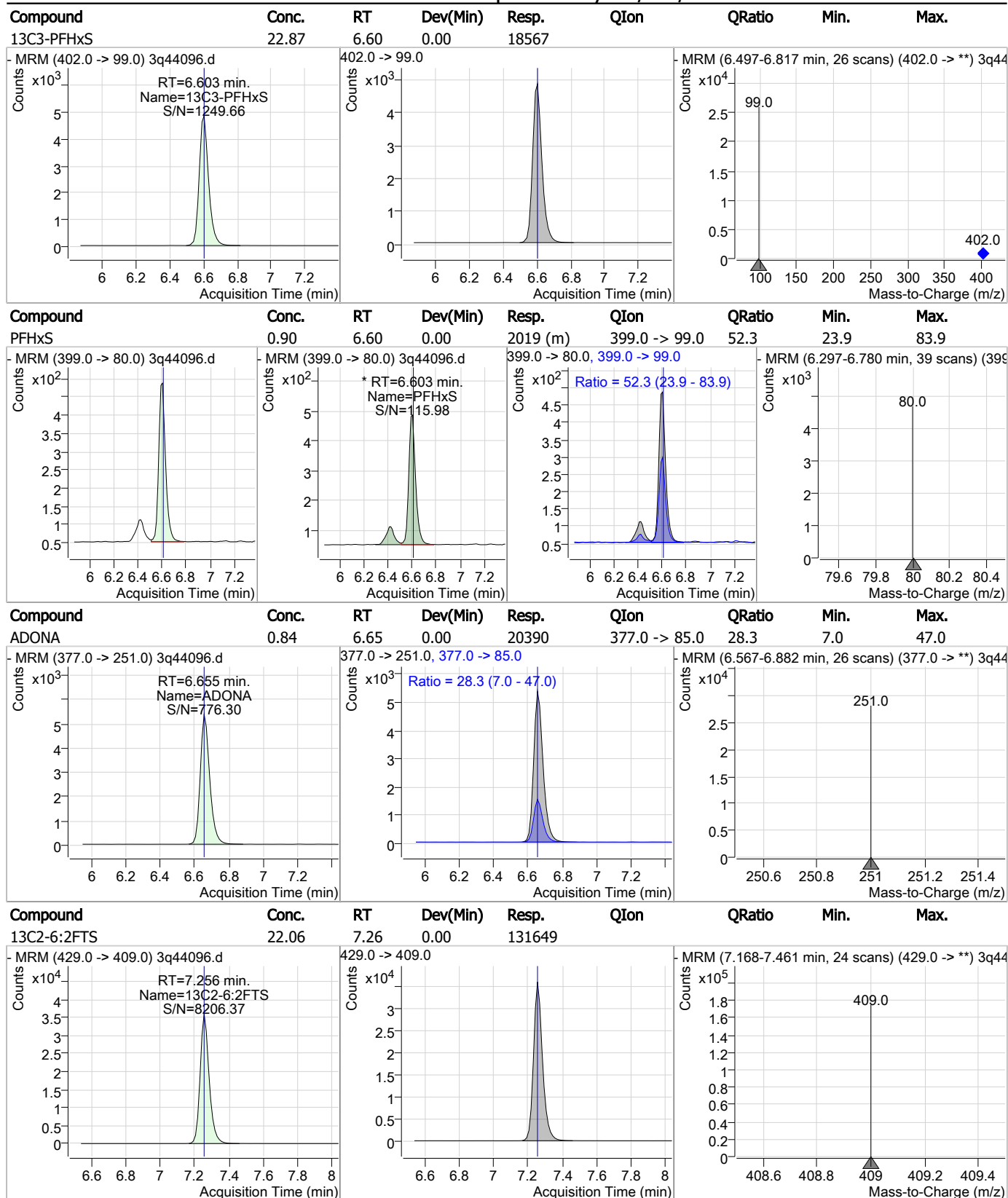


Perfluorinated Compounds by LC/MS/MS

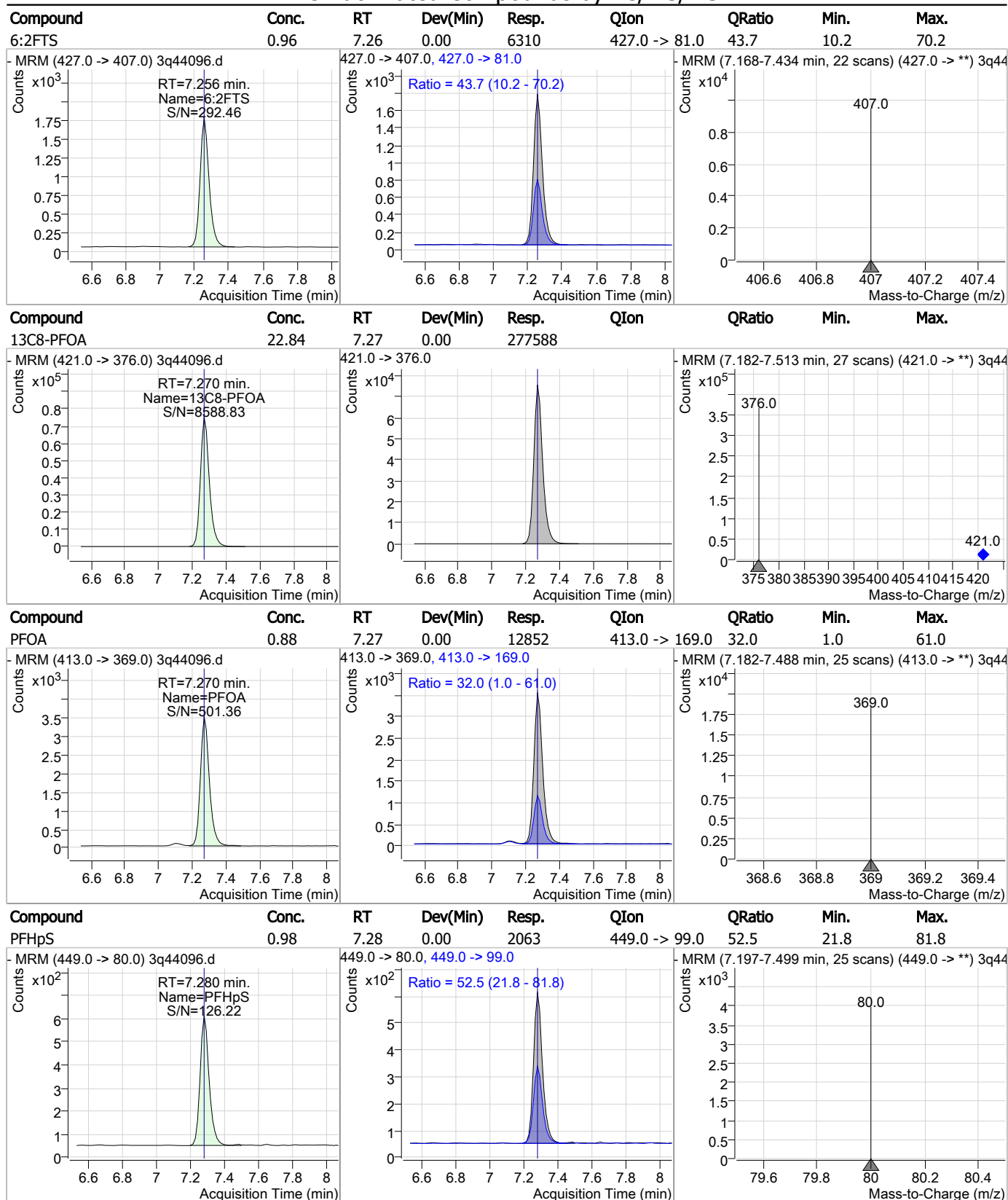


10.5.20 10

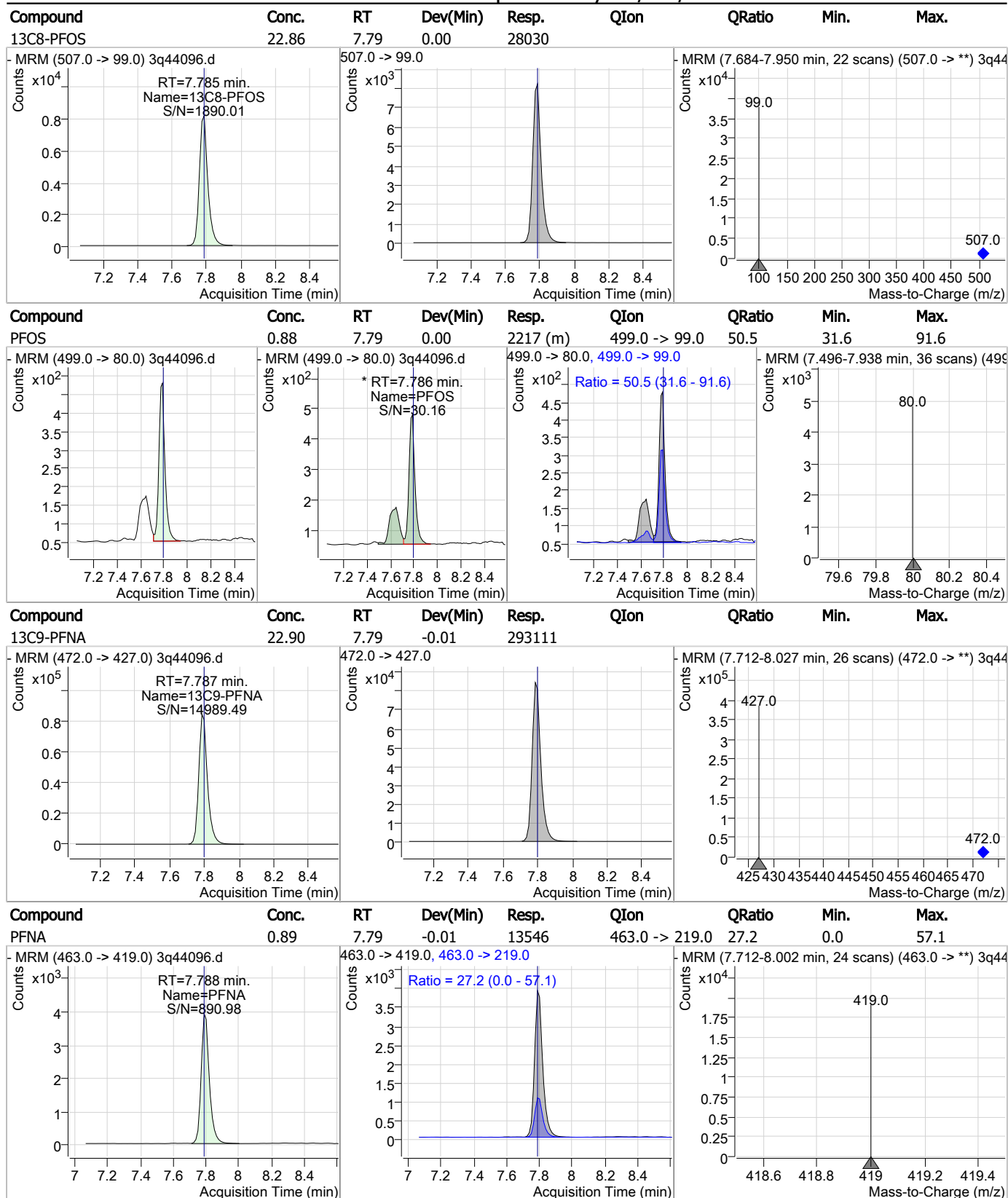
Perfluorinated Compounds by LC/MS/MS



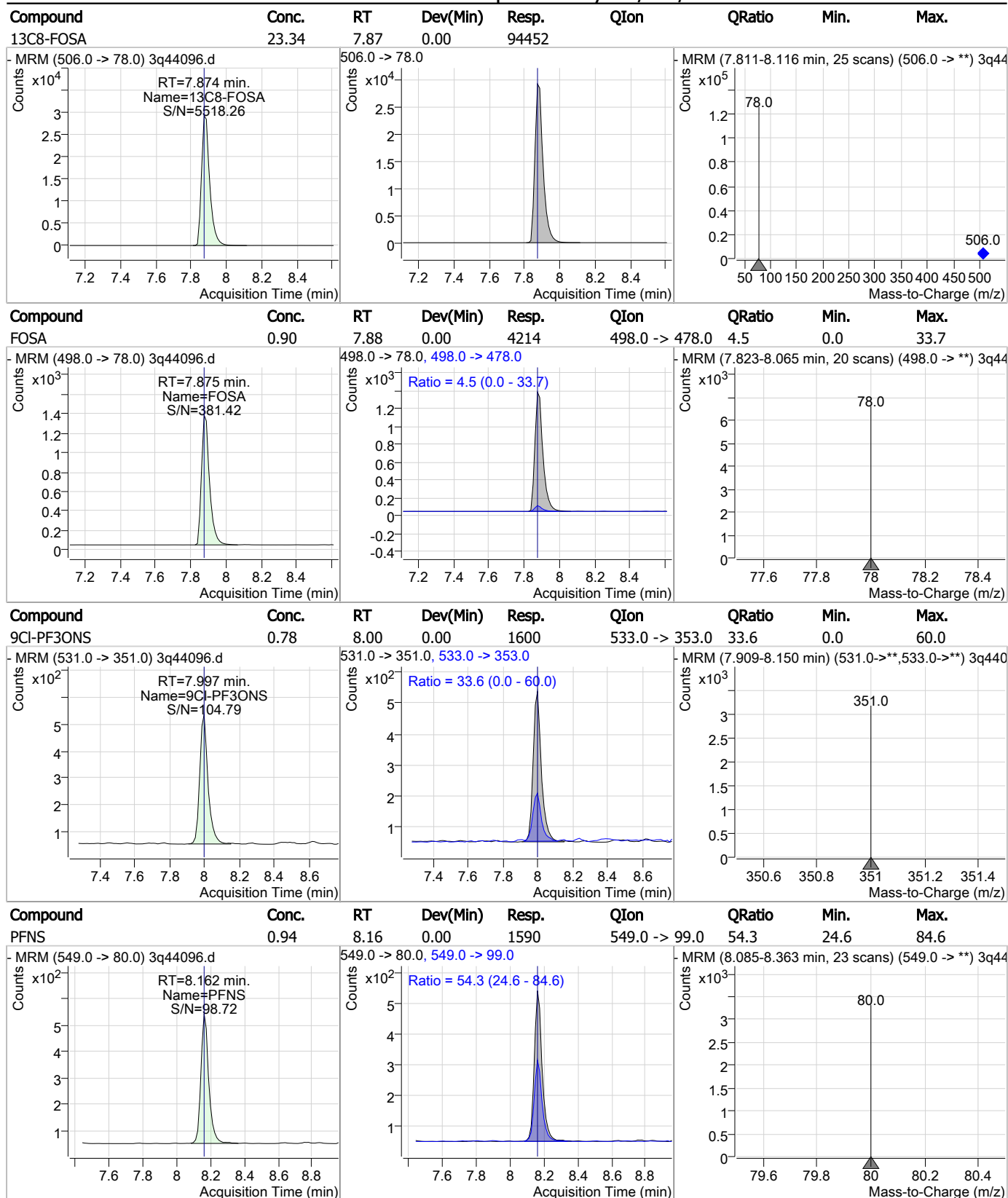
Perfluorinated Compounds by LC/MS/MS



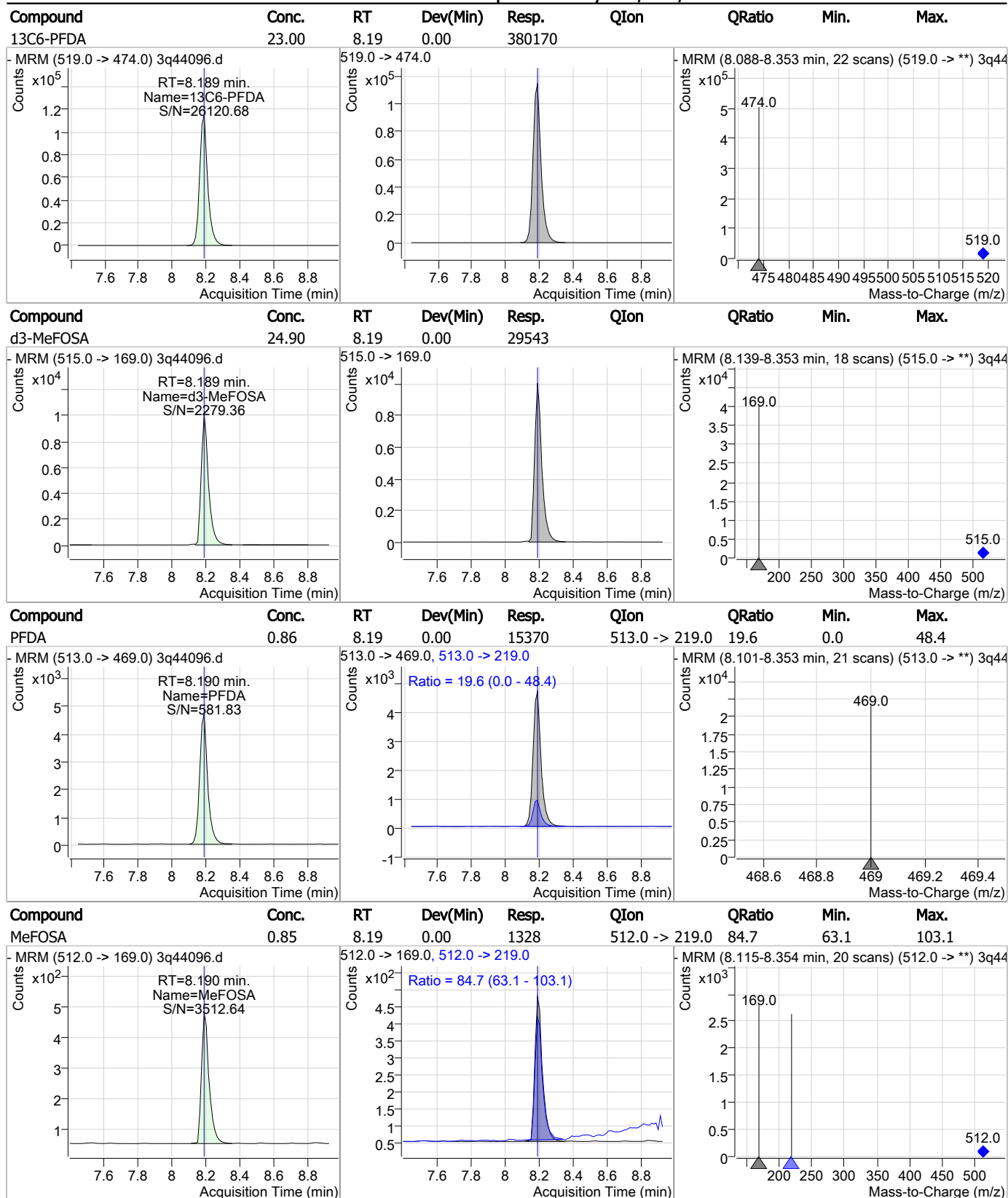
Perfluorinated Compounds by LC/MS/MS



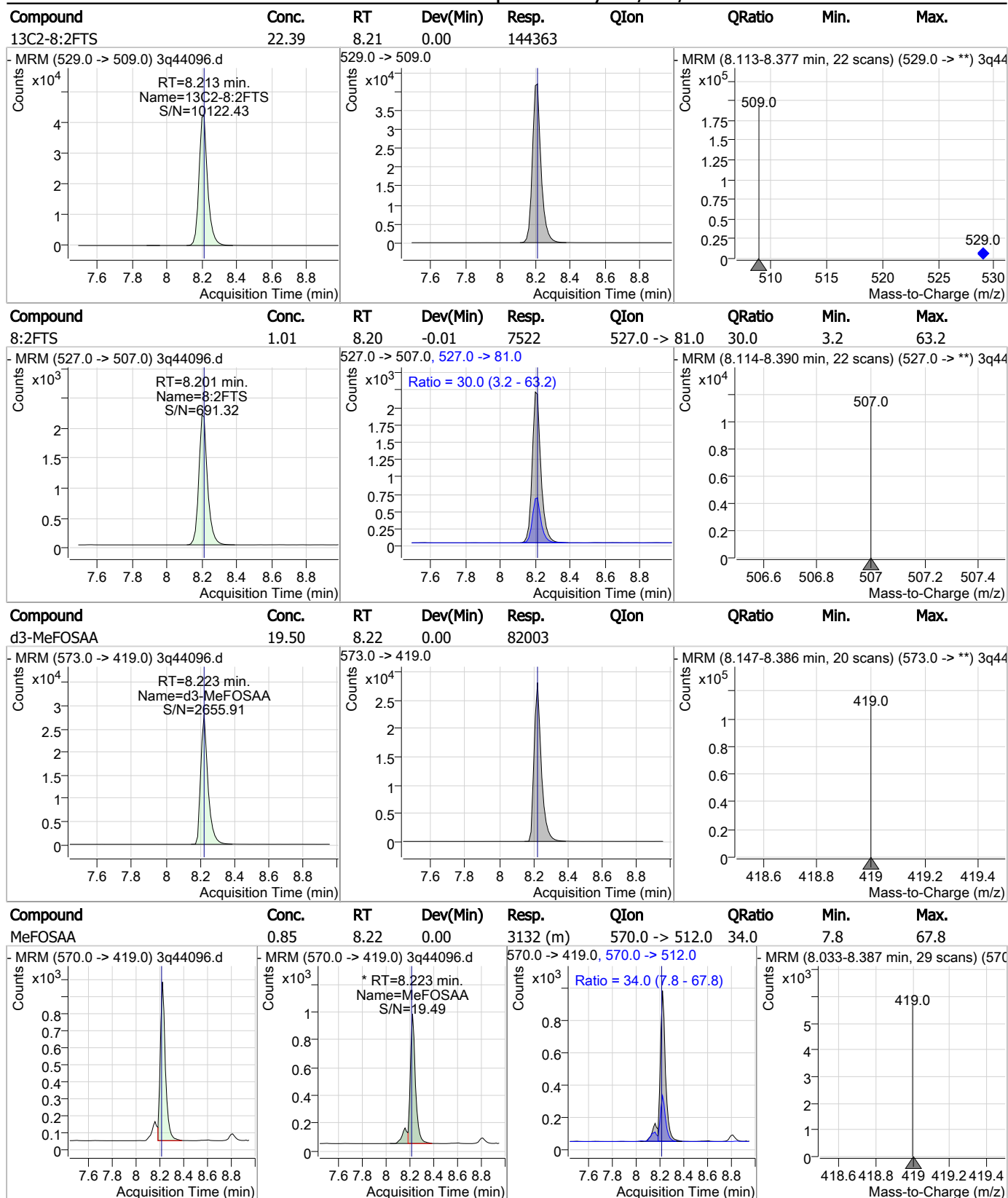
Perfluorinated Compounds by LC/MS/MS



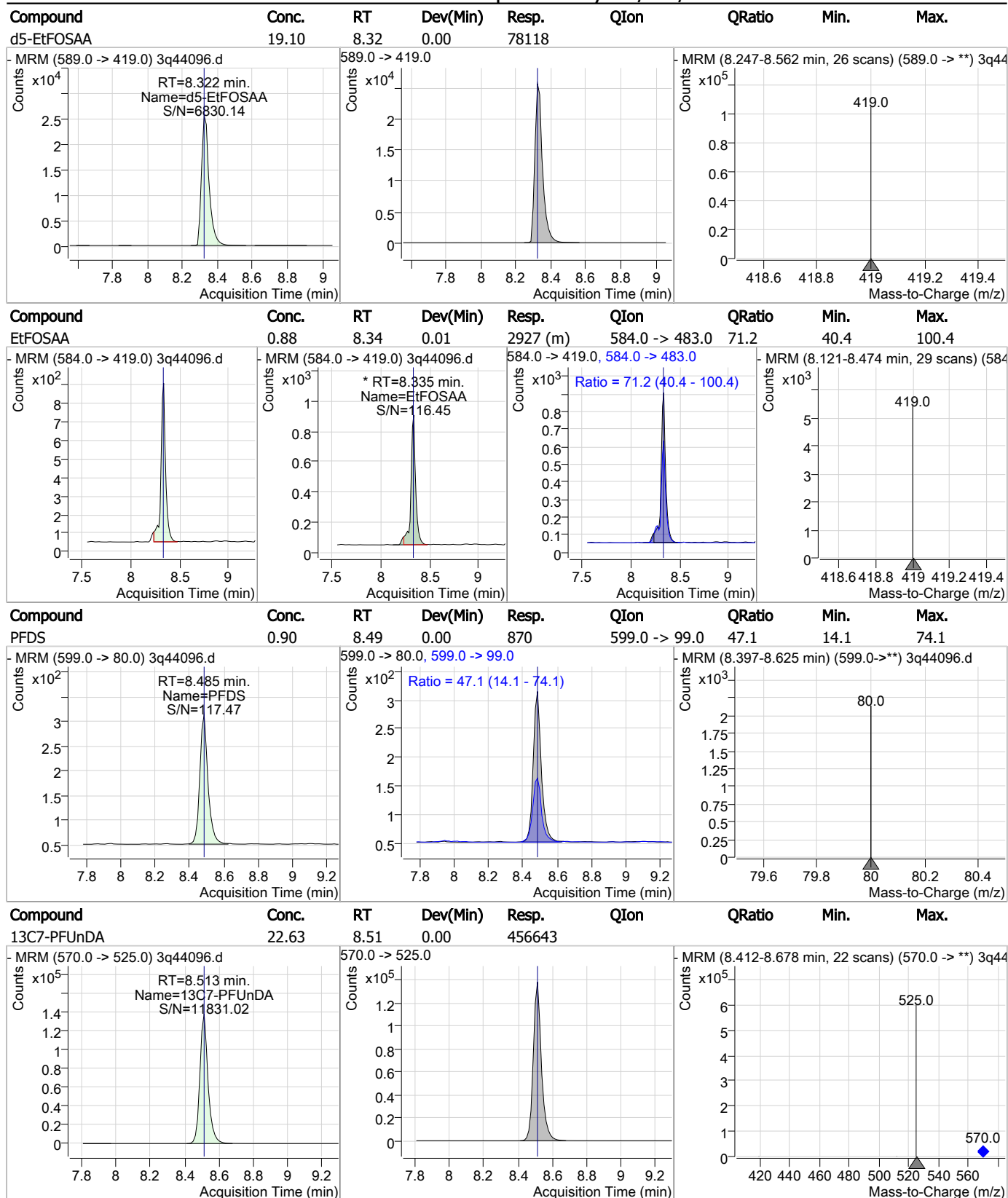
Perfluorinated Compounds by LC/MS/MS



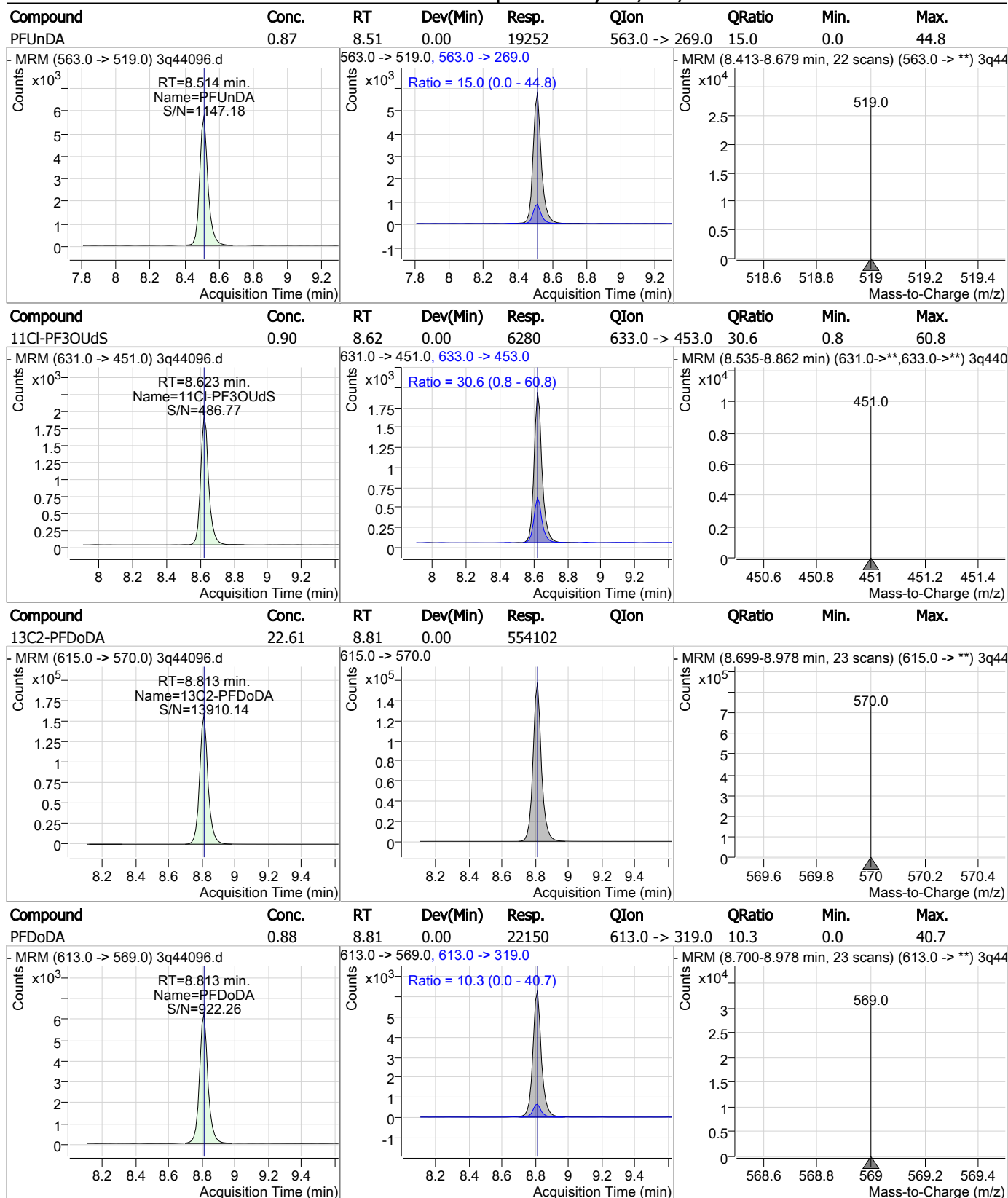
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

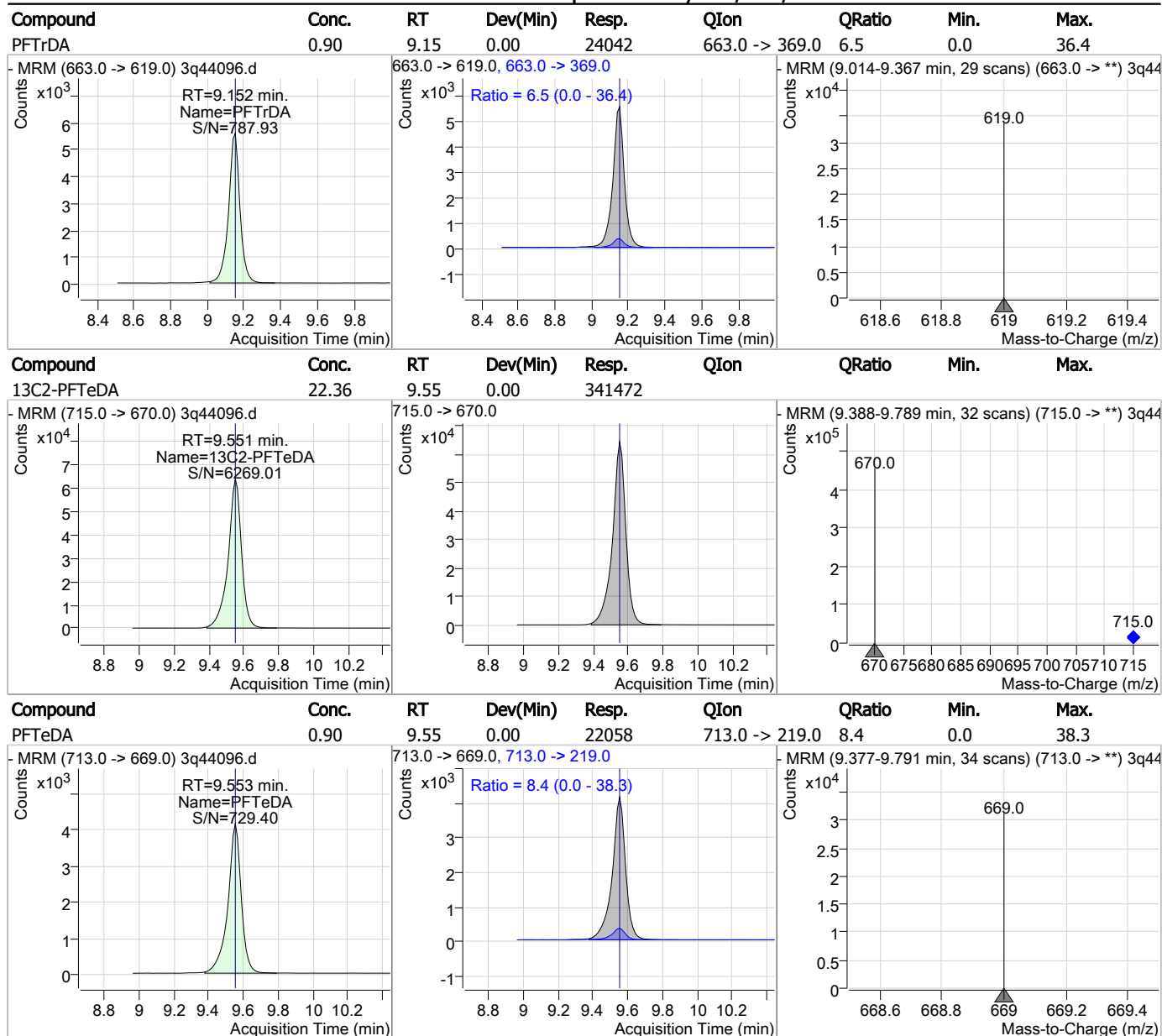


Perfluorinated Compounds by LC/MS/MS



10.5.20 10

Perfluorinated Compounds by LC/MS/MS



10.5.20 10

Manual Integration Approval Summary

Sample Number: S3Q639-CC637

Method: EPA 537M QSM5.3 B-15

Lab FileID: 3Q44096.D

Analyst approved: 09/02/21 12:02 Natasha Gumtie

Injection Time: 09/02/21 01:07

Supervisor approved: 09/02/21 17:09 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.20.1
10

Perfluorinated Compounds by LC/MS/MS

Data File : 3q44097.d
 Operator : marthav
 Acq. Method : 537_ID.m
 Acq. Date-Time : 9/2/2021 1:24:04 AM
 Sample Name : cc637-20
 Vial : P1-A7
 DA Method File : ID_082821_S3Q637.quantmethod.xml
 Batch Name : s3q639.batch.bin
 Sample Information : op86590,S3Q639,250,,,1,1,water

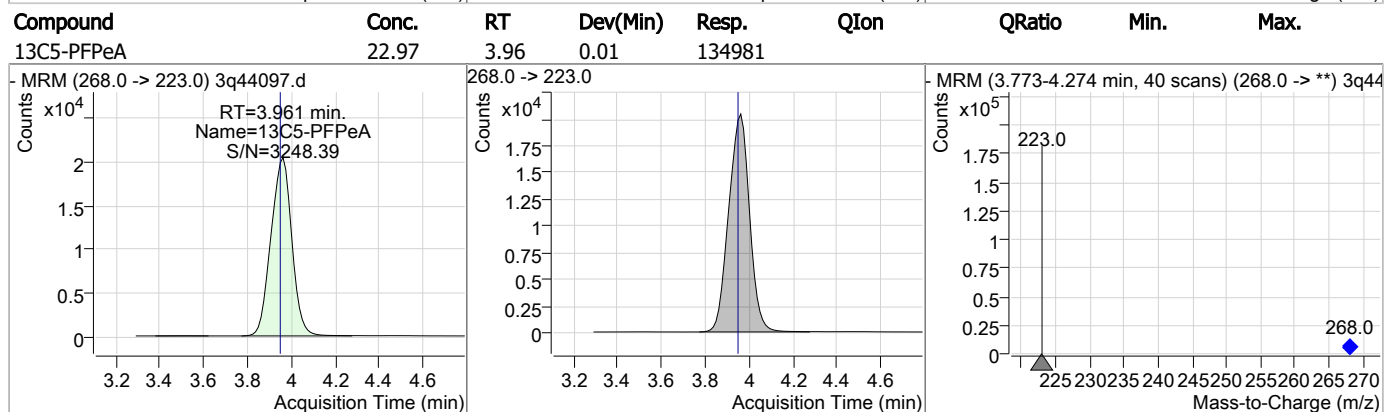
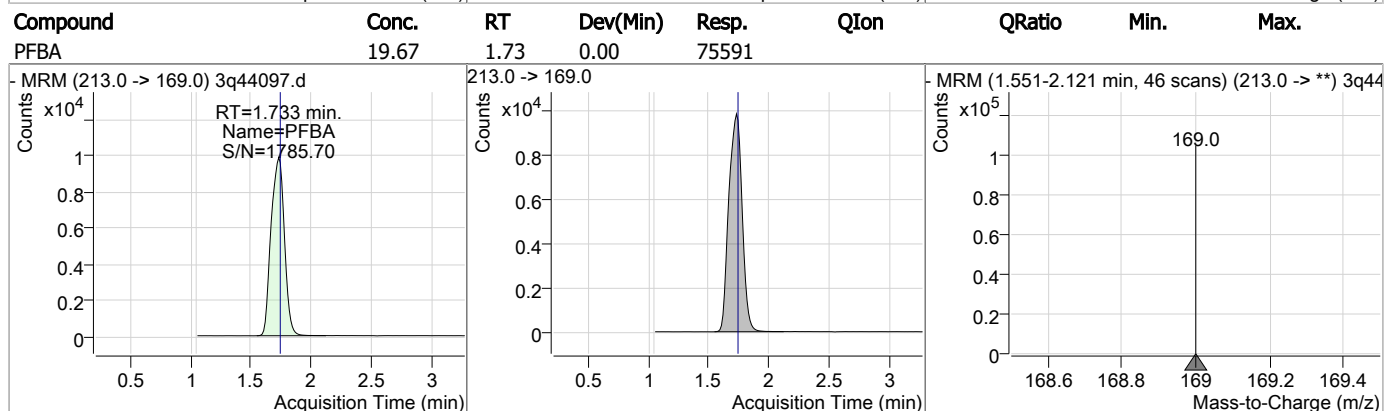
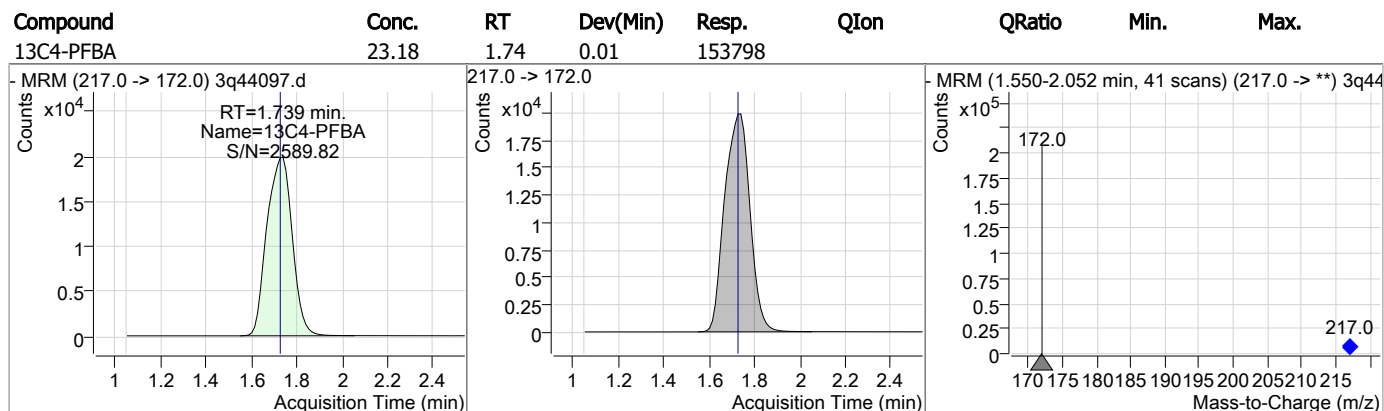
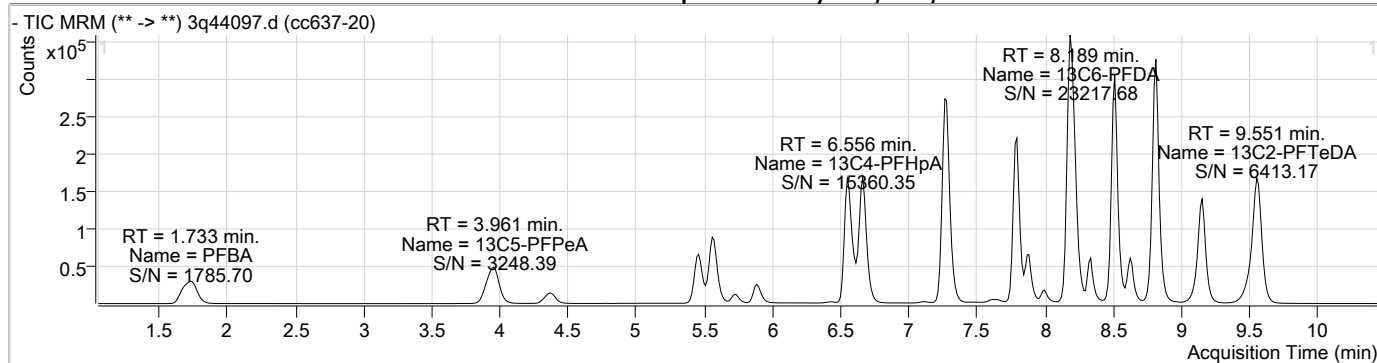
Compound	RT	Qion	Resp.	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	1.739	217.0 -> 172.0	153798	20.00 µg/L	0.013
M5-PFPeA	3.961	268.0 -> 223.0	134981	20.00 µg/L	0.013
M5-PFHxA	5.563	318.0 -> 273.0	193687	20.00 µg/L	0.013
M4-PFHpA	6.556	367.0 -> 322.0	230983	20.00 µg/L	0.013
M8-PFOA	7.283	421.0 -> 376.0	282361	20.00 µg/L	0.013
M9-PFNA	7.800	472.0 -> 427.0	294132	20.00 µg/L	0.000
M6-PFDA	8.189	519.0 -> 474.0	390444	20.00 µg/L	0.000
M7-PFUnDA	8.513	570.0 -> 525.0	468029	20.00 µg/L	0.000
M2-PFDoDA	8.813	615.0 -> 570.0	562631	20.00 µg/L	0.000
M2-PFTeDA	9.551	715.0 -> 670.0	345412	20.00 µg/L	0.000
M8-FOSA	7.887	506.0 -> 78.0	91742	20.00 µg/L	0.013
M3-PFBS	4.367	302.0 -> 99.0	16589	20.00 µg/L	0.013
M3-PFHxS	6.603	402.0 -> 99.0	19024	20.00 µg/L	0.000
M8-PFOS	7.785	507.0 -> 99.0	28974	20.00 µg/L	0.000
M2-4:2FTS	5.459	329.0 -> 309.0	109316	20.00 µg/L	0.013
M2-6:2FTS	7.268	429.0 -> 409.0	140928	20.00 µg/L	0.013
M2-8:2FTS	8.213	529.0 -> 509.0	151447	20.00 µg/L	0.000
M3-MeFOSAA	8.223	573.0 -> 419.0	80154	20.00 µg/L	0.000
M3-HFPO-DA	5.893	287.0 -> 169.0	19900	20.00 µg/L	0.013
M3-MeFOSA	8.189	515.0 -> 169.0	28339	20.00 µg/L	0.000
M5-EtFOSAA	8.335	589.0 -> 419.0	76664	20.00 µg/L	0.013
System Monitoring Compounds					
13C2-4:2FTS	5.459	329.0 -> 309.0	109316	22.83 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.1%	
13C2-6:2FTS	7.268	429.0 -> 409.0	140928	23.61 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 118.1%	
13C2-8:2FTS	8.213	529.0 -> 509.0	151447	23.49 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 117.4%	
13C2-PFDoDA	8.813	615.0 -> 570.0	562631	22.95 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.8%	
13C2-PFTeDA	9.551	715.0 -> 670.0	345412	22.61 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.1%	
13C3-PFBS	4.367	302.0 -> 99.0	16589	23.30 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 116.5%	
13C3-PFHxS	6.603	402.0 -> 99.0	19024	23.43 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 117.1%	
13C4-PFBA	1.739	217.0 -> 172.0	153798	23.18 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 115.9%	
13C4-PFHpA	6.556	367.0 -> 322.0	230983	23.15 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 115.7%	
13C5-PFHxA	5.563	318.0 -> 273.0	193687	22.97 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.8%	
13C5-PFPeA	3.961	268.0 -> 223.0	134981	22.97 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.8%	
13C6-PFDA	8.189	519.0 -> 474.0	390444	23.63 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

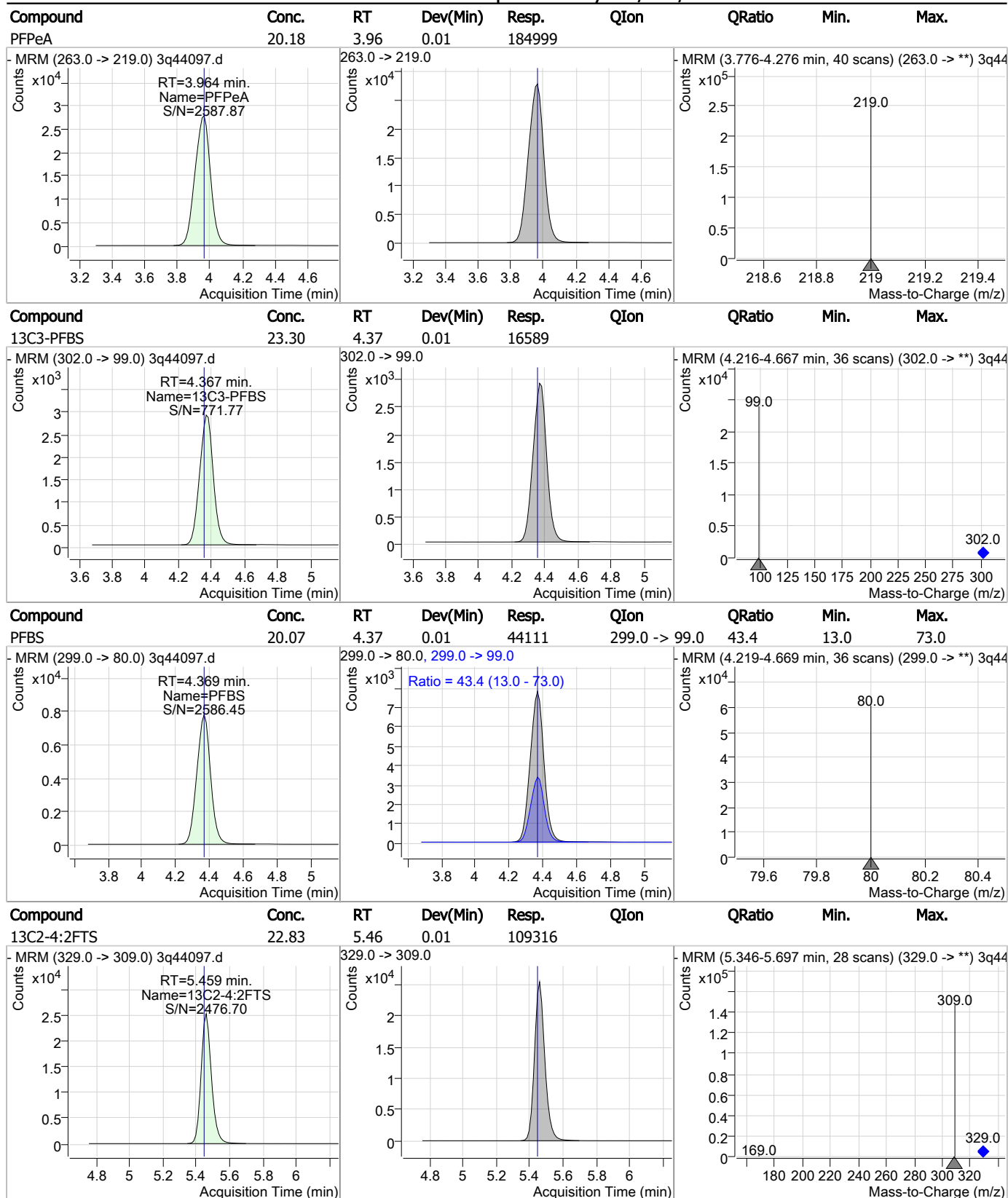
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 118.1%	
13C7-PFUnDA	8.513	570.0 -> 525.0	468029	23.20 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 116.0%	
13C8-FOSA	7.887	506.0 -> 78.0	91742	22.67 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 113.3%	
13C8-PFOA	7.283	421.0 -> 376.0	282361	23.23 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 116.2%	
13C8-PFOS	7.785	507.0 -> 99.0	28974	23.63 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 118.1%	
13C9-PFNA	7.800	472.0 -> 427.0	294132	22.98 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 114.9%	
d3-MeFOSAA	8.223	573.0 -> 419.0	80154	19.06 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.3%	
13C3-HFPO-DA	5.893	287.0 -> 169.0	19900	21.35 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.8%	
d3-MeFOSA	8.189	515.0 -> 169.0	28339	23.89 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 119.4%	
d5-EtFOSAA	8.335	589.0 -> 419.0	76666	18.74 µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.7%	
Target Compounds					QValue
4:2FTS	5.461	327.0 -> 307.0	126526	20.62 µg/L	100
6:2FTS	7.269	427.0 -> 407.0	144247	20.46 µg/L	98
8:2FTS	8.214	527.0 -> 507.0	165469	21.09 µg/L	99
EtFOSAA	8.335	584.0 -> 419.0	67554	20.73 µg/L	m 94
FOSA	7.888	498.0 -> 78.0	92049	20.22 µg/L	100
MeFOSAA	8.223	570.0 -> 419.0	73699	20.52 µg/L	m 97
PFBA	1.733	213.0 -> 169.0	75591	19.67 µg/L	100
PFBS	4.369	299.0 -> 80.0	44111	20.07 µg/L	99
PFDA	8.190	513.0 -> 469.0	360583	19.54 µg/L	100
PFDoDA	8.813	613.0 -> 569.0	519085	20.28 µg/L	100
PFDS	8.485	599.0 -> 80.0	19955	20.17 µg/L	97
PFHpA	6.557	363.0 -> 319.0	375007	20.14 µg/L	100
PFHpS	7.293	449.0 -> 80.0	45148	20.67 µg/L	98
PFHxA	5.565	313.0 -> 269.0	167235	19.88 µg/L	99
PFHxS	6.603	399.0 -> 80.0	45550	19.74 µg/L	m 99
PFNA	7.800	463.0 -> 419.0	308622	20.24 µg/L	99
PFNS	8.162	549.0 -> 80.0	36166	20.59 µg/L	98
PFOA	7.283	413.0 -> 369.0	296334	19.99 µg/L	99
PFOS	7.786	499.0 -> 80.0	51660	19.89 µg/L	m 82
PFPeA	3.964	263.0 -> 219.0	184999	20.18 µg/L	100
PFPeS	5.719	349.0 -> 80.0	32922	20.31 µg/L	98
PFTeDA	9.553	713.0 -> 669.0	500012	20.23 µg/L	100
PFTTrDA	9.152	663.0 -> 619.0	555375	20.57 µg/L	100
PFUnDA	8.514	563.0 -> 519.0	448693	19.88 µg/L	99
11Cl-PF3OUdS	8.623	631.0 -> 451.0	144002	20.22 µg/L	100
9Cl-PF3ONS	7.997	531.0 -> 351.0	38409	18.23 µg/L	98
ADONA	6.667	377.0 -> 251.0	484454	19.58 µg/L	99
HFPO-DA	5.888	329.0 -> 169.0	68836	21.24 µg/L	98
MeFOSA	8.203	512.0 -> 169.0	30132	20.13 µg/L	97

= Qualifier out of range, m = manually integrated, + = Area summed

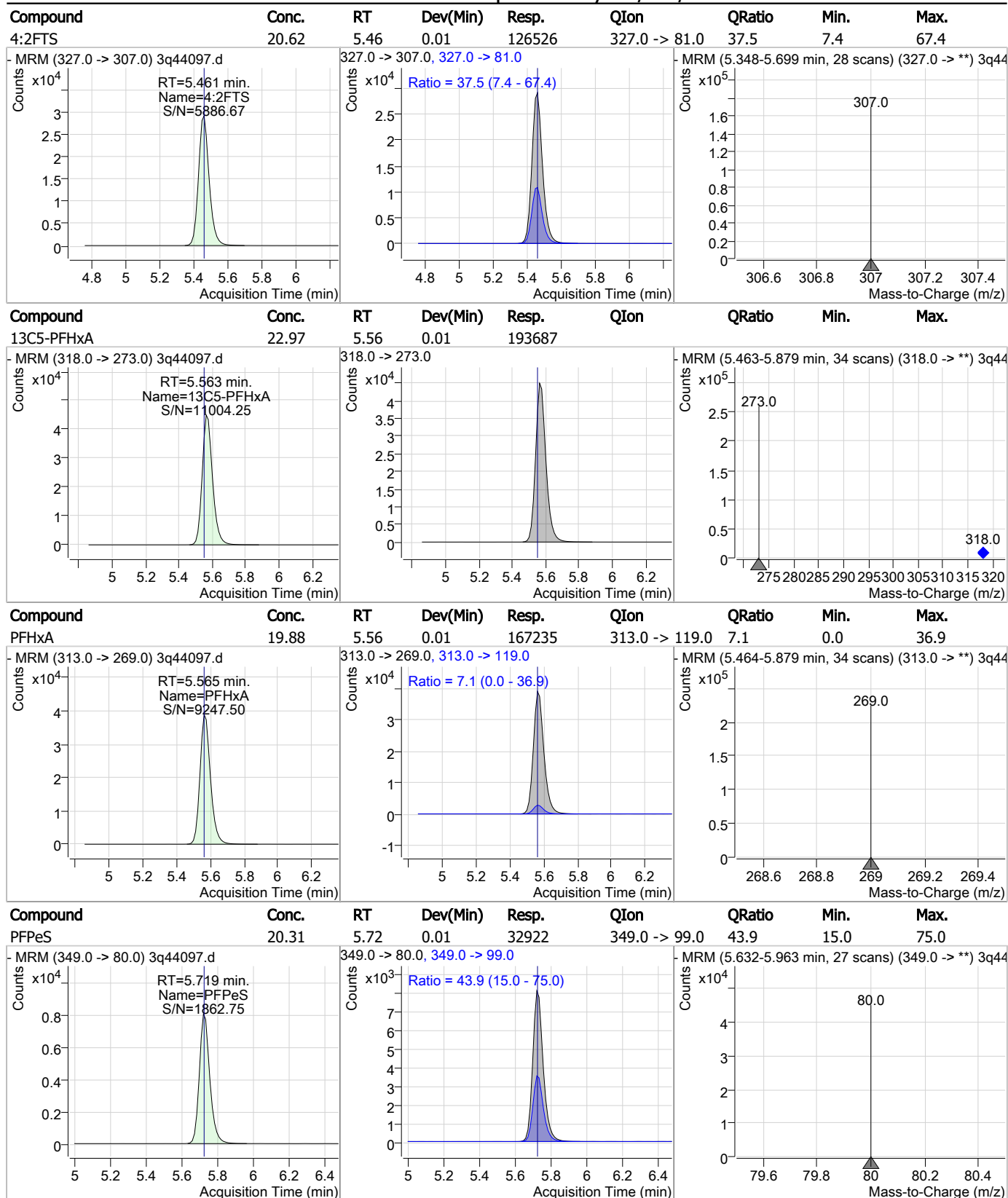
Perfluorinated Compounds by LC/MS/MS



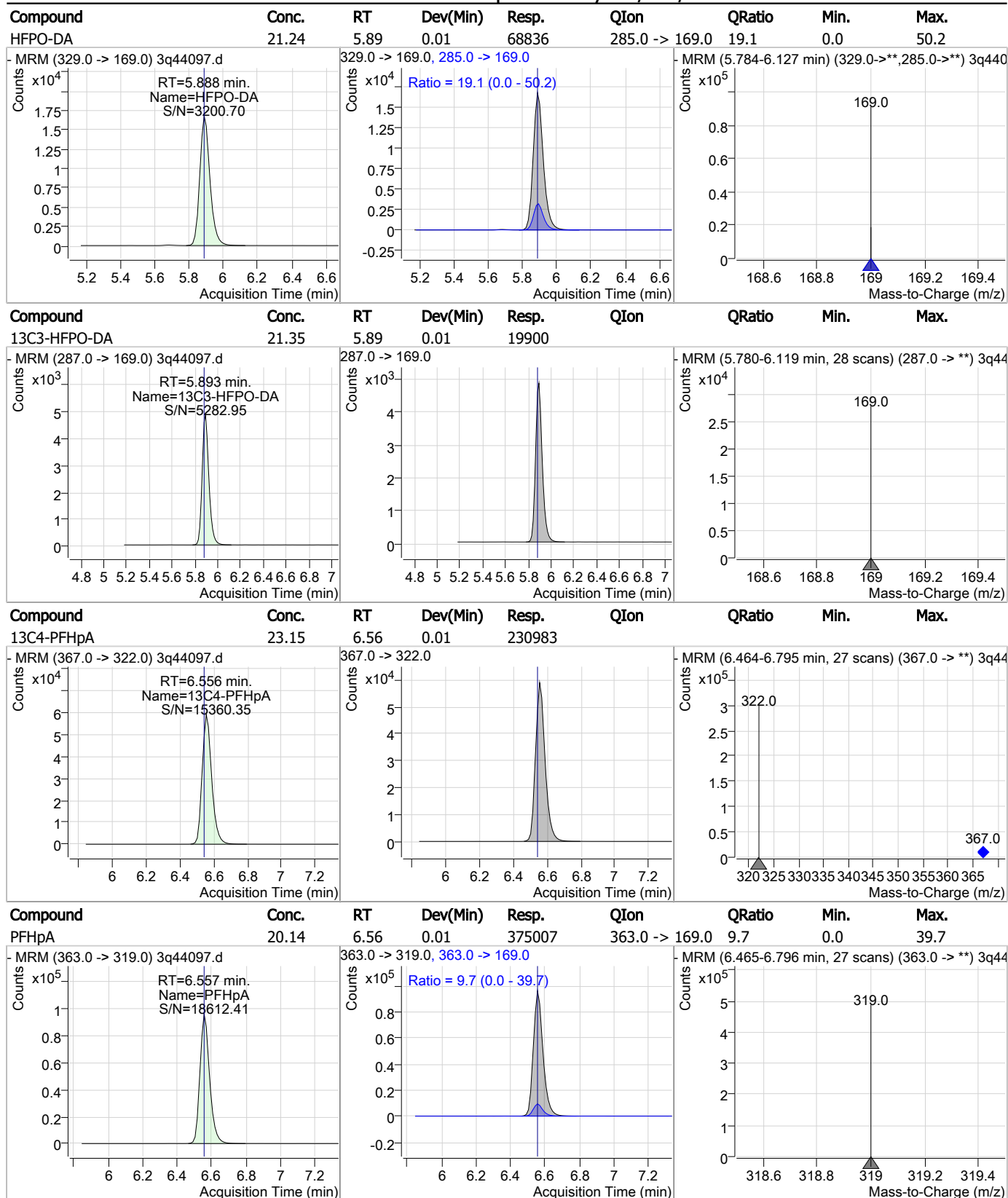
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

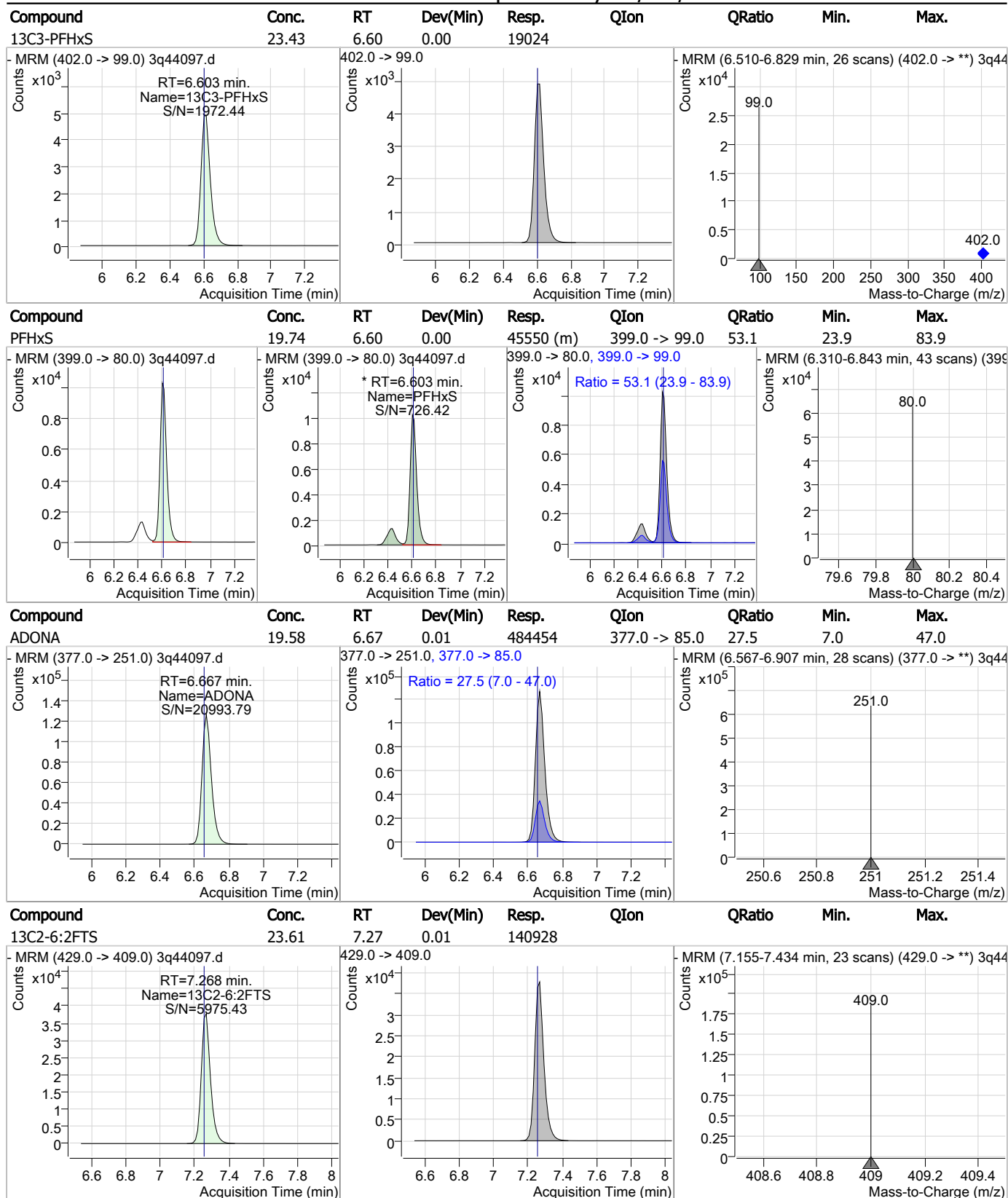


Perfluorinated Compounds by LC/MS/MS

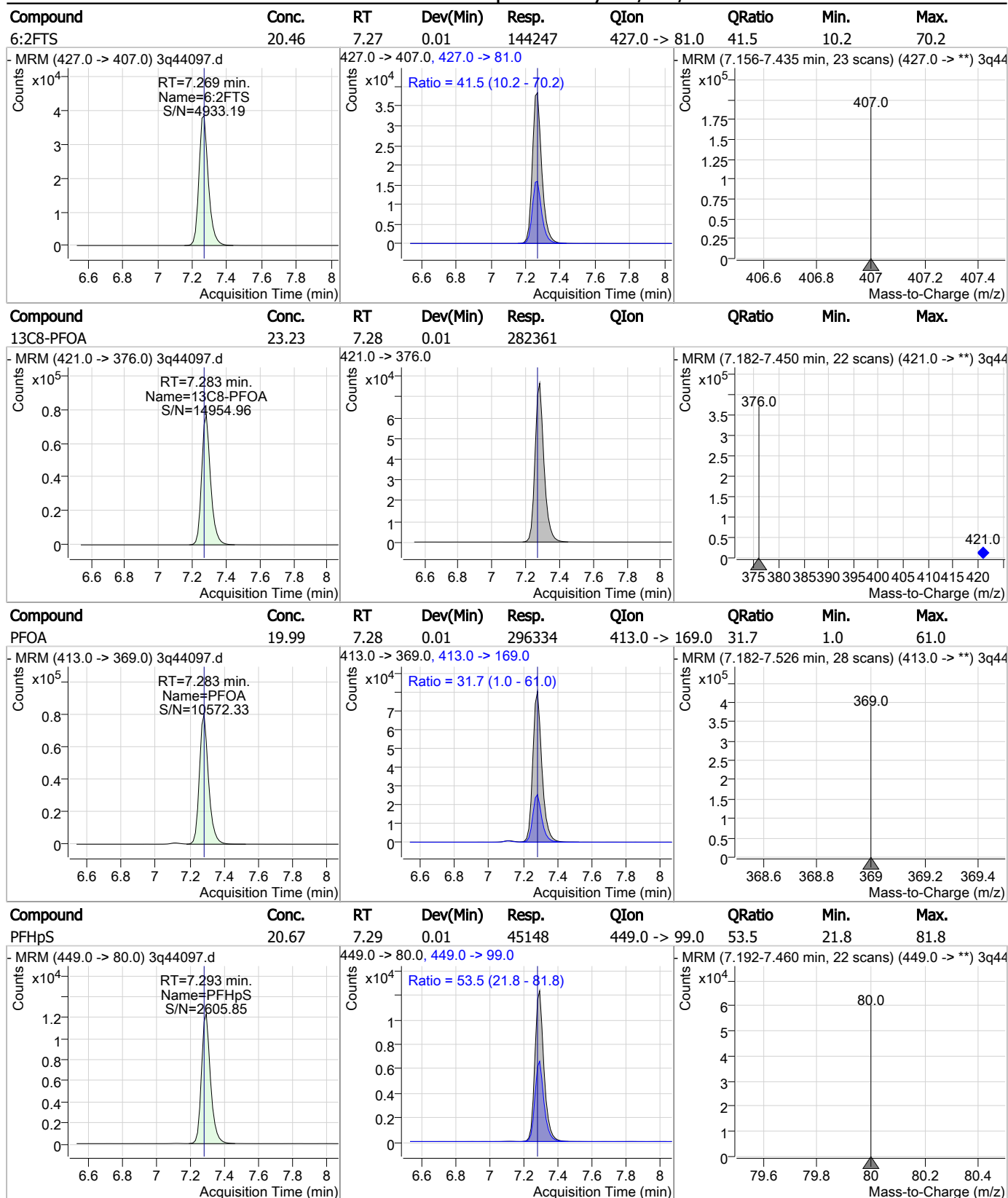


10.5.21 10

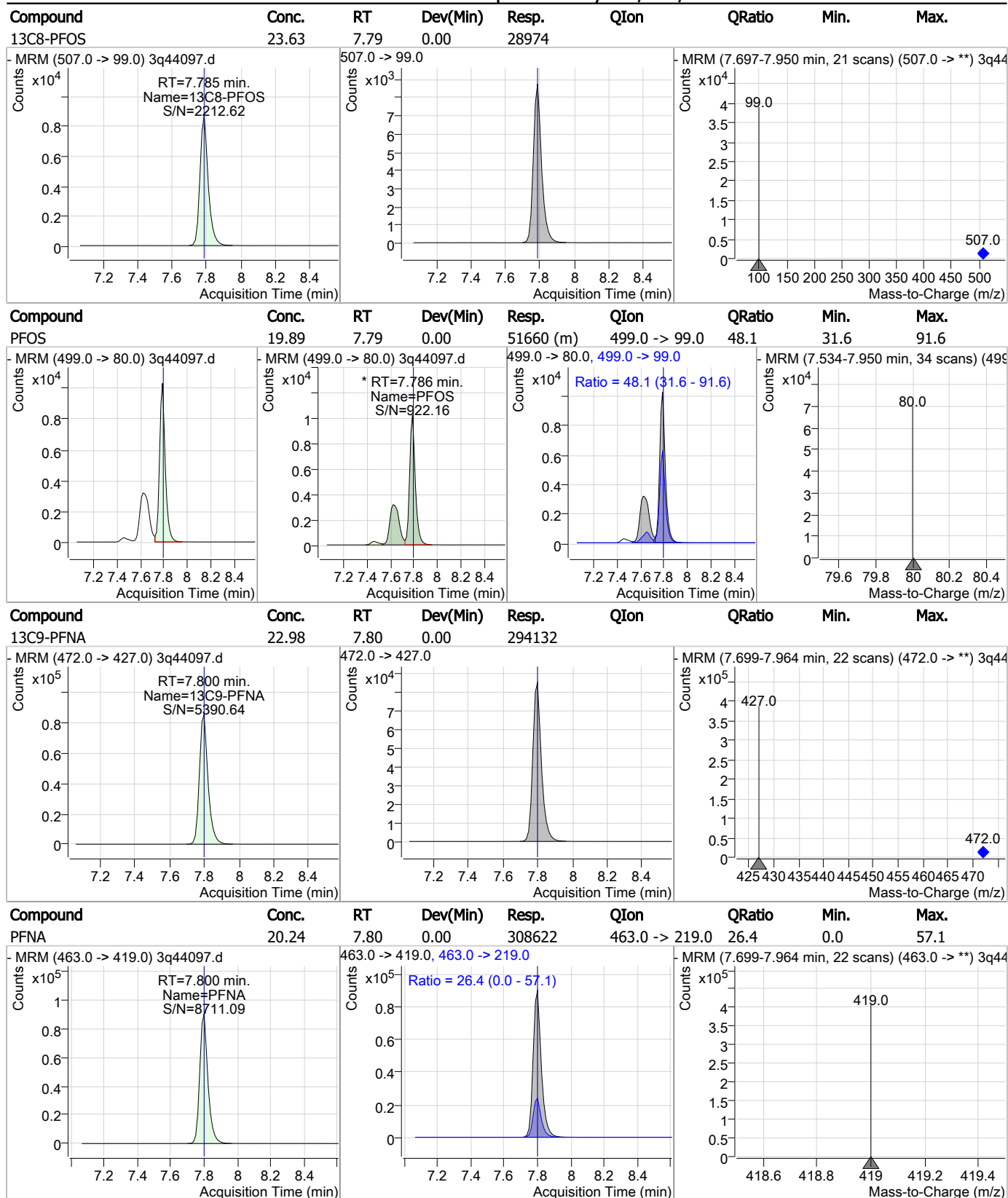
Perfluorinated Compounds by LC/MS/MS



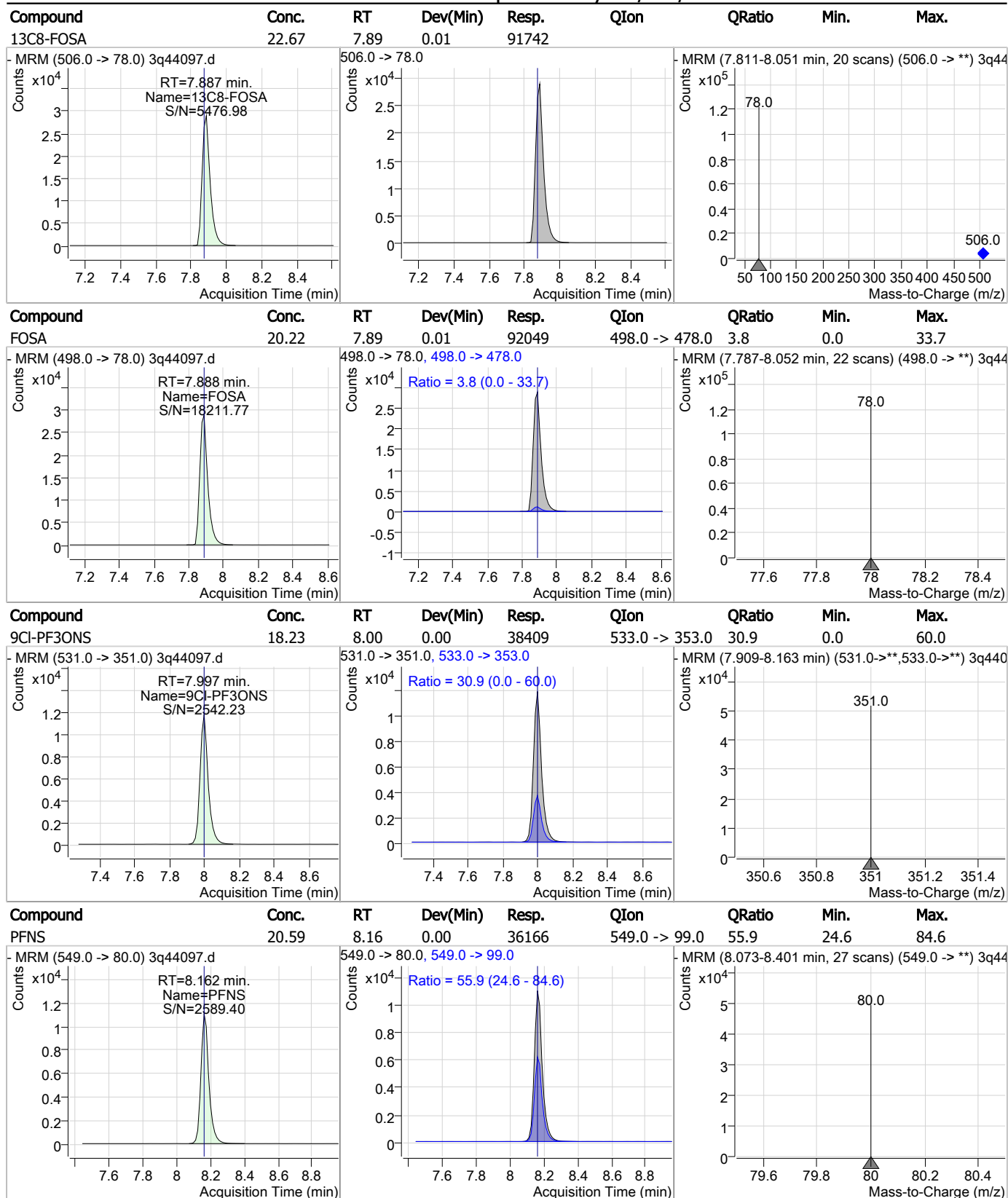
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

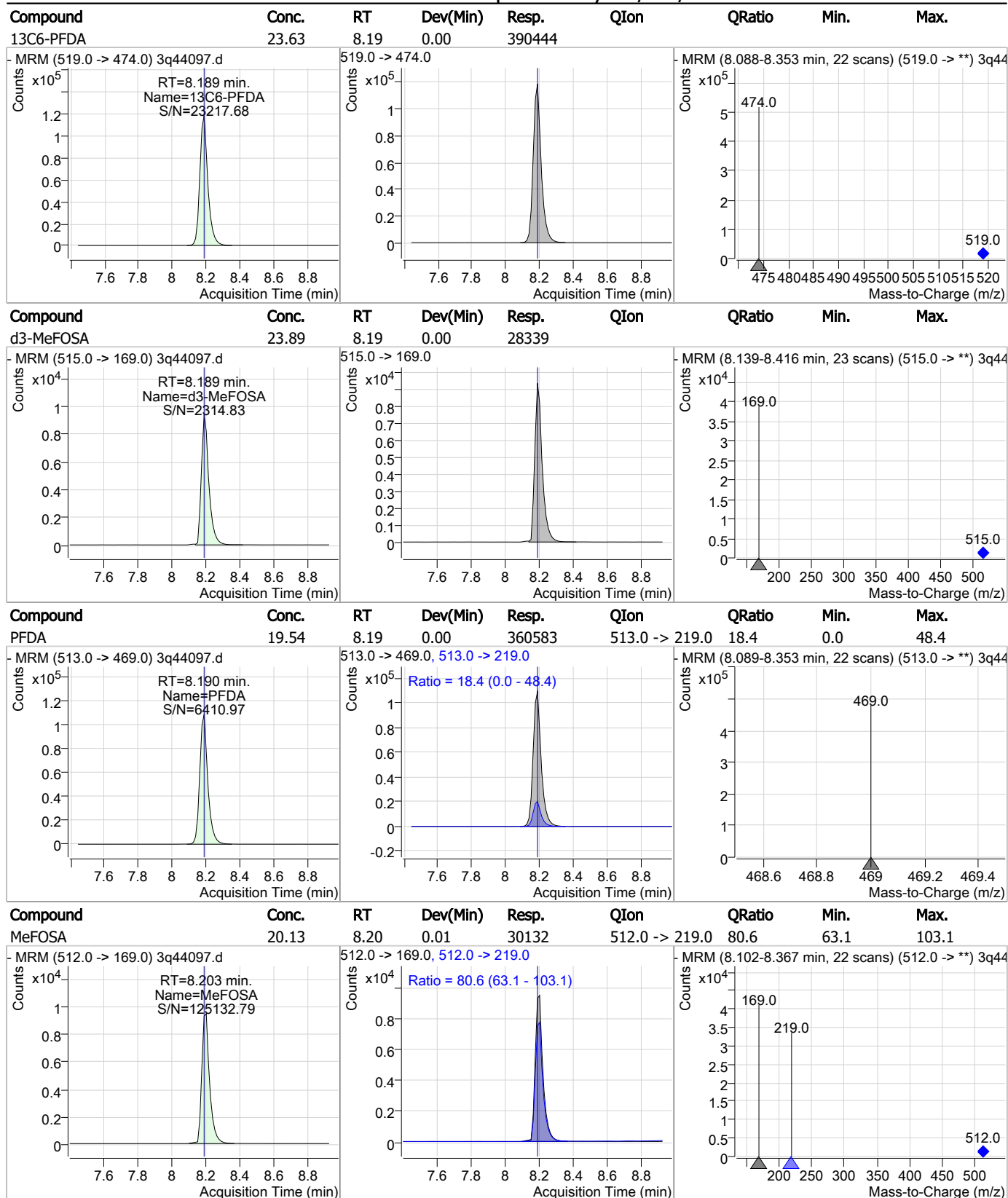


Perfluorinated Compounds by LC/MS/MS

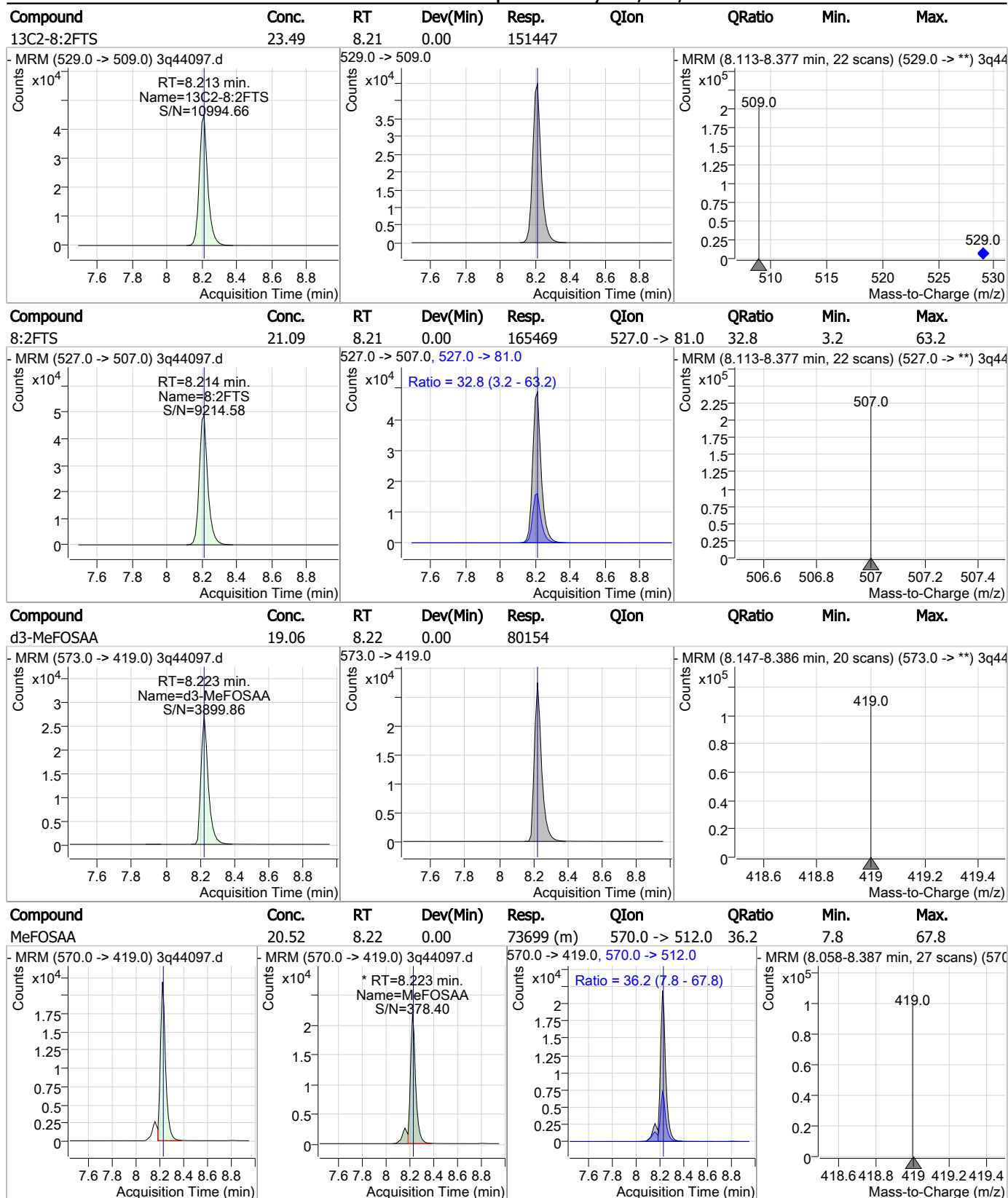


10.5.21 10

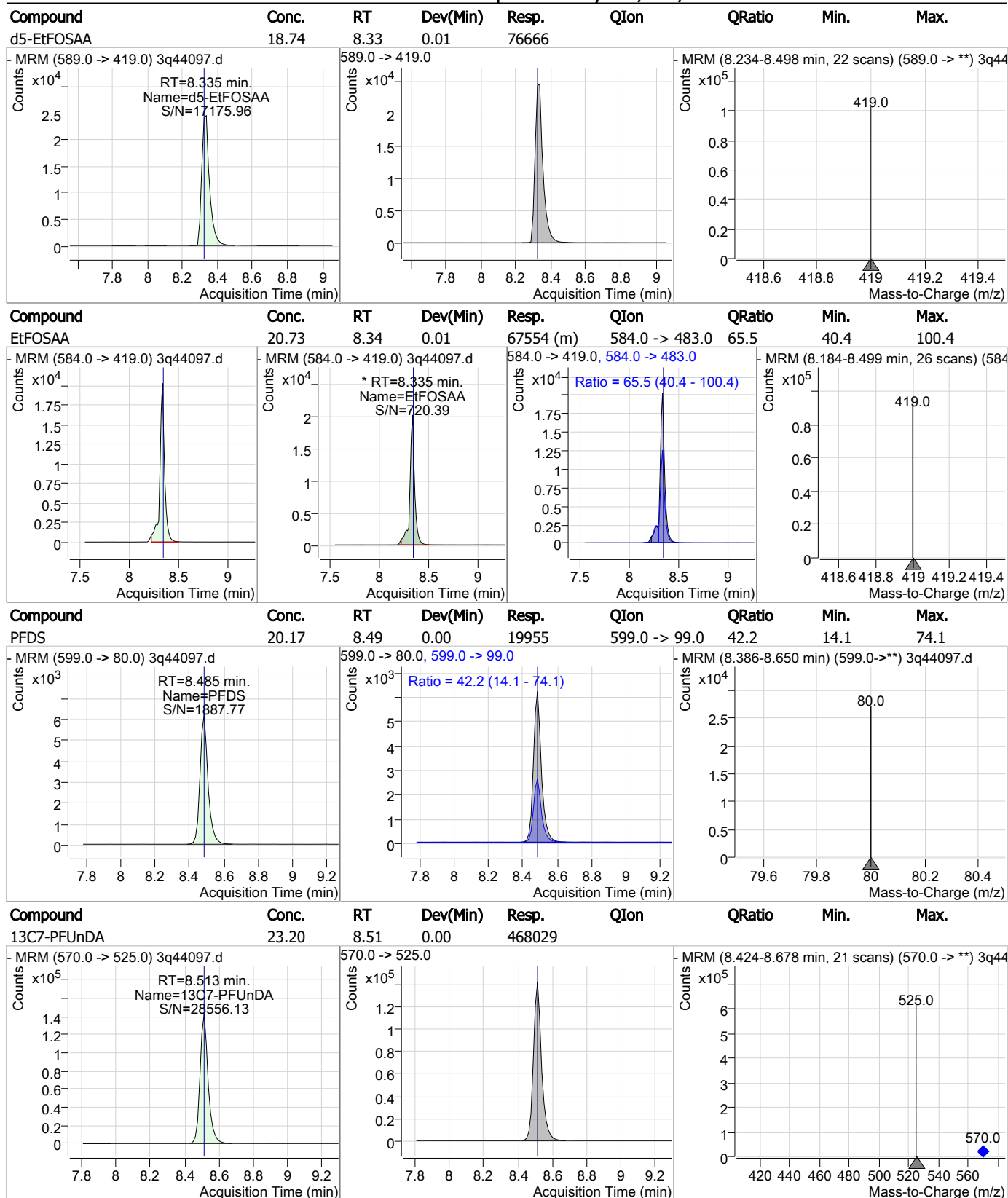
Perfluorinated Compounds by LC/MS/MS



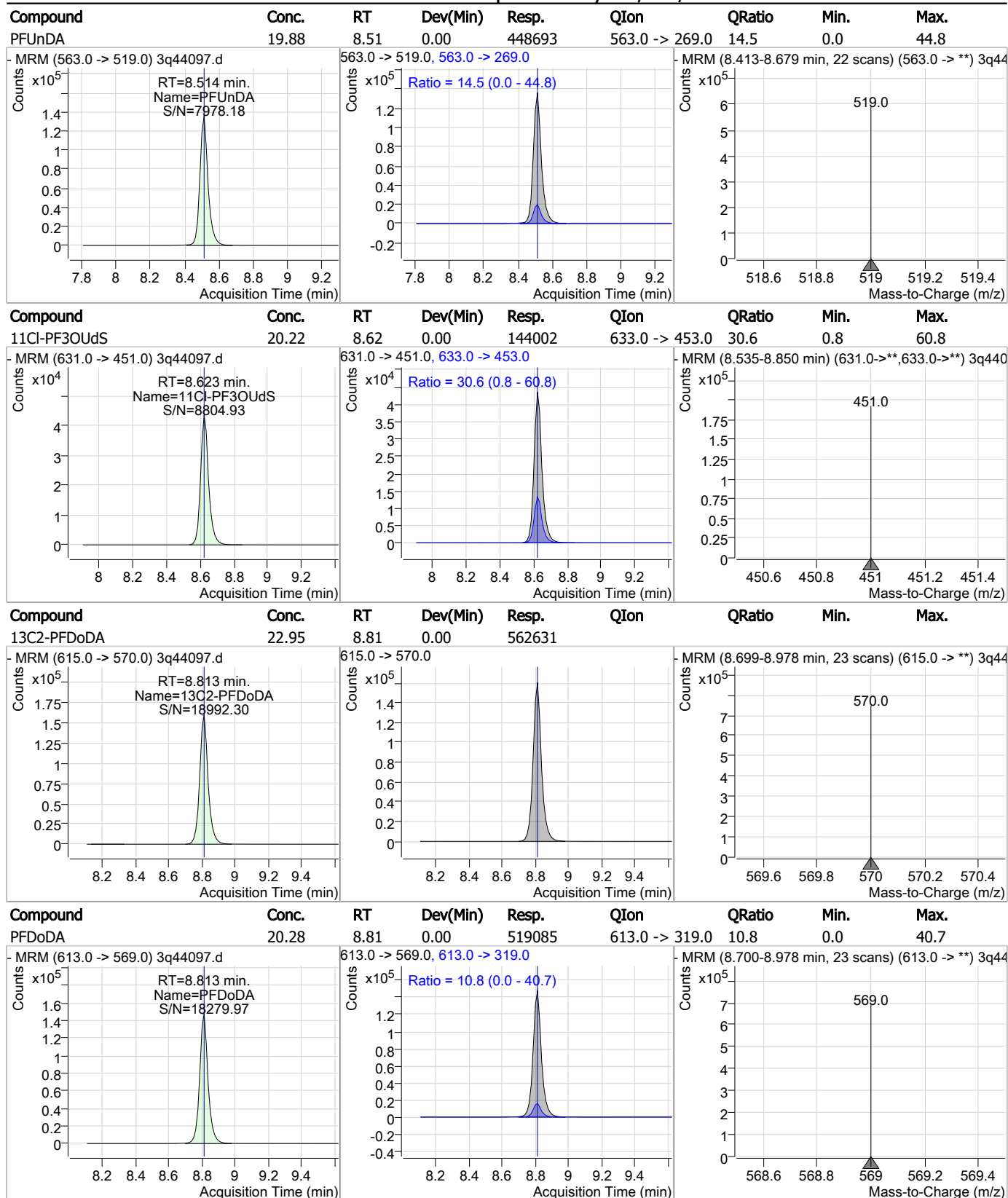
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

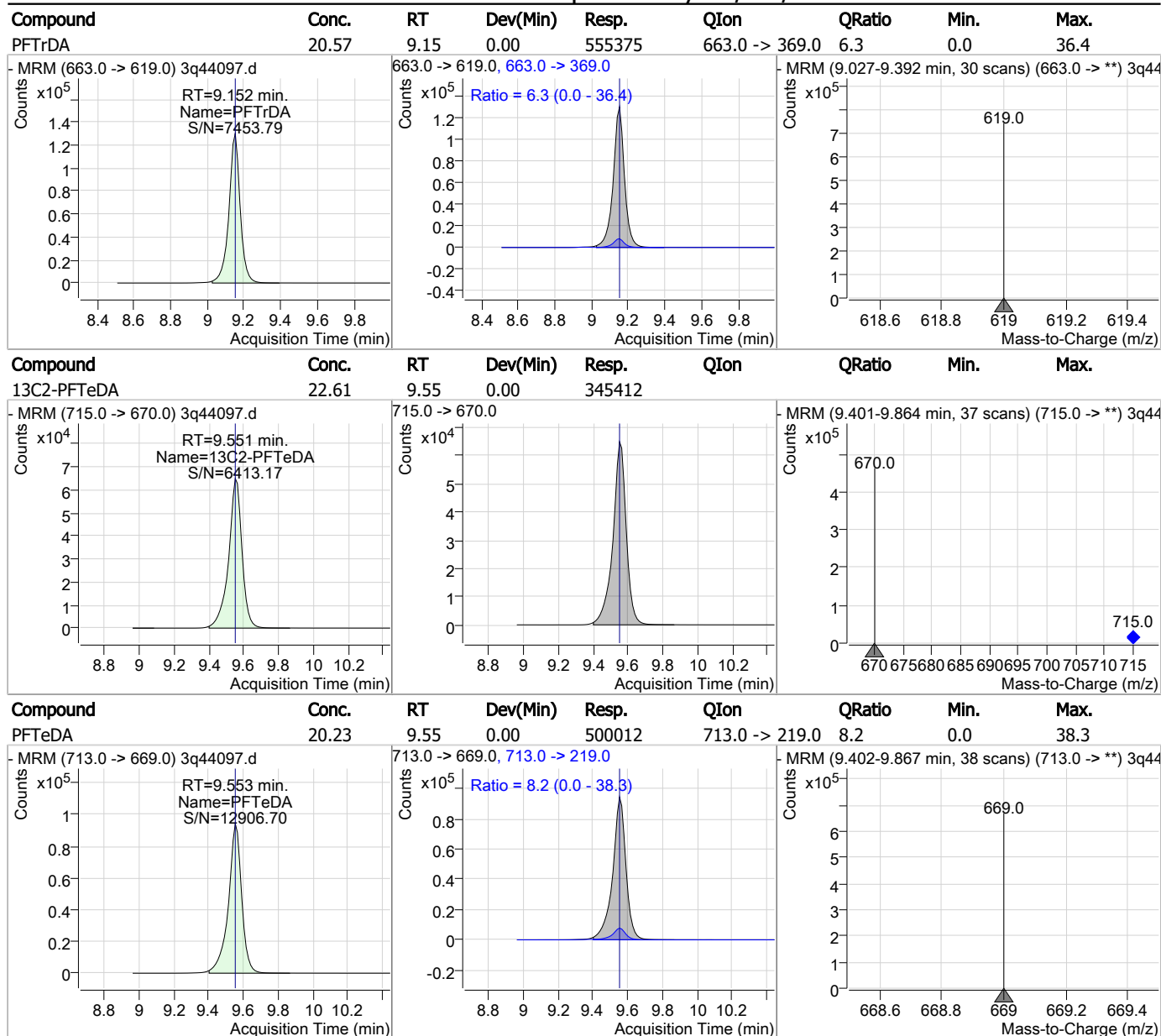


Perfluorinated Compounds by LC/MS/MS



10.5.21 10

Perfluorinated Compounds by LC/MS/MS



10.5.21 10

Manual Integration Approval Summary

Sample Number:

S3Q639-CC637

Lab FileID:

3Q44097.D

Injection Time:

09/02/21 01:24

Method:

EPA 537M QSM5.3 B-15

Analyst approved:

09/02/21 12:02
Natasha Gumtie

Supervisor approved:

09/02/21 17:09
Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.60	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.79	Split peak
MeFOSAA	2355-31-9		8.22	Split peak
EtFOSAA	2991-50-6		8.34	Split peak

10.5.21.1
10

DATE:	08/28/21
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS3-3Q

METHODS:	537MOD MS014 MS019
PROC. METH:	ID_082821_S3Q637
CAL DATE:	08/28/21
ANALYST:	MV
RUN BATCH:	S3Q637

ELUENT A LOT #:	214643 W/0.1% AA_194003
ELUENT B LOT #:	211762 W/0.1% AA_194003
IC/CC STD LOT #:	LCMS1718
ICV STD LOT #:	10452-A
ISTD/ID STD LOT #:	LCMS1716-J

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
25	3q43708.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	Conditioning for change of method.
26	3q43709.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	Conditioning for change of method.
27	3q43710.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	Conditioning for change of method.
28	3q43711.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	Conditioning for change of method.
29	3q43712.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	Conditioning for change of method.
30	3q43713.d	P1-A1	ic637-0	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	✓
31	3q43714.d	P1-A2	ic637-0.5	537_ID.m	Calibration	2.5/500	op86590, S3Q637, 250,,1,1,water	✓
32	3q43715.d	P1-A3	ic637-1	537_ID.m	Calibration	5/500	op86590, S3Q637, 250,,1,1,water	✓
33	3q43716.d	P1-A4	ic637-2	537_ID.m	Calibration	10/500	op86590, S3Q637, 250,,1,1,water	✓
34	3q43717.d	P1-A5	ic637-5	537_ID.m	Calibration	20/500	op86590, S3Q637, 250,,1,1,water	✓
35	3q43718.d	P1-A6	ic637-10	537_ID.m	Calibration	50/500	op86590, S3Q637, 250,,1,1,water	✓
36	3q43719.d	P1-A7	ic637-20	537_ID.m	Calibration	100/500	op86590, S3Q637, 250,,1,1,water	✓
37	3q43720.d	P1-A8	ic637-50	537_ID.m	Calibration	250/500	op86590, S3Q637, 250,,1,1,water	✓
38	3q43721.d	P1-A9	ic637-100	537_ID.m	Calibration	500	op86590, S3Q637, 250,,1,1,water	✓
39	3q43722.d	P1-A1	IBIK	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	✓
40	3q43723.d	P1-B1	icv637-20	537_ID.m	QC	10/500	op86590, S3Q637, 250,,1,1,water	✓
41	3q43724.d	P1-B2	icv637-20 T-pla	537_ID.m	QC	100/500	op86590, S3Q637, 250,,1,1,water	✓
42	3q43725.d	P2-A1	op86899-bs	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓
43	3q43726.d	P2-A2	op86899-mb	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓
44	3q43727.d	P2-A3	fa88082-1	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓
45	3q43728.d	P2-A4	op86899-ms	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓
46	3q43729.d	P2-A5	fa88082-2	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓
47	3q43730.d	P2-A6	fa88082-3	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	rr10x,100x
48	3q43731.d	P2-A7	op86899-dup	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	rr100x
49	3q43732.d	P2-A8	fa88082-4	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	rr10x,100x
50	3q43733.d	P2-A9	fa88082-5	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	rr1x co
51	3q43734.d	P2-B1	fa88082-6	537_ID.m	Sample		op86899, S3Q637, 120,,1,1,water	rr10x,100x
52	3q43735.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590, S3Q637, 250,,1,1,water	✓
53	3q43736.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	✓
54	3q43737.d	P2-B2	fa88082-7	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓
55	3q43738.d	P2-B3	fa88082-8	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	rr5x doda, teda low
56	3q43739.d	P2-B4	fa88082-9	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	rr5x teda low
57	3q43740.d	P2-B5	fa88082-10	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓
58	3q43741.d	P2-B6	fa88082-11	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓
59	3q43742.d	P2-B7	fa88082-12	537_ID.m	Sample		op86899, S3Q637, 125,,1,1,water	✓ + rr10x pfos

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LCMS3-3Q ANALYSIS LOG

60	3q43743.d	P2-B8	fa88082-13	537_ID.m	Sample	op86899, S3Q637, 125,,1,1,water	✓
61	3q43744.d	P2-B9	fa88082-14	537_ID.m	Sample	op86899, S3Q637, 120,,1,1,water	✓
62	3q43745.d	P2-F7	fa88068-1	537_ID.m	Sample	op86866, S3Q637, 125,,1,50,water	rr100x
63	3q43746.d	P1-A7	cc637-20	537_ID.m	QC	op86590, S3Q637, 250,,1,1,water	✓
64	3q43747.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,water	✓
65	3q43748.d	P1-A3	cc637-1.0LL	537_ID.m	QC	op86590, S3Q637, 250,,1,1,water	✓
66	3q43749.d	P2-C1	op86890-bs	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
67	3q43750.d	P2-C2	op86890-mb	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
68	3q43751.d	P2-C3	fa88076-1	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
69	3q43752.d	P2-C4	fa88076-2	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
70	3q43753.d	P2-C5	fa88076-3	537_ID.m	Sample	op86890, S3Q637, 110,,1,1,water	✓
71	3q43754.d	P2-C6	fa88076-4	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓, pfos qual out.
72	3q43755.d	P2-C7	op86890-ms	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
73	3q43756.d	P2-C8	op86890-msd	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
74	3q43757.d	P2-C9	fa88076-5	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓, pfos qual out.
75	3q43758.d	P2-D1	fa88076-6	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
76	3q43759.d	P1-A7	cc637-20	537_ID.m	QC	op86590, S3Q637, 250,,1,1,water	✓
77	3q43760.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,water	✓
78	3q43761.d	P2-D2	fa88076-7	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
79	3q43762.d	P2-D3	fa88076-8	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
80	3q43763.d	P2-D4	fa88076-9	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
81	3q43764.d	P2-D5	fa88076-10	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
82	3q43765.d	P2-D6	fa88076-11	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
83	3q43766.d	P2-F8	fa88068-1	537_ID.m	Sample	op86866, S3Q637, 125,,1,100,water	RR200X
84	3q43767.d	P2-D7	fa88076-12	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
85	3q43768.d	P2-D8	fa88076-13	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
86	3q43769.d	P2-D9	fa88076-14	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
87	3q43770.d	P2-E1	fa88076-15	537_ID.m	Sample	op86890, S3Q637, 120,,1,1,water	✓
88	3q43771.d	P1-A7	cc637-20	537_ID.m	QC	op86590, S3Q637, 250,,1,1,water	✓
89	3q43772.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,water	✓
90	3q43773.d	P2-E2	fa88076-16	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
91	3q43774.d	P2-E3	fa88076-17	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
92	3q43775.d	P2-E4	fa88076-18	537_ID.m	Sample	op86890, S3Q637, 115,,1,1,water	✓
93	3q43776.d	P2-E5	fa88076-19	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
94	3q43777.d	P2-E6	fa88076-20	537_ID.m	Sample	op86890, S3Q637, 125,,1,1,water	✓
95	3q43778.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,water	✓
96	3q43779.d	P1-B2	T-pfoa	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,water	✓
97	3q43780.d	P1-A9	High Std	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,water	✓
98	3q43781.d	P1-A1	IBLK	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,water	✓
99	3q43782.d	P1-A3	cc637-1.0LL	537_ID.m	QC	op86590, S3Q637, 250,,1,1,water	✓
100	3q43783.d	P4-B1	op87046-bs	537_ID.m	Sample	op87046, S3Q637, 125,,1,1,water	✓
101	3q43784.d	P4-B2	op87046-mb	537_ID.m	Sample	op87046, S3Q637, 125,,1,1,water	✓
102	3q43785.d	P4-B3	fa88178-1A	537_ID.m	Sample	op87046, S3Q637, 125,,1,1,water	✓

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LCMS3-3Q ANALYSIS LOG

103	3q43786.d	P4-B4	op87042-bs	537_ID.m	Sample	op87042.S3Q637.2.00,,,1.1.soil	✓
104	3q43787.d	P4-B5	op87042-mb	537_ID.m	Sample	op87042.S3Q637.2.00,,,1.1.soil	✓
105	3q43788.d	P4-B6	fa88451-1	537_ID.m	Sample	op87042.S3Q637.2.20,,,1.1.soil	✓, pfos qual out.
106	3q43789.d	P4-B7	fa88451-3	537_ID.m	Sample	op87042.S3Q637.2.17,,,1.1.soil	✓
107	3q43790.d	P4-B8	fa88451-3	537_ID.m	Sample	op87042.S3Q637.2.17,,,1.1.10.soil	reported 1x
108	3q43791.d	P4-B9	fa88451-4	537_ID.m	Sample	op87042.S3Q637.2.00,,,1.1.soil	✓
109	3q43792.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
110	3q43793.d	P1-A1	ccb	537_ID.m	Sample	op86590.S3Q637.250,,,1.1.water	✓
111	3q43794.d	P4-C1	fa88451-5	537_ID.m	Sample	op87042.S3Q637.2.11,,,1.1.soil	✓
112	3q43795.d	P4-C2	op87042-ms	537_ID.m	Sample	op87042.S3Q637.2.06,,,1.1.soil	✓
113	3q43796.d	P4-C3	op87042-msd	537_ID.m	Sample	op87042.S3Q637.2.11,,,1.1.1.soil	✓
114	3q43797.d	P4-C4	fa88451-6	537_ID.m	Sample	op87042.S3Q637.2.14,,,1.1.1.soil	✓
115	3q43798.d	P4-C5	fa88451-7	537_ID.m	Sample	op87042.S3Q637.2.13,,,1.1.1.soil	✓
116	3q43799.d	P4-C6	fa88451-8	537_ID.m	Sample	op87042.S3Q637.2.06,,,1.1.1.soil	✓
117	3q43800.d	P4-C7	fa88451-10	537_ID.m	Sample	op87042.S3Q637.2.05,,,1.1.1.soil	✓
118	3q43801.d	P4-C8	fa88451-11	537_ID.m	Sample	op87042.S3Q637.2.00,,,1.1.1.soil	pfos qual out, d3-MeFOSAA, d5-EtFOSAA low
119	3q43802.d	P4-C9	fa88451-12	537_ID.m	Sample	op87042.S3Q637.2.03,,,1.1.1.soil	pfos qual out, fosa, d3-MeFOSAA, d5-EtFOSAA low
120	3q43803.d	P4-D1	fa88451-13	537_ID.m	Sample	op87042.S3Q637.2.11,,,1.1.1.soil	✓
121	3q43804.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
122	3q43805.d	P1-A1	ccb	537_ID.m	Sample	op86590.S3Q637.250,,,1.1.water	✓
123	3q43806.d	P4-D2	fa88451-14	537_ID.m	Sample	op87042.S3Q637.2.02,,,1.1.1.soil	d3-MeFOSAA, d5-EtFOSAA low
124	3q43807.d	P4-D3	fa88451-15	537_ID.m	Sample	op87042.S3Q637.2.05,,,1.1.1.soil	d3-MeFOSAA, d5-EtFOSAA low
125	3q43808.d	P4-D4	fa88451-17	537_ID.m	Sample	op87042.S3Q637.2.03,,,1.1.1.soil	fosa low
126	3q43809.d	P4-D5	fa88451-19	537_ID.m	Sample	op87042.S3Q637.2.13,,,1.1.1.soil	✓
127	3q43810.d	P4-D6	fa88451-20	537_ID.m	Sample	op87042.S3Q637.2.24,,,1.1.1.soil	✓
128	3q43811.d	P4-D7	fa88451-21	537_ID.m	Sample	op87042.S3Q637.2.09,,,1.1.1.soil	✓
129	3q43812.d	P4-D8	fa88451-23	537_ID.m	Sample	op87042.S3Q637.2.06,,,1.1.1.soil	✓
130	3q43813.d	P4-D9	fa88451-24	537_ID.m	Sample	op87042.S3Q637.2.11,,,1.1.1.soil	✓
131	3q43814.d	P4-E1	fa88451-25	537_ID.m	Sample	op87042.S3Q637.2.01,,,1.1.1.soil	d3-MeFOSAA, d5-EtFOSAA low
132	3q43815.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
133	3q43816.d	P1-A1	ccb	537_ID.m	Sample	op86590.S3Q637.250,,,1.1.water	✓
134	3q43817.d	P1-A3	cc637-1.0LL	537_ID.m	QC	5/500	✓
135	3q43818.d	P4-E2	op87043-bs	537_ID.m	Sample	op87043.S3Q637.2.00,,,1.1.1.soil	✓
136	3q43819.d	P4-E3	op87043-mb	537_ID.m	Sample	op87043.S3Q637.2.00,,,1.1.1.soil	✓
137	3q43820.d	P4-E4	fa88451-18	537_ID.m	Sample	op87043.S3Q637.2.02,,,1.1.1.soil	✓
138	3q43821.d	P4-F5	op87043-ms	537_ID.m	Sample	op87043.S3Q637.2.05,,,1.1.1.soil	✓
139	3q43822.d	P4-F6	op87043-msd	537_ID.m	Sample	op87043.S3Q637.2.16,,,1.1.1.soil	✓
140	3q43823.d	P4-E5	fa88451-26	537_ID.m	Sample	op87043.S3Q637.2.11,,,1.1.1.soil	d3-MeFOSAA, d5-EtFOSAA low
141	3q43824.d	P4-E6	fa88451-27	537_ID.m	Sample	op87043.S3Q637.2.17,,,1.1.1.soil	✓, pfos qual out.
142	3q43825.d	P4-E7	fa88451-28	537_ID.m	Sample	op87043.S3Q637.2.04,,,1.1.1.soil	✓
143	3q43826.d	P4-E8	fa88451-30	537_ID.m	Sample	op87043.S3Q637.2.06,,,1.1.1.soil	✓
144	3q43827.d	P4-E9	fa88451-30	537_ID.m	Sample	op87043.S3Q637.2.06,,,1.1.10.soil	reported 1x
145	3q43828.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓

SGS ORLANDO

LCMS3-3Q ANALYSIS LOG

146	3q43829.d	P1-A1	ccb	537_ID.m	Sample	100/500	op86590, S3Q637, 250,,1,1,water	✓
147	3q43830.d	P4-F1	fa88451-31	537_ID.m	Sample		op87043, S3Q637, 2,21,,1,1,soil	✓
148	3q43831.d	P4-F2	fa88451-32	537_ID.m	Sample		op87043, S3Q637, 2,10,,1,1,soil	✓
149	3q43832.d	P4-F3	fa88451-33	537_ID.m	Sample		op87043, S3Q637, 2,20,,1,1,soil	d3-MeFOSAA, d5-ElFOSAA low
150	3q43833.d	P4-F4	fa88451-34	537_ID.m	Sample		op87043, S3Q637, 2,02,,1,1,soil	d3-MeFOSAA, d5-ElFOSAA low
151	3q43834.d	P2-E7	fa88228-26	537_ID.m	Sample		op86966, S3Q637, 125,,1,5,water	✓
152	3q43835.d	P2-E8	fa88251-4	537_ID.m	Sample		op86966, S3Q637, 125,,1,5,water	Teda low, REDO
153	3q43836.d	P2-E9	fa88059-2	537_ID.m	Sample		op86867, S3Q637, 125,,1,5,water	✓
154	3q43837.d	P2-F1	fa88064-1	537_ID.m	Sample		op86867, S3Q637, 125,,1,10,water	✓
155	3q43838.d	P2-F2	fa88064-2	537_ID.m	Sample		op86867, S3Q637, 125,,1,10,water	✓
156	3q43839.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590, S3Q637, 250,,1,1,water	✓
157	3q43840.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	✓
158	3q43841.d	P2-F6	fa88064-3	537_ID.m	Sample		op86867, S3Q637, 125,,1,1,water	✓
159	3q43842.d	P2-F3	fa88064-3	537_ID.m	Sample		op86867, S3Q637, 125,,1,5,water	✓
160	3q43843.d	P2-F4	fa88064-4	537_ID.m	Sample		op86867, S3Q637, 125,,1,5,water	✓
161	3q43844.d	P2-F5	fa88064-5	537_ID.m	Sample		op86867, S3Q637, 125,,1,5,water	✓
162	3q43845.d	P4-A1	fa88082-3	537_ID.m	Sample		op86899, S3Q637, 125,,1,10,water	✓
163	3q43846.d	P4-A2	fa88082-3	537_ID.m	Sample		op86899, S3Q637, 125,,1,100,water	✓
164	3q43847.d	P4-A3	op86899-dup	537_ID.m	Sample		op86899, S3Q637, 125,,1,100,water	✓
165	3q43848.d	P4-A4	fa88082-4	537_ID.m	Sample		op86899, S3Q637, 125,,1,10,water	✓
166	3q43849.d	P4-A5	fa88082-4	537_ID.m	Sample		op86899, S3Q637, 125,,1,100,water	✓
167	3q43850.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590, S3Q637, 250,,1,1,water	✓
168	3q43851.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	✓
169	3q43852.d	P4-A6	fa88082-6	537_ID.m	Sample		op86899, S3Q637, 120,,1,10,water	✓
170	3q43853.d	P4-A7	fa88082-6	537_ID.m	Sample		op86899, S3Q637, 120,,1,100,water	✓
171	3q43854.d	P4-A8	fa88082-12	537_ID.m	Sample		op86899, S3Q637, 125,,1,10,water	✓
172	3q43855.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590, S3Q637, 250,,1,1,water	✓
173	3q43856.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	✓
174	3q43857.d	P1-A3	cc637-1.0LL	537_ID.m	QC	5/500	op86590, S3Q637, 250,,1,1,water	✓
175	3q43858.d	P1-D1	op86892-bs	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
176	3q43859.d	P1-D2	op86892-mb	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
177	3q43860.d	P1-D3	fa88073-4	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
178	3q43861.d	P1-D4	fa88073-5	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
179	3q43862.d	P1-D5	fa88073-6	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
180	3q43863.d	P1-D6	op86892-ms	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
181	3q43864.d	P1-D7	op86892-msd	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
182	3q43865.d	P1-D8	fa88073-7	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
183	3q43866.d	P1-D9	fa88073-8	537_ID.m	Sample		op86892, S3Q637, 120,,1,1,water	✓
184	3q43867.d	P1-E1	fa88073-9	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
185	3q43868.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590, S3Q637, 250,,1,1,water	✓
186	3q43869.d	P1-A1	ccb	537_ID.m	Sample		op86590, S3Q637, 250,,1,1,water	✓
187	3q43870.d	P1-E2	fa88073-10	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓
188	3q43871.d	P1-E3	fa88073-11	537_ID.m	Sample		op86892, S3Q637, 125,,1,1,water	✓

LCMS3-3Q ANALYSIS LOG

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189	3q43872.d	P1-E4	fa88073-12	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
190	3q43873.d	P1-E5	fa88073-17	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
191	3q43874.d	P1-E6	fa88073-18	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
192	3q43875.d	P1-E7	fa88073-19	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
193	3q43876.d	P1-E8	fa88073-20	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
194	3q43877.d	P1-E9	fa88073-21	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
195	3q43878.d	P1-F1	fa88073-22	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
196	3q43879.d	P1-F2	fa88073-23	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
197	3q43880.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
198	3q43881.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,1,water	✓
199	3q43882.d	P1-F3	fa88073-24	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
200	3q43883.d	P1-F4	fa88073-26	537_ID.m	Sample	op86892, S3Q637, 125,,1,1,1,water	✓
201	3q43884.d	P1-A7	ecc637-20	537_ID.m	QC	100/500	✓
202	3q43885.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q637, 250,,1,1,1,water	✓

DATE:	08/30/21
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS3-3Q

METHODS:	537MOD MS014 MS019
PROC. METH:	ID_082821_S3Q637
CAL DATE:	08/28/21
ANALYST:	MV
RUN BATCH:	S3Q638

ELUENT A LOT #:	214643 W/0.1% AA 194003
ELUENT B LOT #:	211782 W/0.1% AA 194003
IC/CC STD LOT #:	LCMS1718
ICV STD LOT #:	10452-A
ISTD/ID STD LOT #:	LCMS1716-J

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	3q43886.d	P1-A1	ccb	537_ID.m	Sample		op86590,S3Q638,250,,1.1.water	✓
2	3q43887.d	P1-A1	ccb	537_ID.m	Sample		op86590,S3Q638,250,,1.1.water	✓
3	3q43888.d	P1-B2	T-pfoa	537_ID.m	Sample		op86590,S3Q638,250,,1.1.water	✓
4	3q43889.d	P1-A9	High Std	537_ID.m	Sample		op86590,S3Q638,250,,1.1.water	✓
5	3q43890.d	P1-A1	IBLK	537_ID.m	Sample		op86590,S3Q638,250,,1.1.water	✓
6	3q43891.d	P1-A3	cc637-1.0LL	537_ID.m	QC	5/500	op86590,S3Q638,250,,1.1.water	✓
7	3q43892.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590,S3Q638,250,,1.1.water	✓
8	3q43893.d	P2-A1	fa88068-1	537_ID.m	Sample		op86866,S3Q638,125,,1.200.water	✓
9	3q43894.d	P2-A2	fa88451-11	537_ID.m	Sample		op87042,S3Q638,2.00,,1.5.soil	Low surr
10	3q43895.d	P2-A3	fa88451-12	537_ID.m	Sample		op87042,S3Q638,2.03,,1.5.soil	✓
11	3q43896.d	P2-A4	fa88451-13	537_ID.m	Sample		op87042,S3Q638,2.11,,1.5.soil	✓
12	3q43897.d	P2-A5	fa88451-14	537_ID.m	Sample		op87042,S3Q638,2.02,,1.5.soil	Low surr
13	3q43898.d	P2-A6	fa88451-15	537_ID.m	Sample		op87042,S3Q638,2.05,,1.5.soil	✓
14	3q43899.d	P2-A7	fa88451-17	537_ID.m	Sample		op87042,S3Q638,2.03,,1.5.soil	✓
15	3q43900.d	P2-A8	fa88451-25	537_ID.m	Sample		op87042,S3Q638,2.01,,1.5.soil	Low surr
16	3q43901.d	P2-A9	fa88451-26	537_ID.m	Sample		op87043,S3Q638,2.11,,1.5.soil	Low surr
17	3q43902.d	P2-B1	fa88451-33	537_ID.m	Sample		op87043,S3Q638,2.20,,1.5.soil	Low surr
18	3q43903.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590,S3Q638,250,,1.1.water	✓
19	3q43904.d	P1-A1	ccb	537_ID.m	Sample		op86590,S3Q638,250,,1.1.water	✓
20	3q43905.d	P2-B2	fa88451-34	537_ID.m	Sample		op87043,S3Q638,2.02,,1.5.soil	✓
21	3q43906.d	P2-B3	fa88064-7	537_ID.m	Sample		op86867,S3Q638,120,,1.1.water	✓
22	3q43907.d	P2-B4	fa88082-5	537_ID.m	Sample		op86899,S3Q638,125,,1.1.water	✓
23	3q43908.d	P2-B5	fa88082-9	537_ID.m	Sample		op86899,S3Q638,125,,1.5.water	✓
24	3q43909.d	P2-B6	fa88082-10	537_ID.m	Sample		op86899,S3Q638,125,,1.5.water	not use. Approved 1x.
25	3q43910.d	P2-B7	op87049-bs	537_ID.m	Sample		op87049,S3Q638,2.00,,1.1.soil	✓
26	3q43911.d	P2-B8	op87049-mb	537_ID.m	Sample		op87049,S3Q638,2.00,,1.1.soil	✓
27	3q43912.d	P2-B9	fa88487-1	537_ID.m	Sample		op87049,S3Q638,2.15,,1.1.soil	✓
28	3q43913.d	P2-C1	fa88487-2	537_ID.m	Sample		op87049,S3Q638,2.09,,1.1.soil	✓
29	3q43914.d	P2-C2	fa88487-3	537_ID.m	Sample		op87049,S3Q638,2.10,,1.1.soil	✓, Pfos qual out.
30	3q43915.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590,S3Q638,250,,1.1.water	✓
31	3q43916.d	P1-A1	ccb	537_ID.m	Sample		op86590,S3Q638,250,,1.1.water	✓
32	3q43917.d	P2-C3	fa88487-4	537_ID.m	Sample		op87049,S3Q638,2.00,,1.1.soil	✓
33	3q43918.d	P2-C4	fa88487-6	537_ID.m	Sample		op87049,S3Q638,2.01,,1.1.soil	✓
34	3q43919.d	P2-C5	fa88487-7	537_ID.m	Sample		op87049,S3Q638,2.10,,1.1.soil	✓
35	3q43920.d	P2-C6	fa88487-8	537_ID.m	Sample		op87049,S3Q638,2.04,,1.1.soil	✓

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LCMS3-3Q ANALYSIS LOG

36	3q43921.d	P2-C7	fa88487-9	537_ID.m	Sample	op87049.S3Q638.2.11,,,1.1.soil	✓
37	3q43922.d	P2-C8	fa88487-10	537_ID.m	Sample	op87049.S3Q638.2.14,,,1.1.soil	✓
38	3q43923.d	P2-C9	fa88487-11	537_ID.m	Sample	op87049.S3Q638.2.00,,,1.1.soil	✓
39	3q43924.d	P2-D1	fa88487-12	537_ID.m	Sample	op87049.S3Q638.2.11,,,1.1.soil	✓
40	3q43925.d	P2-D2	fa88487-13	537_ID.m	Sample	op87049.S3Q638.2.05,,,1.1.soil	✓
41	3q43926.d	P2-D3	fa88487-14	537_ID.m	Sample	op87049.S3Q638.2.11,,,1.1.soil	✓ , Pfos qual out.
42	3q43927.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
43	3q43928.d	P1-A1	ccb	537_ID.m	Sample	op86590.S3Q638.250,,,1.1.water	✓
44	3q43929.d	P1-A3	cc637-1.0L.L	537_ID.m	QC	5/500	✓
45	3q43930.d	P2-D4	fa88487-16	537_ID.m	Sample	op87049.S3Q638.2.08,,,1.1.soil	✓
46	3q43931.d	P2-D5	fa88487-17	537_ID.m	Sample	op87049.S3Q638.2.03,,,1.1.soil	✓
47	3q43932.d	P2-D6	op87049-ms	537_ID.m	Sample	op87049.S3Q638.2.12,,,1.1.soil	✓
48	3q43933.d	P2-D7	op87049-msd	537_ID.m	Sample	op87049.S3Q638.2.15,,,1.1.soil	✓
49	3q43934.d	P2-D8	fa88487-18	537_ID.m	Sample	op87049.S3Q638.2.02,,,1.1.soil	efosaa low,rr 5x
50	3q43935.d	P2-D9	fa88487-19	537_ID.m	Sample	op87049.S3Q638.2.00,,,1.1.soil	✓
51	3q43936.d	P2-E1	fa88487-20	537_ID.m	Sample	op87049.S3Q638.2.07,,,1.1.soil	✓
52	3q43937.d	P2-E2	fa88487-21	537_ID.m	Sample	op87049.S3Q638.2.08,,,1.1.soil	✓
53	3q43938.d	P2-E3	fa88487-22	537_ID.m	Sample	op87049.S3Q638.2.06,,,1.1.soil	✓
54	3q43939.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
55	3q43940.d	P1-A1	ccb	537_ID.m	Sample	op86590.S3Q638.250,,,1.1.water	✓
56	3q43941.d	P2-E4	op87050-bs	537_ID.m	Sample	op87050.S3Q638.2.00,,,1.1.soil	✓
57	3q43942.d	P2-E5	op87050-mb	537_ID.m	Sample	op87050.S3Q638.2.00,,,1.1.soil	✓
58	3q43943.d	P2-E6	fa88487-23	537_ID.m	Sample	op87050.S3Q638.2.10,,,1.1.soil	✓
59	3q43944.d	P2-E7	op87050-ms	537_ID.m	Sample	op87050.S3Q638.2.07,,,1.1.soil	✓
60	3q43945.d	P2-E8	op87050-msd	537_ID.m	Sample	op87050.S3Q638.2.08,,,1.1.soil	✓
61	3q43946.d	P2-E9	fa88487-24	537_ID.m	Sample	op87050.S3Q638.2.00,,,1.1.soil	✓
62	3q43947.d	P3-A1	op87021-bs	537_ID.m	Sample	op87021.S3Q638.250,,,1.1.water	✓
63	3q43948.d	P3-A2	op87021-mb	537_ID.m	Sample	op87021.S3Q638.250,,,1.1.water	✓
64	3q43949.d	P3-A3	fa88049-8	537_ID.m	Sample	op87021.S3Q638.280,,,1.1.water	cf
65	3q43950.d	P3-A4	fa88049-9	537_ID.m	Sample	op87021.S3Q638.280,,,1.1.water	cf
66	3q43951.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
67	3q43952.d	P1-A1	ccb	537_ID.m	Sample	op86590.S3Q638.250,,,1.1.water	✓
68	3q43953.d	P3-A5	JD30424-1A	537_ID.m	Sample	op87021.S3Q638.190,,,1.1.water	✓
69	3q43954.d	P3-A6	JD30424-10A	537_ID.m	Sample	op87021.S3Q638.260,,,1.1.water	run stopped solv low
70	3q43955.d	P3-A6	JD30424-10A	537_ID.m	Sample	op87021.S3Q638.260,,,1.1.water	rr5x low surr.
71	3q43956.d	P3-A7	JD30479-1A	537_ID.m	Sample	op87021.S3Q638.250,,,1.1.water	rr5x low surr.
72	3q43957.d	P3-A8	JD30479-2A	537_ID.m	Sample	op87021.S3Q638.280,,,1.1.water	rr5x low surr.
73	3q43958.d	P3-A9	JD30479-3A	537_ID.m	Sample	op87021.S3Q638.280,,,1.1.water	✓
74	3q43959.d	P3-B1	JD30420-3	537_ID.m	Sample	op87021.S3Q638.280,,,1.1.water	✓
75	3q43960.d	P3-B2	JD30420-4	537_ID.m	Sample	op87021.S3Q638.280,,,1.1.water	✓
76	3q43961.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
77	3q43962.d	P1-A1	ccb	537_ID.m	Sample	op86590.S3Q638.250,,,1.1.water	✓
78	3q43963.d	P3-B3	fa88404-1	537_ID.m	Sample	op87021.S3Q638.280,,,1.1.water	✓ , pfos qual out.

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LCMS3-3Q ANALYSIS LOG

79	3q43964.d	P3-B4	op87021-ms	537_ID.m	Sample	op87021, S3Q638, 280,,1,1,water	✓
80	3q43965.d	P3-B5	op87021-msd	537_ID.m	Sample	op87021, S3Q638, 280,,1,1,water	✓
81	3q43966.d	P3-B6	fa88404-3	537_ID.m	Sample	op87021, S3Q638, 280,,1,1,water	✓
82	3q43967.d	P3-B7	fa88337-1	537_ID.m	Sample	op87021, S3Q638, 250,,1,1,water	✓
83	3q43968.d	P3-B8	fa88337-2	537_ID.m	Sample	op87021, S3Q638, 250,,1,1,water	✓
84	3q43969.d	P3-B9	fa88337-3	537_ID.m	Sample	op87021, S3Q638, 230,,1,1,water	rt5x low surr.
85	3q43970.d	P3-C1	fa88337-4	537_ID.m	Sample	op87021, S3Q638, 280,,1,1,water	rt5x low surr.
86	3q43971.d	P3-C2	fa88337-5	537_ID.m	Sample	op87021, S3Q638, 280,,1,1,water	✓
87	3q43972.d	P3-C3	fa88346-1	537_ID.m	Sample	op87021, S3Q638, 125,,1,1,water	✓
88	3q43973.d	P1-A7	cc637-20	537_ID.m	QC	100/500	✓
89	3q43974.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q638, 250,,1,1,water	✓
90	3q43975.d	P1-A3	cc637-1.0LL	537_ID.m	QC	2	✓
91	3q43976.d	P4-A1	fa88487-18	537_ID.m	Sample	op87049, S3Q638, 2.02,,1,5, soil	5x
92	3q43977.d	P4-A2	JD30424-10A	537_ID.m	Sample	op87021, S3Q638, 260,,1,5,water	5x
93	3q43978.d	P4-A3	JD30479-1A	537_ID.m	Sample	op87021, S3Q638, 250,,1,5,water	5x
94	3q43979.d	P4-A4	JD30479-2A	537_ID.m	Sample	op87021, S3Q638, 280,,1,5,water	5x
95	3q43980.d	P4-A6	fa88337-3	537_ID.m	Sample	op87021, S3Q638, 230,,1,5,water	5x
96	3q43981.d	P4-A7	fa88337-4	537_ID.m	Sample	op87021, S3Q638, 280,,1,5,water	5x redo
97	3q43982.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q638, 250,,1,1,water	
98	3q43983.d	P1-B2	T-ploa	537_ID.m	Sample	op86590, S3Q638, 250,,1,1,water	
99	3q43984.d	P1-A9	High Std	537_ID.m	Sample	op86590, S3Q638, 250,,1,1,water	no vial rr DoD samples
100	3q43985.d	P1-A1	IBLK	537_ID.m	Sample	op86590, S3Q638, 250,,1,1,water	ND
101	3q43986.d	P1-A7	cc637-20	537_ID.m	QC	6	PASS, Not a low level CC rr, DoD samples
102	3q43987.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q638, 250,,1,1,water	
103	3q43988.d	P4-A8	op86997-bs	537_ID.m	Sample	op86997, S3Q638, 250,,1,1,water	✓
104	3q43989.d	P4-A9	op86997-mb	537_ID.m	Sample	op86997, S3Q638, 250,,1,1,water	rr
105	3q43990.d	P4-B1	JD30371-1A	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
106	3q43991.d	P4-B2	op86997-ms	537_ID.m	Sample	op86997, S3Q638, 270,,1,1,water	✓
107	3q43992.d	P4-B3	op86997-msd	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
108	3q43993.d	P4-B4	JD30373-13A	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	rr 5x
109	3q43994.d	P4-B5	fa88275-25	537_ID.m	Sample	op86997, S3Q638, 125,,1,1,water	✓
110	3q43995.d	P4-B7	JD30385-2	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
111	3q43996.d	P4-B8	JD30385-3	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
112	3q43997.d	P4-B9	JD30385-4	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
113	3q43998.d	P1-A7	cc637-20	537_ID.m	QC	6	✓
114	3q43999.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q638, 250,,1,1,water	✓
115	3q44000.d	P4-C1	JD30385-5	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
116	3q44001.d	P4-C2	JD30385-6	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
117	3q44002.d	P4-C3	JD30385-7	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
118	3q44003.d	P4-C5	JD30385-9	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	rr 5x
119	3q44004.d	P4-C6	JD30385-10	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
120	3q44005.d	P4-C7	JD30385-11	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓
121	3q44006.d	P4-C8	JD30385-12	537_ID.m	Sample	op86997, S3Q638, 280,,1,1,water	✓

SGS ORLANDO LCMS3-3Q ANALYSIS LOG

122	3q44007.d	P4-C9	JD30385-13	537_ID.m	Sample	op86997, S3Q638, 280,,1,1.water	✓
123	3q44008.d	P4-D1	JD30371-9	537_ID.m	Sample	op86997, S3Q638, 280,,1,1.water	✓
124	3q44009.d	P4-D2	JD30371-6A	537_ID.m	Sample	op86997, S3Q638, 280,,1,1.water	rr 5x
125	3q44010.d	P1-A7	cc637-20	537_ID.m	QC	op86590, S3Q638, 250,,1,1.water	✓
126	3q44011.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q638, 250,,1,1.water	✓
127	3q44012.d	P4-D3	JD30371-7A	537_ID.m	Sample	op86997, S3Q638, 280,,1,1.water	rr 5x
128	3q44013.d	P4-D4	JD30371-8A	537_ID.m	Sample	op86997, S3Q638, 280,,1,1.water	rr 5x
129	3q44014.d	P4-D5	op86920-bs	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
130	3q44015.d	P4-D6	op86920-mb	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
131	3q44016.d	P4-D7	fa88103-1	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
132	3q44017.d	P4-D8	fa88103-2	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
133	3q44018.d	P4-D9	fa88103-3	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
134	3q44019.d	P4-E1	fa88103-4	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
135	3q44020.d	P4-E2	fa88104-1	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
136	3q44021.d	P4-E3	fa88104-2	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
137	3q44022.d	P1-A7	cc637-20	537_ID.m	QC	op86590, S3Q638, 250,,1,1.water	✓
138	3q44023.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q638, 250,,1,1.water	✓
139	3q44024.d	P4-E4	fa88110-4	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
140	3q44025.d	P4-E5	fa88110-5	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
141	3q44026.d	P4-E6	fa88110-6	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
142	3q44027.d	P4-E7	fa88110-7	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
143	3q44028.d	P4-E8	fa88110-8	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
144	3q44029.d	P4-E9	fa88110-9	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
145	3q44030.d	P4-F1	fa88110-10	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
146	3q44031.d	P4-F2	fa88110-11	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
147	3q44032.d	P4-F3	fa88110-12	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
148	3q44033.d	P4-F4	fa88110-17	537_ID.m	Sample	op86920, S3Q638, 125,,1,1.water	rr no LL CC in 12hrs
149	3q44034.d	P1-A7	ecc637-20	537_ID.m	QC	op86590, S3Q638, 250,,1,1.water	✓
150	3q44035.d	P1-A1	ccb	537_ID.m	Sample	op86590, S3Q638, 250,,1,1.water	✓

DATE:	09/01/21
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS3-3Q

METHODS:	537MOD MS014 MS019
PROC. METH:	ID_082821_S3Q637
CAL DATE:	08/28/21
ANALYST:	NG MRE
RUN BATCH:	S3Q639

ELUENT A LOT #:	214643 W/0.1% AA_194003
ELUENT B LOT #:	211782 W/0.1% AA_194003
IC/CC STD LOT #:	LCMS1718
ICV STD LOT #:	10452-A
ISTD/ID STD LOT #:	LCMS1716-J

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	3q44037.d	P1-B2	T-ploa	537_ID.m	Sample		op86590, S3Q639, 250,,1,1,water	✓
2	3q44038.d	P1-A9	High Std	537_ID.m	Sample		op86590, S3Q639, 250,,1,1,water	✓
3	3q44039.d	P1-A1	IBLK	537_ID.m	Sample		op86590, S3Q639, 250,,1,1,water	ND
4	3q44040.d	P1-A3	cc637-1.0LL	537_ID.m	QC	5/500	op86590, S3Q639, 250,,1,1,water	PASS
5	3q44041.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590, S3Q639, 250,,1,1,water	PASS
6	3q44042.d	P4-D5	op86920-bs	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	BS PASS
7	3q44043.d	P4-D6	op86920-mb	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	ND
8	3q44044.d	P4-D7	fa88103-1	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
9	3q44045.d	P1-F5	fa88103-1	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
10	3q44046.d	P4-D8	fa88103-2	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
11	3q44047.d	P4-D9	fa88103-3	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
12	3q44048.d	P4-E1	fa88103-4	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	rf 1x c/o
13	3q44049.d	P4-E2	fa88104-1	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
14	3q44050.d	P4-E3	fa88104-2	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
15	3q44051.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86920, S3Q639, 125,,1,1,water	PASS
16	3q44052.d	P1-A1	ccb	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	BDL
17	3q44053.d	P4-E4	fa88110-4	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
18	3q44054.d	P4-E5	fa88110-5	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
19	3q44055.d	P4-E6	fa88110-6	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
20	3q44056.d	P4-E7	fa88110-7	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
21	3q44057.d	P4-E8	fa88110-8	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
22	3q44058.d	P4-E9	fa88110-9	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
23	3q44059.d	P4-F1	fa88110-10	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
24	3q44060.d	P4-F2	fa88110-11	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
25	3q44061.d	P4-F3	fa88110-12	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
26	3q44062.d	P4-F4	fa88110-17	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
27	3q44063.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86920, S3Q639, 125,,1,1,water	PASS
28	3q44064.d	P1-A1	ccb	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	BDL
29	3q44065.d	P4-F5	fa88110-18	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
30	3q44066.d	P4-F6	fa88110-19	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
31	3q44067.d	P4-F7	fa88110-20	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
32	3q44068.d	P4-F8	op86920-ms	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
33	3q44069.d	P4-F9	op86920-msd	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
34	3q44070.d	P1-B3	fa88110-21	537_ID.m	Sample		op86920, S3Q639, 125,,1,1,water	✓
35	3q44071.d	P4-B6	JD30385-1	537_ID.m	Sample		op86997, S3Q639, 280,,1,1,water	XH

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LCMS3-3Q ANALYSIS LOG

36	3q44072.d	P4-C4	JD30385-8	537_ID.m	Sample		op86997.S3Q639.280,,1.1.water	XH
37	3q44073.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590.S3Q639.250,,1.1.water	PASS
38	3q44074.d	P1-A1	ccb	537_ID.m	Sample		op86590.S3Q639.250,,1.1.water	BDL
39	3q44075.d	P3-D1	fa88337-4	537_ID.m	Sample		op87021.S3Q639.280,,1.1.water	already sent to redo
40	3q44076.d	P3-D2	fa88337-4	537_ID.m	Sample		op87021.S3Q639.280,,1.5.water	already sent to redo
41	3q44077.d	P3-D3	JD30479-2A	537_ID.m	Sample		op87021.S3Q639.280,,1.1.water	already sent to redo
42	3q44078.d	P3-D4	JD30479-2A	537_ID.m	Sample		op87021.S3Q639.280,,1.5.water	already sent to redo
43	3q44079.d	P3-D5	op86997-mb	537_ID.m	Sample		op86997.S3Q639.250,,1.1.water	✓
44	3q44080.d	P3-D6	JD30373-13A	537_ID.m	Sample		op86997.S3Q639.280,,1.1.water	✓
45	3q44081.d	P3-D7	JD30385-9	537_ID.m	Sample		op86997.S3Q639.280,,1.1.water	✓
46	3q44082.d	P3-D8	JD30385-12	537_ID.m	Sample		op86997.S3Q639.280,,1.1.water	✓
47	3q44083.d	P3-D9	JD30385-13	537_ID.m	Sample		op86997.S3Q639.280,,1.1.water	✓
48	3q44084.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590.S3Q639.250,,1.1.water	PASS
49	3q44085.d	P1-A1	ccb	537_ID.m	Sample		op86590.S3Q639.250,,1.1.water	BDL
50	3q44086.d	P3-E1	JD30371-6A	537_ID.m	Sample		op86997.S3Q639.280,,1.1.water	✓
51	3q44087.d	P3-E2	JD30371-7A	537_ID.m	Sample		op86997.S3Q639.280,,1.1.water	✓
52	3q44088.d	P3-E3	JD30371-8A	537_ID.m	Sample		op86997.S3Q639.280,,1.1.water	✓
53	3q44089.d	P3-E4	JD30373-13A	537_ID.m	Sample		op86997.S3Q639.280,,1.5.water	✓
54	3q44090.d	P3-E5	JD30385-9	537_ID.m	Sample		op86997.S3Q639.280,,1.5.water	✓
55	3q44091.d	P3-E6	JD30385-12	537_ID.m	Sample		op86997.S3Q639.280,,1.5.water	✓
56	3q44092.d	P3-E7	JD30385-13	537_ID.m	Sample		op86997.S3Q639.280,,1.5.water	✓
57	3q44093.d	P3-E8	JD30371-6A	537_ID.m	Sample		op86997.S3Q639.280,,1.5.water	✓
58	3q44094.d	P3-E9	JD30371-7A	537_ID.m	Sample		op86997.S3Q639.280,,1.5.water	✓
59	3q44095.d	P3-F1	JD30371-8A	537_ID.m	Sample		op86997.S3Q639.280,,1.5.water	✓
60	3q44096.d	P1-A3	cc637-1.0LL	537_ID.m	QC	5/500	op86590.S3Q639.250,,1.1.water	PASS
61	3q44097.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590.S3Q639.250,,1.1.water	PASS
62	3q44098.d	P1-A1	ccb	537_ID.m	Sample		op86994.S3Q639.2.00,,1.1.soil	BDL
63	3q44099.d	P2-A1	op86994-bs	537_ID.m	Sample		op86994.S3Q639.2.00,,1.1.soil	BS PASS
64	3q44100.d	P2-A2	op86994-mb	537_ID.m	Sample		op86994.S3Q639.2.00,,1.1.soil	ND
65	3q44101.d	P2-A3	fa88273-1	537_ID.m	Sample		op86994.S3Q639.2.01,,1.1.soil	✓
66	3q44102.d	P2-A4	fa88273-2	537_ID.m	Sample		op86994.S3Q639.2.14,,1.1.soil	✓
67	3q44103.d	P2-A5	fa88273-3	537_ID.m	Sample		op86994.S3Q639.2.07,,1.1.soil	✓
68	3q44104.d	P2-A6	op86994-ms	537_ID.m	Sample		op86994.S3Q639.2.18,,1.1.soil	✓
69	3q44105.d	P2-A7	op86994-msd	537_ID.m	Sample		op86994.S3Q639.2.15,,1.1.soil	✓
70	3q44106.d	P2-A8	fa88273-4	537_ID.m	Sample		op86994.S3Q639.2.20,,1.1.soil	✓
71	3q44107.d	P2-A9	fa88273-5	537_ID.m	Sample		op86994.S3Q639.2.00,,1.1.soil	✓
72	3q44108.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590.S3Q639.250,,1.1.water	PASS
73	3q44109.d	P1-A1	ccb	537_ID.m	Sample		op86994.S3Q639.2.00,,1.1.soil	BDL
74	3q44110.d	P2-B1	fa88273-6	537_ID.m	Sample		op86994.S3Q639.2.04,,1.1.soil	✓
75	3q44111.d	P2-B2	fa88273-7	537_ID.m	Sample		op86994.S3Q639.2.08,,1.1.soil	✓
76	3q44112.d	P2-B3	fa88273-8	537_ID.m	Sample		op86994.S3Q639.2.00,,1.1.soil	✓
77	3q44113.d	P2-B4	fa88273-9	537_ID.m	Sample		op86994.S3Q639.2.19,,1.1.soil	✓
78	3q44114.d	P2-B5	fa88273-10	537_ID.m	Sample		op86994.S3Q639.2.05,,1.1.soil	✓

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LCMS3-3Q ANALYSIS LOG

79	3q44115.d	P2-B6	fa88273-11	537_ID.m	Sample		op86994.S3Q639,2.11,,,1.1,soil	✓
80	3q44116.d	P2-B7	fa88273-12	537_ID.m	Sample		op86994.S3Q639,2.05,,,1.1,soil	✓
81	3q44117.d	P2-B8	fa88273-13	537_ID.m	Sample		op86994.S3Q639,2.00,,,1.1,soil	✓
82	3q44118.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590.S3Q639,250,,,1.1,water	PASS
83	3q44119.d	P1-A1	ccb	537_ID.m	Sample		op86994.S3Q639,2.00,,,1.1,soil	BDL
84	3q44120.d	P2-B9	fa88273-14	537_ID.m	Sample		op86994.S3Q639,2.02,,,1.1,soil	✓
85	3q44121.d	P2-C1	fa88273-15	537_ID.m	Sample		op86994.S3Q639,2.07,,,1.1,soil	✓
86	3q44122.d	P2-C2	fa88273-16	537_ID.m	Sample		op86994.S3Q639,2.03,,,1.1,soil	✓
87	3q44123.d	P2-C3	fa88273-17	537_ID.m	Sample		op86994.S3Q639,2.08,,,1.1,soil	✓
88	3q44124.d	P2-C4	fa88273-18	537_ID.m	Sample		op86994.S3Q639,2.11,,,1.1,soil	pfos qual out
89	3q44125.d	P2-C5	fa88273-19	537_ID.m	Sample		op86994.S3Q639,2.07,,,1.1,soil	✓
90	3q44126.d	P2-C6	fa88273-20	537_ID.m	Sample		op86994.S3Q639,2.02,,,1.1,soil	✓
91	3q44127.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590.S3Q639,250,,,1.1,water	PASS
92	3q44128.d	P1-A1	ccb	537_ID.m	Sample		op86994.S3Q639,2.00,,,1.1,soil	BDL
93	3q44129.d	P1-A3	cc637-1.0LL	537_ID.m	QC	5/500	op86590.S3Q639,250,,,1.1,water	PASS
94	3q44130.d	P2-C7	fa88171-1	537_ID.m	Sample		op86923.S3Q639,125,,,1.2,water	redo
95	3q44131.d	P2-C8	fa88171-5	537_ID.m	Sample		op86923.S3Q639,125,,,1.2,water	✓
96	3q44132.d	P2-C9	fa88171-6	537_ID.m	Sample		op86923.S3Q639,125,,,1.2,water	✓
97	3q44133.d	P2-D1	fa88171-7	537_ID.m	Sample		op86923.S3Q639,125,,,1.2,water	✓
98	3q44134.d	P2-D2	fa88171-8	537_ID.m	Sample		op86923.S3Q639,125,,,1.2,water	✓
99	3q44135.d	P2-D3	fa88171-9	537_ID.m	Sample		op86923.S3Q639,125,,,1.2,water	✓
100	3q44136.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590.S3Q639,250,,,1.1,water	PASS
101	3q44137.d	P1-A1	ccb	537_ID.m	Sample		op86994.S3Q639,2.00,,,1.1,soil	BDL
102	3q44138.d	P2-D4	fa88275-11	537_ID.m	Sample		op86964.S3Q639,2.19,,,1.2,soil	✓
103	3q44139.d	P2-D5	fa88275-12	537_ID.m	Sample		op86964.S3Q639,2.00,,,1.1,soil	✓
104	3q44140.d	P2-D6	fa88275-15	537_ID.m	Sample		op86964.S3Q639,2.01,,,1.2,soil	✓
105	3q44141.d	P2-D7	fa88275-16	537_ID.m	Sample		op86964.S3Q639,2.05,,,1.10,soil	✓
106	3q44142.d	P2-D8	fa88275-17	537_ID.m	Sample		op86964.S3Q639,2.14,,,1.10,soil	✓
107	3q44143.d	P2-D9	fa88275-18	537_ID.m	Sample		op86964.S3Q639,2.06,,,1.10,soil	✓
108	3q44144.d	P2-E1	fa88275-19	537_ID.m	Sample		op86964.S3Q639,2.09,,,1.1,soil	✓
109	3q44145.d	P2-E2	fa88275-20	537_ID.m	Sample		op86964.S3Q639,2.03,,,1.100,soil	✓
110	3q44146.d	P2-E3	fa88103-3	537_ID.m	Sample		op86920.S3Q639,125,,,1.5,water	✓
111	3q44147.d	P2-E5	fa88103-4	537_ID.m	Sample		op86920.S3Q639,125,,,1.1,water	✓
112	3q44148.d	P1-A7	cc637-20	537_ID.m	QC	100/500	op86590.S3Q639,250,,,1.1,water	PASS
113	3q44149.d	P2-E4	fa88273-18	537_ID.m	Sample		op86994.S3Q639,2.11,,,1.1,soil	redo
114	3q44150.d	P1-A7	ecc637-20	537_ID.m	Sample		op86590.S3Q639,250,,,1.1,water	rr
115	3q44151.d	P1-A1	ccb	537_ID.m	Sample		op86994.S3Q639,2.00,,,1.1,soil	BDL
116	3q44152.d	P1-A7	ecc637-20	537_ID.m	QC	100/500	op86590.S3Q639,250,,,1.1,water	PASS

SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 08/26/21 09:00
Started (mm/dd/yy 24:00)

Prep Method: 3535A or 537 or 537MOD (circle)

Date/Time: 8/27/21 14:40
Finished (mm/dd/yy 24:00)

Analytical Method: 537 (ID)

Batch#: OP86997

Ext. By: PD

Conc. By: SM

Viald By:

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Manifold ID	Comments
OP86997 MB		250	7	N/A	20		1.0 ml	C	1729A
OP86997 BS		250				50			
JD30373-13A	1	280							
FA88275-25		125							
JD30385-1		280							
-2									
-3									
-4									
-5									
-6								C	1729A
-7								A7	1729C
-8									
-9									
-10									
-11									
-12									
-13									
JD30371-9									
1A									
6A									
7A	↓	↓						↓	↓
8A	1	280						A7	1729C
JD30371-1AMS	2	270	↓	↓	↓	50		C	1729A
-1AMSD	3	280	7	N/A	20	50	↓	C	1729A
DUP									

Comments:

Surr.1 ID: LCMS1729A Conc: 1.0 ppm Exp. Date: 02/24/22 Inj. By: PD Ver. By: GH
 Spk.1 ID: LCMS1727 Conc: 400 PPB Exp. Date: 12/21/21 Inj. By: PD Ver. By: GH
 Spk.2 ID: Conc: Exp. Date: Inj. By: Ver. By:
 Spk.3 ID: Conc: Exp. Date: Inj. By: Ver. By:

TurboVap Temp (Therm ID): T11111111 N-Evap Temp (Therm ID):
 Observed Temp °C: 55 Corr. Temp °C: Observed Temp °C: Corr. Temp °C:

Methanol Lot # 211782 SPE Lot # 6598020-04 pH Paper # 222420
 Acetonitrile Lot # Syringe filter Lot # Reagent #
 Water Lot # OP86968 Pre-filter Lot # Reagent # 206057 (1M NH₄OH)
 Solvent# Carbon Lot# Other

Relinquished By: SM

Date: 8/27/21

Accepted By: AS

Date: 8/27/21

ORLD-EXT-0001-3-08-FORM-extwater_spe.xls 032718

10.7.1 10

Appendix B

Data Usability Summary Report

**DATA USABILITY SUMMARY REPORT
ARISTOCRAT CLEANERS, HARTSDALE, NEW YORK**

Client: EnviroTrac Ltd., Yaphank, New York
SDG: JD30371a
Laboratory: SGS North America, Dayton, New Jersey and Orlando, Florida
Site: Aristocrat Cleaners, Hartsdale, New York
Date: September 10, 2021

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	MW#1 210819	JD30371-1	Water
1MS	MW#1 210819MS	JD30371-1MS	Water
1MSD	MW#1 210819MSD	JD30371-1MSD	Water
6	MW#8 210819	JD30371-6	Water
7	DUPLICATE #1210819	JD30371-7	Water
8	MW#4 210819	JD30371-8	Water
9*	FIELD BLANK	JD30371-9	Water

* - PFAS only

A Data Usability Summary Review was performed on the analytical data for four water samples and one aqueous field blank sample collected on August 19, 2021, by EnviroTrac at the Aristocrat Cleaners site in Hartsdale, New York. The samples were analyzed under the Environmental Protection Agency (USEPA) Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions and the USEPA Method Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS).

Specific method references are as follows:

Analysis

1,4-Dioxane
PFAS

Method References

USEPA SW-846 Method 8270D-SIM
USEPA Method 537 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the USEPA Region II Data Review Standard Operating Procedures (SOPs), and the USEPA Data Review and Validation Guidelines as follows:

- SOP Number HW-35A, Revision 1, September 2016: Semivolatile Data Validation;
- USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, November 2018;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Inorganics

- Data Completeness
- Holding times and sample preservation
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Duplicate Sample Analysis recoveries
- Laboratory Control Sample (LCS) recoveries
- Method blank and field blank contamination
- Initial and continuing calibration verifications
- Compound Quantitation
- ICP Serial Dilution
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

The data are acceptable for the intended purposes. There were no qualifications.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Semivolatile Organic Compounds by SIM (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate percent recoveries (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	MW#1 210819 ug/L	DUPLICATE #1210819 ug/L	RPD	Qualifier
None	ND	ND	-	-

Perfluorinated Alkyl Substances (PFAS)

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD), %R and/or coefficient of determination criteria were met.

Continuing Calibration

- All percent difference (%D) criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- The following table lists field QC samples with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. Detected sample concentrations less than ten times (10x) the highest associated blank (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U).

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
FIELD BLANK	None - ND	-	-	-

Surrogate Spike Recoveries

- EDS Samples 6 and 8 exhibited low surrogate recoveries for several compounds. However, the laboratory reanalyzed the samples with acceptable surrogate recoveries and reported only the reanalyzed results for these compounds. No qualifications were required. Please refer to the surrogate results behind the Form Is for specific recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier
1	PFTriDA	OK/165%/OK	None - Sample ND

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

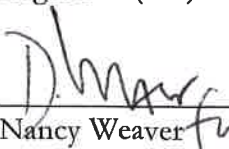
Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	MW#1 210819 ng/L	DUPLICATE #1210819 ng/L	RPD	Qualifier
PFBA	5.6	5.7	2%	None
PFPeA	9.2	9.3	1%	
PFHxA	9.2	9.2	0%	
PFHpA	11.1	11.6	4%	
PFOA	52.3	55.6	6%	
PFNA	5.6	5.1	9%	
PFDA	2.4	1.5	46%	
PFBS	9.1	9.4	3%	
PFHxS	1.5	1.4	7%	
PFOS	42.6	32.5	27%	

Please contact the undersigned at (561) 475-2000 if you have any questions or need further information.

Signed:



Nancy Weaver
Senior Chemist

Dated: 9/13/21

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW#1 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-1B	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270E BY SIM SW846 3510C		
Project:	Aristocrat Cleaners, Hartsdale NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M101879.D	1	08/25/21 23:38	KLS	08/25/21 08:50	OP35053A	E4M4749
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.097	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	80%		21-121%		
321-60-8	2-Fluorobiphenyl	68%		27-107%		
1718-51-0	Terphenyl-d14	42%		25-118%		

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

mw 9/10/21

6

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW#8 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-6B	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270E BY SIM SW846 3510C		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M101899.D	1	08/26/21 14:19	KLS	08/25/21 08:50	OP35053A	E4M4750
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.097	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		21-121%
321-60-8	2-Fluorobiphenyl	65%		27-107%
1718-51-0	Terphenyl-d14	33%		25-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

MW 9/10/21

7

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	DUPLICATE #1210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-7B	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270E BY SIM SW846 3510C		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M101900.D	1	08/26/21 14:40	KLS	08/25/21 08:50	OP35053A	E4M4750
Run #2							

Run #	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.11	0.054	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		21-121%
321-60-8	2-Fluorobiphenyl	61%		27-107%
1718-51-0	Terphenyl-d14	32%		25-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

rev 9/10/21

8

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Report of Analysis

Page 1 of 1

Client Sample ID:	MW#4 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-8B	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270E BY SIM SW846 3510C		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M101911.D	1	08/26/21 18:41	KLS	08/25/21 08:50	OP35053A	E4M4750
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.096	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		21-121%
321-60-8	2-Fluorobiphenyl	68%		27-107%
1718-51-0	Terphenyl-d14	44%		25-118%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

mw 9/10/21

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Report of Analysis

Page 1 of 2

Client Sample ID:	MW#1 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-1A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q43990.D	1	08/31/21 19:12	AFL	08/26/21 09:00	F:OP86997	F:S3Q638
Run #2							

Run #	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
375-22-4	Perfluorobutanoic acid	5.6	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	9.2	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	9.2	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	11.1	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	52.3	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	5.6	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	2.4	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND	1.8	0.89	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	9.1	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.5	1.8	0.89	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	42.6	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	
PERFLUOROOCTANESULFONAMIDES						
754-91-6	PFOSA	ND	3.6	1.8	ng/l	
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	
FLUOROTELOMER SULFONATES						
27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

NW 9/10/21

SGS

11 of 719

JD30371A

Report of Analysis

Client Sample ID:	MW#1 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-1A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	85%		35-135%
	13C5-PFPeA	86%		50-150%
	13C5-PFHxA	82%		50-150%
	13C4-PFHpA	84%		50-150%
	13C8-PFOA	88%		50-150%
	13C9-PFNA	84%		50-150%
	13C6-PFDA	82%		50-150%
	13C7-PFUnDA	72%		40-140%
	13C2-PFDoDA	59%		40-140%
	13C2-PFTeDA	36%		30-130%
	13C3-PFBS	88%		50-150%
	13C3-PFHxS	85%		50-150%
	13C8-PFOS	79%		50-150%
	13C8-FOSA	45%		30-130%
	d3-MeFOSAA	57%		40-140%
	d5-EtFOSAA	54%		40-140%
	13C2-6:2FTS	88%		50-150%
	13C2-8:2FTS	84%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

NW 9/10/21

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	MW#8 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-6A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q44086.D	1	09/01/21 22:22	AFL	08/26/21 09:00	F:OP86997	F:S3Q639
Run #2 ^b	3Q44093.D	5	09/02/21 00:17	AFL	08/26/21 09:00	F:OP86997	F:S3Q639

Run	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2	280 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
375-22-4	Perfluorobutanoic acid	5.2	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	7.8	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	8.4	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	15.3	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	15.9	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	3.1	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	3.5	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND ^f	8.9	4.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND ^f	8.9	4.5	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	ND	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	1.8	0.89	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	11.6	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	
PERFLUOROOCTANESULFONAMIDES						
754-91-6	PFOSA	ND ^f	18	8.9	ng/l	
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	
FLUOROTELOMER SULFONATES						
27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

mw 9/10/21

SGS

14 of 719

JD30371A

Report of Analysis

Client Sample ID:	MW#8 210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-6A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	62%	75%	35-135%
	13C5-PFPeA	70%	83%	50-150%
	13C5-PFHxA	68%	82%	50-150%
	13C4-PFHpA	71%	84%	50-150%
	13C8-PFOA	76%	88%	50-150%
	13C9-PFNA	76%	89%	50-150%
	13C6-PFDA	75%	88%	50-150%
	13C7-PFUnDA	51%	78%	40-140%
	13C2-PFDoDA	26% <i>d</i>	70%	40-140%
	13C2-PFTeDA	56%	54%	30-130%
	13C3-PFBS	73%	87%	50-150%
	13C3-PFHxS	77%	91%	50-150%
	13C8-PFOS	69%	90%	50-150%
	13C8-FOSA	27% <i>d</i>	39%	30-130%
	d3-MeFOSAA	73%	73%	40-140%
	d5-EtFOSAA	64%	64%	40-140%
	13C2-6:2FTS	84%	90%	50-150%
	13C2-8:2FTS	84%	91%	50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Dilution required due to matrix interference (ID recovery standard failure). Analysis performed at SGS Orlando, FL.

(c) Result is from Run# 2

(d) Outside control limits.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

MW 9/10/21

SGS

7

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	DUPLICATE #1210819	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-7A	Date Received:	08/20/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q44087.D	1	09/01/21 22:38	AFL	08/26/21 09:00	F:OP86997	F:S3Q639
Run #2							

Run #	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
375-22-4	Perfluorobutanoic acid	5.7	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	9.3	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	9.2	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	11.6	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	55.6	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	5.1	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	1.5	1.8	0.89	ng/l	J
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND	1.8	0.89	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	9.4	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.4	1.8	0.89	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	32.5	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	
PERFLUOROOCTANESULFONAMIDES						
754-91-6	PFOSA	ND	3.6	1.8	ng/l	
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	
FLUOROTELOMER SULFONATES						
27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

MW 9/10/21

Report of Analysis

Client Sample ID: DUPLICATE #1210819
 Lab Sample ID: JD30371-7A
 Matrix: AQ - Ground Water
 Method: EPA 537M BY ID EPA 537 MOD
 Project: Aristocrat Cleaners, Hartsdale NY

Date Sampled: 08/19/21
 Date Received: 08/20/21
 Percent Solids: n/a

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	70%		35-135%
	13C5-PFPeA	72%		50-150%
	13C5-PFHxA	68%		50-150%
	13C4-PFHpA	70%		50-150%
	13C8-PFOA	75%		50-150%
	13C9-PFNA	73%		50-150%
	13C6-PFDA	71%		50-150%
	13C7-PFUnDA	63%		40-140%
	13C2-PFDoDA	58%		40-140%
	13C2-PFTeDA	56%		30-130%
	13C3-PFBS	73%		50-150%
	13C3-PFHxS	74%		50-150%
	13C8-PFOS	66%		50-150%
	13C8-FOSA	40%		30-130%
	d3-MeFOSAA	62%		40-140%
	d5-EtFOSAA	59%		40-140%
	13C2-6:2FTS	82%		50-150%
	13C2-8:2FTS	75%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

mw 9/10/21

8

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID: MW#4 210819
 Lab Sample ID: JD30371-8A
 Matrix: AQ - Ground Water
 Method: EPA 537M BY ID EPA 537 MOD
 Project: Aristocrat Cleaners, Hartsdale NY

Date Sampled: 08/19/21
 Date Received: 08/20/21
 Percent Solids: n/a

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q44088.D	1	09/01/21 22:55	AFL	08/26/21 09:00	F:OP86997	F:S3Q639
Run #2 ^b	3Q44095.D	5	09/02/21 00:51	AFL	08/26/21 09:00	F:OP86997	F:S3Q639

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2	280 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
375-22-4	Perfluorobutanoic acid	9.2	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	10.2	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	9.7	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	18.1	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	33.2	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	4.2	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	ND	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND	1.8	0.89	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	5.8	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	3.0	1.8	0.89	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	22.2	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	
PERFLUOROOCTANESULFONAMIDES						
754-91-6	PFOSA	ND	18	8.9	ng/l	
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	
FLUOROTELOMER SULFONATES						
27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

new 9/10/21

SGS

20 of 719

JD30371A

4.7
4

Report of Analysis

Client Sample ID: MW#4 210819
 Lab Sample ID: JD30371-8A
 Matrix: AQ - Ground Water
 Method: EPA 537M BY ID EPA 537 MOD
 Project: Aristocrat Cleaners, Hartsdale NY

Date Sampled: 08/19/21
 Date Received: 08/20/21
 Percent Solids: n/a

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	67%	77%	35-135%
	13C5-PFPeA	71%	80%	50-150%
	13C5-PFHxA	67%	77%	50-150%
	13C4-PFHpA	69%	80%	50-150%
	13C8-PFOA	74%	84%	50-150%
	13C9-PFNA	71%	80%	50-150%
	13C6-PFDA	71%	79%	50-150%
	13C7-PFUnDA	64%	69%	40-140%
	13C2-PFDoDA	62%	60%	40-140%
	13C2-PFTeDA	59%	45%	30-130%
	13C3-PFBS	72%	83%	50-150%
	13C3-PFHxS	73%	79%	50-150%
	13C8-PFOS	66%	74%	50-150%
	13C8-FOSA	27% <i>d</i>	31%	30-130%
	d3-MeFOSAA	61%	59%	40-140%
	d5-EtFOSAA	56%	54%	40-140%
	13C2-6:2FTS	79%	85%	50-150%
	13C2-8:2FTS	75%	80%	50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Dilution required due to matrix interference (ID recovery standard failure). Analysis performed at SGS Orlando, FL.

(c) Result is from Run# 2

(d) Outside control limits.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

MW 9/10/21

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	FIELD BLANK	Date Sampled:	08/19/21
Lab Sample ID:	JD30371-9	Date Received:	08/20/21
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	Aristocrat Cleaners, Hartsdale NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3Q44008.D	1	09/01/21 00:10	AFL	08/26/21 09:00	F:OP86997	F:S3Q638
Run #2							

Run #	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
375-22-4	Perfluorobutanoic acid	ND	3.6	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	1.8	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	ND	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	ND	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	ND	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	ND	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	ND	1.8	0.89	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	1.8	0.89	ng/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	ND	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	1.8	0.89	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	1.8	0.89	ng/l	
PERFLUOROCTANESULFONAMIDES						
754-91-6	PFOSA	ND	3.6	1.8	ng/l	
PERFLUOROCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	ND	3.6	1.8	ng/l	
2991-50-6	EtFOSAA	ND	3.6	1.8	ng/l	
FLUOROTELOMER SULFONATES						
27619-97-2	6:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	7.1	1.8	ng/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

mw 9/10/21

SGS

23 of 719

JD30371A

4.9
4

Report of Analysis

Client Sample ID: FIELD BLANK
 Lab Sample ID: JD30371-9
 Matrix: AQ - Field Blank Water
 Method: EPA 537M BY ID EPA 537 MOD
 Project: Aristocrat Cleaners, Hartsdale NY

Date Sampled: 08/19/21
 Date Received: 08/20/21
 Percent Solids: n/a

PFAS List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	92%		35-135%
	13C5-PFPeA	93%		50-150%
	13C5-PFHxA	94%		50-150%
	13C4-PFHpA	95%		50-150%
	13C8-PFOA	95%		50-150%
	13C9-PFNA	95%		50-150%
	13C6-PFDA	92%		50-150%
	13C7-PFUnDA	86%		40-140%
	13C2-PFDoDA	85%		40-140%
	13C2-PFTeDA	76%		30-130%
	13C3-PFBS	94%		50-150%
	13C3-PFHxS	95%		50-150%
	13C8-PFOS	90%		50-150%
	13C8-FOSA	86%		30-130%
	d3-MeFOSAA	70%		40-140%
	d5-EtFOSAA	65%		40-140%
	13C2-6:2FTS	88%		50-150%
	13C2-8:2FTS	90%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

NW 9/10/21