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Technical Report

prepared for:

Langan Engineering & Environmental Services (NYC)

21 Penn Plaza, 360 West 31st Street

New York NY, 10001

Attention: Stuart Knoop

Report Date: 10/16/2019

Client Project ID: 170396002

York Project (SDG) No.: 19J0219

CT Cert. No. PH-0723

New Jersey Cert. No. CT005 and NY037



New York Cert. Nos. 10854 and 12058

PA Cert. No. 68-04440

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Report Date: 10/16/2019
Client Project ID: 170396002
York Project (SDG) No.: 19J0219

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Stuart Knoop

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on October 03, 2019 and listed below. The project was identified as your project: **170396002**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

<u>York Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
19J0219-01	SV16_100319	Soil Vapor	10/03/2019	10/03/2019
19J0219-02	SV22_100319	Soil Vapor	10/03/2019	10/03/2019
19J0219-03	SV24_100319	Soil Vapor	10/03/2019	10/03/2019
19J0219-04	AA01_100319	Outdoor Ambient Air	10/03/2019	10/03/2019

General Notes for York Project (SDG) No.: 19J0219

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By:



Benjamin Gulizia
Laboratory Director

Date: 10/16/2019





Sample Information

Client Sample ID: SV16_100319

York Sample ID: 19J0219-01

York Project (SDG) No.

19J0219

Client Project ID

170396002

Matrix

Soil Vapor

Collection Date/Time

October 3, 2019 12:38 pm

Date Received

10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ug/m ³	11	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:				
71-55-6	1,1,1-Trichloroethane	ND		ug/m ³	8.6	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m ³	11	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m ³	12	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
79-00-5	1,1,2-Trichloroethane	ND		ug/m ³	8.6	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-34-3	1,1-Dichloroethane	ND		ug/m ³	6.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-35-4	1,1-Dichloroethylene	ND		ug/m ³	1.6	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m ³	12	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
95-63-6	1,2,4-Trimethylbenzene	12		ug/m ³	7.7	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
106-93-4	1,2-Dibromoethane	ND		ug/m ³	12	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
95-50-1	1,2-Dichlorobenzene	ND		ug/m ³	9.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
107-06-2	1,2-Dichloroethane	ND		ug/m ³	6.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
78-87-5	1,2-Dichloropropane	ND		ug/m ³	7.3	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m ³	11	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m ³	7.7	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
106-99-0	1,3-Butadiene	ND		ug/m ³	10	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
541-73-1	1,3-Dichlorobenzene	ND		ug/m ³	9.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
142-28-9	* 1,3-Dichloropropane	ND		ug/m ³	7.3	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:				
106-46-7	1,4-Dichlorobenzene	ND		ug/m ³	9.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
123-91-1	1,4-Dioxane	ND		ug/m ³	11	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
78-93-3	2-Butanone	ND		ug/m ³	4.6	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
591-78-6	* 2-Hexanone	ND		ug/m ³	13	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:				
107-05-1	3-Chloropropene	ND		ug/m ³	25	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			



Sample Information

Client Sample ID: SV16_100319

York Sample ID: 19J0219-01

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 12:38 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ug/m ³	6.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
67-64-1	Acetone	12		ug/m ³	7.5	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
107-13-1	Acrylonitrile	ND		ug/m ³	3.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
71-43-2	Benzene	ND		ug/m ³	5.0	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
100-44-7	Benzyl chloride	ND		ug/m ³	8.1	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-27-4	Bromodichloromethane	ND		ug/m ³	11	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-25-2	Bromoform	ND		ug/m ³	16	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
74-83-9	Bromomethane	ND		ug/m ³	6.1	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-15-0	Carbon disulfide	ND		ug/m ³	4.9	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
56-23-5	Carbon tetrachloride	ND		ug/m ³	2.5	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
108-90-7	Chlorobenzene	ND		ug/m ³	7.2	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-00-3	Chloroethane	ND		ug/m ³	4.1	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
67-66-3	Chloroform	ND		ug/m ³	7.7	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
74-87-3	Chloromethane	ND		ug/m ³	3.2	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
156-59-2	cis-1,2-Dichloroethylene	ND		ug/m ³	1.6	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m ³	7.1	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
110-82-7	Cyclohexane	ND		ug/m ³	5.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
124-48-1	Dibromochloromethane	ND		ug/m ³	13	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-71-8	Dichlorodifluoromethane	ND		ug/m ³	7.8	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
141-78-6	* Ethyl acetate	ND		ug/m ³	11	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:				
100-41-4	Ethyl Benzene	ND		ug/m ³	6.8	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
87-68-3	Hexachlorobutadiene	ND		ug/m ³	17	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
67-63-0	Isopropanol	ND		ug/m ³	7.7	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
80-62-6	Methyl Methacrylate	ND		ug/m ³	6.4	15.7	EPA TO-15	10/10/2019 09:00	10/10/2019 14:28	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			



Sample Information

Client Sample ID: SV16_100319

York Sample ID: 19J0219-01

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 12:38 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m ³	5.7	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
75-09-2	Methylene chloride	ND		ug/m ³	11	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
142-82-5	n-Heptane	40000		ug/m ³	87	211.4	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 21:43	KT
110-54-3	n-Hexane	84000		ug/m ³	220	612.2	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/11/2019 09:38	KT
95-47-6	o-Xylene	9.5		ug/m ³	6.8	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
179601-23-1	p- & m- Xylenes	21		ug/m ³	14	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
622-96-8	* p-Ethyltoluene	11		ug/m ³	7.7	15.7	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 14:28	KT
115-07-1	* Propylene	ND		ug/m ³	2.7	15.7	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 14:28	KT
100-42-5	Styrene	ND		ug/m ³	6.7	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
127-18-4	Tetrachloroethylene	32		ug/m ³	2.7	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
109-99-9	* Tetrahydrofuran	ND		ug/m ³	9.3	15.7	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 14:28	KT
108-88-3	Toluene	13		ug/m ³	5.9	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m ³	6.2	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m ³	7.1	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
79-01-6	Trichloroethylene	ND		ug/m ³	2.1	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
75-69-4	Trichlorofluoromethane (Freon 11)	ND		ug/m ³	8.8	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
108-05-4	Vinyl acetate	ND		ug/m ³	5.5	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
593-60-2	Vinyl bromide	ND		ug/m ³	6.9	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
75-01-4	Vinyl Chloride	ND		ug/m ³	1.0	15.7	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 14:28	KT
Surrogate Recoveries		Result	Acceptance Range							
460-00-4	Surrogate: SURRE: p-Bromofluorobenzene	108 %	70-130							



Sample Information

Client Sample ID: SV22_100319

York Sample ID: 19J0219-02

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 1:05 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ug/m ³	11	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:				
71-55-6	1,1,1-Trichloroethane	ND		ug/m ³	9.0	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m ³	11	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m ³	13	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
79-00-5	1,1,2-Trichloroethane	ND		ug/m ³	9.0	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-34-3	1,1-Dichloroethane	ND		ug/m ³	6.7	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-35-4	1,1-Dichloroethylene	ND		ug/m ³	1.6	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m ³	12	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
95-63-6	1,2,4-Trimethylbenzene	11		ug/m ³	8.1	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
106-93-4	1,2-Dibromoethane	ND		ug/m ³	13	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
95-50-1	1,2-Dichlorobenzene	ND		ug/m ³	9.9	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
107-06-2	1,2-Dichloroethane	ND		ug/m ³	6.7	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
78-87-5	1,2-Dichloropropane	ND		ug/m ³	7.6	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m ³	12	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m ³	8.1	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
106-99-0	1,3-Butadiene	15		ug/m ³	11	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
541-73-1	1,3-Dichlorobenzene	ND		ug/m ³	9.9	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
142-28-9	* 1,3-Dichloropropane	ND		ug/m ³	7.6	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:				
106-46-7	1,4-Dichlorobenzene	ND		ug/m ³	9.9	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
123-91-1	1,4-Dioxane	ND		ug/m ³	12	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
78-93-3	2-Butanone	51		ug/m ³	4.9	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
591-78-6	* 2-Hexanone	ND		ug/m ³	14	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:				
107-05-1	3-Chloropropene	ND		ug/m ³	26	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
108-10-1	4-Methyl-2-pentanone	ND		ug/m ³	6.8	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			



Sample Information

Client Sample ID: SV22_100319

York Sample ID: 19J0219-02

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 1:05 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	82		ug/m ³	7.8	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
107-13-1	Acrylonitrile	ND		ug/m ³	3.6	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
71-43-2	Benzene	ND		ug/m ³	5.3	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
100-44-7	Benzyl chloride	ND		ug/m ³	8.6	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
75-27-4	Bromodichloromethane	ND		ug/m ³	11	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
75-25-2	Bromoform	ND		ug/m ³	17	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
74-83-9	Bromomethane	ND		ug/m ³	6.4	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
75-15-0	Carbon disulfide	16		ug/m ³	5.1	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
56-23-5	Carbon tetrachloride	ND		ug/m ³	2.6	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
108-90-7	Chlorobenzene	ND		ug/m ³	7.6	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
75-00-3	Chloroethane	ND		ug/m ³	4.4	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
67-66-3	Chloroform	ND		ug/m ³	8.1	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
74-87-3	Chloromethane	ND		ug/m ³	3.4	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
156-59-2	cis-1,2-Dichloroethylene	ND		ug/m ³	1.6	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m ³	7.5	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
110-82-7	Cyclohexane	ND		ug/m ³	5.7	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
124-48-1	Dibromochloromethane	ND		ug/m ³	14	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
75-71-8	Dichlorodifluoromethane	ND		ug/m ³	8.2	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
141-78-6	* Ethyl acetate	ND		ug/m ³	12	16.52	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 15:13	KT
100-41-4	Ethyl Benzene	ND		ug/m ³	7.2	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
87-68-3	Hexachlorobutadiene	ND		ug/m ³	18	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
67-63-0	Isopropanol	ND		ug/m ³	8.1	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
80-62-6	Methyl Methacrylate	ND		ug/m ³	6.8	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m ³	6.0	16.52	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:13	KT



Sample Information

Client Sample ID: SV22_100319

York Sample ID: 19J0219-02

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 1:05 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-09-2	Methylene chloride	ND		ug/m ³	11	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
142-82-5	n-Heptane	1500		ug/m ³	6.8	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
110-54-3	n-Hexane	2600		ug/m ³	5.8	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
95-47-6	o-Xylene	11		ug/m ³	7.2	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
179601-23-1	p- & m- Xylenes	22		ug/m ³	14	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
622-96-8	* p-Ethyltoluene	9.7		ug/m ³	8.1	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:				
115-07-1	* Propylene	ND		ug/m ³	2.8	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:				
100-42-5	Styrene	ND		ug/m ³	7.0	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
127-18-4	Tetrachloroethylene	15		ug/m ³	2.8	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
109-99-9	* Tetrahydrofuran	ND		ug/m ³	9.7	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:				
108-88-3	Toluene	20		ug/m ³	6.2	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m ³	6.5	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m ³	7.5	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
79-01-6	Trichloroethylene	ND		ug/m ³	2.2	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-69-4	Trichlorofluoromethane (Freon 11)	ND		ug/m ³	9.3	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
108-05-4	Vinyl acetate	ND		ug/m ³	5.8	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
593-60-2	Vinyl bromide	ND		ug/m ³	7.2	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-01-4	Vinyl Chloride	ND		ug/m ³	1.1	16.52	EPA TO-15	10/10/2019 09:00	10/10/2019 15:13	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
Surrogate Recoveries		Result	Acceptance Range							
460-00-4	Surrogate: SURRE: p-Bromofluorobenzene	104 %	70-130							

Sample Information

Client Sample ID: SV24_100319

York Sample ID: 19J0219-03

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 1:19 pm

Date Received
10/03/2019



Sample Information

Client Sample ID: SV24_100319

York Sample ID: 19J0219-03

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 1:19 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ug/m ³	11	15.74	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 15:59	KT
71-55-6	1,1,1-Trichloroethane	ND		ug/m ³	8.6	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m ³	11	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m ³	12	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
79-00-5	1,1,2-Trichloroethane	ND		ug/m ³	8.6	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
75-34-3	1,1-Dichloroethane	ND		ug/m ³	6.4	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
75-35-4	1,1-Dichloroethylene	ND		ug/m ³	1.6	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m ³	12	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
95-63-6	1,2,4-Trimethylbenzene	12		ug/m ³	7.7	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
106-93-4	1,2-Dibromoethane	ND		ug/m ³	12	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
95-50-1	1,2-Dichlorobenzene	ND		ug/m ³	9.5	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
107-06-2	1,2-Dichloroethane	ND		ug/m ³	6.4	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
78-87-5	1,2-Dichloropropane	ND		ug/m ³	7.3	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m ³	11	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m ³	7.7	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
106-99-0	1,3-Butadiene	ND		ug/m ³	10	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
541-73-1	1,3-Dichlorobenzene	ND		ug/m ³	9.5	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
142-28-9	* 1,3-Dichloropropane	ND		ug/m ³	7.3	15.74	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 15:59	KT
106-46-7	1,4-Dichlorobenzene	ND		ug/m ³	9.5	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
123-91-1	1,4-Dioxane	ND		ug/m ³	11	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
78-93-3	2-Butanone	ND		ug/m ³	4.6	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
591-78-6	* 2-Hexanone	ND		ug/m ³	13	15.74	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 15:59	KT
107-05-1	3-Chloropropene	ND		ug/m ³	25	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
108-10-1	4-Methyl-2-pentanone	ND		ug/m ³	6.4	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT



Sample Information

Client Sample ID: SV24_100319

York Sample ID: 19J0219-03

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 1:19 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	36		ug/m ³	7.5	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
107-13-1	Acrylonitrile	ND		ug/m ³	3.4	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
71-43-2	Benzene	ND		ug/m ³	5.0	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
100-44-7	Benzyl chloride	ND		ug/m ³	8.1	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
75-27-4	Bromodichloromethane	ND		ug/m ³	11	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
75-25-2	Bromoform	ND		ug/m ³	16	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
74-83-9	Bromomethane	ND		ug/m ³	6.1	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
75-15-0	Carbon disulfide	7.4		ug/m ³	4.9	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
56-23-5	Carbon tetrachloride	ND		ug/m ³	2.5	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
108-90-7	Chlorobenzene	ND		ug/m ³	7.2	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
75-00-3	Chloroethane	ND		ug/m ³	4.2	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
67-66-3	Chloroform	ND		ug/m ³	7.7	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
74-87-3	Chloromethane	ND		ug/m ³	3.3	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
156-59-2	cis-1,2-Dichloroethylene	ND		ug/m ³	1.6	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m ³	7.1	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
110-82-7	Cyclohexane	ND		ug/m ³	5.4	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
124-48-1	Dibromochloromethane	ND		ug/m ³	13	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
75-71-8	Dichlorodifluoromethane	ND		ug/m ³	7.8	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
141-78-6	* Ethyl acetate	ND		ug/m ³	11	15.74	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 15:59	KT
100-41-4	Ethyl Benzene	ND		ug/m ³	6.8	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
87-68-3	Hexachlorobutadiene	ND		ug/m ³	17	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
67-63-0	Isopropanol	ND		ug/m ³	7.7	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
80-62-6	Methyl Methacrylate	ND		ug/m ³	6.4	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m ³	5.7	15.74	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 15:59	KT



Sample Information

Client Sample ID: SV24_100319

York Sample ID: 19J0219-03

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Soil Vapor

Collection Date/Time
October 3, 2019 1:19 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-09-2	Methylene chloride	ND		ug/m ³	11	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
142-82-5	n-Heptane	2100		ug/m ³	6.5	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
110-54-3	n-Hexane	2000		ug/m ³	28	78.7	EPA TO-15	10/10/2019 09:00	10/10/2019 19:01	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
95-47-6	o-Xylene	9.6		ug/m ³	6.8	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
179601-23-1	p- & m- Xylenes	18		ug/m ³	14	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
622-96-8	* p-Ethyltoluene	10		ug/m ³	7.7	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:				
115-07-1	* Propylene	ND		ug/m ³	2.7	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:				
100-42-5	Styrene	ND		ug/m ³	6.7	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
127-18-4	Tetrachloroethylene	29		ug/m ³	2.7	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
109-99-9	* Tetrahydrofuran	ND		ug/m ³	9.3	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:				
108-88-3	Toluene	8.9		ug/m ³	5.9	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m ³	6.2	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m ³	7.1	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
79-01-6	Trichloroethylene	85		ug/m ³	2.1	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-69-4	Trichlorofluoromethane (Freon 11)	13		ug/m ³	8.8	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
108-05-4	Vinyl acetate	ND		ug/m ³	5.5	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
593-60-2	Vinyl bromide	ND		ug/m ³	6.9	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-01-4	Vinyl Chloride	ND		ug/m ³	1.0	15.74	EPA TO-15	10/10/2019 09:00	10/10/2019 15:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
Surrogate Recoveries		Result	Acceptance Range							
460-00-4	Surrogate: SURR: p-Bromofluorobenzene	108 %	70-130							

Sample Information

Client Sample ID: AA01_100319

York Sample ID: 19J0219-04

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Outdoor Ambient Air

Collection Date/Time
October 3, 2019 12:41 pm

Date Received
10/03/2019



Sample Information

Client Sample ID: AA01_100319

York Sample ID: 19J0219-04

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Outdoor Ambient Air

Collection Date/Time
October 3, 2019 12:41 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ug/m ³	0.59	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:				
71-55-6	1,1,1-Trichloroethane	ND		ug/m ³	0.47	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m ³	0.59	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m ³	0.65	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
79-00-5	1,1,2-Trichloroethane	ND		ug/m ³	0.47	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-34-3	1,1-Dichloroethane	ND		ug/m ³	0.35	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
75-35-4	1,1-Dichloroethylene	ND		ug/m ³	0.085	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m ³	0.63	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
95-63-6	1,2,4-Trimethylbenzene	0.55		ug/m ³	0.42	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
106-93-4	1,2-Dibromoethane	ND		ug/m ³	0.66	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
95-50-1	1,2-Dichlorobenzene	ND		ug/m ³	0.51	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
107-06-2	1,2-Dichloroethane	ND		ug/m ³	0.35	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
78-87-5	1,2-Dichloropropane	ND		ug/m ³	0.39	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m ³	0.60	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m ³	0.42	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
106-99-0	1,3-Butadiene	ND		ug/m ³	0.57	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
541-73-1	1,3-Dichlorobenzene	ND		ug/m ³	0.51	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
142-28-9	* 1,3-Dichloropropane	ND		ug/m ³	0.39	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:				
106-46-7	1,4-Dichlorobenzene	ND		ug/m ³	0.51	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
123-91-1	1,4-Dioxane	ND		ug/m ³	0.62	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
78-93-3	2-Butanone	0.63		ug/m ³	0.25	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
591-78-6	* 2-Hexanone	ND		ug/m ³	0.70	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:				
107-05-1	3-Chloropropene	ND		ug/m ³	1.3	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			
108-10-1	4-Methyl-2-pentanone	ND		ug/m ³	0.35	0.854	EPA TO-15	10/10/2019 09:00	10/10/2019 19:59	KT
						Certifications:	NELAC-NY12058,NJDEP-Queens			



Sample Information

Client Sample ID: AA01_100319

York Sample ID: 19J0219-04

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix **Collection Date/Time** **Date Received**
Outdoor Ambient Air October 3, 2019 12:41 pm 10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	5.1		ug/m ³	0.41	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
107-13-1	Acrylonitrile	ND		ug/m ³	0.19	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
71-43-2	Benzene	1.1		ug/m ³	0.27	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
100-44-7	Benzyl chloride	ND		ug/m ³	0.44	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
75-27-4	Bromodichloromethane	ND		ug/m ³	0.57	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
75-25-2	Bromoform	ND		ug/m ³	0.88	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
74-83-9	Bromomethane	ND		ug/m ³	0.33	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
75-15-0	Carbon disulfide	ND		ug/m ³	0.27	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
56-23-5	Carbon tetrachloride	0.48		ug/m ³	0.13	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
108-90-7	Chlorobenzene	ND		ug/m ³	0.39	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
75-00-3	Chloroethane	ND		ug/m ³	0.23	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
67-66-3	Chloroform	ND		ug/m ³	0.42	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
74-87-3	Chloromethane	0.90		ug/m ³	0.18	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
156-59-2	cis-1,2-Dichloroethylene	ND		ug/m ³	0.085	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m ³	0.39	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
110-82-7	Cyclohexane	0.38		ug/m ³	0.29	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
124-48-1	Dibromochloromethane	ND		ug/m ³	0.73	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
75-71-8	Dichlorodifluoromethane	1.6		ug/m ³	0.42	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
141-78-6	* Ethyl acetate	2.7		ug/m ³	0.62	0.854	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 19:59	KT
100-41-4	Ethyl Benzene	0.93		ug/m ³	0.37	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
87-68-3	Hexachlorobutadiene	ND		ug/m ³	0.91	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
67-63-0	Isopropanol	1.5		ug/m ³	0.42	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
80-62-6	Methyl Methacrylate	ND		ug/m ³	0.35	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m ³	0.31	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT



Sample Information

Client Sample ID: AA01_100319

York Sample ID: 19J0219-04

York Project (SDG) No.
19J0219

Client Project ID
170396002

Matrix
Outdoor Ambient Air

Collection Date/Time
October 3, 2019 12:41 pm

Date Received
10/03/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-09-2	Methylene chloride	2.4		ug/m ³	0.59	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
142-82-5	n-Heptane	0.67		ug/m ³	0.35	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
110-54-3	n-Hexane	0.84		ug/m ³	0.30	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
95-47-6	o-Xylene	0.85		ug/m ³	0.37	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
179601-23-1	p- & m- Xylenes	3.1		ug/m ³	0.74	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
622-96-8	* p-Ethyltoluene	0.50		ug/m ³	0.42	0.854	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 19:59	KT
115-07-1	* Propylene	ND		ug/m ³	0.15	0.854	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 19:59	KT
100-42-5	Styrene	ND		ug/m ³	0.36	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
127-18-4	Tetrachloroethylene	0.64		ug/m ³	0.14	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
109-99-9	* Tetrahydrofuran	ND		ug/m ³	0.50	0.854	EPA TO-15 Certifications:	10/10/2019 09:00	10/10/2019 19:59	KT
108-88-3	Toluene	5.7		ug/m ³	0.32	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m ³	0.34	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m ³	0.39	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
79-01-6	Trichloroethylene	ND		ug/m ³	0.11	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
75-69-4	Trichlorofluoromethane (Freon 11)	1.2		ug/m ³	0.48	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
108-05-4	Vinyl acetate	ND		ug/m ³	0.30	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
593-60-2	Vinyl bromide	ND		ug/m ³	0.37	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
75-01-4	Vinyl Chloride	ND		ug/m ³	0.055	0.854	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	10/10/2019 09:00	10/10/2019 19:59	KT
Surrogate Recoveries		Result	Acceptance Range							
460-00-4	Surrogate: SURRE: p-Bromofluorobenzene	103 %	70-130							



Case Narrative

Client: Langan Engineering & Environmental Services (NYC)
Client Project ID: 170396002
Prepared for: Stuart Knoop

Introduction

This Case Narrative applies only to the following samples submitted to our laboratory on **10/03/2019 17:00**:

<u>Laboratory ID</u>	<u>Sample Name</u>	<u>Matrix</u>
19J0219-01	SV16_100319	Air
19J0219-02	SV22_100319	Air
19J0219-03	SV24_100319	Air
19J0219-04	AA01_100319	Air

The 4 sample(s) were received intact. Chain-of-custody was maintained from receipt through analysis in the laboratory.

Methodology

All preparation and analyses were conducted according to EPA Compendium Method TO-15 guidance.

Sample and Analysis Qualifiers

No qualifiers were applicable unless otherwise noted below.

QC Sample Non-Conformances

Any QC sample Non-conformances (CCV, LCS, MS, DUP) are detailed in the data package.
No problems were encountered during analysis.

York Project/SDG no.: 19J0219 Statement

We certify that these data are in compliance with SOP requirements both technically and for completeness for other than the conditions stated above. Release of the data contained in the hard copy report and any electronic deliverables has been authorized by the Laboratory Manager as verified by the signature on this laboratory report.

Approved by: Ben Gulizia
Laboratory Director

Date: 10/16/2019

York Analytical Laboratories, Inc.

Formulae Used for Sample Calculations

VOLATILE ORGANICS



1. Volatiles in Air-ppbv

C_x (ppbv) = Compound concentration, ppbv (parts per billion by volume)

$$C_x = \frac{(A_x)(C_{is})(DF)}{(A_{is})(RRF)}$$

2. Volatiles in Air-ug/m³

C_x (ug/m³) = Compound concentration in ug/m³

$$C_x (\text{ug/m}^3) = \frac{(\text{ppbv} \times \text{Molecular wt.})}{(24.45)}$$

WHERE:

C_x = concentration of analyte as ug/L or ug/kg

A_x = Area of the characteristic ion for the compound to be measured, counts.

A_{is} = Area of the characteristic ion for the specific internal standard, counts.

IS = Concentration of the internal standard spiking mixture, ng

RRF = Mean relative response factor from the initial calibration.

DF = Dilution factor calculated as described in section 2. If no dilution is performed, DF = 1

C_{is} = Concentration of the internal standard spiking mixture, ppbv



Analytical Batch Summary

Batch ID: BJ90653

Preparation Method: EPA TO15 PREP

Prepared By: AS

YORK Sample ID	Client Sample ID	Preparation Date
19J0219-01	SV16_100319	10/10/19
19J0219-01RE1	SV16_100319	10/10/19
19J0219-01RE2	SV16_100319	10/10/19
19J0219-02	SV22_100319	10/10/19
19J0219-03	SV24_100319	10/10/19
19J0219-03RE1	SV24_100319	10/10/19
19J0219-04	AA01_100319	10/10/19
BJ90653-BLK1	Blank	10/10/19
BJ90653-BS1	LCS	10/10/19
BJ90653-DUP1	Duplicate	10/10/19



Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90653 - EPA TO15 PREP											
Blank (BJ90653-BLK1)											
Prepared & Analyzed: 10/10/2019											
1,1,1,2-Tetrachloroethane	ND	0.69	ug/m ³								
1,1,1-Trichloroethane	ND	0.55	"								
1,1,2,2-Tetrachloroethane	ND	0.69	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.77	"								
1,1,2-Trichloroethane	ND	0.55	"								
1,1-Dichloroethane	ND	0.40	"								
1,1-Dichloroethylene	ND	0.099	"								
1,2,4-Trichlorobenzene	ND	0.74	"								
1,2,4-Trimethylbenzene	ND	0.49	"								
1,2-Dibromoethane	ND	0.77	"								
1,2-Dichlorobenzene	ND	0.60	"								
1,2-Dichloroethane	ND	0.40	"								
1,2-Dichloropropane	ND	0.46	"								
1,2-Dichlorotetrafluoroethane	ND	0.70	"								
1,3,5-Trimethylbenzene	ND	0.49	"								
1,3-Butadiene	ND	0.66	"								
1,3-Dichlorobenzene	ND	0.60	"								
1,3-Dichloropropane	ND	0.46	"								
1,4-Dichlorobenzene	ND	0.60	"								
1,4-Dioxane	ND	0.72	"								
2-Butanone	ND	0.29	"								
2-Hexanone	ND	0.82	"								
3-Chloropropene	ND	1.6	"								
4-Methyl-2-pentanone	ND	0.41	"								
Acetone	ND	0.48	"								
Acrylonitrile	ND	0.22	"								
Benzene	ND	0.32	"								
Benzyl chloride	ND	0.52	"								
Bromodichloromethane	ND	0.67	"								
Bromoform	ND	1.0	"								
Bromomethane	ND	0.39	"								
Carbon disulfide	ND	0.31	"								
Carbon tetrachloride	ND	0.16	"								
Chlorobenzene	ND	0.46	"								
Chloroethane	ND	0.26	"								
Chloroform	ND	0.49	"								
Chloromethane	ND	0.21	"								
cis-1,2-Dichloroethylene	ND	0.099	"								
cis-1,3-Dichloropropylene	ND	0.45	"								
Cyclohexane	ND	0.34	"								
Dibromochloromethane	ND	0.85	"								
Dichlorodifluoromethane	ND	0.49	"								
Ethyl acetate	ND	0.72	"								
Ethyl Benzene	ND	0.43	"								
Hexachlorobutadiene	ND	1.1	"								
Isopropanol	ND	0.49	"								
Methyl Methacrylate	ND	0.41	"								
Methyl tert-butyl ether (MTBE)	ND	0.36	"								
Methylene chloride	ND	0.69	"								
n-Heptane	ND	0.41	"								



Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
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Batch BJ90653 - EPA TO15 PREP

Blank (BJ90653-BLK1)

Prepared & Analyzed: 10/10/2019

n-Hexane	ND	0.35	ug/m ³
o-Xylene	ND	0.43	"
p- & m- Xylenes	ND	0.87	"
p-Ethyltoluene	ND	0.49	"
Propylene	ND	0.17	"
Styrene	ND	0.43	"
Tetrachloroethylene	ND	0.17	"
Tetrahydrofuran	ND	0.59	"
Toluene	ND	0.38	"
trans-1,2-Dichloroethylene	ND	0.40	"
trans-1,3-Dichloropropylene	ND	0.45	"
Trichloroethylene	ND	0.13	"
Trichlorofluoromethane (Freon 11)	ND	0.56	"
Vinyl acetate	ND	0.35	"
Vinyl bromide	ND	0.44	"
Vinyl Chloride	ND	0.064	"

Surrogate: SURR: p-Bromofluorobenzene

9.24

ppbv

10.0

92.4

70-130

LCS (BJ90653-BS1)

Prepared & Analyzed: 10/10/2019

1,1,1,2-Tetrachloroethane	9.73	ppbv	10.0	97.3	70-130
1,1,1-Trichloroethane	10.5	"	10.0	105	70-130
1,1,2,2-Tetrachloroethane	9.77	"	10.0	97.7	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.85	"	10.0	98.5	70-130
1,1,2-Trichloroethane	9.91	"	10.0	99.1	70-130
1,1-Dichloroethane	9.84	"	10.0	98.4	70-130
1,1-Dichloroethylene	9.40	"	10.0	94.0	70-130
1,2,4-Trichlorobenzene	8.85	"	10.0	88.5	70-130
1,2,4-Trimethylbenzene	10.0	"	10.0	100	70-130
1,2-Dibromoethane	9.98	"	10.0	99.8	70-130
1,2-Dichlorobenzene	9.79	"	10.0	97.9	70-130
1,2-Dichloroethane	10.2	"	10.0	102	70-130
1,2-Dichloropropane	9.33	"	10.0	93.3	70-130
1,2-Dichlorotetrafluoroethane	10.3	"	10.0	103	70-130
1,3,5-Trimethylbenzene	9.78	"	10.0	97.8	70-130
1,3-Butadiene	7.75	"	10.0	77.5	70-130
1,3-Dichlorobenzene	10.0	"	10.0	100	70-130
1,3-Dichloropropane	9.77	"	10.0	97.7	70-130
1,4-Dichlorobenzene	10.1	"	10.0	101	70-130
1,4-Dioxane	9.16	"	10.0	91.6	70-130
2-Butanone	9.41	"	10.0	94.1	70-130
2-Hexanone	9.56	"	10.0	95.6	70-130
3-Chloropropene	9.40	"	10.0	94.0	70-130
4-Methyl-2-pentanone	9.49	"	10.0	94.9	70-130
Acetone	8.04	"	10.0	80.4	70-130
Acrylonitrile	8.99	"	10.0	89.9	70-130
Benzene	9.55	"	10.0	95.5	70-130
Benzyl chloride	11.9	"	10.0	119	70-130
Bromodichloromethane	10.2	"	10.0	102	70-130
Bromoform	10.1	"	10.0	101	70-130
Bromomethane	9.11	"	10.0	91.1	70-130
Carbon disulfide	10.1	"	10.0	101	70-130



Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
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Batch BJ90653 - EPA TO15 PREP

LCS (BJ90653-BS1)

Prepared & Analyzed: 10/10/2019

Carbon tetrachloride	9.88		ppbv	10.0		98.8	70-130				
Chlorobenzene	9.45		"	10.0		94.5	70-130				
Chloroethane	9.32		"	10.0		93.2	70-130				
Chloroform	10.2		"	10.0		102	70-130				
Chloromethane	8.30		"	10.0		83.0	70-130				
cis-1,2-Dichloroethylene	9.71		"	10.0		97.1	70-130				
cis-1,3-Dichloropropylene	10.4		"	10.0		104	70-130				
Cyclohexane	9.81		"	10.0		98.1	70-130				
Dibromochloromethane	10.1		"	10.0		101	70-130				
Dichlorodifluoromethane	9.75		"	10.0		97.5	70-130				
Ethyl acetate	10.7		"	10.0		107	70-130				
Ethyl Benzene	9.28		"	10.0		92.8	70-130				
Hexachlorobutadiene	9.24		"	10.0		92.4	70-130				
Isopropanol	8.64		"	10.0		86.4	70-130				
Methyl Methacrylate	9.66		"	10.0		96.6	70-130				
Methyl tert-butyl ether (MTBE)	10.2		"	10.0		102	70-130				
Methylene chloride	10.1		"	10.0		101	70-130				
n-Heptane	9.88		"	10.0		98.8	70-130				
n-Hexane	9.65		"	10.0		96.5	70-130				
o-Xylene	9.91		"	10.0		99.1	70-130				
p- & m- Xylenes	19.6		"	20.0		98.0	70-130				
p-Ethyltoluene	10.6		"	10.0		106	70-130				
Propylene	8.90		"	10.0		89.0	70-130				
Styrene	10.0		"	10.0		100	70-130				
Tetrachloroethylene	8.50		"	10.0		85.0	70-130				
Tetrahydrofuran	9.52		"	10.0		95.2	70-130				
Toluene	9.21		"	10.0		92.1	70-130				
trans-1,2-Dichloroethylene	9.99		"	10.0		99.9	70-130				
trans-1,3-Dichloropropylene	9.81		"	10.0		98.1	70-130				
Trichloroethylene	9.34		"	10.0		93.4	70-130				
Trichlorofluoromethane (Freon 11)	9.93		"	10.0		99.3	70-130				
Vinyl acetate	9.07		"	10.0		90.7	70-130				
Vinyl bromide	9.76		"	10.0		97.6	70-130				
Vinyl Chloride	7.98		"	10.0		79.8	70-130				
Surrogate: SURR: p-Bromofluorobenzene	10.6		"	10.0		106	70-130				



Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90653 - EPA TO15 PREP											
Duplicate (BJ90653-DUP1)	*Source sample: 19J0219-04 (AA01_100319)						Prepared & Analyzed: 10/10/2019				
1,1,1,2-Tetrachloroethane	ND	0.59	ug/m ³		ND					25	
1,1,1-Trichloroethane	ND	0.47	"		ND					25	
1,1,2,2-Tetrachloroethane	ND	0.59	"		ND					25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.65	"		ND					25	
1,1,2-Trichloroethane	ND	0.47	"		ND					25	
1,1-Dichloroethane	ND	0.35	"		ND					25	
1,1-Dichloroethylene	ND	0.085	"		ND					25	
1,2,4-Trichlorobenzene	ND	0.63	"		ND					25	
1,2,4-Trimethylbenzene	0.46	0.42	"		0.55				16.7	25	
1,2-Dibromoethane	ND	0.66	"		ND					25	
1,2-Dichlorobenzene	ND	0.51	"		ND					25	
1,2-Dichloroethane	ND	0.35	"		ND					25	
1,2-Dichloropropane	ND	0.39	"		ND					25	
1,2-Dichlorotetrafluoroethane	ND	0.60	"		ND					25	
1,3,5-Trimethylbenzene	ND	0.42	"		ND					25	
1,3-Butadiene	ND	0.57	"		ND					25	
1,3-Dichlorobenzene	ND	0.51	"		ND					25	
1,3-Dichloropropane	ND	0.39	"		ND					25	
1,4-Dichlorobenzene	ND	0.51	"		ND					25	
1,4-Dioxane	ND	0.62	"		ND					25	
2-Butanone	0.58	0.25	"		0.63				8.33	25	
2-Hexanone	ND	0.70	"		ND					25	
3-Chloropropene	ND	1.3	"		ND					25	
4-Methyl-2-pentanone	ND	0.35	"		ND					25	
Acetone	5.1	0.41	"		5.1				0.00	25	
Acrylonitrile	ND	0.19	"		ND					25	
Benzene	1.1	0.27	"		1.1				0.00	25	
Benzyl chloride	ND	0.44	"		ND					25	
Bromodichloromethane	ND	0.57	"		ND					25	
Bromoform	ND	0.88	"		ND					25	
Bromomethane	ND	0.33	"		ND					25	
Carbon disulfide	ND	0.27	"		ND					25	
Carbon tetrachloride	0.48	0.13	"		0.48				0.00	25	
Chlorobenzene	ND	0.39	"		ND					25	
Chloroethane	ND	0.23	"		ND					25	
Chloroform	ND	0.42	"		ND					25	
Chloromethane	0.86	0.18	"		0.90				4.00	25	
cis-1,2-Dichloroethylene	ND	0.085	"		ND					25	
cis-1,3-Dichloropropylene	ND	0.39	"		ND					25	
Cyclohexane	0.32	0.29	"		0.38				16.7	25	
Dibromochloromethane	ND	0.73	"		ND					25	
Dichlorodifluoromethane	1.5	0.42	"		1.6				5.41	25	
Ethyl acetate	2.6	0.62	"		2.7				3.43	25	
Ethyl Benzene	0.93	0.37	"		0.93				0.00	25	
Hexachlorobutadiene	ND	0.91	"		ND					25	
Isopropanol	1.4	0.42	"		1.5				2.90	25	
Methyl Methacrylate	ND	0.35	"		ND					25	
Methyl tert-butyl ether (MTBE)	ND	0.31	"		ND					25	
Methylene chloride	2.4	0.59	"		2.4				1.23	25	
n-Heptane	0.60	0.35	"		0.67				11.1	25	
n-Hexane	0.81	0.30	"		0.84				3.64	25	



Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
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Batch BJ90653 - EPA TO15 PREP

Duplicate (BJ90653-DUP1)		*Source sample: 19J0219-04 (AA01_100319)				Prepared & Analyzed: 10/10/2019					
o-Xylene	0.85	0.37	ug/m ³		0.85				0.00	25	
p- & m- Xylenes	3.0	0.74	"		3.1				3.68	25	
p-Ethyltoluene	0.46	0.42	"		0.50				8.70	25	
Propylene	ND	0.15	"		ND					25	
Styrene	ND	0.36	"		ND					25	
Tetrachloroethylene	0.64	0.14	"		0.64				0.00	25	
Tetrahydrofuran	ND	0.50	"		ND					25	
Toluene	5.5	0.32	"		5.7				2.87	25	
trans-1,2-Dichloroethylene	ND	0.34	"		ND					25	
trans-1,3-Dichloropropylene	ND	0.39	"		ND					25	
Trichloroethylene	ND	0.11	"		ND					25	
Trichlorofluoromethane (Freon 11)	1.2	0.48	"		1.2				3.92	25	
Vinyl acetate	ND	0.30	"		ND					25	
Vinyl bromide	ND	0.37	"		ND					25	
Vinyl Chloride	ND	0.055	"		ND					25	
Surrogate: SURR: p-Bromofluorobenzene	10.2		ppbv	10.0		102	70-130				



Sample and Data Qualifiers Relating to This Work Order

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.



Laboratory Chain-of-Custody Record

York Project (SDG) No.: 19J0219

Samples Received: 10/03/2019 17:00 By: Krys Trafalski Logged In: 10/03/2019 17:38 By: John Gale

Sample Conditions:

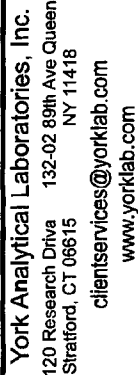
- | | |
|--|---|
| ☒ Custody Seals | ☒ Chain of Custody Form Received |
| ☒ Containers Intact | ☒ Appropriate Sample Volumes Received |
| ☒ COC/Labels Agree | ☒ Appropriate Sample Containers Submitted |
| ☒ Preservation Confirmed | ☒ Samples Submitted within Holding Times |
| ☒ Cooler Temperature Confirmed | ☐ Corrective Action Form Required |
| ☒ COC Complete | |

Preparation Chain-of-Custody

Sample ID	Reason Prep	Prep Start Date	Prep End Date	Prep Analyst
19J0219-01	EPA TO15 PREP	10/10/2019 9:00	10/10/2019 9:00	Arlene Schork
19J0219-01RE1	EPA TO15 PREP	10/10/2019 9:00	10/10/2019 9:00	Arlene Schork
19J0219-01RE2	EPA TO15 PREP	10/10/2019 9:00	10/10/2019 9:00	Arlene Schork
19J0219-02	EPA TO15 PREP	10/10/2019 9:00	10/10/2019 9:00	Arlene Schork
19J0219-03	EPA TO15 PREP	10/10/2019 9:00	10/10/2019 9:00	Arlene Schork
19J0219-03RE1	EPA TO15 PREP	10/10/2019 9:00	10/10/2019 9:00	Arlene Schork
19J0219-04	EPA TO15 PREP	10/10/2019 9:00	10/10/2019 9:00	Arlene Schork

Analysis Chain-of-Custody

Sample ID	Reason Analysis	Analysis Start Date	Analysis End Date	Analyst
19J0219-01	Volatile Organics, EPA TO15 Full List	10/10/2019 9:00	10/10/2019 14:28	Krys Trafalski
19J0219-01RE1	Volatile Organics, EPA TO15 Full List	10/10/2019 9:00	10/10/2019 21:43	Krys Trafalski
19J0219-01RE2	Volatile Organics, EPA TO15 Full List	10/10/2019 9:00	10/11/2019 9:38	Krys Trafalski
19J0219-02	Volatile Organics, EPA TO15 Full List	10/10/2019 9:00	10/10/2019 15:13	Krys Trafalski
19J0219-03	Volatile Organics, EPA TO15 Full List	10/10/2019 9:00	10/10/2019 15:59	Krys Trafalski
19J0219-03RE1	Volatile Organics, EPA TO15 Full List	10/10/2019 9:00	10/10/2019 19:01	Krys Trafalski
19J0219-04	Volatile Organics, EPA TO15 Full List	10/10/2019 9:00	10/10/2019 19:59	Krys Trafalski



Field Chain-of-Custody Record - AIR

YORK Project No. 1950219

NOTE: YORK's Standard Terms & Conditions are listed on the back side of this document. This document serves as your written authorization for YORK to proceed with the analyses requested below. signature binds you to YORK's Standard Terms & Conditions.

Page 1 of 1[illegible]

York Analytical Laboratories, Inc.

SDG: 19J0219

CLASS: AIR

METHOD: EPA TO-15

DATA PACKAGE COVER PAGE

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Client Sample Id:

SV16_100319

SV16_100319

SV16_100319

SV22_100319

SV24_100319

SV24_100319

AA01_100319

Lab Sample Id:

19J0219-01

19J0219-01RE1

19J0219-01RE2

19J0219-02

19J0219-03

19J0219-03RE1

19J0219-04

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:



Name:

Benjamin Gulizia

Date:

10/16/2019

Title:

Laboratory Director

FORM II

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA TO-15

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Sequence: Y9J1132 Instrument: 5975C
 Calibration: YJ90015

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BJ90653-BS1) Lab File ID: TO280770.D Analyzed: 10/10/19 11:36								
SURR: p-Bromofluorobenzene	10.0	106	70 - 130	23.777	23.78	-0.0030	+/-1.00	
Blank (BJ90653-BLK1) Lab File ID: TO280772.D Analyzed: 10/10/19 13:20								
SURR: p-Bromofluorobenzene	10.0	92.4	70 - 130	23.777	23.78	-0.0030	+/-1.00	
SV16_100319 (19J0219-01) Lab File ID: TO280773.D Analyzed: 10/10/19 14:28								
SURR: p-Bromofluorobenzene	10.0	108	70 - 130	23.777	23.78	-0.0030	+/-1.00	
SV22_100319 (19J0219-02) Lab File ID: TO280774.D Analyzed: 10/10/19 15:13								
SURR: p-Bromofluorobenzene	10.0	104	70 - 130	23.783	23.78	0.0030	+/-1.00	
SV24_100319 (19J0219-03) Lab File ID: TO280775.D Analyzed: 10/10/19 15:59								
SURR: p-Bromofluorobenzene	10.0	108	70 - 130	23.777	23.78	-0.0030	+/-1.00	
SV24_100319 (19J0219-03RE1) Lab File ID: TO280779.D Analyzed: 10/10/19 19:01								
SURR: p-Bromofluorobenzene	10.0	99.7	70 - 130	23.777	23.78	-0.0030	+/-1.00	
AA01_100319 (19J0219-04) Lab File ID: TO280780.D Analyzed: 10/10/19 19:59								
SURR: p-Bromofluorobenzene	10.0	103	70 - 130	23.777	23.78	-0.0030	+/-1.00	
Duplicate (BJ90653-DUP1) Lab File ID: TO280781.D Analyzed: 10/10/19 20:57								
SURR: p-Bromofluorobenzene	10.0	102	70 - 130	23.777	23.78	-0.0030	+/-1.00	
SV16_100319 (19J0219-01RE1) Lab File ID: TO280782.D Analyzed: 10/10/19 21:43								
SURR: p-Bromofluorobenzene	10.0	98.0	70 - 130	23.777	23.78	-0.0030	+/-1.00	
SV16_100319 (19J0219-01RE2) Lab File ID: TO280796.D Analyzed: 10/11/19 09:38								
SURR: p-Bromofluorobenzene	10.0	96.4	70 - 130	23.777	23.78	-0.0030	+/-1.00	

DUPLICATES

EPA TO-15

AA01_100319

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Matrix: Air

Laboratory ID: BJ90653-DUP1

Batch: BJ90653

Lab Source ID: 19J0219-04

Preparation: EPA TO15 PREP

Initial/Final: 400 mL / 400 mL

Source Sample Name: AA01_100319

% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/m ³)	C	DUPLICATE CONCENTRATION (ug/m ³)	C	RPD %	Q	METHOD
1,1,1,2-Tetrachloroethane	25	ND		ND				EPA TO-15
1,1,1-Trichloroethane	25	ND		ND				EPA TO-15
1,1,2,2-Tetrachloroethane	25	ND		ND				EPA TO-15
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	25	ND		ND				EPA TO-15
1,1,2-Trichloroethane	25	ND		ND				EPA TO-15
1,1-Dichloroethane	25	ND		ND				EPA TO-15
1,1-Dichloroethylene	25	ND		ND				EPA TO-15
1,2,4-Trichlorobenzene	25	ND		ND				EPA TO-15
1,2,4-Trimethylbenzene	25	0.546		0.46		16.7		EPA TO-15
1,2-Dibromoethane	25	ND		ND				EPA TO-15
1,2-Dichlorobenzene	25	ND		ND				EPA TO-15
1,2-Dichloroethane	25	ND		ND				EPA TO-15
1,2-Dichloropropane	25	ND		ND				EPA TO-15
1,2-Dichlorotetrafluoroethane	25	ND		ND				EPA TO-15
1,3,5-Trimethylbenzene	25	ND		ND				EPA TO-15
1,3-Butadiene	25	ND		ND				EPA TO-15
1,3-Dichlorobenzene	25	ND		ND				EPA TO-15
1,3-Dichloropropane	25	ND		ND				EPA TO-15
1,4-Dichlorobenzene	25	ND		ND				EPA TO-15
1,4-Dioxane	25	ND		ND				EPA TO-15
2-Butanone	25	0.630		0.58		8.33		EPA TO-15
2-Hexanone	25	ND		ND				EPA TO-15
3-Chloropropene	25	ND		ND				EPA TO-15
4-Methyl-2-pentanone	25	ND		ND				EPA TO-15
Acetone	25	5.07		5.1		0.00		EPA TO-15
Acrylonitrile	25	ND		ND				EPA TO-15
Benzene	25	1.06		1.1		0.00		EPA TO-15
Benzyl chloride	25	ND		ND				EPA TO-15

DUPLICATES

EPA TO-15

AA01_100319

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Matrix: Air

Laboratory ID: BJ90653-DUP1

Batch: BJ90653

Lab Source ID: 19J0219-04

Preparation: EPA TO15 PREP

Initial/Final: 400 mL / 400 mL

Source Sample Name: AA01_100319

% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ppbv)	C	DUPLICATE CONCENTRATION (ppbv)	C	RPD %	Q	METHOD
Bromochloromethane		10.0		10				EPA TO-15
Bromodichloromethane	25	ND		ND				EPA TO-15
Bromoform	25	ND		ND				EPA TO-15
Bromomethane	25	ND		ND				EPA TO-15
Carbon disulfide	25	ND		ND				EPA TO-15
Carbon tetrachloride	25	0.484		0.48		0.00		EPA TO-15
Chlorobenzene	25	ND		ND				EPA TO-15
Chloroethane	25	ND		ND				EPA TO-15
Chloroform	25	ND		ND				EPA TO-15
Chloromethane	25	0.899		0.86		4.00		EPA TO-15
cis-1,2-Dichloroethylene	25	ND		ND				EPA TO-15
cis-1,3-Dichloropropylene	25	ND		ND				EPA TO-15
Cyclohexane	25	0.382		0.32		16.7		EPA TO-15
Dibromochloromethane	25	ND		ND				EPA TO-15
Dichlorodifluoromethane	25	1.60		1.5		5.41		EPA TO-15
Ethyl acetate	25	2.74		2.6		3.43		EPA TO-15
Ethyl Benzene	25	0.927		0.93		0.00		EPA TO-15
Hexachlorobutadiene	25	ND		ND				EPA TO-15
Isopropanol	25	1.47		1.4		2.90		EPA TO-15
ISTD: 1,4-Difluorobenzene		10.0		10				EPA TO-15
ISTD: d5-Chlorobenzene		10.0		10				EPA TO-15
Methyl Methacrylate	25	ND		ND				EPA TO-15
Methyl tert-butyl ether (MTBE)	25	ND		ND				EPA TO-15
Methylene chloride	25	2.43		2.4		1.23		EPA TO-15
n-Heptane	25	0.665		0.60		11.1		EPA TO-15
n-Hexane	25	0.843		0.81		3.64		EPA TO-15
o-Xylene	25	0.853		0.85		0.00		EPA TO-15
p- & m- Xylenes	25	3.08		3.0		3.68		EPA TO-15

DUPLICATES

EPA TO-15

AA01 100319

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Matrix: Air

Laboratory ID: BJ90653-DUP1

Batch: BJ90653

Lab Source ID: 19J0219-04

Preparation: EPA TO15 PREP

Initial/Final: 400 mL / 400 mL

Source Sample Name: AA01 100319

% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/m ³)	C	DUPLICATE CONCENTRATION (ug/m ³)	C	RPD %	Q	METHOD
p-Ethyltoluene	25	0.504		0.46		8.70		EPA TO-15
Propylene	25	ND		ND				EPA TO-15
Styrene	25	ND		ND				EPA TO-15
SURR: p-Bromofluorobenzene		10.3		10.2				EPA TO-15
Tetrachloroethylene	25	0.637		0.64		0.00		EPA TO-15
Tetrahydrofuran	25	ND		ND				EPA TO-15
Toluene	25	5.70		5.5		2.87		EPA TO-15
trans-1,2-Dichloroethylene	25	ND		ND				EPA TO-15
trans-1,3-Dichloropropylene	25	ND		ND				EPA TO-15
Trichloroethylene	25	ND		ND				EPA TO-15
Trichlorofluoromethane (Freon 11)	25	1.25		1.2		3.92		EPA TO-15
Vinyl acetate	25	ND		ND				EPA TO-15
Vinyl bromide	25	ND		ND				EPA TO-15
Vinyl Chloride	25	ND		ND				EPA TO-15

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280781.D
 Acq On : 10 Oct 2019 8:57 pm
 Operator : KT
 Sample : BJ90653-DUP1
 Misc : QBT01101019A DUP 0219-04 0.533x/750mL
 ALS Vial : 13 Sample Multiplier: 0.854
 InstName : 5975C

Quant Time: Oct 11 15:26:02 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Thu Oct 10 18:15:28 2019
 Response via : Initial Calibration

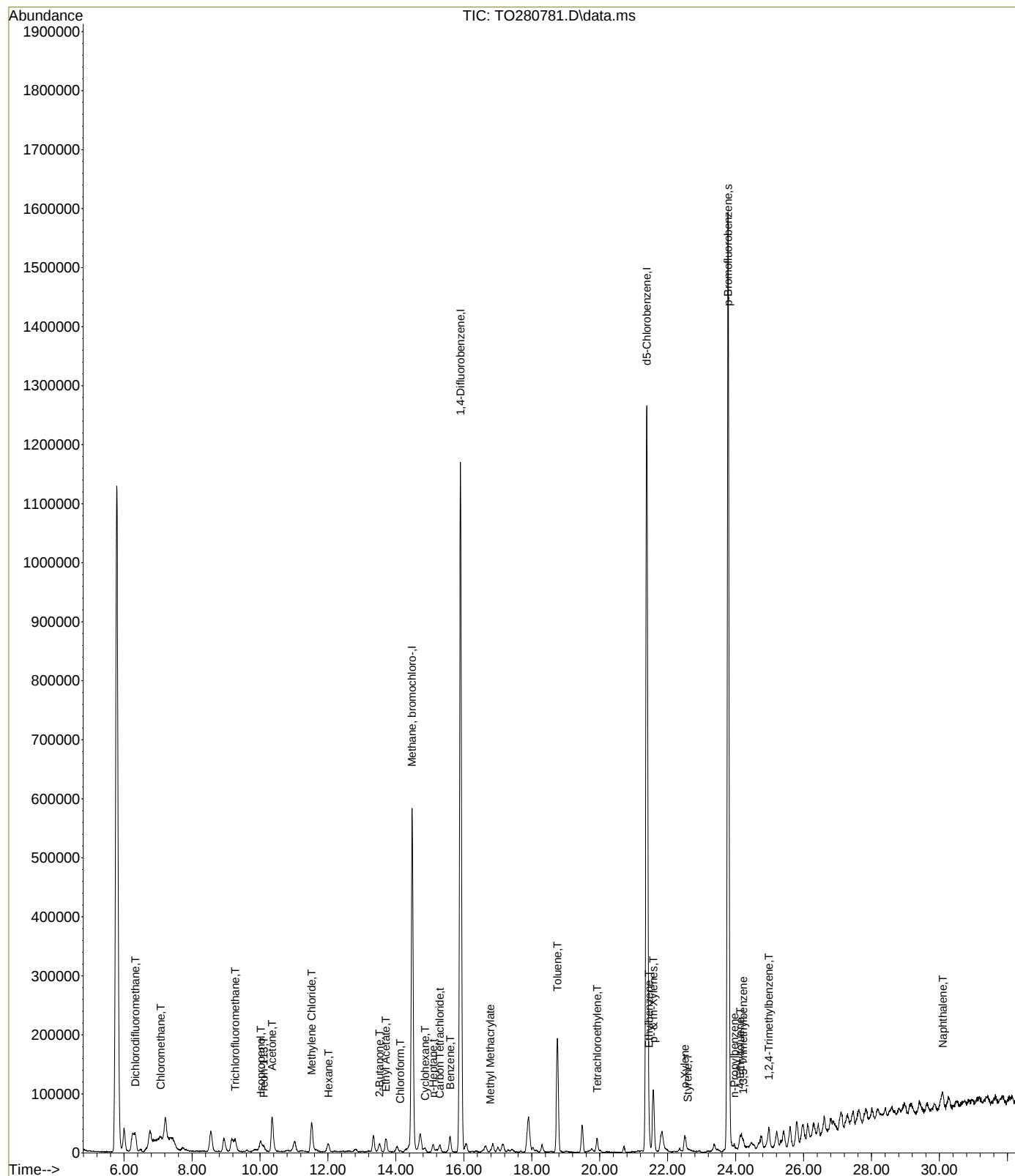
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

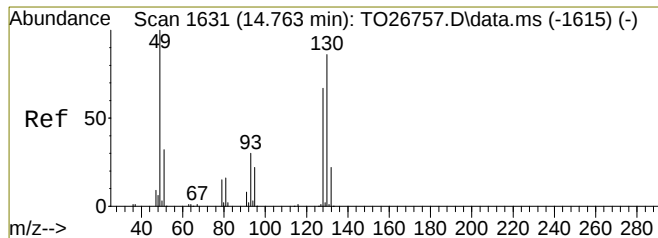
Internal Standards						
1) Methane, bromochloro-	14.474	49	376575	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.900	114	1818155	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.381	117	1542712	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1165227	10.17	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	101.70%	
Target Compounds						
						Qvalue
3) Dichlorodifluoromethane	6.329	85	57896	0.36	ppbv	# 79
5) Chloromethane	7.073	50	12555m	0.49	ppbv	
11) Trichlorofluoromethane	9.268	101	45206	0.25	ppbv	97
12) Isopropanol	10.017	45	36861	0.68	ppbv	100
14) Acetone	10.353	43	176383	2.50	ppbv	84
15) Freon-113	10.109	101	8468m	0.08	ppbv	
18) Methylene Chloride	11.517	49	39149	0.81	ppbv	85
23) Hexane	12.011	57	12169m	0.27	ppbv	
26) 2-Butanone	13.517	43	13103	0.23	ppbv	94
27) Ethyl Acetate	13.700	43	55678	0.86	ppbv	97
29) Chloroform	14.126	83	4512m	0.04	ppbv	
32) Cyclohexane	14.858	56	4987m	0.11	ppbv	
33) Carbon Tetrachloride	15.285	117	14254	0.09	ppbv	# 91
35) Benzene	15.602	78	44802	0.39	ppbv	# 100
36) n-Heptane	15.096	43	7721	0.17	ppbv	# 93
40) Methyl Methacrylate	16.772	69	1539	0.04	ppbv	# 69
45) Toluene	18.754	91	295125	1.72	ppbv	97
50) Tetrachloroethylene	19.924	166	11267	0.11	ppbv	90
56) Ethylbenzene	21.448	91	56969	0.25	ppbv	94
57) p- & m-Xylenes	21.576	91	143102	0.80	ppbv	95
58) o-Xylene	22.503	91	41366	0.23	ppbv	97
59) Styrene	22.588	104	4334	0.04	ppbv	# 81
61) n-Propylbenzene	23.966	91	7835	0.03	ppbv	99
65) 4-Ethyltoluene	24.137	105	27893	0.11	ppbv	# 84
66) 1,3,5-Trimethylbenzene	24.222	105	9191m	0.05	ppbv	
68) 1,2,4-Trimethylbenzene	24.978	105	25164	0.11	ppbv	# 94
78) Naphthalene	30.099	128	34956	0.16	ppbv	93

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

Data Path : D:\101019\
Data File : T0280781.D
Acq On : 10 Oct 2019 8:57 pm
Operator : KT
Sample : BJ90653-DUP1
Misc : QBT01101019A DUP 0219-04 0.533x/750mL
ALS Vial : 13 Sample Multiplier: 0.854
InstName : 5975C

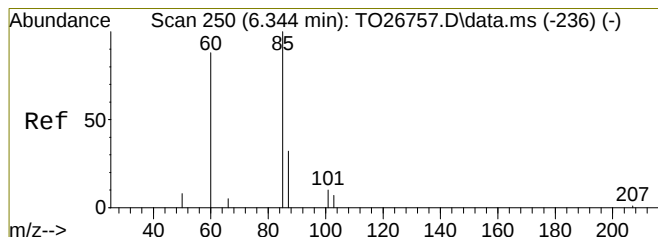
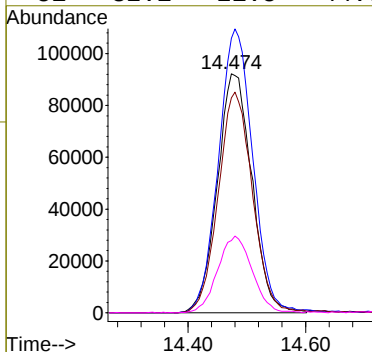
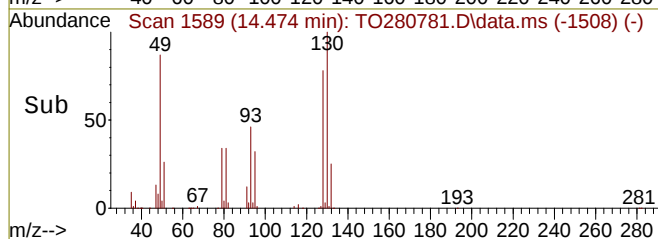
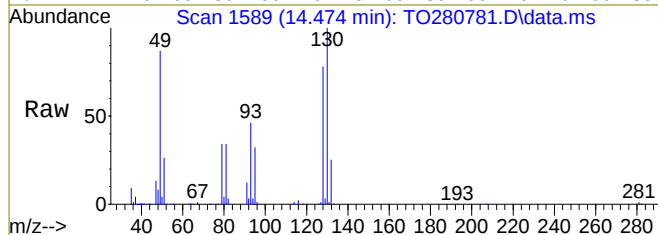
Quant Time: Oct 11 15:26:02 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Thu Oct 10 18:15:28 2019
Response via : Initial Calibration





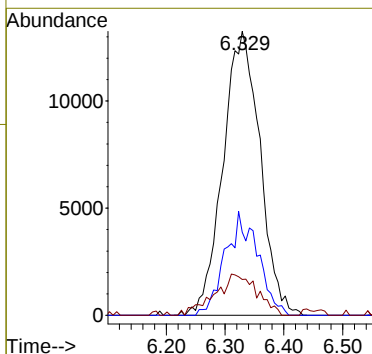
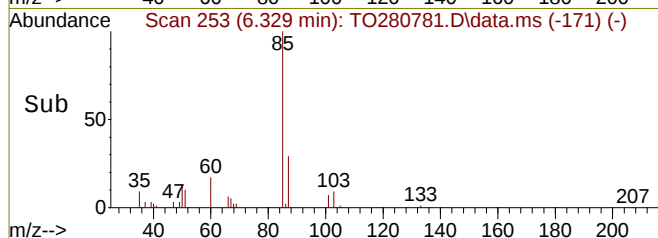
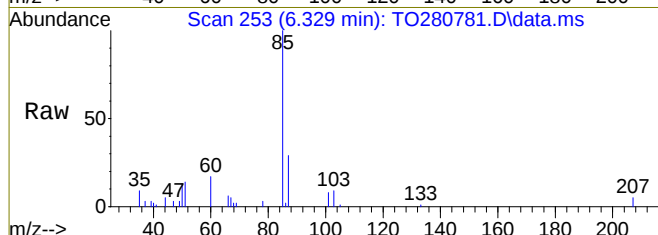
#1
Methane, bromochloro-
Concen: 10.00 ppbv
RT: 14.474 min Scan# 1589
Delta R.T. -0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

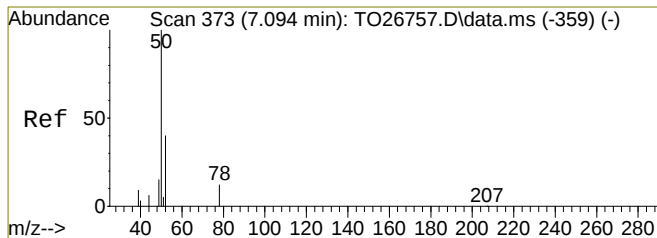
Tgt Ion: 49 Resp: 376575
Ion Ratio Lower Upper
49 100
130 118.2 44.5 92.3#
128 91.2 34.7 72.1#
51 32.1 21.5 44.6



#3
Dichlorodifluoromethane
Concen: 0.36 ppbv
RT: 6.329 min Scan# 253
Delta R.T. 0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

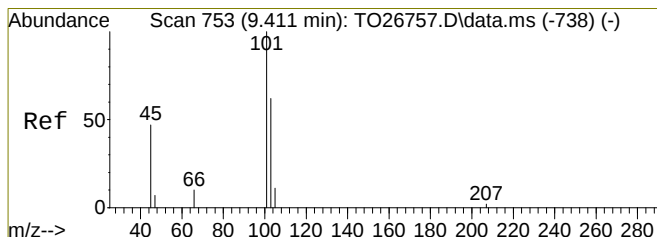
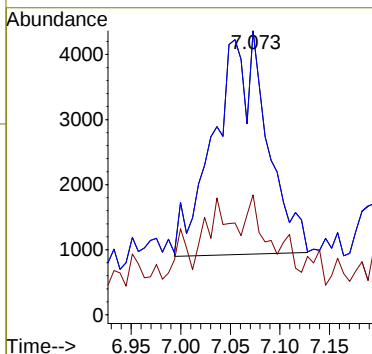
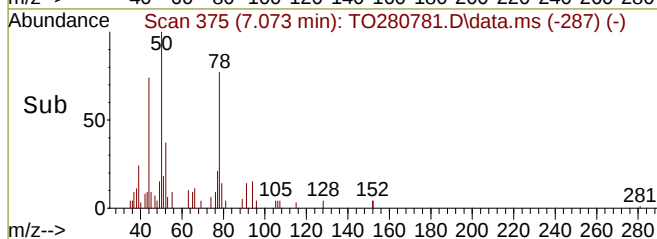
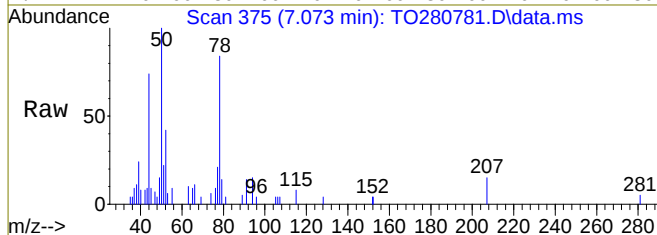
Tgt Ion: 85 Resp: 57896
Ion Ratio Lower Upper
85 100
87 19.7 21.0 43.6#
50 16.6 6.8 14.2#





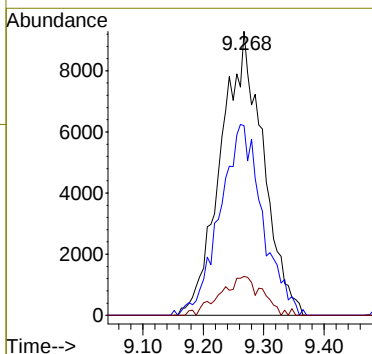
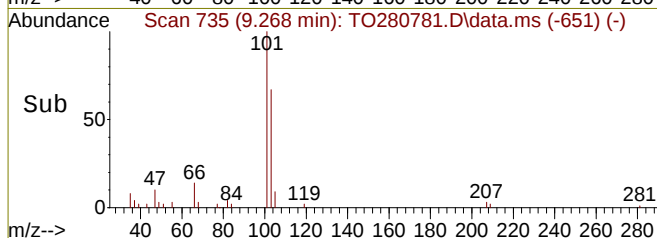
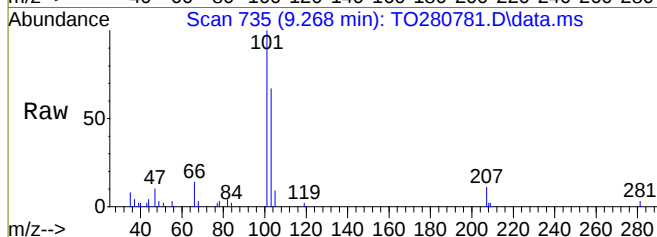
#5
Chloromethane
Concen: 0.49 ppbv m
RT: 7.073 min Scan# 375
Delta R.T. 0.037 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

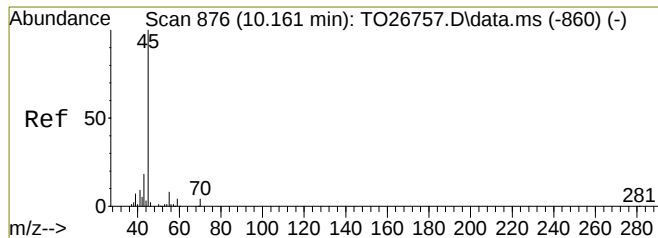
Tgt Ion: 50 Resp: 12555
Ion Ratio Lower Upper
50 100
50 61.3 65.0 135.0#
52 22.7 16.5 49.5



#11
Trichlorofluoromethane
Concen: 0.25 ppbv
RT: 9.268 min Scan# 735
Delta R.T. 0.013 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

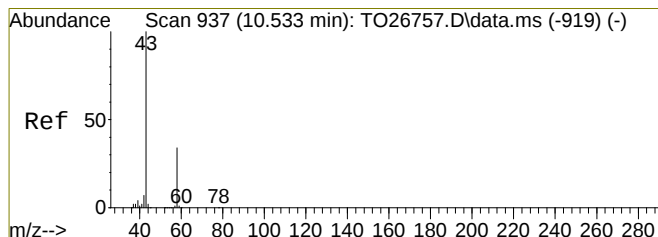
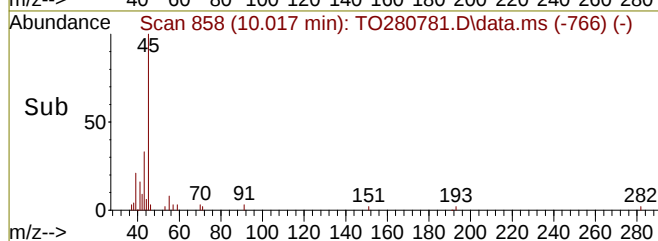
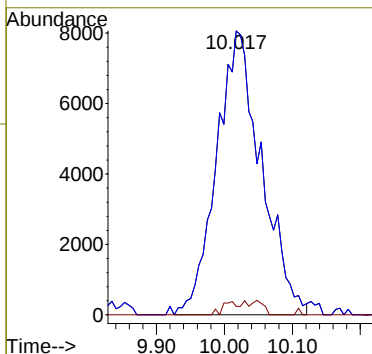
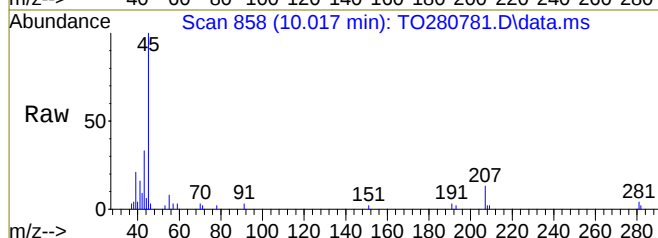
Tgt Ion: 101 Resp: 45206
Ion Ratio Lower Upper
101 100
103 67.7 42.4 88.0
66 13.5 7.9 16.5





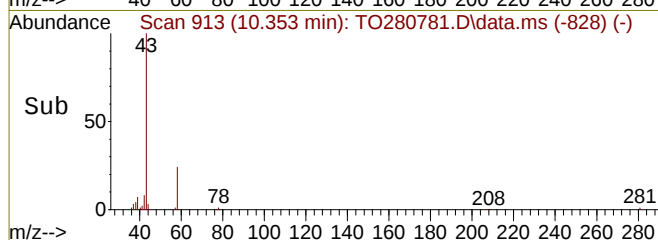
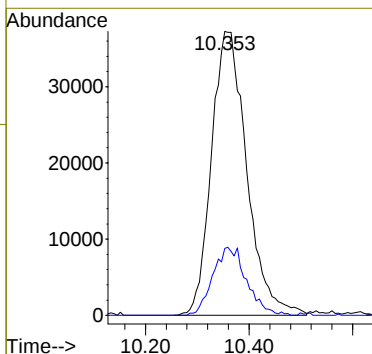
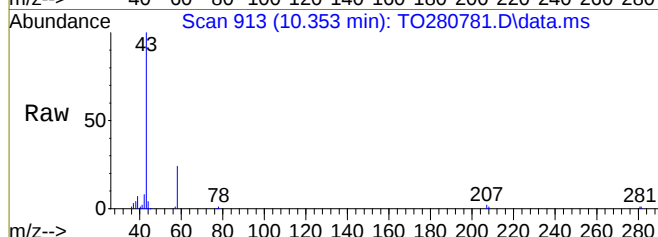
#12
Isopropanol
Concen: 0.68 ppbv
RT: 10.017 min Scan# 858
Delta R.T. 0.060 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

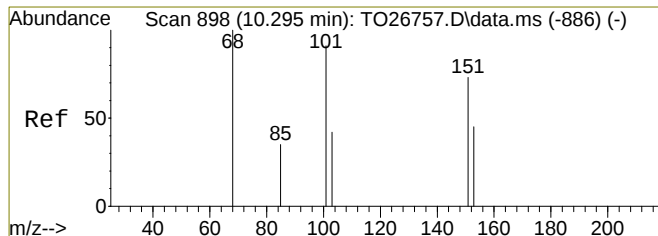
Tgt Ion: 45 Resp: 36861
Ion Ratio Lower Upper
45 100
45 100.0 65.0 135.0
59 1.4 0.0 8.4



#14
Acetone
Concen: 2.50 ppbv
RT: 10.353 min Scan# 913
Delta R.T. 0.019 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

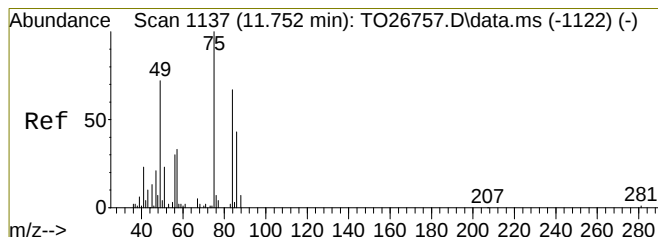
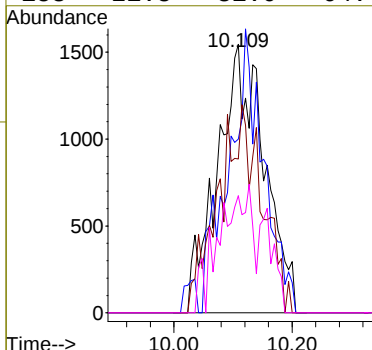
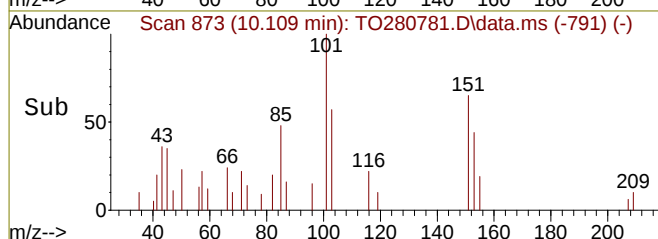
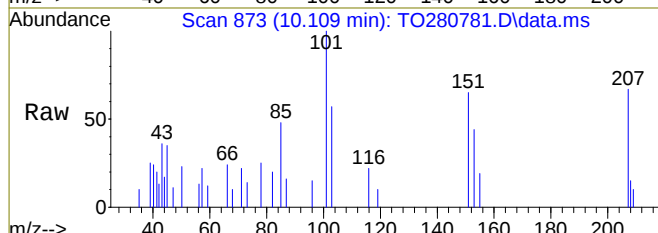
Tgt Ion: 43 Resp: 176383
Ion Ratio Lower Upper
43 100
58 22.7 20.7 42.9





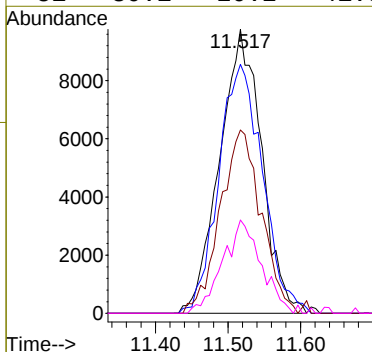
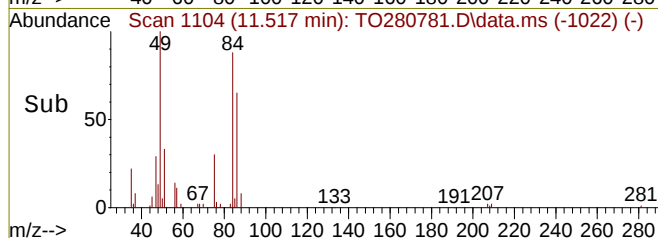
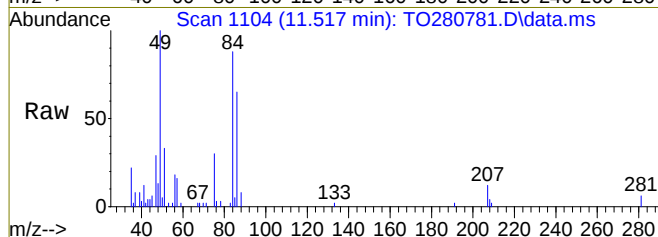
#15
Freon-113
Concen: 0.08 ppbv m
RT: 10.109 min Scan# 873
Delta R.T. -0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

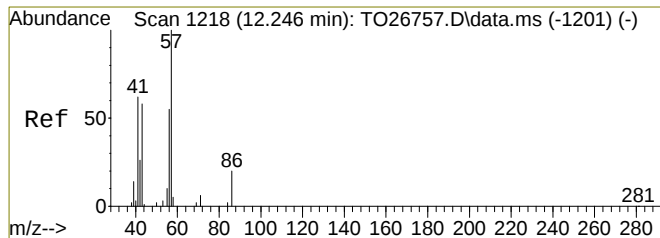
Tgt Ion:	101	Resp:	8468
Ion	Ratio	Lower	Upper
101	100		
151	70.6	48.6	100.8
103	35.4	42.0	87.2#
153	21.8	31.0	64.4#



#18
Methylene Chloride
Concen: 0.81 ppbv
RT: 11.517 min Scan# 1104
Delta R.T. 0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

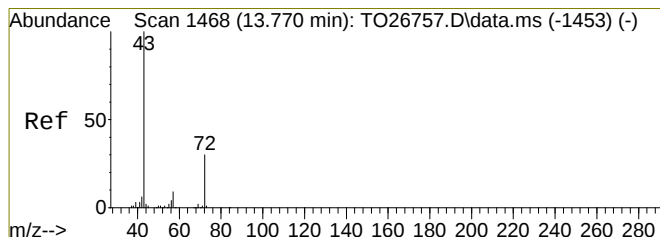
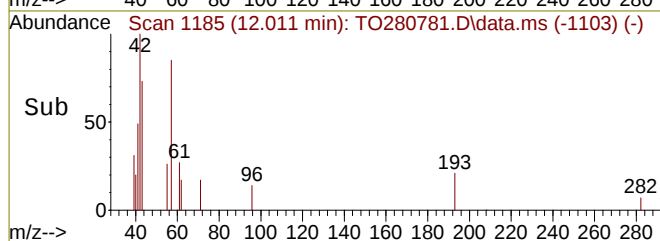
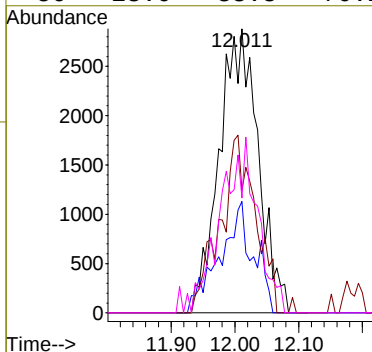
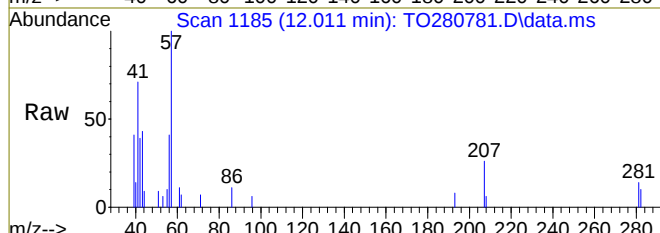
Tgt Ion:	49	Resp:	39149
Ion	Ratio	Lower	Upper
49	100		
84	92.1	50.1	104.0
86	63.4	32.2	66.8
51	30.1	20.2	41.9





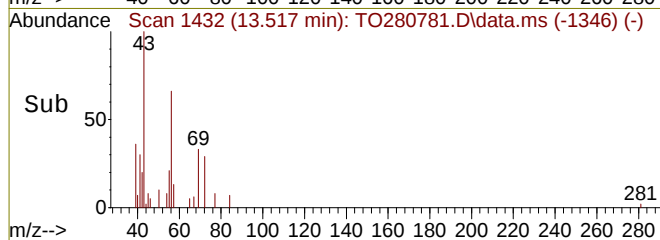
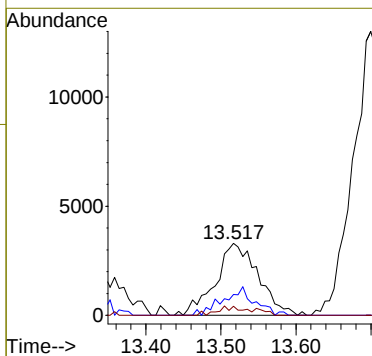
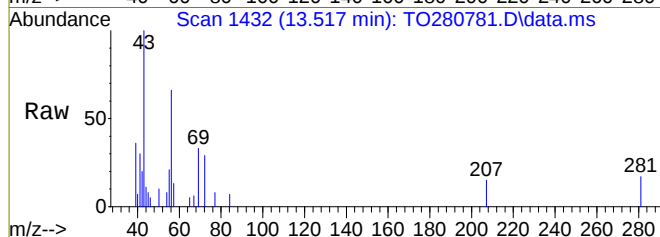
#23
Hexane
Concen: 0.27 ppbv m
RT: 12.011 min Scan# 1185
Delta R.T. -0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

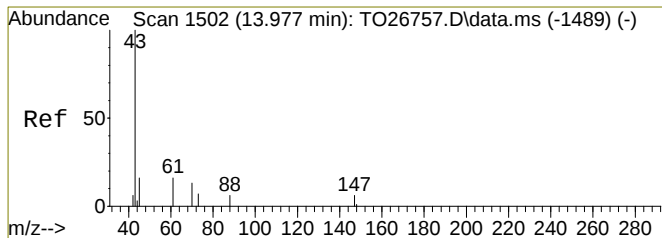
Tgt Ion: 57 Resp: 12169
Ion Ratio Lower Upper
57 100
42 26.8 22.2 46.0
43 57.0 42.9 89.1
56 23.0 33.8 70.2#



#26
2-Butanone
Concen: 0.23 ppbv
RT: 13.517 min Scan# 1432
Delta R.T. 0.025 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

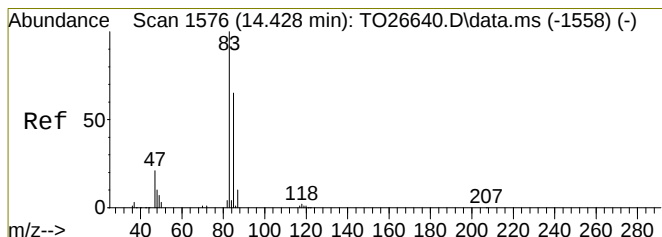
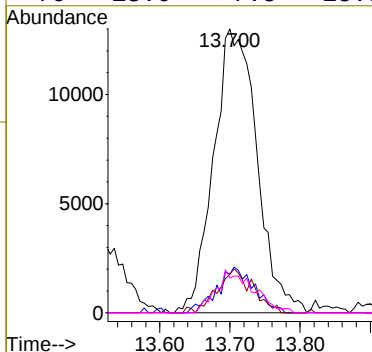
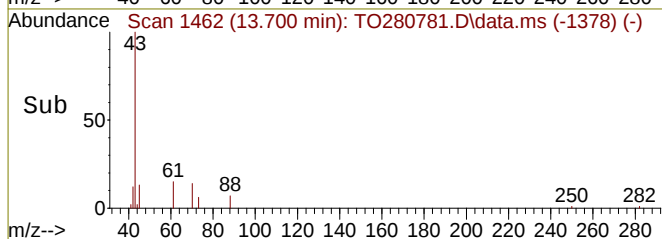
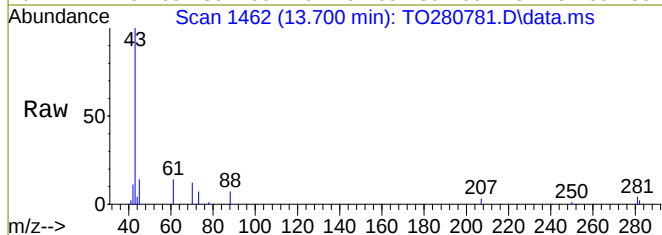
Tgt Ion: 43 Resp: 13103
Ion Ratio Lower Upper
43 100
72 28.8 16.4 34.2
57 6.9 5.0 10.4





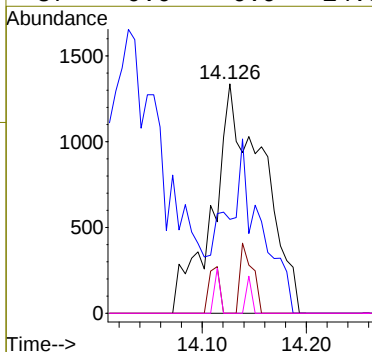
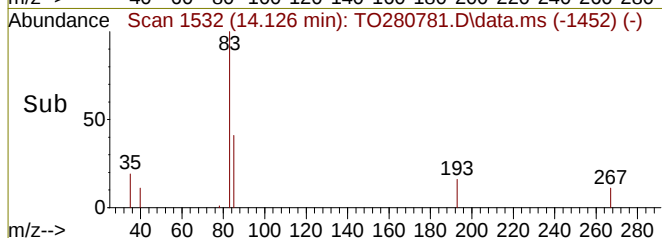
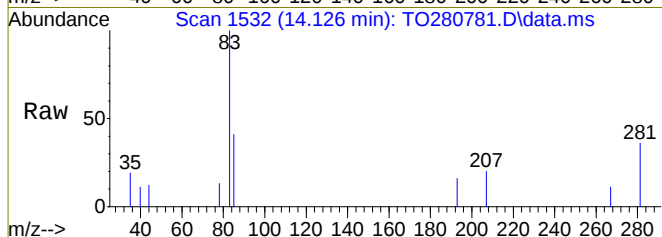
#27
Ethyl Acetate
Concen: 0.86 ppbv
RT: 13.700 min Scan# 1462
Delta R.T. 0.013 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

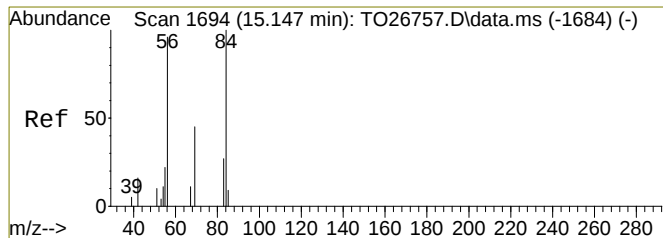
Tgt Ion: 43 Resp: 55678
Ion Ratio Lower Upper
43 100
61 13.8 9.2 19.2
45 12.4 9.4 19.6
70 13.0 7.5 15.5



#29
Chloroform
Concen: 0.04 ppbv m
RT: 14.126 min Scan# 1532
Delta R.T. -0.013 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

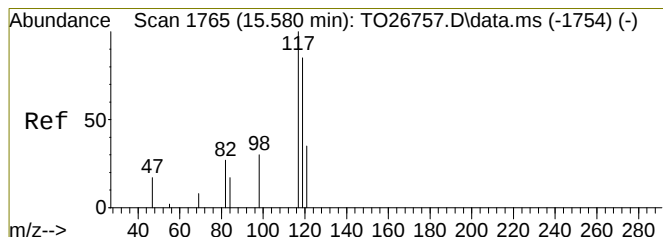
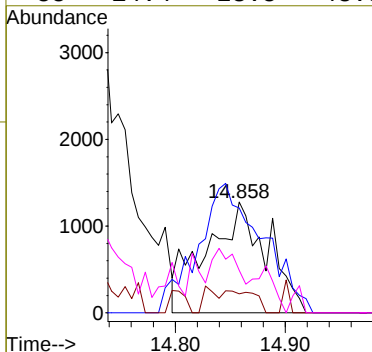
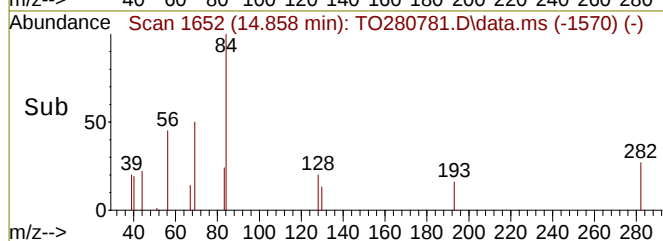
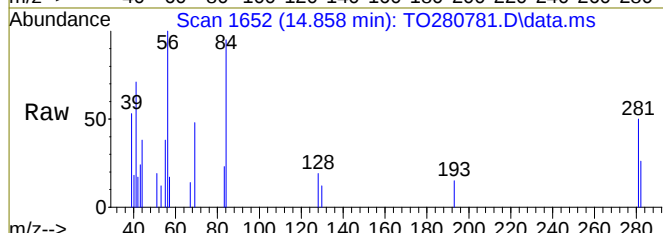
Tgt Ion: 83 Resp: 4512
Ion Ratio Lower Upper
83 100
85 52.7 42.2 87.6
47 0.0 14.8 30.8#
87 0.0 6.9 14.3#





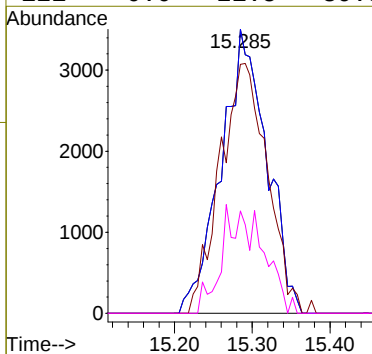
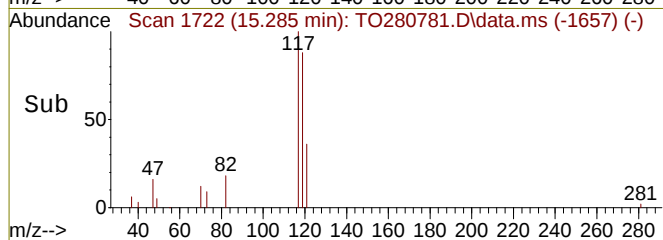
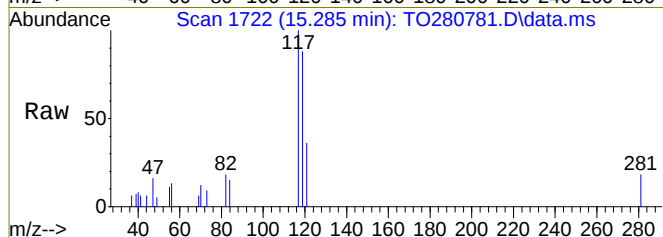
#32
Cyclohexane
Concen: 0.11 ppbv m
RT: 14.858 min Scan# 1652
Delta R.T. -0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

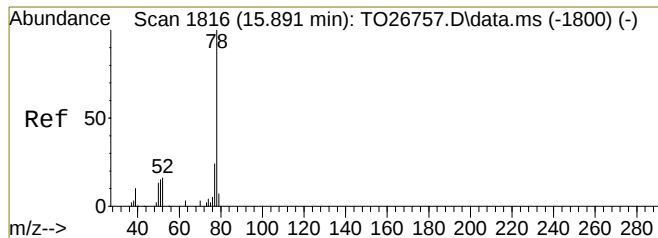
Tgt Ion: 56 Resp: 4987
Ion Ratio Lower Upper
56 100
84 122.3 56.4 117.0#
42 10.1 15.3 31.7#
55 14.4 23.5 48.9#



#33
Carbon Tetrachloride
Concen: 0.09 ppbv
RT: 15.285 min Scan# 1722
Delta R.T. -0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

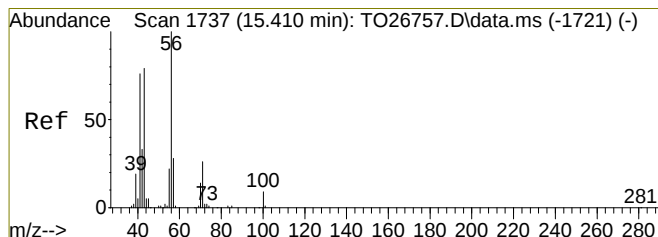
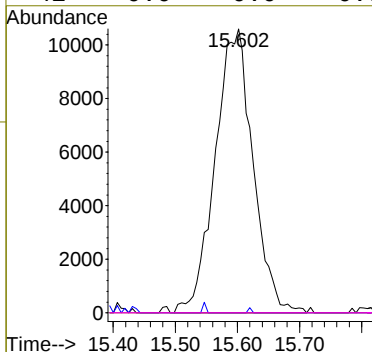
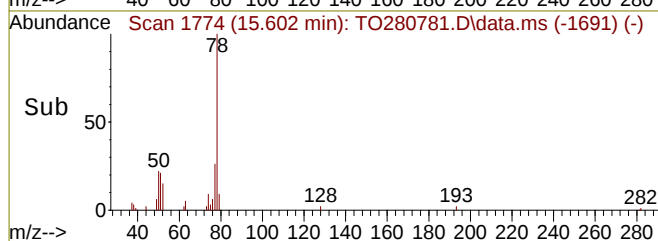
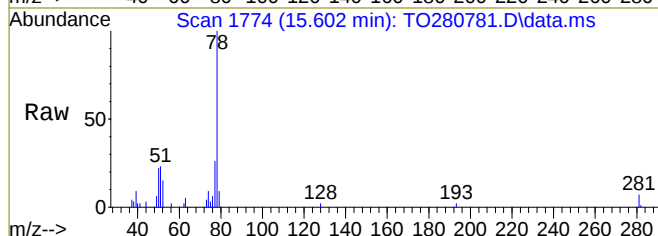
Tgt Ion: 117 Resp: 14254
Ion Ratio Lower Upper
117 100
117 100.0 80.0 120.0
119 91.3 76.5 114.7
121 0.0 21.5 39.9#





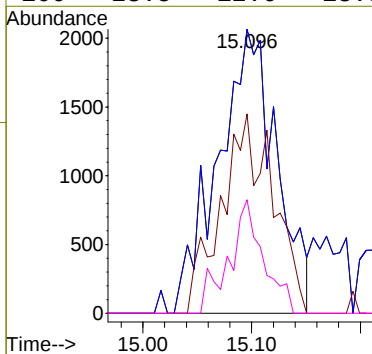
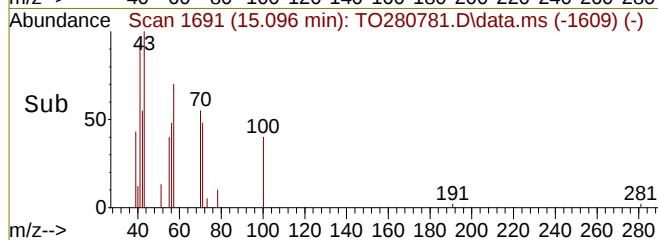
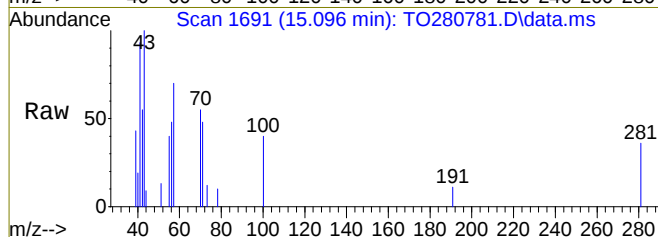
#35
Benzene
Concen: 0.39 ppbv
RT: 15.602 min Scan# 1774
Delta R.T. 0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

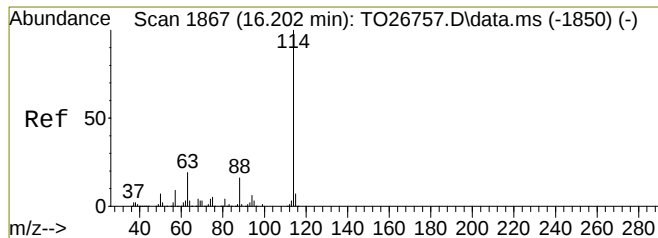
Tgt Ion: 78 Resp: 44802
Ion Ratio Lower Upper
78 100
43 0.0 0.0 0.0
71 0.0 0.0 0.0
42 0.0 0.0 0.0



#36
n-Heptane
Concen: 0.17 ppbv
RT: 15.096 min Scan# 1691
Delta R.T. -0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

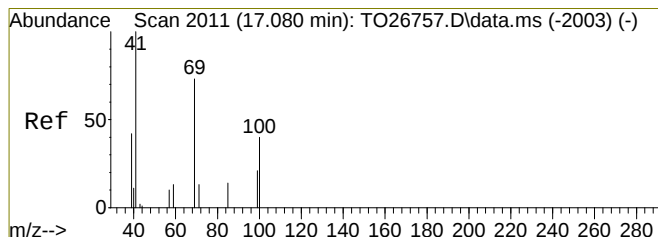
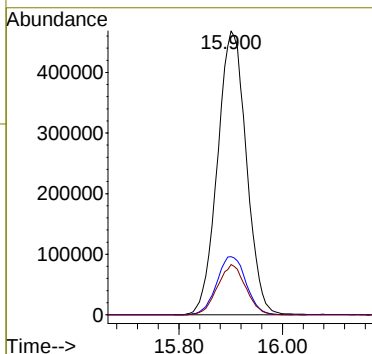
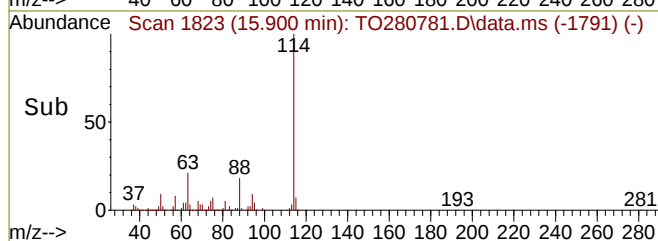
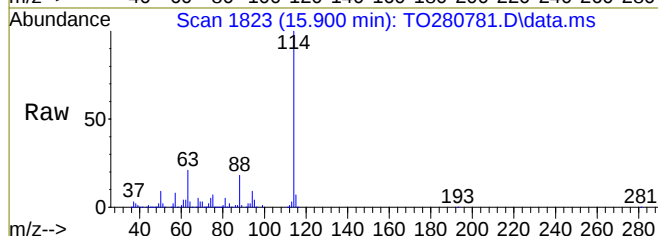
Tgt Ion: 43 Resp: 7721
Ion Ratio Lower Upper
43 100
43 100.0 80.0 120.0
57 62.3 39.8 59.8#
100 23.5 12.6 18.8#





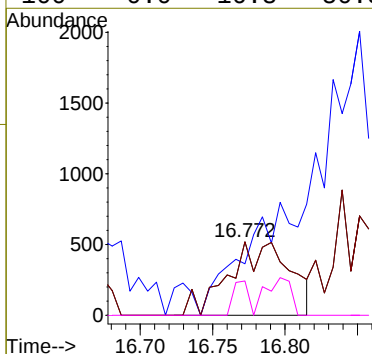
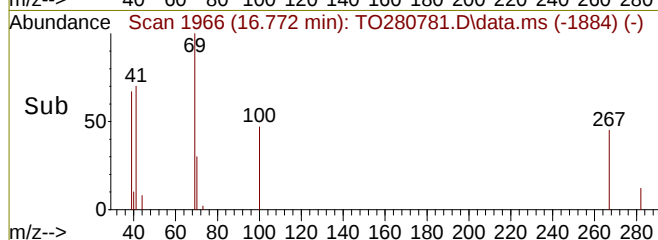
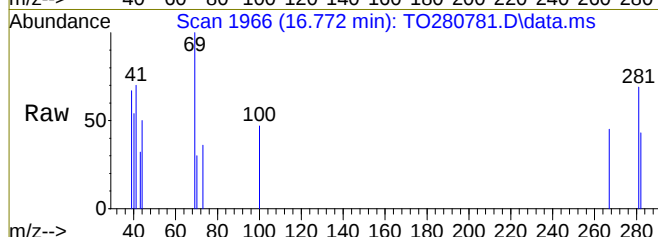
#37
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 15.900 min Scan# 1823
Delta R.T. -0.007 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

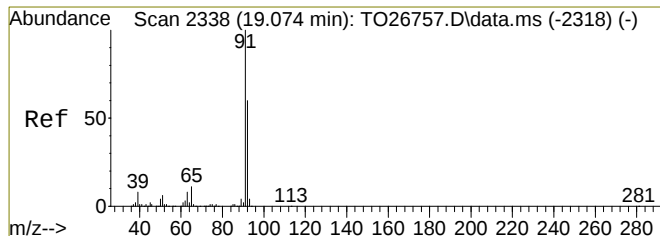
Tgt Ion: 114 Resp: 1818155
Ion Ratio Lower Upper
114 100
63 20.9 14.0 29.2
88 17.2 11.2 23.2



#40
Methyl Methacrylate
Concen: 0.04 ppbv
RT: 16.772 min Scan# 1966
Delta R.T. 0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

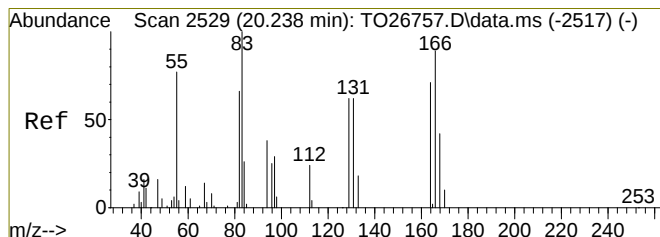
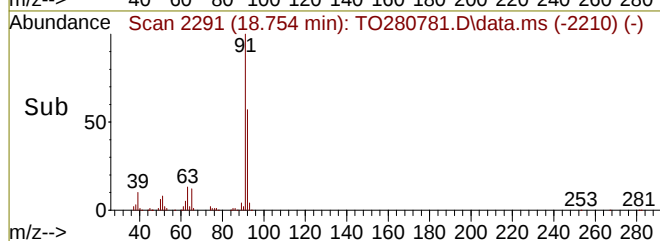
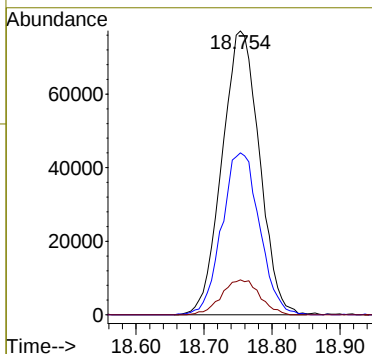
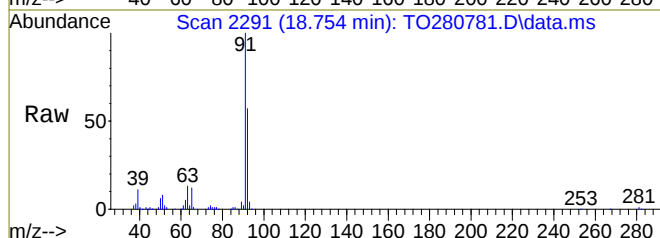
Tgt Ion: 69 Resp: 1539
Ion Ratio Lower Upper
69 100
41 0.0 25.3 75.9#
69 100.0 50.0 150.0
100 0.0 16.8 50.3#





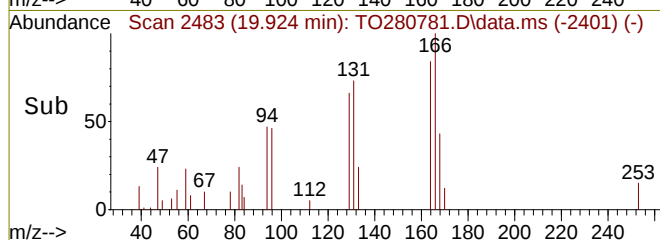
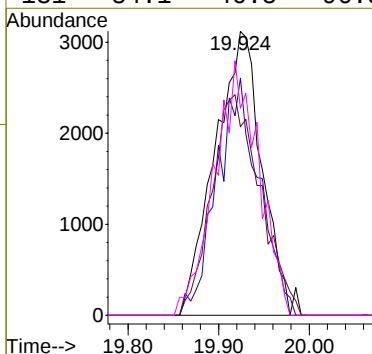
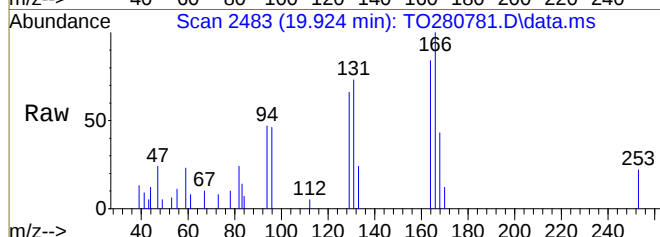
#45
Toluene
Concen: 1.72 ppbv
RT: 18.754 min Scan# 2291
Delta R.T. -0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

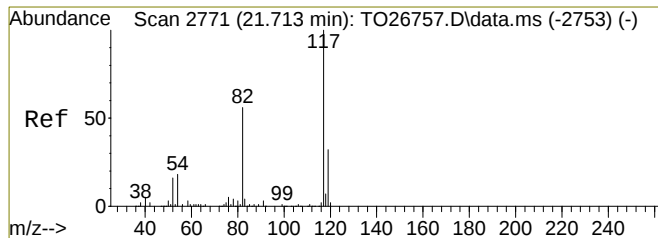
Tgt Ion: 91 Resp: 295125
Ion Ratio Lower Upper
91 100
92 57.4 39.0 81.0
65 12.6 7.7 16.1



#50
Tetrachloroethylene
Concen: 0.11 ppbv
RT: 19.924 min Scan# 2483
Delta R.T. 0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

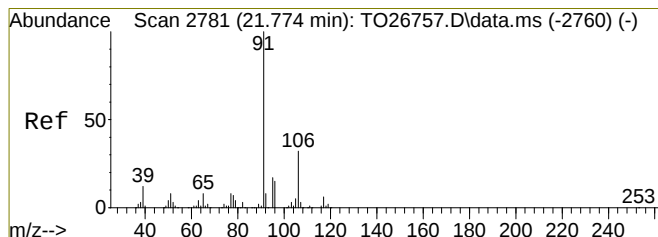
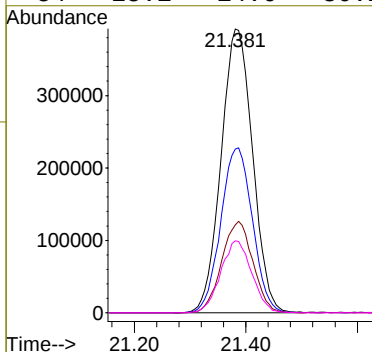
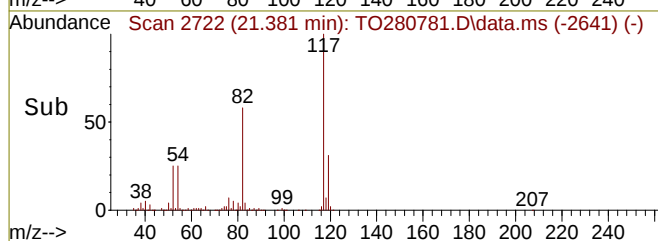
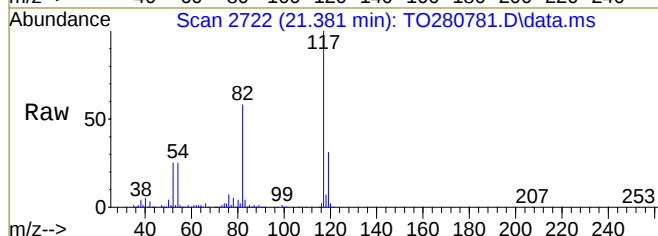
Tgt Ion: 166 Resp: 11267
Ion Ratio Lower Upper
166 100
164 75.5 51.4 106.8
129 80.5 47.0 97.6
131 84.1 46.5 96.5





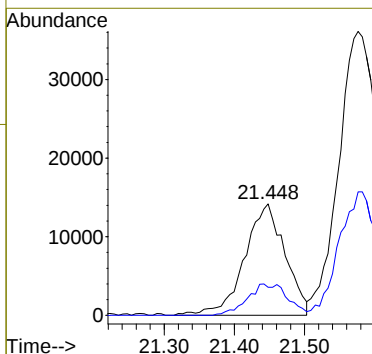
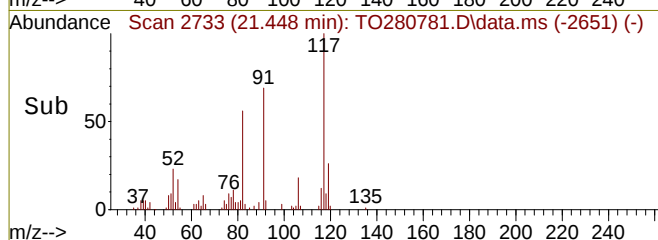
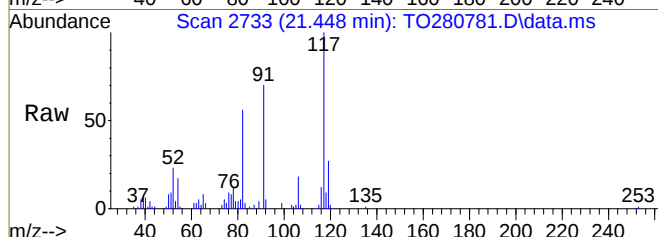
#53
d5-Chlorobenzene
Concen: 10.00 ppbv
RT: 21.381 min Scan# 2722
Delta R.T. -0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

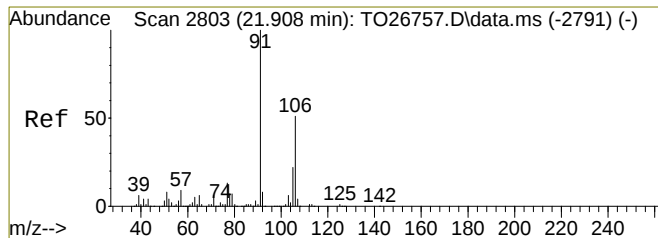
Tgt Ion: 117 Resp: 1542712
Ion Ratio Lower Upper
117 100
82 58.4 38.7 80.5
119 31.9 20.3 42.3
54 25.1 14.6 30.2



#56
Ethylbenzene
Concen: 0.25 ppbv
RT: 21.448 min Scan# 2733
Delta R.T. 0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

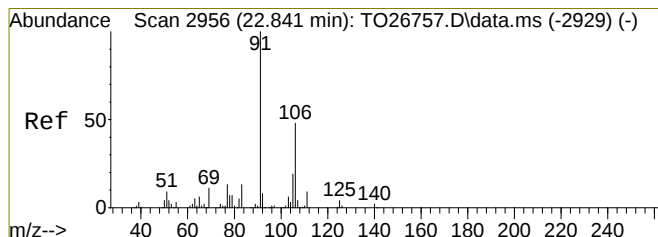
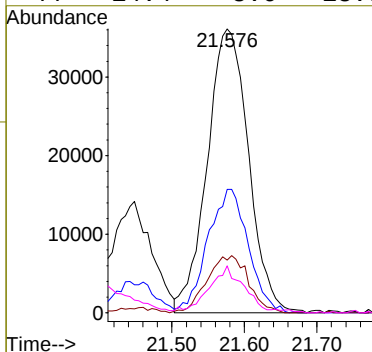
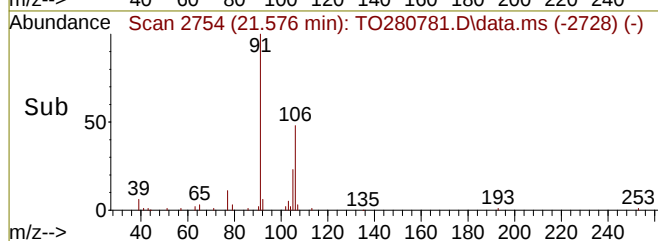
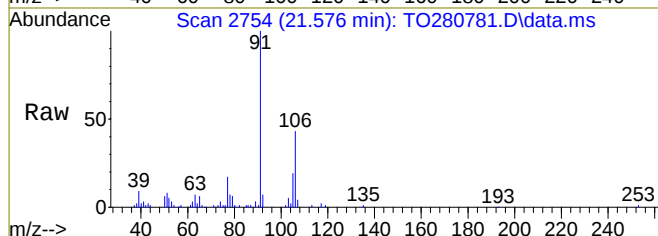
Tgt Ion: 91 Resp: 56969
Ion Ratio Lower Upper
91 100
106 27.8 20.3 42.3





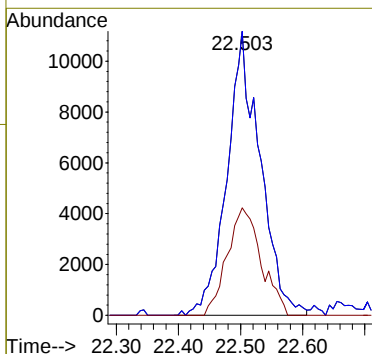
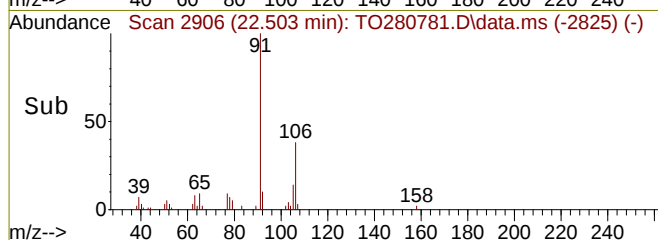
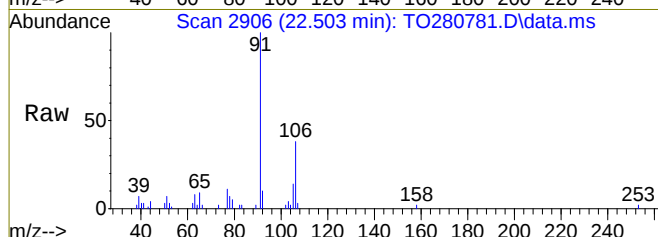
#57
p- & m-Xylenes
Concen: 0.80 ppbv
RT: 21.576 min Scan# 2754
Delta R.T. 0.000 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

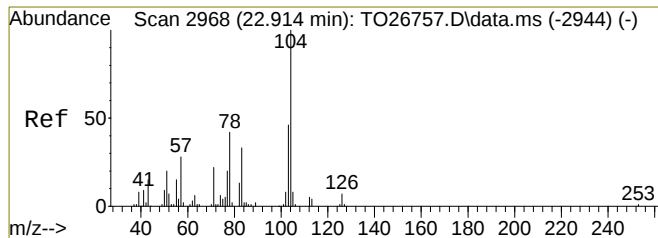
Tgt Ion: 91 Resp: 143102
Ion Ratio Lower Upper
91 100
106 42.6 31.0 64.4
105 20.2 13.4 27.8
77 14.4 8.6 18.0



#58
o-Xylene
Concen: 0.23 ppbv
RT: 22.503 min Scan# 2906
Delta R.T. -0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

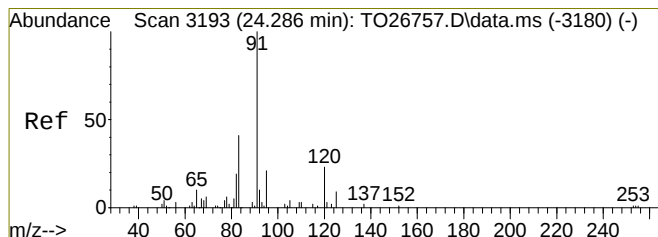
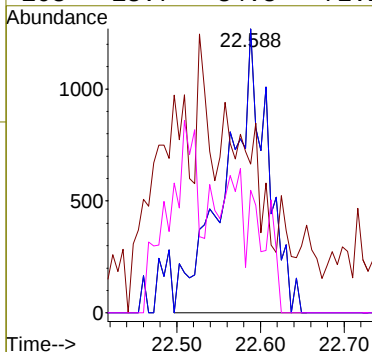
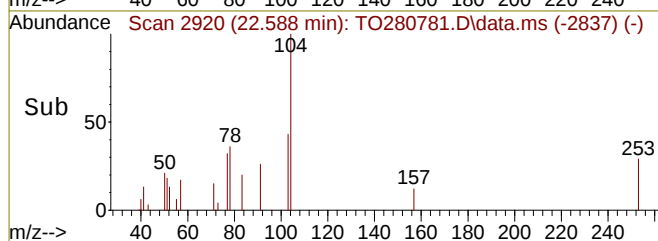
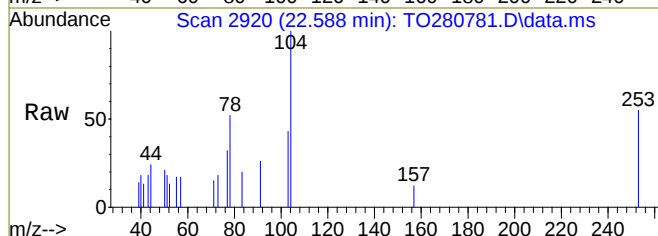
Tgt Ion: 91 Resp: 41366
Ion Ratio Lower Upper
91 100
91 100.0 80.0 120.0
106 38.9 36.9 55.3





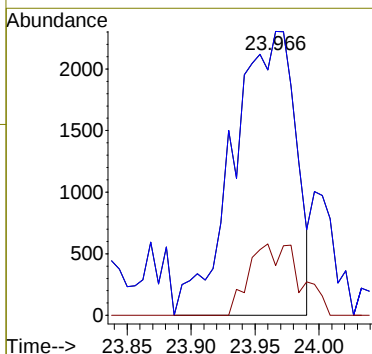
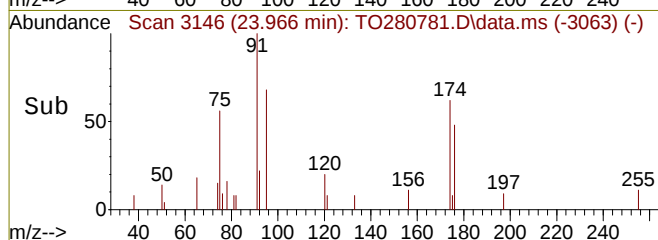
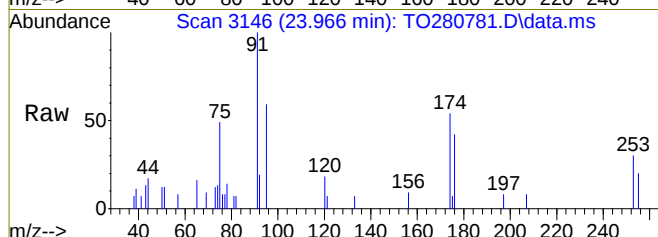
#59
Styrene
Concen: 0.04 ppbv
RT: 22.588 min Scan# 2920
Delta R.T. 0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

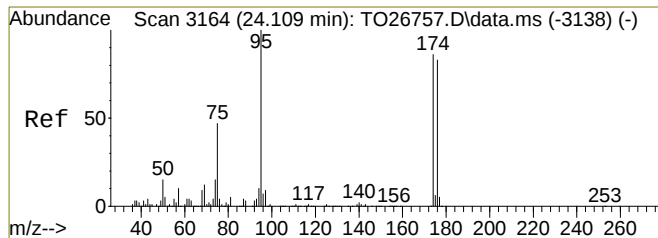
Tgt Ion: 104 Resp: 4334
Ion Ratio Lower Upper
104 100
104 100.0 65.0 135.0
78 0.0 0.0 0.0
103 13.7 34.8 72.2#



#61
n-Propylbenzene
Concen: 0.03 ppbv
RT: 23.966 min Scan# 3146
Delta R.T. 0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

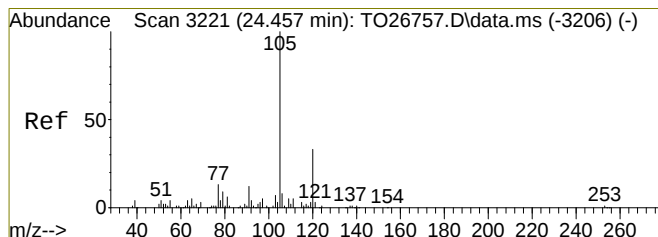
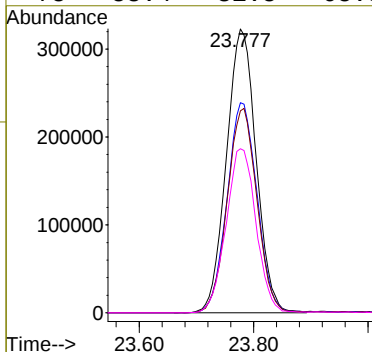
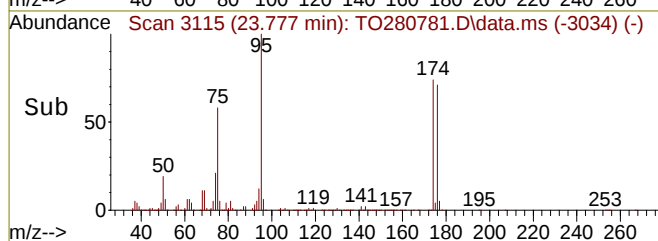
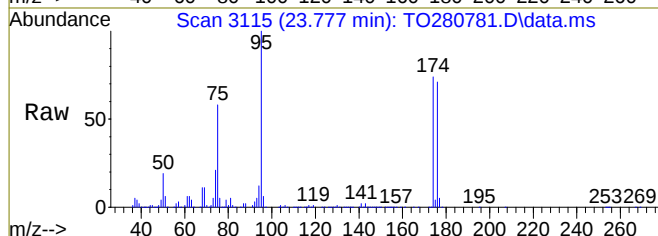
Tgt Ion: 91 Resp: 7835
Ion Ratio Lower Upper
91 100
91 100.0 80.0 120.0
120 20.5 11.0 33.0





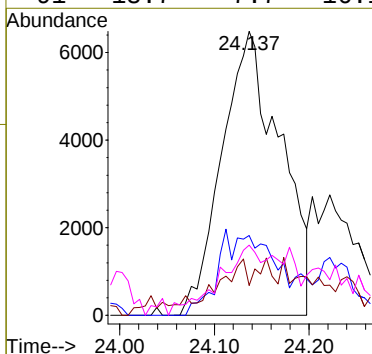
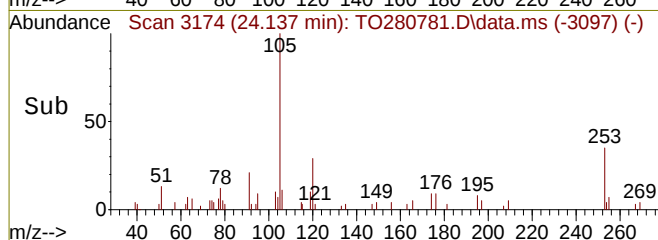
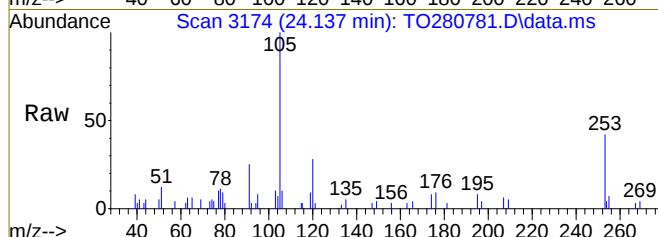
#64
p-Bromofluorobenzene
Concen: 10.17 ppbv
RT: 23.777 min Scan# 3115
Delta R.T. -0.006 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

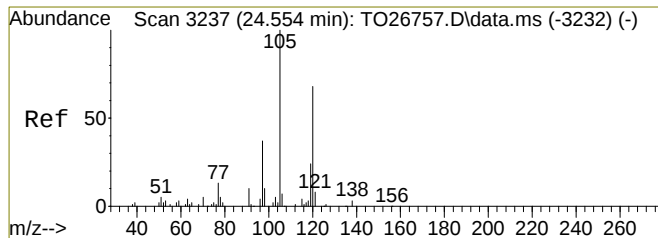
Tgt Ion: 95 Resp: 1165227
Ion Ratio Lower Upper
95 100
174 74.6 50.0 103.8
176 71.9 48.2 100.2
75 58.4 31.5 65.3



#65
4-Ethyltoluene
Concen: 0.11 ppbv
RT: 24.137 min Scan# 3174
Delta R.T. -0.030 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

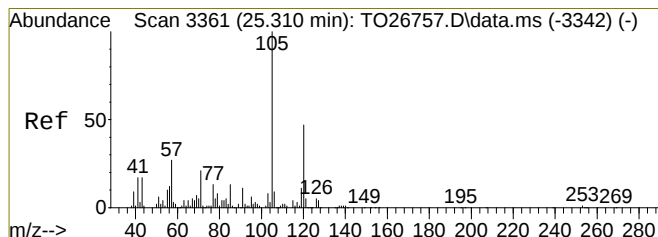
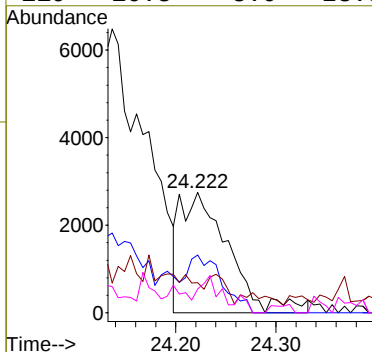
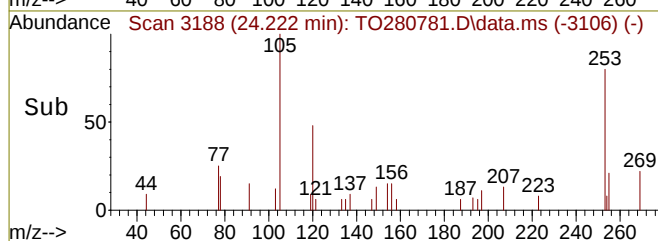
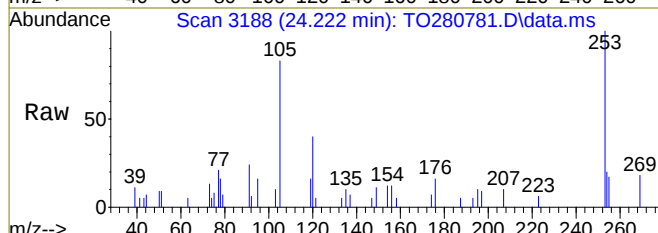
Tgt Ion: 105 Resp: 27893
Ion Ratio Lower Upper
105 100
120 18.7 17.2 35.6
77 6.0 7.6 15.8#
91 18.7 7.7 16.1#





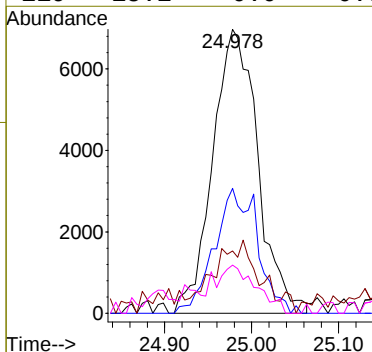
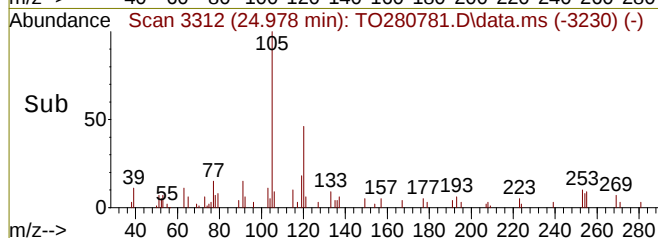
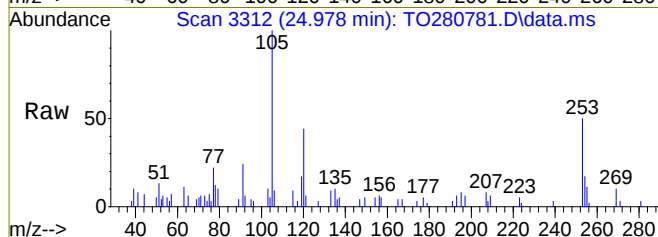
#66
 1,3,5-Trimethylbenzene
 Concen: 0.05 ppbv m
 RT: 24.222 min Scan# 3188
 Delta R.T. 0.000 min
 Lab File: T0280781.D
 Acq: 10 Oct 2019 8:57 pm

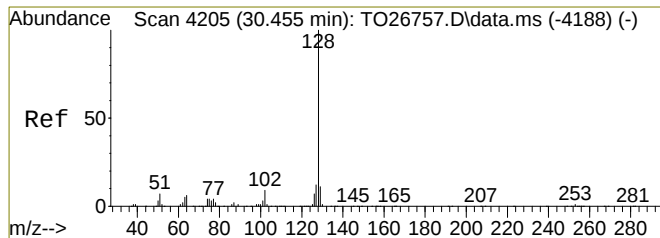
Tgt Ion:	105	Resp:	9191
Ion Ratio	Lower	Upper	
105	100		
120	56.7	43.4	65.2
77	18.3	10.8	16.2#
119	16.3	8.0	23.8



#68
 1,2,4-Trimethylbenzene
 Concen: 0.11 ppbv
 RT: 24.978 min Scan# 3312
 Delta R.T. -0.000 min
 Lab File: T0280781.D
 Acq: 10 Oct 2019 8:57 pm

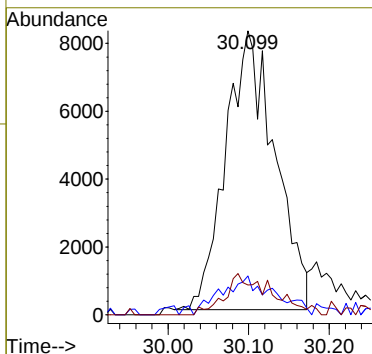
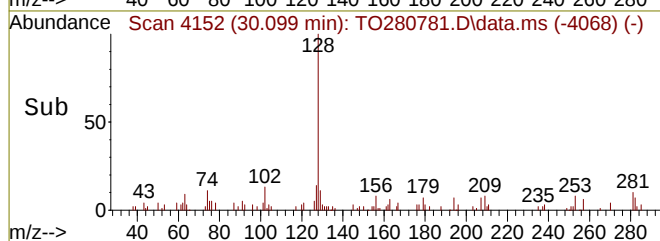
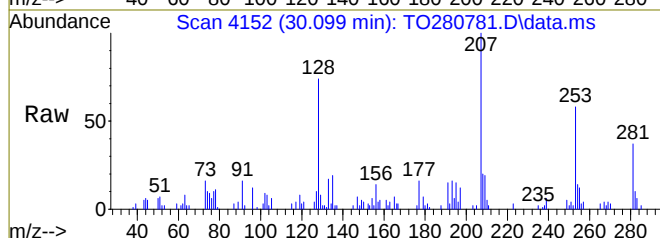
Tgt Ion:	105	Resp:	25164
Ion Ratio	Lower	Upper	
105	100		
120	42.0	29.0	60.2
77	18.6	8.2	17.0#
119	15.1	0.0	0.0#





#78
Naphthalene
Concen: 0.16 ppbv
RT: 30.099 min Scan# 4152
Delta R.T. 0.012 min
Lab File: T0280781.D
Acq: 10 Oct 2019 8:57 pm

Tgt Ion:128 Resp: 34956
Ion Ratio Lower Upper
128 100
127 10.0 8.1 16.9
129 14.1 7.3 15.1



FORM III

LCS / LCS DUPLICATE RECOVERY

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Matrix: AirBatch: BJ90653Laboratory ID: BJ90653-BS1Preparation: EPA TO15 PREPInitial/Final: 400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	10.0	9.73	97.3	70 - 130
1,1,1-Trichloroethane	10.0	10.5	105	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.77	97.7	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.0	9.85	98.5	70 - 130
1,1,2-Trichloroethane	10.0	9.91	99.1	70 - 130
1,1-Dichloroethane	10.0	9.84	98.4	70 - 130
1,1-Dichloroethylene	10.0	9.40	94.0	70 - 130
1,2,4-Trichlorobenzene	10.0	8.85	88.5	70 - 130
1,2,4-Trimethylbenzene	10.0	10.0	100	70 - 130
1,2-Dibromoethane	10.0	9.98	99.8	70 - 130
1,2-Dichlorobenzene	10.0	9.79	97.9	70 - 130
1,2-Dichloroethane	10.0	10.2	102	70 - 130
1,2-Dichloropropane	10.0	9.33	93.3	70 - 130
1,2-Dichlorotetrafluoroethane	10.0	10.3	103	70 - 130
1,3,5-Trimethylbenzene	10.0	9.78	97.8	70 - 130
1,3-Butadiene	10.0	7.75	77.5	70 - 130
1,3-Dichlorobenzene	10.0	10.0	100	70 - 130
1,3-Dichloropropane	10.0	9.77	97.7	70 - 130
1,4-Dichlorobenzene	10.0	10.1	101	70 - 130
1,4-Dioxane	10.0	9.16	91.6	70 - 130
2-Butanone	10.0	9.41	94.1	70 - 130
2-Hexanone	10.0	9.56	95.6	70 - 130
3-Chloropropene	10.0	9.40	94.0	70 - 130
4-Methyl-2-pentanone	10.0	9.49	94.9	70 - 130
Acetone	10.0	8.04	80.4	70 - 130
Acrylonitrile	10.0	8.99	89.9	70 - 130
Benzene	10.0	9.55	95.5	70 - 130
Benzyl chloride	10.0	11.9	119	70 - 130
Bromodichloromethane	10.0	10.2	102	70 - 130
Bromoform	10.0	10.1	101	70 - 130

FORM III**LCS / LCS DUPLICATE RECOVERY****EPA TO-15**Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Matrix: AirBatch: BJ90653Laboratory ID: BJ90653-BS1Preparation: EPA TO15 PREPInitial/Final: 400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Bromomethane	10.0	9.11	91.1	70 - 130
Carbon disulfide	10.0	10.1	101	70 - 130
Carbon tetrachloride	10.0	9.88	98.8	70 - 130
Chlorobenzene	10.0	9.45	94.5	70 - 130
Chloroethane	10.0	9.32	93.2	70 - 130
Chloroform	10.0	10.2	102	70 - 130
Chloromethane	10.0	8.30	83.0	70 - 130
cis-1,2-Dichloroethylene	10.0	9.71	97.1	70 - 130
cis-1,3-Dichloropropylene	10.0	10.4	104	70 - 130
Cyclohexane	10.0	9.81	98.1	70 - 130
Dibromochloromethane	10.0	10.1	101	70 - 130
Dichlorodifluoromethane	10.0	9.75	97.5	70 - 130
Ethyl acetate	10.0	10.7	107	70 - 130
Ethyl Benzene	10.0	9.28	92.8	70 - 130
Hexachlorobutadiene	10.0	9.24	92.4	70 - 130
Isopropanol	10.0	8.64	86.4	70 - 130
Methyl Methacrylate	10.0	9.66	96.6	70 - 130
Methyl tert-butyl ether (MTBE)	10.0	10.2	102	70 - 130
Methylene chloride	10.0	10.1	101	70 - 130
n-Heptane	10.0	9.88	98.8	70 - 130
n-Hexane	10.0	9.65	96.5	70 - 130
o-Xylene	10.0	9.91	99.1	70 - 130
p- & m- Xylenes	20.0	19.6	98.0	70 - 130
p-Ethyltoluene	10.0	10.6	106	70 - 130
Propylene	10.0	8.90	89.0	70 - 130
Styrene	10.0	10.0	100	70 - 130
Tetrachloroethylene	10.0	8.50	85.0	70 - 130
Tetrahydrofuran	10.0	9.52	95.2	70 - 130
Toluene	10.0	9.21	92.1	70 - 130
trans-1,2-Dichloroethylene	10.0	9.99	99.9	70 - 130

FORM III**LCS / LCS DUPLICATE RECOVERY
EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Matrix: Air
Batch: BJ90653 Laboratory ID: BJ90653-BS1
Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropylene	10.0	9.81	98.1	70 - 130
Trichloroethylene	10.0	9.34	93.4	70 - 130
Trichlorofluoromethane (Freon 11)	10.0	9.93	99.3	70 - 130
Vinyl acetate	10.0	9.07	90.7	70 - 130
Vinyl bromide	10.0	9.76	97.6	70 - 130
Vinyl Chloride	10.0	7.98	79.8	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV**PREPARATION BATCH SUMMARY****EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Batch: BJ90653 Batch Matrix: Air Preparation: EPA TO15 PREP

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SV16_100319	19J0219-01	TO280773.D	10/10/19 09:00	
SV16_100319	19J0219-01RE1	TO280782.D	10/10/19 09:00	Added 10/11/2019 by AS
SV16_100319	19J0219-01RE2	TO280796.D	10/10/19 09:00	Added 10/11/2019 by AS
SV22_100319	19J0219-02	TO280774.D	10/10/19 09:00	
SV24_100319	19J0219-03	TO280775.D	10/10/19 09:00	
SV24_100319	19J0219-03RE1	TO280779.D	10/10/19 09:00	Added 10/11/2019 by AS
AA01_100319	19J0219-04	TO280780.D	10/10/19 09:00	
Blank	BJ90653-BLK1	TO280772.D	10/10/19 09:00	
LCS	BJ90653-BS1	TO280770.D	10/10/19 09:00	
AA01_100319	BJ90653-DUP1	TO280781.D	10/10/19 09:00	

FORM I**METHOD BLANK DATA SHEET
EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Matrix: Air Laboratory ID: BJ90653-BLK1 File ID: TO280772.D
Prepared: 10/10/19 09:00 Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
Analyzed: 10/10/19 13:20 Instrument: 5975C
Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015

CAS NO.	COMPOUND	CONC. (ug/m ³)	Q
630-20-6	1,1,1,2-Tetrachloroethane	0.69	U
71-55-6	1,1,1-Trichloroethane	0.55	U
79-34-5	1,1,2,2-Tetrachloroethane	0.69	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.77	U
79-00-5	1,1,2-Trichloroethane	0.55	U
75-34-3	1,1-Dichloroethane	0.40	U
75-35-4	1,1-Dichloroethylene	0.099	U
120-82-1	1,2,4-Trichlorobenzene	0.74	U
95-63-6	1,2,4-Trimethylbenzene	0.49	U
106-93-4	1,2-Dibromoethane	0.77	U
95-50-1	1,2-Dichlorobenzene	0.60	U
107-06-2	1,2-Dichloroethane	0.40	U
78-87-5	1,2-Dichloropropane	0.46	U
76-14-2	1,2-Dichlorotetrafluoroethane	0.70	U
108-67-8	1,3,5-Trimethylbenzene	0.49	U
106-99-0	1,3-Butadiene	0.66	U
541-73-1	1,3-Dichlorobenzene	0.60	U
142-28-9	1,3-Dichloropropane	0.46	U
106-46-7	1,4-Dichlorobenzene	0.60	U
123-91-1	1,4-Dioxane	0.72	U
78-93-3	2-Butanone	0.29	U
591-78-6	2-Hexanone	0.82	U
107-05-1	3-Chloropropene	1.6	U
108-10-1	4-Methyl-2-pentanone	0.41	U
67-64-1	Acetone	0.48	U
107-13-1	Acrylonitrile	0.22	U
71-43-2	Benzene	0.32	U
100-44-7	Benzyl chloride	0.52	U
75-27-4	Bromodichloromethane	0.67	U
75-25-2	Bromoform	1.0	U

FORM I**METHOD BLANK DATA SHEET
EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Matrix: Air Laboratory ID: BJ90653-BLK1 File ID: TO280772.D
Prepared: 10/10/19 09:00 Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
Analyzed: 10/10/19 13:20 Instrument: 5975C
Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015

CAS NO.	COMPOUND	CONC. (ug/m ³)	Q
74-83-9	Bromomethane	0.39	U
75-15-0	Carbon disulfide	0.31	U
56-23-5	Carbon tetrachloride	0.16	U
108-90-7	Chlorobenzene	0.46	U
75-00-3	Chloroethane	0.26	U
67-66-3	Chloroform	0.49	U
74-87-3	Chloromethane	0.21	U
156-59-2	cis-1,2-Dichloroethylene	0.099	U
10061-01-5	cis-1,3-Dichloropropylene	0.45	U
110-82-7	Cyclohexane	0.34	U
124-48-1	Dibromochloromethane	0.85	U
75-71-8	Dichlorodifluoromethane	0.49	U
141-78-6	Ethyl acetate	0.72	U
100-41-4	Ethyl Benzene	0.43	U
87-68-3	Hexachlorobutadiene	1.1	U
67-63-0	Isopropanol	0.49	U
80-62-6	Methyl Methacrylate	0.41	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.36	U
75-09-2	Methylene chloride	0.69	U
142-82-5	n-Heptane	0.41	U
110-54-3	n-Hexane	0.35	U
95-47-6	o-Xylene	0.43	U
179601-23-1	p- & m- Xylenes	0.87	U
622-96-8	p-Ethyltoluene	0.49	U
115-07-1	Propylene	0.17	U
100-42-5	Styrene	0.43	U
127-18-4	Tetrachloroethylene	0.17	U
109-99-9	Tetrahydrofuran	0.59	U
108-88-3	Toluene	0.38	U
156-60-5	trans-1,2-Dichloroethylene	0.40	U

FORM I

METHOD BLANK DATA SHEET
EPA TO-15

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Air Laboratory ID: BJ90653-BLK1 File ID: TO280772.D

Prepared: 10/10/19 09:00 Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL

Analyzed: 10/10/19 13:20 Instrument: 5975C

Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015

CAS NO.	COMPOUND	CONC. (ug/m³)	Q
10061-02-6	trans-1,3-Dichloropropylene	0.45	U
79-01-6	Trichloroethylene	0.13	U
75-69-4	Trichlorofluoromethane (Freon 11)	0.56	U
108-05-4	Vinyl acetate	0.35	U
593-60-2	Vinyl bromide	0.44	U
75-01-4	Vinyl Chloride	0.064	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	9.24	92.4	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	410070	14.474	367296	14.48	
ISTD: 1,4-Difluorobenzene	2002976	15.901	1786831	15.907	
ISTD: d5-Chlorobenzene	1744731	21.381	1686833	21.393	

FORM V

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA TO-15

Laboratory:

York Analytical Laboratories, Inc.

SDG:

19J0219

Client:

Langan Engineering & Environmental Services (NYC)

Project:

170396002

Lab File ID:

TO280704.D

Injection Date:

10/07/19

Instrument ID:

5975C

Injection Time:

14:38

Sequence:

Y9J1131

Lab Sample ID:

Y9J1131-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	19.4	PASS
75	30 - 66% of 95	57.7	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.55	PASS
173	Less than 2% of 174	0.643	PASS
174	50 - 120% of 95	78.8	PASS
175	4 - 9% of 174	6.94	PASS
176	93 - 101% of 174	97.7	PASS
177	5 - 9% of 176	6.1	PASS

FORM V

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA TO-15

Laboratory:

York Analytical Laboratories, Inc.

SDG:

19J0219

Client:

Langan Engineering & Environmental Services (NYC)

Project:

170396002

Lab File ID:

TO280768.D

Injection Date:

10/10/19

Instrument ID:

5975C

Injection Time:

10:01

Sequence:

Y9J1132

Lab Sample ID:

Y9J1132-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	20	PASS
75	30 - 66% of 95	60.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.37	PASS
173	Less than 2% of 174	0.75	PASS
174	50 - 120% of 95	76.2	PASS
175	4 - 9% of 174	6.86	PASS
176	93 - 101% of 174	96	PASS
177	5 - 9% of 176	6.46	PASS

FORM V**ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J1131 Instrument: 5975C
Calibration: YJ90015

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J1131-TUN1	TO280704.D	10/07/19 14:38
Cal Standard	Y9J1131-CAL1	TO280705.D	10/07/19 15:24
Cal Standard	Y9J1131-CAL2	TO280706.D	10/07/19 16:10
Cal Standard	Y9J1131-CAL3	TO280707.D	10/07/19 16:56
Cal Standard	Y9J1131-CAL4	TO280708.D	10/07/19 17:44
Cal Standard	Y9J1131-CAL5	TO280709.D	10/07/19 18:36
Cal Standard	Y9J1131-CAL6	TO280710.D	10/07/19 19:22
Cal Standard	Y9J1131-CAL7	TO280711.D	10/07/19 20:09
Cal Standard	Y9J1131-CAL8	TO280712.D	10/07/19 20:59
Cal Standard	Y9J1131-CAL9	TO280713.D	10/07/19 21:51
Cal Standard	Y9J1131-CALA	TO280714.D	10/07/19 22:47
Secondary Cal Check	Y9J1131-SCV1	TO280716.D	10/08/19 00:26

FORM V**ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J1132 Instrument: 5975C
Calibration: YJ90015

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J1132-TUN1	TO280768.D	10/10/19 10:01
Calibration Check	Y9J1132-CCV1	TO280769.D	10/10/19 10:48
LCS	BJ90653-BS1	TO280770.D	10/10/19 11:36
Blank	BJ90653-BLK1	TO280772.D	10/10/19 13:20
SV16_100319	19J0219-01	TO280773.D	10/10/19 14:28
SV22_100319	19J0219-02	TO280774.D	10/10/19 15:13
SV24_100319	19J0219-03	TO280775.D	10/10/19 15:59
SV24_100319	19J0219-03RE1	TO280779.D	10/10/19 19:01
AA01_100319	19J0219-04	TO280780.D	10/10/19 19:59
AA01_100319	BJ90653-DUP1	TO280781.D	10/10/19 20:57
SV16_100319	19J0219-01RE1	TO280782.D	10/10/19 21:43
SV16_100319	19J0219-01RE2	TO280796.D	10/11/19 09:38

FORM VIII

INTERNAL STANDARD AREA AND RT SUMMARY
EPA TO-15

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Sequence: Y9J1131 Instrument: 5975C
 Calibration: YJ90015

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (Y9J1131-CAL1)		Lab File ID: TO280705.D			Analyzed: 10/07/19 15:24				
Bromochloromethane	484088	14.486	460634	14.486	105	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	2298065	15.907	2208378	15.907	104	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	2002731	21.387	2074951	21.387	97	60 - 140	0.0000	+/-0.33	
Cal Standard (Y9J1131-CAL2)		Lab File ID: TO280706.D			Analyzed: 10/07/19 16:10				
Bromochloromethane	467042	14.48	460634	14.486	101	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	2215069	15.907	2208378	15.907	100	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	1976468	21.387	2074951	21.387	95	60 - 140	0.0000	+/-0.33	
Cal Standard (Y9J1131-CAL3)		Lab File ID: TO280707.D			Analyzed: 10/07/19 16:56				
Bromochloromethane	457601	14.48	460634	14.486	99	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	2216819	15.907	2208378	15.907	100	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	1962553	21.387	2074951	21.387	95	60 - 140	0.0000	+/-0.33	
Cal Standard (Y9J1131-CAL4)		Lab File ID: TO280708.D			Analyzed: 10/07/19 17:44				
Bromochloromethane	447707	14.486	460634	14.486	97	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	2139424	15.907	2208378	15.907	97	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	1900419	21.381	2074951	21.387	92	60 - 140	-0.0060	+/-0.33	
Cal Standard (Y9J1131-CAL5)		Lab File ID: TO280709.D			Analyzed: 10/07/19 18:36				
Bromochloromethane	441312	14.486	460634	14.486	96	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	2125643	15.9	2208378	15.907	96	60 - 140	-0.0070	+/-0.33	
ISTD: d5-Chlorobenzene	1894266	21.387	2074951	21.387	91	60 - 140	0.0000	+/-0.33	
Cal Standard (Y9J1131-CAL6)		Lab File ID: TO280710.D			Analyzed: 10/07/19 19:22				
Bromochloromethane	443496	14.48	460634	14.486	96	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	2152679	15.906	2208378	15.907	97	60 - 140	-0.0010	+/-0.33	
ISTD: d5-Chlorobenzene	1962819	21.387	2074951	21.387	95	60 - 140	0.0000	+/-0.33	
Cal Standard (Y9J1131-CAL7)		Lab File ID: TO280711.D			Analyzed: 10/07/19 20:09				
Bromochloromethane	460634	14.486	460634	14.486	100	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	2208378	15.907	2208378	15.907	100	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	2074951	21.387	2074951	21.387	100	60 - 140	0.0000	+/-0.33	
Cal Standard (Y9J1131-CAL8)		Lab File ID: TO280712.D			Analyzed: 10/07/19 20:59				
Bromochloromethane	477391	14.48	460634	14.486	104	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	2249195	15.907	2208378	15.907	102	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	2107592	21.387	2074951	21.387	102	60 - 140	0.0000	+/-0.33	
Cal Standard (Y9J1131-CAL9)		Lab File ID: TO280713.D			Analyzed: 10/07/19 21:51				
Bromochloromethane	497905	14.48	460634	14.486	108	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	2341237	15.907	2208378	15.907	106	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	2156303	21.387	2074951	21.387	104	60 - 140	0.0000	+/-0.33	

FORM VIII

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Laboratory:York Analytical Laboratories, Inc.SDG:19J0219

Client:Langan Engineering & Environmental Services (NYC)Project:170396002

Sequence:Y9J1131Instrument:5975C

Calibration:YJ90015

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (Y9J1131-CALA)			Lab File ID: TO280714.D			Analyzed: 10/07/19 22:47			
Bromochloromethane	518067	14.48	460634	14.486	112	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	2377949	15.907	2208378	15.907	108	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	2217074	21.387	2074951	21.387	107	60 - 140	0.0000	+/-0.33	
Secondary Cal Check (Y9J1131-SCV1)			Lab File ID: TO280716.D			Analyzed: 10/08/19 00:26			
Bromochloromethane	489378	14.474	460634	14.486	106	60 - 140	-0.0120	+/-0.33	
ISTD: 1,4-Difluorobenzene	2319882	15.906	2208378	15.907	105	60 - 140	-0.0010	+/-0.33	
ISTD: d5-Chlorobenzene	2152850	21.387	2074951	21.387	104	60 - 140	0.0000	+/-0.33	

FORM VIII

INTERNAL STANDARD AREA AND RT SUMMARY
EPA TO-15Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC) Project: 170396002Sequence: Y9J1132Instrument: 5975CCalibration: YJ90015

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J1132-CCV1)			Lab File ID: TO280769.D			Analyzed: 10/10/19 10:48			
Bromochloromethane	367296	14.48				60 - 140		+/-0.33	
ISTD: 1,4-Difluorobenzene	1786831	15.907				60 - 140		+/-0.33	
ISTD: d5-Chlorobenzene	1686833	21.393				60 - 140		+/-0.33	
LCS (BJ90653-BS1)			Lab File ID: TO280770.D			Analyzed: 10/10/19 11:36			
Bromochloromethane	387440	14.486	367296	14.48	105	60 - 140	0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	1891661	15.907	1786831	15.907	106	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	1773959	21.381	1686833	21.393	105	60 - 140	-0.0120	+/-0.33	
Blank (BJ90653-BLK1)			Lab File ID: TO280772.D			Analyzed: 10/10/19 13:20			
Bromochloromethane	410070	14.474	367296	14.48	112	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	2002976	15.901	1786831	15.907	112	60 - 140	-0.0060	+/-0.33	
ISTD: d5-Chlorobenzene	1744731	21.381	1686833	21.393	103	60 - 140	-0.0120	+/-0.33	
SV16_100319 (19J0219-01)			Lab File ID: TO280773.D			Analyzed: 10/10/19 14:28			
Bromochloromethane	459882	14.474	367296	14.48	125	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	1899260	15.907	1786831	15.907	106	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	1673837	21.387	1686833	21.393	99	60 - 140	-0.0060	+/-0.33	
SV22_100319 (19J0219-02)			Lab File ID: TO280774.D			Analyzed: 10/10/19 15:13			
Bromochloromethane	428601	14.48	367296	14.48	117	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	1977428	15.907	1786831	15.907	111	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	1693196	21.387	1686833	21.393	100	60 - 140	-0.0060	+/-0.33	
SV24_100319 (19J0219-03)			Lab File ID: TO280775.D			Analyzed: 10/10/19 15:59			
Bromochloromethane	401407	14.48	367296	14.48	109	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	1855789	15.906	1786831	15.907	104	60 - 140	-0.0010	+/-0.33	
ISTD: d5-Chlorobenzene	1577756	21.387	1686833	21.393	94	60 - 140	-0.0060	+/-0.33	
SV24_100319 (19J0219-03RE1)			Lab File ID: TO280779.D			Analyzed: 10/10/19 19:01			
Bromochloromethane	350525	14.48	367296	14.48	95	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	1652537	15.907	1786831	15.907	92	60 - 140	0.0000	+/-0.33	
ISTD: d5-Chlorobenzene	1388302	21.387	1686833	21.393	82	60 - 140	-0.0060	+/-0.33	
AA01_100319 (19J0219-04)			Lab File ID: TO280780.D			Analyzed: 10/10/19 19:59			
Bromochloromethane	376284	14.48	367296	14.48	102	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	1798368	15.901	1786831	15.907	101	60 - 140	-0.0060	+/-0.33	
ISTD: d5-Chlorobenzene	1514389	21.387	1686833	21.393	90	60 - 140	-0.0060	+/-0.33	
Duplicate (BJ90653-DUP1)			Lab File ID: TO280781.D			Analyzed: 10/10/19 20:57			
Bromochloromethane	376575	14.474	367296	14.48	103	60 - 140	-0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	1818155	15.9	1786831	15.907	102	60 - 140	-0.0070	+/-0.33	
ISTD: d5-Chlorobenzene	1542712	21.381	1686833	21.393	91	60 - 140	-0.0120	+/-0.33	

FORM VIII

INTERNAL STANDARD AREA AND RT SUMMARY EPA TO-15

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Sequence: Y9J1132 Instrument: 5975C
 Calibration: YJ90015

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
SV16_100319 (19J0219-01RE1)			Lab File ID: TO280782.D			Analyzed: 10/10/19 21:43			
Bromochloromethane	366713	14.486	367296	14.48	100	60 - 140	0.0060	+/-0.33	
ISTD: 1,4-Difluorobenzene	1821491	15.901	1786831	15.907	102	60 - 140	-0.0060	+/-0.33	
ISTD: d5-Chlorobenzene	1620817	21.387	1686833	21.393	96	60 - 140	-0.0060	+/-0.33	
SV16_100319 (19J0219-01RE2)			Lab File ID: TO280796.D			Analyzed: 10/11/19 09:38			
Bromochloromethane	450051	14.48	367296	14.48	123	60 - 140	0.0000	+/-0.33	
ISTD: 1,4-Difluorobenzene	2070030	15.906	1786831	15.907	116	60 - 140	-0.0010	+/-0.33	
ISTD: d5-Chlorobenzene	1772138	21.387	1686833	21.393	105	60 - 140	-0.0060	+/-0.33	

HOLDING TIME SUMMARY

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SV16_100319	10/03/19 12:38	10/03/19 17:00	10/10/19 09:00	6.85	30.00	10/10/19 14:28	7.08	30.00	
SV16_100319	10/03/19 12:38	10/03/19 17:00	10/10/19 09:00	6.85	30.00	10/10/19 21:43	7.38	30.00	
SV16_100319	10/03/19 12:38	10/03/19 17:00	10/10/19 09:00	6.85	30.00	10/11/19 09:38	7.88	30.00	
SV22_100319	10/03/19 13:05	10/03/19 17:00	10/10/19 09:00	6.83	30.00	10/10/19 15:13	7.09	30.00	
SV24_100319	10/03/19 13:19	10/03/19 17:00	10/10/19 09:00	6.82	30.00	10/10/19 15:59	7.11	30.00	
SV24_100319	10/03/19 13:19	10/03/19 17:00	10/10/19 09:00	6.82	30.00	10/10/19 19:01	7.24	30.00	
AA01_100319	10/03/19 12:41	10/03/19 17:00	10/10/19 09:00	6.85	30.00	10/10/19 19:59	7.30	30.00	

METHOD DETECTION AND REPORTING LIMITS

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Matrix: Air

Instrument: 5975C

Analyte	LOD	LOQ	Units
1,1,1,2-Tetrachloroethane	0.7	0.7	ug/m ³
1,1,1-Trichloroethane	0.55	0.55	ug/m ³
1,1,2,2-Tetrachloroethane	0.7	0.7	ug/m ³
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.78	0.78	ug/m ³
1,1,2-Trichloroethane	0.55	0.55	ug/m ³
1,1-Dichloroethane	0.41	0.41	ug/m ³
1,1-Dichloroethylene	0.1	0.1	ug/m ³
1,2,4-Trichlorobenzene	0.75	0.75	ug/m ³
1,2,4-Trimethylbenzene	0.5	0.5	ug/m ³
1,2-Dibromoethane	0.78	0.78	ug/m ³
1,2-Dichlorobenzene	0.61	0.61	ug/m ³
1,2-Dichloroethane	0.41	0.41	ug/m ³
1,2-Dichloropropane	0.47	0.47	ug/m ³
1,2-Dichlorotetrafluoroethane	0.71	0.71	ug/m ³
1,3,5-Trimethylbenzene	0.5	0.5	ug/m ³
1,3-Butadiene	0.68	0.68	ug/m ³
1,3-Dichlorobenzene	0.61	0.61	ug/m ³
1,3-Dichloropropane	0.47	0.47	ug/m ³
1,4-Dichlorobenzene	0.61	0.61	ug/m ³
1,4-Dioxane	0.73	0.73	ug/m ³
2-Butanone	0.3	0.3	ug/m ³
2-Hexanone	0.83	0.83	ug/m ³
3-Chloropropene	1.6	1.6	ug/m ³
4-Methyl-2-pentanone	0.42	0.42	ug/m ³
Acetone	0.48	0.48	ug/m ³
Acrylonitrile	0.22	0.22	ug/m ³
Benzene	0.32	0.32	ug/m ³
Benzyl chloride	0.53	0.53	ug/m ³
Bromodichloromethane	0.68	0.68	ug/m ³
Bromoform	1.1	1.1	ug/m ³
Bromomethane	0.39	0.39	ug/m ³
Carbon disulfide	0.32	0.32	ug/m ³
Carbon tetrachloride	0.16	0.16	ug/m ³
Chlorobenzene	0.47	0.47	ug/m ³
Chloroethane	0.27	0.27	ug/m ³
Chloroform	0.5	0.5	ug/m ³

METHOD DETECTION AND REPORTING LIMITS

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Matrix: Air

Instrument: 5975C

Analyte	LOD	LOQ	Units
Chloromethane	0.21	0.21	ug/m ³
cis-1,2-Dichloroethylene	0.1	0.1	ug/m ³
cis-1,3-Dichloropropylene	0.46	0.46	ug/m ³
Cyclohexane	0.35	0.35	ug/m ³
Dibromochloromethane	0.87	0.87	ug/m ³
Dichlorodifluoromethane	0.5	0.5	ug/m ³
Ethyl acetate	0.73	0.73	ug/m ³
Ethyl Benzene	0.44	0.44	ug/m ³
Hexachlorobutadiene	1.1	1.1	ug/m ³
Isopropanol	0.5	0.5	ug/m ³
Methyl Methacrylate	0.42	0.42	ug/m ³
Methyl tert-butyl ether (MTBE)	0.37	0.37	ug/m ³
Methylene chloride	0.71	0.71	ug/m ³
n-Heptane	0.42	0.42	ug/m ³
n-Hexane	0.36	0.36	ug/m ³
o-Xylene	0.44	0.44	ug/m ³
p- & m- Xylenes	0.88	0.88	ug/m ³
p-Ethyltoluene	0.5	0.5	ug/m ³
Propylene	0.18	0.18	ug/m ³
Styrene	0.43	0.43	ug/m ³
Tetrachloroethylene	0.17	0.17	ug/m ³
Tetrahydrofuran	0.6	0.6	ug/m ³
Toluene	0.38	0.38	ug/m ³
trans-1,2-Dichloroethylene	0.4	0.4	ug/m ³
trans-1,3-Dichloropropylene	0.46	0.46	ug/m ³
Trichloroethylene	0.14	0.14	ug/m ³
Trichlorofluoromethane (Freon 11)	0.57	0.57	ug/m ³
Vinyl acetate	0.36	0.36	ug/m ³
Vinyl bromide	0.44	0.44	ug/m ³
Vinyl Chloride	0.065	0.065	ug/m ³

AIR Sample Data

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

SV16_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Soil Vapor Laboratory ID: 19J0219-01 File ID: TO280773.D
 Sampled: 10/03/19 12:38 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 14:28
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
630-20-6	1,1,1,2-Tetrachloroethane	15.7	11	U
71-55-6	1,1,1-Trichloroethane	15.7	8.6	U
79-34-5	1,1,2,2-Tetrachloroethane	15.7	11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	15.7	12	U
79-00-5	1,1,2-Trichloroethane	15.7	8.6	U
75-34-3	1,1-Dichloroethane	15.7	6.4	U
75-35-4	1,1-Dichloroethylene	15.7	1.6	U
120-82-1	1,2,4-Trichlorobenzene	15.7	12	U
95-63-6	1,2,4-Trimethylbenzene	15.7	12	D
106-93-4	1,2-Dibromoethane	15.7	12	U
95-50-1	1,2-Dichlorobenzene	15.7	9.4	U
107-06-2	1,2-Dichloroethane	15.7	6.4	U
78-87-5	1,2-Dichloropropane	15.7	7.3	U
76-14-2	1,2-Dichlorotetrafluoroethane	15.7	11	U
108-67-8	1,3,5-Trimethylbenzene	15.7	7.7	U
106-99-0	1,3-Butadiene	15.7	10	U
541-73-1	1,3-Dichlorobenzene	15.7	9.4	U
142-28-9	1,3-Dichloropropane	15.7	7.3	U
106-46-7	1,4-Dichlorobenzene	15.7	9.4	U
123-91-1	1,4-Dioxane	15.7	11	U
78-93-3	2-Butanone	15.7	4.6	U
591-78-6	2-Hexanone	15.7	13	U
107-05-1	3-Chloropropene	15.7	25	U
108-10-1	4-Methyl-2-pentanone	15.7	6.4	U
67-64-1	Acetone	15.7	12	D
107-13-1	Acrylonitrile	15.7	3.4	U
71-43-2	Benzene	15.7	5.0	U
100-44-7	Benzyl chloride	15.7	8.1	U
75-27-4	Bromodichloromethane	15.7	11	U
75-25-2	Bromoform	15.7	16	U
74-83-9	Bromomethane	15.7	6.1	U
75-15-0	Carbon disulfide	15.7	4.9	U
56-23-5	Carbon tetrachloride	15.7	2.5	U
108-90-7	Chlorobenzene	15.7	7.2	U
75-00-3	Chloroethane	15.7	4.1	U
67-66-3	Chloroform	15.7	7.7	U
74-87-3	Chloromethane	15.7	3.2	U
156-59-2	cis-1,2-Dichloroethylene	15.7	1.6	U
10061-01-5	cis-1,3-Dichloropropylene	15.7	7.1	U
110-82-7	Cyclohexane	15.7	5.4	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

SV16_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Soil Vapor Laboratory ID: 19J0219-01 File ID: TO280773.D
 Sampled: 10/03/19 12:38 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 14:28
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
124-48-1	Dibromochloromethane	15.7	13	U
75-71-8	Dichlorodifluoromethane	15.7	7.8	U
141-78-6	Ethyl acetate	15.7	11	U
100-41-4	Ethyl Benzene	15.7	6.8	U
87-68-3	Hexachlorobutadiene	15.7	17	U
67-63-0	Isopropanol	15.7	7.7	U
80-62-6	Methyl Methacrylate	15.7	6.4	U
1634-04-4	Methyl tert-butyl ether (MTBE)	15.7	5.7	U
75-09-2	Methylene chloride	15.7	11	U
95-47-6	o-Xylene	15.7	9.5	D
179601-23-1	p- & m- Xylenes	15.7	21	D
622-96-8	p-Ethyltoluene	15.7	11	D
115-07-1	Propylene	15.7	2.7	U
100-42-5	Styrene	15.7	6.7	U
127-18-4	Tetrachloroethylene	15.7	32	D
109-99-9	Tetrahydrofuran	15.7	9.3	U
108-88-3	Toluene	15.7	13	D
156-60-5	trans-1,2-Dichloroethylene	15.7	6.2	U
10061-02-6	trans-1,3-Dichloropropylene	15.7	7.1	U
79-01-6	Trichloroethylene	15.7	2.1	U
75-69-4	Trichlorofluoromethane (Freon 11)	15.7	8.8	U
108-05-4	Vinyl acetate	15.7	5.5	U
593-60-2	Vinyl bromide	15.7	6.9	U
75-01-4	Vinyl Chloride	15.7	1.0	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	10.8	108	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	459882	14.474	367296	14.48	
ISTD: 1,4-Difluorobenzene	1899260	15.907	1786831	15.907	
ISTD: d5-Chlorobenzene	1673837	21.387	1686833	21.393	

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280773.D
 Acq On : 10 Oct 2019 2:28 pm
 Operator : KT
 Sample : 19J0219-01
 Misc : QBT01101019A 10x/40mL
 ALS Vial : 9 Sample Multiplier: 15.7
 InstName : 5975C

Quant Time: Oct 11 15:21:59 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

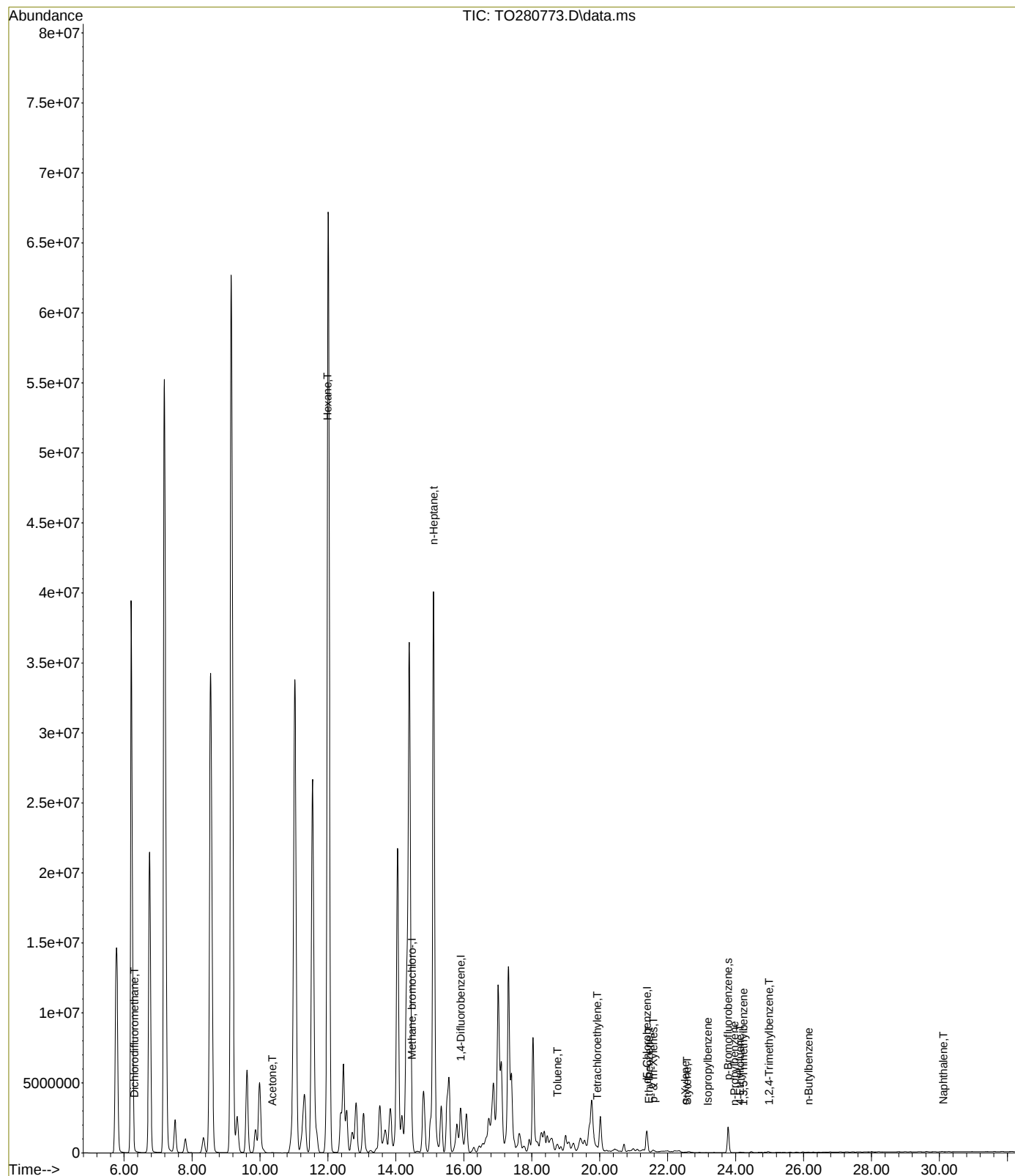
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

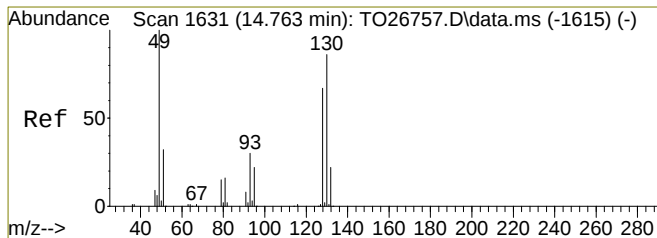
Internal Standards						
1) Methane, bromochloro-	14.474	49	459882	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	1899260	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1673837	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1339268	10.77	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	107.70%	
Target Compounds						
						Qvalue
3) Dichlorodifluoromethane	6.305	85	7659m	0.04	ppbv	
14) Acetone	10.359	43	28336	0.33	ppbv	93
23) Hexane	11.987	57	49724552m	912.48	ppbv	
36) n-Heptane	15.108	43	26908265	485.96	ppbv #	93
45) Toluene	18.754	91	38717m	0.22	ppbv	
50) Tetrachloroethylene	19.924	166	33624	0.30	ppbv	91
56) Ethylbenzene	21.448	91	23558	0.09	ppbv #	70
57) p- & m-Xylenes	21.576	91	59651	0.31	ppbv	91
58) o-Xylene	22.515	91	26476	0.14	ppbv	98
59) Styrene	22.570	104	4651m	0.04	ppbv	
61) n-Propylbenzene	23.966	91	15321	0.05	ppbv	97
62) Isopropylbenzene	23.180	105	5976	0.02	ppbv #	93
65) 4-Ethyltoluene	24.124	105	38041m	0.14	ppbv	
66) 1,3,5-Trimethylbenzene	24.228	105	11112	0.05	ppbv #	89
68) 1,2,4-Trimethylbenzene	24.984	105	37698	0.16	ppbv #	88
74) n-Butylbenzene	26.148	91	12716	0.03	ppbv #	96
78) Naphthalene	30.111	128	21819m	0.09	ppbv	

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

Data Path : D:\101019\
Data File : T0280773.D
Acq On : 10 Oct 2019 2:28 pm
Operator : KT
Sample : 19J0219-01
Misc : QBT01101019A 10x/40mL
ALS Vial : 9 Sample Multiplier: 15.7
InstName : 5975C

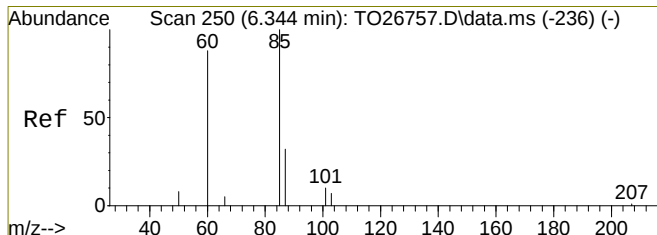
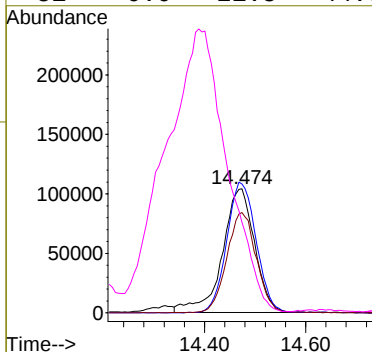
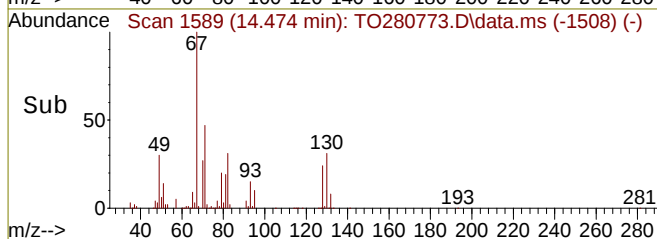
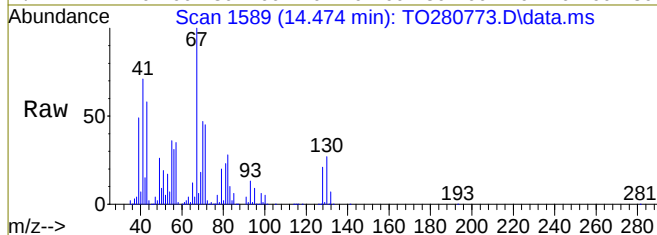
Quant Time: Oct 11 15:21:59 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 23:31:47 2019
Response via : Initial Calibration





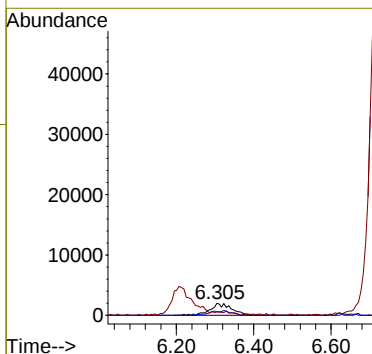
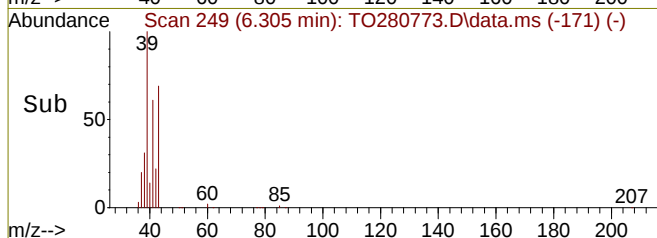
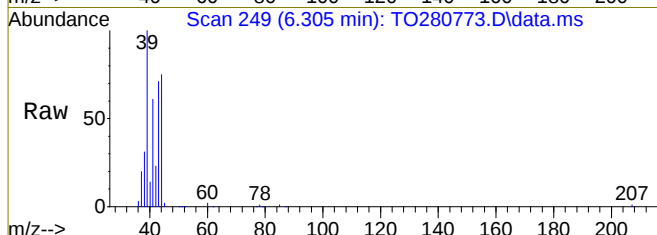
#1
Methane, bromochloro-
Concen: 10.00 ppbv
RT: 14.474 min Scan# 1589
Delta R.T. -0.006 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

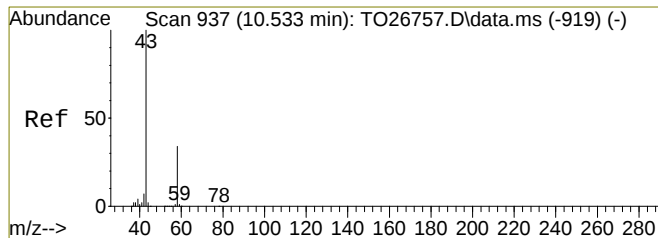
Tgt Ion: 49 Resp: 459882
Ion Ratio Lower Upper
49 100
130 96.5 44.5 92.3#
128 73.7 34.7 72.1#
51 0.0 21.5 44.6#



#3
Dichlorodifluoromethane
Concen: 0.04 ppbv m
RT: 6.305 min Scan# 249
Delta R.T. -0.024 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

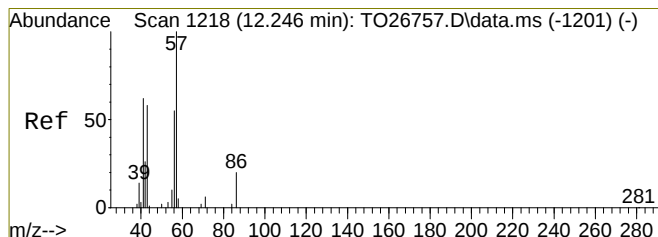
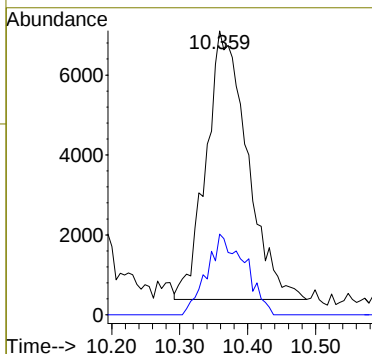
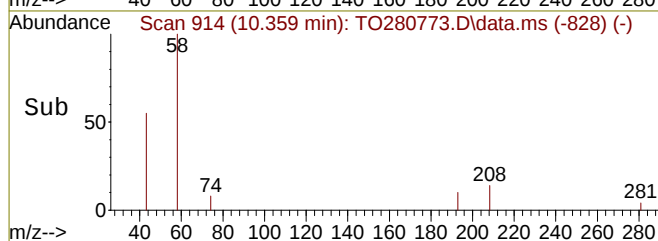
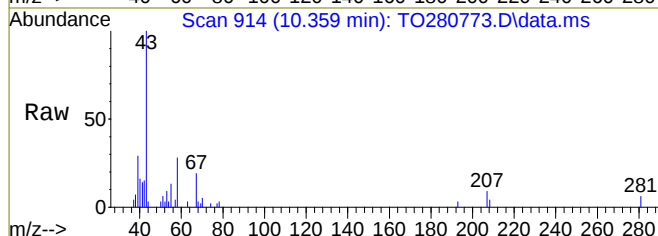
Tgt Ion: 85 Resp: 7659
Ion Ratio Lower Upper
85 100
87 22.0 21.0 43.6
50 227.1 6.8 14.2#





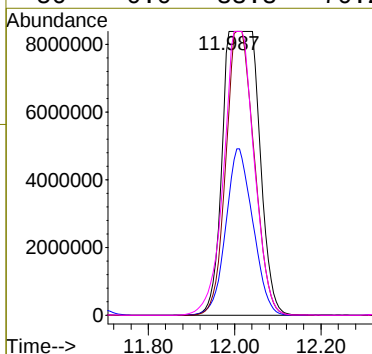
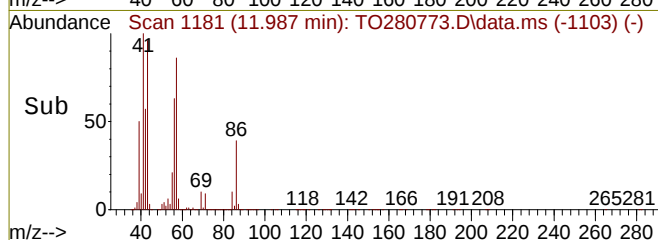
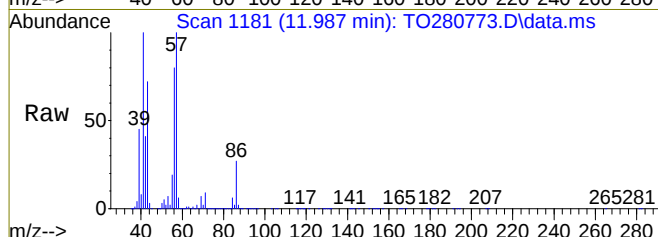
#14
Acetone
Concen: 0.33 ppbv
RT: 10.359 min Scan# 914
Delta R.T. 0.025 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

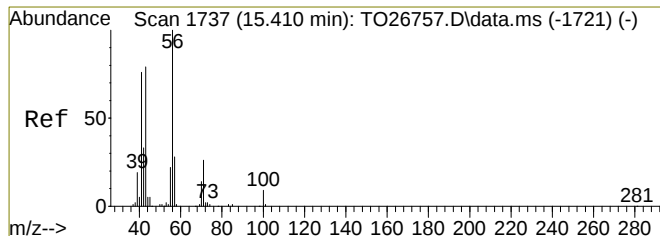
Tgt Ion: 43 Resp: 28336
Ion Ratio Lower Upper
43 100
58 27.6 20.7 42.9



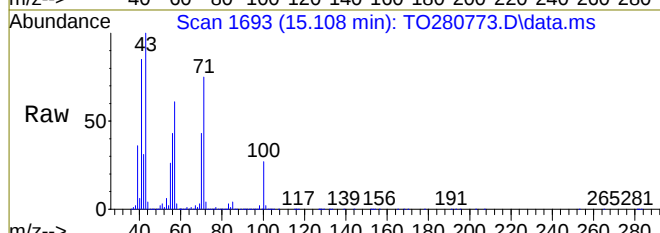
#23
Hexane
Concen: 912.48 ppbv m
RT: 11.987 min Scan# 1181
Delta R.T. -0.024 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

Tgt Ion: 57 Resp: 49724552
Ion Ratio Lower Upper
57 100
42 0.0 22.2 46.0#
43 0.0 42.9 89.1#
56 0.0 33.8 70.2#

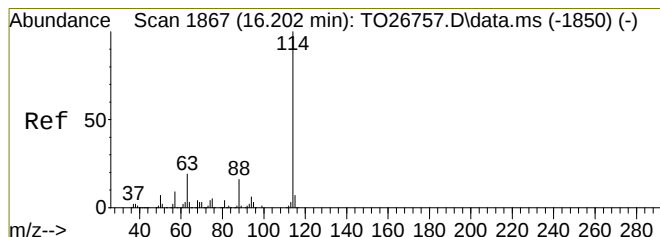
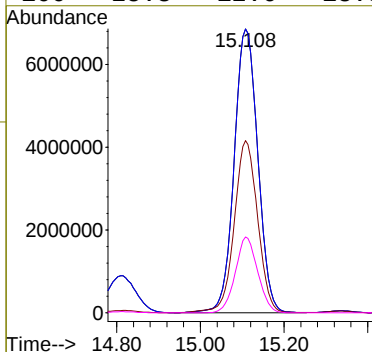
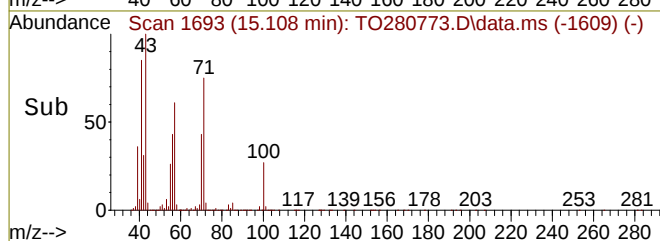




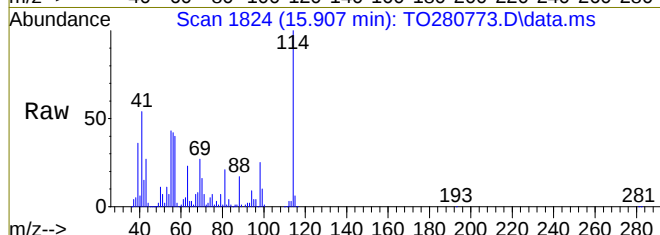
#36
n-Heptane
Concen: 485.96 ppbv
RT: 15.108 min Scan# 1693
Delta R.T. 0.012 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm



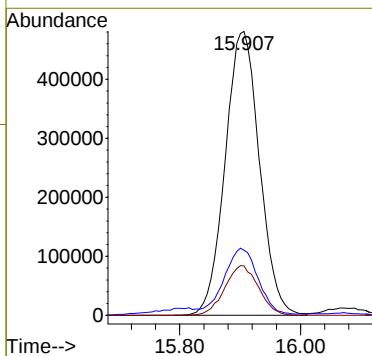
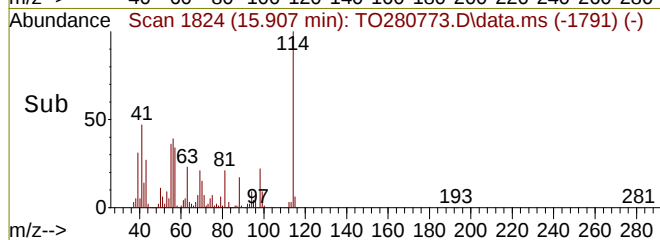
Tgt Ion: 43 Resp: 26908265
Ion Ratio Lower Upper
43 100
43 100.0 80.0 120.0
57 60.2 39.8 59.8#
100 25.3 12.6 18.8#

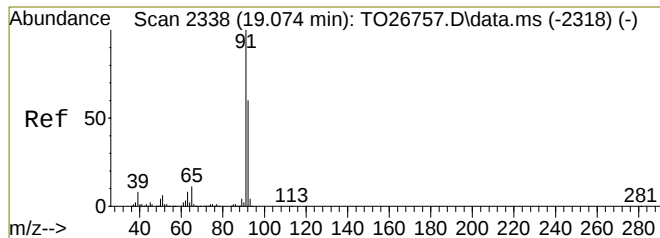


#37
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 15.907 min Scan# 1824
Delta R.T. -0.000 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm



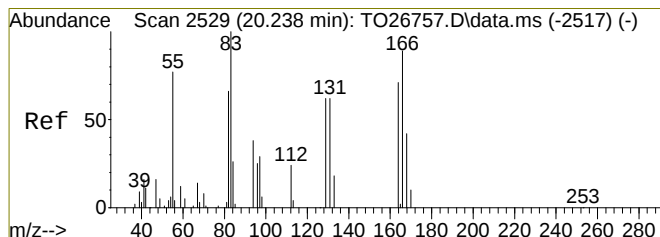
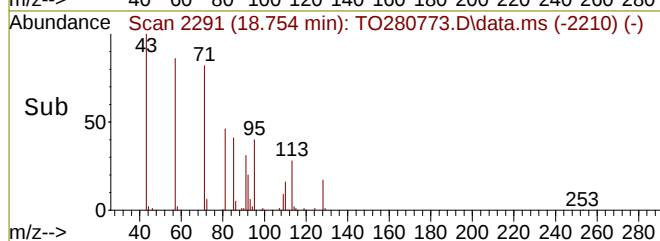
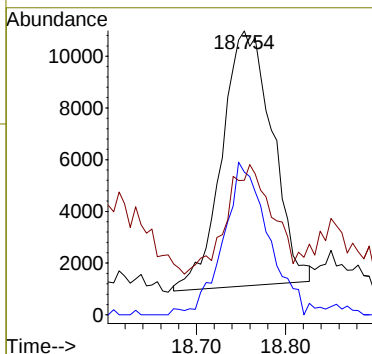
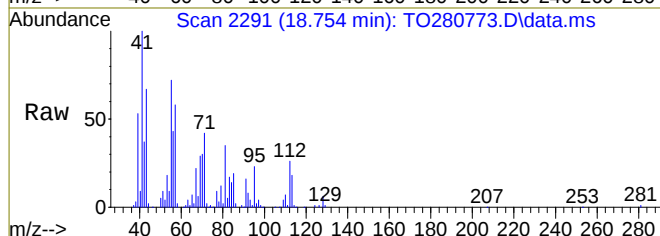
Tgt Ion: 114 Resp: 1899260
Ion Ratio Lower Upper
114 100
63 22.7 14.0 29.2
88 17.2 11.2 23.2





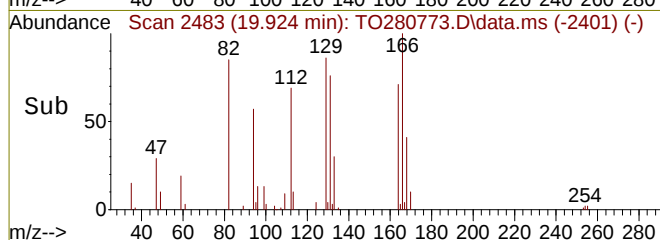
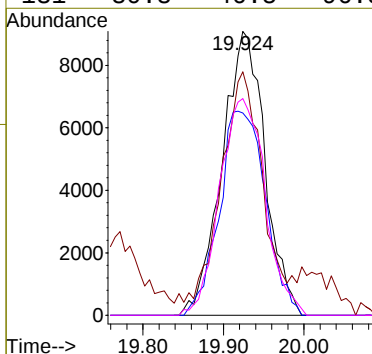
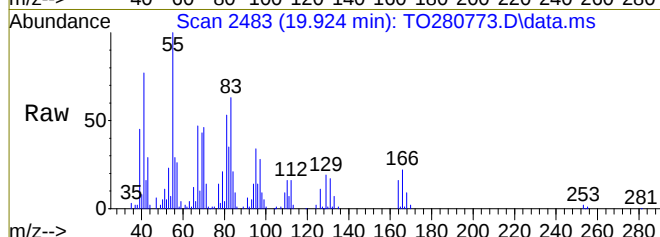
#45
Toluene
Concen: 0.22 ppbv m
RT: 18.754 min Scan# 2291
Delta R.T. -0.006 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

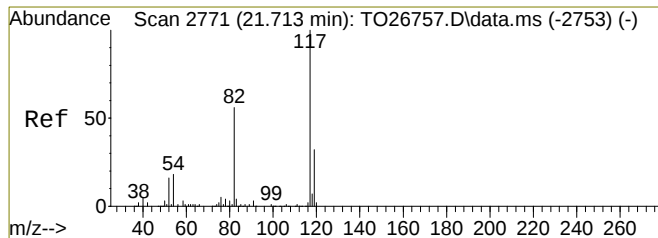
Tgt Ion: 91 Resp: 38717
Ion Ratio Lower Upper
91 100
92 0.0 39.0 81.0#
65 0.0 7.7 16.1#



#50
Tetrachloroethylene
Concen: 0.30 ppbv
RT: 19.924 min Scan# 2483
Delta R.T. 0.000 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

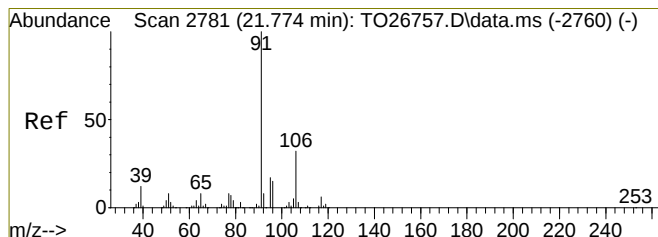
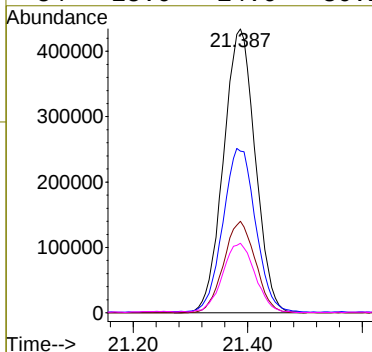
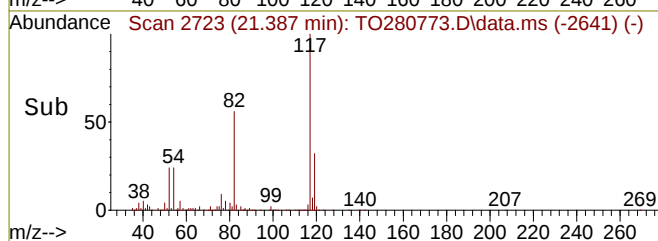
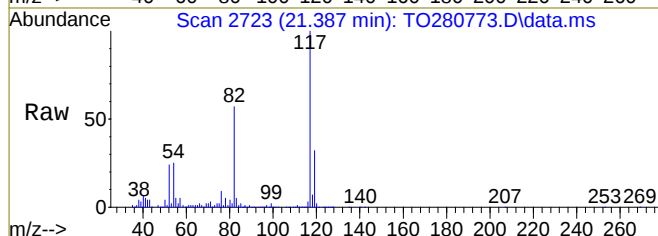
Tgt Ion: 166 Resp: 33624
Ion Ratio Lower Upper
166 100
164 77.7 51.4 106.8
129 85.2 47.0 97.6
131 80.8 46.5 96.5





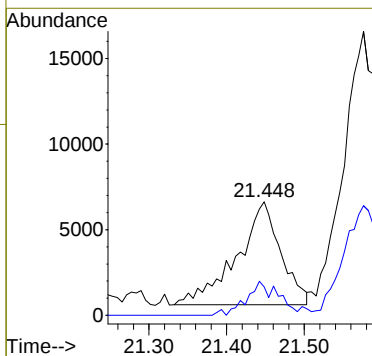
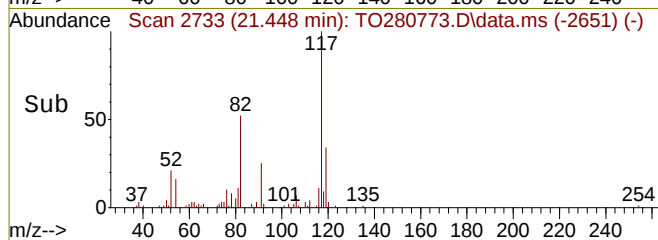
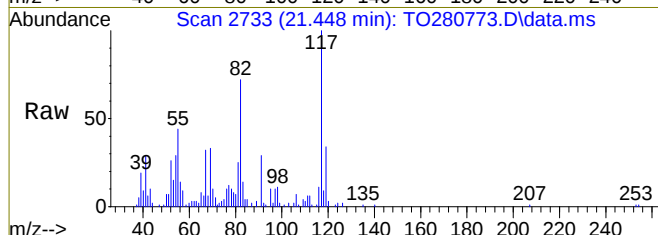
#53
d5-Chlorobenzene
Concen: 10.00 ppbv
RT: 21.387 min Scan# 2723
Delta R.T. 0.000 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

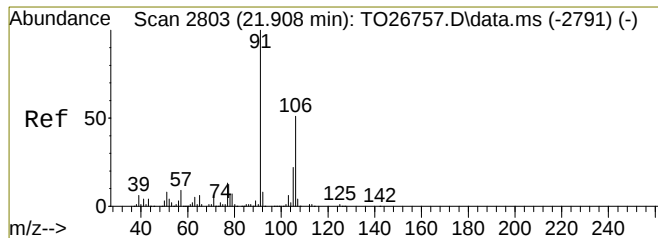
Tgt Ion: 117 Resp: 1673837
Ion Ratio Lower Upper
117 100
82 59.5 38.7 80.5
119 32.1 20.3 42.3
54 25.0 14.6 30.2



#56
Ethylbenzene
Concen: 0.09 ppbv
RT: 21.448 min Scan# 2733
Delta R.T. 0.000 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

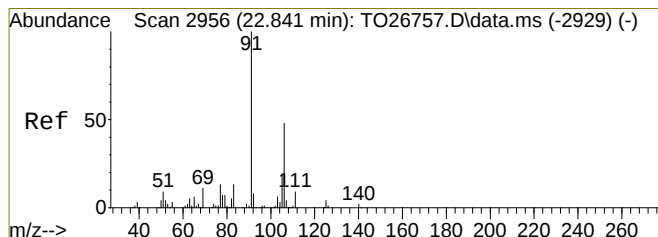
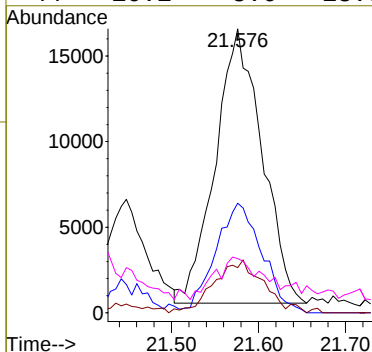
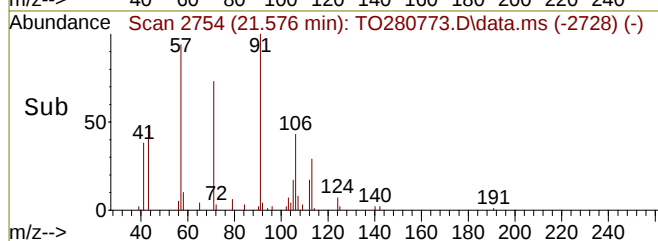
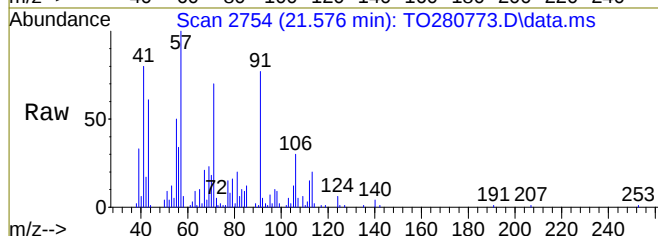
Tgt Ion: 91 Resp: 23558
Ion Ratio Lower Upper
91 100
106 15.0 20.3 42.3#





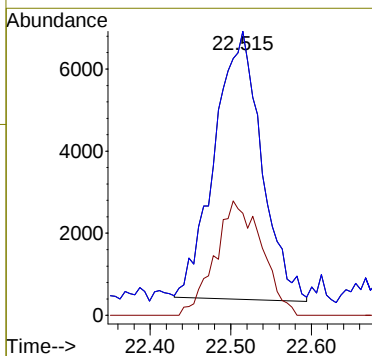
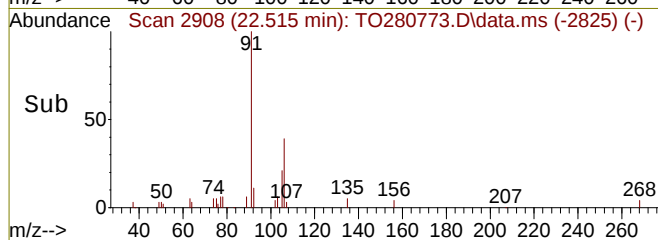
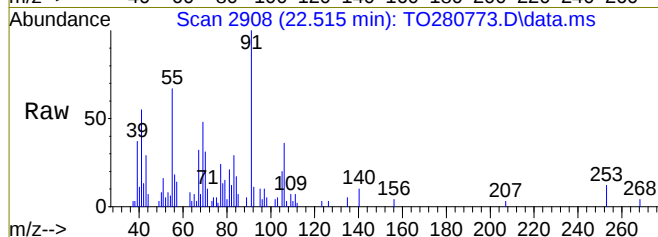
#57
p- & m-Xylenes
Concen: 0.31 ppbv
RT: 21.576 min Scan# 2754
Delta R.T. 0.000 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

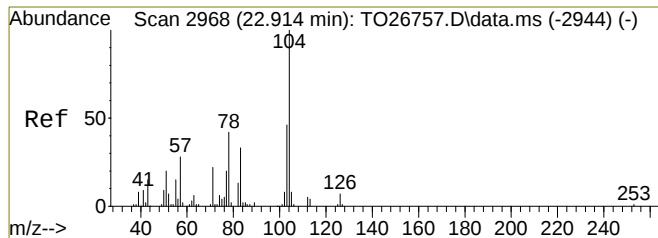
Tgt Ion: 91 Resp: 59651
Ion Ratio Lower Upper
91 100
106 39.7 31.0 64.4
105 19.6 13.4 27.8
77 16.1 8.6 18.0



#58
o-Xylene
Concen: 0.14 ppbv
RT: 22.515 min Scan# 2908
Delta R.T. 0.006 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

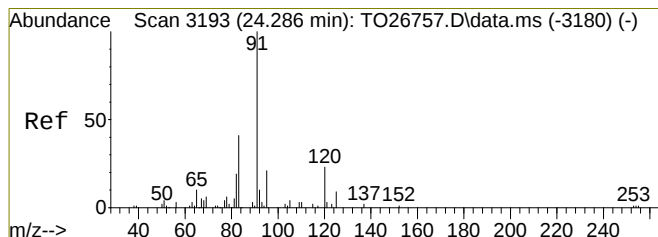
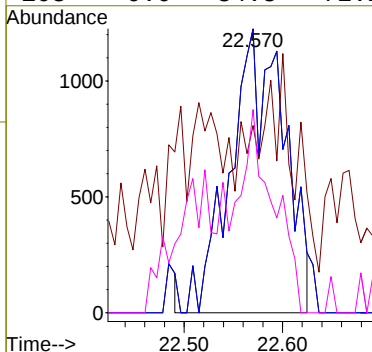
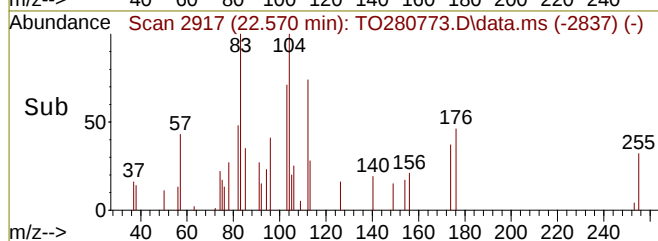
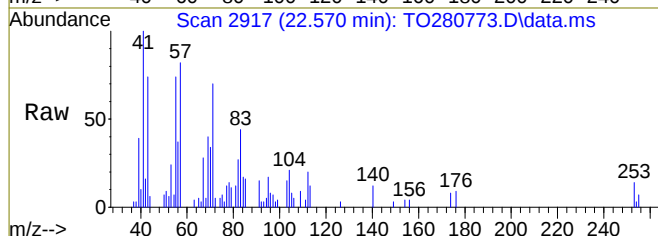
Tgt Ion: 91 Resp: 26476
Ion Ratio Lower Upper
91 100
91 100.0 80.0 120.0
106 42.3 36.9 55.3





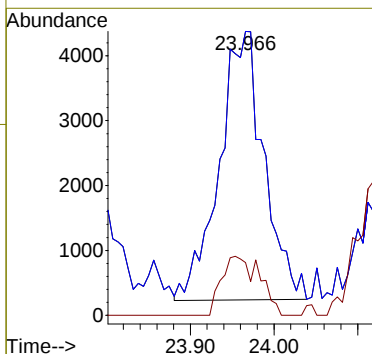
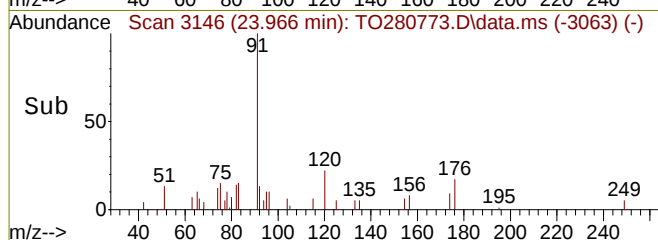
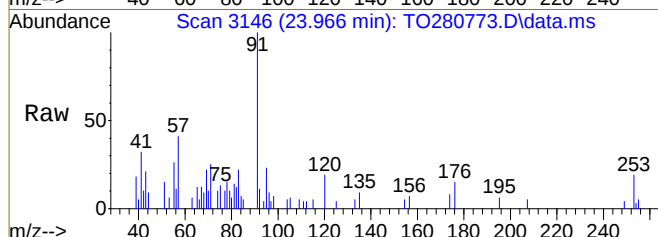
#59
Styrene
Concen: 0.04 ppbv m
RT: 22.570 min Scan# 2917
Delta R.T. -0.012 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

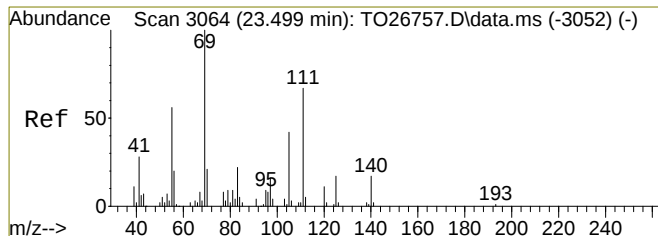
Tgt Ion: 104 Resp: 4651
Ion Ratio Lower Upper
104 100
104 53.5 65.0 135.0#
78 0.0 0.0 0.0
103 0.0 34.8 72.2#



#61
n-Propylbenzene
Concen: 0.05 ppbv
RT: 23.966 min Scan# 3146
Delta R.T. 0.006 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

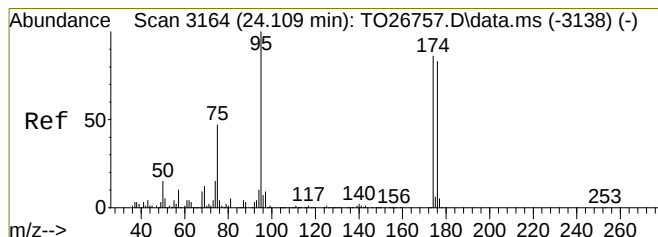
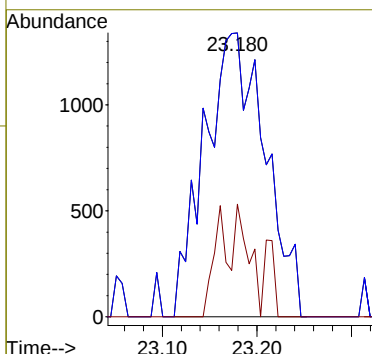
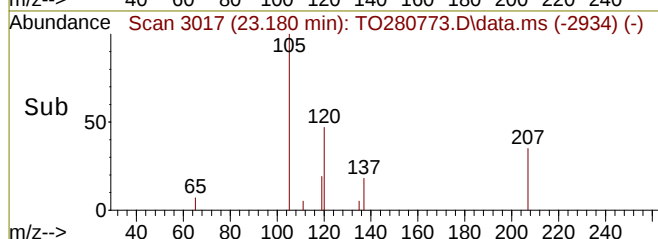
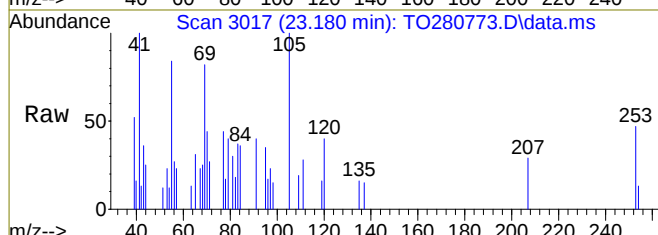
Tgt Ion: 91 Resp: 15321
Ion Ratio Lower Upper
91 100
91 100.0 80.0 120.0
120 13.2 11.0 33.0





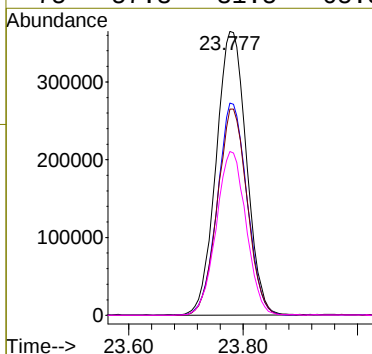
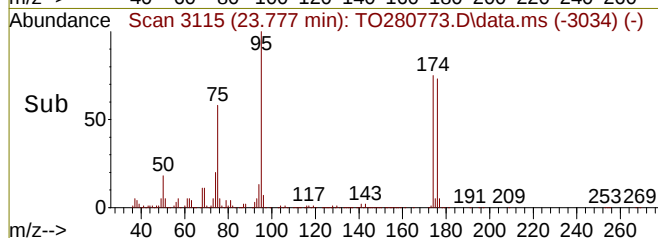
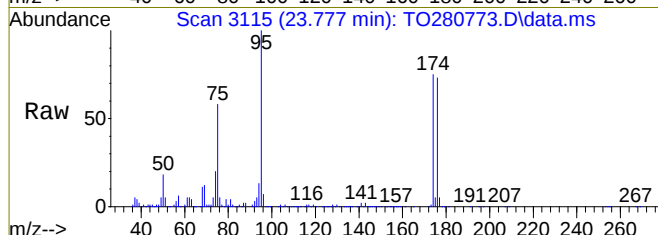
#62
Isopropylbenzene
Concen: 0.02 ppbv
RT: 23.180 min Scan# 3017
Delta R.T. 0.007 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

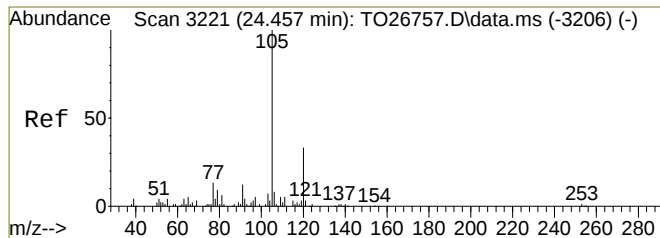
Tgt Ion: 105 Resp: 5976
Ion Ratio Lower Upper
105 100
105 100.0 80.0 120.0
120 9.1 13.1 39.1#



#64
p-Bromofluorobenzene
Concen: 10.77 ppbv
RT: 23.777 min Scan# 3115
Delta R.T. -0.006 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

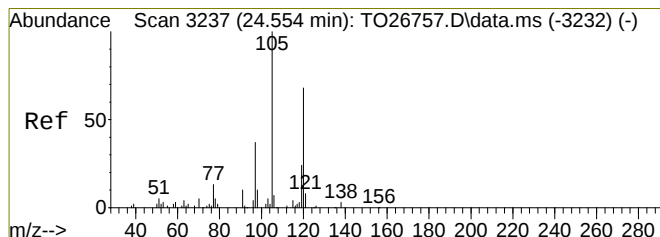
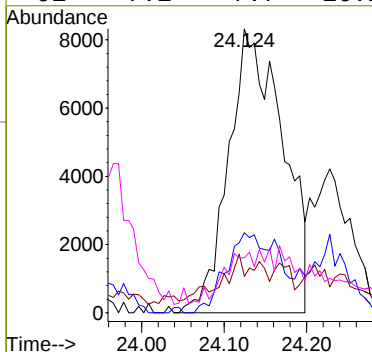
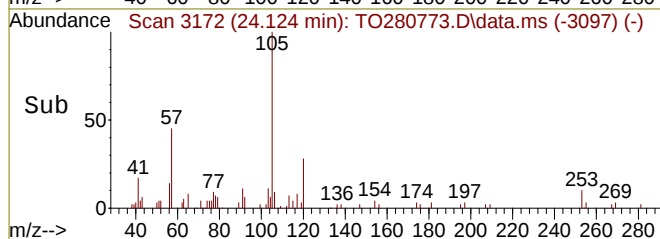
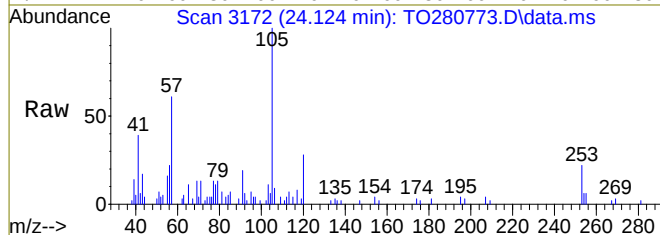
Tgt Ion: 95 Resp: 1339268
Ion Ratio Lower Upper
95 100
174 73.3 50.0 103.8
176 71.3 48.2 100.2
75 57.3 31.5 65.3





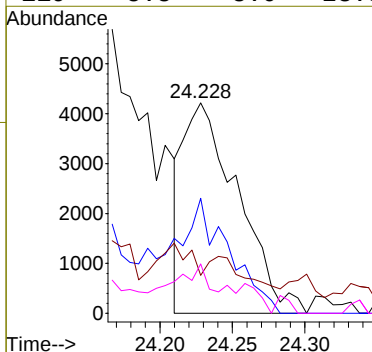
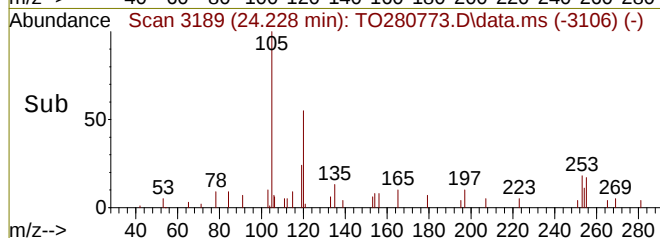
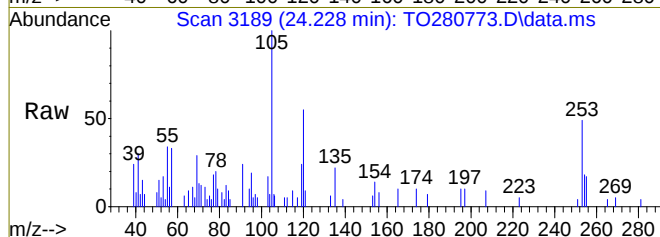
#65
4-Ethyltoluene
Concen: 0.14 ppbv m
RT: 24.124 min Scan# 3172
Delta R.T. -0.043 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

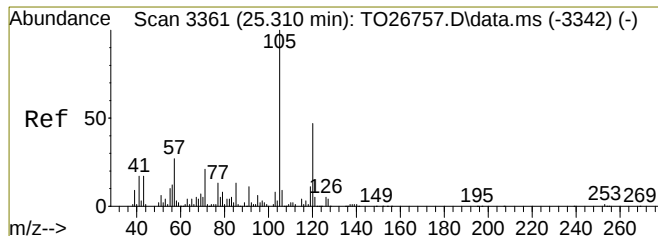
Tgt Ion:105 Resp: 38041
Ion Ratio Lower Upper
105 100
120 20.5 17.2 35.6
77 6.3 7.6 15.8#
91 7.1 7.7 16.1#



#66
1,3,5-Trimethylbenzene
Concen: 0.05 ppbv
RT: 24.228 min Scan# 3189
Delta R.T. 0.006 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

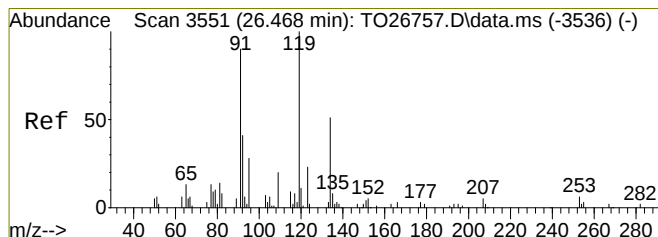
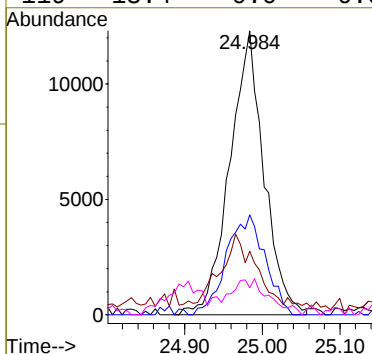
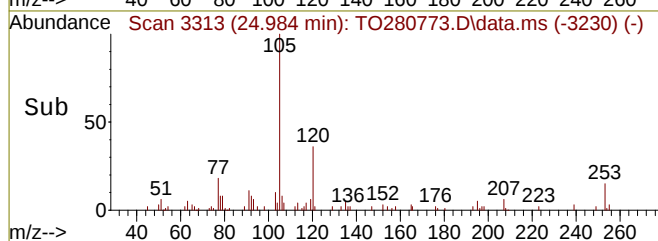
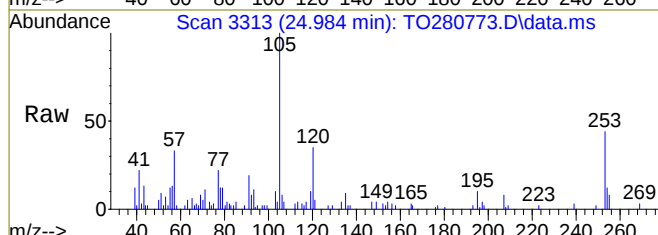
Tgt Ion:105 Resp: 11112
Ion Ratio Lower Upper
105 100
120 59.5 43.4 65.2
77 9.4 10.8 16.2#
119 5.8 8.0 23.8#





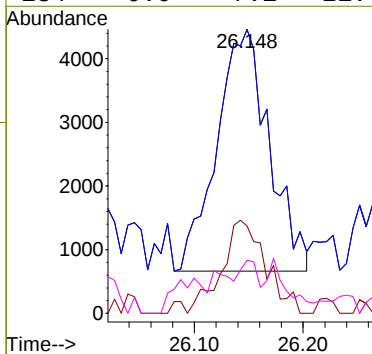
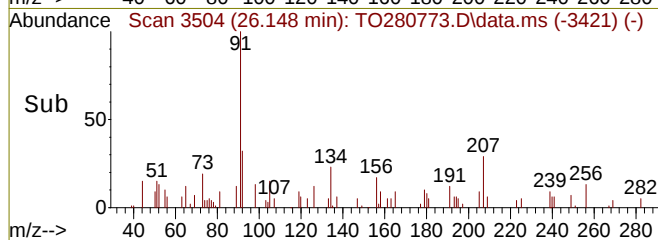
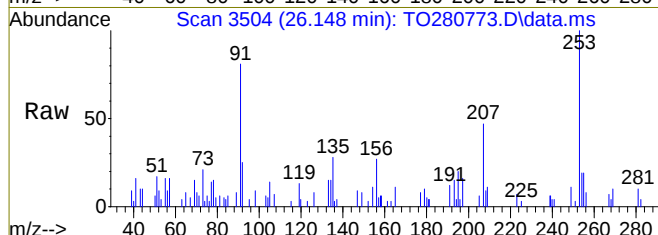
#68
 1,2,4-Trimethylbenzene
 Concen: 0.16 ppbv
 RT: 24.984 min Scan# 3313
 Delta R.T. 0.006 min
 Lab File: T0280773.D
 Acq: 10 Oct 2019 2:28 pm

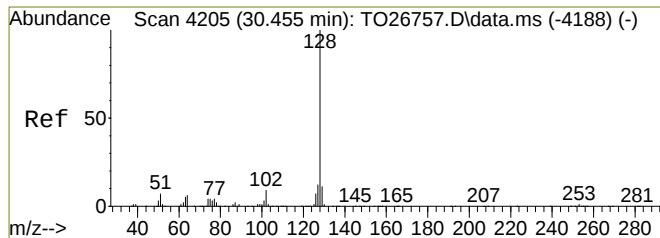
Tgt Ion:	105	Resp:	37698
Ion Ratio	Lower	Upper	
105	100		
120	39.7	29.0	60.2
77	24.2	8.2	17.0#
119	13.4	0.0	0.0#



#74
 n-Butylbenzene
 Concen: 0.03 ppbv
 RT: 26.148 min Scan# 3504
 Delta R.T. 0.006 min
 Lab File: T0280773.D
 Acq: 10 Oct 2019 2:28 pm

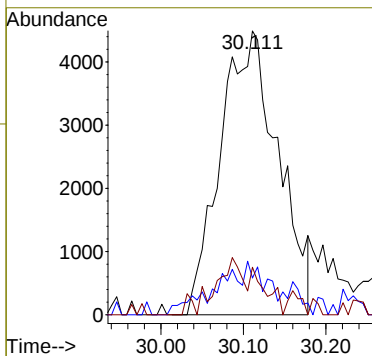
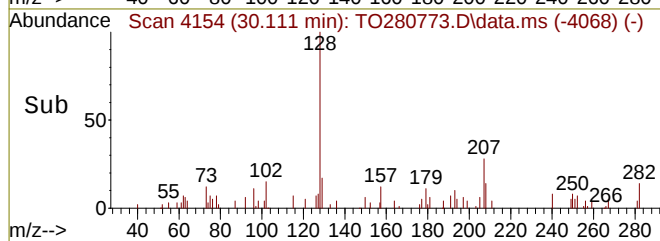
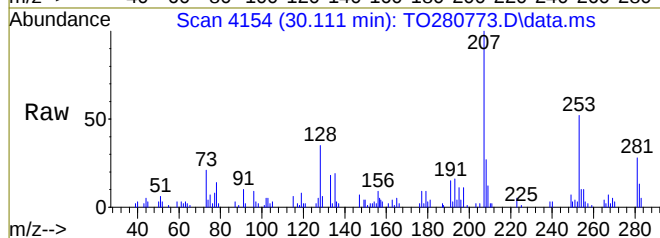
Tgt Ion:	91	Resp:	12716
Ion Ratio	Lower	Upper	
91	100		
91	100.0	80.0	120.0
92	32.2	27.8	41.8
134	0.0	7.1	21.4#





#78
Naphthalene
Concen: 0.09 ppbv m
RT: 30.111 min Scan# 4154
Delta R.T. 0.024 min
Lab File: T0280773.D
Acq: 10 Oct 2019 2:28 pm

Tgt Ion:128 Resp: 21819
Ion Ratio Lower Upper
128 100
127 9.1 8.1 16.9
129 8.9 7.3 15.1



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

SV16_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Soil Vapor Laboratory ID: 19J0219-01RE1 File ID: TO280782.D
 Sampled: 10/03/19 12:38 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 21:43
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
142-82-5	n-Heptane	211	40000	D

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	9.80	98.0	70 - 130	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	366713	14.486	367296	14.48	
ISTD: 1,4-Difluorobenzene	1821491	15.901	1786831	15.907	
ISTD: d5-Chlorobenzene	1620817	21.387	1686833	21.393	

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280782.D
 Acq On : 10 Oct 2019 9:43 pm
 Operator : KT
 Sample : 19J0219-01RE1
 Misc : QBT01101019A 50x/8mL*Press.Fact.2.693
 ALS Vial : 9 Sample Multiplier: 211.4
 InstName : 5975C

Quant Time: Oct 11 15:26:49 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Thu Oct 10 18:15:28 2019
 Response via : Initial Calibration

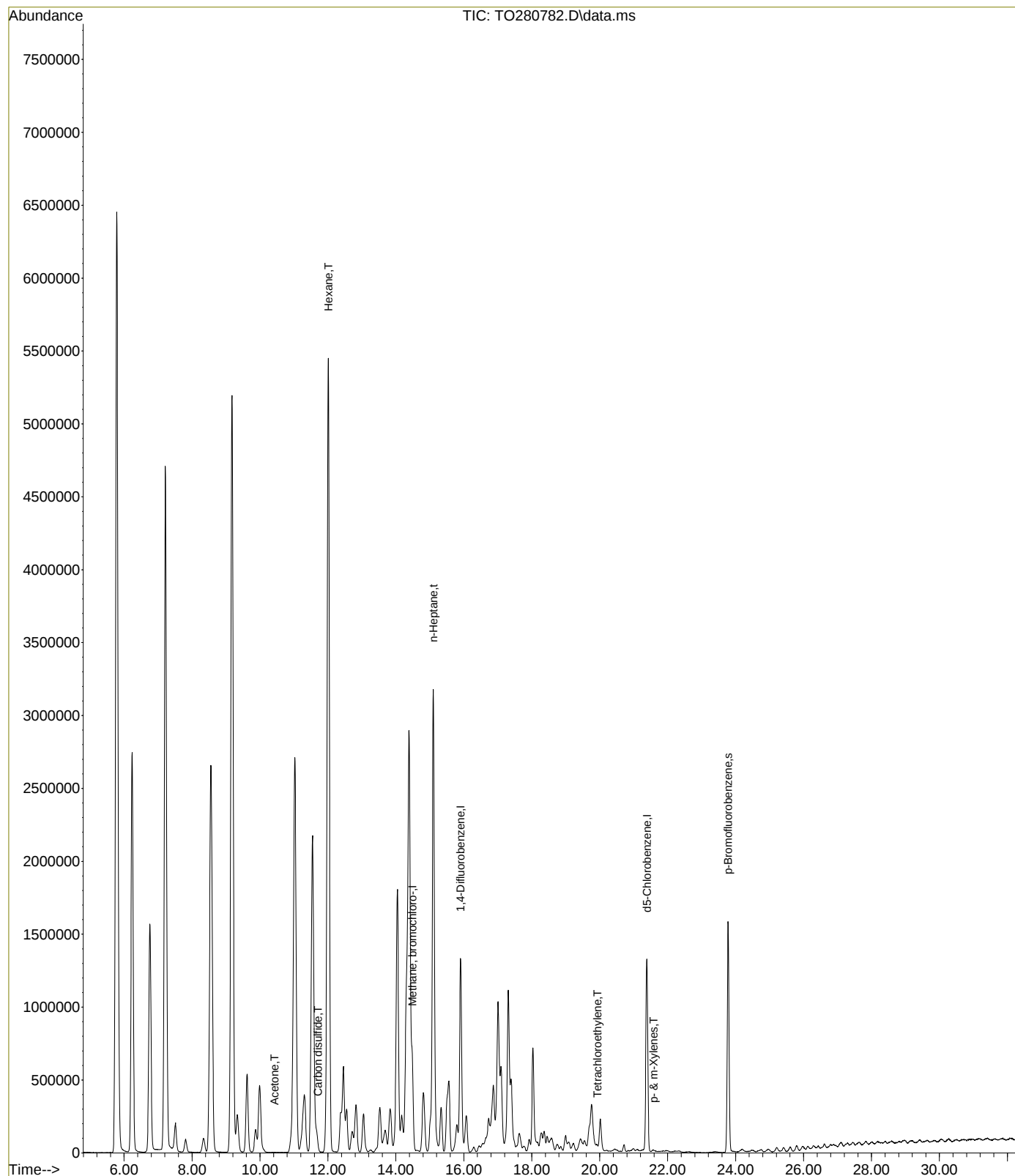
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

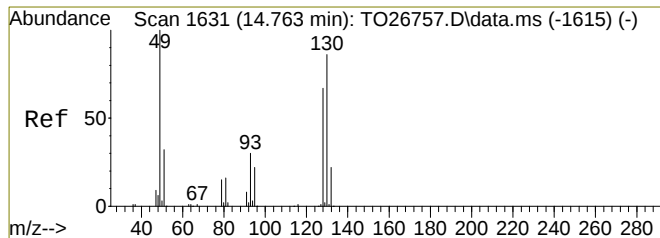
Internal Standards						
1) Methane, bromochloro-	14.486	49	366713	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.901	114	1821491	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1620817	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1180143	9.80	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	98.00%	
Target Compounds						
						Qvalue
14) Acetone	10.420	43	2716	0.04	ppbv	# 43
20) Carbon disulfide	11.706	76	12919	0.13	ppbv	96
23) Hexane	12.011	57	5231616	120.39	ppbv	88
36) n-Heptane	15.102	43	2045434	46.33	ppbv	# 92
50) Tetrachloroethylene	19.930	166	9527	0.09	ppbv	# 71
57) p- & m-Xylenes	21.582	91	5839	0.03	ppbv	# 65

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

Data Path : D:\101019\
Data File : T0280782.D
Acq On : 10 Oct 2019 9:43 pm
Operator : KT
Sample : 19J0219-01RE1
Misc : QBT01101019A 50x/8mL*Press.Fact.2.693
ALS Vial : 9 Sample Multiplier: 211.4
InstName : 5975C

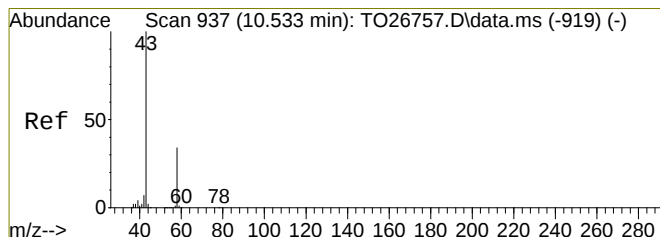
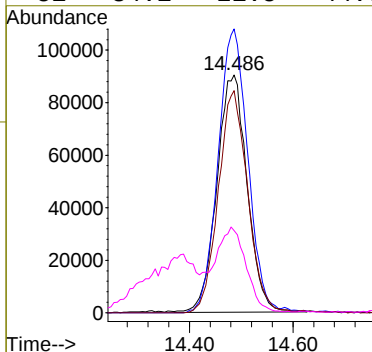
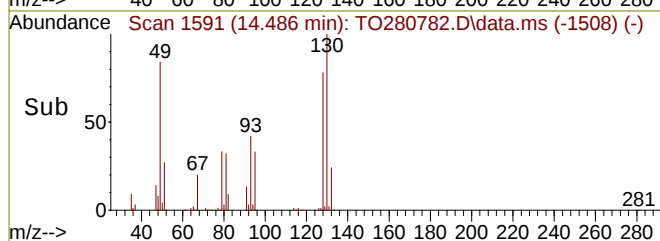
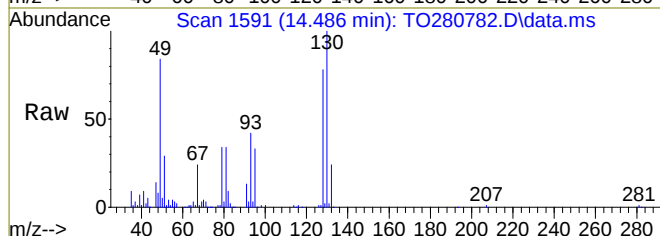
Quant Time: Oct 11 15:26:49 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Thu Oct 10 18:15:28 2019
Response via : Initial Calibration





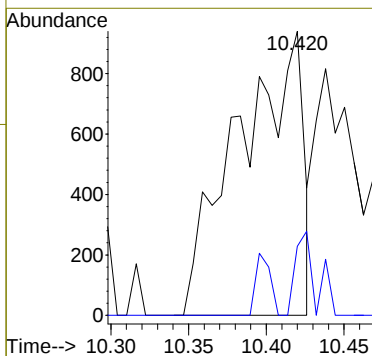
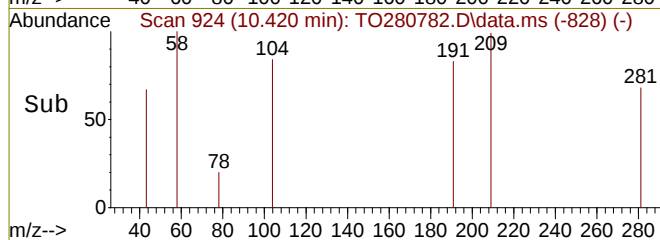
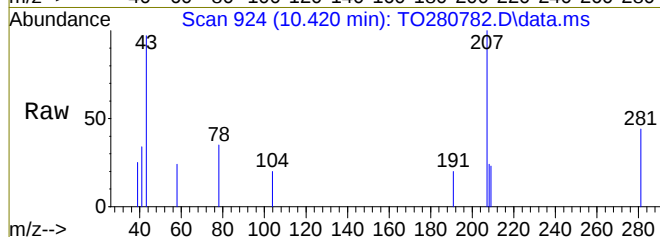
#1
Methane, bromochloro-
Concen: 10.00 ppbv
RT: 14.486 min Scan# 1591
Delta R.T. 0.006 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

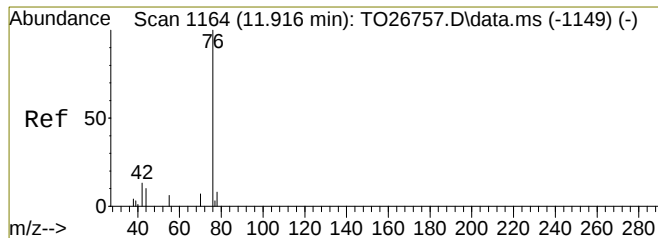
Tgt Ion: 49 Resp: 366713
Ion Ratio Lower Upper
49 100
130 117.3 44.5 92.3#
128 90.8 34.7 72.1#
51 34.1 21.5 44.6



#14
Acetone
Concen: 0.04 ppbv
RT: 10.420 min Scan# 924
Delta R.T. 0.086 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

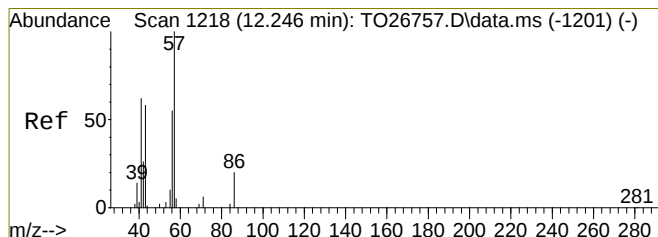
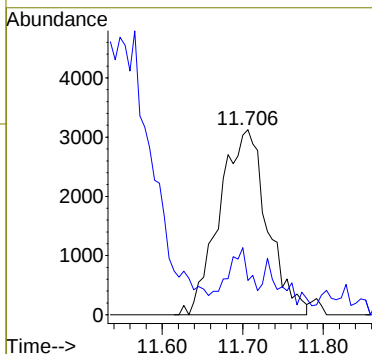
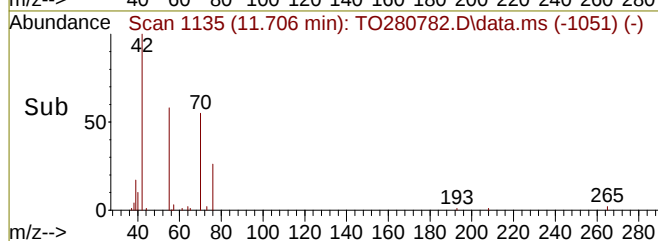
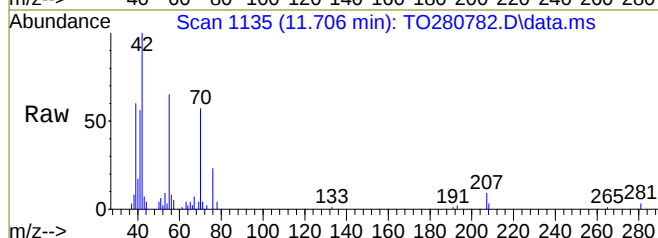
Tgt Ion: 43 Resp: 2716
Ion Ratio Lower Upper
43 100
58 0.0 20.7 42.9#





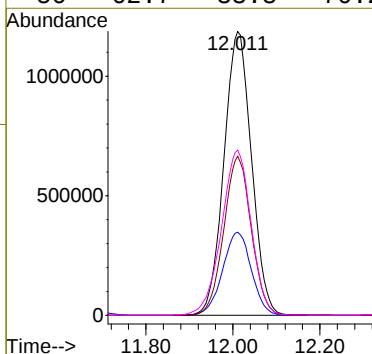
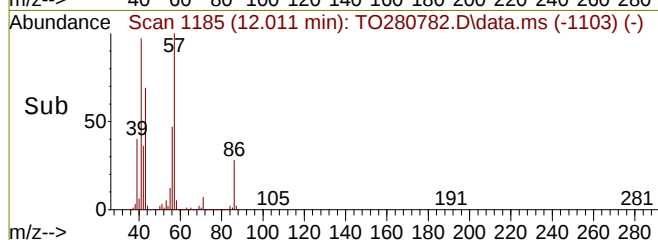
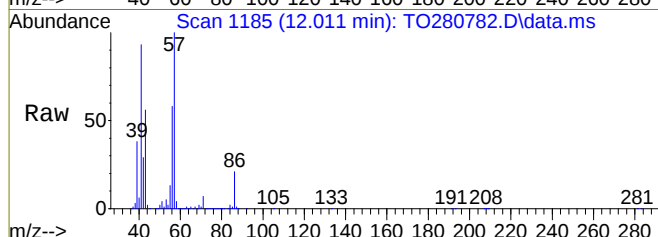
#20
Carbon disulfide
Concen: 0.13 ppbv
RT: 11.706 min Scan# 1135
Delta R.T. 0.012 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

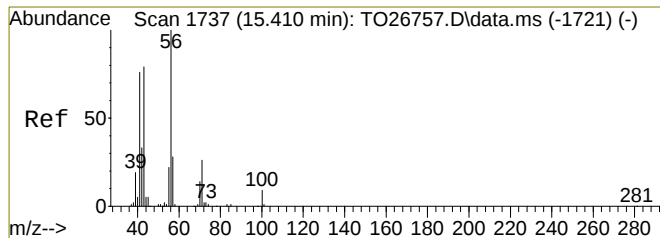
Tgt Ion: 76 Resp: 12919
Ion Ratio Lower Upper
76 100
44 14.6 8.4 17.4



#23
Hexane
Concen: 120.39 ppbv
RT: 12.011 min Scan# 1185
Delta R.T. 0.000 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

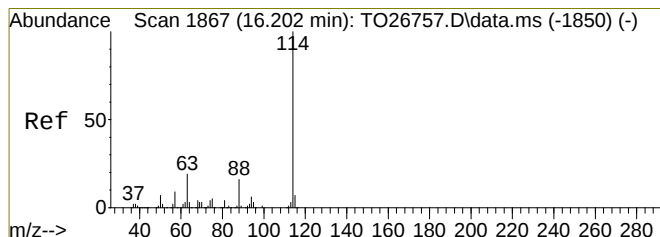
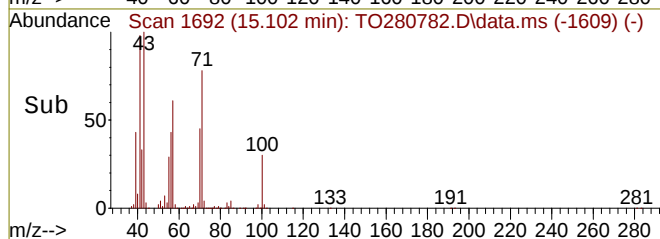
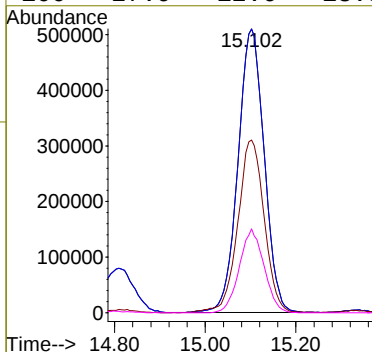
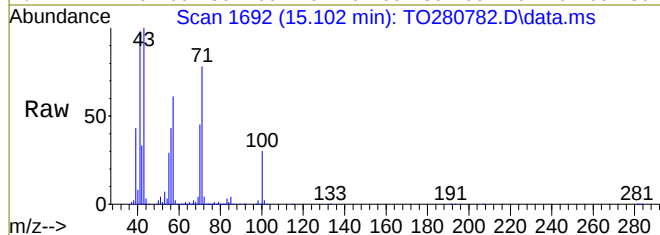
Tgt Ion: 57 Resp: 5231616
Ion Ratio Lower Upper
57 100
42 30.6 22.2 46.0
43 55.9 42.9 89.1
56 62.7 33.8 70.2





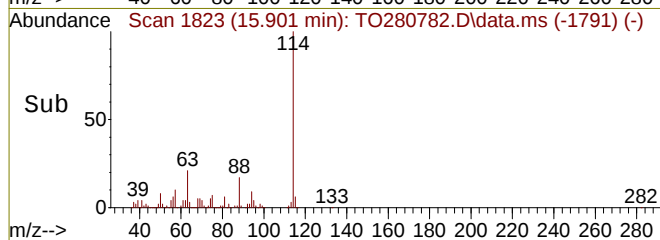
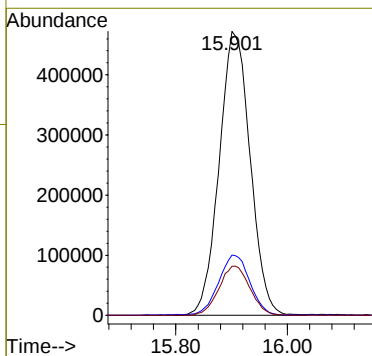
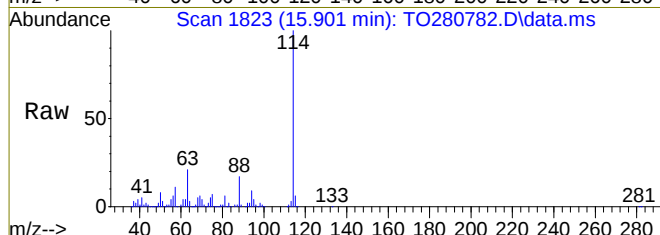
#36
n-Heptane
Concen: 46.33 ppbv
RT: 15.102 min Scan# 1692
Delta R.T. 0.006 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

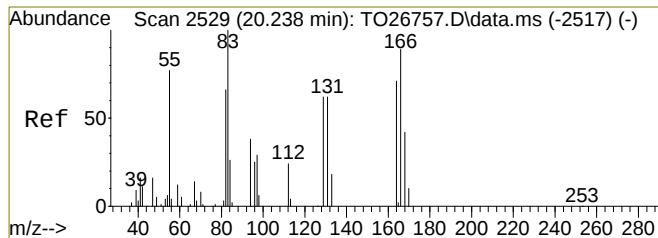
Tgt Ion: 43 Resp: 2045434
Ion Ratio Lower Upper
43 100
43 100.0 80.0 120.0
57 61.6 39.8 59.8#
100 27.9 12.6 18.8#



#37
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 15.901 min Scan# 1823
Delta R.T. -0.006 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

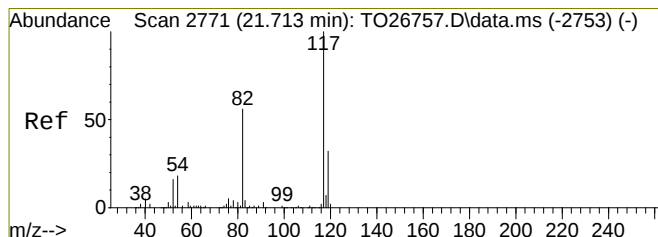
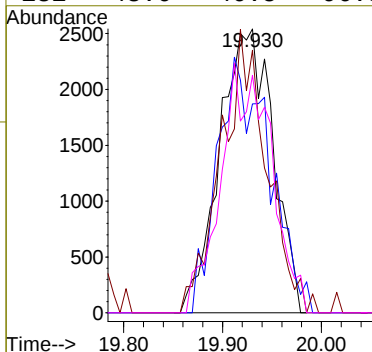
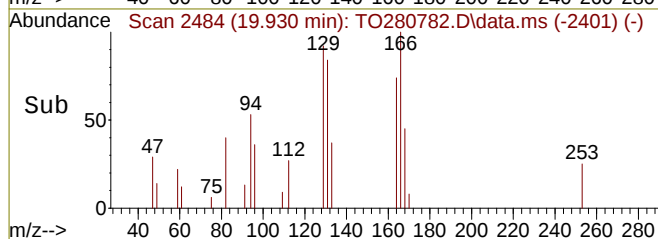
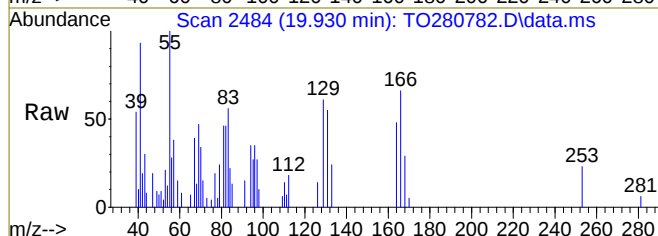
Tgt Ion: 114 Resp: 1821491
Ion Ratio Lower Upper
114 100
63 21.2 14.0 29.2
88 17.3 11.2 23.2





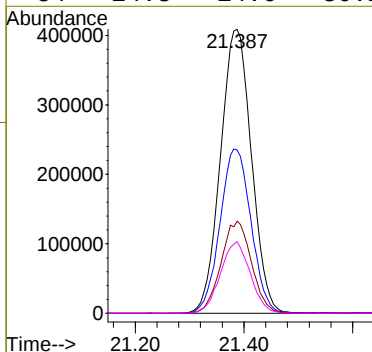
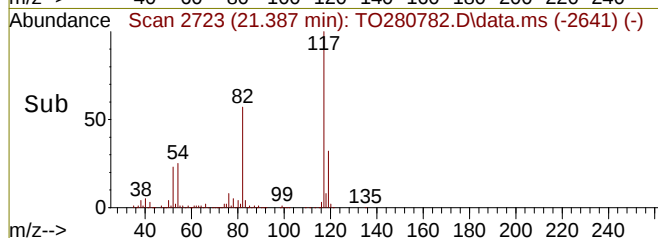
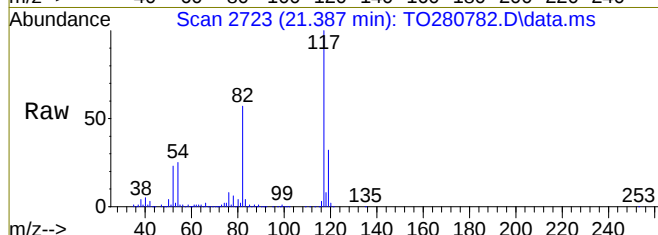
#50
Tetrachloroethylene
Concen: 0.09 ppbv
RT: 19.930 min Scan# 2484
Delta R.T. 0.006 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

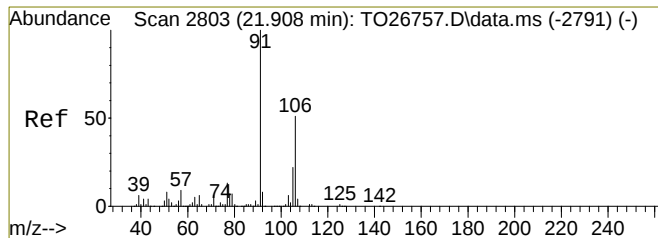
Tgt Ion:166 Resp: 9527
Ion Ratio Lower Upper
166 100
164 48.3 51.4 106.8#
129 85.9 47.0 97.6
131 43.6 46.5 96.5#



#53
d5-Chlorobenzene
Concen: 10.00 ppbv
RT: 21.387 min Scan# 2723
Delta R.T. 0.000 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

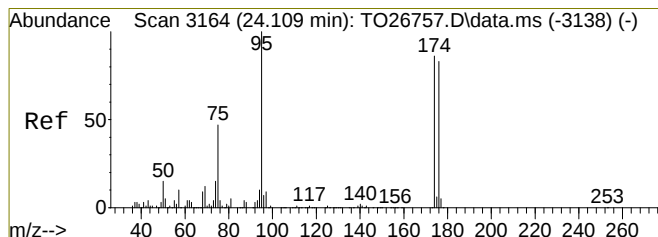
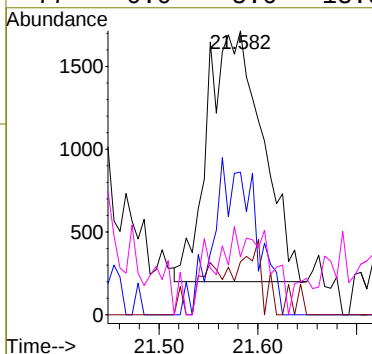
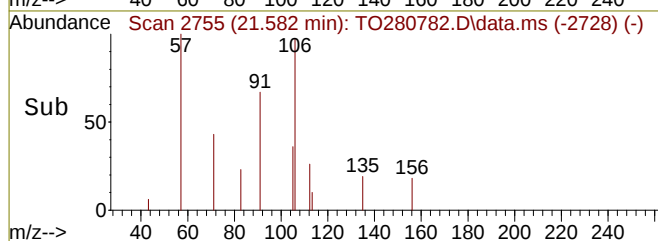
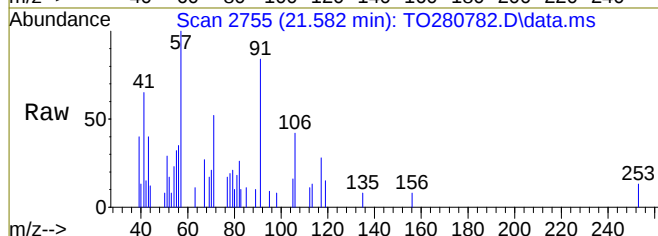
Tgt Ion:117 Resp: 1620817
Ion Ratio Lower Upper
117 100
82 57.9 38.7 80.5
119 31.9 20.3 42.3
54 24.3 14.6 30.2





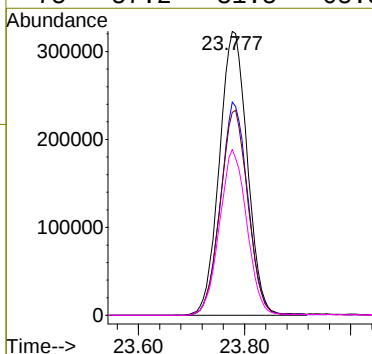
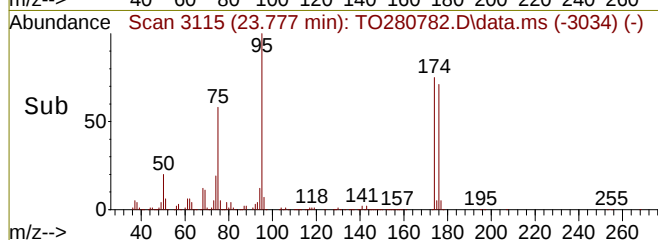
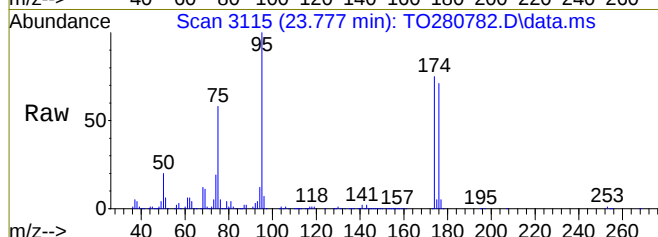
#57
p- & m-Xylenes
Concen: 0.03 ppbv
RT: 21.582 min Scan# 2755
Delta R.T. 0.006 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

Tgt Ion: 91 Resp: 5839
Ion Ratio Lower Upper
91 100
106 20.0 31.0 64.4#
105 10.7 13.4 27.8#
77 0.0 8.6 18.0#



#64
p-Bromofluorobenzene
Concen: 9.80 ppbv
RT: 23.777 min Scan# 3115
Delta R.T. -0.006 min
Lab File: T0280782.D
Acq: 10 Oct 2019 9:43 pm

Tgt Ion: 95 Resp: 1180143
Ion Ratio Lower Upper
95 100
174 73.6 50.0 103.8
176 71.6 48.2 100.2
75 57.2 31.5 65.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

SV16_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Soil Vapor Laboratory ID: 19J0219-01RE2 File ID: TO280796.D
 Sampled: 10/03/19 12:38 Prepared: 10/10/19 09:00 Analyzed: 10/11/19 09:38
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
110-54-3	n-Hexane	612	84000	D

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	9.64	96.4	70 - 130	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	450051	14.48	367296	14.48	
ISTD: 1,4-Difluorobenzene	2070030	15.906	1786831	15.907	
ISTD: d5-Chlorobenzene	1772138	21.387	1686833	21.393	

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280796.D
 Acq On : 11 Oct 2019 9:38 am
 Operator : KT
 Sample : 19J0219-01RE2
 Misc : QBT01101019A 80x/5mL*Press.Fact.4.874
 ALS Vial : 9 Sample Multiplier: 612.2
 InstName : 5975C

Quant Time: Oct 11 15:28:18 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Thu Oct 10 18:15:28 2019
 Response via : Initial Calibration

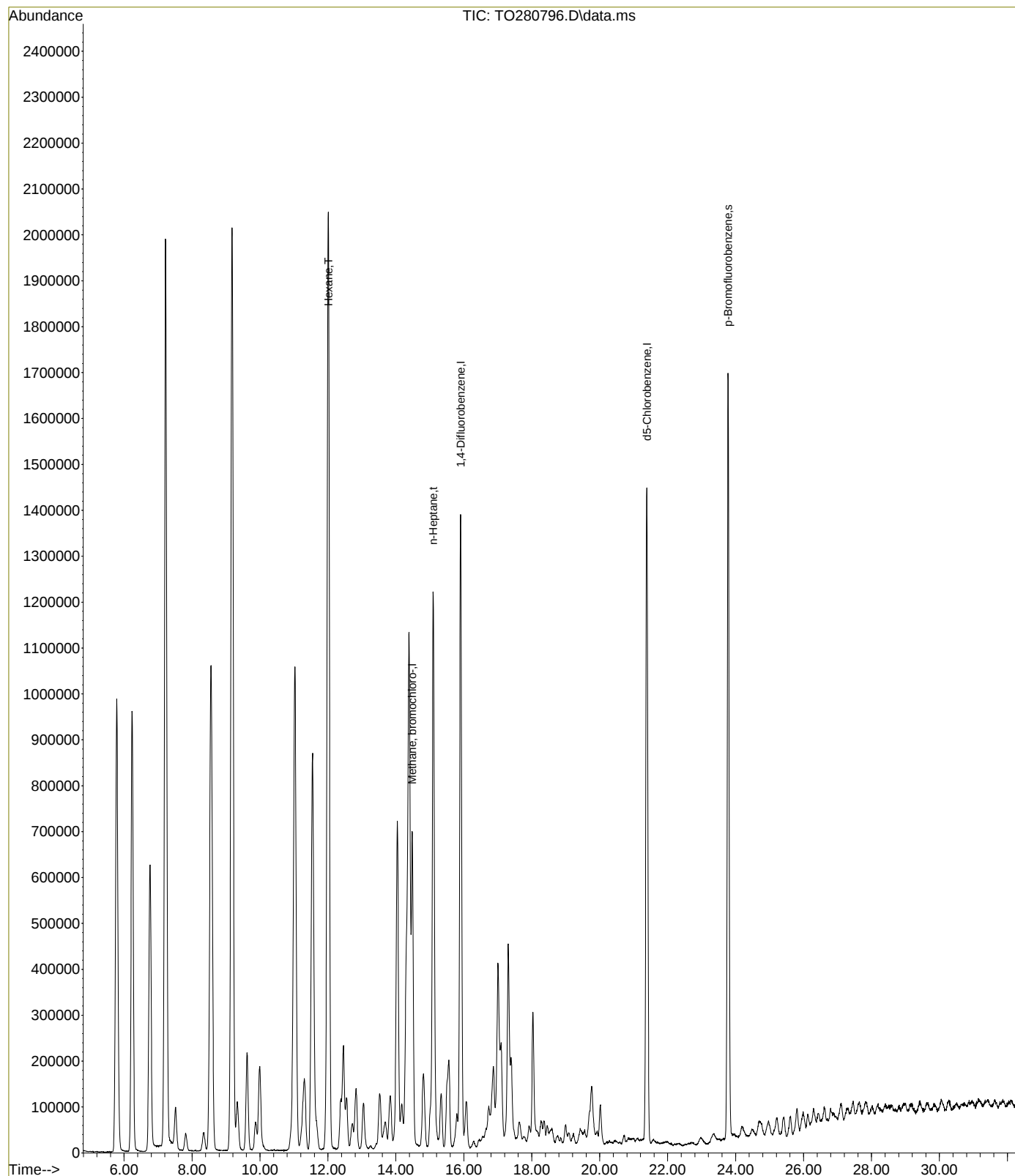
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

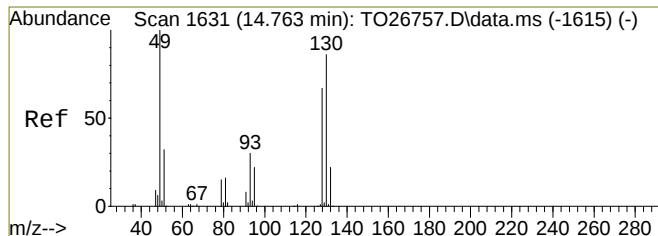
Internal Standards						
1) Methane, bromochloro-	14.480	49	450051	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.906	114	2070030	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1772138	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1269679	9.64	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	96.40%	
Target Compounds						
23) Hexane	12.011	57	2068670	38.79	ppbv	Qvalue 88
36) n-Heptane	15.096	43	833994	15.39	ppbv	# 75

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

Data Path : D:\101019\
Data File : T0280796.D
Acq On : 11 Oct 2019 9:38 am
Operator : KT
Sample : 19J0219-01RE2
Misc : QBT01101019A 80x/5mL*Press.Fact.4.874
ALS Vial : 9 Sample Multiplier: 612.2
InstName : 5975C

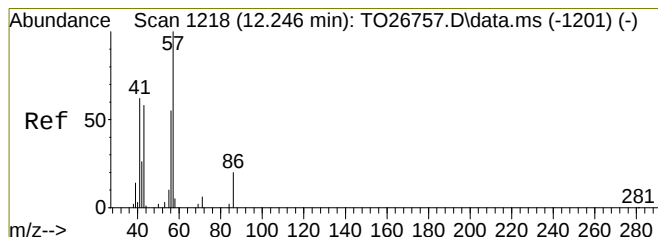
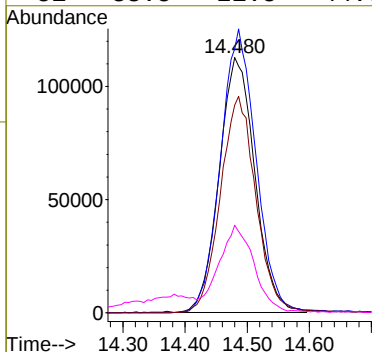
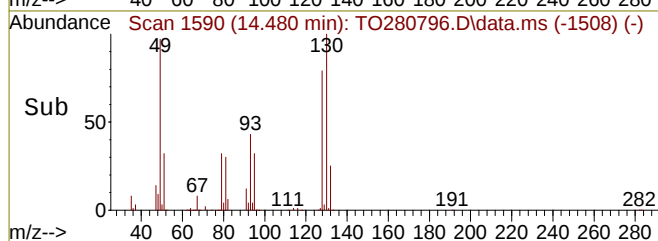
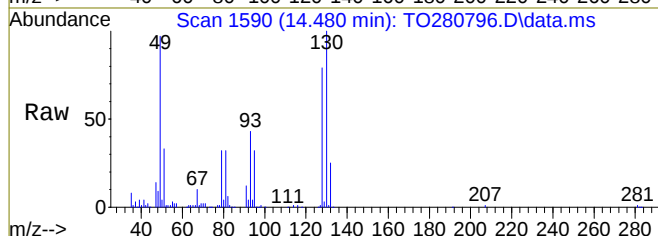
Quant Time: Oct 11 15:28:18 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Thu Oct 10 18:15:28 2019
Response via : Initial Calibration





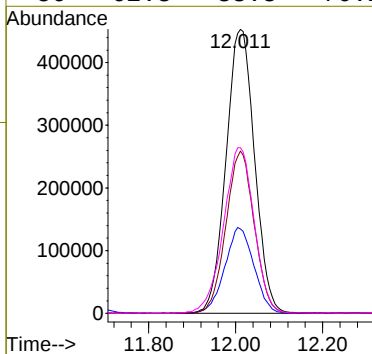
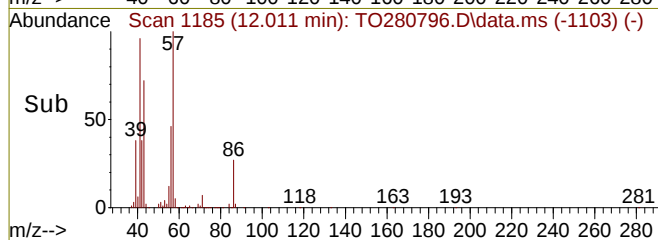
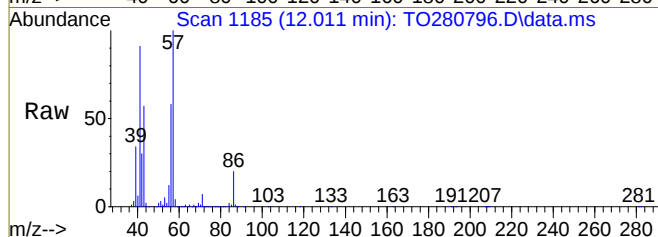
#1
Methane, bromochloro-
Concen: 10.00 ppbv
RT: 14.480 min Scan# 1590
Delta R.T. -0.000 min
Lab File: T0280796.D
Acq: 11 Oct 2019 9:38 am

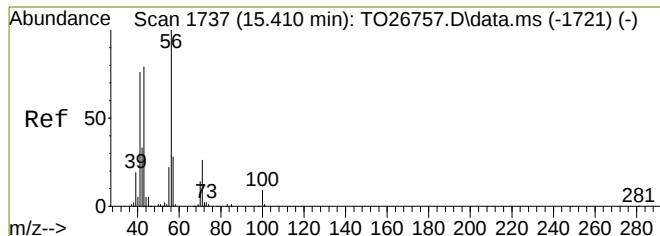
Tgt Ion: 49 Resp: 450051
Ion Ratio Lower Upper
49 100
130 110.3 44.5 92.3#
128 84.7 34.7 72.1#
51 33.5 21.5 44.6



#23
Hexane
Concen: 38.79 ppbv
RT: 12.011 min Scan# 1185
Delta R.T. -0.000 min
Lab File: T0280796.D
Acq: 11 Oct 2019 9:38 am

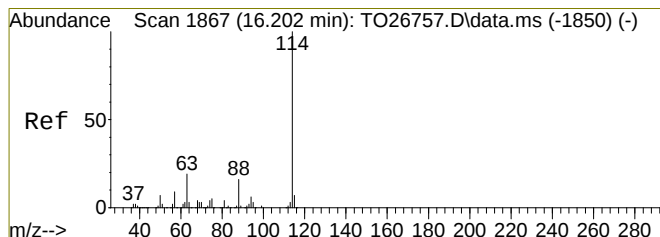
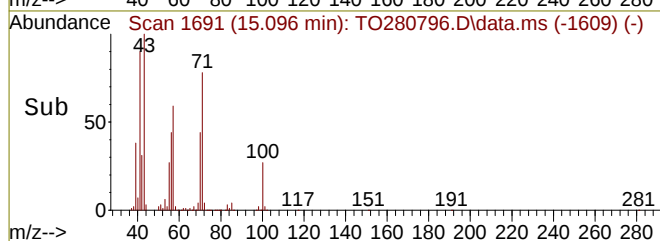
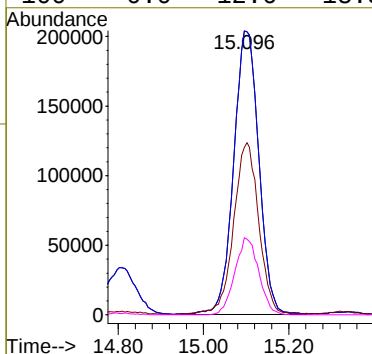
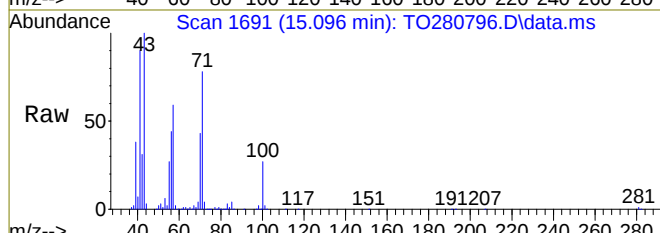
Tgt Ion: 57 Resp: 2068670
Ion Ratio Lower Upper
57 100
42 30.9 22.2 46.0
43 56.3 42.9 89.1
56 62.3 33.8 70.2





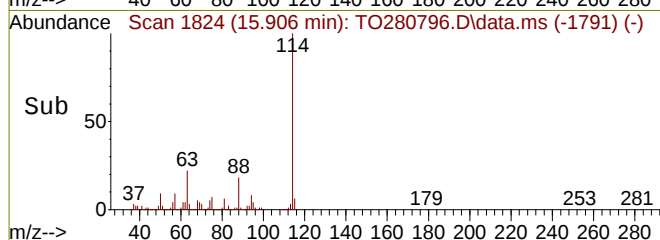
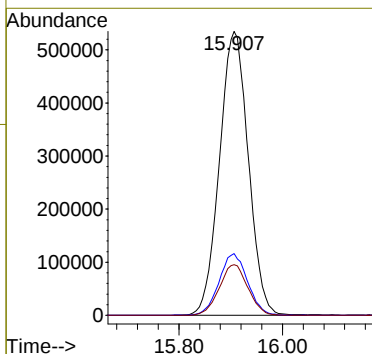
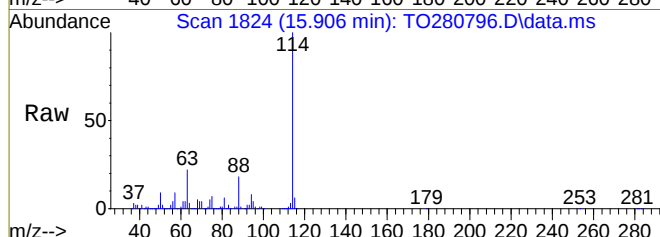
#36
n-Heptane
Concen: 15.39 ppbv
RT: 15.096 min Scan# 1691
Delta R.T. -0.000 min
Lab File: T0280796.D
Acq: 11 Oct 2019 9:38 am

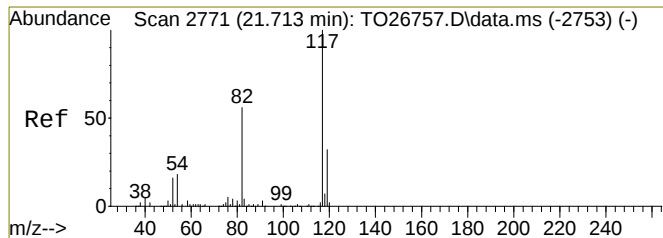
Tgt Ion: 43 Resp: 833994
Ion Ratio Lower Upper
43 100
43 100.0 80.0 120.0
57 0.0 39.8 59.8#
100 0.0 12.6 18.8#



#37
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 15.906 min Scan# 1824
Delta R.T. -0.001 min
Lab File: T0280796.D
Acq: 11 Oct 2019 9:38 am

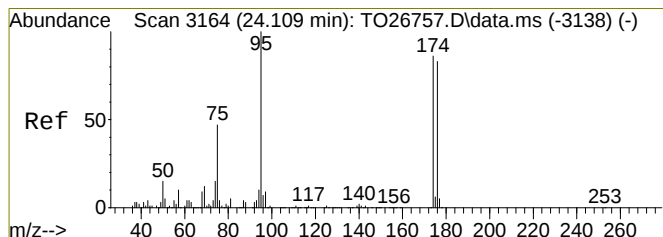
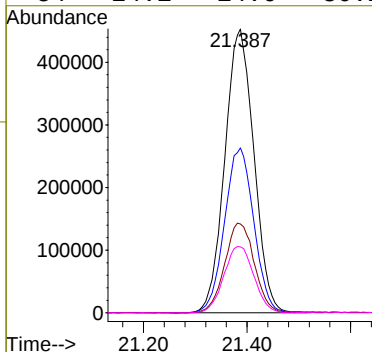
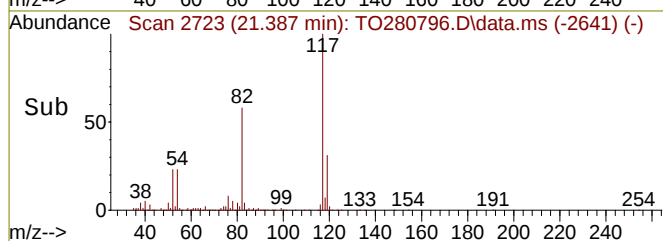
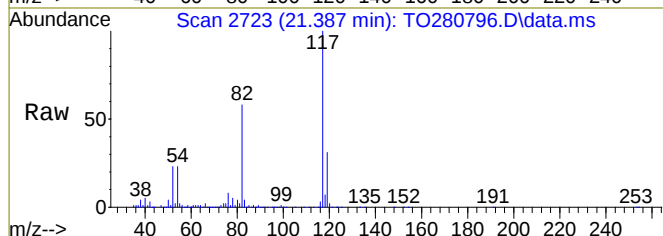
Tgt Ion: 114 Resp: 2070030
Ion Ratio Lower Upper
114 100
63 21.3 14.0 29.2
88 17.7 11.2 23.2





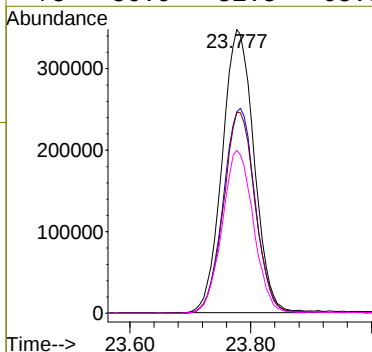
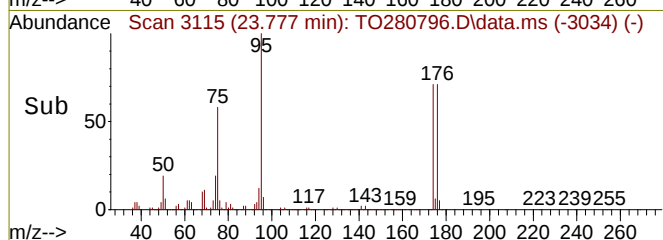
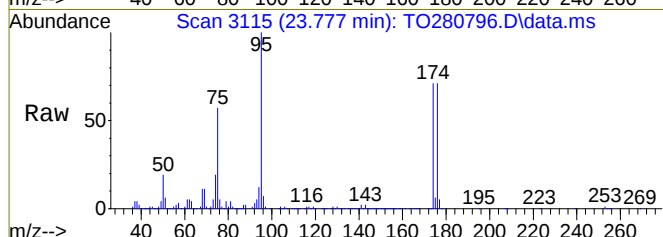
#53
d5-Chlorobenzene
Concen: 10.00 ppbv
RT: 21.387 min Scan# 2723
Delta R.T. 0.000 min
Lab File: T0280796.D
Acq: 11 Oct 2019 9:38 am

Tgt Ion: 117 Resp: 1772138
Ion Ratio Lower Upper
117 100
82 58.3 38.7 80.5
119 32.1 20.3 42.3
54 24.1 14.6 30.2



#64
p-Bromofluorobenzene
Concen: 9.64 ppbv
RT: 23.777 min Scan# 3115
Delta R.T. -0.006 min
Lab File: T0280796.D
Acq: 11 Oct 2019 9:38 am

Tgt Ion: 95 Resp: 1269679
Ion Ratio Lower Upper
95 100
174 72.9 50.0 103.8
176 70.8 48.2 100.2
75 56.9 31.5 65.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

SV22_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Soil Vapor Laboratory ID: 19J0219-02 File ID: TO280774.D
 Sampled: 10/03/19 13:05 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 15:13
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
630-20-6	1,1,1,2-Tetrachloroethane	16.5	11	U
71-55-6	1,1,1-Trichloroethane	16.5	9.0	U
79-34-5	1,1,2,2-Tetrachloroethane	16.5	11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	16.5	13	U
79-00-5	1,1,2-Trichloroethane	16.5	9.0	U
75-34-3	1,1-Dichloroethane	16.5	6.7	U
75-35-4	1,1-Dichloroethylene	16.5	1.6	U
120-82-1	1,2,4-Trichlorobenzene	16.5	12	U
95-63-6	1,2,4-Trimethylbenzene	16.5	11	D
106-93-4	1,2-Dibromoethane	16.5	13	U
95-50-1	1,2-Dichlorobenzene	16.5	9.9	U
107-06-2	1,2-Dichloroethane	16.5	6.7	U
78-87-5	1,2-Dichloropropane	16.5	7.6	U
76-14-2	1,2-Dichlorotetrafluoroethane	16.5	12	U
108-67-8	1,3,5-Trimethylbenzene	16.5	8.1	U
106-99-0	1,3-Butadiene	16.5	15	D
541-73-1	1,3-Dichlorobenzene	16.5	9.9	U
142-28-9	1,3-Dichloropropane	16.5	7.6	U
106-46-7	1,4-Dichlorobenzene	16.5	9.9	U
123-91-1	1,4-Dioxane	16.5	12	U
78-93-3	2-Butanone	16.5	51	D
591-78-6	2-Hexanone	16.5	14	U
107-05-1	3-Chloropropene	16.5	26	U
108-10-1	4-Methyl-2-pentanone	16.5	6.8	U
67-64-1	Acetone	16.5	82	D
107-13-1	Acrylonitrile	16.5	3.6	U
71-43-2	Benzene	16.5	5.3	U
100-44-7	Benzyl chloride	16.5	8.6	U
75-27-4	Bromodichloromethane	16.5	11	U
75-25-2	Bromoform	16.5	17	U
74-83-9	Bromomethane	16.5	6.4	U
75-15-0	Carbon disulfide	16.5	16	D
56-23-5	Carbon tetrachloride	16.5	2.6	U
108-90-7	Chlorobenzene	16.5	7.6	U
75-00-3	Chloroethane	16.5	4.4	U
67-66-3	Chloroform	16.5	8.1	U
74-87-3	Chloromethane	16.5	3.4	U
156-59-2	cis-1,2-Dichloroethylene	16.5	1.6	U
10061-01-5	cis-1,3-Dichloropropylene	16.5	7.5	U
110-82-7	Cyclohexane	16.5	5.7	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

SV22_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Soil Vapor Laboratory ID: 19J0219-02 File ID: TO280774.D
 Sampled: 10/03/19 13:05 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 15:13
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
124-48-1	Dibromochloromethane	16.5	14	U
75-71-8	Dichlorodifluoromethane	16.5	8.2	U
141-78-6	Ethyl acetate	16.5	12	U
100-41-4	Ethyl Benzene	16.5	7.2	U
87-68-3	Hexachlorobutadiene	16.5	18	U
67-63-0	Isopropanol	16.5	8.1	U
80-62-6	Methyl Methacrylate	16.5	6.8	U
1634-04-4	Methyl tert-butyl ether (MTBE)	16.5	6.0	U
75-09-2	Methylene chloride	16.5	11	U
142-82-5	n-Heptane	16.5	1500	D
110-54-3	n-Hexane	16.5	2600	D
95-47-6	o-Xylene	16.5	11	D
179601-23-1	p- & m- Xylenes	16.5	22	D
622-96-8	p-Ethyltoluene	16.5	9.7	D
115-07-1	Propylene	16.5	2.8	U
100-42-5	Styrene	16.5	7.0	U
127-18-4	Tetrachloroethylene	16.5	15	D
109-99-9	Tetrahydrofuran	16.5	9.7	U
108-88-3	Toluene	16.5	20	D
156-60-5	trans-1,2-Dichloroethylene	16.5	6.5	U
10061-02-6	trans-1,3-Dichloropropylene	16.5	7.5	U
79-01-6	Trichloroethylene	16.5	2.2	U
75-69-4	Trichlorofluoromethane (Freon 11)	16.5	9.3	U
108-05-4	Vinyl acetate	16.5	5.8	U
593-60-2	Vinyl bromide	16.5	7.2	U
75-01-4	Vinyl Chloride	16.5	1.1	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	10.4	104	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	428601	14.48	367296	14.48	
ISTD: 1,4-Difluorobenzene	1977428	15.907	1786831	15.907	
ISTD: d5-Chlorobenzene	1693196	21.387	1686833	21.393	

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280774.D
 Acq On : 10 Oct 2019 3:13 pm
 Operator : KT
 Sample : 19J0219-02
 Misc : QBT01101019A 10x/40mL
 ALS Vial : 15 Sample Multiplier: 16.52
 InstName : 5975C

Quant Time: Oct 11 15:22:16 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

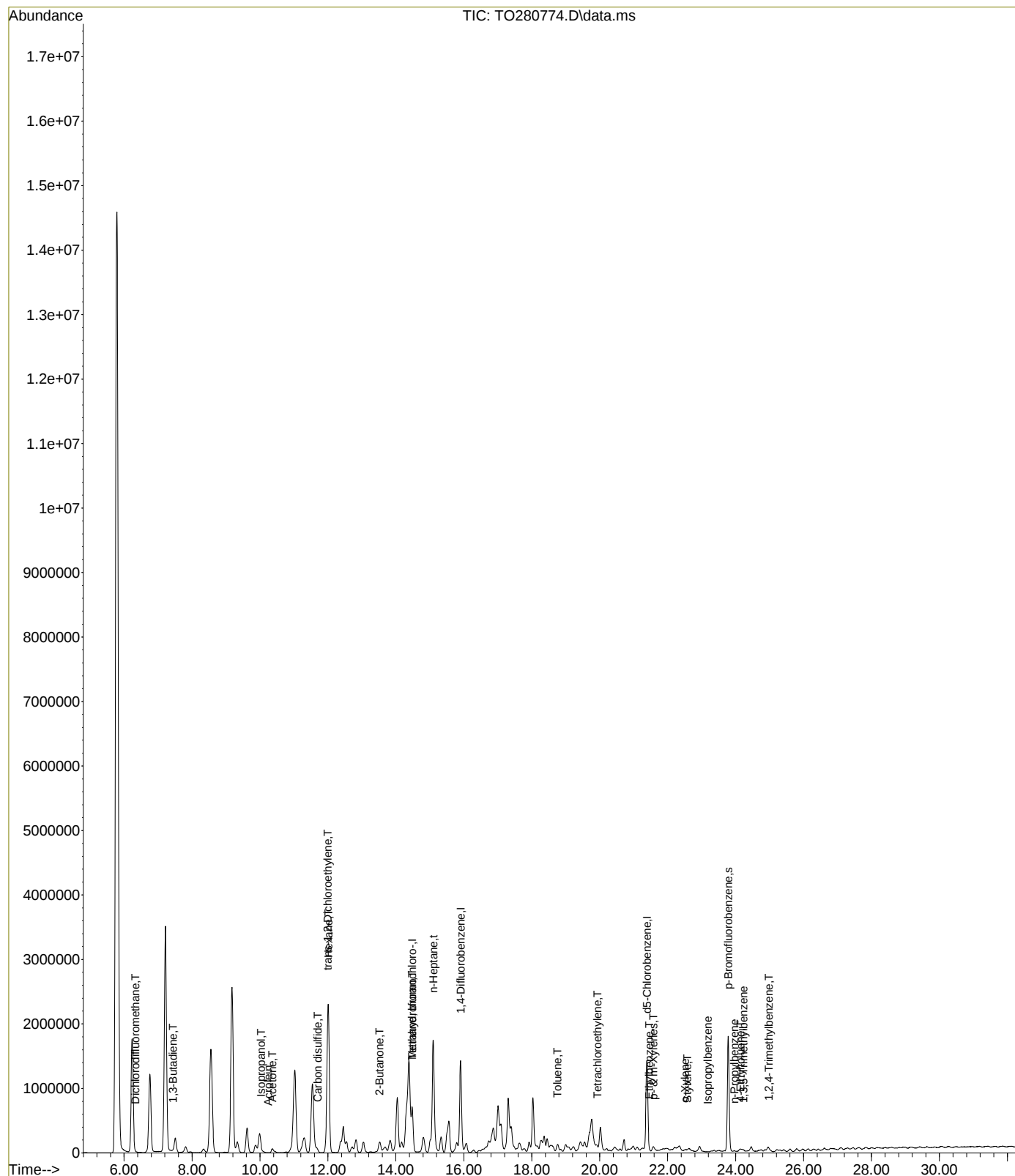
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

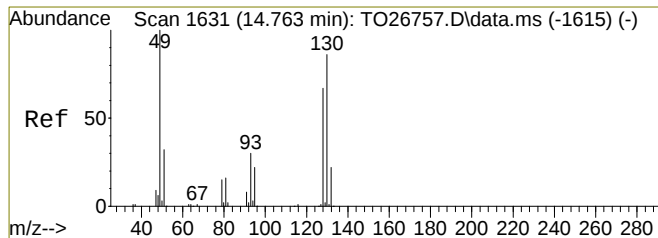
Internal Standards						
1) Methane, bromochloro-	14.480	49	428601	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	1977428	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1693196	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.783	95	1314550	10.45	ppbv	0.00
Spiked Amount	10.000	Range 70 - 130	Recovery	=	104.50%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	6.329	85	8090	0.04	ppbv	# 82
7) 1,3-Butadiene	7.439	54	11016	0.40	ppbv	# 29
12) Isopropanol	10.030	45	2668	0.04	ppbv	# 99
13) Acrolein	10.243	56	747m	0.08	ppbv	
14) Acetone	10.365	43	168216	2.09	ppbv	87
18) Methylene Chloride	11.517	49	13153	Below	Cal	# 1
20) Carbon disulfide	11.694	76	35081	0.31	ppbv	99
22) trans-1,2-Dichloroethy...	11.993	61	2674	0.04	ppbv	# 1
23) Hexane	12.011	57	2263000	44.56	ppbv	88
26) 2-Butanone	13.517	43	68069	1.04	ppbv	# 91
30) Tetrahydrofuran	14.480	42	2178m	0.07	ppbv	
36) n-Heptane	15.102	43	1181259	22.89	ppbv	# 93
45) Toluene	18.754	91	60096	0.32	ppbv	98
50) Tetrachloroethylene	19.930	166	14702	0.13	ppbv	89
56) Ethylbenzene	21.454	91	22131	0.09	ppbv	# 72
57) p- & m-Xylenes	21.576	91	58147	0.30	ppbv	97
58) o-Xylene	22.509	91	30504	0.15	ppbv	96
59) Styrene	22.576	104	5363	0.04	ppbv	# 88
61) n-Propylbenzene	23.966	91	13964	0.04	ppbv	100
62) Isopropylbenzene	23.180	105	7249	0.03	ppbv	96
65) 4-Ethyltoluene	24.143	105	35206	0.12	ppbv	# 61
66) 1,3,5-Trimethylbenzene	24.228	105	12705	0.06	ppbv	# 72
68) 1,2,4-Trimethylbenzene	24.978	105	33174	0.13	ppbv	# 83

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

Data Path : D:\101019\
Data File : T0280774.D
Acq On : 10 Oct 2019 3:13 pm
Operator : KT
Sample : 19J0219-02
Misc : QBT01101019A 10x/40mL
ALS Vial : 15 Sample Multiplier: 16.52
InstName : 5975C

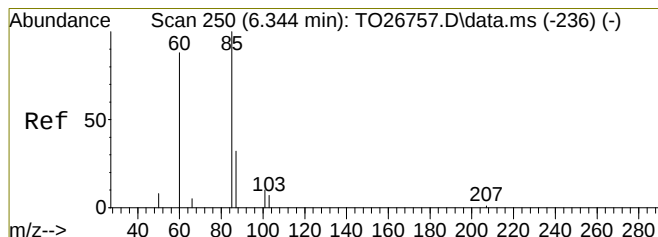
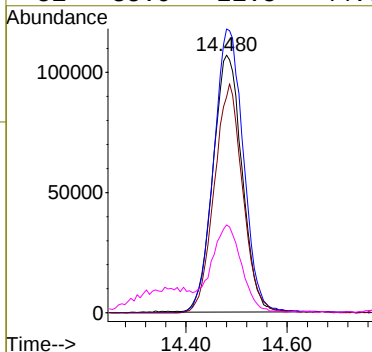
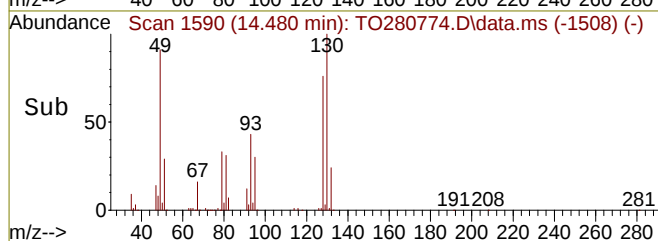
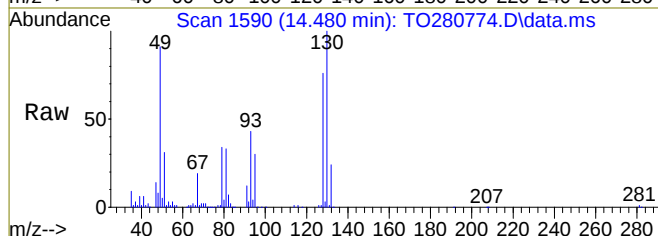
Quant Time: Oct 11 15:22:16 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 23:31:47 2019
Response via : Initial Calibration





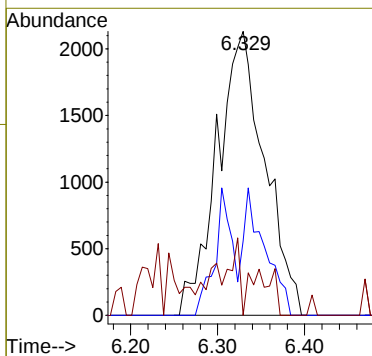
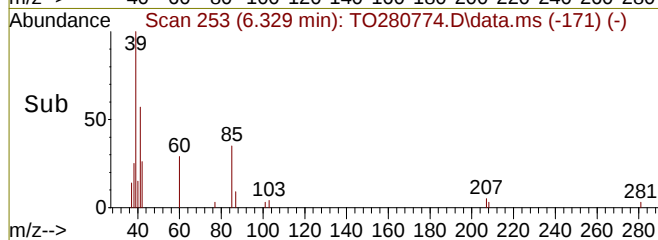
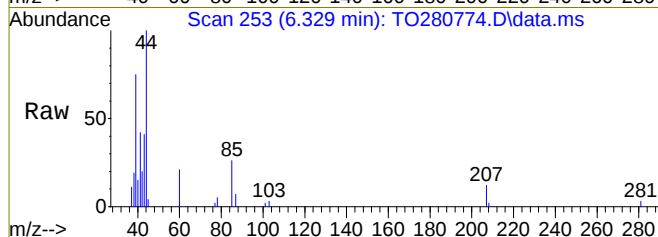
#1
Methane, bromochloro-
Concen: 10.00 ppbv
RT: 14.480 min Scan# 1590
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

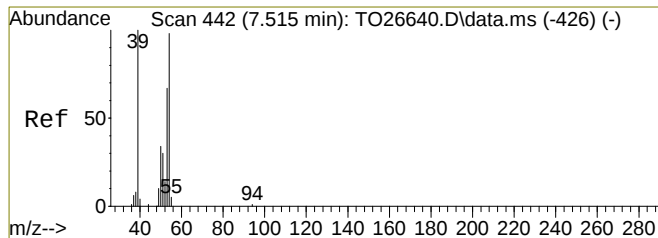
Tgt Ion: 49 Resp: 428601
Ion Ratio Lower Upper
49 100
130 112.3 44.5 92.3#
128 86.9 34.7 72.1#
51 35.9 21.5 44.6



#3
Dichlorodifluoromethane
Concen: 0.04 ppbv
RT: 6.329 min Scan# 253
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

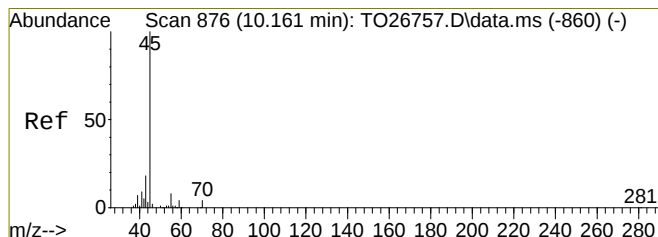
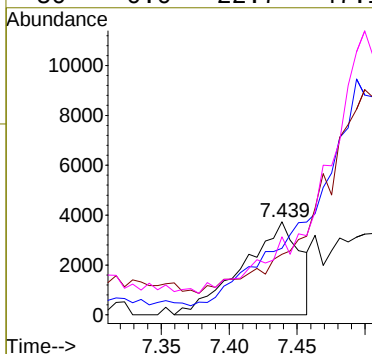
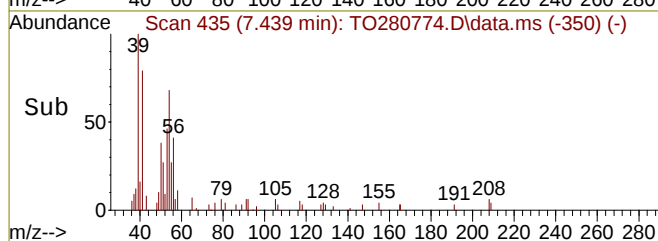
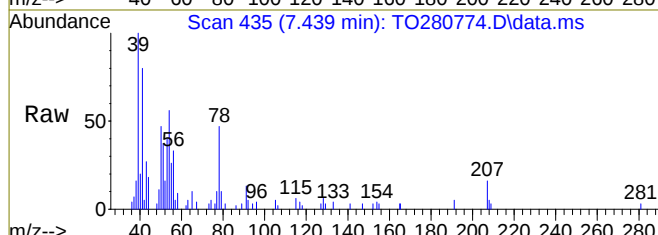
Tgt Ion: 85 Resp: 8090
Ion Ratio Lower Upper
85 100
87 20.4 21.0 43.6#
50 7.6 6.8 14.2





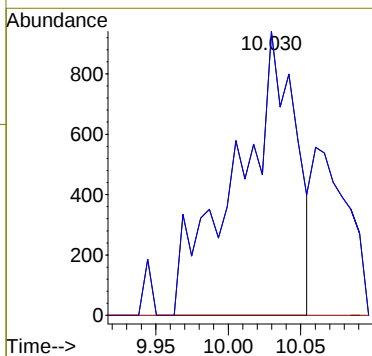
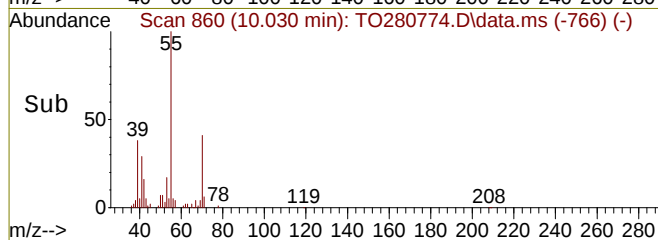
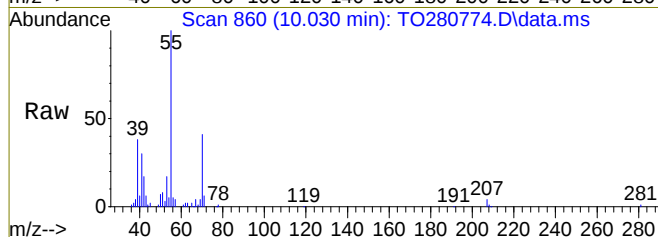
#7
1,3-Butadiene
Concen: 0.40 ppbv
RT: 7.439 min Scan# 435
Delta R.T. 0.019 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

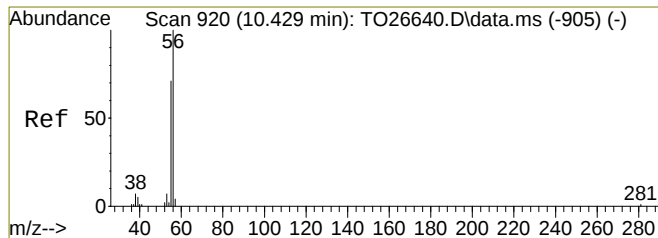
Tgt Ion: 54 Resp: 11016
Ion Ratio Lower Upper
54 100
53 0.0 43.4 90.2#
51 0.0 19.9 41.3#
50 0.0 22.7 47.1#



#12
Isopropanol
Concen: 0.04 ppbv
RT: 10.030 min Scan# 860
Delta R.T. 0.073 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

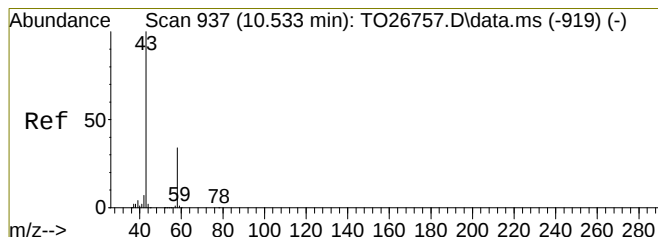
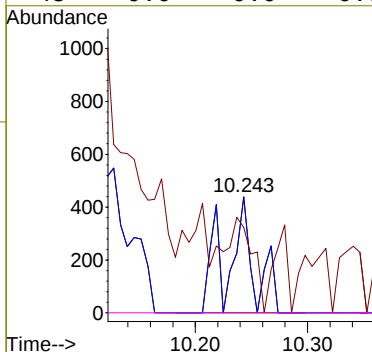
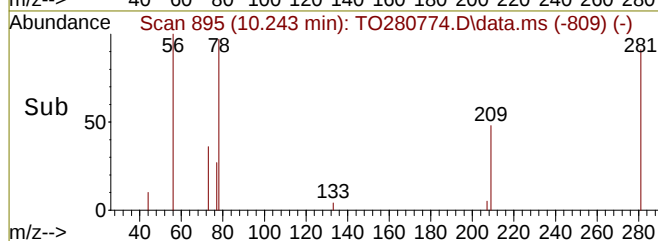
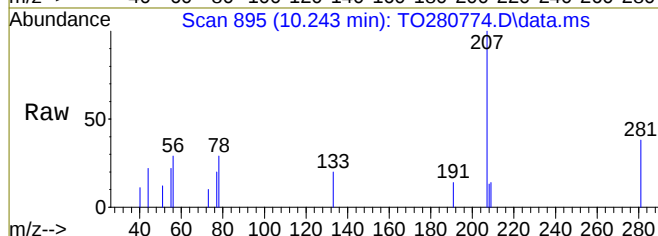
Tgt Ion: 45 Resp: 2668
Ion Ratio Lower Upper
45 100
45 100.0 65.0 135.0
59 0.0 0.0 8.4





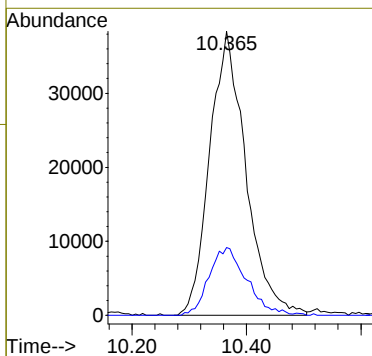
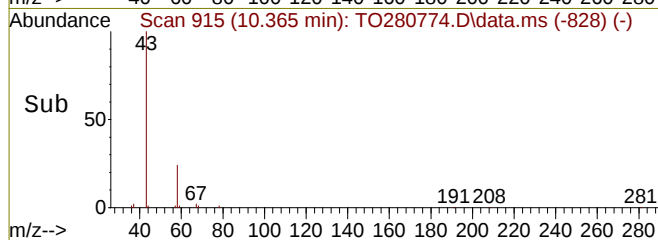
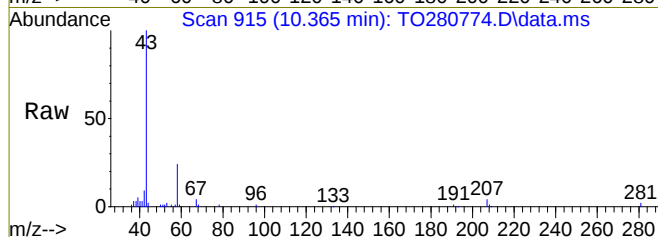
#13
Acrolein
Concen: 0.08 ppbv m
RT: 10.243 min Scan# 895
Delta R.T. 0.024 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

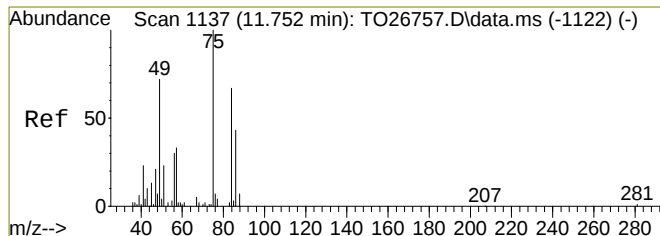
Tgt Ion: 56 Resp: 747
Ion Ratio Lower Upper
56 100
56 221.8 80.0 120.0#
55 0.0 0.0 0.0
45 0.0 0.0 0.0



#14
Acetone
Concen: 2.09 ppbv
RT: 10.365 min Scan# 915
Delta R.T. 0.031 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

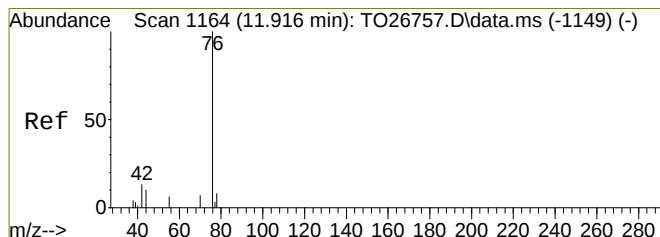
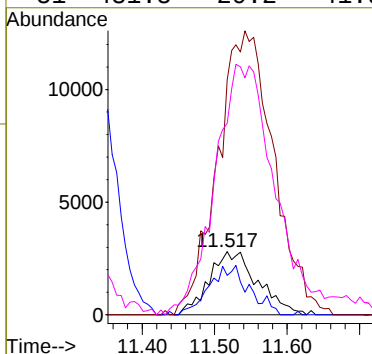
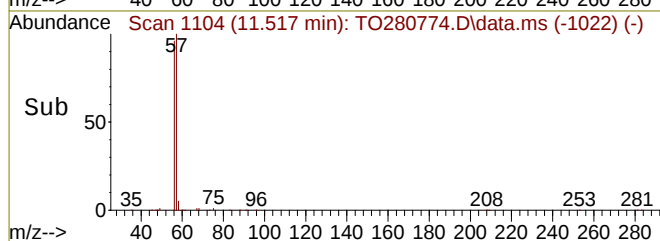
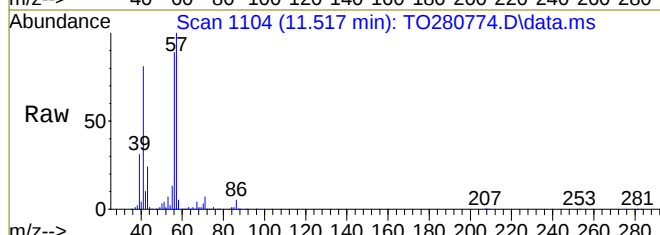
Tgt Ion: 43 Resp: 168216
Ion Ratio Lower Upper
43 100
58 24.8 20.7 42.9





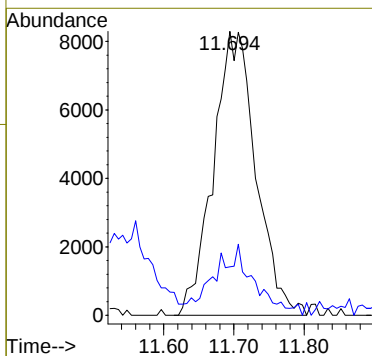
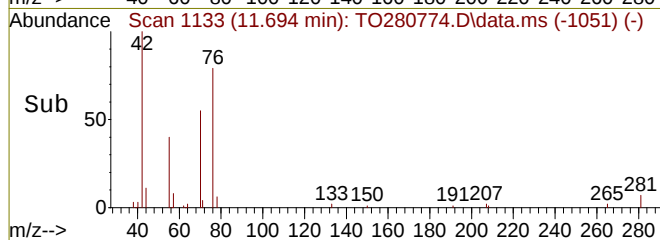
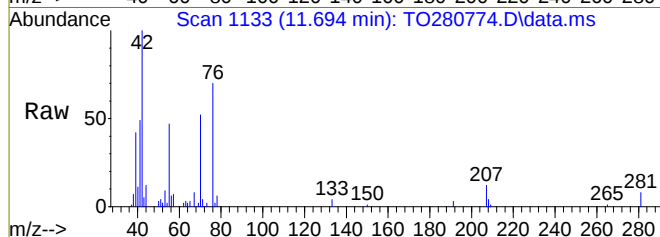
#18
Methylene Chloride
Concen: Below Cal
RT: 11.517 min Scan# 1104
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

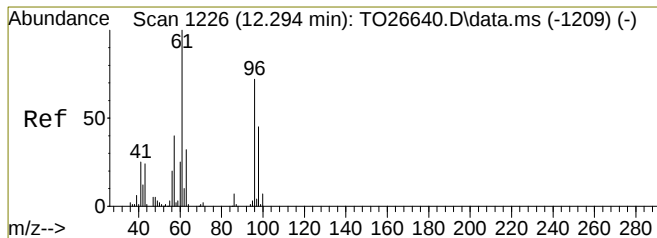
Tgt Ion: 49 Resp: 13153
Ion Ratio Lower Upper
49 100
84 59.4 50.1 104.0
86 515.1 32.2 66.8#
51 481.5 20.2 41.9#



#20
Carbon disulfide
Concen: 0.31 ppbv
RT: 11.694 min Scan# 1133
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

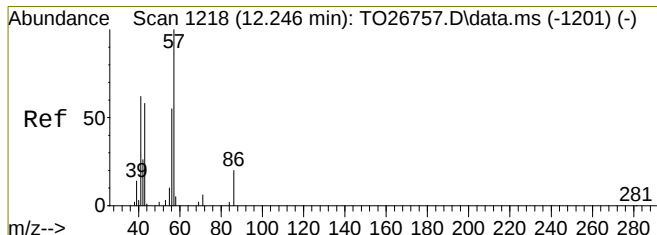
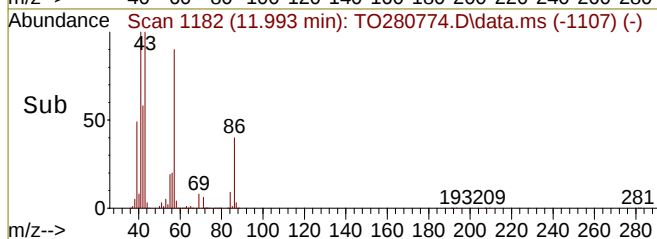
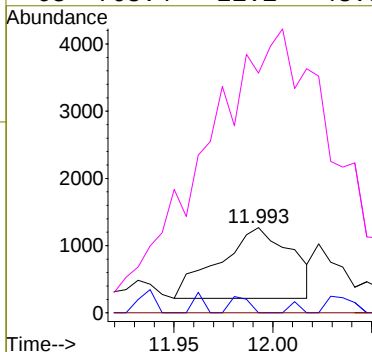
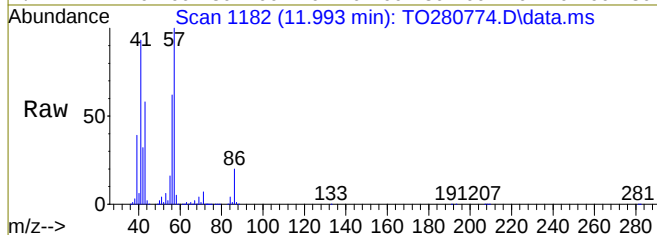
Tgt Ion: 76 Resp: 35081
Ion Ratio Lower Upper
76 100
44 12.6 8.4 17.4





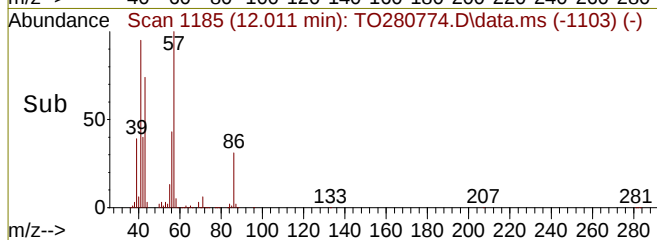
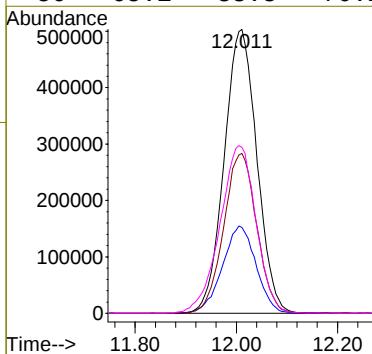
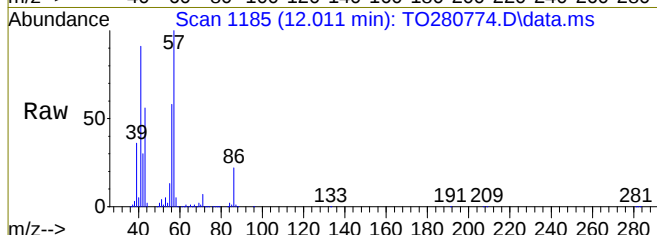
#22
trans-1,2-Dichloroethylene
Concen: 0.04 ppbv
RT: 11.993 min Scan# 1182
Delta R.T. -0.042 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

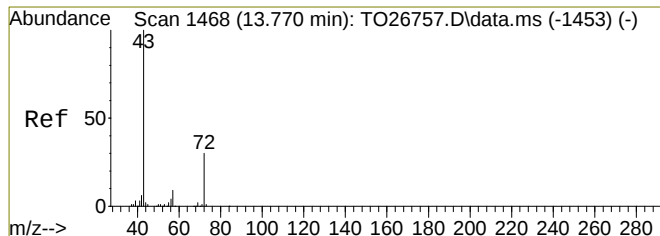
Tgt Ion: 61 Resp: 2674
Ion Ratio Lower Upper
61 100
96 0.0 43.2 89.6#
98 0.0 27.4 57.0#
63 763.4 21.1 43.9#



#23
Hexane
Concen: 44.56 ppbv
RT: 12.011 min Scan# 1185
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

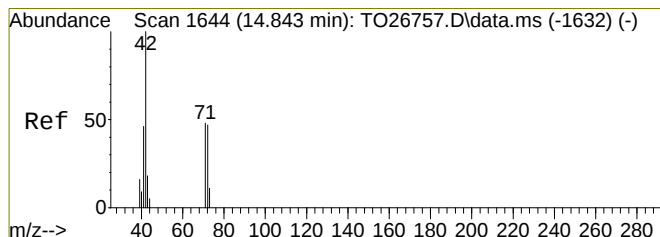
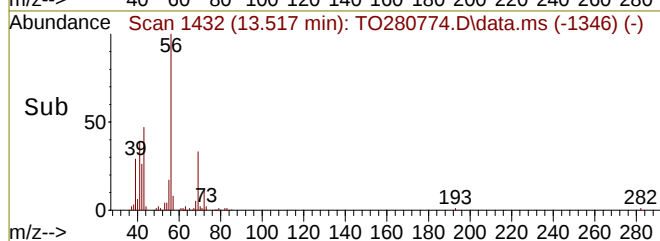
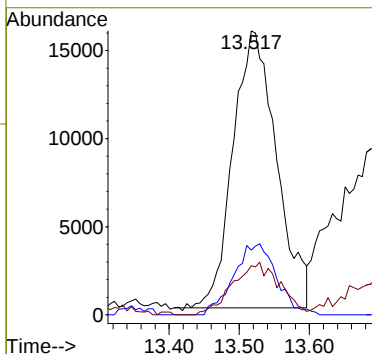
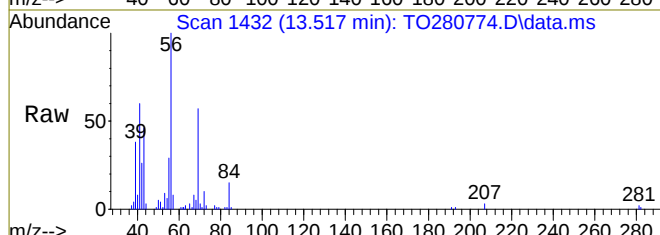
Tgt Ion: 57 Resp: 2263000
Ion Ratio Lower Upper
57 100
42 31.7 22.2 46.0
43 56.8 42.9 89.1
56 65.1 33.8 70.2





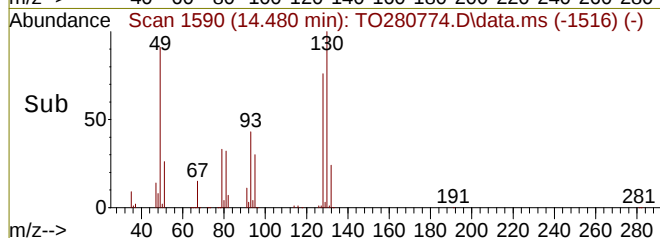
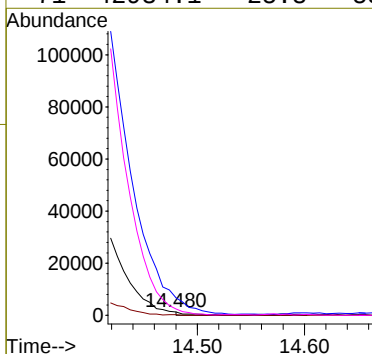
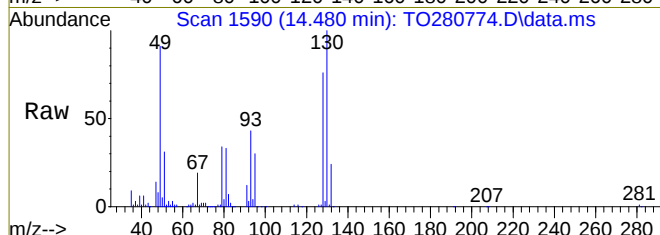
#26
2-Butanone
Concen: 1.04 ppbv
RT: 13.517 min Scan# 1432
Delta R.T. 0.025 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

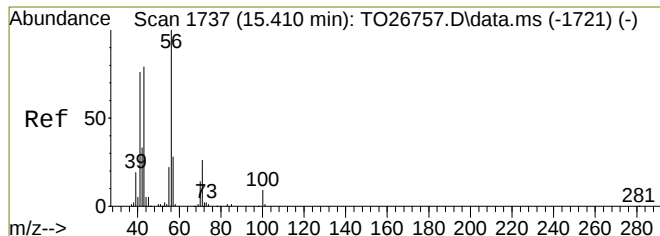
Tgt Ion: 43 Resp: 68069
Ion Ratio Lower Upper
43 100
72 25.1 16.4 34.2
57 20.2 5.0 10.4#



#30
Tetrahydrofuran
Concen: 0.07 ppbv m
RT: 14.480 min Scan# 1590
Delta R.T. -0.049 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

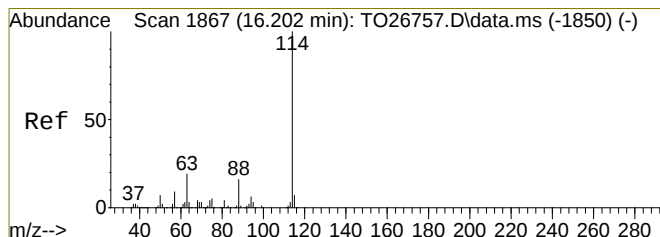
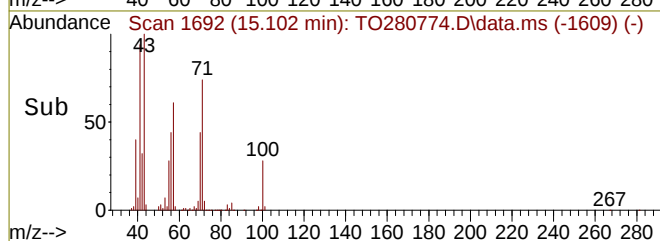
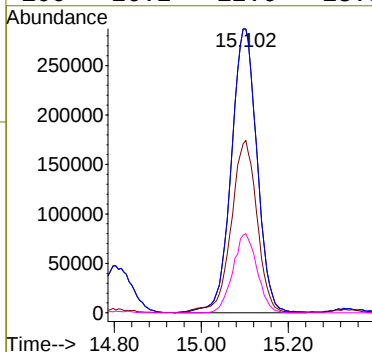
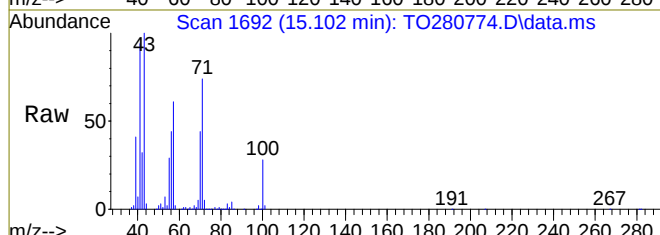
Tgt Ion: 42 Resp: 2178
Ion Ratio Lower Upper
42 100
41 66723.5 34.5 71.7#
72 2138.9 27.4 56.8#
71 42934.1 25.8 53.6#





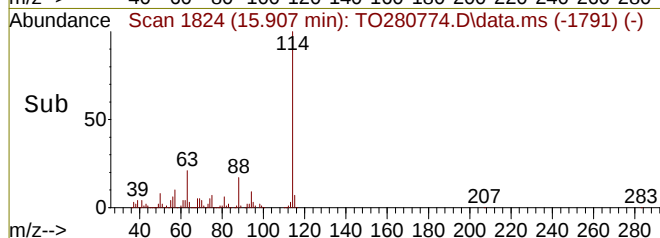
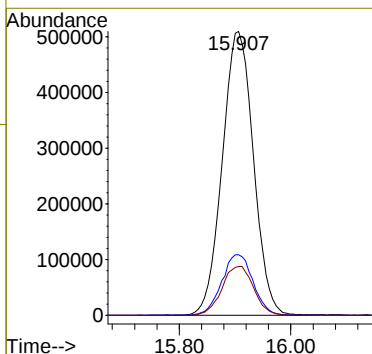
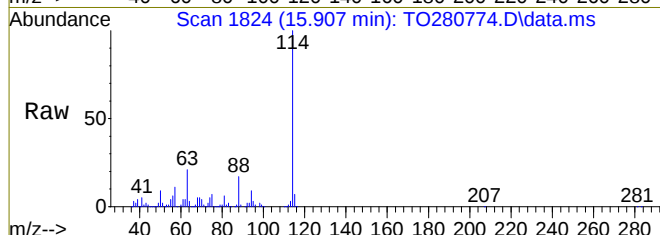
#36
n-Heptane
Concen: 22.89 ppbv
RT: 15.102 min Scan# 1692
Delta R.T. 0.006 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

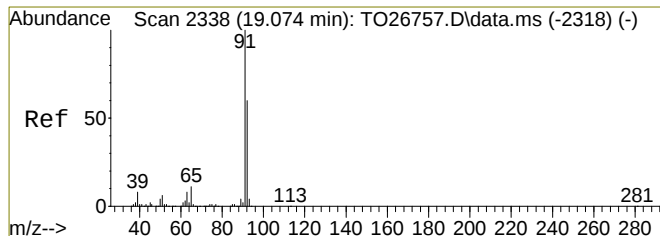
Tgt Ion: 43 Resp: 1181259
Ion Ratio Lower Upper
43 100
43 100.0 80.0 120.0
57 60.7 39.8 59.8#
100 26.2 12.6 18.8#



#37
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 15.907 min Scan# 1824
Delta R.T. -0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

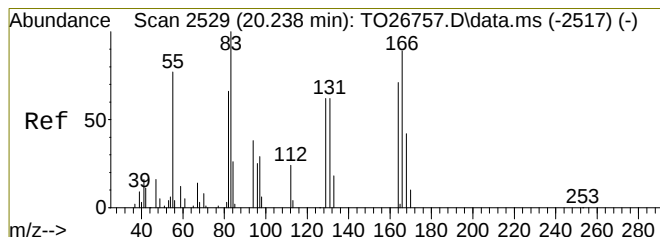
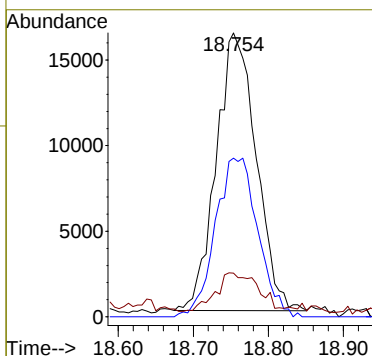
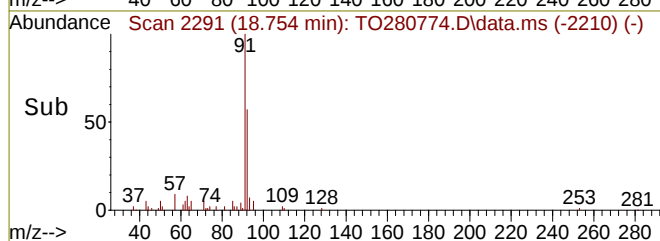
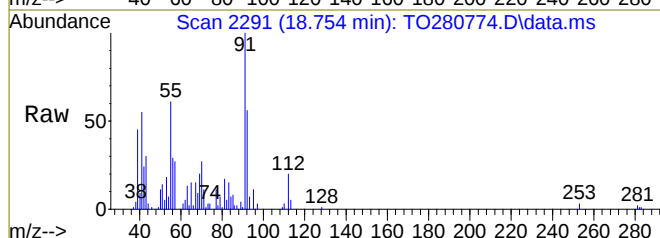
Tgt Ion: 114 Resp: 1977428
Ion Ratio Lower Upper
114 100
63 21.5 14.0 29.2
88 17.6 11.2 23.2





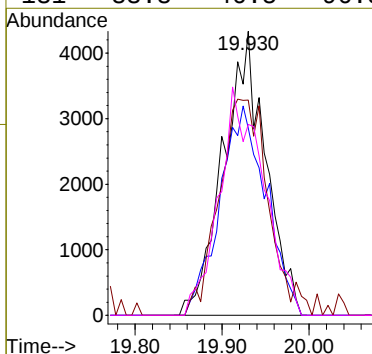
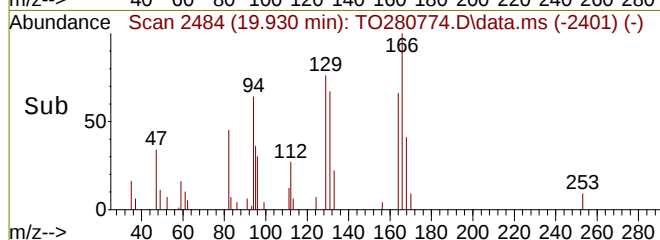
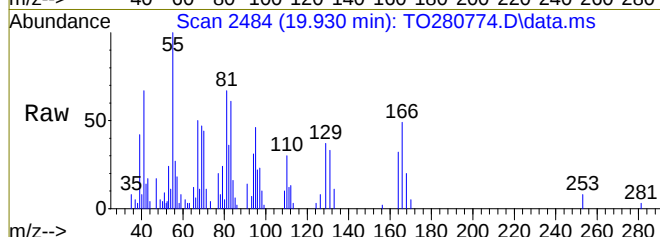
#45
Toluene
Concen: 0.32 ppbv
RT: 18.754 min Scan# 2291
Delta R.T. -0.006 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

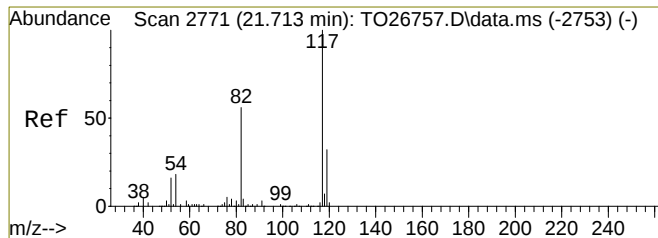
Tgt Ion: 91 Resp: 60096
Ion Ratio Lower Upper
91 100
92 60.5 39.0 81.0
65 14.5 7.7 16.1



#50
Tetrachloroethylene
Concen: 0.13 ppbv
RT: 19.930 min Scan# 2484
Delta R.T. 0.006 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

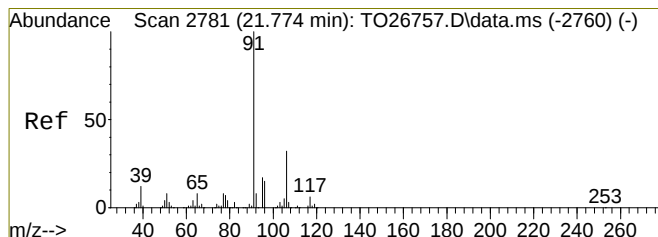
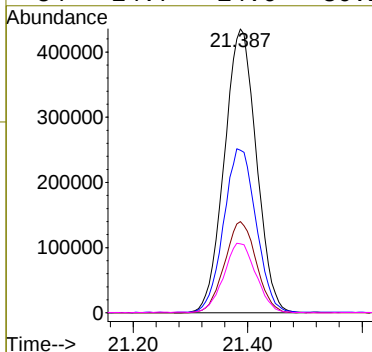
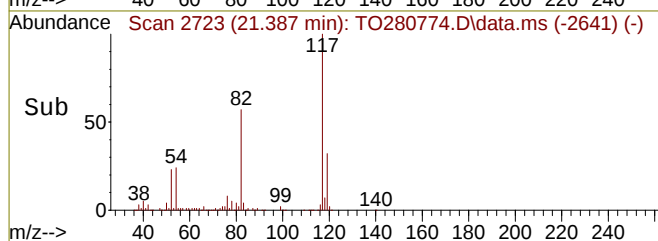
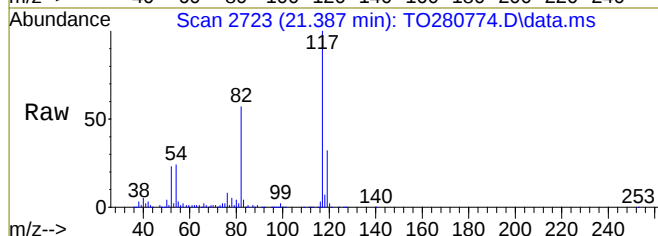
Tgt Ion: 166 Resp: 14702
Ion Ratio Lower Upper
166 100
164 80.3 51.4 106.8
129 88.1 47.0 97.6
131 83.8 46.5 96.5





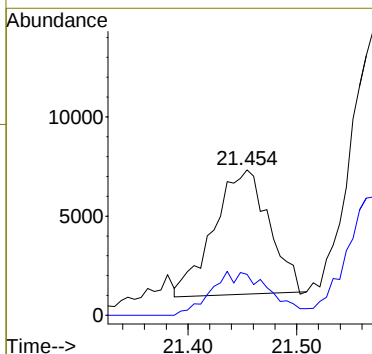
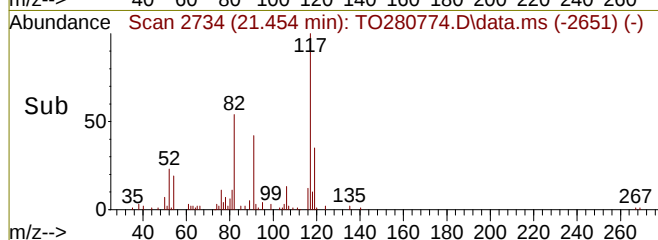
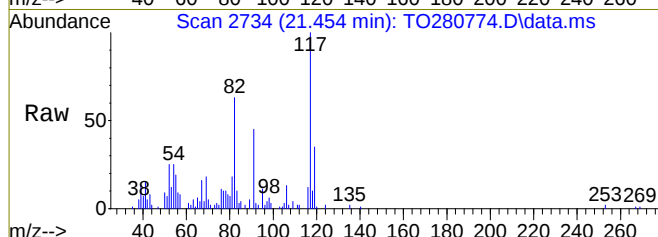
#53
d5-Chlorobenzene
Concen: 10.00 ppbv
RT: 21.387 min Scan# 2723
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

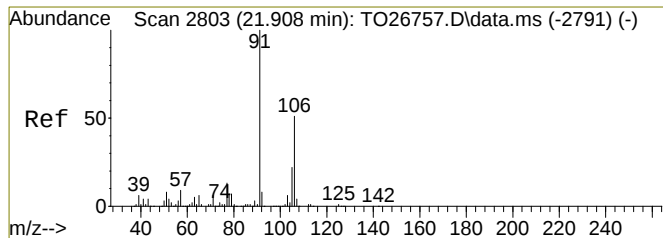
Tgt Ion: 117 Resp: 1693196
Ion Ratio Lower Upper
117 100
82 58.2 38.7 80.5
119 31.8 20.3 42.3
54 24.7 14.6 30.2



#56
Ethylbenzene
Concen: 0.09 ppbv
RT: 21.454 min Scan# 2734
Delta R.T. 0.006 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

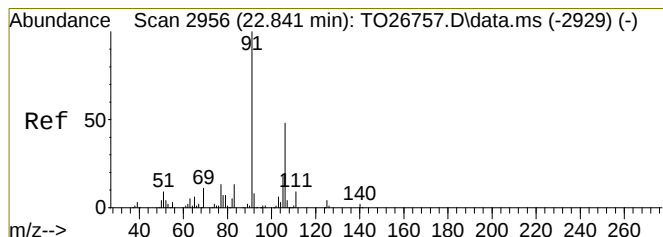
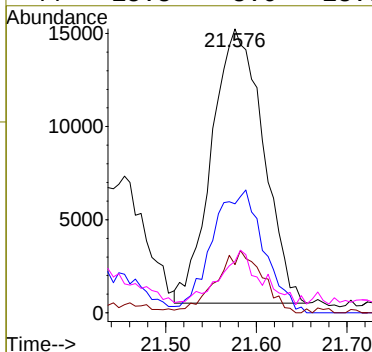
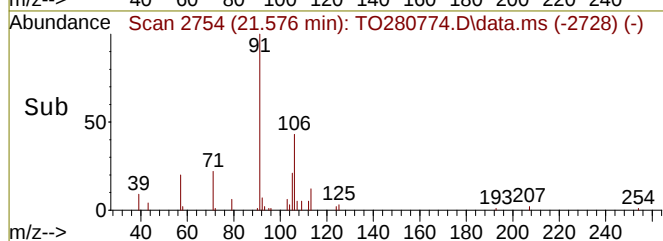
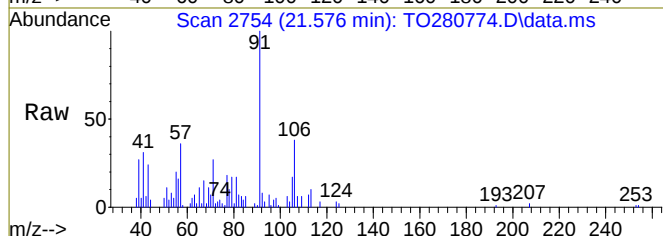
Tgt Ion: 91 Resp: 22131
Ion Ratio Lower Upper
91 100
106 15.9 20.3 42.3#





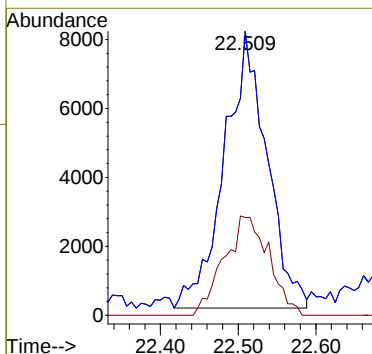
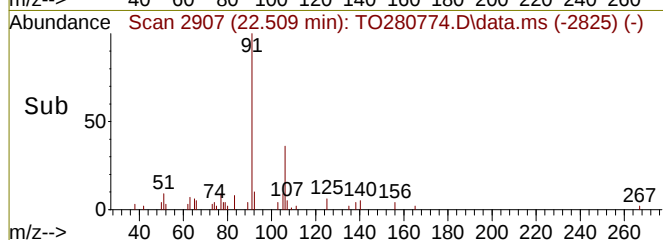
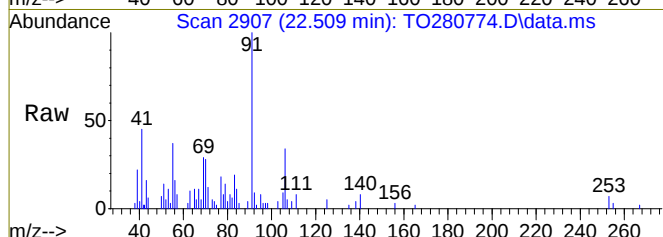
#57
p- & m-Xylenes
Concen: 0.30 ppbv
RT: 21.576 min Scan# 2754
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

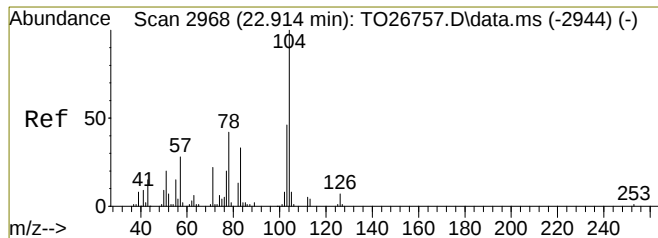
Tgt Ion: 91 Resp: 58147
Ion Ratio Lower Upper
91 100
106 45.2 31.0 64.4
105 20.5 13.4 27.8
77 15.8 8.6 18.0



#58
o-Xylene
Concen: 0.15 ppbv
RT: 22.509 min Scan# 2907
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

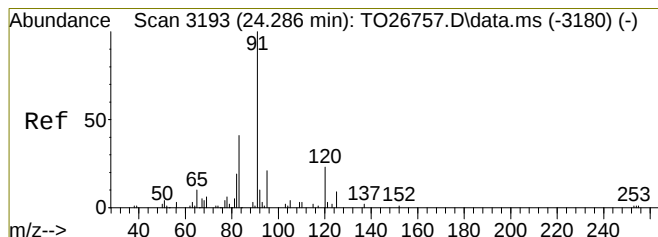
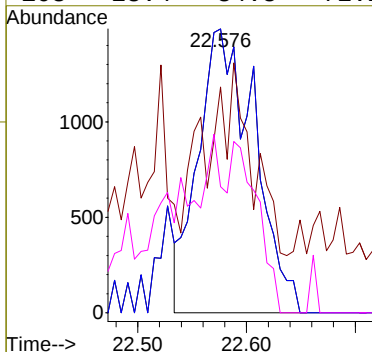
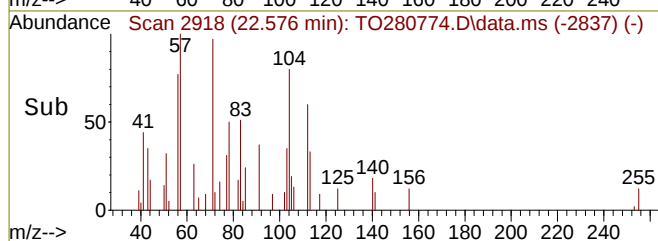
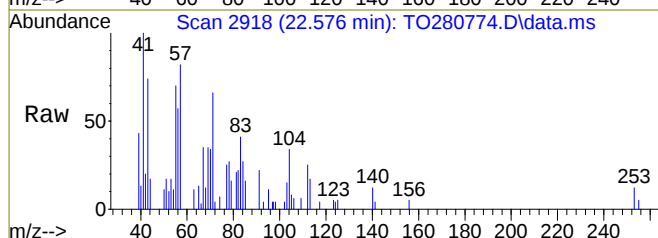
Tgt Ion: 91 Resp: 30504
Ion Ratio Lower Upper
91 100
91 100.0 80.0 120.0
106 37.8 36.9 55.3





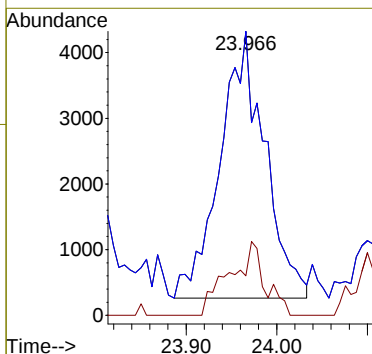
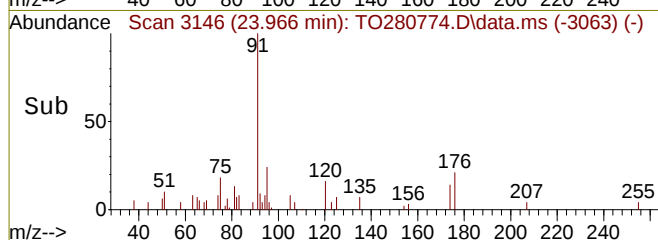
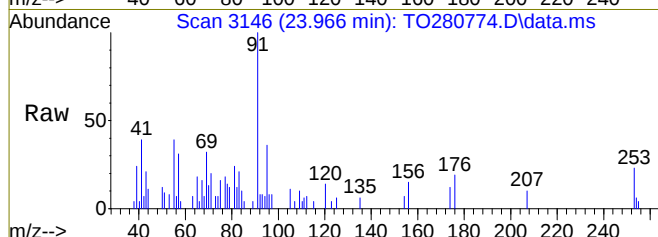
#59
Styrene
Concen: 0.04 ppbv
RT: 22.576 min Scan# 2918
Delta R.T. -0.006 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

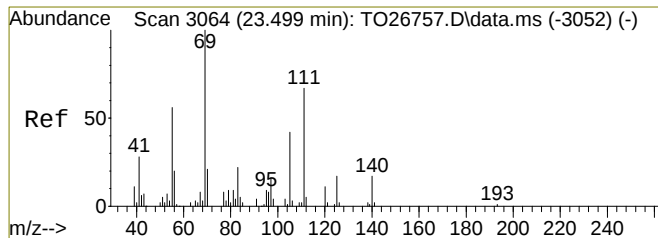
Tgt Ion: 104 Resp: 5363
Ion Ratio Lower Upper
104 100
104 100.0 65.0 135.0
78 26.0 0.0 0.0#
103 28.4 34.8 72.2#



#61
n-Propylbenzene
Concen: 0.04 ppbv
RT: 23.966 min Scan# 3146
Delta R.T. 0.006 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

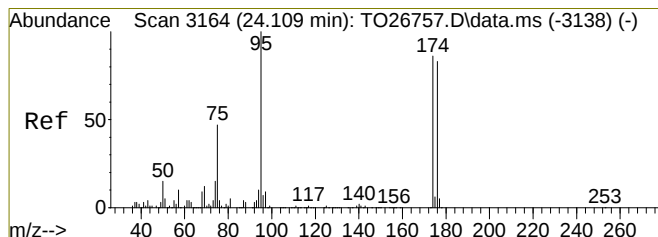
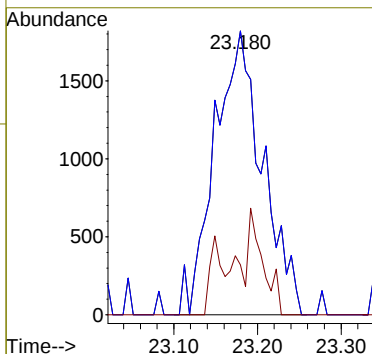
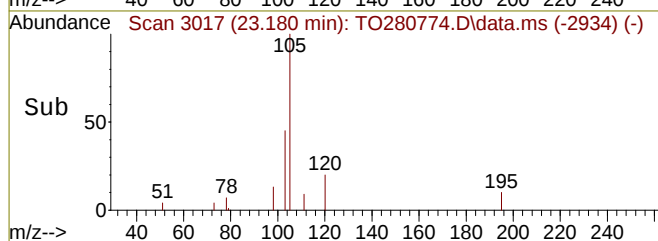
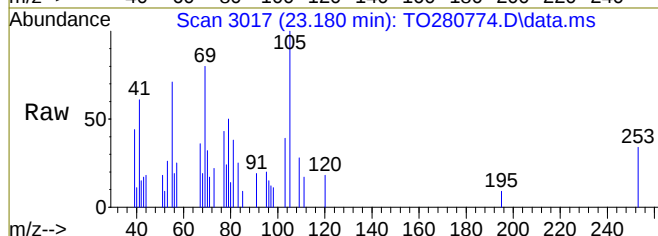
Tgt Ion: 91 Resp: 13964
Ion Ratio Lower Upper
91 100
91 100.0 80.0 120.0
120 21.6 11.0 33.0





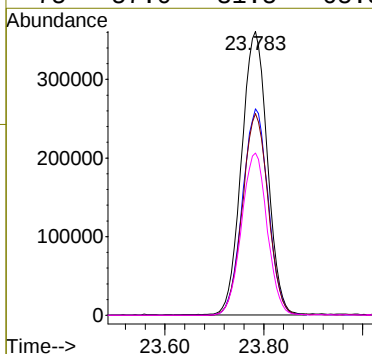
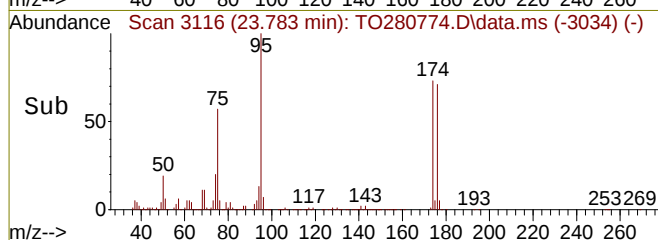
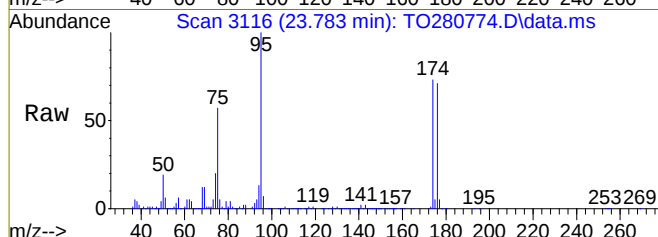
#62
Isopropylbenzene
Concen: 0.03 ppbv
RT: 23.180 min Scan# 3017
Delta R.T. 0.007 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

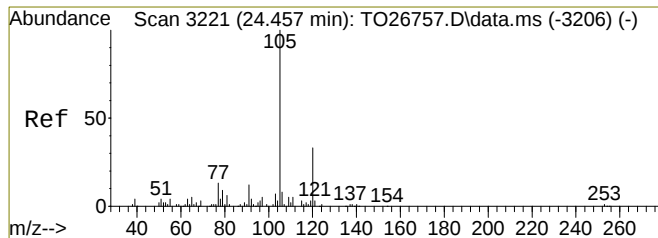
Tgt Ion: 105 Resp: 7249
Ion Ratio Lower Upper
105 100
105 100.0 80.0 120.0
120 17.2 13.1 39.1



#64
p-Bromofluorobenzene
Concen: 10.45 ppbv
RT: 23.783 min Scan# 3116
Delta R.T. 0.000 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

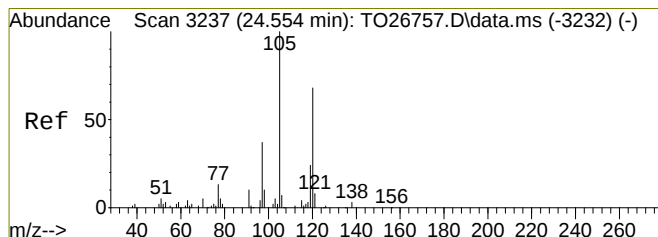
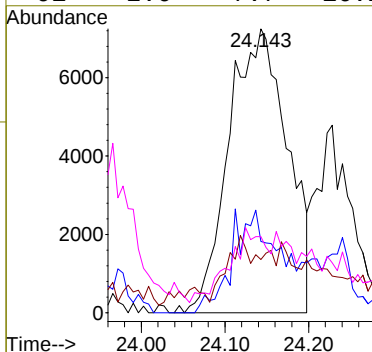
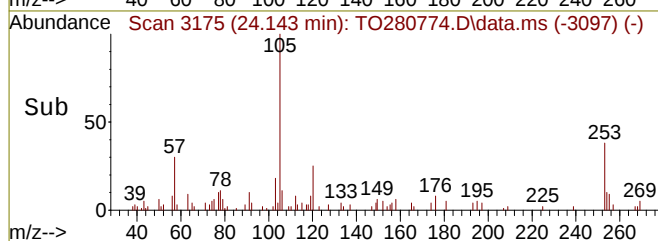
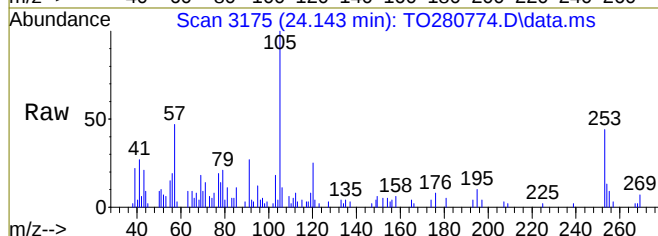
Tgt Ion: 95 Resp: 1314550
Ion Ratio Lower Upper
95 100
174 72.5 50.0 103.8
176 70.6 48.2 100.2
75 57.0 31.5 65.3





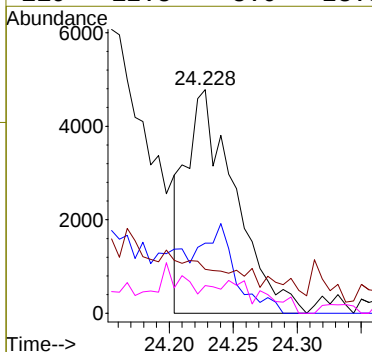
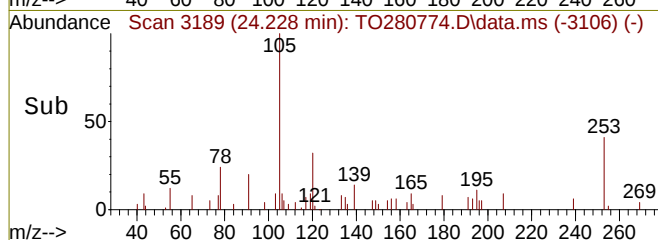
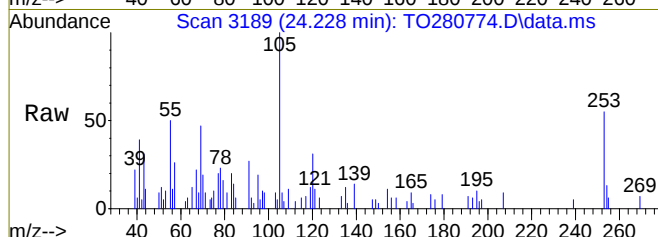
#65
4-Ethyltoluene
Concen: 0.12 ppbv
RT: 24.143 min Scan# 3175
Delta R.T. -0.024 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

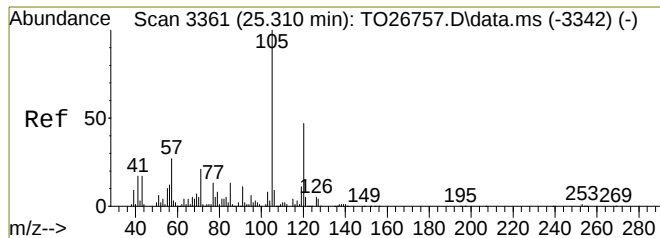
Tgt Ion:	105	Resp:	35206
Ion Ratio	Lower	Upper	
105	100		
120	0.0	17.2	35.6#
77	1.7	7.6	15.8#
91	2.6	7.7	16.1#



#66
1,3,5-Trimethylbenzene
Concen: 0.06 ppbv
RT: 24.228 min Scan# 3189
Delta R.T. 0.006 min
Lab File: T0280774.D
Acq: 10 Oct 2019 3:13 pm

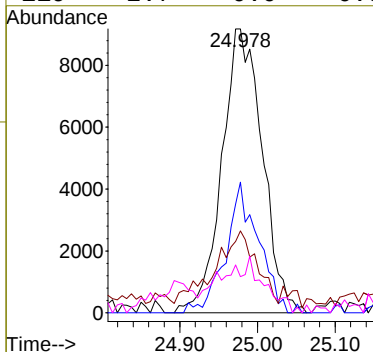
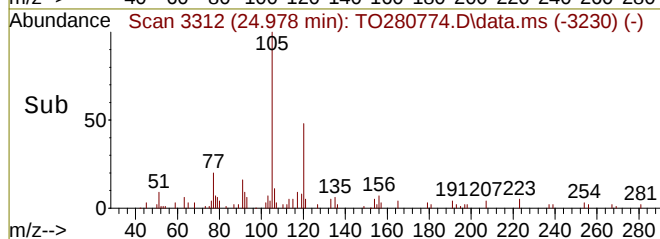
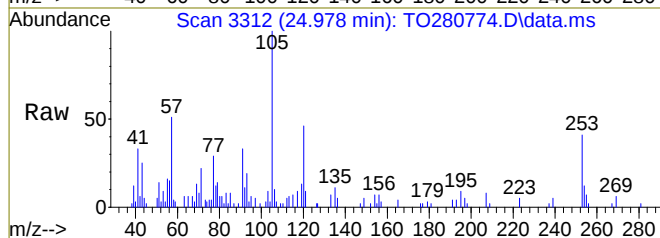
Tgt Ion:	105	Resp:	12705
Ion Ratio	Lower	Upper	
105	100		
120	28.7	43.4	65.2#
77	5.8	10.8	16.2#
119	12.8	8.0	23.8





#68
 1,2,4-Trimethylbenzene
 Concen: 0.13 ppbv
 RT: 24.978 min Scan# 3312
 Delta R.T. 0.000 min
 Lab File: T0280774.D
 Acq: 10 Oct 2019 3:13 pm

Tgt Ion:	105	Resp:	33174
Ion Ratio	Lower	Upper	
105	100		
120	37.1	29.0	60.2
77	27.2	8.2	17.0#
119	2.7	0.0	0.0#



Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Soil Vapor Laboratory ID: 19J0219-03 File ID: TO280775.D
 Sampled: 10/03/19 13:19 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 15:59
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
630-20-6	1,1,1,2-Tetrachloroethane	15.7	11	U
71-55-6	1,1,1-Trichloroethane	15.7	8.6	U
79-34-5	1,1,2,2-Tetrachloroethane	15.7	11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	15.7	12	U
79-00-5	1,1,2-Trichloroethane	15.7	8.6	U
75-34-3	1,1-Dichloroethane	15.7	6.4	U
75-35-4	1,1-Dichloroethylene	15.7	1.6	U
120-82-1	1,2,4-Trichlorobenzene	15.7	12	U
95-63-6	1,2,4-Trimethylbenzene	15.7	12	D
106-93-4	1,2-Dibromoethane	15.7	12	U
95-50-1	1,2-Dichlorobenzene	15.7	9.5	U
107-06-2	1,2-Dichloroethane	15.7	6.4	U
78-87-5	1,2-Dichloropropane	15.7	7.3	U
76-14-2	1,2-Dichlorotetrafluoroethane	15.7	11	U
108-67-8	1,3,5-Trimethylbenzene	15.7	7.7	U
106-99-0	1,3-Butadiene	15.7	10	U
541-73-1	1,3-Dichlorobenzene	15.7	9.5	U
142-28-9	1,3-Dichloropropane	15.7	7.3	U
106-46-7	1,4-Dichlorobenzene	15.7	9.5	U
123-91-1	1,4-Dioxane	15.7	11	U
78-93-3	2-Butanone	15.7	4.6	U
591-78-6	2-Hexanone	15.7	13	U
107-05-1	3-Chloropropene	15.7	25	U
108-10-1	4-Methyl-2-pentanone	15.7	6.4	U
67-64-1	Acetone	15.7	36	D
107-13-1	Acrylonitrile	15.7	3.4	U
71-43-2	Benzene	15.7	5.0	U
100-44-7	Benzyl chloride	15.7	8.1	U
75-27-4	Bromodichloromethane	15.7	11	U
75-25-2	Bromoform	15.7	16	U
74-83-9	Bromomethane	15.7	6.1	U
75-15-0	Carbon disulfide	15.7	7.4	D
56-23-5	Carbon tetrachloride	15.7	2.5	U
108-90-7	Chlorobenzene	15.7	7.2	U
75-00-3	Chloroethane	15.7	4.2	U
67-66-3	Chloroform	15.7	7.7	U
74-87-3	Chloromethane	15.7	3.3	U
156-59-2	cis-1,2-Dichloroethylene	15.7	1.6	U
10061-01-5	cis-1,3-Dichloropropylene	15.7	7.1	U
110-82-7	Cyclohexane	15.7	5.4	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

SV24_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Soil Vapor Laboratory ID: 19J0219-03 File ID: TO280775.D
 Sampled: 10/03/19 13:19 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 15:59
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
124-48-1	Dibromochloromethane	15.7	13	U
75-71-8	Dichlorodifluoromethane	15.7	7.8	U
141-78-6	Ethyl acetate	15.7	11	U
100-41-4	Ethyl Benzene	15.7	6.8	U
87-68-3	Hexachlorobutadiene	15.7	17	U
67-63-0	Isopropanol	15.7	7.7	U
80-62-6	Methyl Methacrylate	15.7	6.4	U
1634-04-4	Methyl tert-butyl ether (MTBE)	15.7	5.7	U
75-09-2	Methylene chloride	15.7	11	U
142-82-5	n-Heptane	15.7	2100	D
95-47-6	o-Xylene	15.7	9.6	D
179601-23-1	p- & m- Xylenes	15.7	18	D
622-96-8	p-Ethyltoluene	15.7	10	D
115-07-1	Propylene	15.7	2.7	U
100-42-5	Styrene	15.7	6.7	U
127-18-4	Tetrachloroethylene	15.7	29	D
109-99-9	Tetrahydrofuran	15.7	9.3	U
108-88-3	Toluene	15.7	8.9	D
156-60-5	trans-1,2-Dichloroethylene	15.7	6.2	U
10061-02-6	trans-1,3-Dichloropropylene	15.7	7.1	U
79-01-6	Trichloroethylene	15.7	85	D
75-69-4	Trichlorofluoromethane (Freon 11)	15.7	13	D
108-05-4	Vinyl acetate	15.7	5.5	U
593-60-2	Vinyl bromide	15.7	6.9	U
75-01-4	Vinyl Chloride	15.7	1.0	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	10.8	108	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	401407	14.48	367296	14.48	
ISTD: 1,4-Difluorobenzene	1855789	15.906	1786831	15.907	
ISTD: d5-Chlorobenzene	1577756	21.387	1686833	21.393	

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280775.D
 Acq On : 10 Oct 2019 3:59 pm
 Operator : KT
 Sample : 19J0219-03
 Misc : QBT01101019A 10x/40mL
 ALS Vial : 14 Sample Multiplier: 15.74
 InstName : 5975C

Quant Time: Oct 10 17:13:02 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

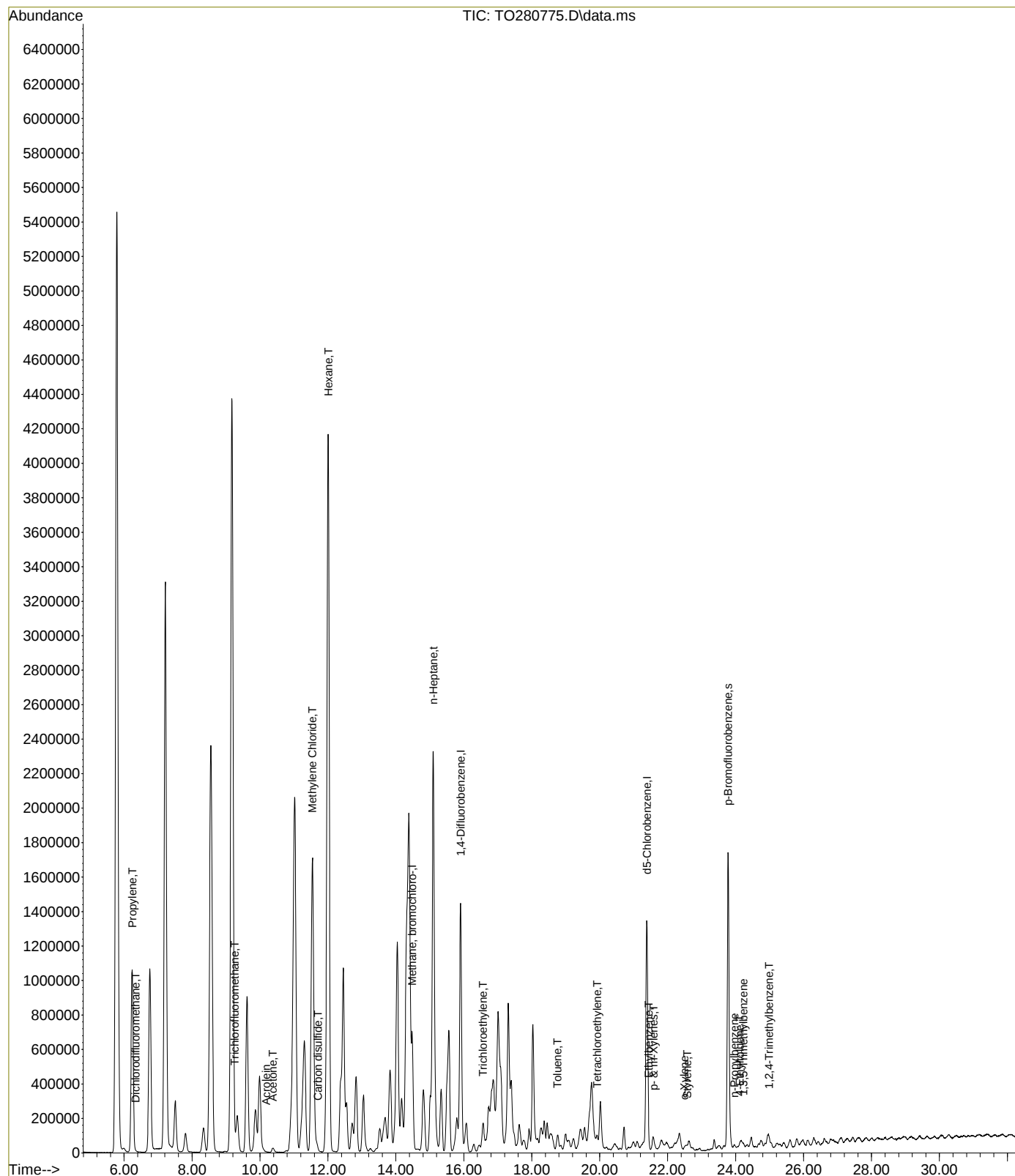
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Methane, bromochloro-	14.480	49	401407	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.906	114	1855789	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1577756	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1266467	10.80	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	108.00%	
Target Compounds						
						Qvalue
2) Propylene	6.244	42	294778	22.05	ppbv	# 1
3) Dichlorodifluoromethane	6.335	85	9758	0.06	ppbv	# 83
11) Trichlorofluoromethane	9.255	101	27871m	0.15	ppbv	
13) Acrolein	10.182	56	232m	0.03	ppbv	
14) Acetone	10.377	43	73149	0.97	ppbv	87
18) Methylene Chloride	11.541	49	14114	0.04	ppbv	# 1
20) Carbon disulfide	11.706	76	16084	0.15	ppbv	# 83
23) Hexane	12.011	57	4027367	84.67	ppbv	87
36) n-Heptane	15.102	43	1549101	32.05	ppbv	# 92
38) Trichloroethylene	16.559	95	75717	1.00	ppbv	97
45) Toluene	18.753	91	26128	0.15	ppbv	94
50) Tetrachloroethylene	19.924	166	29311	0.27	ppbv	94
56) Ethylbenzene	21.442	91	16112	0.07	ppbv	95
57) p- & m-Xylenes	21.582	91	47557	0.26	ppbv	98
58) o-Xylene	22.491	91	26204m	0.14	ppbv	
59) Styrene	22.576	104	3243	0.03	ppbv	# 85
61) n-Propylbenzene	23.966	91	12278	0.04	ppbv	# 95
65) 4-Ethyltoluene	24.118	105	33458	0.13	ppbv	# 95
66) 1,3,5-Trimethylbenzene	24.228	105	14443	0.07	ppbv	# 90
68) 1,2,4-Trimethylbenzene	24.984	105	35095	0.15	ppbv	# 84

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

Data Path : D:\101019\
Data File : T0280775.D
Acq On : 10 Oct 2019 3:59 pm
Operator : KT
Sample : 19J0219-03
Misc : QBT01101019A 10x/40mL
ALS Vial : 14 Sample Multiplier: 15.74
InstName : 5975C

Quant Time: Oct 10 17:13:02 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 23:31:47 2019
Response via : Initial Calibration



Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Matrix: Soil Vapor

Laboratory ID: 19J0219-03RE1

File ID: TO280779.D

Sampled: 10/03/19 13:19

Prepared: 10/10/19 09:00

Analyzed: 10/10/19 19:01

Solids:

Preparation: EPA TO15 PREP

Initial/Final: 400 mL / 400 mL

Batch: BJ90653

Sequence: Y9J1132

Calibration: YJ90015

Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m³)	Q
110-54-3	n-Hexane	78.7	2000	D

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	9.97	99.7	70 - 130	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	350525	14.48	367296	14.48	
ISTD: 1,4-Difluorobenzene	1652537	15.907	1786831	15.907	
ISTD: d5-Chlorobenzene	1388302	21.387	1686833	21.393	

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280779.D
 Acq On : 10 Oct 2019 7:01 pm
 Operator : KT
 Sample : 19J0219-03RE1
 Misc : QBT01101019A 50x/8mL
 ALS Vial : 14 Sample Multiplier: 78.7
 InstName : 5975C

Quant Time: Oct 11 11:49:58 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Thu Oct 10 18:15:28 2019
 Response via : Initial Calibration

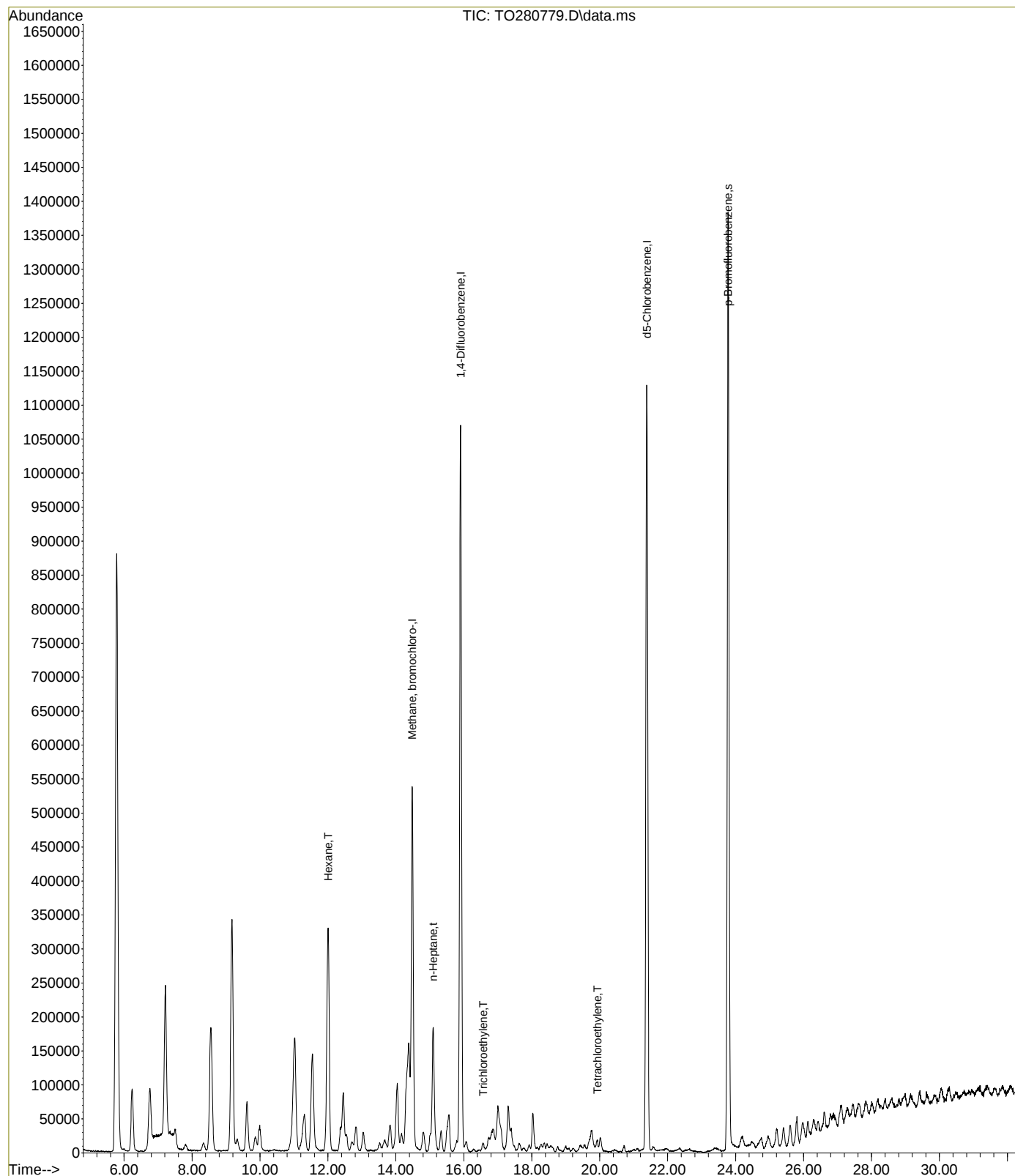
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

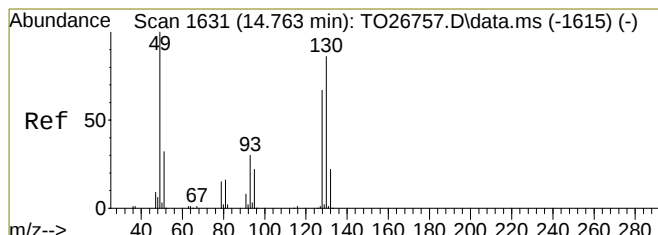
Internal Standards						
1) Methane, bromochloro-	14.480	49	350525	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	1652537	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1388302	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1028476	9.97	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	99.70%	
Target Compounds						
23) Hexane	12.005	57	305767	7.36	ppbv	Qvalue 86
36) n-Heptane	15.096	43	114935	2.72	ppbv	# 91
38) Trichloroethylene	16.565	95	6406	0.09	ppbv	98
50) Tetrachloroethylene	19.930	166	7930	0.08	ppbv	# 50

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

Data Path : D:\101019\
Data File : T0280779.D
Acq On : 10 Oct 2019 7:01 pm
Operator : KT
Sample : 19J0219-03RE1
Misc : QBT01101019A 50x/8mL
ALS Vial : 14 Sample Multiplier: 78.7
InstName : 5975C

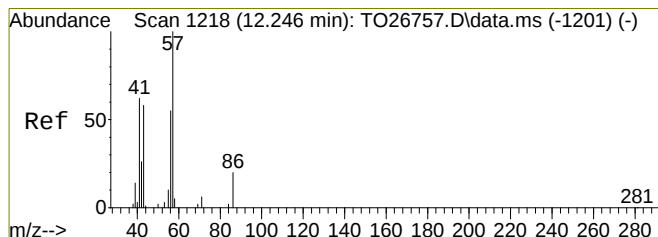
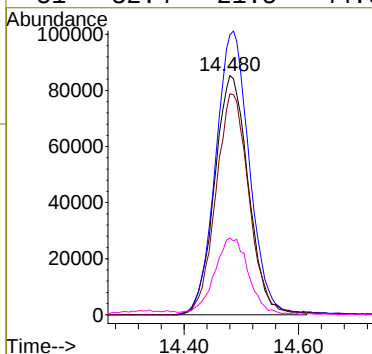
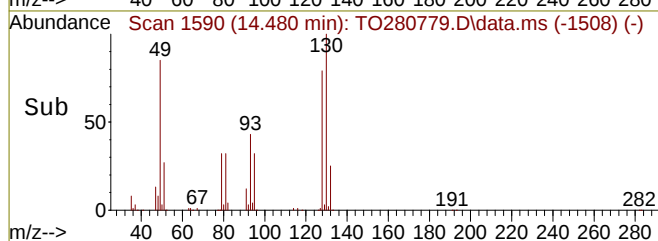
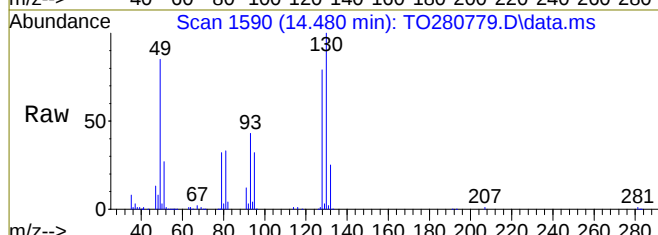
Quant Time: Oct 11 11:49:58 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Thu Oct 10 18:15:28 2019
Response via : Initial Calibration





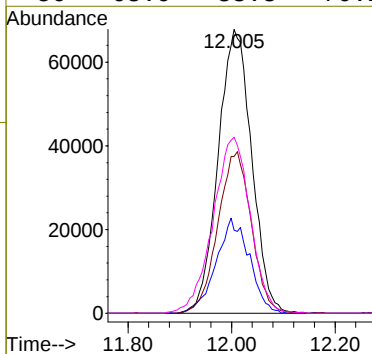
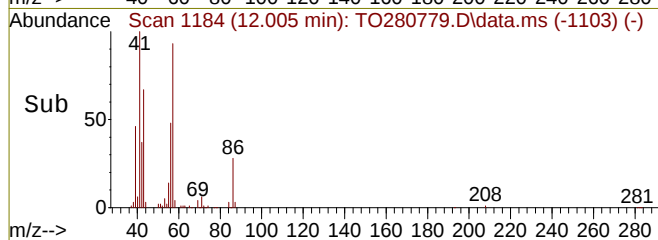
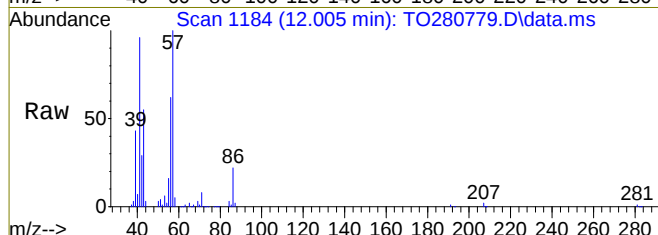
#1
Methane, bromochloro-
Concen: 10.00 ppbv
RT: 14.480 min Scan# 1590
Delta R.T. 0.000 min
Lab File: T0280779.D
Acq: 10 Oct 2019 7:01 pm

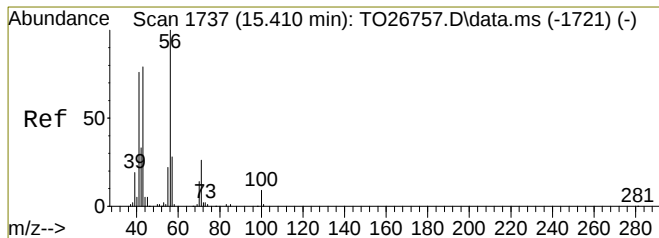
Tgt Ion: 49 Resp: 350525
Ion Ratio Lower Upper
49 100
130 117.8 44.5 92.3#
128 90.6 34.7 72.1#
51 32.4 21.5 44.6



#23
Hexane
Concen: 7.36 ppbv
RT: 12.005 min Scan# 1184
Delta R.T. -0.006 min
Lab File: T0280779.D
Acq: 10 Oct 2019 7:01 pm

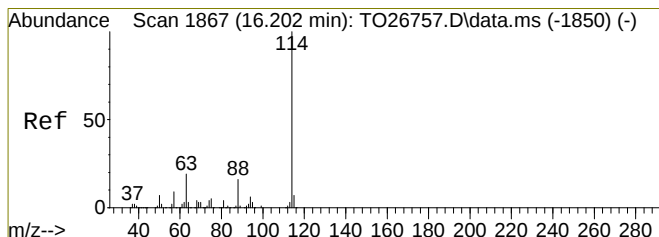
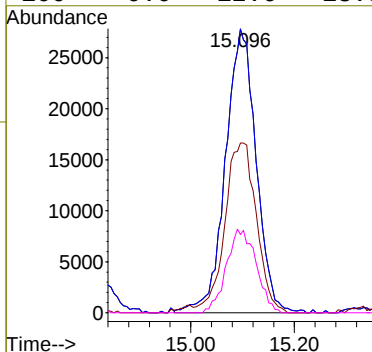
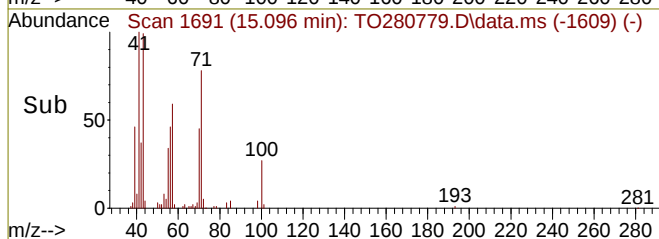
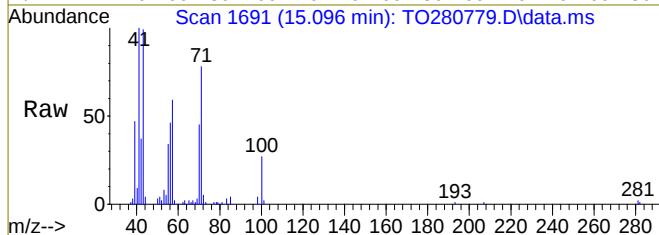
Tgt Ion: 57 Resp: 305767
Ion Ratio Lower Upper
57 100
42 33.1 22.2 46.0
43 56.7 42.9 89.1
56 68.9 33.8 70.2





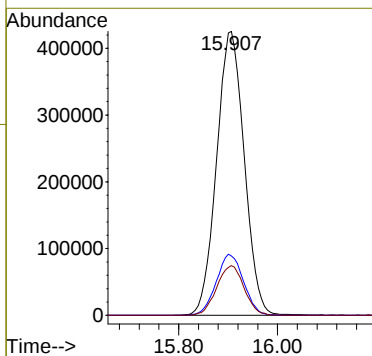
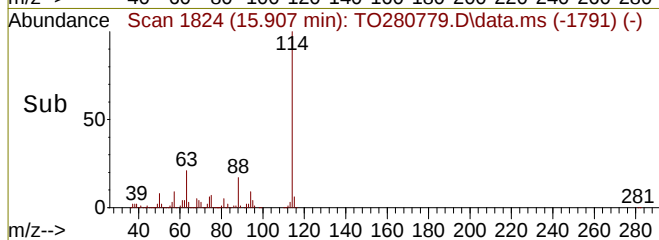
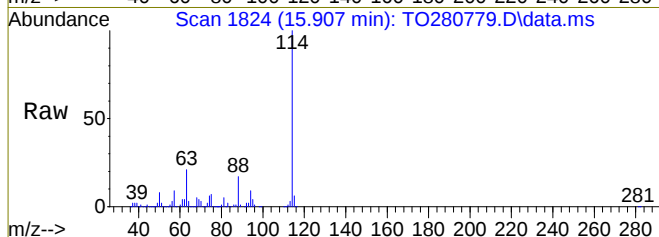
#36
n-Heptane
Concen: 2.72 ppbv
RT: 15.096 min Scan# 1691
Delta R.T. -0.000 min
Lab File: T0280779.D
Acq: 10 Oct 2019 7:01 pm

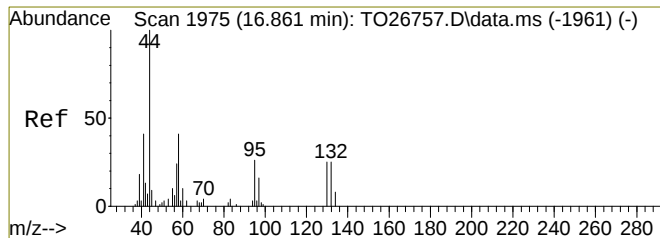
Tgt Ion: 43 Resp: 114935
Ion Ratio Lower Upper
43 100
43 100.0 80.0 120.0
57 61.5 39.8 59.8#
100 0.0 12.6 18.8#



#37
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 15.907 min Scan# 1824
Delta R.T. -0.000 min
Lab File: T0280779.D
Acq: 10 Oct 2019 7:01 pm

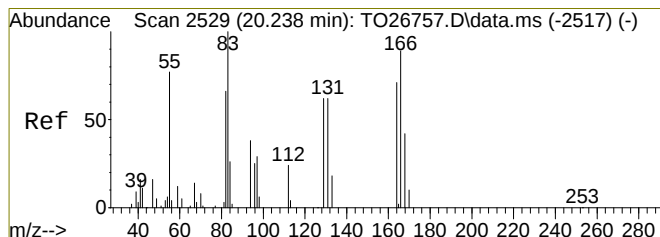
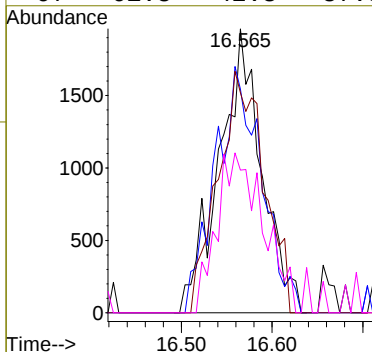
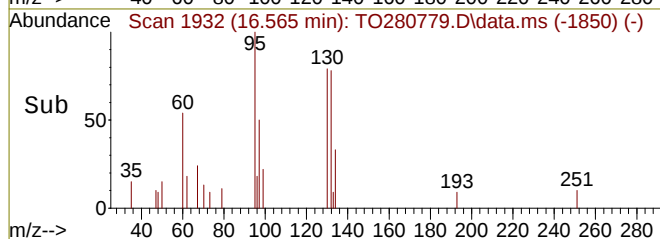
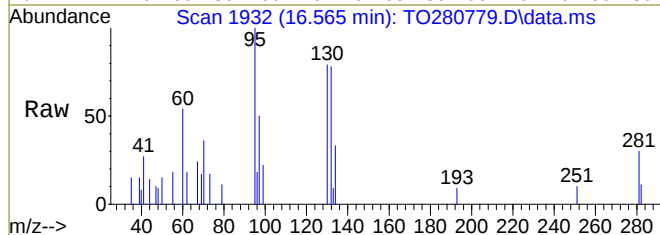
Tgt Ion: 114 Resp: 1652537
Ion Ratio Lower Upper
114 100
63 21.3 14.0 29.2
88 17.4 11.2 23.2





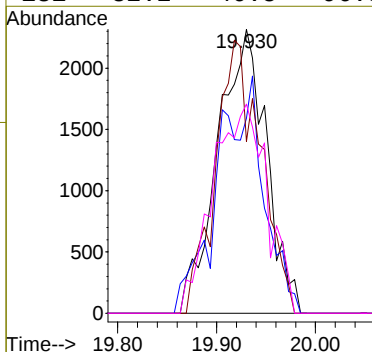
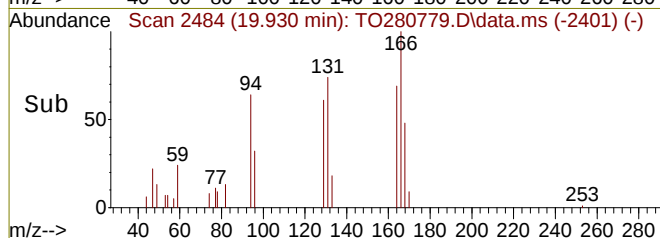
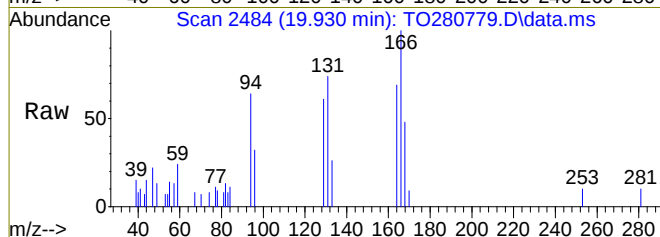
#38
 Trichloroethylene
 Concen: 0.09 ppbv
 RT: 16.565 min Scan# 1932
 Delta R.T. 0.000 min
 Lab File: T0280779.D
 Acq: 10 Oct 2019 7:01 pm

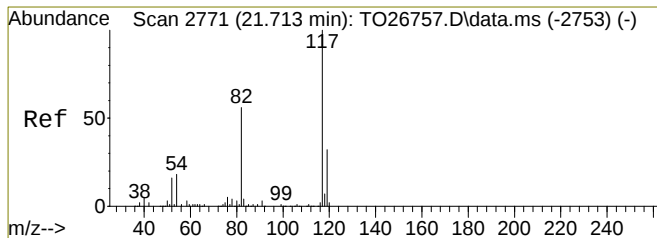
Tgt Ion: 95 Resp: 6406
 Ion Ratio Lower Upper
 95 100
 130 93.8 60.4 125.4
 132 91.7 60.5 125.7
 97 61.8 42.3 87.8



#50
 Tetrachloroethylene
 Concen: 0.08 ppbv
 RT: 19.930 min Scan# 2484
 Delta R.T. 0.006 min
 Lab File: T0280779.D
 Acq: 10 Oct 2019 7:01 pm

Tgt Ion: 166 Resp: 7930
 Ion Ratio Lower Upper
 166 100
 164 35.0 51.4 106.8#
 129 0.0 47.0 97.6#
 131 82.2 46.5 96.5

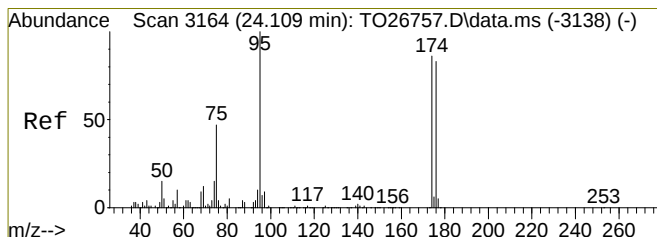
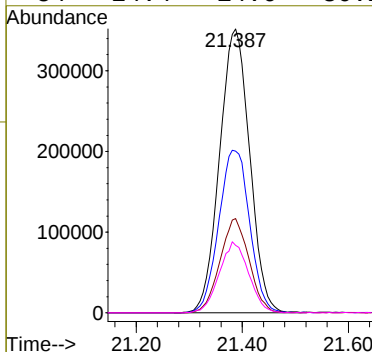
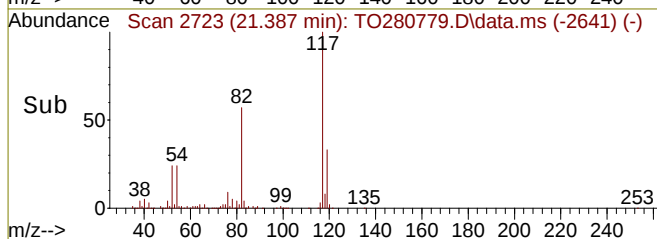
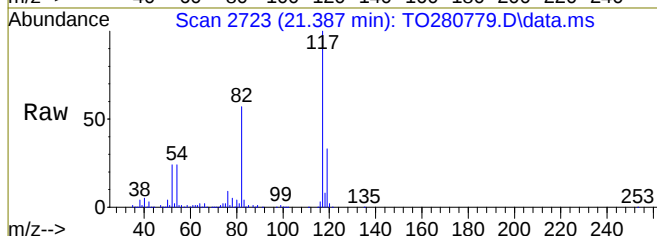




#53
d5-Chlorobenzene
Concen: 10.00 ppbv
RT: 21.387 min Scan# 2723
Delta R.T. 0.000 min
Lab File: T0280779.D
Acq: 10 Oct 2019 7:01 pm

Tgt Ion: 117 Resp: 1388302

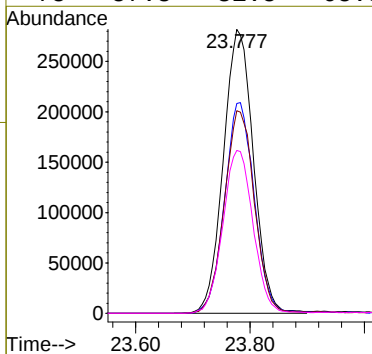
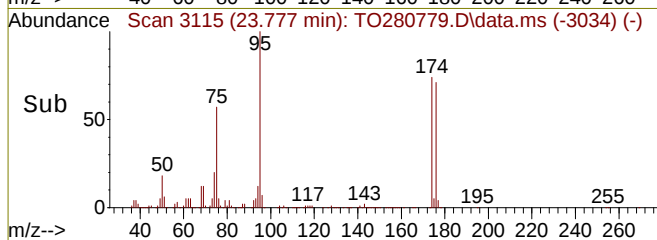
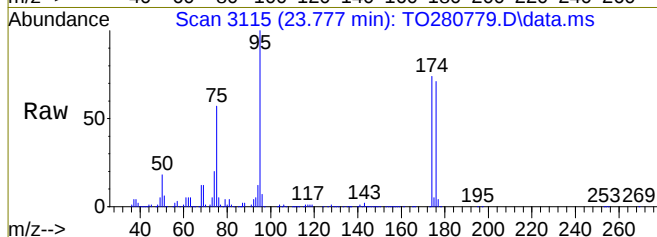
Ion	Ratio	Lower	Upper
117	100		
82	58.7	38.7	80.5
119	32.1	20.3	42.3
54	24.4	14.6	30.2



#64
p-Bromofluorobenzene
Concen: 9.97 ppbv
RT: 23.777 min Scan# 3115
Delta R.T. -0.006 min
Lab File: T0280779.D
Acq: 10 Oct 2019 7:01 pm

Tgt Ion: 95 Resp: 1028476

Ion	Ratio	Lower	Upper
95	100		
174	73.4	50.0	103.8
176	71.7	48.2	100.2
75	57.8	31.5	65.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

AA01_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Outdoor Ambient Air Laboratory ID: 19J0219-04 File ID: TO280780.D
 Sampled: 10/03/19 12:41 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 19:59
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
630-20-6	1,1,1,2-Tetrachloroethane	0.854	0.59	U
71-55-6	1,1,1-Trichloroethane	0.854	0.47	U
79-34-5	1,1,2,2-Tetrachloroethane	0.854	0.59	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.854	0.65	U
79-00-5	1,1,2-Trichloroethane	0.854	0.47	U
75-34-3	1,1-Dichloroethane	0.854	0.35	U
75-35-4	1,1-Dichloroethylene	0.854	0.085	U
120-82-1	1,2,4-Trichlorobenzene	0.854	0.63	U
95-63-6	1,2,4-Trimethylbenzene	0.854	0.55	D
106-93-4	1,2-Dibromoethane	0.854	0.66	U
95-50-1	1,2-Dichlorobenzene	0.854	0.51	U
107-06-2	1,2-Dichloroethane	0.854	0.35	U
78-87-5	1,2-Dichloropropane	0.854	0.39	U
76-14-2	1,2-Dichlorotetrafluoroethane	0.854	0.60	U
108-67-8	1,3,5-Trimethylbenzene	0.854	0.42	U
106-99-0	1,3-Butadiene	0.854	0.57	U
541-73-1	1,3-Dichlorobenzene	0.854	0.51	U
142-28-9	1,3-Dichloropropane	0.854	0.39	U
106-46-7	1,4-Dichlorobenzene	0.854	0.51	U
123-91-1	1,4-Dioxane	0.854	0.62	U
78-93-3	2-Butanone	0.854	0.63	D
591-78-6	2-Hexanone	0.854	0.70	U
107-05-1	3-Chloropropene	0.854	1.3	U
108-10-1	4-Methyl-2-pentanone	0.854	0.35	U
67-64-1	Acetone	0.854	5.1	D
107-13-1	Acrylonitrile	0.854	0.19	U
71-43-2	Benzene	0.854	1.1	D
100-44-7	Benzyl chloride	0.854	0.44	U
75-27-4	Bromodichloromethane	0.854	0.57	U
75-25-2	Bromoform	0.854	0.88	U
74-83-9	Bromomethane	0.854	0.33	U
75-15-0	Carbon disulfide	0.854	0.27	U
56-23-5	Carbon tetrachloride	0.854	0.48	D
108-90-7	Chlorobenzene	0.854	0.39	U
75-00-3	Chloroethane	0.854	0.23	U
67-66-3	Chloroform	0.854	0.42	U
74-87-3	Chloromethane	0.854	0.90	D
156-59-2	cis-1,2-Dichloroethylene	0.854	0.085	U
10061-01-5	cis-1,3-Dichloropropylene	0.854	0.39	U
110-82-7	Cyclohexane	0.854	0.38	D

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA TO-15

AA01_100319

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Outdoor Ambient Air Laboratory ID: 19J0219-04 File ID: TO280780.D
 Sampled: 10/03/19 12:41 Prepared: 10/10/19 09:00 Analyzed: 10/10/19 19:59
 Solids: Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015 Instrument: 5975C

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m ³)	Q
124-48-1	Dibromochloromethane	0.854	0.73	U
75-71-8	Dichlorodifluoromethane	0.854	1.6	D
141-78-6	Ethyl acetate	0.854	2.7	D
100-41-4	Ethyl Benzene	0.854	0.93	D
87-68-3	Hexachlorobutadiene	0.854	0.91	U
67-63-0	Isopropanol	0.854	1.5	D
80-62-6	Methyl Methacrylate	0.854	0.35	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.854	0.31	U
75-09-2	Methylene chloride	0.854	2.4	D
142-82-5	n-Heptane	0.854	0.67	D
110-54-3	n-Hexane	0.854	0.84	D
95-47-6	o-Xylene	0.854	0.85	D
179601-23-1	p- & m- Xylenes	0.854	3.1	D
622-96-8	p-Ethyltoluene	0.854	0.50	D
115-07-1	Propylene	0.854	0.15	U
100-42-5	Styrene	0.854	0.36	U
127-18-4	Tetrachloroethylene	0.854	0.64	D
109-99-9	Tetrahydrofuran	0.854	0.50	U
108-88-3	Toluene	0.854	5.7	D
156-60-5	trans-1,2-Dichloroethylene	0.854	0.34	U
10061-02-6	trans-1,3-Dichloropropylene	0.854	0.39	U
79-01-6	Trichloroethylene	0.854	0.11	U
75-69-4	Trichlorofluoromethane (Freon 11)	0.854	1.2	D
108-05-4	Vinyl acetate	0.854	0.30	U
593-60-2	Vinyl bromide	0.854	0.37	U
75-01-4	Vinyl Chloride	0.854	0.055	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	10.3	103	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	376284	14.48	367296	14.48	
ISTD: 1,4-Difluorobenzene	1798368	15.901	1786831	15.907	
ISTD: d5-Chlorobenzene	1514389	21.387	1686833	21.393	

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280780.D
 Acq On : 10 Oct 2019 7:59 pm
 Operator : KT
 Sample : 19J0219-04
 Misc : QBT01101019A 0.533x/750mL
 ALS Vial : 9 Sample Multiplier: 0.854
 InstName : 5975C

Quant Time: Oct 11 15:25:43 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Thu Oct 10 18:15:28 2019
 Response via : Initial Calibration

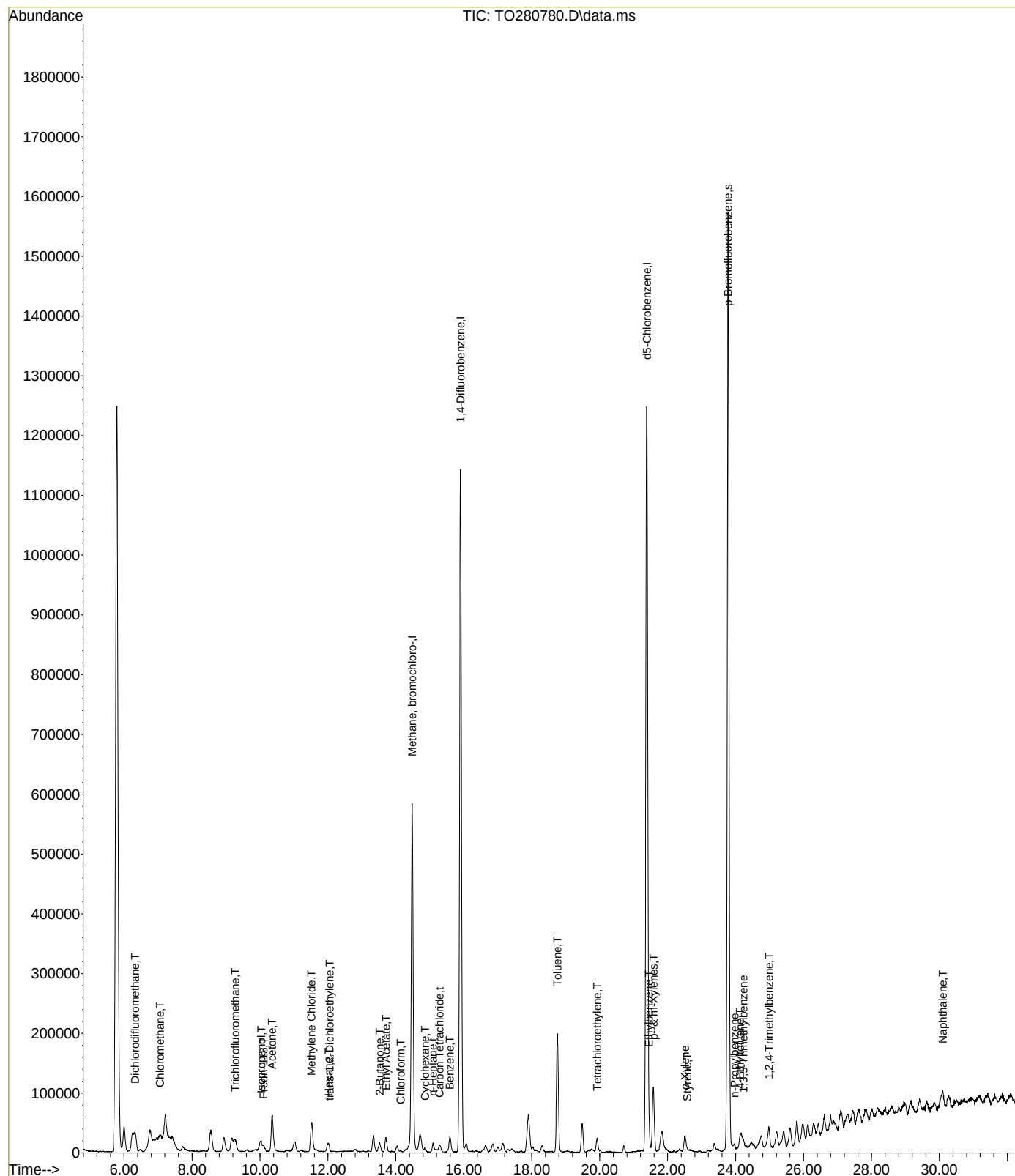
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

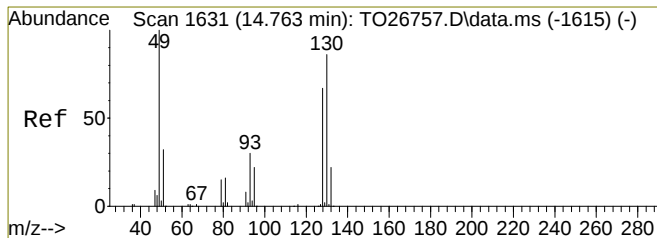
Internal Standards						
1) Methane, bromochloro-	14.480	49	376284	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.901	114	1798368	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1514389	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1156332	10.28	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	102.80%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	6.323	85	61717	0.38	ppbv	99
5) Chloromethane	7.055	50	13111	0.51	ppbv #	89
11) Trichlorofluoromethane	9.268	101	46717	0.26	ppbv	98
12) Isopropanol	10.036	45	37778	0.70	ppbv	100
14) Acetone	10.353	43	175936	2.50	ppbv	85
15) Freon-113	10.103	101	8972m	0.08	ppbv	
18) Methylene Chloride	11.511	49	39762	0.82	ppbv	84
22) trans-1,2-Dichloroethy...	12.048	61	2862m	0.05	ppbv	
23) Hexane	12.017	57	12342	0.28	ppbv #	56
26) 2-Butanone	13.523	43	14412	0.25	ppbv	98
27) Ethyl Acetate	13.706	43	57355	0.89	ppbv #	93
29) Chloroform	14.139	83	3909	0.03	ppbv #	90
32) Cyclohexane	14.858	56	6000m	0.13	ppbv	
33) Carbon Tetrachloride	15.279	117	14733	0.09	ppbv #	96
35) Benzene	15.590	78	45651	0.39	ppbv #	100
36) n-Heptane	15.090	43	8473	0.19	ppbv #	77
45) Toluene	18.754	91	300807	1.77	ppbv	97
50) Tetrachloroethylene	19.924	166	12033	0.11	ppbv	95
56) Ethylbenzene	21.448	91	57098	0.25	ppbv	90
57) p- & m-Xylenes	21.582	91	145165	0.83	ppbv	96
58) o-Xylene	22.509	91	41234	0.23	ppbv	97
59) Styrene	22.576	104	4153m	0.04	ppbv	
61) n-Propylbenzene	23.972	91	9182m	0.03	ppbv	
65) 4-Ethyltoluene	24.125	105	29549	0.12	ppbv #	77
66) 1,3,5-Trimethylbenzene	24.228	105	7441m	0.04	ppbv	
68) 1,2,4-Trimethylbenzene	24.984	105	27874	0.13	ppbv #	89
78) Naphthalene	30.099	128	38676	0.18	ppbv #	89

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

Data Path : D:\101019\
Data File : T0280780.D
Acq On : 10 Oct 2019 7:59 pm
Operator : KT
Sample : 19J0219-04
Misc : QBT01101019A 0.533x/750mL
ALS Vial : 9 Sample Multiplier: 0.854
InstName : 5975C

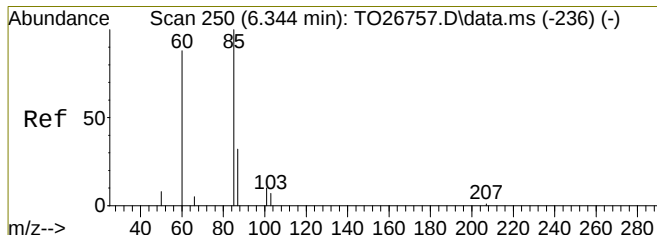
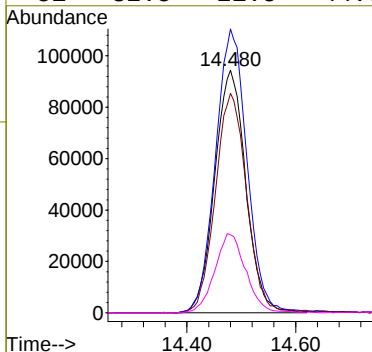
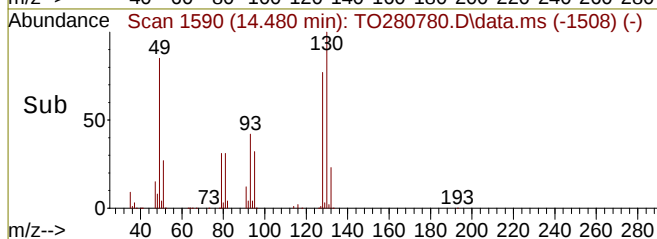
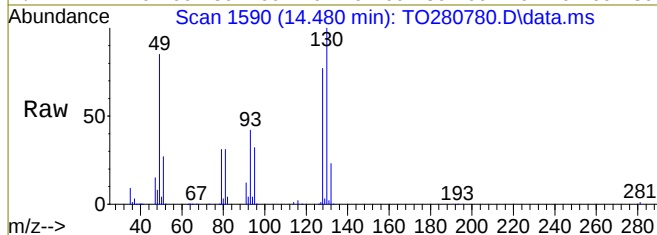
Quant Time: Oct 11 15:25:43 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Thu Oct 10 18:15:28 2019
Response via : Initial Calibration





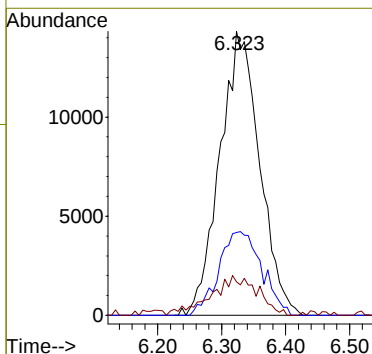
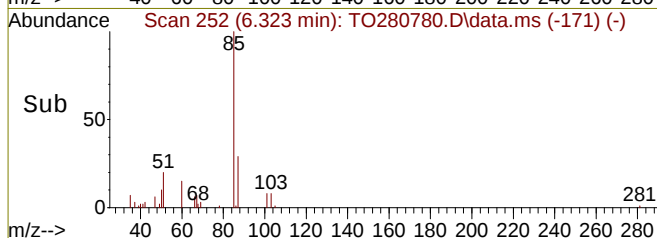
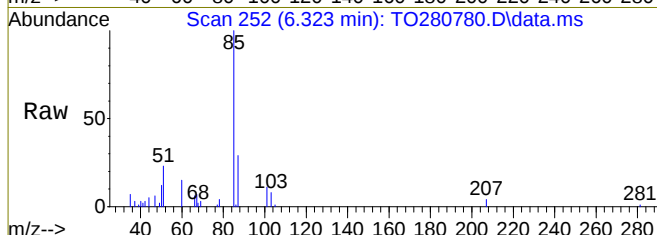
#1
Methane, bromochloro-
Concen: 10.00 ppbv
RT: 14.480 min Scan# 1590
Delta R.T. 0.000 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

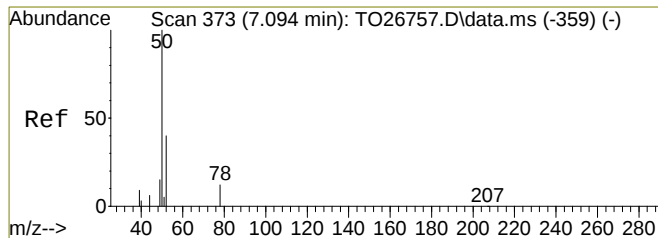
Tgt Ion: 49 Resp: 376284
Ion Ratio Lower Upper
49 100
130 118.1 44.5 92.3#
128 90.6 34.7 72.1#
51 32.5 21.5 44.6



#3
Dichlorodifluoromethane
Concen: 0.38 ppbv
RT: 6.323 min Scan# 252
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

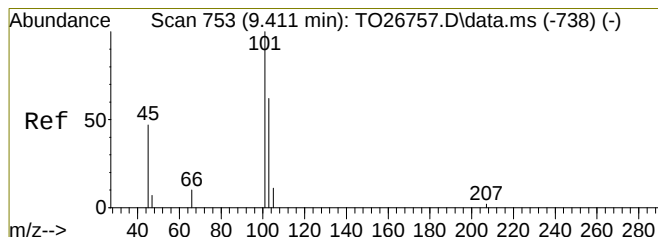
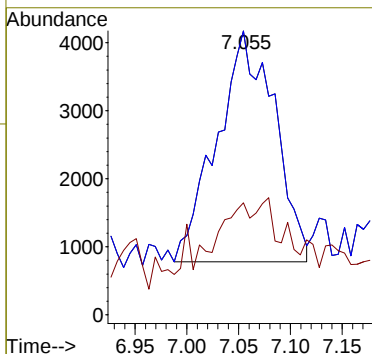
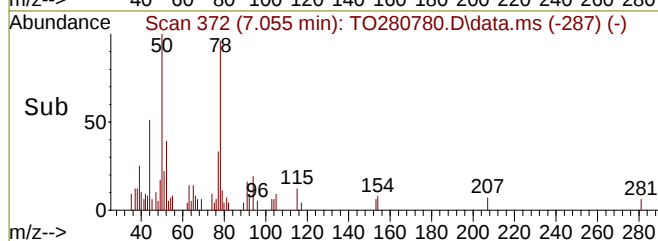
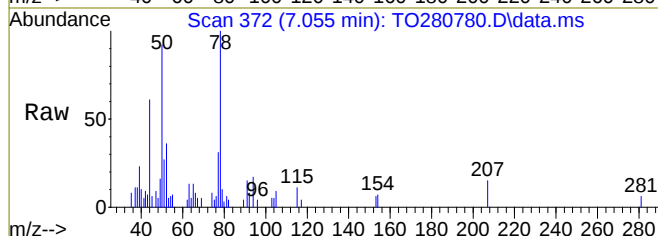
Tgt Ion: 85 Resp: 61717
Ion Ratio Lower Upper
85 100
87 32.0 21.0 43.6
50 10.2 6.8 14.2





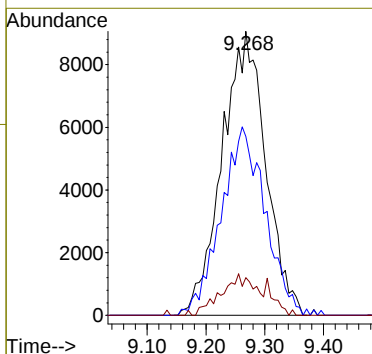
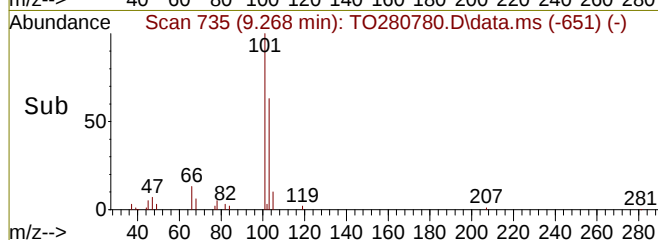
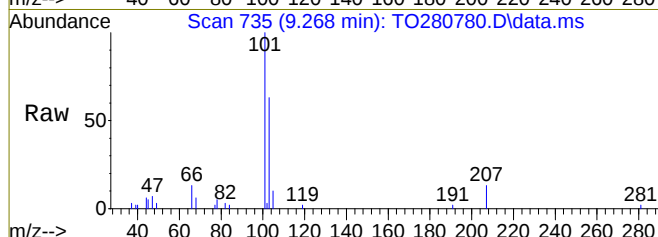
#5
Chloromethane
Concen: 0.51 ppbv
RT: 7.055 min Scan# 372
Delta R.T. 0.019 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

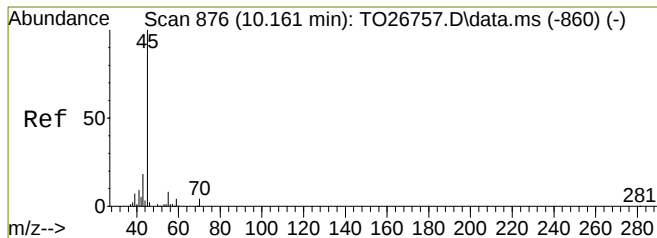
Tgt Ion: 50 Resp: 13111
Ion Ratio Lower Upper
50 100
50 100.0 65.0 135.0
52 8.4 16.5 49.5#



#11
Trichlorofluoromethane
Concen: 0.26 ppbv
RT: 9.268 min Scan# 735
Delta R.T. 0.013 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

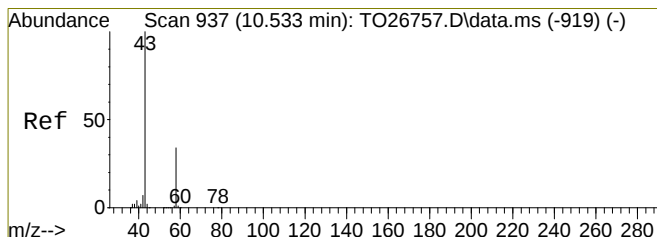
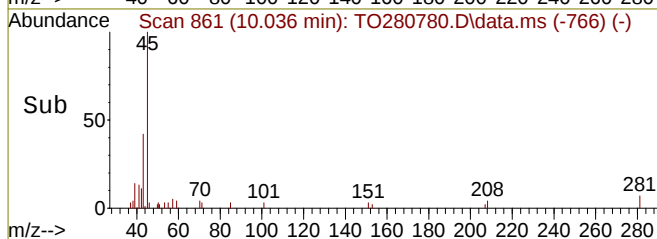
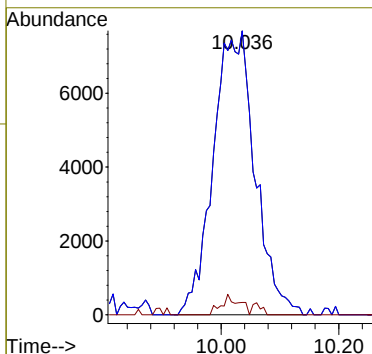
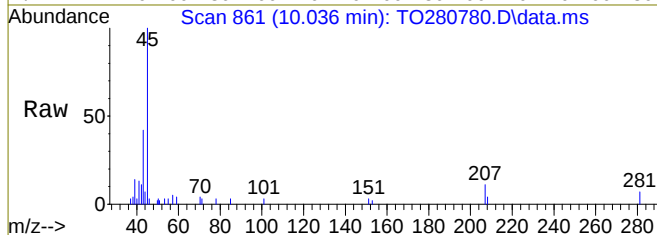
Tgt Ion: 101 Resp: 46717
Ion Ratio Lower Upper
101 100
103 66.8 42.4 88.0
66 11.2 7.9 16.5





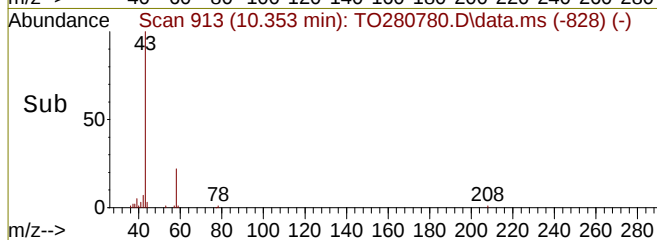
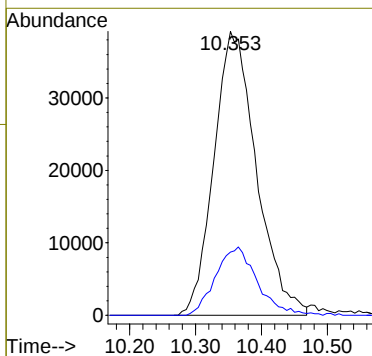
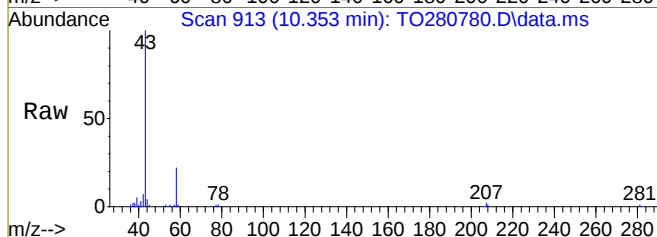
#12
Isopropanol
Concen: 0.70 ppbv
RT: 10.036 min Scan# 861
Delta R.T. 0.079 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

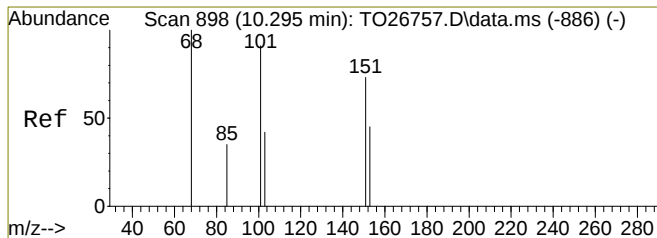
Tgt Ion: 45 Resp: 37778
Ion Ratio Lower Upper
45 100
45 100.0 65.0 135.0
59 2.1 0.0 8.4



#14
Acetone
Concen: 2.50 ppbv
RT: 10.353 min Scan# 913
Delta R.T. 0.019 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

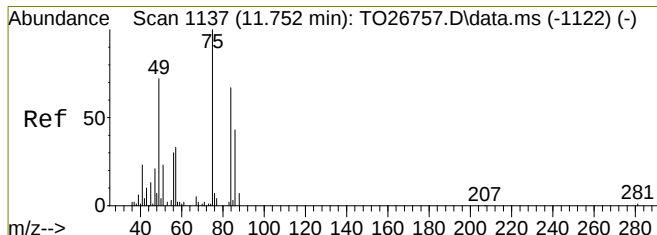
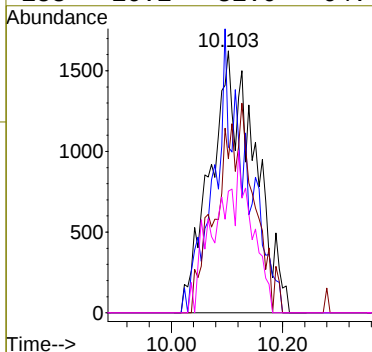
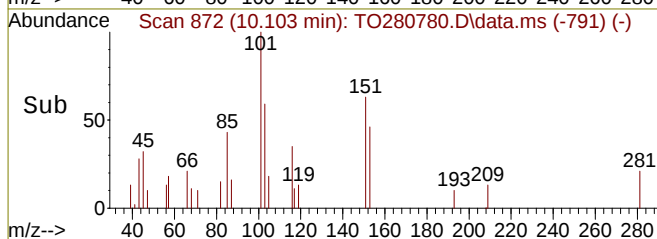
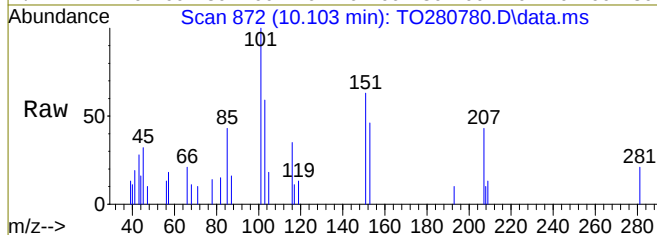
Tgt Ion: 43 Resp: 175936
Ion Ratio Lower Upper
43 100
58 23.5 20.7 42.9





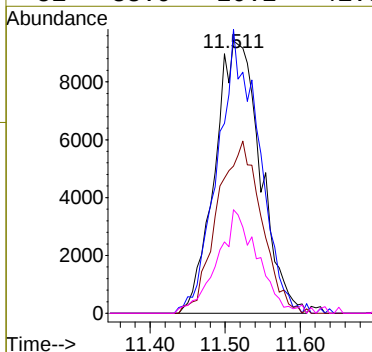
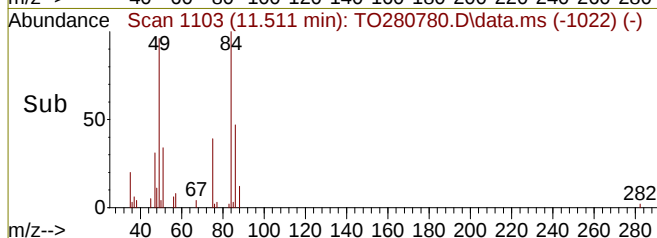
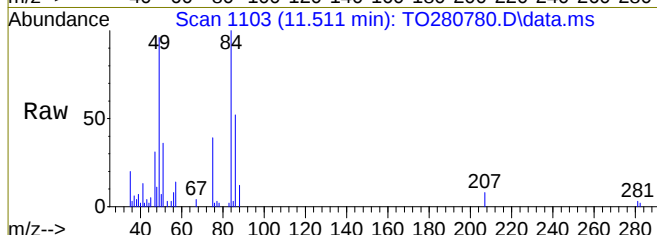
#15
Freon-113
Concen: 0.08 ppbv m
RT: 10.103 min Scan# 872
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

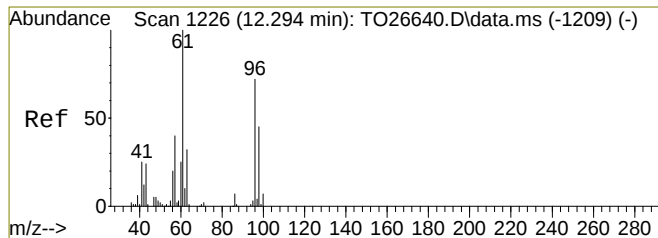
Tgt Ion: 101 Resp: 8972
Ion Ratio Lower Upper
101 100
151 40.8 48.6 100.8#
103 24.6 42.0 87.2#
153 16.1 31.0 64.4#



#18
Methylene Chloride
Concen: 0.82 ppbv
RT: 11.511 min Scan# 1103
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

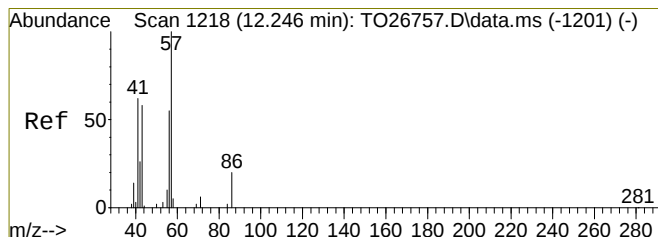
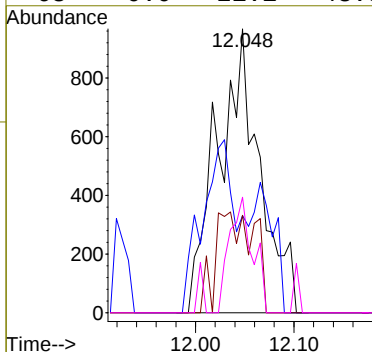
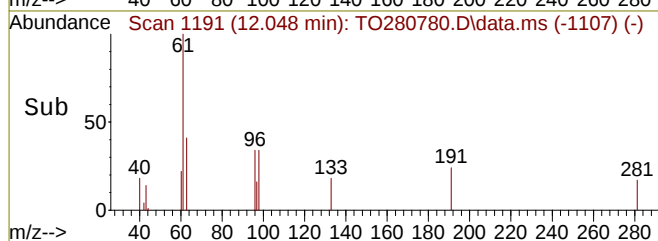
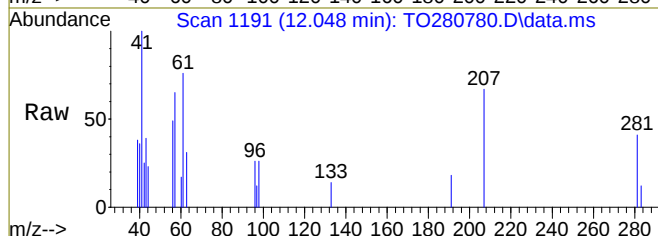
Tgt Ion: 49 Resp: 39762
Ion Ratio Lower Upper
49 100
84 94.0 50.1 104.0
86 61.5 32.2 66.8
51 33.9 20.2 41.9





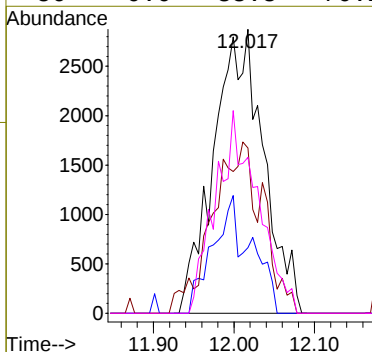
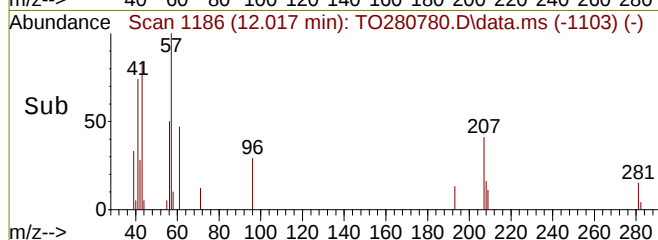
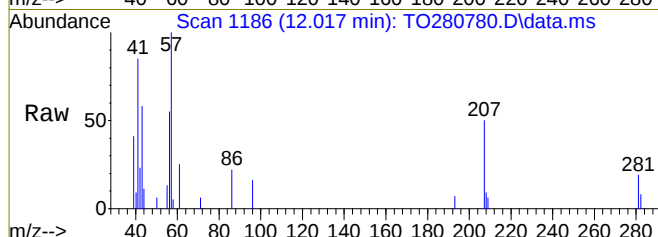
#22
trans-1,2-Dichloroethylene
Concen: 0.05 ppbv m
RT: 12.048 min Scan# 1191
Delta R.T. 0.013 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

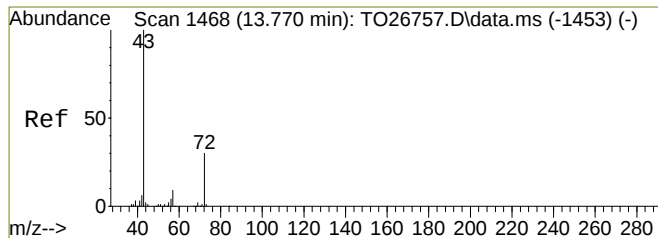
Tgt Ion: 61 Resp: 2862
Ion Ratio Lower Upper
61 100
96 51.7 43.2 89.6
98 33.2 27.4 57.0
63 0.0 21.1 43.9#



#23
Hexane
Concen: 0.28 ppbv
RT: 12.017 min Scan# 1186
Delta R.T. 0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

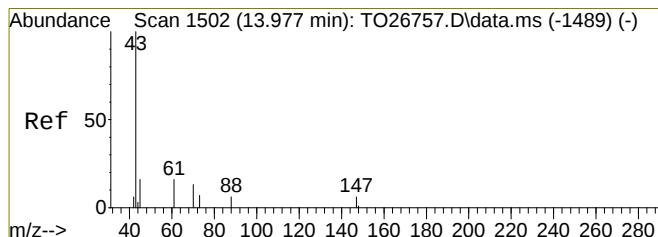
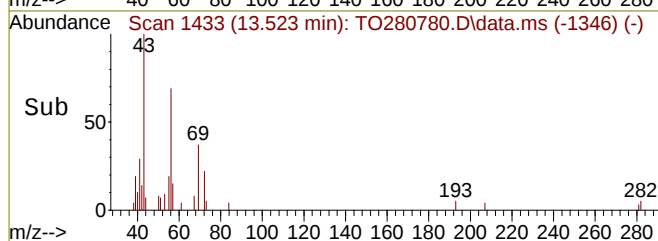
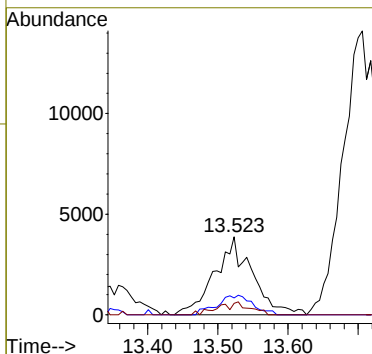
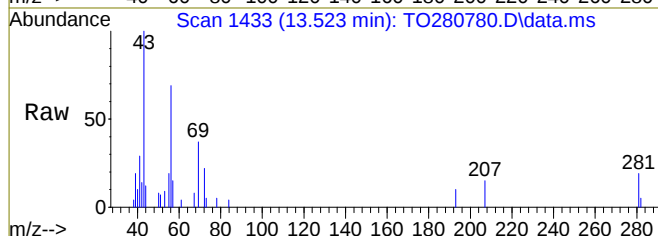
Tgt Ion: 57 Resp: 12342
Ion Ratio Lower Upper
57 100
42 10.0 22.2 46.0#
43 49.4 42.9 89.1
56 0.0 33.8 70.2#





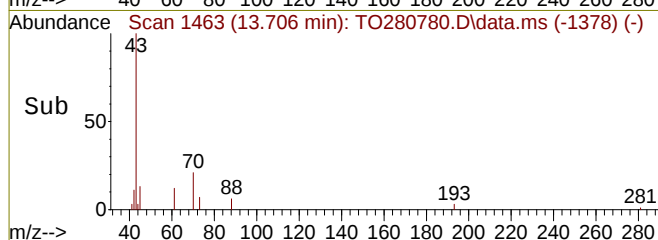
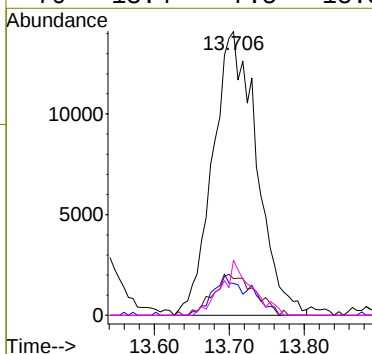
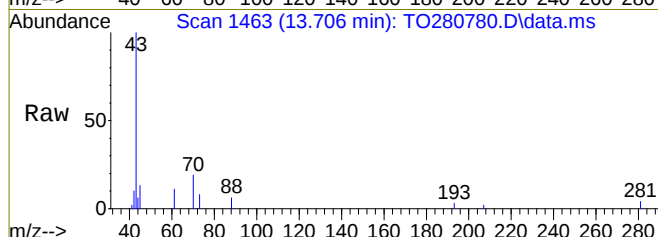
#26
2-Butanone
Concen: 0.25 ppbv
RT: 13.523 min Scan# 1433
Delta R.T. 0.031 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

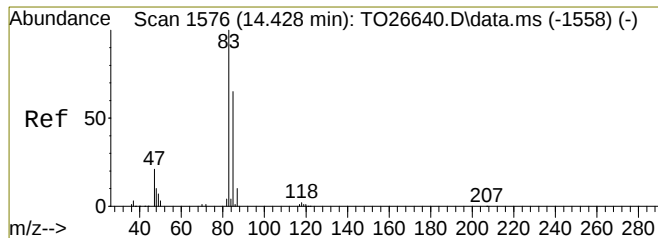
Tgt Ion: 43 Resp: 14412
Ion Ratio Lower Upper
43 100
72 23.9 16.4 34.2
57 7.5 5.0 10.4



#27
Ethyl Acetate
Concen: 0.89 ppbv
RT: 13.706 min Scan# 1463
Delta R.T. 0.019 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

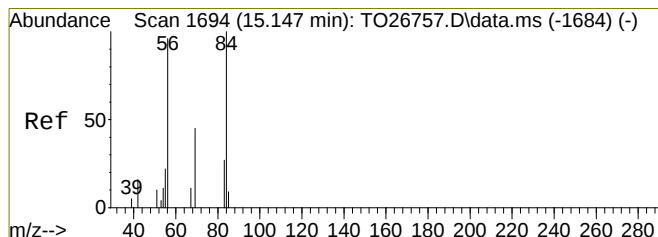
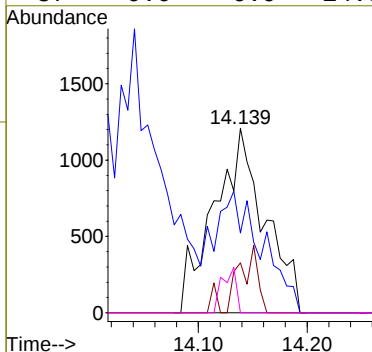
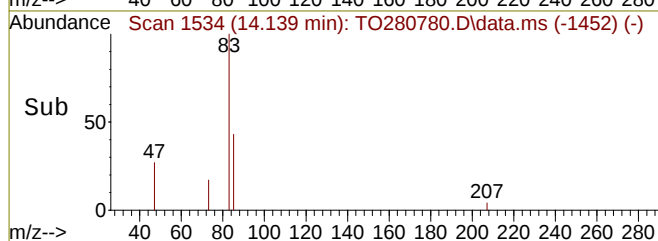
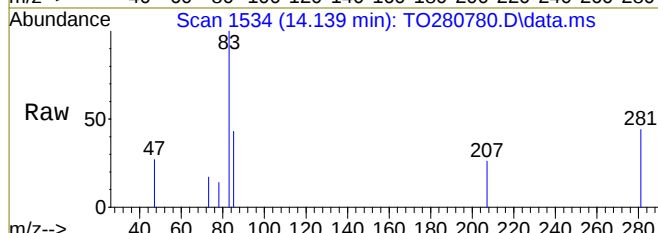
Tgt Ion: 43 Resp: 57355
Ion Ratio Lower Upper
43 100
61 8.3 9.2 19.2#
45 13.6 9.4 19.6
70 13.4 7.5 15.5





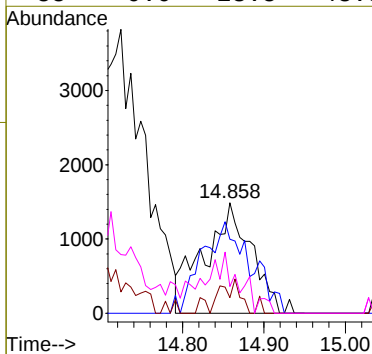
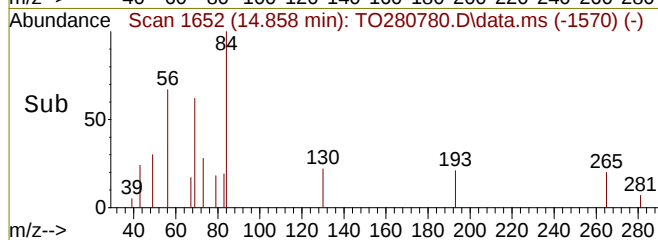
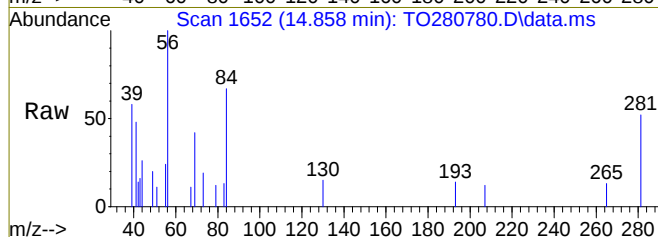
#29
Chloroform
Concen: 0.03 ppbv
RT: 14.139 min Scan# 1534
Delta R.T. -0.000 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

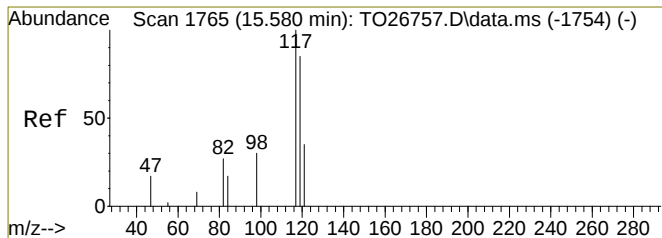
Tgt Ion: 83 Resp: 3909
Ion Ratio Lower Upper
83 100
85 62.3 42.2 87.6
47 12.9 14.8 30.8#
87 0.0 6.9 14.3#



#32
Cyclohexane
Concen: 0.13 ppbv m
RT: 14.858 min Scan# 1652
Delta R.T. 0.000 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

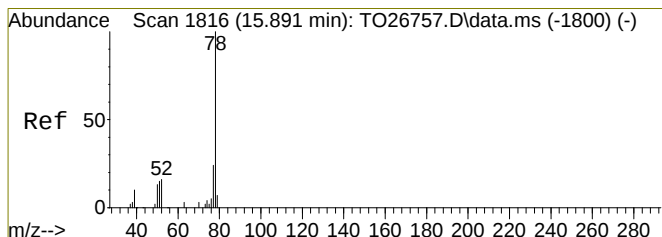
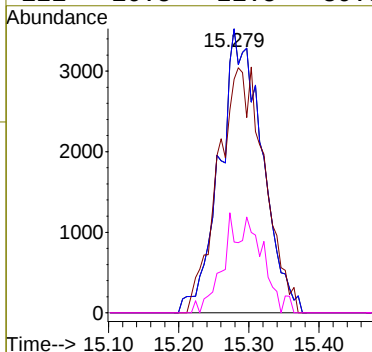
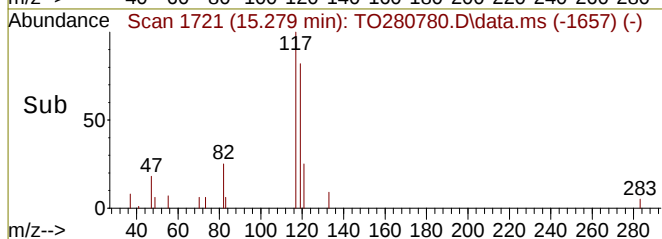
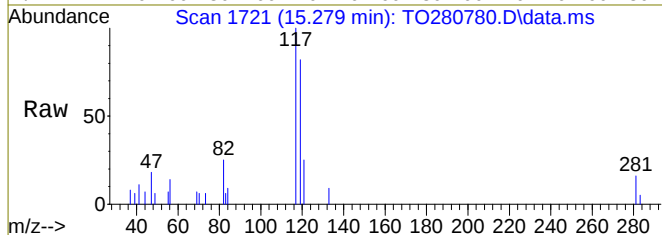
Tgt Ion: 56 Resp: 6000
Ion Ratio Lower Upper
56 100
84 73.4 56.4 117.0
42 0.0 15.3 31.7#
55 0.0 23.5 48.9#





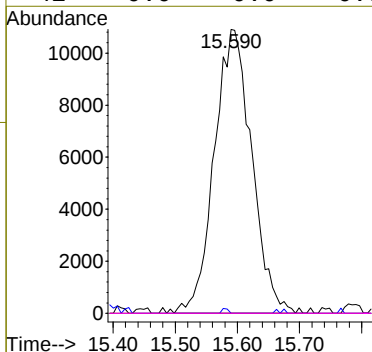
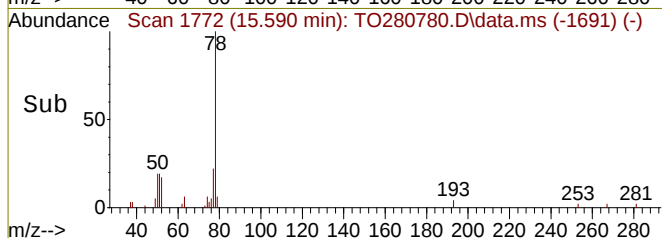
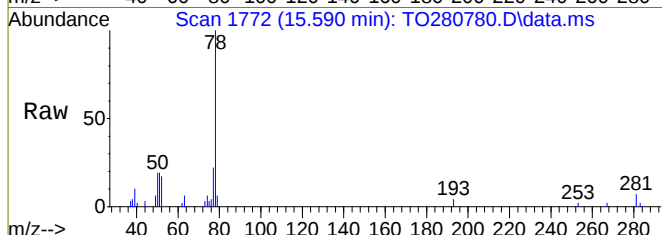
#33
Carbon Tetrachloride
Concen: 0.09 ppbv
RT: 15.279 min Scan# 1721
Delta R.T. -0.012 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

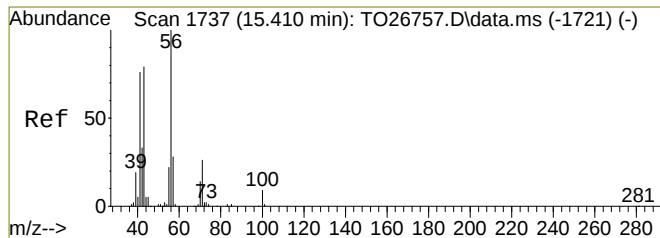
Tgt Ion: 117 Resp: 14733
Ion Ratio Lower Upper
117 100
117 100.0 80.0 120.0
119 95.2 76.5 114.7
121 16.5 21.5 39.9#



#35
Benzene
Concen: 0.39 ppbv
RT: 15.590 min Scan# 1772
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

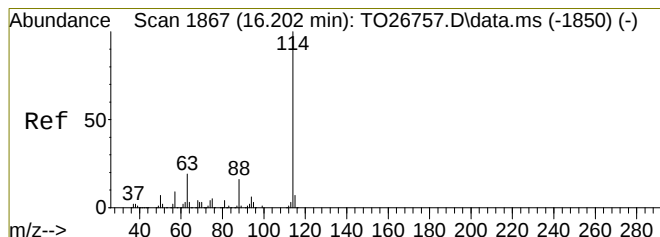
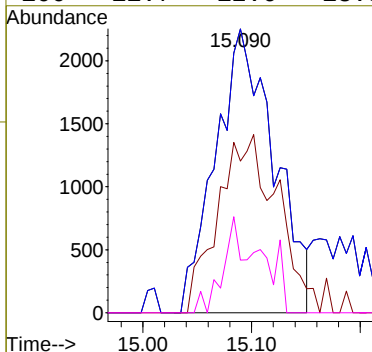
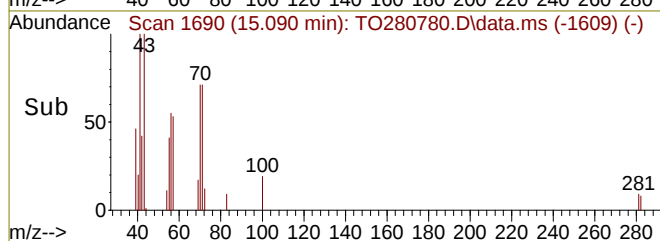
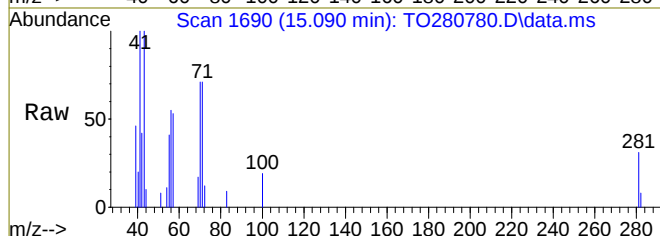
Tgt Ion: 78 Resp: 45651
Ion Ratio Lower Upper
78 100
43 0.0 0.0 0.0
71 0.0 0.0 0.0
42 0.0 0.0 0.0





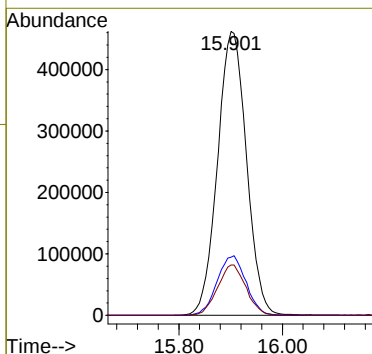
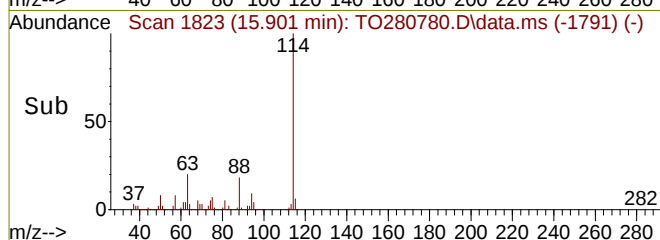
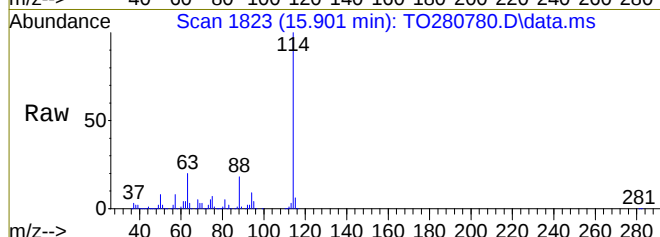
#36
n-Heptane
Concen: 0.19 ppbv
RT: 15.090 min Scan# 1690
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

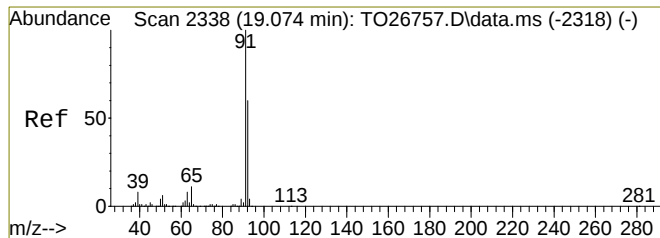
Tgt Ion: 43 Resp: 8473
Ion Ratio Lower Upper
43 100
43 100.0 80.0 120.0
57 0.0 39.8 59.8#
100 11.7 12.6 18.8#



#37
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 15.901 min Scan# 1823
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

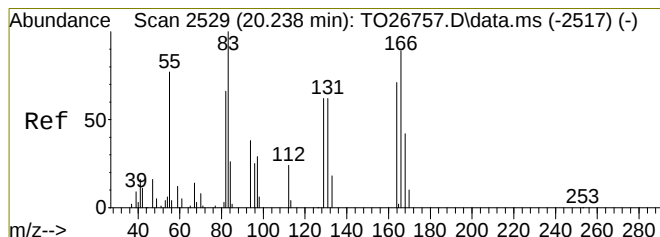
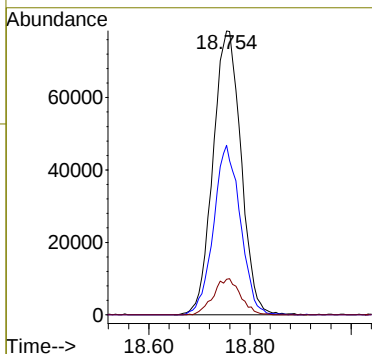
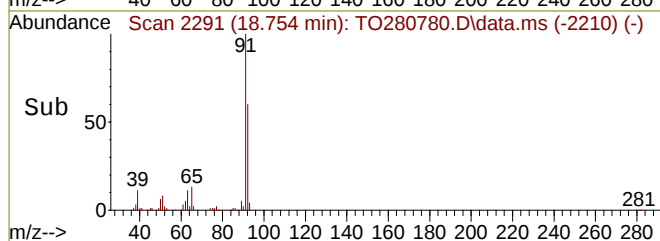
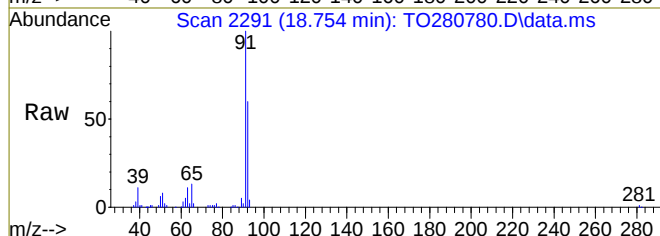
Tgt Ion: 114 Resp: 1798368
Ion Ratio Lower Upper
114 100
63 20.9 14.0 29.2
88 17.4 11.2 23.2





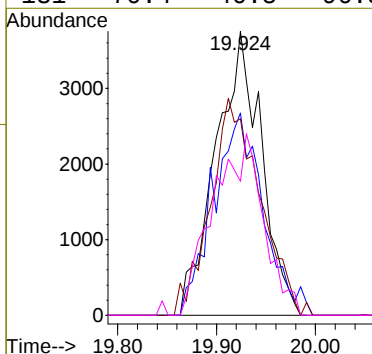
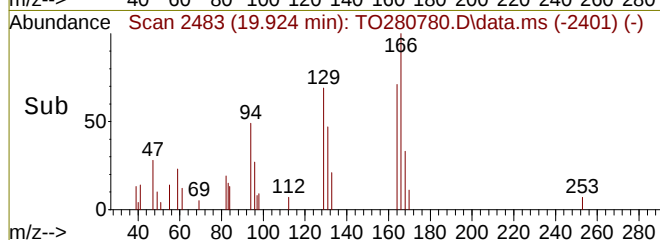
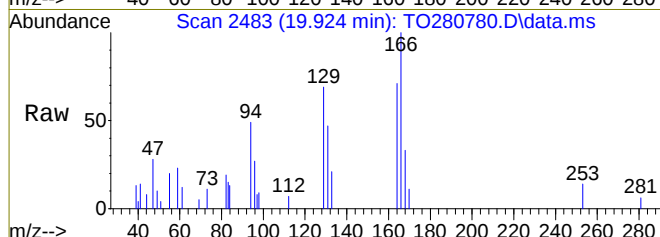
#45
Toluene
Concen: 1.77 ppbv
RT: 18.754 min Scan# 2291
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

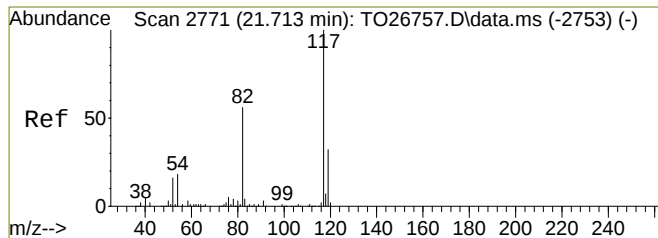
Tgt Ion: 91 Resp: 300807
Ion Ratio Lower Upper
91 100
92 57.3 39.0 81.0
65 12.4 7.7 16.1



#50
Tetrachloroethylene
Concen: 0.11 ppbv
RT: 19.924 min Scan# 2483
Delta R.T. 0.000 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

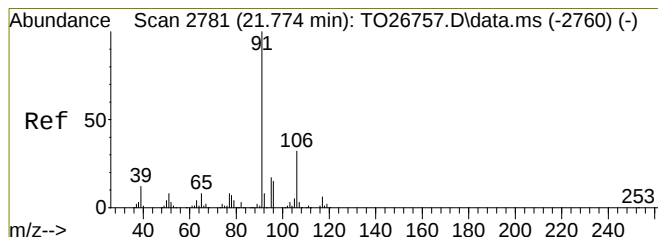
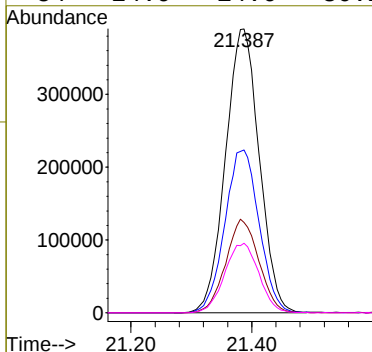
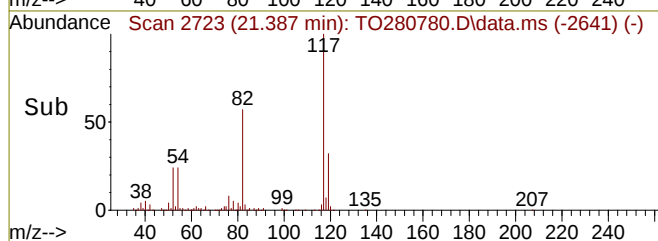
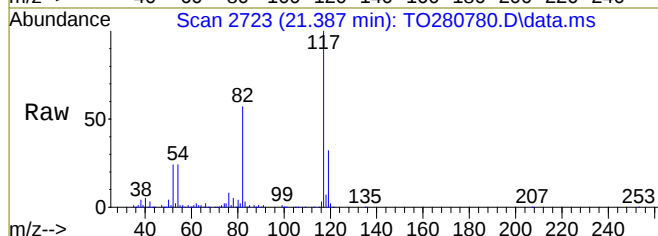
Tgt Ion: 166 Resp: 12033
Ion Ratio Lower Upper
166 100
164 78.3 51.4 106.8
129 82.9 47.0 97.6
131 70.4 46.5 96.5





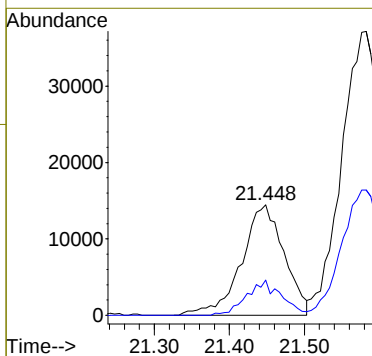
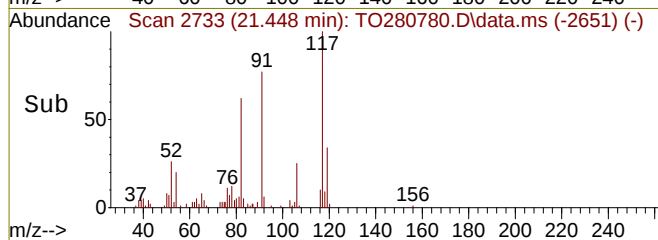
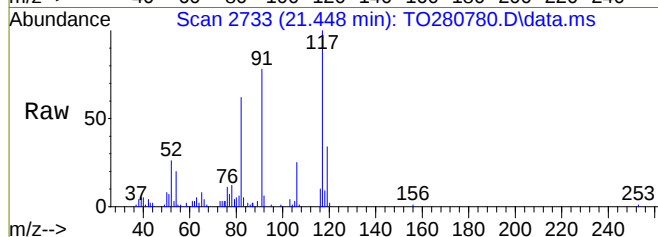
#53
d5-Chlorobenzene
Concen: 10.00 ppbv
RT: 21.387 min Scan# 2723
Delta R.T. 0.000 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

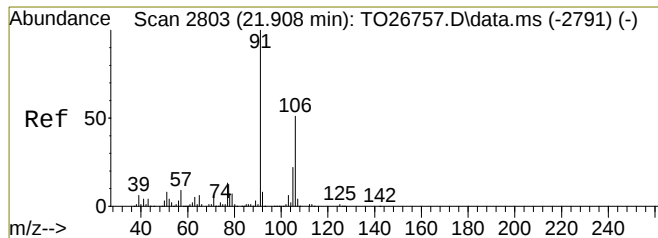
Tgt Ion: 117 Resp: 1514389
Ion Ratio Lower Upper
117 100
82 58.4 38.7 80.5
119 32.4 20.3 42.3
54 24.9 14.6 30.2



#56
Ethylbenzene
Concen: 0.25 ppbv
RT: 21.448 min Scan# 2733
Delta R.T. 0.000 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

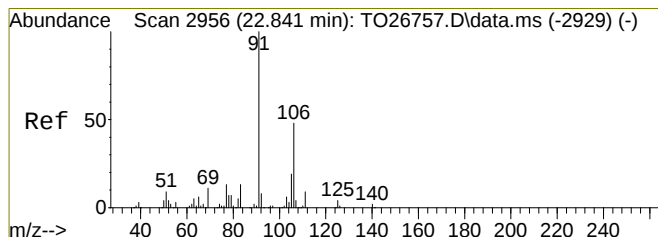
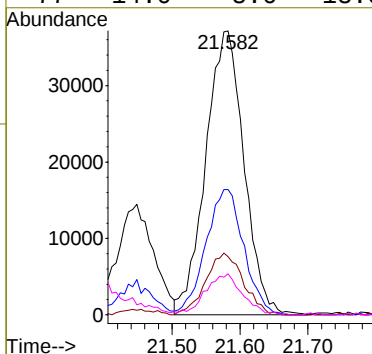
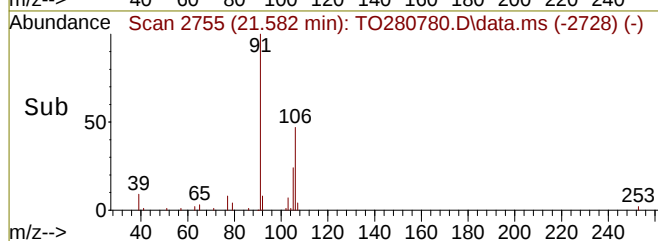
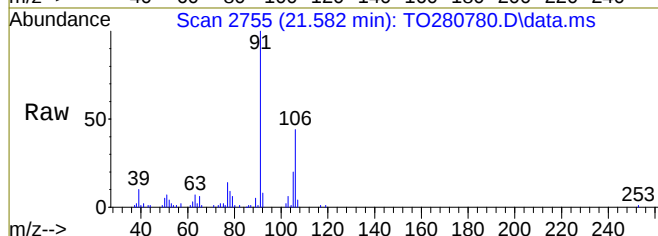
Tgt Ion: 91 Resp: 57098
Ion Ratio Lower Upper
91 100
106 26.0 20.3 42.3





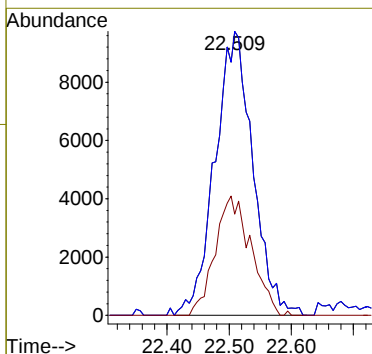
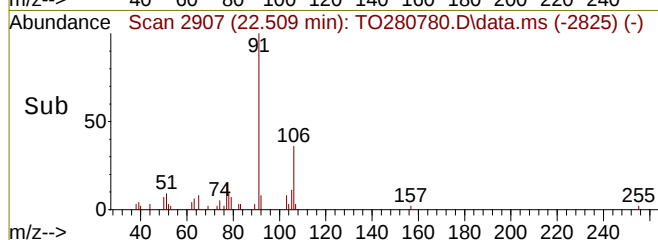
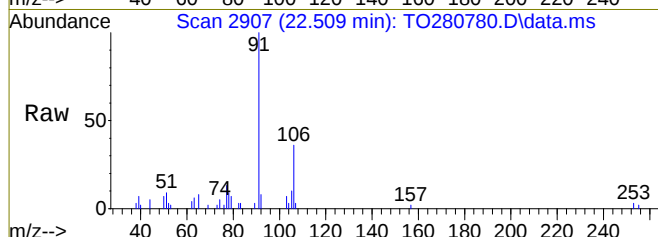
#57
p- & m-Xylenes
Concen: 0.83 ppbv
RT: 21.582 min Scan# 2755
Delta R.T. 0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

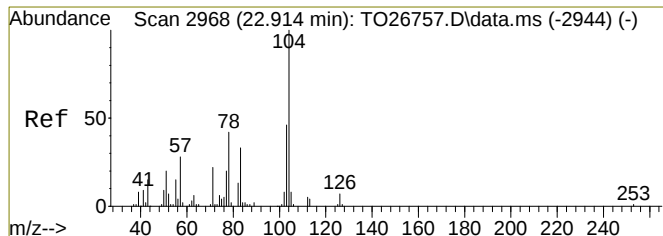
Tgt Ion: 91 Resp: 145165
Ion Ratio Lower Upper
91 100
106 43.8 31.0 64.4
105 21.4 13.4 27.8
77 14.0 8.6 18.0



#58
o-Xylene
Concen: 0.23 ppbv
RT: 22.509 min Scan# 2907
Delta R.T. 0.000 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

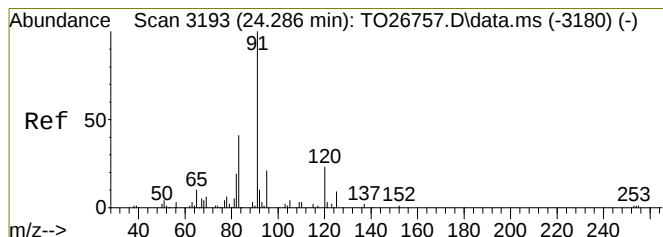
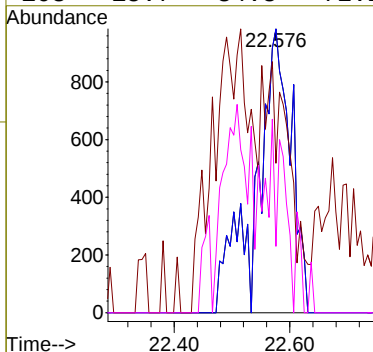
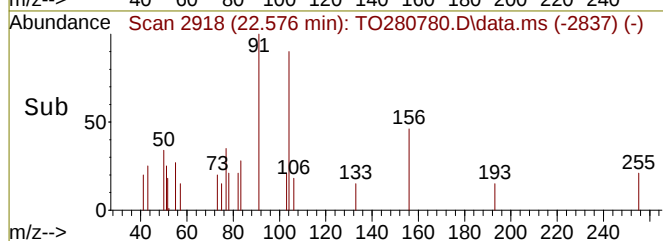
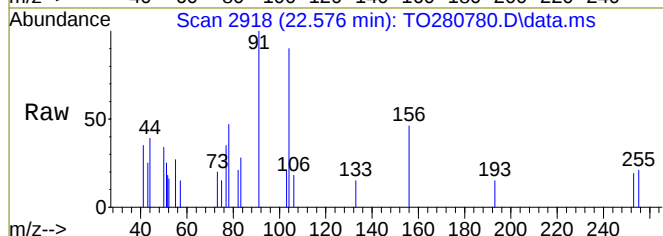
Tgt Ion: 91 Resp: 41234
Ion Ratio Lower Upper
91 100
91 100.0 80.0 120.0
106 39.8 36.9 55.3





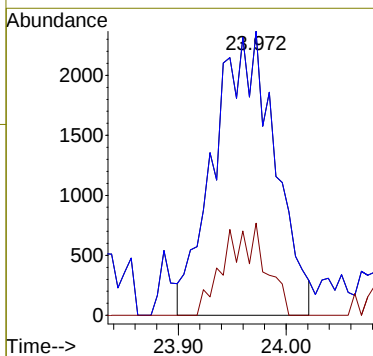
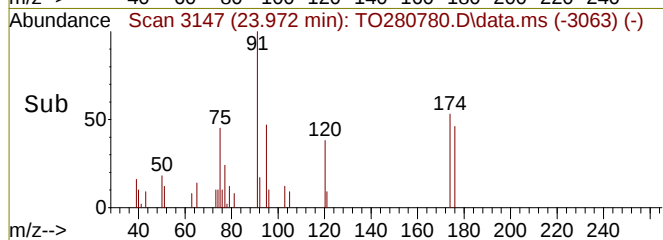
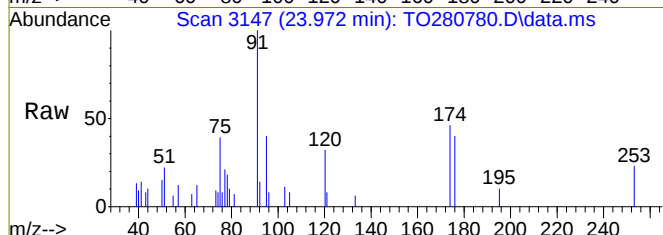
#59
Styrene
Concen: 0.04 ppbv m
RT: 22.576 min Scan# 2918
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

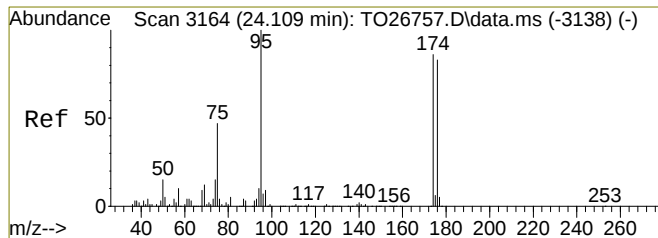
Tgt Ion: 104 Resp: 4153
Ion Ratio Lower Upper
104 100
104 79.5 65.0 135.0
78 0.0 0.0 0.0
103 15.7 34.8 72.2#



#61
n-Propylbenzene
Concen: 0.03 ppbv m
RT: 23.972 min Scan# 3147
Delta R.T. 0.012 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

Tgt Ion: 91 Resp: 9182
Ion Ratio Lower Upper
91 100
91 33.9 80.0 120.0#
120 9.0 11.0 33.0#

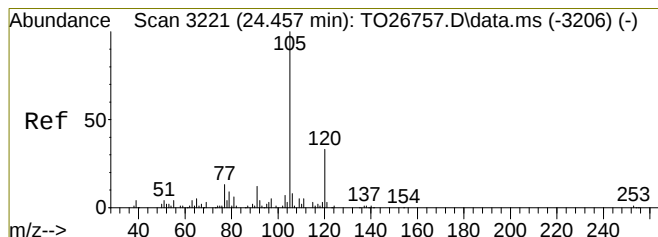
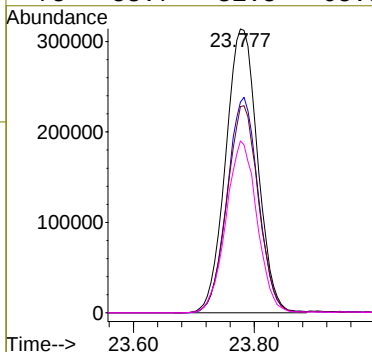
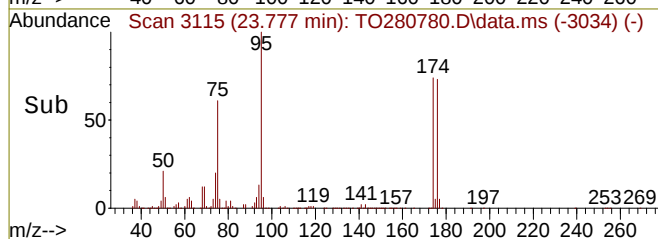
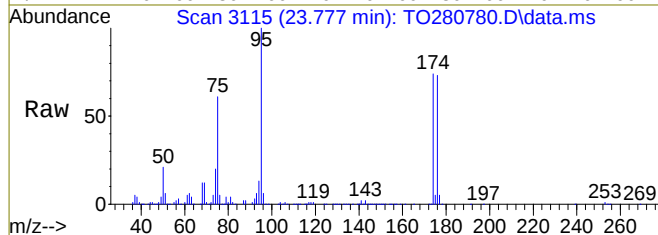




#64
p-Bromofluorobenzene
Concen: 10.28 ppbv
RT: 23.777 min Scan# 3115
Delta R.T. -0.006 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

Tgt Ion: 95 Resp: 1156332

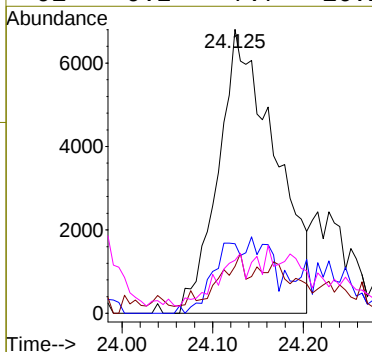
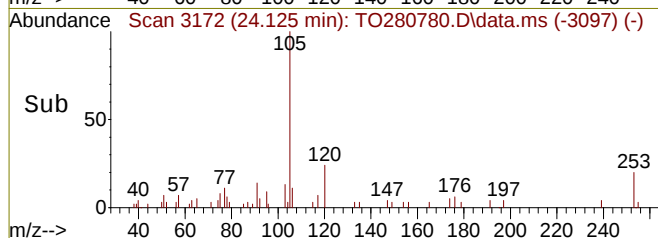
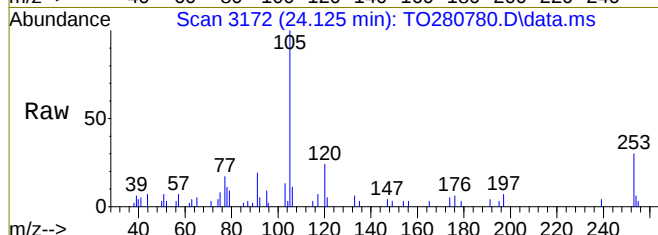
Ion	Ratio	Lower	Upper
95	100		
174	74.4	50.0	103.8
176	71.8	48.2	100.2
75	58.7	31.5	65.3

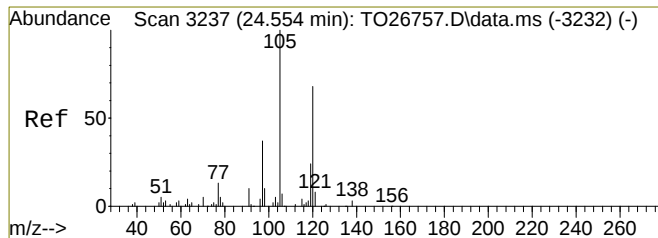


#65
4-Ethyltoluene
Concen: 0.12 ppbv
RT: 24.125 min Scan# 3172
Delta R.T. -0.042 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

Tgt Ion: 105 Resp: 29549

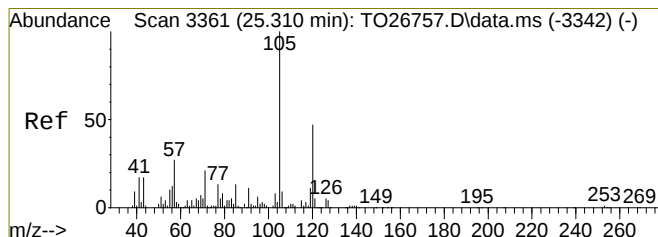
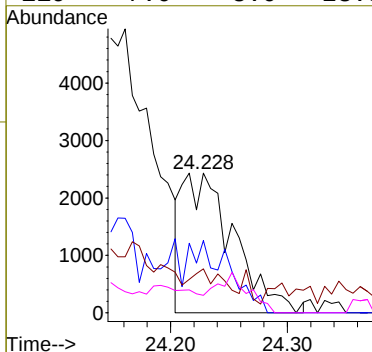
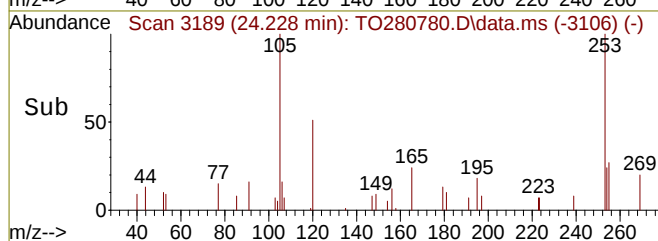
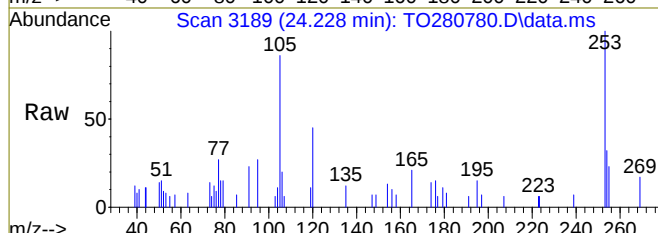
Ion	Ratio	Lower	Upper
105	100		
120	8.7	17.2	35.6#
77	6.3	7.6	15.8#
91	9.2	7.7	16.1





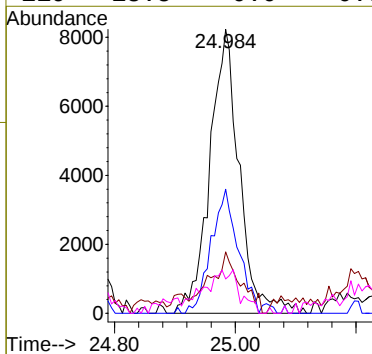
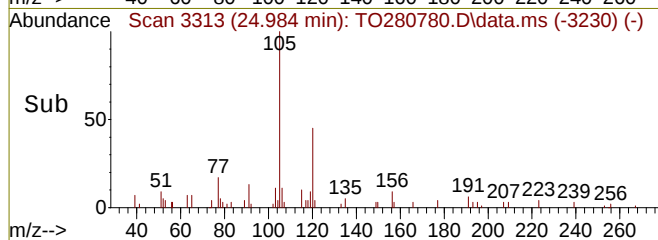
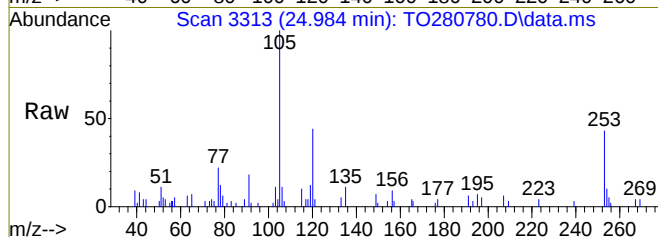
#66
 1,3,5-Trimethylbenzene
 Concen: 0.04 ppbv m
 RT: 24.228 min Scan# 3189
 Delta R.T. 0.006 min
 Lab File: T0280780.D
 Acq: 10 Oct 2019 7:59 pm

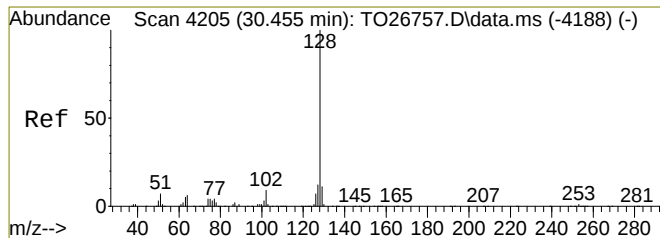
Tgt Ion:	105	Resp:	7441
Ion Ratio	Lower	Upper	
105	100		
120	49.8	43.4	65.2
77	25.0	10.8	16.2#
119	7.0	8.0	23.8#



#68
 1,2,4-Trimethylbenzene
 Concen: 0.13 ppbv
 RT: 24.984 min Scan# 3313
 Delta R.T. 0.006 min
 Lab File: T0280780.D
 Acq: 10 Oct 2019 7:59 pm

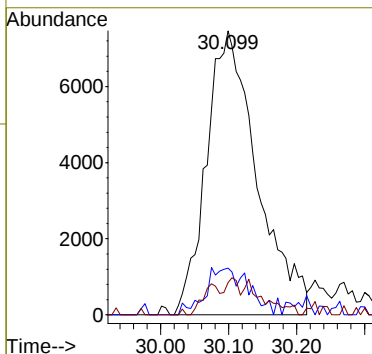
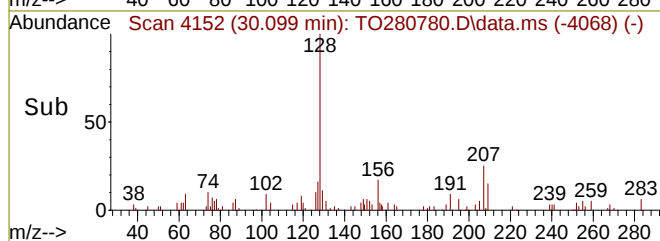
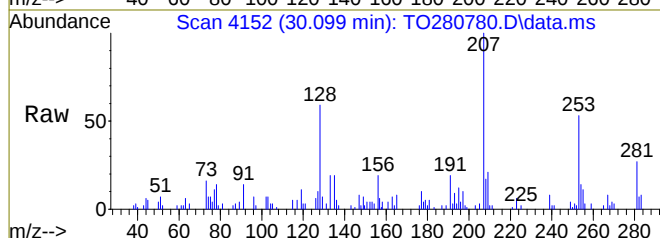
Tgt Ion:	105	Resp:	27874
Ion Ratio	Lower	Upper	
105	100		
120	39.7	29.0	60.2
77	22.6	8.2	17.0#
119	18.5	0.0	0.0#





#78
Naphthalene
Concen: 0.18 ppbv
RT: 30.099 min Scan# 4152
Delta R.T. 0.012 min
Lab File: T0280780.D
Acq: 10 Oct 2019 7:59 pm

Tgt Ion:128 Resp: 38676
Ion Ratio Lower Upper
128 100
127 13.9 8.1 16.9
129 3.6 7.3 15.1#



FORM VI

INITIAL CALIBRATION DATA

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Calibration: YJ90015Instrument: 5975CCalibration Date: 10/07/19 12:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,1,2-Tetrachloroethane	0.025		0.05		0.1	0.594175	0.2	0.5704531	0.5	0.5487086	3	0.6462491
1,1,1-Trichloroethane	0.025		0.05		0.1	4.020096	0.2	3.865586	0.5	3.75	3	4.536922
1,1,2,2-Tetrachloroethane	0.025		0.05		0.1	0.6780963	0.2	0.6771928	0.5	0.6597067	3	0.7948704
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.025		0.05		0.1	3.130675	0.2	2.82361	0.5	2.798338	3	3.268162
1,1,2-Trichloroethane	0.025		0.05		0.1	0.3301127	0.2	0.3063441	0.5	0.2930219	3	0.3606607
1,1-Dichloroethane	0.025		0.05		0.1	2.13177	0.2	1.898228	0.5	1.909715	3	2.227138
1,1-Dichloroethylene	0.025	2.770571	0.05	2.260182	0.1	2.109261	0.2	1.964231	0.5	1.927389	3	2.207423
1,2,4-Trichlorobenzene	0.025		0.05		0.1	0.2909985	0.2	0.2570749	0.5	0.3747309	3	0.5141771
1,2,4-Trimethylbenzene	0.025		0.05		0.1	1.449744	0.2	1.375723	0.5	1.426505	3	1.63615
1,2-Dibromoethane	0.025		0.05		0.1	0.5843057	0.2	0.5425526	0.5	0.5512214	3	0.6415463
1,2-Dichlorobenzene	0.025		0.05		0.1	0.8673906	0.2	0.8507861	0.5	0.920726	3	1.023795
1,2-Dichloroethane	0.025		0.05		0.1	2.508299	0.2	2.414861	0.5	2.421326	3	2.708991
1,2-Dichloropropane	0.025		0.05		0.1	0.2141808	0.2	0.1940008	0.5	0.195602	3	0.2232102
1,2-Dichlorotetrafluoroethane	0.025		0.05		0.1	3.457379	0.2	3.491904	0.5	3.459185	3	3.779095
1,3,5-Trimethylbenzene	0.025		0.05		0.1	1.481845	0.2	1.286479	0.5	1.102137	3	1.39222
1,3-Butadiene	0.025		0.05		0.1	0.9838265	0.2	0.5523702	0.5	0.7005928	3	0.6964136
1,3-Dichlorobenzene	0.025		0.05		0.1	0.8617347	0.2	0.835842	0.5	0.9284863	3	1.017126
1,3-Dichloropropane	0.025		0.05		0.1	0.4403156	0.2	0.4312609	0.5	0.4006035	3	0.4930167
1,4-Dichlorobenzene	0.025		0.05		0.1	0.7795458	0.2	0.8319218	0.5	0.9185088	3	0.9751451
1,4-Dioxane	0.025		0.05		0.1	0.1415993	0.2	0.1520503	0.5	0.1543439	3	0.1843579
2-Butanone	0.025		0.05		0.1	1.577794	0.2	1.607525	0.5	1.483078	3	1.687073
2-Hexanone	0.025		0.05		0.1	0.3110764	0.2	0.2942147	0.5	0.3109365	3	0.4000875
3-Chloropropene	0.025		0.05		0.1	1.026222	0.2	0.8693185	0.5	0.8173356	3	0.9912077
4-Methyl-2-pentanone	0.025		0.05		0.1	0.3708918	0.2	0.3389697	0.5	0.3534742	3	0.433816
Acetone	0.025		0.05		0.1	2.534741	0.2	2.369183	0.5	2.185121	3	1.834259
Acrolein	0.025		0.05		0.1	0.1776657	0.2	0.1619363	0.5	0.2501631	3	0.271299
Acrylonitrile	0.025		0.05		0.1	0.5821666	0.2	0.6019562	0.5	0.5678522	3	0.6164655
Benzene	0.025		0.05		0.1	3.324512	0.2	3.071763	0.5	3.019587	3	3.538687
Benzyl chloride	0.025		0.05		0.1	0.1128632	0.2	0.1543081	0.5	0.1927818	3	0.2273346
Bromodichloromethane	0.025		0.05		0.1	0.7016811	0.2	0.6920788	0.5	0.704775	3	0.842993
Bromoform	0.025		0.05		0.1	0.7256874	0.2	0.7083701	0.5	0.7394949	3	0.88217

FORM VI

INITIAL CALIBRATION DATA

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Calibration: YJ90015Instrument: 5975CCalibration Date: 10/07/19 12:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Bromomethane	0.025		0.05		0.1	1.133739	0.2	1.105969	0.5	1.116308	3	1.155546
Carbon disulfide	0.025		0.05		0.1	2.954102	0.2	2.62616	0.5	2.611984	3	3.050377
Carbon tetrachloride	0.025	6.084018	0.05	4.844104	0.1	4.397718	0.2	4.25736	0.5	4.046616	3	4.95334
Chlorobenzene	0.025		0.05		0.1	0.9648657	0.2	0.8775696	0.5	0.8576092	3	0.9379571
Chloroethane	0.025		0.05		0.1	0.4049379	0.2	0.4583355	0.5	0.4259571	3	0.4529842
Chloroform	0.025		0.05		0.1	3.369748	0.2	3.179647	0.5	3.083487	3	3.628218
Chloromethane	0.025		0.05		0.1	0.7006104	0.2	0.7612121	0.5	0.7452777	3	0.7757605
cis-1,2-Dichloroethylene	0.025	1.442713	0.05	1.743312	0.1	1.715031	0.2	1.453964	0.5	1.50039	3	1.769644
cis-1,3-Dichloropropylene	0.025		0.05		0.1	0.4155955	0.2	0.4358416	0.5	0.4024759	3	0.4921263
Cyclohexane	0.025		0.05		0.1	1.234263	0.2	1.107197	0.5	1.112229	3	1.375473
Dibromochloromethane	0.025		0.05		0.1	0.7494071	0.2	0.7219233	0.5	0.7058476	3	0.8880113
Dichlorodifluoromethane	0.025		0.05		0.1	5.59636	0.2	4.84558	0.5	4.151258	3	4.926335
Ethanol	0.025		0.05		0.1		0.2		0.5		3	
Ethyl acetate	0.025		0.05		0.1	1.989943	0.2	1.747013	0.5	1.654476	3	1.868465
Ethyl Benzene	0.025		0.05		0.1	1.823186	0.2	1.555131	0.5	1.461896	3	1.6087
Hexachlorobutadiene	0.025		0.05		0.1	0.9422421	0.2	0.8039806	0.5	0.7625962	3	0.9283213
Isopropanol	0.025		0.05		0.1	1.747811	0.2	1.448492	0.5	1.497399	3	1.559616
Isopropylbenzene	0.025		0.05		0.1	1.519093	0.2	1.534188	0.5	1.569072	3	1.840669
Methyl Methacrylate	0.025		0.05		0.1	0.2189624	0.2	0.1961977	0.5	0.1944541	3	0.2388435
Methyl tert-butyl ether (MTBE)	0.025		0.05		0.1	3.915857	0.2	3.447009	0.5	3.326445	3	4.204675
Methylene chloride	0.025		0.05		0.1	2.773814	0.2	1.915203	0.5	1.398104	3	1.099176
Naphthalene	0.025		0.05		0.1	0.9602288	0.2	1.126567	0.5	1.562442	3	1.306242
n-Butylbenzene	0.025		0.05		0.1	2.00336	0.2	2.075911	0.5	2.36915	3	2.979446
n-Heptane	0.025		0.05		0.1	1.168267	0.2	1.170632	0.5	1.14495	3	1.376119
n-Hexane	0.025		0.05		0.1	1.281684	0.2	1.121157	0.5	1.127819	3	1.372008
n-Propylbenzene	0.025		0.05		0.1	1.820333	0.2	1.759323	0.5	1.807592	3	2.089362
o-Xylene	0.025		0.05		0.1	1.158848	0.2	1.150878	0.5	1.139206	3	1.299502
p- & m- Xylenes	0.05		0.1		0.2	1.198999	0.4	1.166217	1	1.138388	6	1.291883
p-Ethyltoluene	0.025		0.05		0.1	1.611269	0.2	1.670763	0.5	1.591899	3	1.973816
p-Isopropyltoluene	0.025		0.05		0.1	1.609791	0.2	1.687891	0.5	1.630816	3	1.987769
Propylene	0.025		0.05		0.1	0.7342641	0.2	0.7234642	0.5	0.7039917	3	0.3913526

FORM VI

INITIAL CALIBRATION DATA

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Calibration: YJ90015Instrument: 5975CCalibration Date: 10/07/19 12:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
sec-Butylbenzene	0.025		0.05		0.1	1.972431	0.2	1.904106	0.5	1.897157	3	2.251245
Styrene	0.025		0.05		0.1	0.7429099	0.2	0.7477298	0.5	0.7526504	3	0.8557182
SURR: p-Bromofluorobenzene	10	0.7098237	10	0.7116816	10	0.7218338	10	0.7277795	10	0.7473407	10	0.7567621
tert-Butylbenzene	0.025		0.05		0.1	1.514303	0.2	1.441287	0.5	1.406064	3	1.607365
Tetrachloroethylene	0.025		0.05		0.1	0.8915478	0.2	0.6958415	0.5	0.5781498	3	0.5891527
Tetrahydrofuran	0.025		0.05		0.1	0.6899023	0.2	0.6959909	0.5	0.6486114	3	0.7953172
Toluene	0.025		0.05		0.1	1.049567	0.2	1.011908	0.5	0.9942874	3	0.992365
trans-1,2-Dichloroethylene	0.025		0.05		0.1	1.737103	0.2	1.590996	0.5	1.608884	3	1.816454
trans-1,3-Dichloropropylene	0.025		0.05		0.1	0.5006724	0.2	0.467065	0.5	0.4648194	3	0.5383973
Trichloroethylene	0.025	0.5963278	0.05	0.4600308	0.1	0.3875373	0.2	0.3644673	0.5	0.3540952	3	0.4368015
Trichlorofluoromethane (Freon 11)	0.025		0.05		0.1	5.303529	0.2	4.947655	0.5	4.745894	3	5.419696
Vinyl acetate	0.025		0.05		0.1	2.074296	0.2	1.996842	0.5	1.89775	3	2.349341
Vinyl bromide	0.025		0.05		0.1	1.250216	0.2	1.221111	0.5	1.162805	3	1.270609
Vinyl Chloride	0.025	0.848606	0.05	1.564313	0.1	1.20192	0.2	0.9203564	0.5	0.9774037	3	0.9624288

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Calibration: YJ90015

Instrument: 5975C

Calibration Date: 10/07/19 12:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,1,2-Tetrachloroethane	10	0.5467262	20	0.5342879	30	0.5316224	50	0.530309				
1,1,1-Trichloroethane	10	3.831849	20	3.628708	30	3.518685	50	3.407585				
1,1,2,2-Tetrachloroethane	10	0.6773784	20	0.665579	30	0.6653337	50	0.667872				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10	2.782925	20	2.666787	30	2.568511	50	2.493006				
1,1,2-Trichloroethane	10	0.3117197	20	0.3063258	30	0.2991767	50	0.30158				
1,1-Dichloroethane	10	1.902361	20	1.814732	30	1.779127	50	1.748698				
1,1-Dichloroethylene	10	1.920827	20	1.840442	30	1.775693	50	1.734181				
1,2,4-Trichlorobenzene	10	0.6057044	20	0.6598955	30	0.6718765	50	0.6992806				
1,2,4-Trimethylbenzene	10	1.449292	20	1.432948	30	1.425598	50	1.417073				
1,2-Dibromoethane	10	0.5568087	20	0.5478384	30	0.5375139	50	0.5465962				
1,2-Dichlorobenzene	10	0.9008338	20	0.8856515	30	0.8692838	50	0.855416				
1,2-Dichloroethane	10	2.319801	20	2.165552	30	2.087597	50	2.040765				
1,2-Dichloropropane	10	0.1926459	20	0.1915754	30	0.1896003	50	0.19559				
1,2-Dichlorotetrafluoroethane	10	3.261094	20	3.225055	30	3.312033	50	3.129652				
1,3,5-Trimethylbenzene	10	1.232504	20	1.231016	30	1.240623	50	1.263384				
1,3-Butadiene	10	0.5973398	20	0.565771	30	0.5492976	50	0.5427657				
1,3-Dichlorobenzene	10	0.9204415	20	0.9073917	30	0.8884192	50	0.8902951				
1,3-Dichloropropane	10	0.4293889	20	0.4166791	30	0.4145245	50	0.4206914				
1,4-Dichlorobenzene	10	0.9123897	20	0.9024062	30	0.8906176	50	0.891793				
1,4-Dioxane	10	0.160338	20	0.157371	30	0.1557151	50	0.1520922				
2-Butanone	10	1.522641	20	1.466479	30	1.463589	50	1.462835				
2-Hexanone	10	0.3740687	20	0.3732655	30	0.3726681	50	0.3898861				
3-Chloropropene	10	0.885434	20	0.8593993	30	0.8393649	50	0.8456312				
4-Methyl-2-pentanone	10	0.3881768	20	0.3839969	30	0.3816356	50	0.3955677				
Acetone	10	1.600362	20	1.534524	30	1.477216	50	1.456543				
Acrolein	10	0.2418276	20	0.2354716	30	0.2327807	50	0.2331876				
Acrylonitrile	10	0.5381431	20	0.5166101	30	0.519401	50	0.5162243				
Benzene	10	3.0429	20	2.927985	30	2.881577	50	2.862082				
Benzyl chloride	10	0.2298204	20	0.2334747	30	0.2310914	50	0.235326				
Bromodichloromethane	10	0.7416656	20	0.7119796	30	0.6968889	50	0.6937308				
Bromoform	10	0.7591423	20	0.7429818	30	0.7371796	50	0.7327203				

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Calibration: YJ90015

Instrument: 5975C

Calibration Date: 10/07/19 12:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Bromomethane	10	1.043629	20	1.007989	30	1.006813	50	0.9964769				
Carbon disulfide	10	2.644499	20	2.548884	30	2.489931	50	2.470949				
Carbon tetrachloride	10	4.222263	20	4.006796	30	3.88073	50	3.765941				
Chlorobenzene	10	0.8113228	20	0.7936498	30	0.79357	50	0.7966636				
Chloroethane	10	0.4135279	20	0.3984732	30	0.3993848	50	0.397549				
Chloroform	10	3.175304	20	2.995142	30	2.898165	50	2.819508				
Chloromethane	10	0.652479	20	0.6152975	30	0.5931031	50	0.5878232				
cis-1,2-Dichloroethylene	10	1.53803	20	1.463978	30	1.430561	50	1.417426				
cis-1,3-Dichloropropylene	10	0.4393052	20	0.4338277	30	0.4252829	50	0.4345513				
Cyclohexane	10	1.200432	20	1.174077	30	1.171441	50	1.172857				
Dibromochloromethane	10	0.772246	20	0.7452024	30	0.7277442	50	0.7256191				
Dichlorodifluoromethane	10	4.282535	20	3.873941	30	3.505863	50	3.060948				
Ethanol	10		20		30		50					
Ethyl acetate	10	1.669712	20	1.618312	30	1.60774	50	1.609482				
Ethyl Benzene	10	1.40102	20	1.373147	30	1.377402	50	1.389819				
Hexachlorobutadiene	10	0.7739768	20	0.7416352	30	0.7220119	50	0.7081385				
Isopropanol	10	1.366391	20	1.317949	30	1.301762	50	1.238289				
Isopropylbenzene	10	1.625775	20	1.603505	30	1.588152	50	1.577354				
Methyl Methacrylate	10	0.2184046	20	0.2148113	30	0.2169766	50	0.2237966				
Methyl tert-butyl ether (MTBE)	10	3.678398	20	3.516599	30	3.424235	50	3.348987				
Methylene chloride	10	0.935274	20	0.9093112	30	0.8854172	50	0.874163				
Naphthalene	10	1.455003	20	1.576003	30	1.591865	50	1.647095				
n-Butylbenzene	10	2.788417	20	2.794303	30	2.766717	50	2.602491				
n-Heptane	10	1.198387	20	1.190468	30	1.182579	50	1.200946				
n-Hexane	10	1.178754	20	1.138193	30	1.127167	50	1.132892				
n-Propylbenzene	10	1.877819	20	1.862385	30	1.854912	50	1.83036				
o-Xylene	10	1.153848	20	1.140217	30	1.137041	50	1.142389				
p- & m- Xylenes	20	1.126815	40	1.109941	60	1.11112	100	1.101832				
p-Ethyltoluene	10	1.648616	20	1.599514	30	1.701055	50	1.658627				
p-Isopropyltoluene	10	1.763093	20	1.72377	30	1.699429	50	1.680903				
Propylene	10	0.3434766	20	0.3374896	30	0.3267698	50	0.3229918				

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Calibration: YJ90015Instrument: 5975CCalibration Date: 10/07/19 12:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
sec-Butylbenzene	10	1.990169	20	1.952984	30	1.935617	50	1.887904				
Styrene	10	0.7735537	20	0.7718477	30	0.7739891	50	0.7795706				
SURR: p-Bromofluorobenzene	10	0.754479	10	0.7636431	10	0.7729994	10	0.76321				
tert-Butylbenzene	10	1.397226	20	1.382812	30	1.367401	50	1.342895				
Tetrachloroethylene	10	0.5001662	20	0.4790872	30	0.4665572	50	0.4649972				
Tetrahydrofuran	10	0.6855204	20	0.6797206	30	0.6801565	50	0.6835429				
Toluene	10	0.8898336	20	0.8732947	30	0.8628896	50	0.8809735				
trans-1,2-Dichloroethylene	10	1.543553	20	1.474188	30	1.447545	50	1.420991				
trans-1,3-Dichloropropylene	10	0.4785571	20	0.4685414	30	0.4630421	50	0.4691382				
Trichloroethylene	10	0.3807709	20	0.3699895	30	0.3649509	50	0.3703517				
Trichlorofluoromethane (Freon 11)	10	4.706609	20	4.405901	30	4.23935	50	4.094965				
Vinyl acetate	10	2.098777	20	2.057609	30	2.051113	50	2.057204				
Vinyl bromide	10	1.167193	20	1.112037	30	1.072184	50	1.047778				
Vinyl Chloride	10	0.8592722	20	0.8155359	30	0.7995923	50	0.7837959				

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Calibration: YJ90015Instrument: 5975CCalibration Date: 10/07/19 12:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,1,2-Tetrachloroethane	0.5628164	7.140132	21.488	0.0119037			30	
1,1,1-Trichloroethane	3.819929	9.168364	14.827	2.599849E-02			30	
1,1,2,2-Tetrachloroethane	0.6857537	6.505325	23.5745	2.023188E-02			30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	2.816502	9.420302	10.112	5.430339E-02			30	
1,1,2-Trichloroethane	0.3136177	6.998774	19.32312	1.857987E-02			30	
1,1-Dichloroethane	1.926471	8.774277	12.813	5.193499E-02			30	
1,1-Dichloroethylene	2.05102	14.98066	10.58	0.0454386			30	
1,2,4-Trichlorobenzene	0.5403914	31.10106	29.46929	4.227898E-03		0.9998722	0.99	
1,2,4-Trimethylbenzene	1.451629	5.378494	24.981	8.902695E-03			30	
1,2-Dibromoethane	0.5635479	6.134041	20.75225	2.218127E-02			30	
1,2-Dichlorobenzene	0.8967353	6.293157	26.6075	9.424069E-03			30	
1,2-Dichloroethane	2.333399	9.724717	15.529	1.795188E-02			30	
1,2-Dichloropropane	0.1995507	6.126357	16.87225	1.975739E-02			30	
1,2-Dichlorotetrafluoroethane	3.389425	5.992595	6.637	0.0979071			30	
1,3,5-Trimethylbenzene	1.278776	8.939727	24.22725	1.959954E-02			30	
1,3-Butadiene	0.6485471	23.10486	7.426625	0.1092551			30	
1,3-Dichlorobenzene	0.9062171	5.971954	25.7935	1.733202E-02			30	
1,3-Dichloropropane	0.4308101	6.472086	19.75488	0.0205208			30	
1,4-Dichlorobenzene	0.887791	6.630469	25.96037	2.110206E-02			30	
1,4-Dioxane	0.1572335	7.803333	17.31125	0.1012312			30	
2-Butanone	1.533877	5.401873	13.50687	0.1349457			30	
2-Hexanone	0.3532754	11.62257	19.1605	5.081688E-02			30	
3-Chloropropene	0.8917391	8.47414	11.27788	5.921832E-02			30	
4-Methyl-2-pentanone	0.3808161	7.485919	17.66675	4.491511E-02			30	
Acetone	1.873994	23.01371	10.35438	0.210917		0.999798	0.99	
Acrolein	0.2255415	16.34443	10.2235	0.1167472			30	
Acrylonitrile	0.5573524	7.231235	11.752	0.1052259			30	
Benzene	3.083637	7.60667	15.5975	2.319172E-02			30	
Benzyl chloride	0.202125	22.64741	26.13675	1.446383E-02			30	
Bromodichloromethane	0.7232241	7.040505	17.318	8.72045E-03			30	
Bromoform	0.7534683	7.165261	23.49375	9.971108E-03			30	
Bromomethane	1.070809	5.985198	8.54725	7.575022E-02			30	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Calibration: YJ90015Instrument: 5975CCalibration Date: 10/07/19 12:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Carbon disulfide	2.674611	7.967541	11.69775	5.080623E-02			30	
Carbon tetrachloride	4.445889	15.58587	15.2928	4.642273E-02			30	
Chlorobenzene	0.854151	7.954117	21.46575	2.028844E-02			30	
Chloroethane	0.4188937	5.878379	8.70775	9.333769E-02			30	
Chloroform	3.143652	8.32317	14.1405	1.622136E-02			30	
Chloromethane	0.6789454	11.33169	7.051125	0.0624461			30	
cis-1,2-Dichloroethylene	1.547505	9.020246	13.8785	4.161493E-02			30	
cis-1,3-Dichloropropylene	0.4348758	6.029601	18.1515	0.0309203			30	
Cyclohexane	1.193496	7.093137	14.85875	0.0412786			30	
Dibromochloromethane	0.7545001	7.635262	20.38025	1.914535E-02			30	
Dichlorodifluoromethane	4.280353	19.21922	6.33575	6.004458E-02			30	
Ethanol							30	
Ethyl acetate	1.720643	8.148842	13.70137	0.1312436			30	
Ethyl Benzene	1.498788	10.51332	21.4465	2.69429E-03			30	
Hexachlorobutadiene	0.7978628	11.27833	29.63125	1.644937E-02			30	
Isopropanol	1.434714	11.5528	9.981125	0.2712302		0.9999223	0.99	
Isopropylbenzene	1.607226	6.251492	23.18063	2.409896E-02			30	
Methyl Methacrylate	0.2153059	6.68936	16.77975	4.633106E-02			30	
Methyl tert-butyl ether (MTBE)	3.607776	8.576275	11.7335	0.2436318			30	
Methylene chloride	1.348808	50.28683	11.51625	5.245773E-02		0.9999033	0.99	
Naphthalene	1.403181	17.76838	30.0945	3.893077E-02		0.9998652	0.99	
n-Butylbenzene	2.547474	14.12933	26.14138	1.816767E-03			30	
n-Heptane	1.204044	5.971349	15.096	1.777531E-02			30	
n-Hexane	1.184959	7.810182	12.005	5.948263E-02			30	
n-Propylbenzene	1.862761	5.300041	23.9645	1.110062E-02			30	
o-Xylene	1.165241	4.703247	22.5105	0.0159886			30	
p- & m- Xylenes	1.155649	5.535717	21.576	3.77609E-03			30	
p-Ethyltoluene	1.681945	7.358696	24.16775	9.704983E-03			30	
p-Isopropyltoluene	1.722933	6.817692	25.46675	1.887985E-02			30	
Propylene	0.485475	40.36403	6.25675	0.1574179			30	*
sec-Butylbenzene	1.973952	5.971054	25.26212	0.0194298			30	
Styrene	0.7747462	4.582142	22.58125	1.694717E-02			30	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYC)Project: 170396002Calibration: YJ90015Instrument: 5975CCalibration Date: 10/07/19 12:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
SURR: p-Bromofluorobenzene	0.7429553	3.11996	23.78	4.817229E-03			30	
tert-Butylbenzene	1.432419	6.133114	24.8975	9.749951E-03			30	
Tetrachloroethylene	0.5831874	25.36213	19.92625	2.902467E-02		0.9997692	0.99	
Tetrahydrofuran	0.6948453	6.182239	14.54862	0.161059			30	
Toluene	0.9443899	7.914585	18.75775	2.312881E-02			30	
trans-1,2-Dichloroethylene	1.579964	8.851271	12.04138	4.900592E-02			30	
trans-1,3-Dichloropropylene	0.4812791	5.418908	18.9865	7.959713E-03			30	
Trichloroethylene	0.4085323	18.18581	16.5632	0.012909			30	
Trichlorofluoromethane (Freon 11)	4.73295	10.10692	9.2665	8.362272E-02			30	
Vinyl acetate	2.072866	6.170194	12.6985	6.171816E-02			30	
Vinyl bromide	1.162992	7.023285	9.2515	6.290959E-02			30	
Vinyl Chloride	0.9733224	24.7913	7.3695	0.1235767		0.9998676	0.99	

Data Path : D:\100719\
 Data File : T0280705.D
 Acq On : 7 Oct 2019 3:24 pm
 Operator : AS
 Sample : SEQ-CAL1
 Misc : QBT01100719A 0.025ppbv STND
 ALS Vial : 2 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 22:50:27 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

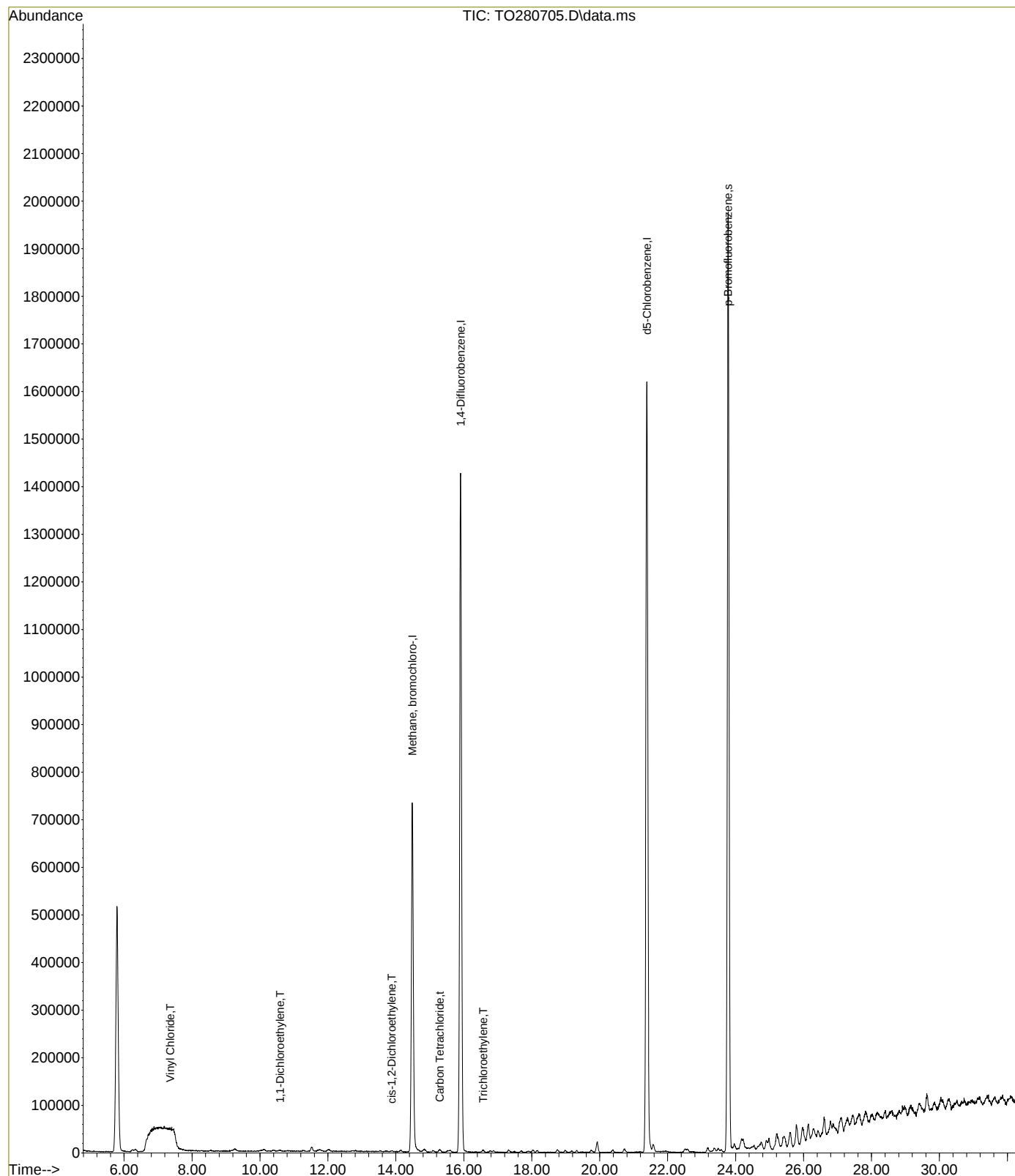
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Methane, bromochloro-	14.486	49	484088	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	2298065	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	2002731	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1421586	10.66	ppbv	0.00
Spiked Amount	10.000	Range 70 - 130	Recovery	=	106.60%	
Target Compounds						Qvalue
6) Vinyl Chloride	7.360	62	1027	0.02	ppbv	# 31
16) 1,1-Dichloroethylene	10.591	61	3353m	0.04	ppbv	
28) cis-1,2-Dichloroethylene	13.877	61	1746	0.03	ppbv	# 24
33) Carbon Tetrachloride	15.285	117	7363	0.04	ppbv	# 87
38) Trichloroethylene	16.565	95	3426	0.03	ppbv	# 80

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

Data Path : D:\100719\
Data File : T0280705.D
Acq On : 7 Oct 2019 3:24 pm
Operator : AS
Sample : SEQ-CAL1
Misc : QBT01100719A 0.025ppbv STND
ALS Vial : 2 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 07 22:50:27 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 22:46:01 2019
Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280706.D
 Acq On : 7 Oct 2019 4:10 pm
 Operator : AS
 Sample : SEQ-CAL2
 Misc : QBT01100719A 0.050ppbv STND
 ALS Vial : 2 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 22:53:45 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

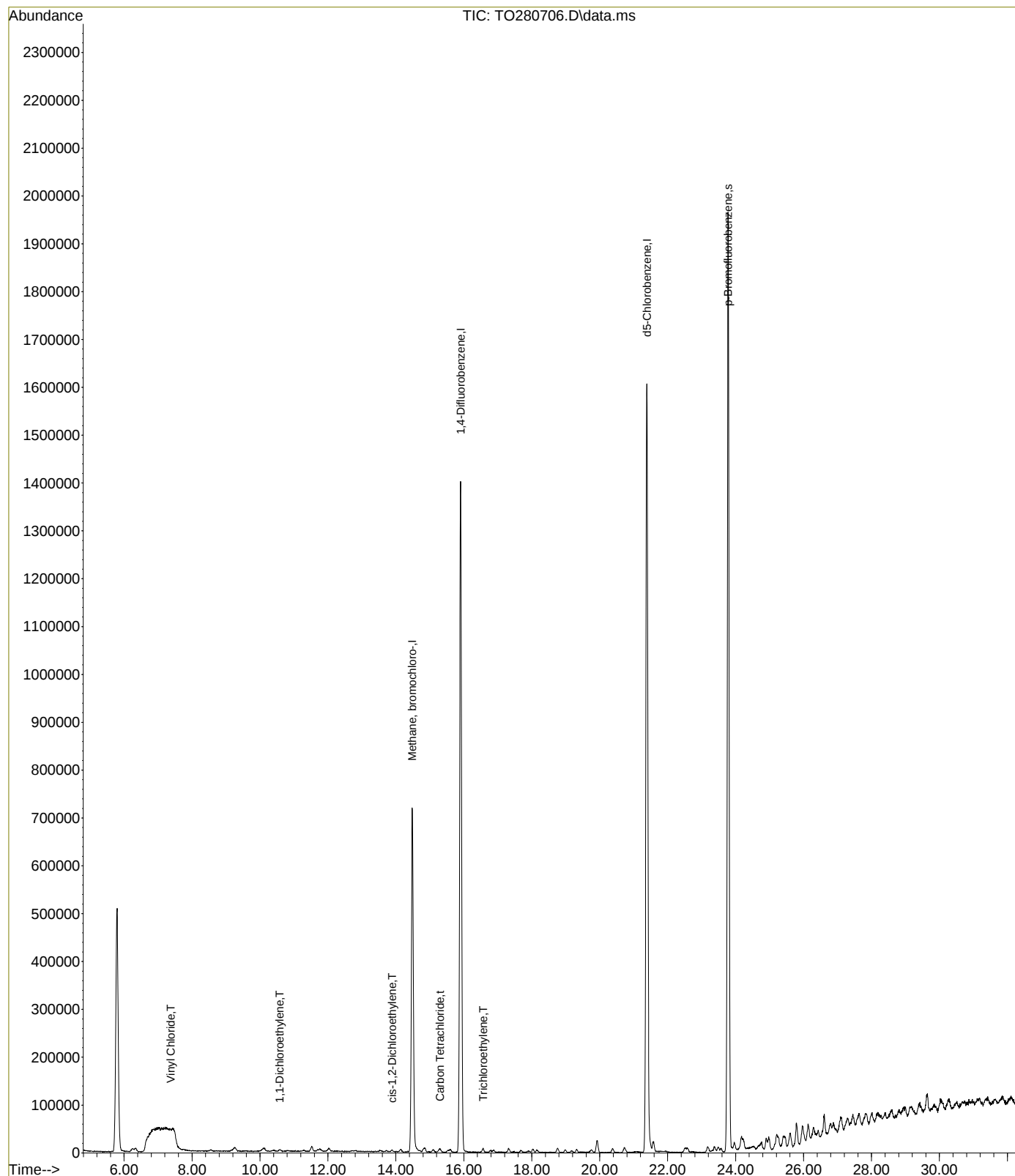
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Methane, bromochloro-	14.480	49	467042	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	2215069	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1976468	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1406616	10.69	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	106.90%
Target Compounds						Qvalue
6) Vinyl Chloride	7.372	62	3653	0.08	ppbv	# 36
16) 1,1-Dichloroethylene	10.578	61	5278	0.07	ppbv	85
28) cis-1,2-Dichloroethylene	13.889	61	4071	0.06	ppbv	# 68
33) Carbon Tetrachloride	15.297	117	11312m	0.07	ppbv	
38) Trichloroethylene	16.565	95	5095	0.05	ppbv	# 16

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

Data Path : D:\100719\
Data File : T0280706.D
Acq On : 7 Oct 2019 4:10 pm
Operator : AS
Sample : SEQ-CAL2
Misc : QBT01100719A 0.050ppbv STND
ALS Vial : 2 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 07 22:53:45 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 22:46:01 2019
Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280707.D
 Acq On : 7 Oct 2019 4:56 pm
 Operator : AS
 Sample : SEQ-CAL3
 Misc : QBT01100719A 0.10ppbv STND
 ALS Vial : 2 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:02:24 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.480	49	457601	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	2216819	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1962553	10.00	ppbv	0.00

System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1416637	10.84	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	108.40%	

Target Compounds						Qvalue
2) Propylene	6.268	42	3360m	0.19	ppbv	
3) Dichlorodifluoromethane	6.341	85	25609	0.21	ppbv	97
4) 1,2-Dichlorotetrafluor...	6.622	85	15821m	0.15	ppbv	
5) Chloromethane	7.049	50	3206m	0.09	ppbv	
6) Vinyl Chloride	7.366	62	5500m	0.12	ppbv	
7) 1,3-Butadiene	7.433	54	4502	0.14	ppbv	# 61
8) Bromomethane	8.536	94	5188m	0.15	ppbv	
9) Chloroethane	8.695	64	1853	0.12	ppbv	# 76
10) Vinyl Bromide	9.262	106	5721	0.15	ppbv	99
11) Trichlorofluoromethane	9.280	101	24269	0.17	ppbv	100
12) Isopropanol	10.011	45	7998m	0.09	ppbv	
13) Acrolein	10.243	56	813m	0.06	ppbv	
14) Acetone	10.383	43	11599	0.16	ppbv	# 61
15) Freon-113	10.121	101	14326m	0.16	ppbv	
16) 1,1-Dichloroethylene	10.578	61	9652	0.13	ppbv	94
17) 3-Chloropropene	11.286	41	4696	0.10	ppbv	# 47
18) Methylene Chloride	11.517	49	12693	0.22	ppbv	81
19) Acrylonitrile	11.743	53	2664m	0.09	ppbv	
20) Carbon disulfide	11.706	76	13518m	0.15	ppbv	
21) Methyl-tert-Butyl Ethe...	11.773	73	17919m	0.14	ppbv	
22) trans-1,2-Dichloroethy...	12.054	61	7949	0.14	ppbv	# 78
23) Hexane	11.993	57	5865m	0.10	ppbv	
24) Vinyl Acetate	12.712	43	9492	0.09	ppbv	# 98
25) 1,1-Dichloroethane	12.822	63	9755	0.14	ppbv	# 82
26) 2-Butanone	13.535	43	7220m	0.09	ppbv	
27) Ethyl Acetate	13.724	43	9106	0.10	ppbv	# 80
28) cis-1,2-Dichloroethylene	13.870	61	7848	0.13	ppbv	# 46
29) Chloroform	14.139	83	15420	0.15	ppbv	# 92
30) Tetrahydrofuran	14.584	42	3157	0.07	ppbv	91
31) 1,1,1-Trichlorethane	14.828	97	18396m	0.14	ppbv	
32) Cyclohexane	14.870	56	5648m	0.09	ppbv	
33) Carbon Tetrachloride	15.309	117	20124	0.13	ppbv	99
34) 1,2-Dichloroethane	15.529	62	11478	0.16	ppbv	# 96
35) Benzene	15.602	78	15213	0.14	ppbv	# 100
36) n-Heptane	15.096	43	5346	0.07	ppbv	# 93
38) Trichloroethylene	16.559	95	8591	0.09	ppbv	89
39) 1,2-Dichloropropane	16.864	63	4748	0.08	ppbv	# 51
40) Methyl Methacrylate	16.791	69	4854m	0.09	ppbv	
41) 1,4-Dioxane	17.339	88	3139m	0.08	ppbv	
42) Bromodichloromethane	17.321	83	15555	0.10	ppbv	# 93
43) Methyl Isobutyl Ketone	17.681	43	8222	0.06	ppbv	# 93
44) cis-1,3-Dichloropropene	18.162	75	9213	0.09	ppbv	# 90
45) Toluene	18.760	91	23267	0.10	ppbv	95
46) trans-1,3-Dichloropropene	18.985	75	11099	0.10	ppbv	# 91
47) 1,1,2-Trichlorethane	19.333	97	7318	0.10	ppbv	83
48) 2-Hexanone	19.174	43	6896	0.06	ppbv	# 88
49) 1,3-Dichloropropane	19.760	76	9761	0.10	ppbv	# 94
50) Tetrachloroethylene	19.942	166	19764m	0.11	ppbv	
51) Dibromchloromethane	20.381	129	16613	0.09	ppbv	# 64
52) 1,2-Dibromoethane	20.741	107	12953	0.10	ppbv	97
54) Chlorobenzene	21.467	112	18936	0.11	ppbv	# 95
55) 1,1,1,2-Tetrachloroethane	21.485	131	11661	0.10	ppbv	# 54

Data Path : D:\100719\
 Data File : T0280707.D
 Acq On : 7 Oct 2019 4:56 pm
 Operator : AS
 Sample : SEQ-CAL3
 Misc : QBT01100719A 0.10ppbv STND
 ALS Vial : 2 Sample Multiplier: 1
 InstName : 5975C

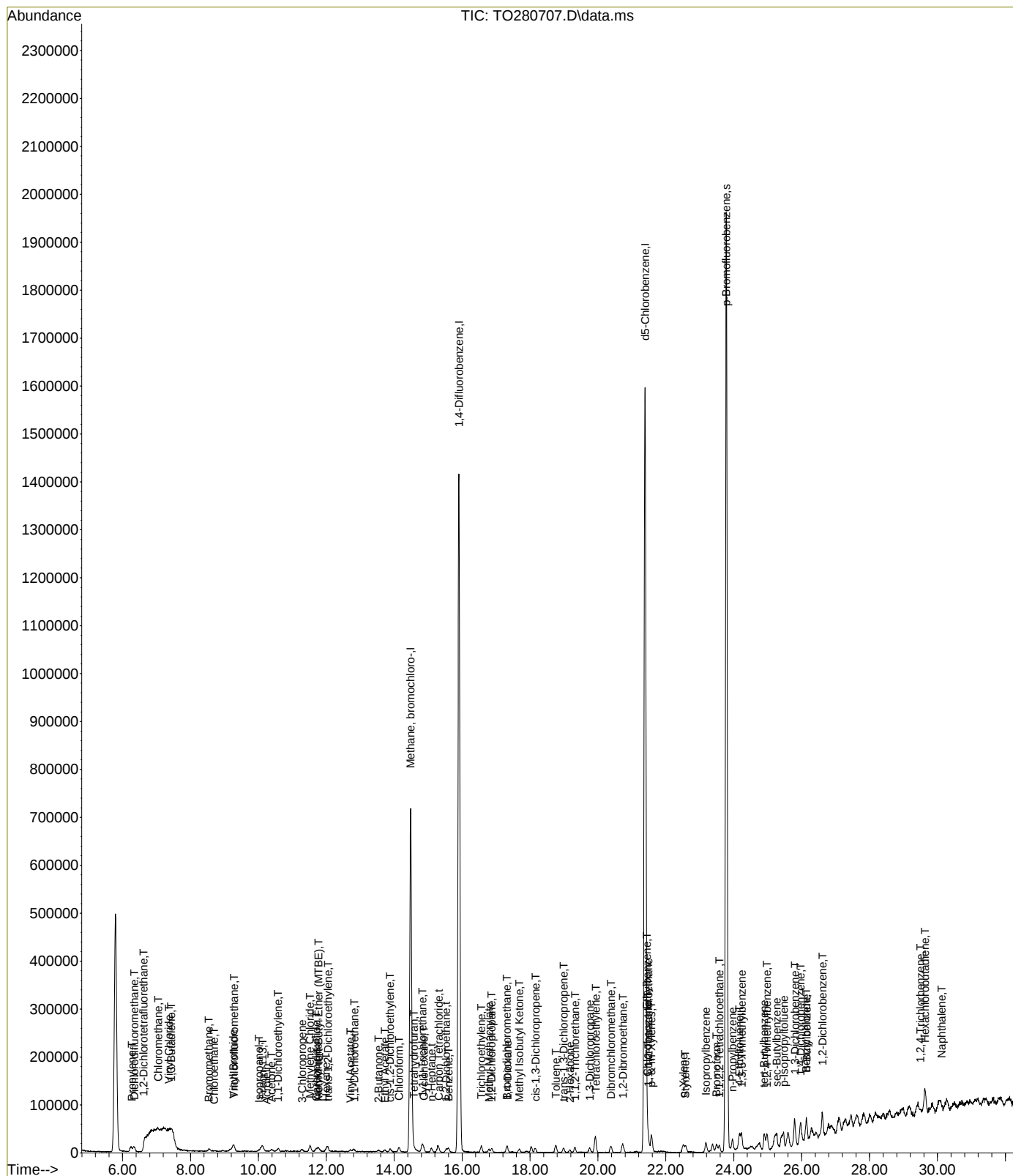
Quant Time: Oct 07 23:02:24 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.442	91	35781	0.12	ppbv #	64
57)	p- & m-Xylenes	21.570	91	47062	0.20	ppbv	95
58)	o-Xylene	22.515	91	22743	0.09	ppbv #	89
59)	Styrene	22.570	104	14580	0.09	ppbv #	99
60)	Bromoform	23.491	173	14242	0.08	ppbv	98
61)	n-Propylbenzene	23.960	91	35725	0.10	ppbv	99
62)	Isopropylbenzene	23.180	105	29813	0.09	ppbv	96
63)	1,1,2,2-Tetrachloroeth...	23.576	83	13308	0.10	ppbv #	92
65)	4-Ethyltoluene	24.167	105	31622	0.10	ppbv #	93
66)	1,3,5-Trimethylbenzene	24.234	105	29082	0.12	ppbv	93
67)	tert-Butylbenzene	24.893	119	29719	0.10	ppbv #	95
68)	1,2,4-Trimethylbenzene	24.978	105	28452	0.10	ppbv #	94
69)	sec-Butylbenzene	25.258	105	38710	0.10	ppbv #	96
70)	p-Isopropyltoluene	25.472	119	31593	0.09	ppbv #	100
71)	1,3-Dichlorobenzene	25.801	146	16912	0.09	ppbv #	91
72)	1,4-Dichlorobenzene	25.966	146	15299	0.08	ppbv #	81
73)	Benzyl chloride	26.130	126	2215	0.05	ppbv #	1
74)	n-Butylbenzene	26.142	91	39317	0.08	ppbv #	96
75)	1,2-Dichlorobenzene	26.612	146	17023	0.09	ppbv	92
76)	1,2,4-Trichlorobenzene	29.495	180	5711m	0.06	ppbv	
77)	Hexachlorobutadiene	29.636	225	18492	0.11	ppbv #	82
78)	Naphthalene	30.117	128	18845	0.08	ppbv #	73

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

Data Path : D:\100719\
Data File : T0280707.D
Acq On : 7 Oct 2019 4:56 pm
Operator : AS
Sample : SEQ-CAL3
Misc : QBT01100719A 0.10ppbv STND
ALS Vial : 2 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 07 23:02:24 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
Qlast Update : Mon Oct 07 22:46:01 2019
Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280708.D
 Acq On : 7 Oct 2019 5:44 pm
 Operator : AS
 Sample : SEQ-CAL4
 Misc : QBT01100719A 0.20ppbv STND
 ALS Vial : 2 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:06:19 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.486	49	447707	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	2139424	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.381	117	1900419	10.00	ppbv	0.00

System Monitoring Compounds

64) p-Bromofluorobenzene	23.783	95	1383086	10.93	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	109.30%	

Target Compounds						Qvalue
2) Propylene	6.238	42	6478m	0.38	ppbv	
3) Dichlorodifluoromethane	6.329	85	43388	0.37	ppbv	95
4) 1,2-Dichlorotetrafluor...	6.634	85	31267	0.29	ppbv #	77
5) Chloromethane	7.061	50	6816	0.20	ppbv #	90
6) Vinyl Chloride	7.390	62	8241	0.18	ppbv	95
7) 1,3-Butadiene	7.408	54	4946m	0.16	ppbv	
8) Bromomethane	8.560	94	9903m	0.28	ppbv	
9) Chloroethane	8.713	64	4104	0.27	ppbv #	59
10) Vinyl Bromide	9.249	106	10934	0.30	ppbv	97
11) Trichlorofluoromethane	9.262	101	44302	0.31	ppbv	98
12) Isopropanol	10.024	45	12970	0.15	ppbv #	99
13) Acrolein	10.225	56	1450	0.12	ppbv #	100
14) Acetone	10.383	43	21214	0.30	ppbv #	60
15) Freon-113	10.115	101	25283m	0.29	ppbv	
16) 1,1-Dichloroethylene	10.578	61	17588	0.25	ppbv	98
17) 3-Chloropropene	11.286	41	7784	0.17	ppbv #	47
18) Methylene Chloride	11.505	49	17149	0.31	ppbv #	79
19) Acrylonitrile	11.779	53	5390m	0.19	ppbv	
20) Carbon disulfide	11.706	76	23515	0.26	ppbv	89
21) Methyl-tert-Butyl Ethe...	11.773	73	30865m	0.25	ppbv	
22) trans-1,2-Dichloroethy...	12.041	61	14246	0.25	ppbv #	88
23) Hexane	11.999	57	10039	0.18	ppbv #	69
24) Vinyl Acetate	12.706	43	17880	0.17	ppbv	100
25) 1,1-Dichloroethane	12.822	63	16997	0.24	ppbv #	95
26) 2-Butanone	13.529	43	14394	0.18	ppbv #	85
27) Ethyl Acetate	13.730	43	15643	0.18	ppbv	91
28) cis-1,2-Dichloroethylene	13.883	61	13019	0.21	ppbv	90
29) Chloroform	14.145	83	28471	0.29	ppbv #	92
30) Tetrahydrofuran	14.571	42	6232	0.15	ppbv #	78
31) 1,1,1-Trichloroethane	14.834	97	34613	0.28	ppbv #	72
32) Cyclohexane	14.852	56	9914	0.16	ppbv #	70
33) Carbon Tetrachloride	15.291	117	38121	0.25	ppbv	99
34) 1,2-Dichloroethane	15.529	62	21623	0.30	ppbv #	85
35) Benzene	15.596	78	27505	0.25	ppbv #	100
36) n-Heptane	15.096	43	10482	0.14	ppbv #	75
38) Trichloroethylene	16.559	95	15595	0.17	ppbv	96
39) 1,2-Dichloropropane	16.876	63	8301	0.15	ppbv #	93
40) Methyl Methacrylate	16.791	69	8395m	0.17	ppbv	
41) 1,4-Dioxane	17.321	88	6506	0.18	ppbv #	100
42) Bromodichloromethane	17.321	83	29613	0.20	ppbv	99
43) Methyl Isobutyl Ketone	17.668	43	14504	0.11	ppbv #	83
44) cis-1,3-Dichloropropene	18.156	75	18649	0.19	ppbv #	67
45) Toluene	18.766	91	43298	0.20	ppbv	95
46) trans-1,3-Dichloropropene	18.991	75	19985	0.19	ppbv #	85
47) 1,1,2-Trichloroethane	19.321	97	13108	0.19	ppbv #	88
48) 2-Hexanone	19.174	43	12589	0.11	ppbv	97
49) 1,3-Dichloropropane	19.753	76	18453	0.19	ppbv #	97
50) Tetrachloroethylene	19.924	166	29774	0.18	ppbv	94
51) Dibromchloromethane	20.381	129	30890	0.18	ppbv	97
52) 1,2-Dibromoethane	20.759	107	23215	0.19	ppbv	98
54) Chlorobenzene	21.466	112	33355	0.19	ppbv #	99
55) 1,1,1,2-Tetrachloroethane	21.485	131	21682	0.18	ppbv #	55

Data Path : D:\100719\
 Data File : T0280708.D
 Acq On : 7 Oct 2019 5:44 pm
 Operator : AS
 Sample : SEQ-CAL4
 Misc : QBT01100719A 0.20ppbv STND
 ALS Vial : 2 Sample Multiplier: 1
 InstName : 5975C

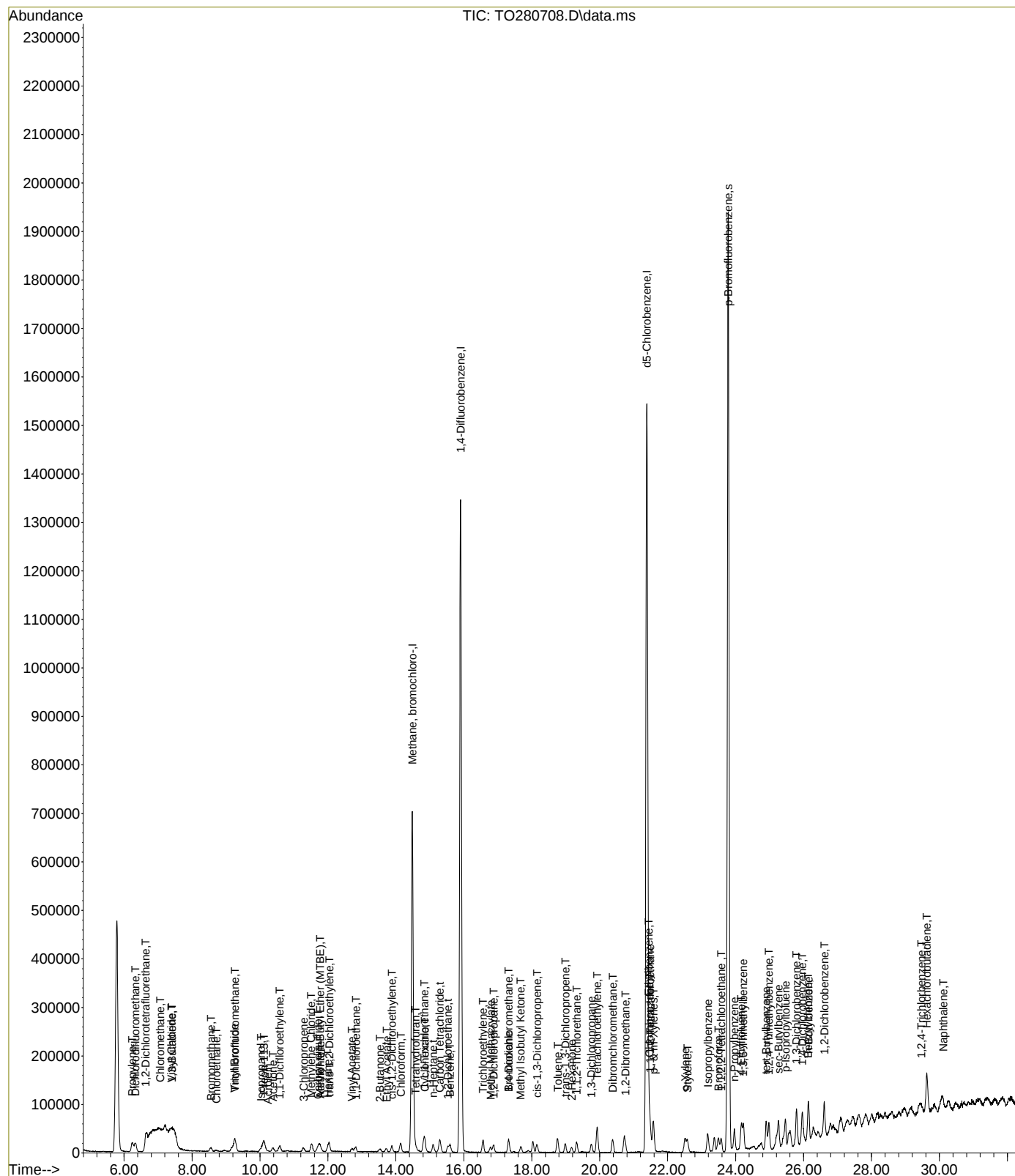
Quant Time: Oct 07 23:06:19 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.442	91	59108	0.20	ppbv	88
57)	p- & m-Xylenes	21.582	91	88652	0.40	ppbv	96
58)	o-Xylene	22.515	91	43743	0.19	ppbv	97
59)	Styrene	22.582	104	28420	0.18	ppbv #	74
60)	Bromoform	23.497	173	26924	0.16	ppbv #	93
61)	n-Propylbenzene	23.966	91	66869	0.19	ppbv	100
62)	Isopropylbenzene	23.186	105	58312	0.18	ppbv	99
63)	1,1,2,2-Tetrachloroeth...	23.576	83	25739	0.20	ppbv #	72
65)	4-Ethyltoluene	24.167	105	63503	0.20	ppbv #	95
66)	1,3,5-Trimethylbenzene	24.222	105	48897	0.20	ppbv	93
67)	tert-Butylbenzene	24.899	119	54781	0.19	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.978	105	52289	0.19	ppbv #	92
69)	sec-Butylbenzene	25.258	105	72372	0.19	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	64154	0.19	ppbv #	89
71)	1,3-Dichlorobenzene	25.789	146	31769	0.18	ppbv #	91
72)	1,4-Dichlorobenzene	25.960	146	31620	0.18	ppbv	92
73)	Benzyl chloride	26.130	126	5865	0.14	ppbv	71
74)	n-Butylbenzene	26.142	91	78902	0.17	ppbv	99
75)	1,2-Dichlorobenzene	26.612	146	32337	0.18	ppbv	96
76)	1,2,4-Trichlorobenzene	29.465	180	9771	0.10	ppbv	90
77)	Hexachlorobutadiene	29.623	225	30558	0.18	ppbv	92
78)	Naphthalene	30.111	128	42819	0.19	ppbv	92

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

Data Path : D:\100719\
Data File : T0280708.D
Acq On : 7 Oct 2019 5:44 pm
Operator : AS
Sample : SEQ-CAL4
Misc : QBT01100719A 0.20ppbv STND
ALS Vial : 2 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 07 23:06:19 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 22:46:01 2019
Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280709.D
 Acq On : 7 Oct 2019 6:36 pm
 Operator : AS
 Sample : SEQ-CAL5
 Misc : QBT01100719A 0.50ppbv STND
 ALS Vial : 2 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:09:03 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.486	49	441312	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.900	114	2125643	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1894266	10.00	ppbv	0.00

System Monitoring Compounds

64) p-Bromofluorobenzene	23.783	95	1415662	11.22	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	112.20%	

Target Compounds						Qvalue
2) Propylene	6.256	42	15534	0.93	ppbv	# 1
3) Dichlorodifluoromethane	6.335	85	91600	0.78	ppbv	98
4) 1,2-Dichlorotetrafluor...	6.640	85	76329	0.73	ppbv	97
5) Chloromethane	7.048	50	16445	0.49	ppbv	# 86
6) Vinyl Chloride	7.359	62	21567	0.47	ppbv	# 63
7) 1,3-Butadiene	7.426	54	15459	0.51	ppbv	# 52
8) Bromomethane	8.548	94	24632	0.72	ppbv	99
9) Chloroethane	8.719	64	9399	0.63	ppbv	93
10) Vinyl Bromide	9.243	106	25658	0.72	ppbv	99
11) Trichlorofluoromethane	9.274	101	104721	0.75	ppbv	99
12) Isopropanol	9.999	45	33041	0.40	ppbv	100
13) Acrolein	10.237	56	5520m	0.45	ppbv	
14) Acetone	10.371	43	48216	0.68	ppbv	82
15) Freon-113	10.115	101	61747	0.72	ppbv	95
16) 1,1-Dichloroethylene	10.578	61	42529	0.61	ppbv	92
17) 3-Chloropropene	11.279	41	18035	0.39	ppbv	# 46
18) Methylene Chloride	11.523	49	30850	0.57	ppbv	78
19) Acrylonitrile	11.761	53	12530	0.45	ppbv	# 100
20) Carbon disulfide	11.694	76	57635	0.66	ppbv	89
21) Methyl-tert-Butyl Ethe...	11.749	73	73400	0.61	ppbv	# 89
22) trans-1,2-Dichloroethy...	12.035	61	35501	0.64	ppbv	97
23) Hexane	12.017	57	24886	0.45	ppbv	88
24) Vinyl Acetate	12.700	43	41875	0.40	ppbv	# 99
25) 1,1-Dichloroethane	12.816	63	42139	0.61	ppbv	# 76
26) 2-Butanone	13.517	43	32725	0.42	ppbv	# 87
27) Ethyl Acetate	13.712	43	36507	0.43	ppbv	# 85
28) cis-1,2-Dichloroethylene	13.870	61	33107	0.55	ppbv	# 76
29) Chloroform	14.139	83	68039	0.70	ppbv	100
30) Tetrahydrofuran	14.571	42	14312	0.34	ppbv	# 56
31) 1,1,1-Trichloroethane	14.821	97	82746	0.67	ppbv	99
32) Cyclohexane	14.858	56	24542	0.41	ppbv	# 75
33) Carbon Tetrachloride	15.285	117	89291	0.59	ppbv	98
34) 1,2-Dichloroethane	15.529	62	53428	0.75	ppbv	# 86
35) Benzene	15.602	78	66629	0.62	ppbv	# 100
36) n-Heptane	15.090	43	25264m	0.35	ppbv	
38) Trichloroethylene	16.565	95	37634	0.41	ppbv	95
39) 1,2-Dichloropropane	16.870	63	20789	0.39	ppbv	# 93
40) Methyl Methacrylate	16.784	69	20667	0.42	ppbv	# 62
41) 1,4-Dioxane	17.333	88	16404	0.46	ppbv	# 100
42) Bromodichloromethane	17.321	83	74905	0.50	ppbv	97
43) Methyl Isobutyl Ketone	17.674	43	37568	0.30	ppbv	# 92
44) cis-1,3-Dichloropropene	18.144	75	42776	0.44	ppbv	94
45) Toluene	18.760	91	105675	0.48	ppbv	94
46) trans-1,3-Dichloropropene	18.991	75	49402	0.48	ppbv	98
47) 1,1,2-Trichloroethane	19.320	97	31143	0.44	ppbv	88
48) 2-Hexanone	19.168	43	33047	0.29	ppbv	96
49) 1,3-Dichloropropane	19.753	76	42577	0.44	ppbv	# 86
50) Tetrachloroethylene	19.924	166	61447	0.37	ppbv	95
51) Dibromochloromethane	20.375	129	75019	0.43	ppbv	# 93
52) 1,2-Dibromoethane	20.753	107	58585	0.48	ppbv	98
54) Chlorobenzene	21.460	112	81227	0.48	ppbv	# 86
55) 1,1,1,2-Tetrachloroethane	21.485	131	51970	0.44	ppbv	# 67

Data Path : D:\100719\
 Data File : T0280709.D
 Acq On : 7 Oct 2019 6:36 pm
 Operator : AS
 Sample : SEQ-CAL5
 Misc : QBT01100719A 0.50ppbv STND
 ALS Vial : 2 Sample Multiplier: 1
 InstName : 5975C

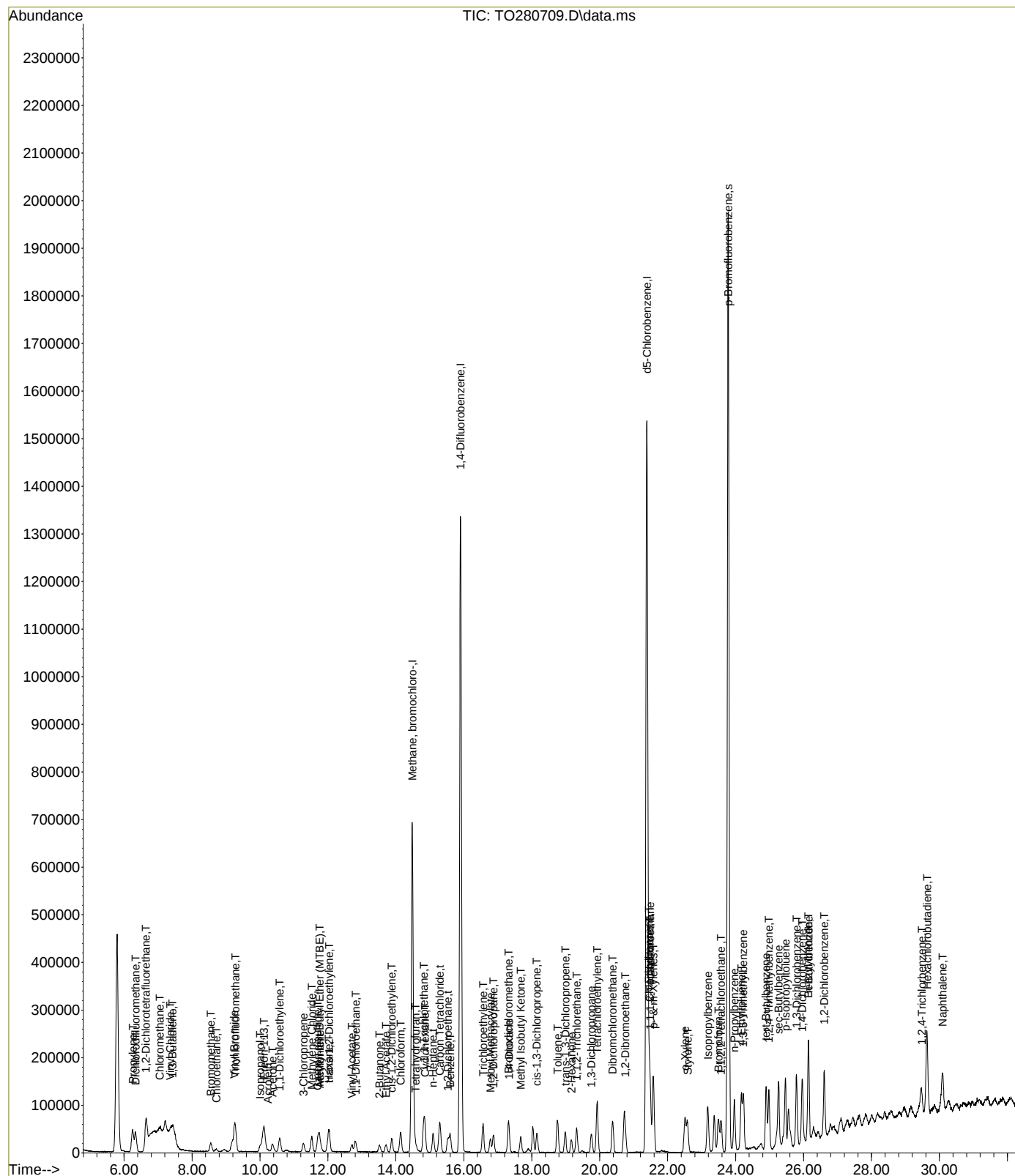
Quant Time: Oct 07 23:09:03 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	138461	0.47	ppbv	96
57)	p- & m-Xylenes	21.576	91	215641	0.97	ppbv	97
58)	o-Xylene	22.509	91	107898	0.47	ppbv	98
59)	Styrene	22.588	104	71286	0.47	ppbv #	98
60)	Bromoform	23.496	173	70040	0.40	ppbv	97
61)	n-Propylbenzene	23.966	91	171203	0.49	ppbv	100
62)	Isopropylbenzene	23.186	105	148612	0.47	ppbv	100
63)	1,1,2,2-Tetrachloroeth...	23.570	83	62483	0.49	ppbv #	95
65)	4-Ethyltoluene	24.173	105	150774	0.47	ppbv	98
66)	1,3,5-Trimethylbenzene	24.222	105	104387	0.44	ppbv #	96
67)	tert-Butylbenzene	24.893	119	133173	0.47	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.978	105	135109	0.50	ppbv #	94
69)	sec-Butylbenzene	25.258	105	179686	0.48	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	154460	0.45	ppbv #	89
71)	1,3-Dichlorobenzene	25.795	146	87940	0.49	ppbv	95
72)	1,4-Dichlorobenzene	25.959	146	86995	0.50	ppbv	96
73)	Benzyl chloride	26.136	126	18259	0.45	ppbv	94
74)	n-Butylbenzene	26.142	91	224390	0.50	ppbv	100
75)	1,2-Dichlorobenzene	26.606	146	87205	0.49	ppbv	97
76)	1,2,4-Trichlorobenzene	29.477	180	35492	0.37	ppbv	97
77)	Hexachlorobutadiene	29.642	225	72228	0.43	ppbv #	94
78)	Naphthalene	30.093	128	147984	0.67	ppbv	98

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

Data Path : D:\100719\
Data File : T0280709.D
Acq On : 7 Oct 2019 6:36 pm
Operator : AS
Sample : SEQ-CAL5
Misc : QBT01100719A 0.50ppbv STND
ALS Vial : 2 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 07 23:09:03 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 22:46:01 2019
Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280710.D
 Acq On : 7 Oct 2019 7:22 pm
 Operator : AS
 Sample : SEQ-CAL6
 Misc : QBT01100719A 3.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:10:10 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.480	49	443496	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.906	114	2152679	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1962819	10.00	ppbv	0.00

System Monitoring Compounds
 64) p-Bromofluorobenzene 23.777 95 1485387 11.36 ppbv 0.00
 Spiked Amount 10.000 Range 70 - 130 Recovery = 113.60%

Target Compounds						Qvalue
2) Propylene	6.268	42	52069	3.10	ppbv	82
3) Dichlorodifluoromethane	6.341	85	655443	5.58	ppbv	99
4) 1,2-Dichlorotetrafluor...	6.640	85	502804	4.79	ppbv	97
5) Chloromethane	7.055	50	103214	3.07	ppbv #	86
6) Vinyl Chloride	7.378	62	128050	2.79	ppbv	98
7) 1,3-Butadiene	7.433	54	92657	3.04	ppbv #	83
8) Bromomethane	8.548	94	153744	4.45	ppbv	98
9) Chloroethane	8.713	64	60269	4.05	ppbv #	88
10) Vinyl Bromide	9.249	106	169053	4.69	ppbv	99
11) Trichlorofluoromethane	9.268	101	721084	5.13	ppbv	99
12) Isopropanol	9.981	45	207505	2.50	ppbv	100
13) Acrolein	10.225	56	36096	2.96	ppbv #	100
14) Acetone	10.353	43	244046	3.45	ppbv	83
15) Freon-113	10.109	101	434825	5.06	ppbv #	88
16) 1,1-Dichloroethylene	10.578	61	293695	4.16	ppbv	98
17) 3-Chloropropene	11.267	41	131879	2.82	ppbv #	47
18) Methylene Chloride	11.523	49	146244	2.67	ppbv	83
19) Acrylonitrile	11.749	53	82020	2.91	ppbv #	100
20) Carbon disulfide	11.700	76	405849	4.60	ppbv #	84
21) Methyl-tert-Butyl Ethe...	11.730	73	559427	4.65	ppbv	90
22) trans-1,2-Dichloroethy...	12.041	61	241677	4.33	ppbv	94
23) Hexane	12.005	57	182544	3.31	ppbv	89
24) Vinyl Acetate	12.700	43	312577	2.97	ppbv #	99
25) 1,1-Dichloroethane	12.810	63	296318	4.24	ppbv #	97
26) 2-Butanone	13.505	43	224463	2.87	ppbv	90
27) Ethyl Acetate	13.694	43	248597	2.91	ppbv	97
28) cis-1,2-Dichloroethylene	13.883	61	235449	3.91	ppbv	96
29) Chloroform	14.145	83	482730	4.93	ppbv #	87
30) Tetrahydrofuran	14.547	42	105816	2.53	ppbv #	63
31) 1,1,1-Trichloroethane	14.827	97	603632	4.86	ppbv	98
32) Cyclohexane	14.864	56	183005	3.03	ppbv #	76
33) Carbon Tetrachloride	15.291	117	659036	4.33	ppbv	100
34) 1,2-Dichloroethane	15.529	62	360428	5.03	ppbv #	85
35) Benzene	15.596	78	470818	4.34	ppbv #	100
36) n-Heptane	15.096	43	183091	2.55	ppbv #	92
38) Trichloroethylene	16.565	95	282088	3.00	ppbv	98
39) 1,2-Dichloropropane	16.876	63	144150	2.65	ppbv #	97
40) Methyl Methacrylate	16.778	69	154246	3.07	ppbv #	62
41) 1,4-Dioxane	17.309	88	119059	3.29	ppbv #	100
42) Bromodichloromethane	17.321	83	544408	3.60	ppbv	99
43) Methyl Isobutyl Ketone	17.668	43	280160	2.20	ppbv #	92
44) cis-1,3-Dichloropropene	18.150	75	317817	3.25	ppbv	97
45) Toluene	18.754	91	640873	2.90	ppbv	97
46) trans-1,3-Dichloropropene	18.985	75	347699	3.32	ppbv	98
47) 1,1,2-Trichloroethane	19.327	97	232916	3.28	ppbv	91
48) 2-Hexanone	19.156	43	258378	2.24	ppbv	98
49) 1,3-Dichloropropane	19.753	76	318392	3.26	ppbv #	99
50) Tetrachloroethylene	19.924	166	380477	2.26	ppbv	95
51) Dibromochloromethane	20.381	129	573481	3.24	ppbv	97
52) 1,2-Dibromoethane	20.753	107	414313	3.32	ppbv	99
54) Chlorobenzene	21.466	112	552312	3.13	ppbv #	86
55) 1,1,1,2-Tetrachloroethane	21.485	131	380541	3.14	ppbv #	91

Data Path : D:\100719\
 Data File : T0280710.D
 Acq On : 7 Oct 2019 7:22 pm
 Operator : AS
 Sample : SEQ-CAL6
 Misc : QBT01100719A 3.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

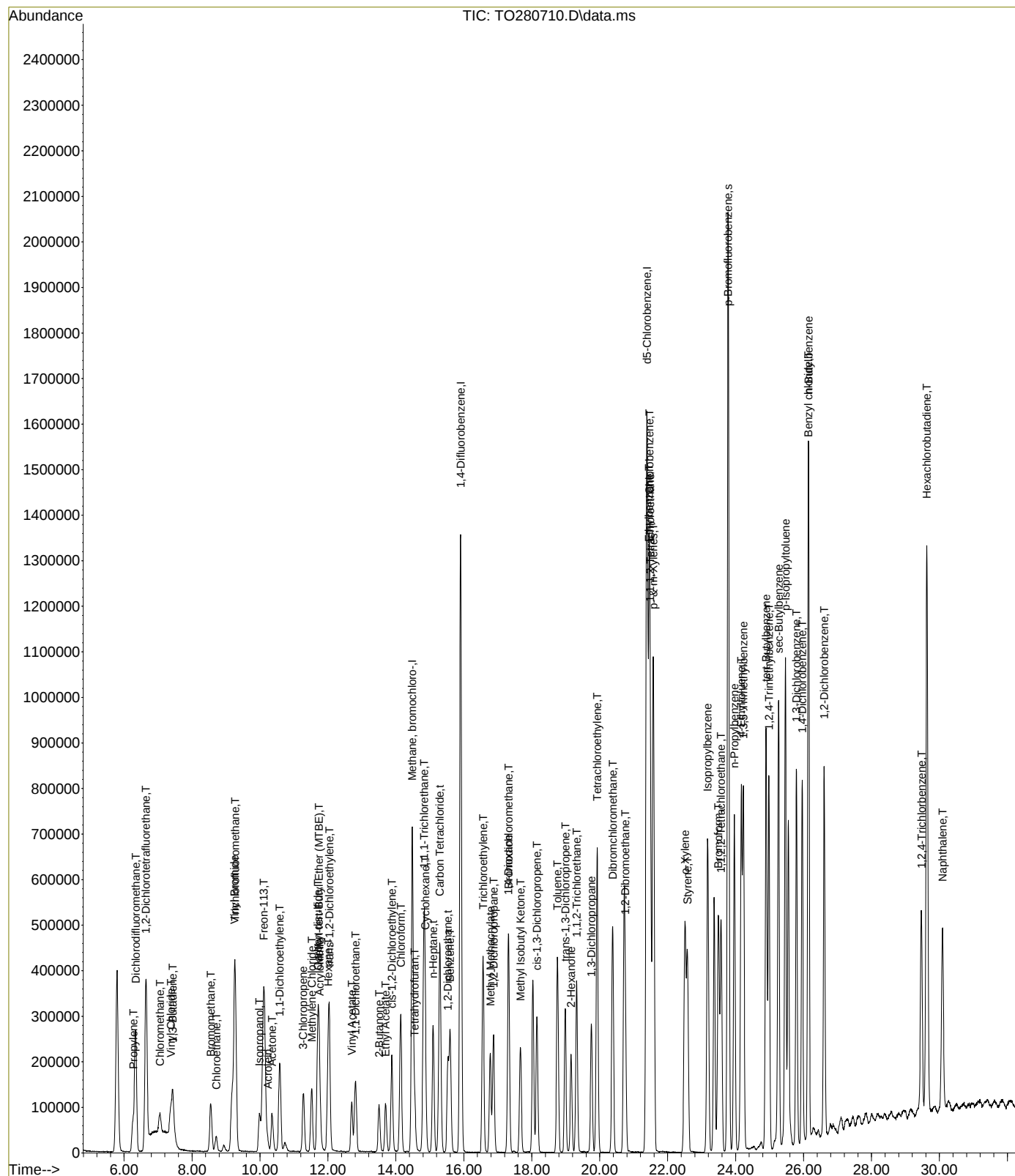
Quant Time: Oct 07 23:10:10 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	947276	3.13	ppbv	97
57)	p- & m-Xylenes	21.576	91	1521439	6.57	ppbv	97
58)	o-Xylene	22.509	91	765206	3.19	ppbv	98
59)	Styrene	22.582	104	503886	3.17	ppbv #	74
60)	Bromoform	23.490	173	519462	2.90	ppbv	98
61)	n-Propylbenzene	23.966	91	1230312	3.36	ppbv	100
62)	Isopropylbenzene	23.173	105	1083870	3.28	ppbv	99
63)	1,1,2,2-Tetrachloroeth...	23.570	83	468056	3.56	ppbv #	92
65)	4-Ethyltoluene	24.167	105	1162273	3.50	ppbv	98
66)	1,3,5-Trimethylbenzene	24.228	105	819803	3.31	ppbv	96
67)	tert-Butylbenzene	24.899	119	946490	3.21	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.984	105	963440	3.44	ppbv #	96
69)	sec-Butylbenzene	25.264	105	1325636	3.41	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	1170489	3.29	ppbv #	89
71)	1,3-Dichlorobenzene	25.789	146	598930	3.20	ppbv	97
72)	1,4-Dichlorobenzene	25.959	146	574210	3.16	ppbv	97
73)	Benzyl chloride	26.136	126	133865	3.15	ppbv	79
74)	n-Butylbenzene	26.142	91	1754434	3.74	ppbv	100
75)	1,2-Dichlorobenzene	26.606	146	602857	3.28	ppbv	98
76)	1,2,4-Trichlorobenzene	29.471	180	302771	3.08	ppbv	95
77)	Hexachlorobutadiene	29.629	225	546638	3.18	ppbv	94
78)	Naphthalene	30.087	128	769175	3.37	ppbv	100

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

Data Path : D:\100719\
Data File : T0280710.D
Acq On : 7 Oct 2019 7:22 pm
Operator : AS
Sample : SEQ-CAL6
Misc : QBT01100719A 3.0ppbv STND
ALS Vial : 3 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 07 23:10:10 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 22:46:01 2019
Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280711.D
 Acq On : 7 Oct 2019 8:09 pm
 Operator : AS
 Sample : SEQ-CAL7
 Misc : QBT01100719A 10.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:11:49 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.486	49	460634	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	2208378	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	2074951	10.00	ppbv	0.00

System Monitoring Compounds
 64) p-Bromofluorobenzene 23.783 95 1565507 11.33 ppbv 0.00
 Spiked Amount 10.000 Range 70 - 130 Recovery = 113.30%

Target Compounds						Qvalue
2) Propylene	6.262	42	158217	9.08	ppbv	79
3) Dichlorodifluoromethane	6.335	85	1972681	16.16	ppbv	100
4) 1,2-Dichlorotetrafluor...	6.640	85	1502171	13.77	ppbv	97
5) Chloromethane	7.049	50	300554	8.61	ppbv	100
6) Vinyl Chloride	7.366	62	395810	8.31	ppbv	98
7) 1,3-Butadiene	7.427	54	275155	8.69	ppbv	88
8) Bromomethane	8.542	94	480731	13.40	ppbv	98
9) Chloroethane	8.701	64	190485	12.32	ppbv	95
10) Vinyl Bromide	9.256	106	537649	14.38	ppbv	100
11) Trichlorofluoromethane	9.268	101	2168024	14.86	ppbv	99
12) Isopropanol	9.963	45	629406	7.30	ppbv	100
13) Acrolein	10.219	56	111394	8.79	ppbv #	100
14) Acetone	10.341	43	737181	10.02	ppbv	83
15) Freon-113	10.115	101	1281910	14.36	ppbv	96
16) 1,1-Dichloroethylene	10.585	61	884798	12.08	ppbv	99
17) 3-Chloropropene	11.280	41	407861	8.41	ppbv #	50
18) Methylene Chloride	11.511	49	430819	7.57	ppbv	81
19) Acrylonitrile	11.749	53	247887	8.45	ppbv #	100
20) Carbon disulfide	11.694	76	1218146	13.30	ppbv #	87
21) Methyl-tert-Butyl Ethe...	11.725	73	1694395	13.57	ppbv	90
22) trans-1,2-Dichloroethy...	12.042	61	711013	12.25	ppbv	93
23) Hexane	12.011	57	542974	9.49	ppbv	90
24) Vinyl Acetate	12.694	43	966768	8.84	ppbv #	99
25) 1,1-Dichloroethane	12.810	63	876292	12.07	ppbv #	96
26) 2-Butanone	13.499	43	701380	8.62	ppbv	91
27) Ethyl Acetate	13.688	43	769126	8.66	ppbv	97
28) cis-1,2-Dichloroethylene	13.883	61	708469	11.34	ppbv	95
29) Chloroform	14.139	83	1462653	14.40	ppbv	100
30) Tetrahydrofuran	14.535	42	315774	7.26	ppbv #	62
31) 1,1,1-Trichloroethane	14.828	97	1765080	13.68	ppbv	98
32) Cyclohexane	14.858	56	552960	8.83	ppbv	77
33) Carbon Tetrachloride	15.291	117	1944918	12.31	ppbv	100
34) 1,2-Dichloroethane	15.529	62	1068579	14.37	ppbv #	85
35) Benzene	15.596	78	1401663	12.44	ppbv #	100
36) n-Heptane	15.102	43	552018	7.41	ppbv #	91
38) Trichloroethylene	16.559	95	840886	8.73	ppbv	98
39) 1,2-Dichloropropane	16.876	63	425435	7.61	ppbv #	98
40) Methyl Methacrylate	16.772	69	482320	9.35	ppbv	86
41) 1,4-Dioxane	17.297	88	354087	9.53	ppbv #	100
42) Bromodichloromethane	17.315	83	1637878	10.55	ppbv	99
43) Methyl Isobutyl Ketone	17.663	43	857241	6.55	ppbv #	92
44) cis-1,3-Dichloropropene	18.150	75	970152	9.67	ppbv	97
45) Toluene	18.754	91	1965089	8.66	ppbv	97
46) trans-1,3-Dichloropropene	18.985	75	1056835	9.85	ppbv	99
47) 1,1,2-Trichloroethane	19.321	97	688395	9.44	ppbv	92
48) 2-Hexanone	19.150	43	826085	6.99	ppbv	98
49) 1,3-Dichloropropane	19.754	76	948253	9.46	ppbv #	100
50) Tetrachloroethylene	19.924	166	1104556	6.39	ppbv	95
51) Dibromchloromethane	20.381	129	1705411	9.40	ppbv	98
52) 1,2-Dibromoethane	20.753	107	1229644	9.61	ppbv	100
54) Chlorobenzene	21.467	112	1683455	9.01	ppbv #	86
55) 1,1,1,2-Tetrachloroethane	21.491	131	1134430	8.85	ppbv	94

Data Path : D:\100719\
 Data File : T0280711.D
 Acq On : 7 Oct 2019 8:09 pm
 Operator : AS
 Sample : SEQ-CAL7
 Misc : QBT01100719A 10.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

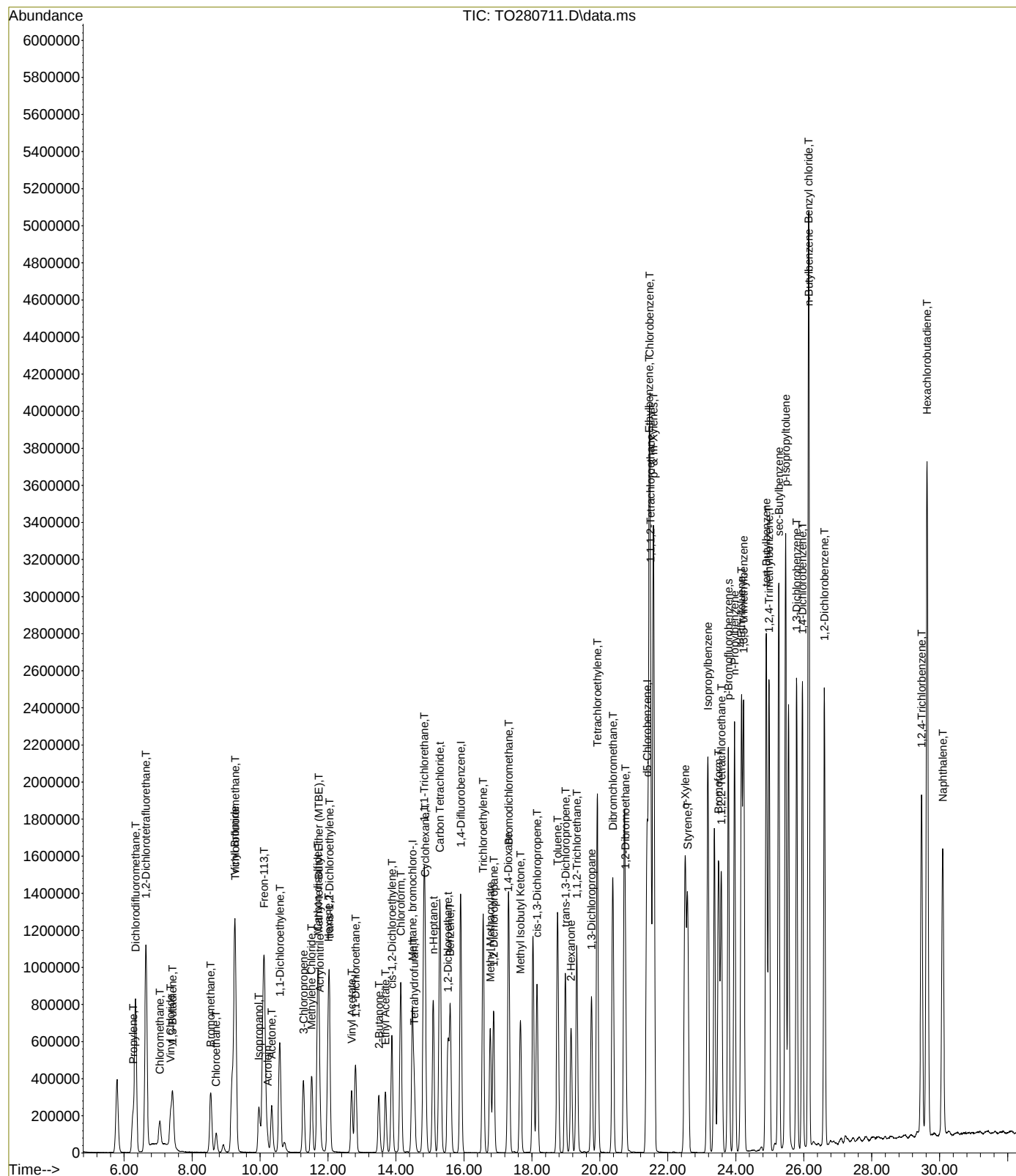
Quant Time: Oct 07 23:11:49 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	2907047	9.10	ppbv	98
57)	p- & m-Xylenes	21.576	91	4676170	19.12	ppbv	97
58)	o-Xylene	22.509	91	2394178	9.45	ppbv	98
59)	Styrene	22.582	104	1605086	9.56	ppbv #	74
60)	Bromoform	23.491	173	1575183	8.31	ppbv	99
61)	n-Propylbenzene	23.960	91	3896382	10.08	ppbv	100
62)	Isopropylbenzene	23.180	105	3373403	9.65	ppbv	99
63)	1,1,2,2-Tetrachloroeth...	23.576	83	1405527	10.11	ppbv #	93
65)	4-Ethyltoluene	24.167	105	3420797	9.74	ppbv	98
66)	1,3,5-Trimethylbenzene	24.228	105	2557386	9.77	ppbv	93
67)	tert-Butylbenzene	24.899	119	2899176	9.29	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.978	105	3007209	10.17	ppbv #	95
69)	sec-Butylbenzene	25.265	105	4129504	10.05	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	3658332	9.72	ppbv #	89
71)	1,3-Dichlorobenzene	25.789	146	1909871	9.65	ppbv	98
72)	1,4-Dichlorobenzene	25.960	146	1893164	9.85	ppbv	98
73)	Benzyl chloride	26.136	126	476866	10.63	ppbv	97
74)	n-Butylbenzene	26.143	91	5785829	11.68	ppbv	100
75)	1,2-Dichlorobenzene	26.606	146	1869186	9.63	ppbv	98
76)	1,2,4-Trichlorobenzene	29.465	180	1256807	12.09	ppbv	95
77)	Hexachlorobutadiene	29.630	225	1605964	8.82	ppbv	94
78)	Naphthalene	30.087	128	3019059	12.52	ppbv	99

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

Data Path : D:\100719\
Data File : T0280711.D
Acq On : 7 Oct 2019 8:09 pm
Operator : AS
Sample : SEQ-CAL7
Misc : QBT01100719A 10.0ppbv STND
ALS Vial : 3 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 07 23:11:49 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 22:46:01 2019
Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280712.D
 Acq On : 7 Oct 2019 8:59 pm
 Operator : AS
 Sample : SEQ-CAL8
 Misc : QBT01100719A 20.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:13:06 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.480	49	477391	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	2249195	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	2107592	10.00	ppbv	0.00

System Monitoring Compounds
 64) p-Bromofluorobenzene 23.783 95 1609448 11.47 ppbv 0.00
 Spiked Amount 10.000 Range 70 - 130 Recovery = 114.70%

Target Compounds						Qvalue
2) Propylene	6.250	42	322229	17.85	ppbv	79
3) Dichlorodifluoromethane	6.335	85	3698769	29.23	ppbv	99
4) 1,2-Dichlorotetrafluor...	6.640	85	3079224	27.24	ppbv	96
5) Chloromethane	7.049	50	587475	16.24	ppbv #	86
6) Vinyl Chloride	7.372	62	778659	15.78	ppbv	99
7) 1,3-Butadiene	7.426	54	540188	16.46	ppbv	90
8) Bromomethane	8.548	94	962410	25.89	ppbv	98
9) Chloroethane	8.713	64	380455	23.73	ppbv	95
10) Vinyl Bromide	9.255	106	1061753	27.39	ppbv	100
11) Trichlorofluoromethane	9.262	101	4206675	27.81	ppbv	100
12) Isopropanol	9.957	45	1258354	14.07	ppbv	100
13) Acrolein	10.219	56	224824	17.11	ppbv #	100
14) Acetone	10.341	43	1465136	19.22	ppbv	83
15) Freon-113	10.103	101	2546200	27.53	ppbv	96
16) 1,1-Dichloroethylene	10.578	61	1757221	23.14	ppbv	99
17) 3-Chloropropene	11.273	41	820539	16.32	ppbv #	51
18) Methylene Chloride	11.517	49	868194	14.71	ppbv	81
19) Acrylonitrile	11.743	53	493250	16.23	ppbv #	100
20) Carbon disulfide	11.694	76	2433629	25.64	ppbv #	88
21) Methyl-tert-Butyl Ethe...	11.706	73	3357585	25.95	ppbv	90
22) trans-1,2-Dichloroethy...	12.041	61	1407528	23.40	ppbv	93
23) Hexane	12.005	57	1086726	18.33	ppbv	90
24) Vinyl Acetate	12.694	43	1964568	17.34	ppbv #	99
25) 1,1-Dichloroethane	12.810	63	1732673	23.02	ppbv #	96
26) 2-Butanone	13.492	43	1400168	16.61	ppbv	91
27) Ethyl Acetate	13.687	43	1545135	16.78	ppbv	97
28) cis-1,2-Dichloroethylene	13.876	61	1397780	21.59	ppbv	95
29) Chloroform	14.139	83	2859708	27.16	ppbv	100
30) Tetrahydrofuran	14.529	42	648985	14.40	ppbv #	64
31) 1,1,1-Trichloroethane	14.828	97	3464625	25.91	ppbv	97
32) Cyclohexane	14.858	56	1120988	17.26	ppbv	78
33) Carbon Tetrachloride	15.297	117	3825617	23.36	ppbv	100
34) 1,2-Dichloroethane	15.529	62	2067630	26.82	ppbv #	85
35) Benzene	15.596	78	2795587	23.95	ppbv #	100
36) n-Heptane	15.096	43	1136637	14.72	ppbv #	92
38) Trichloroethylene	16.565	95	1664357	16.97	ppbv	98
39) 1,2-Dichloropropane	16.876	63	861781	15.14	ppbv #	98
40) Methyl Methacrylate	16.778	69	966305	18.39	ppbv #	69
41) 1,4-Dioxane	17.297	88	707916	18.70	ppbv #	100
42) Bromodichloromethane	17.315	83	3202762	20.26	ppbv	99
43) Methyl Isobutyl Ketone	17.656	43	1727368	12.96	ppbv #	91
44) cis-1,3-Dichloropropene	18.150	75	1951526	19.09	ppbv	97
45) Toluene	18.754	91	3928420	17.00	ppbv	97
46) trans-1,3-Dichloropropene	18.985	75	2107682	19.29	ppbv	99
47) 1,1,2-Trichloroethane	19.321	97	1377973	18.55	ppbv	92
48) 2-Hexanone	19.156	43	1679094	13.94	ppbv #	74
49) 1,3-Dichloropropane	19.753	76	1874385	18.36	ppbv #	100
50) Tetrachloroethylene	19.924	166	2155121	12.25	ppbv	95
51) Dibromochloromethane	20.381	129	3352211	18.14	ppbv	98
52) 1,2-Dibromoethane	20.753	107	2464391	18.91	ppbv	100
54) Chlorobenzene	21.466	112	3345380	17.63	ppbv #	86
55) 1,1,1,2-Tetrachloroethane	21.491	131	2252122	17.31	ppbv	95

Data Path : D:\100719\
 Data File : T0280712.D
 Acq On : 7 Oct 2019 8:59 pm
 Operator : AS
 Sample : SEQ-CAL8
 Misc : QBT01100719A 20.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

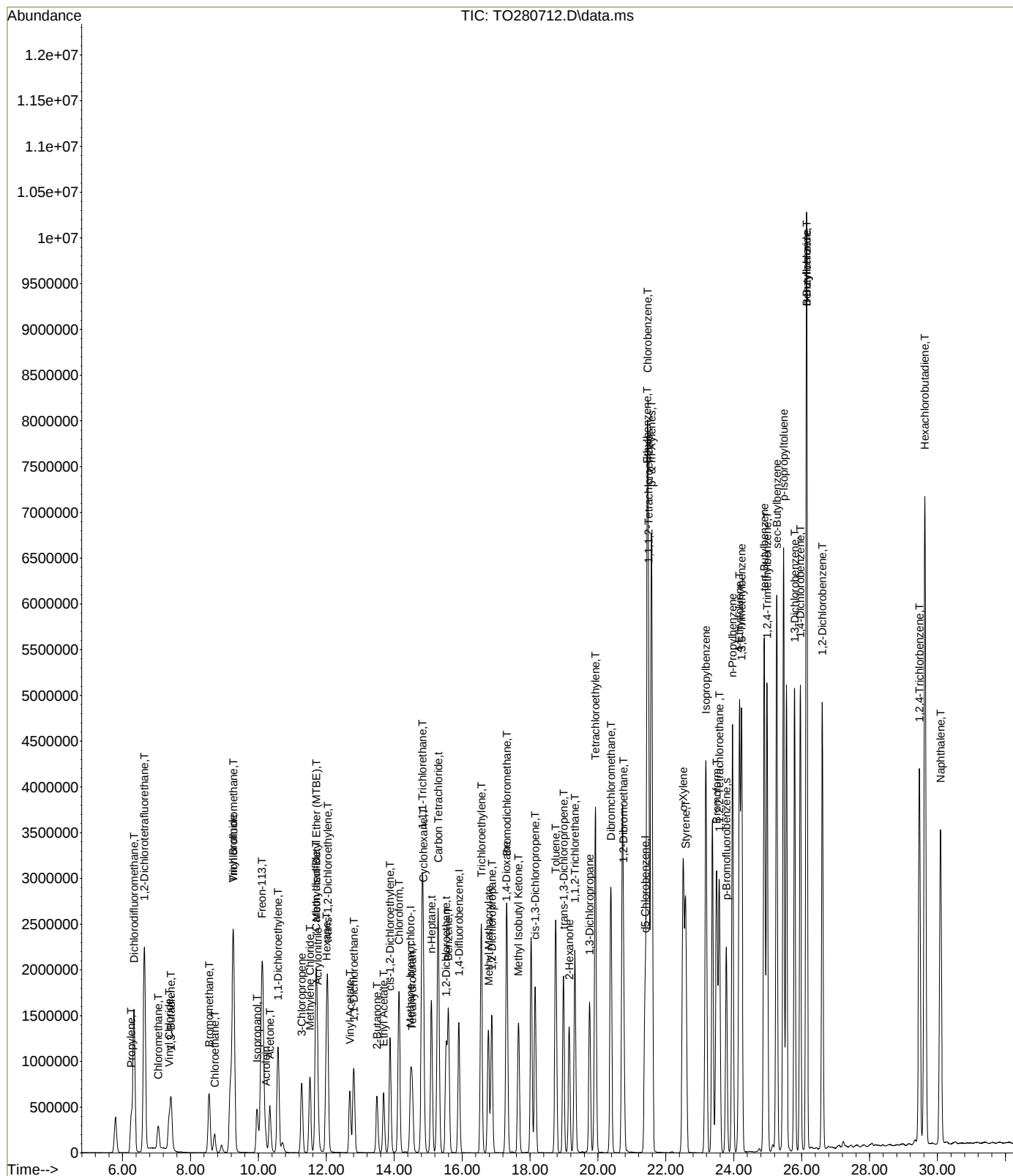
Quant Time: Oct 07 23:13:06 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	5788069	17.84	ppbv	97
57)	p- & m-Xylenes	21.576	91	9357207	37.66	ppbv	97
58)	o-Xylene	22.509	91	4806226	18.68	ppbv	98
59)	Styrene	22.582	104	3253480	19.08	ppbv #	74
60)	Bromoform	23.497	173	3131805	16.27	ppbv	99
61)	n-Propylbenzene	23.966	91	7850294	19.99	ppbv	100
62)	Isopropylbenzene	23.180	105	6759069	19.04	ppbv	99
63)	1,1,2,2-Tetrachloroeth...	23.576	83	2805538	19.87	ppbv #	93
65)	4-Ethyltoluene	24.167	105	6742246	18.89	ppbv	98
66)	1,3,5-Trimethylbenzene	24.228	105	5188960	19.51	ppbv	93
67)	tert-Butylbenzene	24.899	119	5828808	18.39	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.984	105	6040139	20.11	ppbv #	95
69)	sec-Butylbenzene	25.264	105	8232186	19.72	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	7266009	19.01	ppbv #	99
71)	1,3-Dichlorobenzene	25.795	146	3824823	19.03	ppbv	98
72)	1,4-Dichlorobenzene	25.959	146	3803808	19.49	ppbv	98
73)	Benzyl chloride	26.142	126	984139	21.59	ppbv	98
74)	n-Butylbenzene	26.142	91	11778503	23.41	ppbv	100
75)	1,2-Dichlorobenzene	26.606	146	3733184	18.94	ppbv	98
76)	1,2,4-Trichlorobenzene	29.465	180	2781581	26.34	ppbv	95
77)	Hexachlorobutadiene	29.630	225	3126129	16.91	ppbv	94
78)	Naphthalene	30.087	128	6643144	27.11	ppbv	99

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

Data Path : D:\100719\
Data File : T0280712.D
Acq On : 7 Oct 2019 8:59 pm
Operator : AS
Sample : SEQ-CAL8
Misc : QBT01100719A 20.0ppbv STND
ALS Vial : 3 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 07 23:13:06 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 22:46:01 2019
Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280713.D
 Acq On : 7 Oct 2019 9:51 pm
 Operator : AS
 Sample : SEQ-CAL9
 Misc : QBT01100719A 30.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:14:15 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.480	49	497905	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	2341237	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	2156303	10.00	ppbv	0.00

System Monitoring Compounds

64) p-Bromofluorobenzene	23.777	95	1666821	11.61	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	116.10%	

Target Compounds						Qvalue
2) Propylene	6.256	42	488101	25.92	ppbv	81
3) Dichlorodifluoromethane	6.335	85	5236760	39.68	ppbv	99
4) 1,2-Dichlorotetrafluor...	6.640	85	4947233	41.97	ppbv	96
5) Chloromethane	7.049	50	885927	23.49	ppbv #	86
6) Vinyl Chloride	7.366	62	1194363	23.20	ppbv	99
7) 1,3-Butadiene	7.433	54	820494	23.97	ppbv	90
8) Bromomethane	8.548	94	1503892	38.79	ppbv	98
9) Chloroethane	8.701	64	596567	35.68	ppbv	95
10) Vinyl Bromide	9.249	106	1601538	39.62	ppbv	99
11) Trichlorofluoromethane	9.262	101	6332381	40.15	ppbv	99
12) Isopropanol	9.957	45	1944461	20.85	ppbv	100
13) Acrolein	10.213	56	347708	25.38	ppbv #	100
14) Acetone	10.335	43	2206539	27.76	ppbv	84
15) Freon-113	10.109	101	3836624	39.77	ppbv	97
16) 1,1-Dichloroethylene	10.578	61	2652380	33.49	ppbv	99
17) 3-Chloropropene	11.279	41	1253772	23.92	ppbv #	51
18) Methylene Chloride	11.517	49	1322561	21.49	ppbv	81
19) Acrylonitrile	11.749	53	775837	24.48	ppbv #	100
20) Carbon disulfide	11.694	76	3719247	37.57	ppbv #	88
21) Methyl-tert-Butyl Ethe...	11.706	73	5114831	37.90	ppbv	91
22) trans-1,2-Dichloroethy...	12.042	61	2162220	34.47	ppbv	93
23) Hexane	12.005	57	1683666	27.23	ppbv	90
24) Vinyl Acetate	12.694	43	3063778	25.92	ppbv #	99
25) 1,1-Dichloroethane	12.804	63	2657509	33.86	ppbv #	97
26) 2-Butanone	13.492	43	2186185	24.87	ppbv	91
27) Ethyl Acetate	13.688	43	2401506	25.00	ppbv	97
28) cis-1,2-Dichloroethylene	13.877	61	2136851	31.64	ppbv	95
29) Chloroform	14.139	83	4329033	39.42	ppbv	100
30) Tetrahydrofuran	14.529	42	1015960	21.61	ppbv #	65
31) 1,1,1-Trichloroethane	14.828	97	5255912	37.68	ppbv	97
32) Cyclohexane	14.852	56	1749799	25.84	ppbv	79
33) Carbon Tetrachloride	15.291	117	5796704	33.94	ppbv	100
34) 1,2-Dichloroethane	15.529	62	3118275	38.79	ppbv #	99
35) Benzene	15.596	78	4304255	35.35	ppbv #	100
36) n-Heptane	15.096	43	1766436	21.94	ppbv #	92
38) Trichloroethylene	16.565	95	2563310	25.10	ppbv	99
39) 1,2-Dichloropropane	16.870	63	1331698	22.48	ppbv #	97
40) Methyl Methacrylate	16.772	69	1523981	27.86	ppbv #	76
41) 1,4-Dioxane	17.297	88	1093698	27.75	ppbv #	100
42) Bromodichloromethane	17.315	83	4894746	29.75	ppbv	99
43) Methyl Isobutyl Ketone	17.662	43	2680498	19.32	ppbv #	91
44) cis-1,3-Dichloropropene	18.150	75	2987064	28.07	ppbv	97
45) Toluene	18.760	91	6060687	25.19	ppbv	97
46) trans-1,3-Dichloropropene	18.985	75	3252274	28.59	ppbv	99
47) 1,1,2-Trichloroethane	19.321	97	2101331	27.18	ppbv	92
48) 2-Hexanone	19.150	43	2617513	20.88	ppbv	99
49) 1,3-Dichloropropane	19.760	76	2911500	27.40	ppbv #	100
50) Tetrachloroethylene	19.924	166	3276963	17.90	ppbv	94
51) Dibromchloromethane	20.381	129	5111465	26.58	ppbv	98
52) 1,2-Dibromoethane	20.753	107	3775342	27.83	ppbv	100
54) Chlorobenzene	21.467	112	5133532	26.44	ppbv #	86
55) 1,1,1,2-Tetrachloroethane	21.491	131	3439017	25.83	ppbv	95

Data Path : D:\100719\
 Data File : T0280713.D
 Acq On : 7 Oct 2019 9:51 pm
 Operator : AS
 Sample : SEQ-CAL9
 Misc : QBT01100719A 30.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

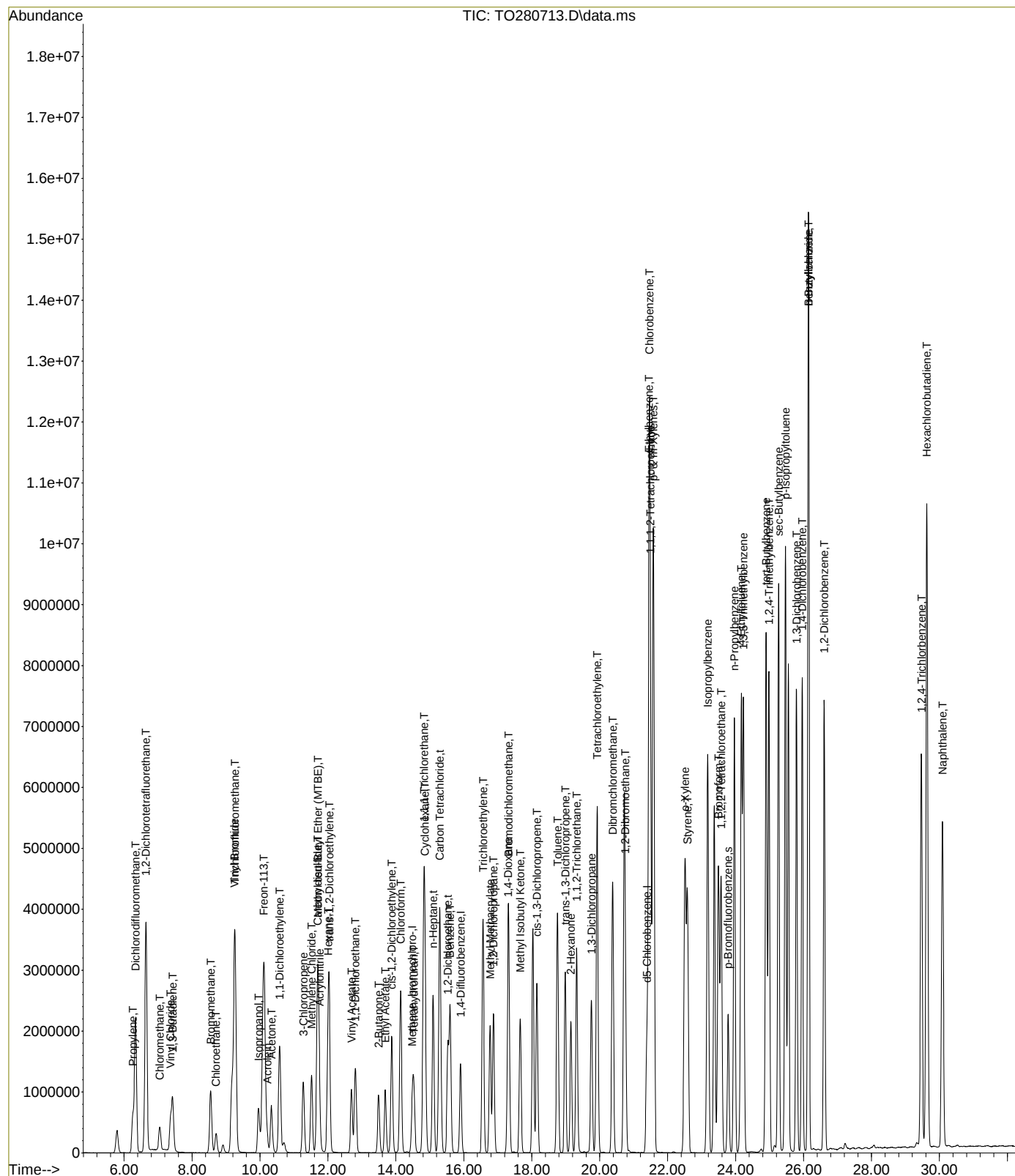
Quant Time: Oct 07 23:14:15 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	8910289	26.84	ppbv	98
57)	p- & m-Xylenes	21.576	91	14375466	56.55	ppbv	97
58)	o-Xylene	22.509	91	7355413	27.94	ppbv	98
59)	Styrene	22.582	104	5006865	28.70	ppbv #	74
60)	Bromoform	23.497	173	4768748	24.22	ppbv	99
61)	n-Propylbenzene	23.966	91	11999259	29.86	ppbv	100
62)	Isopropylbenzene	23.180	105	10273606	28.28	ppbv	100
63)	1,1,2,2-Tetrachloroeth...	23.576	83	4303983	29.79	ppbv #	94
65)	4-Ethyltoluene	24.167	105	11003965	30.14	ppbv	98
66)	1,3,5-Trimethylbenzene	24.228	105	8025480	29.49	ppbv	93
67)	tert-Butylbenzene	24.899	119	8845591	27.27	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.984	105	9222063	30.02	ppbv #	95
69)	sec-Butylbenzene	25.265	105	12521334	29.32	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	10993448	28.12	ppbv #	99
71)	1,3-Dichlorobenzene	25.795	146	5747103	27.94	ppbv	97
72)	1,4-Dichlorobenzene	25.960	146	5761324	28.85	ppbv	97
73)	Benzyl chloride	26.142	126	1494909	32.06	ppbv	97
74)	n-Butylbenzene	26.142	91	17897642	34.77	ppbv	100
75)	1,2-Dichlorobenzene	26.606	146	5623318	27.89	ppbv	97
76)	1,2,4-Trichlorobenzene	29.471	180	4346308	40.23	ppbv	95
77)	Hexachlorobutadiene	29.630	225	4670629	24.70	ppbv	94
78)	Naphthalene	30.087	128	10297631	41.08	ppbv	99

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

Data Path : D:\100719\
 Data File : T0280713.D
 Acq On : 7 Oct 2019 9:51 pm
 Operator : AS
 Sample : SEQ-CAL9
 Misc : QBT01100719A 30.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:14:15 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 22:46:01 2019
 Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280714.D
 Acq On : 7 Oct 2019 10:47 pm
 Operator : AS
 Sample : SEQ-CALA
 Misc : QBT01100719A 50.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:21:33 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:20:44 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.480	49	518067	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	2377949	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	2217074	10.00	ppbv	0.00

System Monitoring Compounds
 64) p-Bromofluorobenzene 23.783 95 1692093 10.37 ppbv 0.00
 Spiked Amount 10.000 Range 70 - 130 Recovery = 103.70%

Target Compounds						Qvalue
2) Propylene	6.256	42	836657	33.06	ppbv	82
3) Dichlorodifluoromethane	6.335	85	7928881	36.76	ppbv	99
4) 1,2-Dichlorotetrafluor...	6.640	85	8106846	48.00	ppbv	96
5) Chloromethane	7.049	50	1522659	42.70	ppbv	100
6) Vinyl Chloride	7.366	62	2030294	40.27	ppbv	100
7) 1,3-Butadiene	7.427	54	1405945	41.14	ppbv	91
8) Bromomethane	8.548	94	2581209	47.90	ppbv	99
9) Chloroethane	8.707	64	1029785	48.38	ppbv	96
10) Vinyl Bromide	9.249	106	2714097	46.27	ppbv	100
11) Trichlorofluoromethane	9.256	101	10607329	44.57	ppbv	100
12) Isopropanol	9.957	45	3207583	42.89	ppbv	100
13) Acrolein	10.207	56	604034	50.86	ppbv #	100
14) Acetone	10.328	43	3772935	39.61	ppbv	85
15) Freon-113	10.109	101	6457720	45.58	ppbv	97
16) 1,1-Dichloroethylene	10.578	61	4492111	43.02	ppbv	99
17) 3-Chloropropene	11.273	41	2190468	46.73	ppbv #	55
18) Methylene Chloride	11.517	49	2264375	32.44	ppbv	81
19) Acrylonitrile	11.743	53	1337194	45.60	ppbv #	100
20) Carbon disulfide	11.694	76	6400586	47.44	ppbv	89
21) Methyl-tert-Butyl Ethe...	11.706	73	8674998	47.75	ppbv	91
22) trans-1,2-Dichloroethy...	12.035	61	3680843	45.82	ppbv	93
23) Hexane	12.005	57	2934570	47.79	ppbv	90
24) Vinyl Acetate	12.688	43	5328847	49.30	ppbv #	99
25) 1,1-Dichloroethane	12.810	63	4529713	46.24	ppbv #	97
26) 2-Butanone	13.486	43	3789232	47.23	ppbv	91
27) Ethyl Acetate	13.688	43	4169098	46.48	ppbv	97
28) cis-1,2-Dichloroethylene	13.877	61	3671609	46.50	ppbv	95
29) Chloroform	14.139	83	7303471	46.17	ppbv	100
30) Tetrahydrofuran	14.523	42	1770605	47.79	ppbv #	66
31) 1,1,1-Trichloroethane	14.822	97	8826787	45.77	ppbv	98
32) Cyclohexane	14.858	56	3038092	48.91	ppbv	80
33) Carbon Tetrachloride	15.291	117	9755049	43.09	ppbv	100
34) 1,2-Dichloroethane	15.529	62	5286264	45.12	ppbv #	100
35) Benzene	15.596	78	7413751	47.56	ppbv #	100
36) n-Heptane	15.096	43	3110852	48.80	ppbv #	75
38) Trichloroethylene	16.565	95	4403387	45.50	ppbv	98
39) 1,2-Dichloropropane	16.870	63	2325515	48.25	ppbv #	98
40) Methyl Methacrylate	16.772	69	2660885	52.17	ppbv	90
41) 1,4-Dioxane	17.297	88	1808337	48.43	ppbv #	100
42) Bromodichloromethane	17.315	83	8248282	48.31	ppbv	98
43) Methyl Isobutyl Ketone	17.662	43	4703199	49.94	ppbv #	91
44) cis-1,3-Dichloropropene	18.150	75	5166704	50.13	ppbv	97
45) Toluene	18.754	91	10474554	46.63	ppbv	97
46) trans-1,3-Dichloropropene	18.985	75	5577933	48.96	ppbv	99
47) 1,1,2-Trichloroethane	19.321	97	3585709	47.98	ppbv	93
48) 2-Hexanone	19.156	43	4635646	53.20	ppbv #	74
49) 1,3-Dichloropropane	19.753	76	5001914	48.94	ppbv #	100
50) Tetrachloroethylene	19.924	166	5528698	38.81	ppbv	94
51) Dibromchloromethane	20.381	129	8627426	47.53	ppbv	98
52) 1,2-Dibromoethane	20.753	107	6498890	48.39	ppbv	100
54) Chlorobenzene	21.467	112	8831311	46.12	ppbv #	86
55) 1,1,1,2-Tetrachloroethane	21.491	131	5878671	46.43	ppbv	95

Data Path : D:\100719\
 Data File : T0280714.D
 Acq On : 7 Oct 2019 10:47 pm
 Operator : AS
 Sample : SEQ-CALA
 Misc : QBT01100719A 50.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

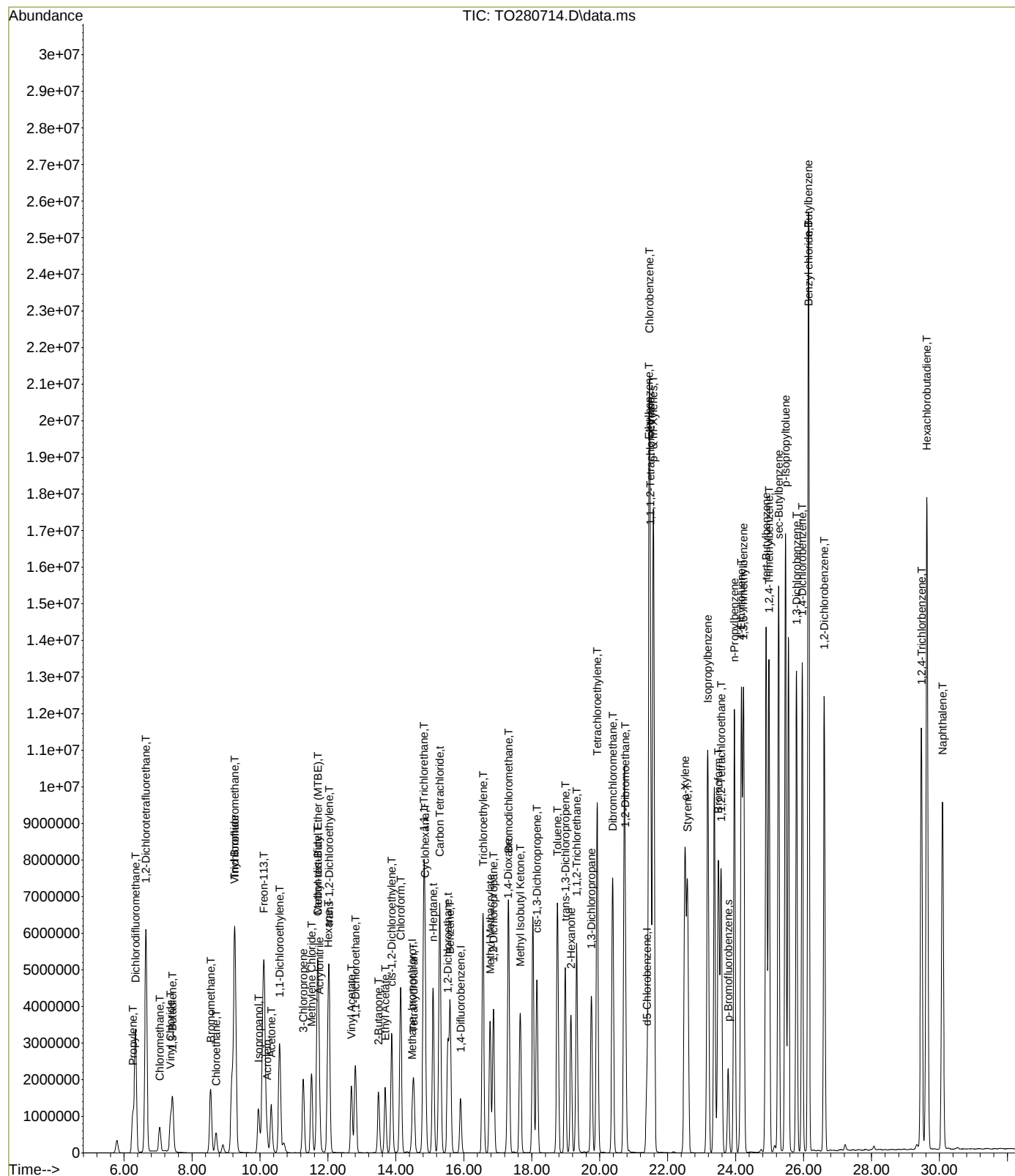
Quant Time: Oct 07 23:21:33 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:20:44 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	15406662	46.38	ppbv	97
57)	p- & m-Xylenes	21.576	91	24428434	95.36	ppbv	98
58)	o-Xylene	22.509	91	12663804	49.11	ppbv	98
59)	Styrene	22.582	104	8641828	50.06	ppbv #	74
60)	Bromoform	23.491	173	8122476	47.07	ppbv	99
61)	n-Propylbenzene	23.966	91	20290218	49.20	ppbv	100
62)	Isopropylbenzene	23.180	105	17485548	48.98	ppbv	100
63)	1,1,2,2-Tetrachloroeth...	23.576	83	7403608	48.90	ppbv #	94
65)	4-Ethyltoluene	24.167	105	18386493	49.03	ppbv	97
66)	1,3,5-Trimethylbenzene	24.228	105	14005083	49.57	ppbv	93
67)	tert-Butylbenzene	24.899	119	14886486	46.42	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.984	105	15708776	48.83	ppbv #	96
69)	sec-Butylbenzene	25.265	105	20928114	47.75	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	18633433	48.32	ppbv #	99
71)	1,3-Dichlorobenzene	25.795	146	9869251	47.98	ppbv	97
72)	1,4-Dichlorobenzene	25.960	146	9885855	49.00	ppbv	97
73)	Benzyl chloride	26.142	126	2608676	56.79	ppbv	82
74)	n-Butylbenzene	26.136	91	28849581	51.68	ppbv	99
75)	1,2-Dichlorobenzene	26.606	146	9482603	46.62	ppbv	97
76)	1,2,4-Trichlorobenzene	29.471	180	7751784	66.30	ppbv	94
77)	Hexachlorobutadiene	29.630	225	7849977	42.93	ppbv	94
78)	Naphthalene	30.087	128	18258658	58.26	ppbv	99

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

Data Path : D:\100719\
 Data File : T0280714.D
 Acq On : 7 Oct 2019 10:47 pm
 Operator : AS
 Sample : SEQ-CALA
 Misc : QBT01100719A 50.0ppbv STND
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 07 23:21:33 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:20:44 2019
 Response via : Initial Calibration



SECOND-SOURCE CALIBRATION VERIFICATION

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Calibration: YJ90015

Laboratory ID: Y9J1131-SCV1

Sequence: Y9J1131

Standard ID: Y19I379

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DIFF	QC LIMIT
1,1,1,2-Tetrachloroethane	10.0	9.55	-4.5	30.00
1,1,1-Trichloroethane	10.0	9.83	-1.7	30.00
1,1,2,2-Tetrachloroethane	10.0	10.0	0.2	30.00
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.0	9.36	-6.4	30.00
1,1,2-Trichloroethane	10.0	10.1	0.7	30.00
1,1-Dichloroethane	10.0	9.81	-1.9	30.00
1,1-Dichloroethylene	10.0	9.04	-9.6	30.00
1,2,4-Trichlorobenzene	10.0	8.89	-11.1	30.00
1,2,4-Trimethylbenzene	10.0	9.86	-1.4	30.00
1,2-Dibromoethane	10.0	9.81	-1.9	30.00
1,2-Dichlorobenzene	10.0	9.84	-1.6	30.00
1,2-Dichloroethane	10.0	9.50	-5.0	30.00
1,2-Dichloropropane	10.0	9.85	-1.5	30.00
1,2-Dichlorotetrafluoroethane	10.0	8.92	-10.8	30.00
1,3,5-Trimethylbenzene	10.0	9.63	-3.7	30.00
1,3-Butadiene	10.0	8.49	-15.1	30.00
1,3-Dichlorobenzene	10.0	9.86	-1.4	30.00
1,3-Dichloropropane	10.0	9.89	-1.1	30.00
1,4-Dichlorobenzene	10.0	10.0	0.5	30.00
1,4-Dioxane	10.0	9.42	-5.8	30.00
2-Butanone	10.0	9.69	-3.1	30.00
2-Hexanone	10.0	9.91	-0.9	30.00
3-Chloropropene	10.0	9.72	-2.8	30.00
4-Methyl-2-pentanone	10.0	9.91	-0.9	30.00
Acetone	10.0	7.92	-20.8	30.00
Acrylonitrile	10.0	9.49	-5.1	30.00
Benzene	10.0	9.66	-3.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Calibration: YJ90015

Laboratory ID: Y9J1131-SCV1

Sequence: Y9J1131

Standard ID: Y19I379

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DIFF	QC LIMIT
Benzyl chloride	10.0	11.6	15.8	30.00
Bromodichloromethane	10.0	9.94	-0.6	30.00
Bromoform	10.0	9.96	-0.4	30.00
Bromomethane	10.0	8.83	-11.7	30.00
Carbon disulfide	10.0	10.2	2.2	30.00
Carbon tetrachloride	10.0	9.11	-8.9	30.00
Chlorobenzene	10.0	9.47	-5.3	30.00
Chloroethane	10.0	9.35	-6.5	30.00
Chloroform	10.0	9.62	-3.8	30.00
Chloromethane	10.0	8.66	-13.4	30.00
cis-1,2-Dichloroethylene	10.0	9.34	-6.6	30.00
cis-1,3-Dichloropropylene	10.0	10.5	5.4	30.00
Cyclohexane	10.0	10.2	1.6	30.00
Dibromochloromethane	10.0	9.83	-1.7	30.00
Dichlorodifluoromethane	10.0	9.39	-6.1	30.00
Ethyl acetate	10.0	10.9	9.3	30.00
Ethyl Benzene	10.0	9.33	-6.7	30.00
Hexachlorobutadiene	10.0	9.30	-7.0	30.00
Isopropanol	10.0	8.83	-11.7	30.00
Methyl Methacrylate	10.0	10.2	1.8	30.00
Methyl tert-butyl ether (MTBE)	10.0	9.93	-0.7	30.00
Methylene chloride	10.0	10.0	0.5	30.00
n-Heptane	10.0	10.5	4.7	30.00
n-Hexane	10.0	10.1	1.2	30.00
o-Xylene	10.0	9.85	-1.5	30.00
p- & m- Xylenes	20.0	19.6	-2.2	30.00
p-Ethyltoluene	10.0	10.6	5.5	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Calibration: YJ90015

Laboratory ID: Y9J1131-SCV1

Sequence: Y9J1131

Standard ID: Y19I379

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DIFF	QC LIMIT
Propylene	10.0	9.97	-0.3	30.00
Styrene	10.0	10.2	1.5	30.00
Tetrachloroethylene	10.0	8.47	-15.3	30.00
Tetrahydrofuran	10.0	10.1	0.9	30.00
Toluene	10.0	9.31	-6.9	30.00
trans-1,2-Dichloroethylene	10.0	9.83	-1.7	30.00
trans-1,3-Dichloropropylene	10.0	9.65	-3.5	30.00
Trichloroethylene	10.0	9.35	-6.5	30.00
Trichlorofluoromethane (Freon 11)	10.0	9.26	-7.4	30.00
Vinyl acetate	10.0	9.28	-7.2	30.00
Vinyl bromide	10.0	9.59	-4.1	30.00
Vinyl Chloride	10.0	8.39	-16.1	30.00

* Values outside of QC limits

Data Path : D:\100719-ICAL\
 Data File : T0280716.D
 Acq On : 8 Oct 2019 12:26 am
 Operator : AS
 Sample : SEQ-SCV1
 Misc : QBT01100719A 10.0ppbv ICV
 ALS Vial : 4 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 08 06:45:59 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.474	49	489378	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.906	114	2319882	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	2152850	10.00	ppbv	0.00

System Monitoring Compounds

64) p-Bromofluorobenzene	23.783	95	1662897	10.40	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	104.00%	

Target Compounds						Qvalue
2) Propylene	6.256	42	167298	9.97	ppbv	82
3) Dichlorodifluoromethane	6.335	85	1966387	9.39	ppbv	100
4) 1,2-Dichlorotetrafluor...	6.640	85	1478927	8.92	ppbv	97
5) Chloromethane	7.048	50	287903	8.66	ppbv #	86
6) Vinyl Chloride	7.371	62	399701	8.39	ppbv	100
7) 1,3-Butadiene	7.426	54	269367	8.49	ppbv #	86
8) Bromomethane	8.548	94	462791	8.83	ppbv	98
9) Chloroethane	8.713	64	191720	9.35	ppbv	95
10) Vinyl Bromide	9.255	106	545852	9.59	ppbv	100
11) Trichlorofluoromethane	9.261	101	2144072	9.26	ppbv	100
12) Isopropanol	9.969	45	619819	8.83	ppbv	100
13) Acrolein	10.218	56	101209	9.17	ppbv #	100
14) Acetone	10.340	43	726369	7.92	ppbv	85
15) Freon-113	10.109	101	1290700	9.36	ppbv	96
16) 1,1-Dichloroethylene	10.578	61	907238	9.04	ppbv	98
17) 3-Chloropropene	11.273	41	424323	9.72	ppbv #	53
18) Methylene Chloride	11.517	49	456126	10.05	ppbv	83
19) Acrylonitrile	11.749	53	258965	9.49	ppbv #	100
20) Carbon disulfide	11.694	76	1338299	10.22	ppbv #	88
21) Methyl-tert-Butyl Ethe...	11.718	73	1752741	9.93	ppbv	91
22) trans-1,2-Dichloroethy...	12.041	61	760302	9.83	ppbv	93
23) Hexane	12.005	57	586649	10.12	ppbv	90
24) Vinyl Acetate	12.694	43	940944	9.28	ppbv #	98
25) 1,1-Dichloroethane	12.809	63	925264	9.81	ppbv #	96
26) 2-Butanone	13.492	43	727660	9.69	ppbv	91
27) Ethyl Acetate	13.693	43	920285	10.93	ppbv	97
28) cis-1,2-Dichloroethylene	13.882	61	707272	9.34	ppbv	94
29) Chloroform	14.138	83	1480169	9.62	ppbv	100
30) Tetrahydrofuran	14.535	42	343252	10.09	ppbv #	66
31) 1,1,1-Trichloroethane	14.827	97	1836996	9.83	ppbv	98
32) Cyclohexane	14.852	56	593642	10.16	ppbv	78
33) Carbon Tetrachloride	15.291	117	1982436	9.11	ppbv	100
34) 1,2-Dichloroethane	15.528	62	1085386	9.50	ppbv #	100
35) Benzene	15.595	78	1457736	9.66	ppbv #	100
36) n-Heptane	15.096	43	616873	10.47	ppbv #	75
38) Trichloroethylene	16.559	95	886535	9.35	ppbv	98
39) 1,2-Dichloropropane	16.870	63	456069	9.85	ppbv #	97
40) Methyl Methacrylate	16.772	69	508420	10.18	ppbv	88
41) 1,4-Dioxane	17.302	88	343638	9.42	ppbv #	100
42) Bromodichloromethane	17.315	83	1667062	9.94	ppbv	99
43) Methyl Isobutyl Ketone	17.662	43	875786	9.91	ppbv #	92
44) cis-1,3-Dichloropropene	18.144	75	1063111	10.54	ppbv	97
45) Toluene	18.759	91	2039012	9.31	ppbv	97
46) trans-1,3-Dichloropropene	18.979	75	1077068	9.65	ppbv	99
47) 1,1,2-Trichloroethane	19.320	97	732409	10.07	ppbv	92
48) 2-Hexanone	19.150	43	811878	9.91	ppbv	98
49) 1,3-Dichloropropane	19.753	76	987989	9.89	ppbv #	86
50) Tetrachloroethylene	19.924	166	1146256	8.47	ppbv	95
51) Dibromochloromethane	20.381	129	1719768	9.83	ppbv	98
52) 1,2-Dibromoethane	20.753	107	1282677	9.81	ppbv	100
54) Chlorobenzene	21.466	112	1741022	9.47	ppbv #	86
55) 1,1,1,2-Tetrachloroethane	21.485	131	1157065	9.55	ppbv	94

Data Path : D:\100719-ICAL\
 Data File : T0280716.D
 Acq On : 8 Oct 2019 12:26 am
 Operator : AS
 Sample : SEQ-SCV1
 Misc : QBT01100719A 10.0ppbv ICV
 ALS Vial : 4 Sample Multiplier: 1
 InstName : 5975C

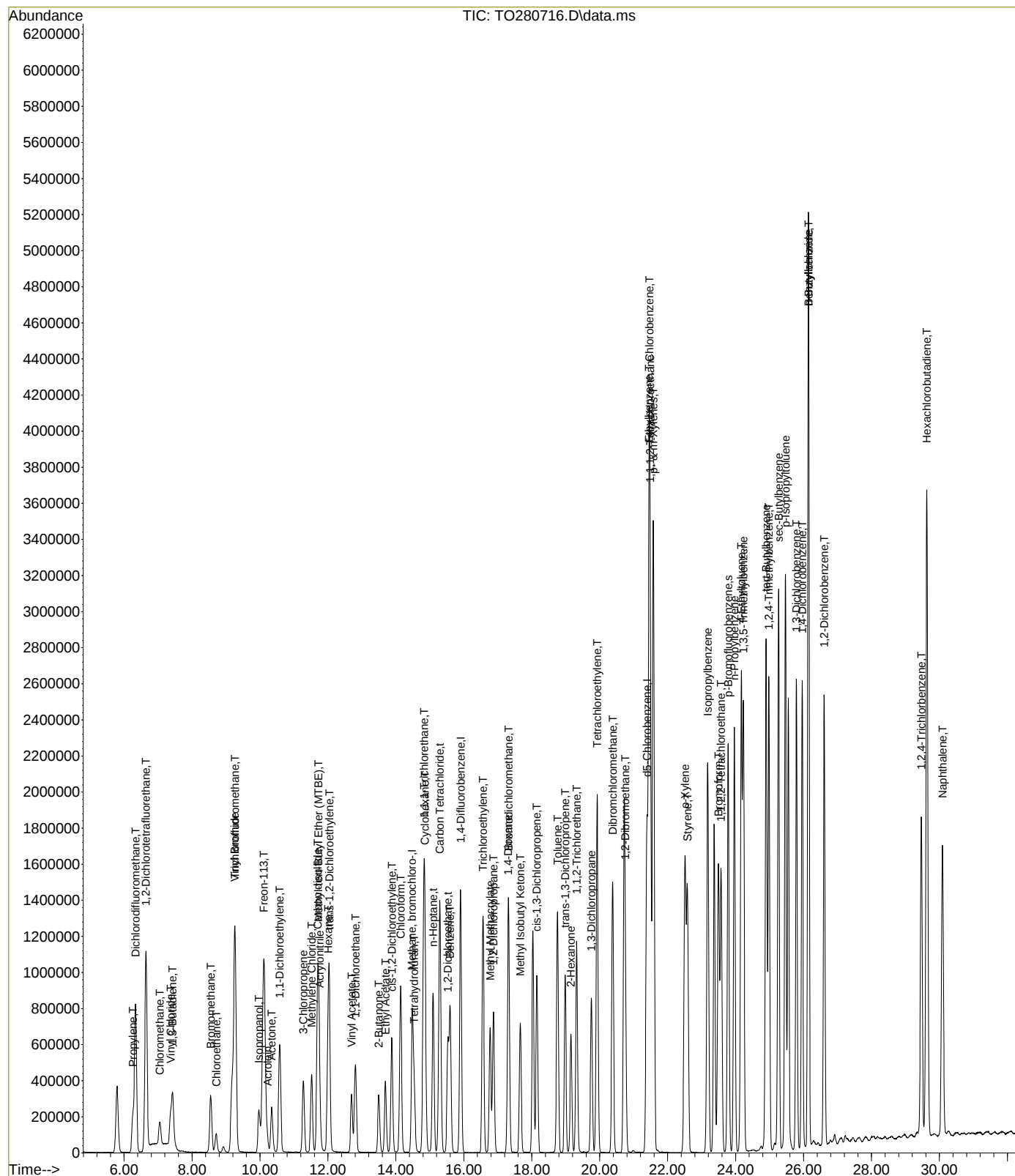
Quant Time: Oct 08 06:45:59 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	3010710	9.33	ppbv	98
57)	p- & m-Xylenes	21.576	91	4865006	19.55	ppbv	97
58)	o-Xylene	22.509	91	2469820	9.85	ppbv	98
59)	Styrene	22.582	104	1693249	10.15	ppbv #	74
60)	Bromoform	23.496	173	1616153	9.96	ppbv	98
61)	n-Propylbenzene	23.960	91	3999098	9.97	ppbv	100
62)	Isopropylbenzene	23.179	105	3424863	9.90	ppbv	99
63)	1,1,2,2-Tetrachloroeth...	23.570	83	1479805	10.02	ppbv #	93
65)	4-Ethyltoluene	24.167	105	3819161	10.55	ppbv	97
66)	1,3,5-Trimethylbenzene	24.228	105	2650679	9.63	ppbv	97
67)	tert-Butylbenzene	24.899	119	2954539	9.58	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.978	105	3079858	9.86	ppbv #	96
69)	sec-Butylbenzene	25.264	105	4179573	9.84	ppbv #	100
70)	p-Isopropyltoluene	25.465	119	3588927	9.68	ppbv #	89
71)	1,3-Dichlorobenzene	25.789	146	1924024	9.86	ppbv	97
72)	1,4-Dichlorobenzene	25.959	146	1920564	10.05	ppbv	98
73)	Benzyl chloride	26.142	126	503737	11.58	ppbv	96
74)	n-Butylbenzene	26.142	91	5981544	10.91	ppbv	99
75)	1,2-Dichlorobenzene	26.606	146	1899891	9.84	ppbv	98
76)	1,2,4-Trichlorobenzene	29.465	180	1199213	8.89	ppbv	95
77)	Hexachlorobutadiene	29.629	225	1596800	9.30	ppbv	94
78)	Naphthalene	30.087	128	3092480	10.24	ppbv	99

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

Data Path : D:\100719-ICAL\
 Data File : T0280716.D
 Acq On : 8 Oct 2019 12:26 am
 Operator : AS
 Sample : SEQ-SCV1
 Misc : QBT01100719A 10.0ppbv ICV
 ALS Vial : 4 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 08 06:45:59 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration



FORM VII

CONTINUING CALIBRATION CHECK

EPA TO-15

Laboratory: York Analytical Laboratories, Inc.SDG: 19J0219Client: Langan Engineering & Environmental Services (NYCProject: 170396002Instrument ID: 5975CCalibration: YJ90015Lab File ID: TO280769.DCalibration Date: 10/07/19 12:00Sequence: Y9J1132Injection Date: 10/10/19Lab Sample ID: Y9J1132-CCV1Injection Time: 10:48

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1,1,2-Tetrachloroethane	A	10.0	9.88	0.5628164	0.5559549		-1.2	30
1,1,1-Trichloroethane	A	10.0	10.4	3.819929	3.971633		4.0	30
1,1,2,2-Tetrachloroethane	A	10.0	9.46	0.6857537	0.6488188		-5.4	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	10.0	9.80	2.816502	2.759665		-2.0	30
1,1,2-Trichloroethane	A	10.0	9.69	0.3136177	0.3040052		-3.1	30
1,1-Dichloroethane	A	10.0	9.66	1.926471	1.861855		-3.4	30
1,1-Dichloroethylene	A	10.0	9.37	2.05102	1.921807		-6.3	30
1,2,4-Trichlorobenzene	Q	10.0	9.06	0.5403914	0.5684048		-9.4	30
1,2,4-Trimethylbenzene	A	10.0	9.95	1.451629	1.44423		-0.5	30
1,2-Dibromoethane	A	10.0	9.68	0.5635479	0.5456336		-3.2	30
1,2-Dichlorobenzene	A	10.0	9.73	0.8967353	0.8729471		-2.7	30
1,2-Dichloroethane	A	10.0	10.2	2.333399	2.369813		1.6	30
1,2-Dichloropropane	A	10.0	9.08	0.1995507	0.1812594		-9.2	30
1,2-Dichlorotetrafluoroethane	A	10.0	9.78	3.389425	3.31332		-2.2	30
1,3,5-Trimethylbenzene	A	10.0	9.58	1.278776	1.225459		-4.2	30
1,3-Butadiene	A	10.0	7.84	0.6485471	0.5082468		-21.6	30
1,3-Dichlorobenzene	A	10.0	9.90	0.9062171	0.8968517		-1.0	30
1,3-Dichloropropane	A	10.0	9.67	0.4308101	0.4166359		-3.3	30
1,4-Dichlorobenzene	A	10.0	9.87	0.887791	0.8761039		-1.3	30
1,4-Dioxane	A	10.0	9.66	0.1572335	0.1519237		-3.4	30
2-Butanone	A	10.0	9.46	1.533877	1.451434		-5.4	30
2-Hexanone	A	10.0	10.1	0.3532754	0.3555149		0.6	30
3-Chloropropene	A	10.0	9.25	0.8917391	0.8250648		-7.5	30
4-Methyl-2-pentanone	A	10.0	9.80	0.3808161	0.3733229		-2.0	30
Acetone	Q	10.0	8.51	1.873994	1.594417		-14.9	30
Acrylonitrile	A	10.0	8.84	0.5573524	0.4925482		-11.6	30
Benzene	A	10.0	9.37	3.083637	2.888488		-6.3	30
Benzyl chloride	A	10.0	11.0	0.202125	0.2212418		9.5	30
Bromodichloromethane	A	10.0	10.3	0.7232241	0.7443071		2.9	30

FORM VII

CONTINUING CALIBRATION CHECK

EPA TO-15

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Instrument ID: 5975C Calibration: YJ90015
 Lab File ID: TO280769.D Calibration Date: 10/07/19 12:00
 Sequence: Y9J1132 Injection Date: 10/10/19
 Lab Sample ID: Y9J1132-CCV1 Injection Time: 10:48

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bromoform	A	10.0	9.98	0.7534683	0.7520051		-0.2	30
Bromomethane	A	10.0	9.41	1.070809	1.007098		-5.9	30
Carbon disulfide	A	10.0	9.40	2.674611	2.515051		-6.0	30
Carbon tetrachloride	A	10.0	9.98	4.445889	4.438967		-0.2	30
Chlorobenzene	A	10.0	9.33	0.854151	0.7965655		-6.7	30
Chloroethane	A	10.0	9.18	0.4188937	0.3843821		-8.2	30
Chloroform	A	10.0	10.2	3.143652	3.190348		1.5	30
Chloromethane	A	10.0	8.52	0.6789454	0.5781277		-14.8	30
cis-1,2-Dichloroethylene	A	10.0	9.67	1.547505	1.496689		-3.3	30
cis-1,3-Dichloropropylene	A	10.0	9.82	0.4348758	0.4268456		-1.8	30
Cyclohexane	A	10.0	9.57	1.193496	1.142577		-4.3	30
Dibromochloromethane	A	10.0	10.3	0.7545001	0.7744347		2.6	30
Dichlorodifluoromethane	A	10.0	10.0	4.280353	4.302372		0.5	30
Ethyl acetate	A	10.0	9.25	1.720643	1.59091		-7.5	30
Ethyl Benzene	A	10.0	9.15	1.498788	1.371857		-8.5	30
Hexachlorobutadiene	A	10.0	9.35	0.7978628	0.7460798		-6.5	30
Isopropanol	Q	10.0	9.03	1.434714	1.295966		-9.7	30
Methyl Methacrylate	A	10.0	9.59	0.2153059	0.2065472		-4.1	30
Methyl tert-butyl ether (MTBE)	A	10.0	10.1	3.607776	3.637039		0.8	30
Methylene chloride	Q	10.0	10.0	1.348808	0.9274427		0.0	30
n-Heptane	A	10.0	9.49	1.204044	1.142316		-5.1	30
n-Hexane	A	10.0	9.27	1.184959	1.09794		-7.3	30
o-Xylene	A	10.0	9.77	1.165241	1.137967		-2.3	30
p- & m- Xylenes	A	20.0	19.4	1.155649	1.117878		-3.3	30
p-Ethyltoluene	A	10.0	9.50	1.681945	1.598177		-5.0	30
Propylene	A	10.0	8.88	0.485475	0.3063197		-36.9	30 *
Styrene	A	10.0	9.67	0.7747462	0.7489473		-3.3	30
Tetrachloroethylene	Q	10.0	8.34	0.5831874	0.4866593		-16.6	30
Tetrahydrofuran	A	10.0	9.39	0.6948453	0.6521198		-6.1	30

FORM VII**CONTINUING CALIBRATION CHECK****EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
Client: Langan Engineering & Environmental Services (NYC Project: 170396002
Instrument ID: 5975C Calibration: YJ90015
Lab File ID: TO280769.D Calibration Date: 10/07/19 12:00
Sequence: Y9J1132 Injection Date: 10/10/19
Lab Sample ID: Y9J1132-CCV1 Injection Time: 10:48

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toluene	A	10.0	9.04	0.9443899	0.8532917		-9.6	30
trans-1,2-Dichloroethylene	A	10.0	9.59	1.579964	1.515467		-4.1	30
trans-1,3-Dichloropropylene	A	10.0	9.86	0.4812791	0.4744052		-1.4	30
Trichloroethylene	A	10.0	9.18	0.4085323	0.3749426		-8.2	30
Trichlorofluoromethane (Freon 11)	A	10.0	10.4	4.73295	4.89854		3.5	30
Vinyl acetate	A	10.0	9.72	2.072866	2.015053		-2.8	30
Vinyl bromide	A	10.0	9.61	1.162992	1.117774		-3.9	30
Vinyl Chloride	Q	10.0	7.96	0.9733224	0.7745524		-20.4	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Data Path : D:\101019\
 Data File : T0280769.D
 Acq On : 10 Oct 2019 10:48 am
 Operator : KT
 Sample : SEQ-CCV1
 Misc : QBT01101019A CCV
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 10 11:59:10 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.480	49	367296	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	1786831	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.393	117	1686833	10.00	ppbv	0.00

System Monitoring Compounds						
64) p-Bromofluorobenzene	23.783	95	1330632	10.62	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	106.20%	

Target Compounds						Qvalue
2) Propylene	6.250	42	112510	8.88	ppbv	# 73
3) Dichlorodifluoromethane	6.329	85	1580244	10.05	ppbv	99
4) 1,2-Dichlorotetrafluor...	6.634	85	1216969	9.78	ppbv	97
5) Chloromethane	7.055	50	212344	8.52	ppbv	100
6) Vinyl Chloride	7.372	62	284490	7.96	ppbv	98
7) 1,3-Butadiene	7.427	54	186677	7.84	ppbv	# 85
8) Bromomethane	8.548	94	369903	9.41	ppbv	97
9) Chloroethane	8.713	64	141182	9.18	ppbv	92
10) Vinyl Bromide	9.249	106	410554	9.61	ppbv	99
11) Trichlorofluoromethane	9.256	101	1799214	10.35	ppbv	100
12) Isopropanol	9.969	45	476003	9.03	ppbv	100
13) Acrolein	10.219	56	84285	10.17	ppbv	# 100
14) Acetone	10.335	43	585623	8.51	ppbv	80
15) Freon-113	10.109	101	1013614	9.80	ppbv	96
16) 1,1-Dichloroethylene	10.578	61	705872	9.37	ppbv	97
17) 3-Chloropropene	11.273	41	303043	9.25	ppbv	# 42
18) Methylene Chloride	11.511	49	340646	10.00	ppbv	85
19) Acrylonitrile	11.743	53	180911	8.84	ppbv	# 100
20) Carbon disulfide	11.694	76	923768	9.40	ppbv	# 82
21) Methyl-tert-Butyl Ethe...	11.712	73	1335870	10.08	ppbv	88
22) trans-1,2-Dichloroethy...	12.042	61	556625	9.59	ppbv	94
23) Hexane	11.999	57	403269	9.27	ppbv	90
24) Vinyl Acetate	12.694	43	740121	9.72	ppbv	# 99
25) 1,1-Dichloroethane	12.810	63	683852	9.66	ppbv	# 96
26) 2-Butanone	13.493	43	533106	9.46	ppbv	92
27) Ethyl Acetate	13.688	43	584335	9.25	ppbv	97
28) cis-1,2-Dichloroethylene	13.871	61	549728	9.67	ppbv	97
29) Chloroform	14.139	83	1171802	10.15	ppbv	100
30) Tetrahydrofuran	14.535	42	239521	9.39	ppbv	# 61
31) 1,1,1-Trichloroethane	14.828	97	1458765	10.40	ppbv	98
32) Cyclohexane	14.858	56	419664	9.57	ppbv	# 75
33) Carbon Tetrachloride	15.291	117	1630415	9.98	ppbv	100
34) 1,2-Dichloroethane	15.529	62	870423	10.16	ppbv	# 85
35) Benzene	15.596	78	1060930	9.37	ppbv	# 100
36) n-Heptane	15.102	43	419568	9.49	ppbv	# 92
38) Trichloroethylene	16.565	95	669959	9.18	ppbv	98
39) 1,2-Dichloropropane	16.876	63	323880	9.08	ppbv	# 97
40) Methyl Methacrylate	16.766	69	369065	9.59	ppbv	# 69
41) 1,4-Dioxane	17.297	88	271462	9.66	ppbv	# 100
42) Bromodichloromethane	17.315	83	1329951	10.29	ppbv	99
43) Methyl Isobutyl Ketone	17.656	43	667065	9.80	ppbv	# 92
44) cis-1,3-Dichloropropene	18.156	75	762701	9.82	ppbv	97
45) Toluene	18.760	91	1524688	9.04	ppbv	97
46) trans-1,3-Dichloropropene	18.985	75	847682	9.86	ppbv	99
47) 1,1,2-Trichloroethane	19.327	97	543206	9.69	ppbv	90
48) 2-Hexanone	19.150	43	635245	10.06	ppbv	98
49) 1,3-Dichloropropane	19.754	76	744458	9.67	ppbv	# 100
50) Tetrachloroethylene	19.924	166	869578	8.34	ppbv	93
51) Dibromchloromethane	20.381	129	1383784	10.26	ppbv	97
52) 1,2-Dibromoethane	20.753	107	974955	9.68	ppbv	100
54) Chlorobenzene	21.467	112	1343673	9.33	ppbv	# 86
55) 1,1,1,2-Tetrachloroethane	21.485	131	937803	9.88	ppbv	92

Data Path : D:\101019\
 Data File : T0280769.D
 Acq On : 10 Oct 2019 10:48 am
 Operator : KT
 Sample : SEQ-CCV1
 Misc : QBT01101019A CCV
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

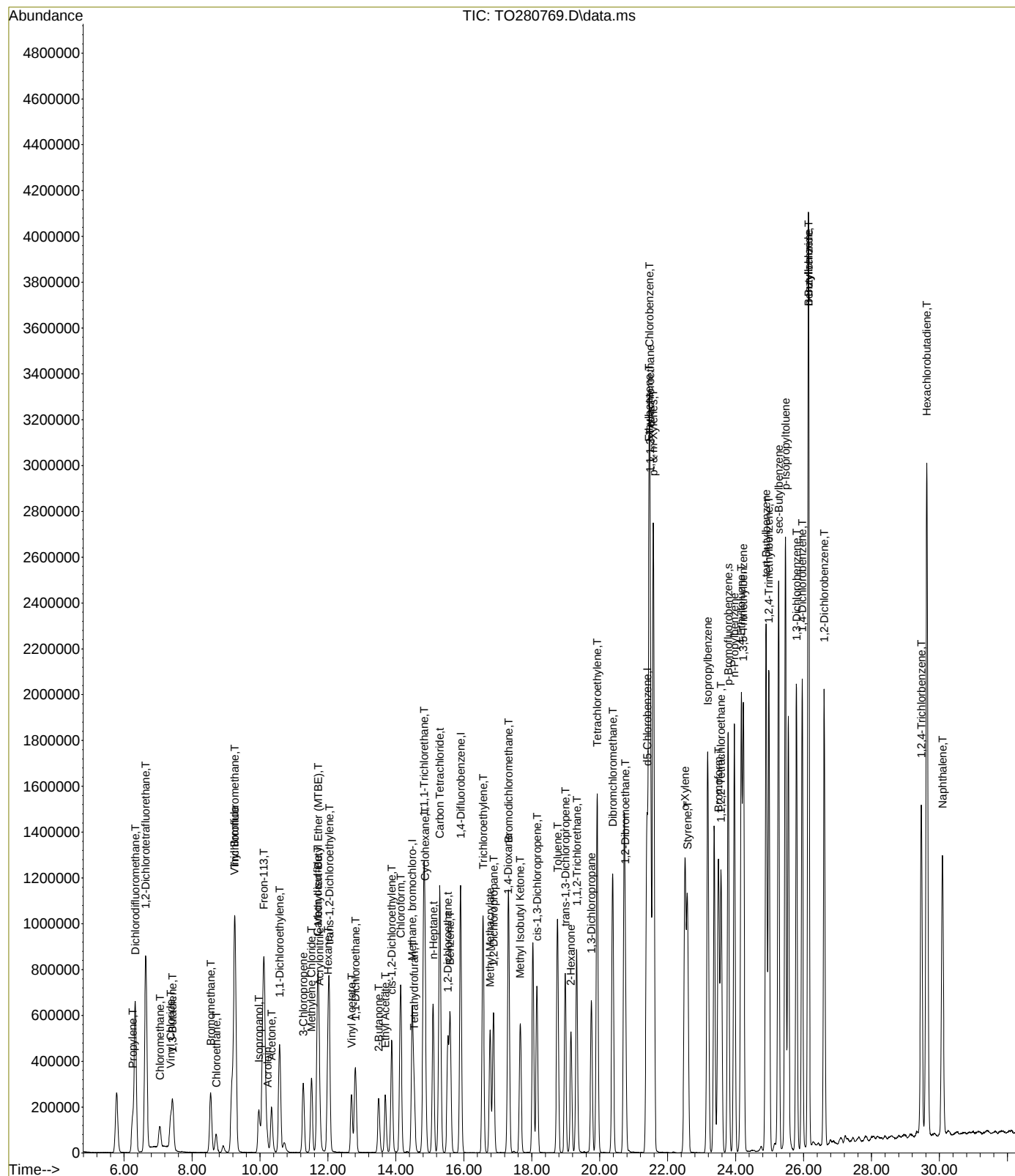
Quant Time: Oct 10 11:59:10 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	2314094	9.15	ppbv	97
57)	p- & m-Xylenes	21.576	91	3771348	19.35	ppbv	96
58)	o-Xylene	22.509	91	1919561	9.77	ppbv	98
59)	Styrene	22.582	104	1263349	9.67	ppbv #	74
60)	Bromoform	23.497	173	1268507	9.98	ppbv	98
61)	n-Propylbenzene	23.966	91	3084861	9.82	ppbv	100
62)	Isopropylbenzene	23.180	105	2700660	9.96	ppbv	99
63)	1,1,2,2-Tetrachloroeth...	23.570	83	1094449	9.46	ppbv #	92
65)	4-Ethyltoluene	24.167	105	2695858	9.50	ppbv	97
66)	1,3,5-Trimethylbenzene	24.222	105	2067144	9.58	ppbv	92
67)	tert-Butylbenzene	24.899	119	2324323	9.62	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.978	105	2436175	9.95	ppbv #	95
69)	sec-Butylbenzene	25.265	105	3290126	9.88	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	2915044	10.03	ppbv #	99
71)	1,3-Dichlorobenzene	25.795	146	1512839	9.90	ppbv	97
72)	1,4-Dichlorobenzene	25.960	146	1477841	9.87	ppbv	97
73)	Benzyl chloride	26.143	126	373198	10.95	ppbv	93
74)	n-Butylbenzene	26.143	91	4610287	10.73	ppbv	100
75)	1,2-Dichlorobenzene	26.606	146	1472516	9.73	ppbv	97
76)	1,2,4-Trichlorobenzene	29.465	180	958804	9.06	ppbv	94
77)	Hexachlorobutadiene	29.630	225	1258512	9.35	ppbv	93
78)	Naphthalene	30.087	128	2355839	9.95	ppbv	100

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

Data Path : D:\101019\
 Data File : T0280769.D
 Acq On : 10 Oct 2019 10:48 am
 Operator : KT
 Sample : SEQ-CCV1
 Misc : QBT01101019A CCV
 ALS Vial : 3 Sample Multiplier: 1
 InstName : 5975C

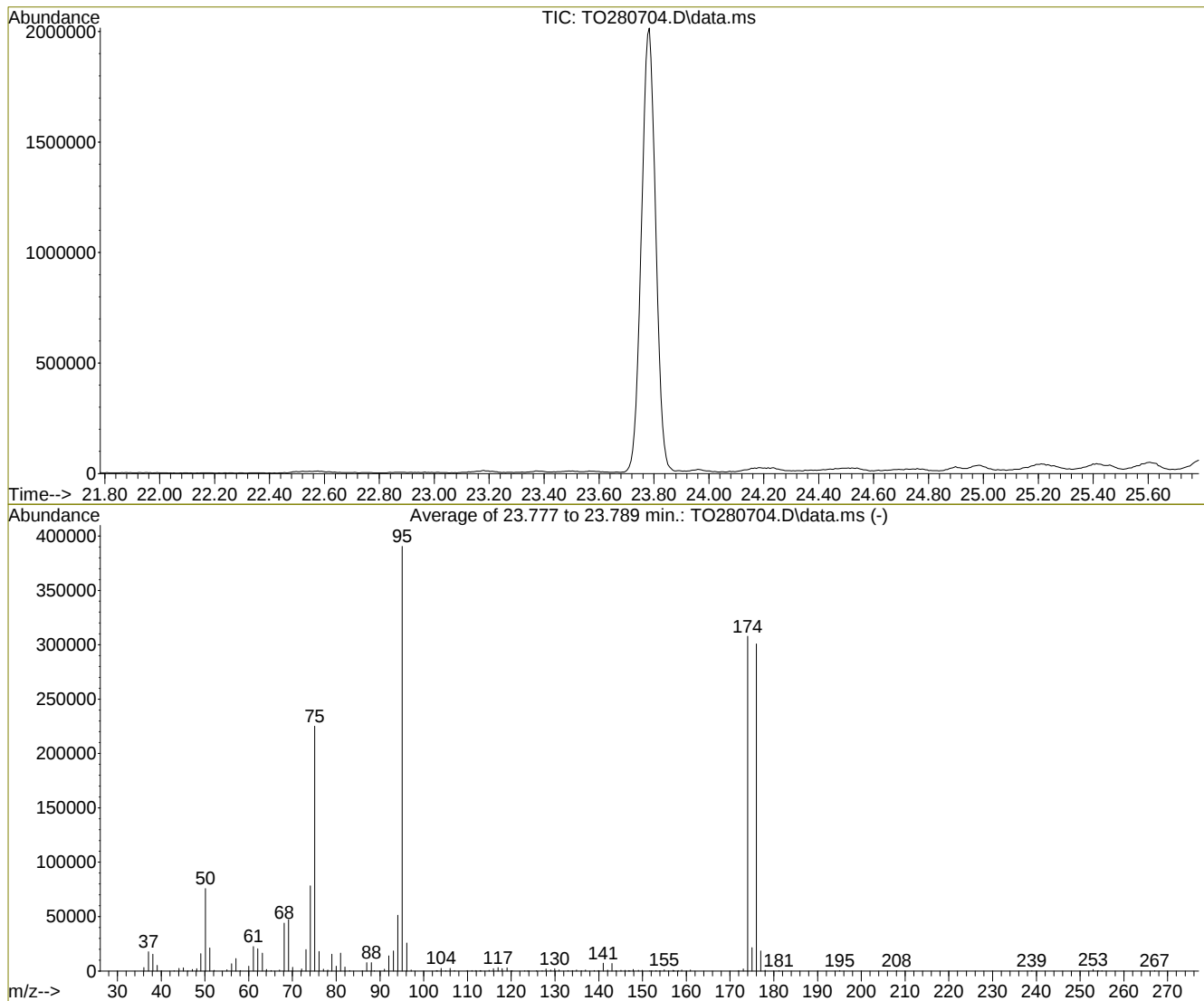
Quant Time: Oct 10 11:59:10 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration



Data Path : D:\100719\
 Data File : T0280704.D
 Acq On : 7 Oct 2019 2:38 pm
 Operator : AS
 Sample : SEQ-TUN1
 Misc : QBT01100719A TUNE
 ALS Vial : 1 Sample Multiplier: 1
 InstName : 5975C

Integration File: rteint.p

Method : C:\msdchem\1\methods\AIR109.M
 Title : T015 VOC Analysis
 Last Update : Mon Oct 07 23:31:47 2019



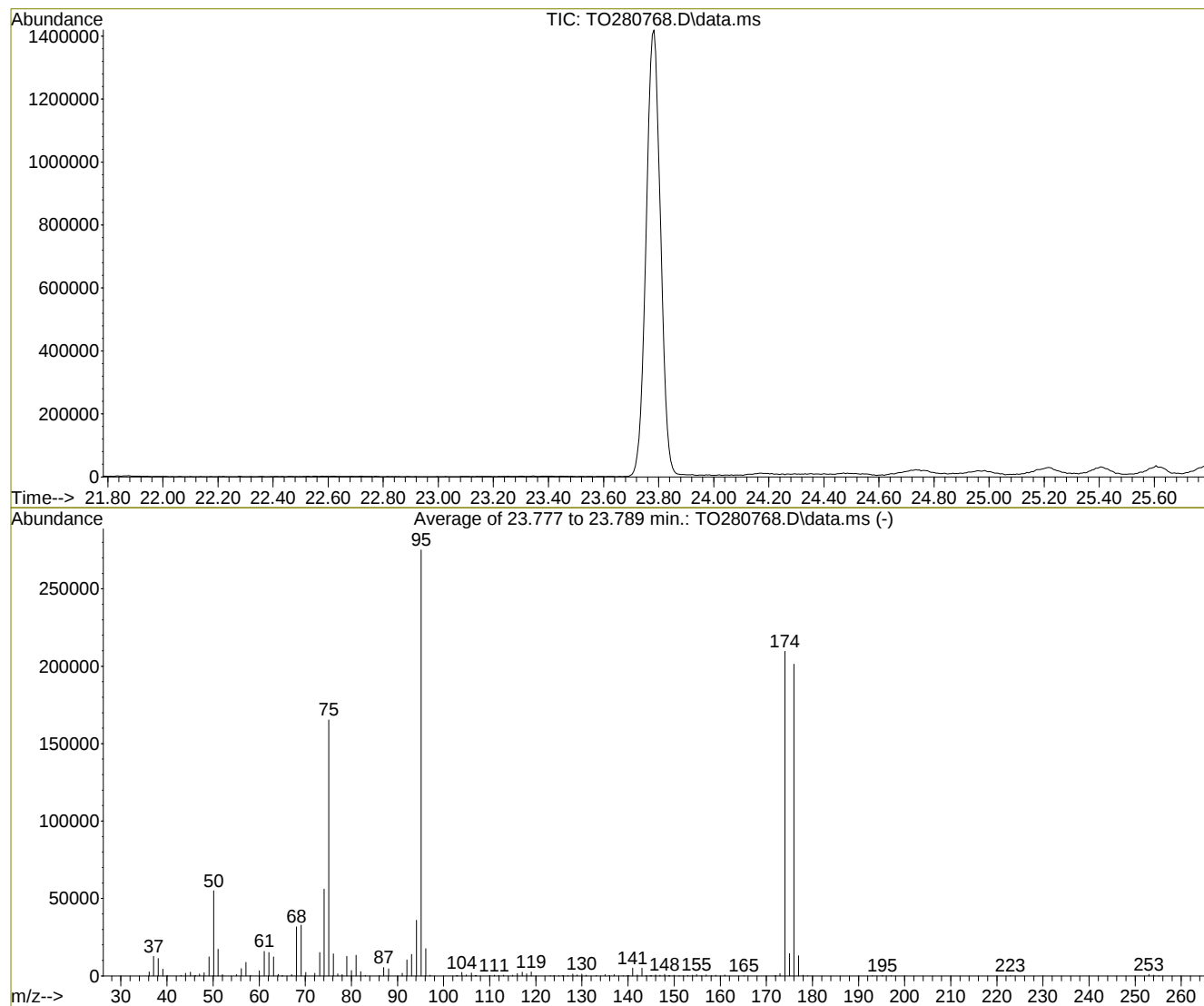
AutoFind: Scans 3115, 3116, 3117; Background Corrected with Scan 3096

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.4	75793	PASS
75	95	30	66	57.7	225088	PASS
95	95	100	100	100.0	390379	PASS
96	95	5	9	6.6	25573	PASS
173	174	0.00	2	0.6	1980	PASS
174	95	50	120	78.8	307712	PASS
175	174	4	9	6.9	21341	PASS
176	174	93	101	97.7	300736	PASS
177	176	5	9	6.1	18349	PASS

Data Path : D:\101019\
 Data File : T0280768.D
 Acq On : 10 Oct 2019 10:01 am
 Operator : KT
 Sample : SEQ-TUN1
 Misc : QBT01101019A TUNE
 ALS Vial : 1 Sample Multiplier: 1
 InstName : 5975C

Integration File: rteint.p

Method : C:\msdchem\1\methods\AIR109.M
 Title : T015 VOC Analysis
 Last Update : Thu Oct 10 18:15:28 2019



AutoFind: Scans 3115, 3116, 3117; Background Corrected with Scan 3098

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	55011	PASS
75	95	30	66	60.1	165333	PASS
95	95	100	100	100.0	275051	PASS
96	95	5	9	6.4	17513	PASS
173	174	0.00	2	0.7	1572	PASS
174	95	50	120	76.2	209685	PASS
175	174	4	9	6.9	14390	PASS
176	174	93	101	96.0	201344	PASS
177	176	5	9	6.5	13002	PASS

METHOD BLANK RAW DATA

SDG: 19J0219
CLASS: AIR
METHOD: EPA TO-15

FORM I**METHOD BLANK DATA SHEET
EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Matrix: Air Laboratory ID: BJ90653-BLK1 File ID: TO280772.D
Prepared: 10/10/19 09:00 Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
Analyzed: 10/10/19 13:20 Instrument: 5975C
Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015

CAS NO.	COMPOUND	CONC. (ug/m ³)	Q
630-20-6	1,1,1,2-Tetrachloroethane	0.69	U
71-55-6	1,1,1-Trichloroethane	0.55	U
79-34-5	1,1,2,2-Tetrachloroethane	0.69	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.77	U
79-00-5	1,1,2-Trichloroethane	0.55	U
75-34-3	1,1-Dichloroethane	0.40	U
75-35-4	1,1-Dichloroethylene	0.099	U
120-82-1	1,2,4-Trichlorobenzene	0.74	U
95-63-6	1,2,4-Trimethylbenzene	0.49	U
106-93-4	1,2-Dibromoethane	0.77	U
95-50-1	1,2-Dichlorobenzene	0.60	U
107-06-2	1,2-Dichloroethane	0.40	U
78-87-5	1,2-Dichloropropane	0.46	U
76-14-2	1,2-Dichlorotetrafluoroethane	0.70	U
108-67-8	1,3,5-Trimethylbenzene	0.49	U
106-99-0	1,3-Butadiene	0.66	U
541-73-1	1,3-Dichlorobenzene	0.60	U
142-28-9	1,3-Dichloropropane	0.46	U
106-46-7	1,4-Dichlorobenzene	0.60	U
123-91-1	1,4-Dioxane	0.72	U
78-93-3	2-Butanone	0.29	U
591-78-6	2-Hexanone	0.82	U
107-05-1	3-Chloropropene	1.6	U
108-10-1	4-Methyl-2-pentanone	0.41	U
67-64-1	Acetone	0.48	U
107-13-1	Acrylonitrile	0.22	U
71-43-2	Benzene	0.32	U
100-44-7	Benzyl chloride	0.52	U
75-27-4	Bromodichloromethane	0.67	U
75-25-2	Bromoform	1.0	U

FORM I**METHOD BLANK DATA SHEET
EPA TO-15**

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0219
 Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
 Matrix: Air Laboratory ID: BJ90653-BLK1 File ID: TO280772.D
 Prepared: 10/10/19 09:00 Preparation: EPA TO15 PREP Initial/Final: 400 mL / 400 mL
 Analyzed: 10/10/19 13:20 Instrument: 5975C
 Batch: BJ90653 Sequence: Y9J1132 Calibration: YJ90015

CAS NO.	COMPOUND	CONC. (ug/m ³)	Q
74-83-9	Bromomethane	0.39	U
75-15-0	Carbon disulfide	0.31	U
56-23-5	Carbon tetrachloride	0.16	U
108-90-7	Chlorobenzene	0.46	U
75-00-3	Chloroethane	0.26	U
67-66-3	Chloroform	0.49	U
74-87-3	Chloromethane	0.21	U
156-59-2	cis-1,2-Dichloroethylene	0.099	U
10061-01-5	cis-1,3-Dichloropropylene	0.45	U
110-82-7	Cyclohexane	0.34	U
124-48-1	Dibromochloromethane	0.85	U
75-71-8	Dichlorodifluoromethane	0.49	U
141-78-6	Ethyl acetate	0.72	U
100-41-4	Ethyl Benzene	0.43	U
87-68-3	Hexachlorobutadiene	1.1	U
67-63-0	Isopropanol	0.49	U
80-62-6	Methyl Methacrylate	0.41	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.36	U
75-09-2	Methylene chloride	0.69	U
142-82-5	n-Heptane	0.41	U
110-54-3	n-Hexane	0.35	U
95-47-6	o-Xylene	0.43	U
179601-23-1	p- & m- Xylenes	0.87	U
622-96-8	p-Ethyltoluene	0.49	U
115-07-1	Propylene	0.17	U
100-42-5	Styrene	0.43	U
127-18-4	Tetrachloroethylene	0.17	U
109-99-9	Tetrahydrofuran	0.59	U
108-88-3	Toluene	0.38	U
156-60-5	trans-1,2-Dichloroethylene	0.40	U

FORM I

METHOD BLANK DATA SHEET
EPA TO-15

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0219

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Matrix: Air

Laboratory ID: BJ90653-BLK1

File ID: TO280772.D

Prepared: 10/10/19 09:00

Preparation: EPA TO15 PREP

Initial/Final: 400 mL / 400 mL

Analyzed: 10/10/19 13:20

Instrument: 5975C

Batch: BJ90653

Sequence: Y9J1132

Calibration: YJ90015

CAS NO.	COMPOUND	CONC. (ug/m³)	Q
10061-02-6	trans-1,3-Dichloropropylene	0.45	U
79-01-6	Trichloroethylene	0.13	U
75-69-4	Trichlorofluoromethane (Freon 11)	0.56	U
108-05-4	Vinyl acetate	0.35	U
593-60-2	Vinyl bromide	0.44	U
75-01-4	Vinyl Chloride	0.064	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
SURR: p-Bromofluorobenzene	10.0	9.24	92.4	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	410070	14.474	367296	14.48	
ISTD: 1,4-Difluorobenzene	2002976	15.901	1786831	15.907	
ISTD: d5-Chlorobenzene	1744731	21.381	1686833	21.393	

Data Path : D:\101019\
 Data File : T0280772.D
 Acq On : 10 Oct 2019 1:20 pm
 Operator : KT
 Sample : BJ90653-BLK1
 Misc : QBT01101019A BLK
 ALS Vial : 1 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 10 15:46:51 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

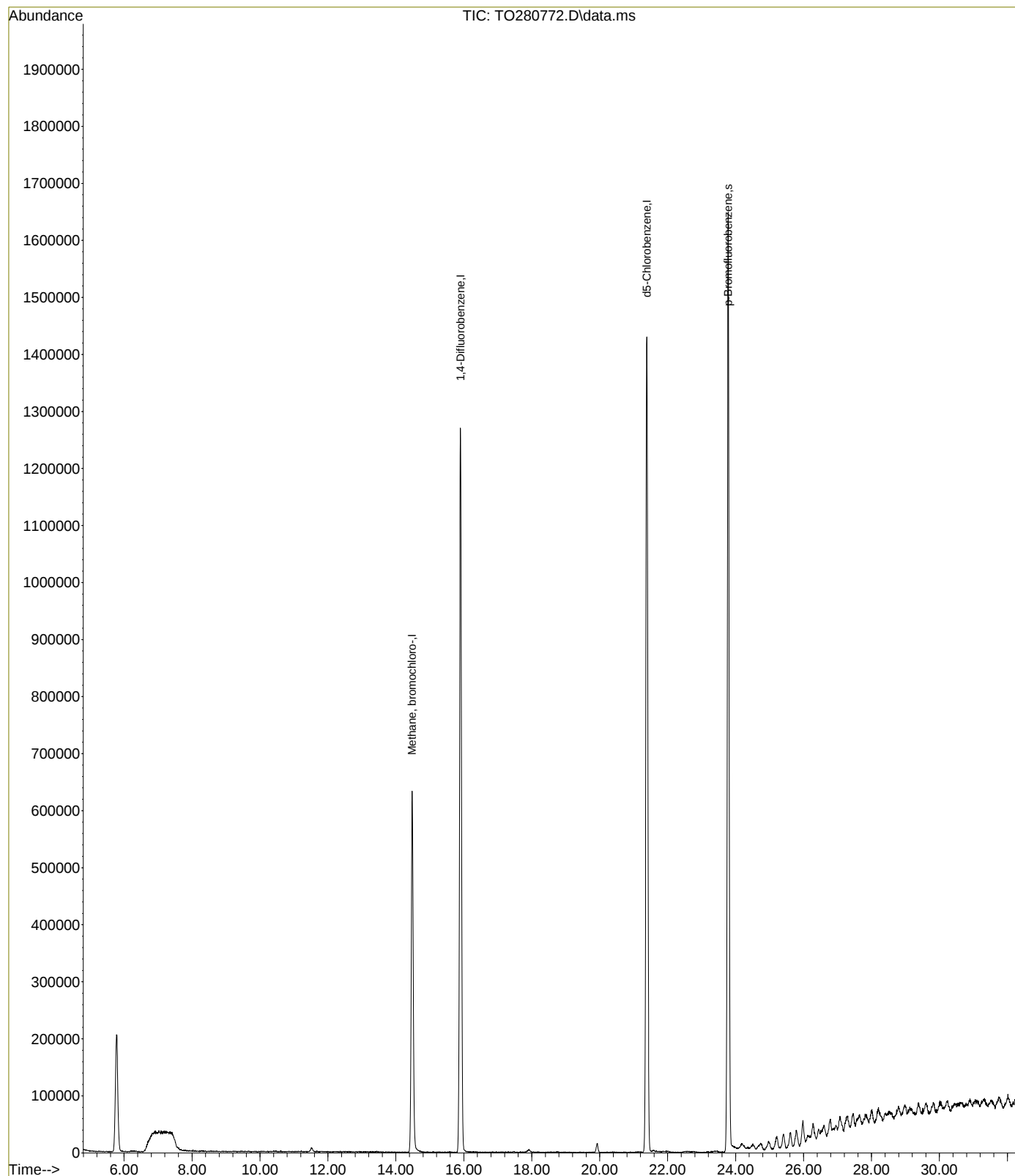
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

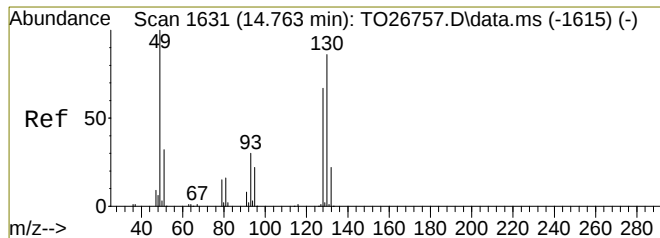
Internal Standards						
1) Methane, bromochloro-	14.474	49	410070	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.901	114	2002976	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.381	117	1744731	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.777	95	1197162	9.24	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	92.40%	
Target Compounds						
18) Methylene Chloride	11.517	49	5643	Below Cal	Qvalue #	81

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

Data Path : D:\101019\
Data File : T0280772.D
Acq On : 10 Oct 2019 1:20 pm
Operator : KT
Sample : BJ90653-BLK1
Misc : QBT01101019A BLK
ALS Vial : 1 Sample Multiplier: 1
InstName : 5975C

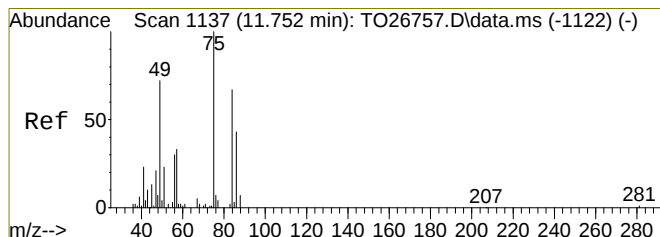
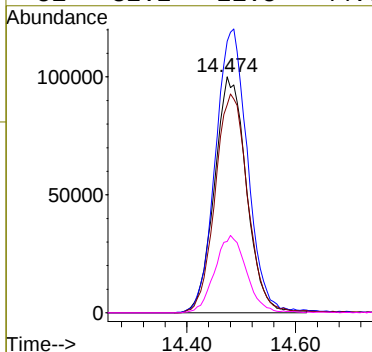
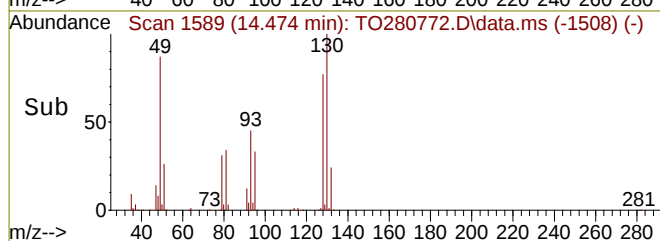
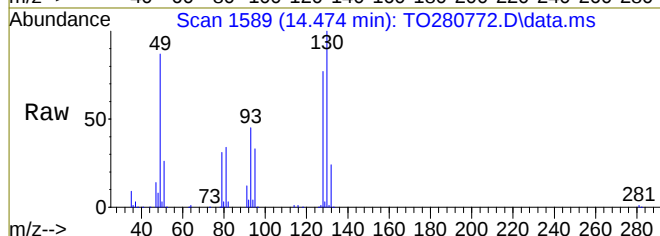
Quant Time: Oct 10 15:46:51 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 23:31:47 2019
Response via : Initial Calibration





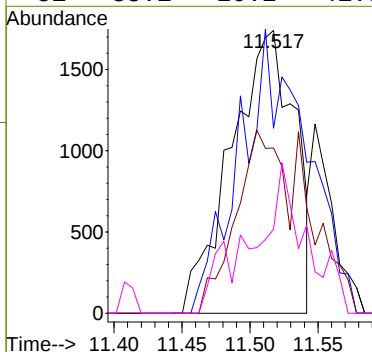
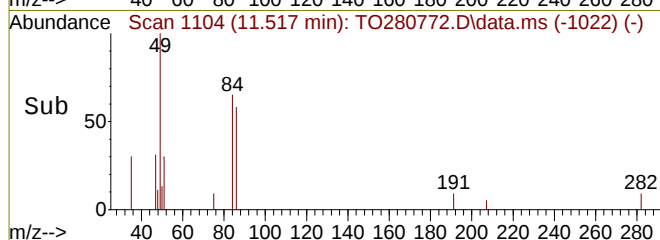
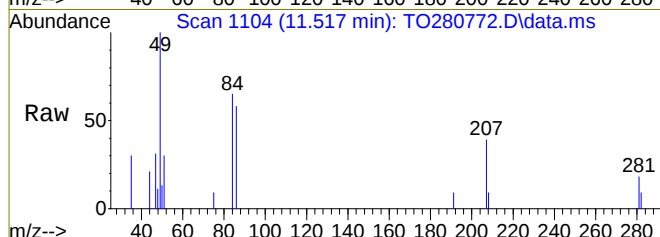
#1
Methane, bromochloro-
Concen: 10.00 ppbv
RT: 14.474 min Scan# 1589
Delta R.T. -0.006 min
Lab File: T0280772.D
Acq: 10 Oct 2019 1:20 pm

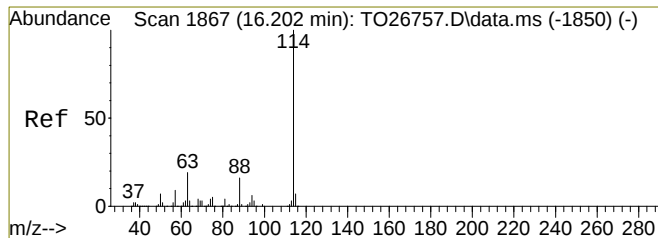
Tgt Ion: 49 Resp: 410070
Ion Ratio Lower Upper
49 100
130 120.2 44.5 92.3#
128 93.8 34.7 72.1#
51 32.2 21.5 44.6



#18
Methylene Chloride
Concen: Below Cal
RT: 11.517 min Scan# 1104
Delta R.T. 0.000 min
Lab File: T0280772.D
Acq: 10 Oct 2019 1:20 pm

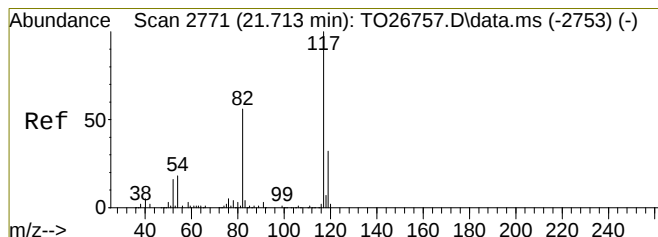
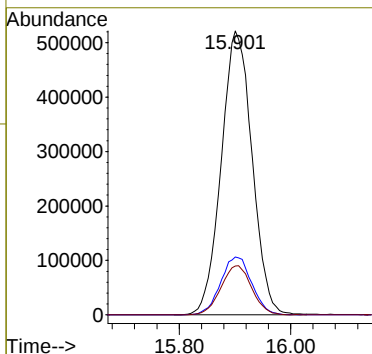
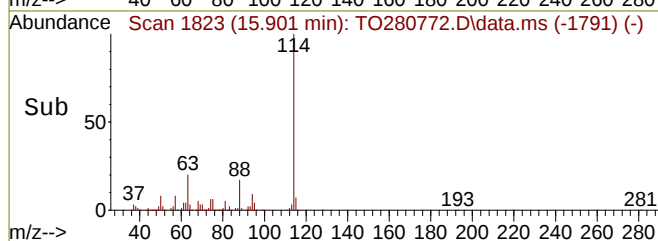
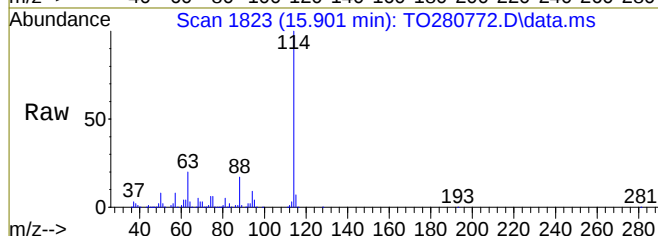
Tgt Ion: 49 Resp: 5643
Ion Ratio Lower Upper
49 100
84 106.0 50.1 104.0#
86 48.3 32.2 66.8
51 38.1 20.2 41.9





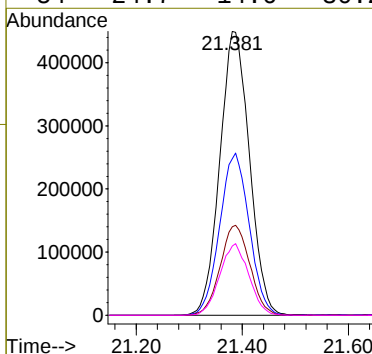
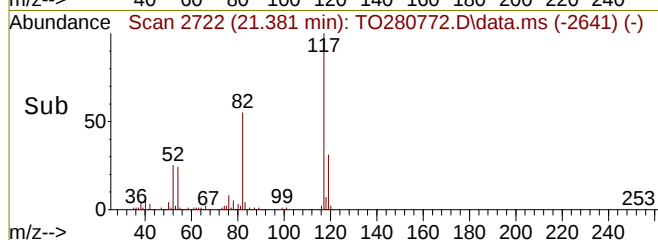
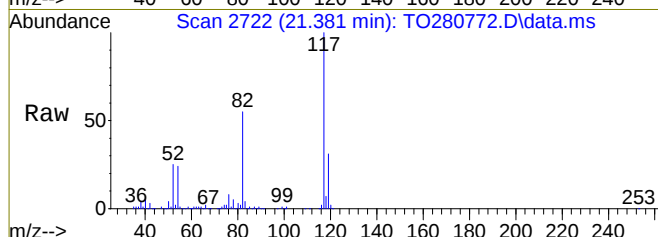
#37
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 15.901 min Scan# 1823
Delta R.T. -0.006 min
Lab File: T0280772.D
Acq: 10 Oct 2019 1:20 pm

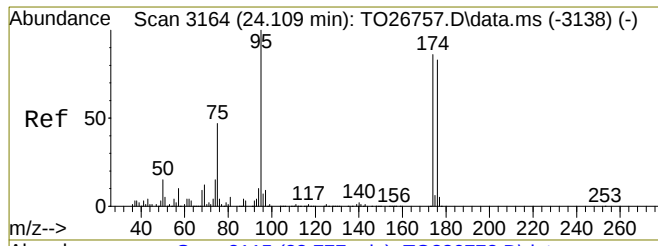
Tgt Ion:114 Resp: 2002976
Ion Ratio Lower Upper
114 100
63 20.6 14.0 29.2
88 17.3 11.2 23.2



#53
d5-Chlorobenzene
Concen: 10.00 ppbv
RT: 21.381 min Scan# 2722
Delta R.T. -0.006 min
Lab File: T0280772.D
Acq: 10 Oct 2019 1:20 pm

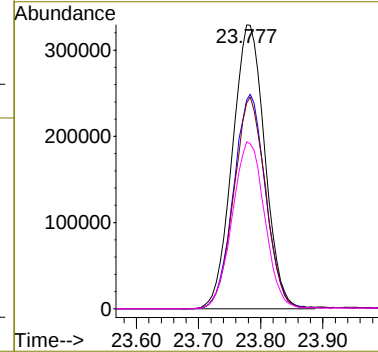
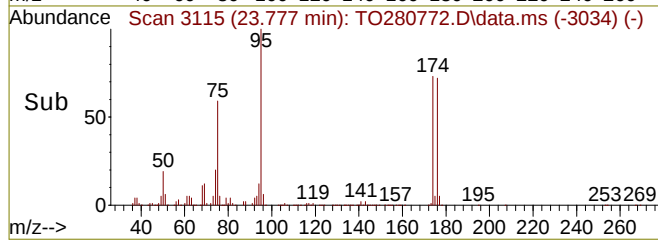
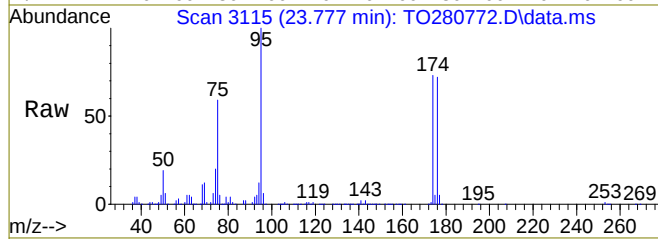
Tgt Ion:117 Resp: 1744731
Ion Ratio Lower Upper
117 100
82 57.0 38.7 80.5
119 31.8 20.3 42.3
54 24.7 14.6 30.2





#64
 p-Bromofluorobenzene
 Concen: 9.24 ppbv
 RT: 23.777 min Scan# 3115
 Delta R.T. -0.006 min
 Lab File: T0280772.D
 Acq: 10 Oct 2019 1:20 pm

Tgt Ion: 95 Resp: 1197162
 Ion Ratio Lower Upper
 95 100
 174 74.7 50.0 103.8
 176 72.8 48.2 100.2
 75 59.0 31.5 65.3



LCS RAW DATA

SDG: 19J0219
CLASS: AIR
METHOD: EPA TO-15

Data Path : D:\101019\
 Data File : T0280770.D
 Acq On : 10 Oct 2019 11:36 am
 Operator : KT
 Sample : BJ90653-BS1
 Misc : QBT01101019A LCS
 ALS Vial : 4 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Oct 10 12:23:28 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

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

Internal Standards						
1) Methane, bromochloro-	14.486	49	387440	10.00	ppbv	# 0.00
37) 1,4-Difluorobenzene	15.907	114	1891661	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.381	117	1773959	10.00	ppbv	0.00

System Monitoring Compounds
 64) p-Bromofluorobenzene 23.777 95 1391244 10.56 ppbv 0.00
 Spiked Amount 10.000 Range 70 - 130 Recovery = 105.60%

Target Compounds						Qvalue
2) Propylene	6.256	42	118828	8.90	ppbv	# 76
3) Dichlorodifluoromethane	6.329	85	1617461	9.75	ppbv	99
4) 1,2-Dichlorotetrafluor...	6.640	85	1350890	10.29	ppbv	95
5) Chloromethane	7.055	50	218417	8.30	ppbv	100
6) Vinyl Chloride	7.378	62	301059	7.98	ppbv	98
7) 1,3-Butadiene	7.433	54	194670	7.75	ppbv	# 86
8) Bromomethane	8.548	94	377920	9.11	ppbv	99
9) Chloroethane	8.707	64	151287	9.32	ppbv	# 93
10) Vinyl Bromide	9.249	106	439600	9.76	ppbv	100
11) Trichlorofluoromethane	9.268	101	1820371	9.93	ppbv	100
12) Isopropanol	9.975	45	480313	8.64	ppbv	100
13) Acrolein	10.213	56	77306	8.85	ppbv	# 100
14) Acetone	10.341	43	583556	8.04	ppbv	83
15) Freon-113	10.109	101	1074928	9.85	ppbv	97
16) 1,1-Dichloroethylene	10.578	61	746817	9.40	ppbv	97
17) 3-Chloropropene	11.273	41	324777	9.40	ppbv	# 45
18) Methylene Chloride	11.517	49	364281	10.14	ppbv	82
19) Acrylonitrile	11.755	53	194138	8.99	ppbv	# 100
20) Carbon disulfide	11.700	76	1047642	10.11	ppbv	# 84
21) Methyl-tert-Butyl Ethe...	11.712	73	1426135	10.20	ppbv	# 89
22) trans-1,2-Dichloroethy...	12.041	61	611695	9.99	ppbv	94
23) Hexane	12.005	57	442975	9.65	ppbv	89
24) Vinyl Acetate	12.694	43	728403	9.07	ppbv	# 98
25) 1,1-Dichloroethane	12.816	63	734635	9.84	ppbv	# 97
26) 2-Butanone	13.498	43	559463	9.41	ppbv	91
27) Ethyl Acetate	13.687	43	710356	10.66	ppbv	96
28) cis-1,2-Dichloroethylene	13.883	61	582052	9.71	ppbv	96
29) Chloroform	14.139	83	1243250	10.21	ppbv	100
30) Tetrahydrofuran	14.535	42	256207	9.52	ppbv	# 60
31) 1,1,1-Trichloroethane	14.828	97	1558369	10.53	ppbv	98
32) Cyclohexane	14.852	56	453572	9.81	ppbv	# 76
33) Carbon Tetrachloride	15.297	117	1701747	9.88	ppbv	100
34) 1,2-Dichloroethane	15.529	62	926105	10.24	ppbv	# 100
35) Benzene	15.596	78	1140435	9.55	ppbv	# 100
36) n-Heptane	15.096	43	460686	9.88	ppbv	# 75
38) Trichloroethylene	16.565	95	721431	9.34	ppbv	98
39) 1,2-Dichloropropane	16.870	63	352161	9.33	ppbv	# 97
40) Methyl Methacrylate	16.772	69	393527	9.66	ppbv	# 61
41) 1,4-Dioxane	17.303	88	272359	9.16	ppbv	# 100
42) Bromodichloromethane	17.315	83	1390320	10.16	ppbv	99
43) Methyl Isobutyl Ketone	17.662	43	683936	9.49	ppbv	# 91
44) cis-1,3-Dichloropropene	18.150	75	852299	10.36	ppbv	97
45) Toluene	18.754	91	1645239	9.21	ppbv	98
46) trans-1,3-Dichloropropene	18.985	75	892667	9.81	ppbv	98
47) 1,1,2-Trichloroethane	19.321	97	587738	9.91	ppbv	90
48) 2-Hexanone	19.156	43	639192	9.56	ppbv	98
49) 1,3-Dichloropropane	19.753	76	796549	9.77	ppbv	# 100
50) Tetrachloroethylene	19.924	166	938012	8.50	ppbv	94
51) Dibromchloromethane	20.381	129	1442720	10.11	ppbv	97
52) 1,2-Dibromoethane	20.759	107	1064012	9.98	ppbv	99
54) Chlorobenzene	21.466	112	1432571	9.45	ppbv	# 100
55) 1,1,1,2-Tetrachloroethane	21.491	131	971040	9.73	ppbv	94

Data Path : D:\101019\
 Data File : T0280770.D
 Acq On : 10 Oct 2019 11:36 am
 Operator : KT
 Sample : BJ90653-BS1
 Misc : QBT01101019A LCS
 ALS Vial : 4 Sample Multiplier: 1
 InstName : 5975C

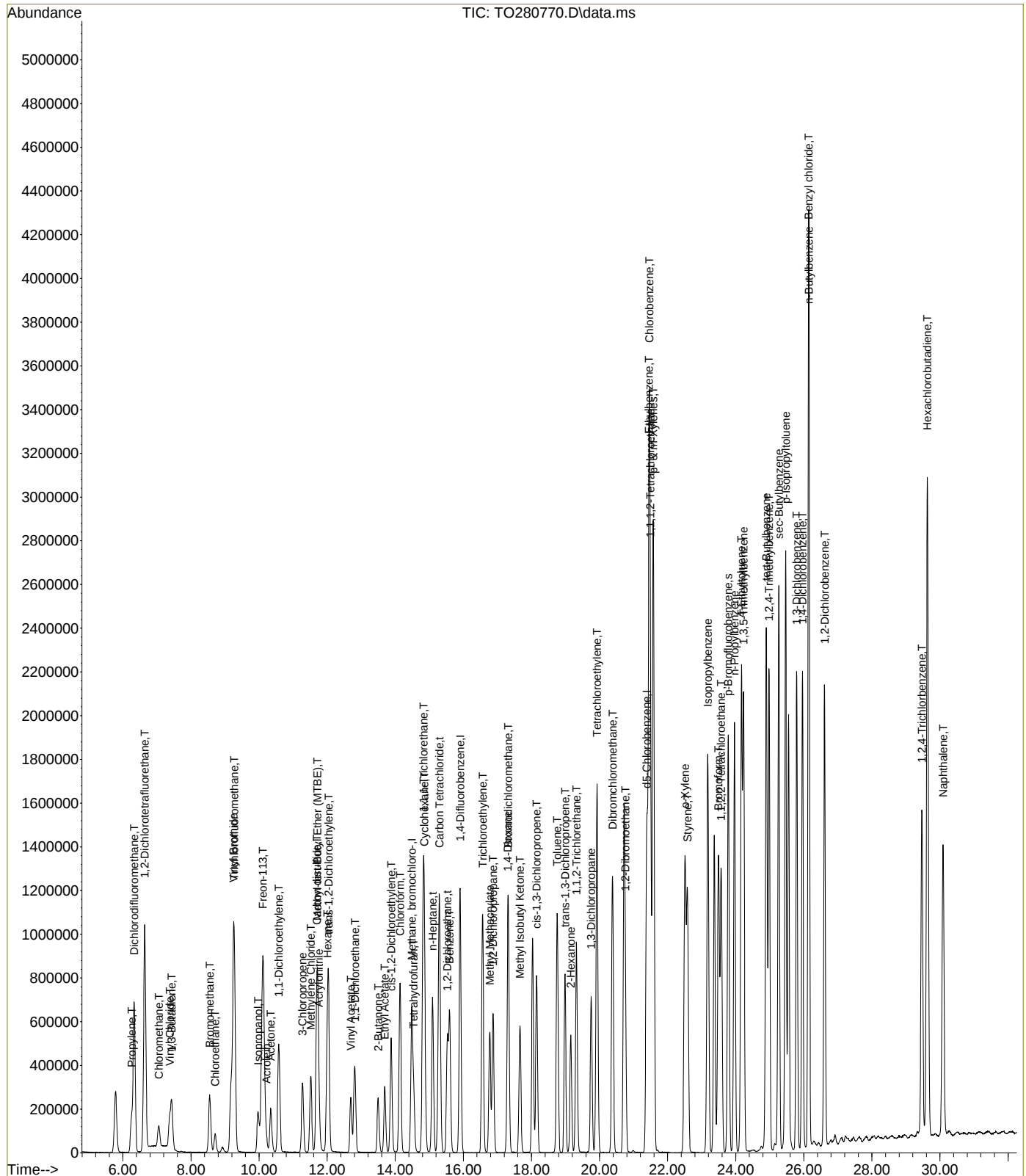
Quant Time: Oct 10 12:23:28 2019
 Quant Method : C:\msdchem\1\methods\AIR109.M
 Quant Title : T015 VOC Analysis
 QLast Update : Mon Oct 07 23:31:47 2019
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56)	Ethylbenzene	21.448	91	2466080	9.28	ppbv	98
57)	p- & m-Xylenes	21.576	91	4017962	19.60	ppbv	96
58)	o-Xylene	22.509	91	2048475	9.91	ppbv	98
59)	Styrene	22.582	104	1379287	10.04	ppbv #	74
60)	Bromoform	23.490	173	1355254	10.14	ppbv	98
61)	n-Propylbenzene	23.966	91	3270649	9.90	ppbv	100
62)	Isopropylbenzene	23.180	105	2826585	9.91	ppbv	99
63)	1,1,2,2-Tetrachloroeth...	23.570	83	1187954	9.77	ppbv #	92
65)	4-Ethyltoluene	24.167	105	3178056	10.65	ppbv	97
66)	1,3,5-Trimethylbenzene	24.228	105	2219139	9.78	ppbv	93
67)	tert-Butylbenzene	24.899	119	2462111	9.69	ppbv #	62
68)	1,2,4-Trimethylbenzene	24.978	105	2575033	10.00	ppbv #	95
69)	sec-Butylbenzene	25.264	105	3419774	9.77	ppbv #	100
70)	p-Isopropyltoluene	25.466	119	2955828	9.67	ppbv #	89
71)	1,3-Dichlorobenzene	25.789	146	1609971	10.01	ppbv	97
72)	1,4-Dichlorobenzene	25.959	146	1585511	10.07	ppbv	96
73)	Benzyl chloride	26.136	126	426760	11.90	ppbv	92
74)	n-Butylbenzene	26.142	91	4956139	10.97	ppbv	99
75)	1,2-Dichlorobenzene	26.612	146	1557133	9.79	ppbv	96
76)	1,2,4-Trichlorobenzene	29.465	180	983301	8.85	ppbv	94
77)	Hexachlorobutadiene	29.629	225	1307734	9.24	ppbv	93
78)	Naphthalene	30.087	128	2560364	10.29	ppbv	99

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

Data Path : D:\101019\
Data File : T0280770.D
Acq On : 10 Oct 2019 11:36 am
Operator : KT
Sample : BJ90653-BS1
Misc : QBT01101019A LCS
ALS Vial : 4 Sample Multiplier: 1
InstName : 5975C

Quant Time: Oct 10 12:23:28 2019
Quant Method : C:\msdchem\1\methods\AIR109.M
Quant Title : T015 VOC Analysis
QLast Update : Mon Oct 07 23:31:47 2019
Response via : Initial Calibration



Batch Canister Certification Prep Logs

SUMMA Canister Cleaning/Preparation Log

Date of Cleaning	Analyst Initials	Canister Number	Lot Number	Temperature of Cleaning Oven (60°C)	Canister Cleaning System (1 or 2)	Number of cleaning cycles (4 or 6) *	Leak check Date (>24 hours)	Analyst Initials	GC/MS file name and date for canister certification
8/26/19	PP/KC	166695	QBS082619B	60°C	1	6	-29.25 ⁴ g	WJ	TO280356D
		18295					-28.94 ⁴ g	WJ	
		23155					-29.71 ⁴ g	PP	
		18298					-29.74 ⁴ g	PP/AS	
		20665					-29.77 ⁴ g	WJ	
		24114							
8/27/19	AS	28853	QBS082719A	60°C	2	4 ^(x2)			TO280495
		23797					-28.65 ⁴ g	WJ	
		24117					-29.81 ⁴ g	WJ	
		28854					-29.81 ⁴ g	WJ	
		28844					-29.81 ⁴ g	WJ	
		28316					-29.91 ⁴ g	WJ	
		23200					-29.50 ⁴ g	WJ	
		18317					-29.61 ⁴ g	WJ	
8/27/19	AS	28801	QBS082719B	60°C	1	6	-29.7	PP	TO280496
		16975							
		20754					-29.51 ⁴ g	WJ	
		15609							
		19529							
		16973					-29.91 ⁴ g	WJ/AS	

* 6 or more cleaning cycles are required for canisters that contain high concentration of VOAs

SUMMA Canister Cleaning/Preparation Log

Date of Cleaning	Analyst Initials	Canister Number	Lot Number	Temperature of Cleaning Oven (60°C)	Canister Cleaning System (1 or 2)	Number of cleaning cycles (4 or 6) *	Leak check Date (>24 hours)	Analyst Initials	GC/MS file name and date for canister certification
2/23/19	PAK	29304	Q35090719A	60°C	2	6			TQ209140
		24112							
		29837							
		18312							
		470							
		17352							
		18300							
		28319							
9/17/19	PP	22081	Q35090718	60°C	1	6	-30.11.19	PP	TQ209138
		28298							
		29314							
		28851							
		29951							
		15613							
9/17/19	PP	183							
9/19/19	PP	472	Q35090919A	60°C	2	4			TQ209140
		28849					-29.3.19	PP	
		20755							
		23860					-29.6.19	PP	TQ209155
		14309							
		23995					-29.3.19	PP	
* 6 or more cleaning cycles are required for canisters that contain high concentration of VOAs									
		22079							
		15613							

28.7.19 PP

SUMMA Canister Cleaning/Preparation Log

Date of Cleaning	Analyst Initials	Canister Number	Lot Number	Temperature of Cleaning Oven (60°C)	Canister Cleaning System (1 or 2)	Number of cleaning cycles (4 or 6) *	Leak check Date (>24 hours)	Analyst Initials	GC/MS file name and date for canister certification
9/10/19	PL12J	28304	085091019A	60°C	1	(15TD) 6x2			
		28853							
		15545							
		18305	AS (8555 - already in vac)						
		28317	9/10/19						
		19307							
		17346							
9/11/19	LLJ	16144	085091119A	60°C	1	6x2	-29.5" Hg	WL	T0209139
		23991							
		28307							
		28843					-30.0" Hg	WL	
		18303					-30.1" Hg	WL	
		28301					-29.6" Hg	WL	
9/12/19	AS	16976	085091219A	60°C	1	6x2	-29.7" Hg	WL	T0209151
		24254					-29.6" Hg	JP	
		20942							
		15522					-30.1" Hg	JP	
		18315					-30.0" Hg	WL	
		22076							

* 6 or more cleaning cycles are required for canisters that contain high concentration of VOAs

SUMMA Canister Cleaning/Preparation Log

Date of Cleaning	Analyst Initials	Canister Number	Lot Number	Temperature of Cleaning Oven (60°C)	Canister Cleaning System (1 or 2)	Number of cleaning cycles (4 or 6) *	Leak check Date (>24 hours)	Analyst Initials	GC/MS file name and date for canister certification
9/14/19	KC	24118	085091419A	60°C	2	4 ^{x2}	-29.7.14y	PP	T0209188
		15524					-29.4.14y	DP	
		28841					-30.1.14y	PP	
		20665							
		19530					-29.1.14y	PP	
		Y61							
		17348					-29.1.14y	PP	
		Y63					-29.0.14y	PP	
		Y64	085091419B	60°C	1	6	-29.7.14y	PP	T0280554
		18296					-29.6.14y	PP	
		28309					-29.2.14y	PP	
		23157					-27.8.14y	PP	
		Y79					-30.2.14y	DP	
		23798							
9/16/19	WL	23998	085091619A	60°C	1	6			T0280553
		23796							
		14193							
		18303					-29.8.14y	WL	
		18293							
		23156							

* 6 or more cleaning cycles are required for canisters that contain high concentration of VOAs

Batch Canister Certification

Data Path : D:\090619\
 Data File : T0280496.D
 Acq On : 7 Sep 2019 12:31 am
 Operator : LLJ
 Sample : QBS082719B
 Misc : QBT01090619A Batch Cert. Can# 28801
 ALS Vial : 15 Sample Multiplier: 1
 InstName : 5975C

Quant Time: Sep 09 10:50:30 2019
 Quant Method : C:\msdchem\1\methods\AIR108.M
 Quant Title : T015 VOC Analysis
 QLast Update : Wed Sep 04 11:14:58 2019
 Response via : Initial Calibration

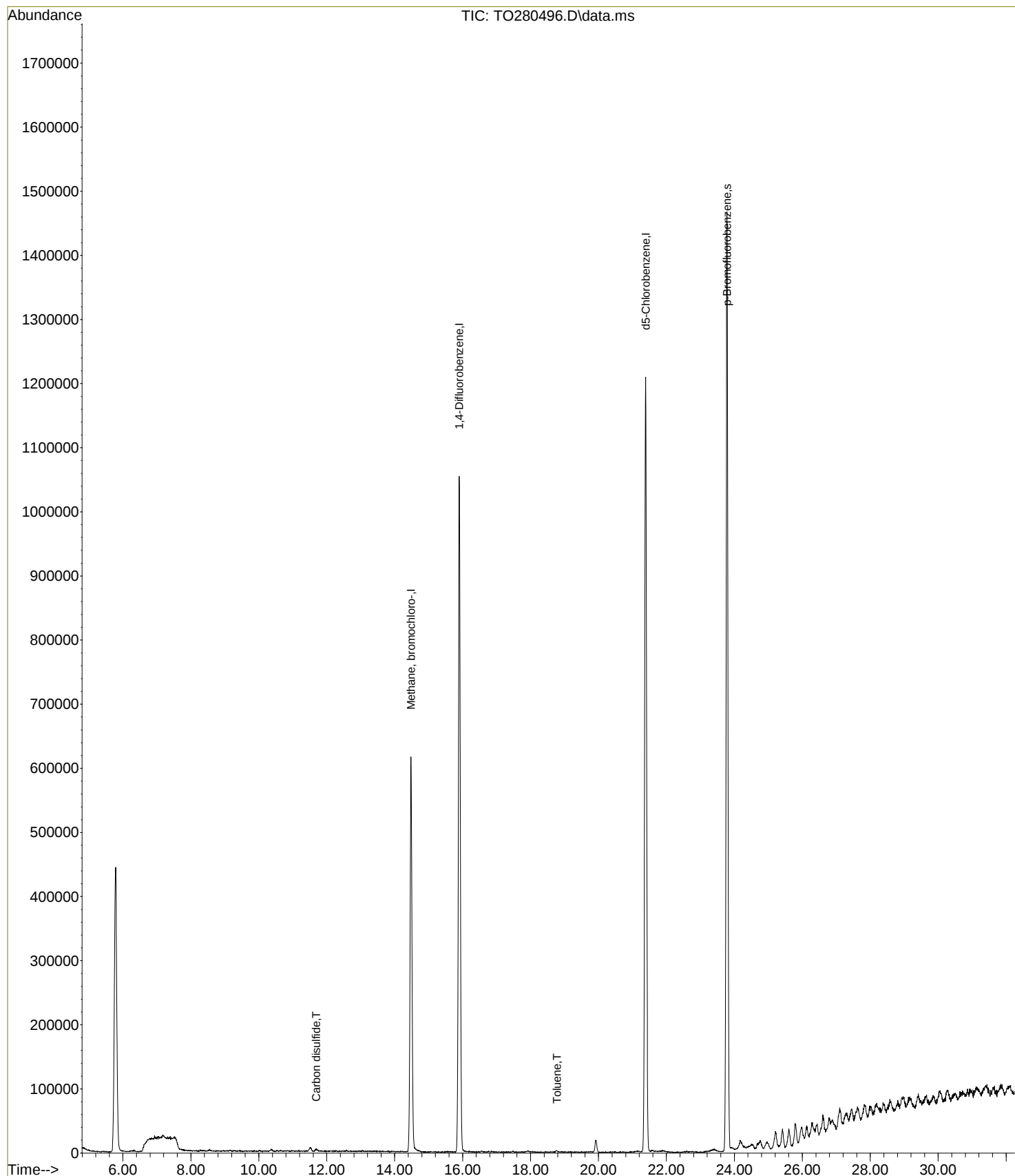
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Methane, bromochloro-	14.480	49	567791	10.00	ppbv	0.00
37) 1,4-Difluorobenzene	15.900	114	1603815	10.00	ppbv	0.00
53) d5-Chlorobenzene	21.387	117	1408734	10.00	ppbv	# 0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	23.783	95	978501	10.43	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	104.30%	
Target Compounds						
						Qvalue
14) Acetone	10.371	43	5600m	Below Cal		
18) Methylene Chloride	11.523	49	6795	Below Cal	#	71
20) Carbon disulfide	11.688	76	9356m	0.08 ppbv		
45) Toluene	18.772	91	3341	0.02 ppbv	#	53
50) Tetrachloroethylene	19.918	166	11743	Below Cal	#	56

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

Data Path : D:\090619\
Data File : T0280496.D
Acq On : 7 Sep 2019 12:31 am
Operator : LLJ
Sample : QBS082719B
Misc : QBT01090619A Batch Cert. Can# 28801
ALS Vial : 15 Sample Multiplier: 1
InstName : 5975C

Quant Time: Sep 09 10:50:30 2019
Quant Method : C:\msdchem\1\methods\AIR108.M
Quant Title : T015 VOC Analysis
QLast Update : Wed Sep 04 11:14:58 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\091619\
 Data File : TQ209188.D
 Acq On : 17 Sep 2019 8:57 am
 Sample : QBS091419A Inst : T015_AIR2
 Operator : AS
 Sample : QBS091419A
 Misc : QBT02091619A Batch Cert. Can# 24128
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 17 16:53:26 2019
 Quant Method : C:\msdchem\1\methods\AIR-2-0024.M
 Quant Title : T015 VOC Analysis
 DataAcq Meth: AIRACQNEW061419.M
 QLast Update : Fri Sep 06 16:22:03 2019
 Response via : Initial Calibration

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

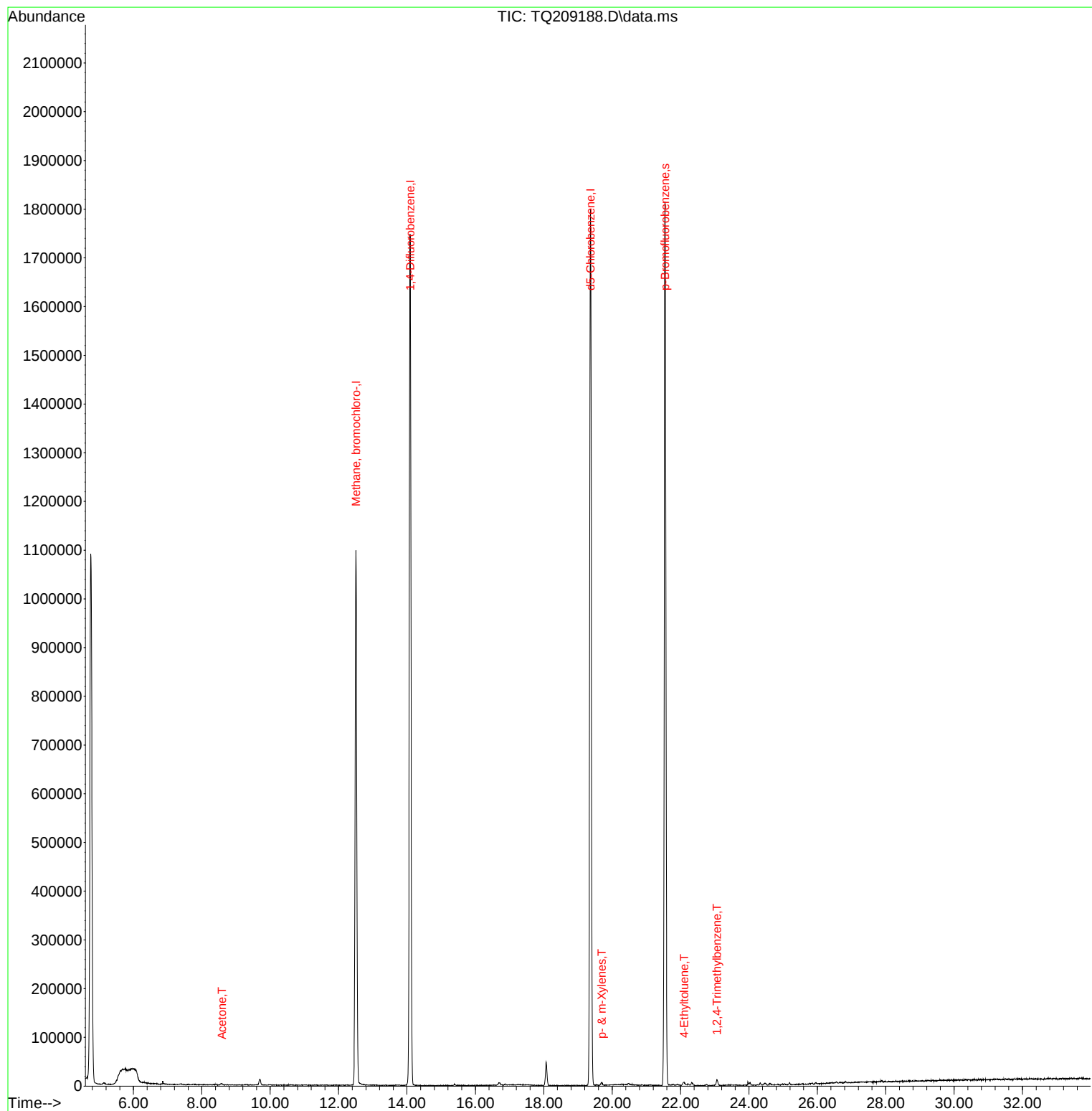
Internal Standards						
1) Methane, bromochloro-	12.506	49	922731	10.00	ppbv	0.00
37) 1,4-Difluorobenzene	14.091	114	2582395	10.00	ppbv	0.00
53) d5-Chlorobenzene	19.364	117	2063046	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	21.547	95	1311831	8.95	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	89.50%	
Target Compounds						
						Qvalue
14) Acetone	8.592	43	5731	0.05	ppbv	# 76
18) Methylene Chloride	9.702	49	12440	Below	Cal	93
50) Tetrachloroethylene	18.078	166	27491	Below	Cal	98
57) p- & m-Xylenes	19.694	91	5942	0.04	ppbv	98
65) 4-Ethyltoluene	22.102	105	13133	0.05	ppbv	93
68) 1,2,4-Trimethylbenzene	23.065	105	14649	0.07	ppbv	# 94

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

Data Path : C:\msdchem\1\data\091619\
Data File : TQ209188.D
Acq On : 17 Sep 2019 8:57 am
Sample : QBS091419A
Operator : AS
Sample : QBS091419A
Misc : QBT02091619A Batch Cert. Can# 24128
ALS Vial : 6 Sample Multiplier: 1

Inst : T015_AIR2

Quant Time: Sep 17 16:53:26 2019
Quant Method : C:\msdchem\1\methods\AIR-2-0024.M
Quant Title : T015 VOC Analysis
DataAcq Meth: AIRACQNEW061419.M
QLast Update : Fri Sep 06 16:22:03 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\091219\
 Data File : TQ209151.D
 Acq On : 13 Sep 2019 7:30 am
 Sample : QBS091219A Inst : T015_AIR2
 Operator : AS
 Sample : QBS091219A
 Misc : QBT02091219A Batch Cert. Can# 16976
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 13 15:14:57 2019
 Quant Method : C:\msdchem\1\methods\AIR-2-0024.M
 Quant Title : T015 VOC Analysis
 DataAcq Meth: AIRACQNEW061419.M
 QLast Update : Fri Sep 06 16:22:03 2019
 Response via : Initial Calibration

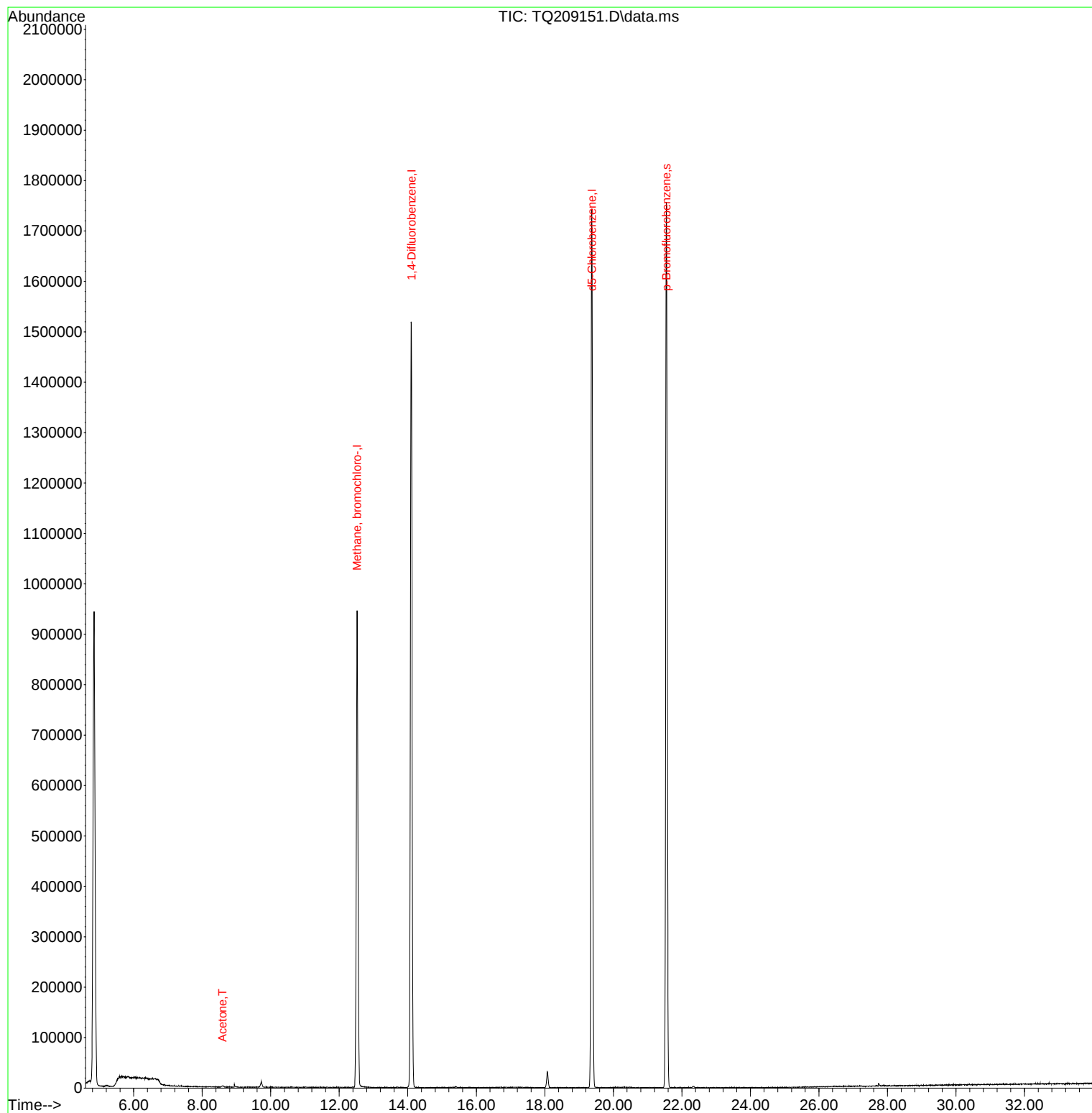
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Methane, bromochloro-	12.518	49	809809	10.00	ppbv	0.01
37) 1,4-Difluorobenzene	14.103	114	2159237	10.00	ppbv	0.01
53) d5-Chlorobenzene	19.370	117	1854517	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	21.547	95	1161162	8.81	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	88.10%	
Target Compounds						
					Qvalue	
14) Acetone	8.586	43	5577m	0.06	ppbv	
18) Methylene Chloride	9.726	49	11046	Below Cal		89
50) Tetrachloroethylene	18.072	166	17252	Below Cal		99

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

Data Path : C:\msdchem\1\data\091219\
Data File : TQ209151.D
Acq On : 13 Sep 2019 7:30 am
Sample : QBS091219A
Operator : AS
Sample : QBS091219A
Misc : QBT02091219A Batch Cert. Can# 16976
ALS Vial : 2 Sample Multiplier: 1
Inst : T015_AIR2

Quant Time: Sep 13 15:14:57 2019
Quant Method : C:\msdchem\1\methods\AIR-2-0024.M
Quant Title : T015 VOC Analysis
DataAcq Meth: AIRACQNEW061419.M
QLast Update : Fri Sep 06 16:22:03 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\091219\
 Data File : TQ209140.D
 Acq On : 12 Sep 2019 7:56 pm
 Sample : QBS090919A Inst : T015_AIR2
 Operator : AS
 Sample : QBS090919A
 Misc : QBT02091219A Batch Cert. Can# Y72
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 22:24:07 2019
 Quant Method : C:\msdchem\1\methods\AIR-2-0024.M
 Quant Title : T015 VOC Analysis
 DataAcq Meth: AIRACQNEW061419.M
 QLast Update : Fri Sep 06 16:22:03 2019
 Response via : Initial Calibration

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

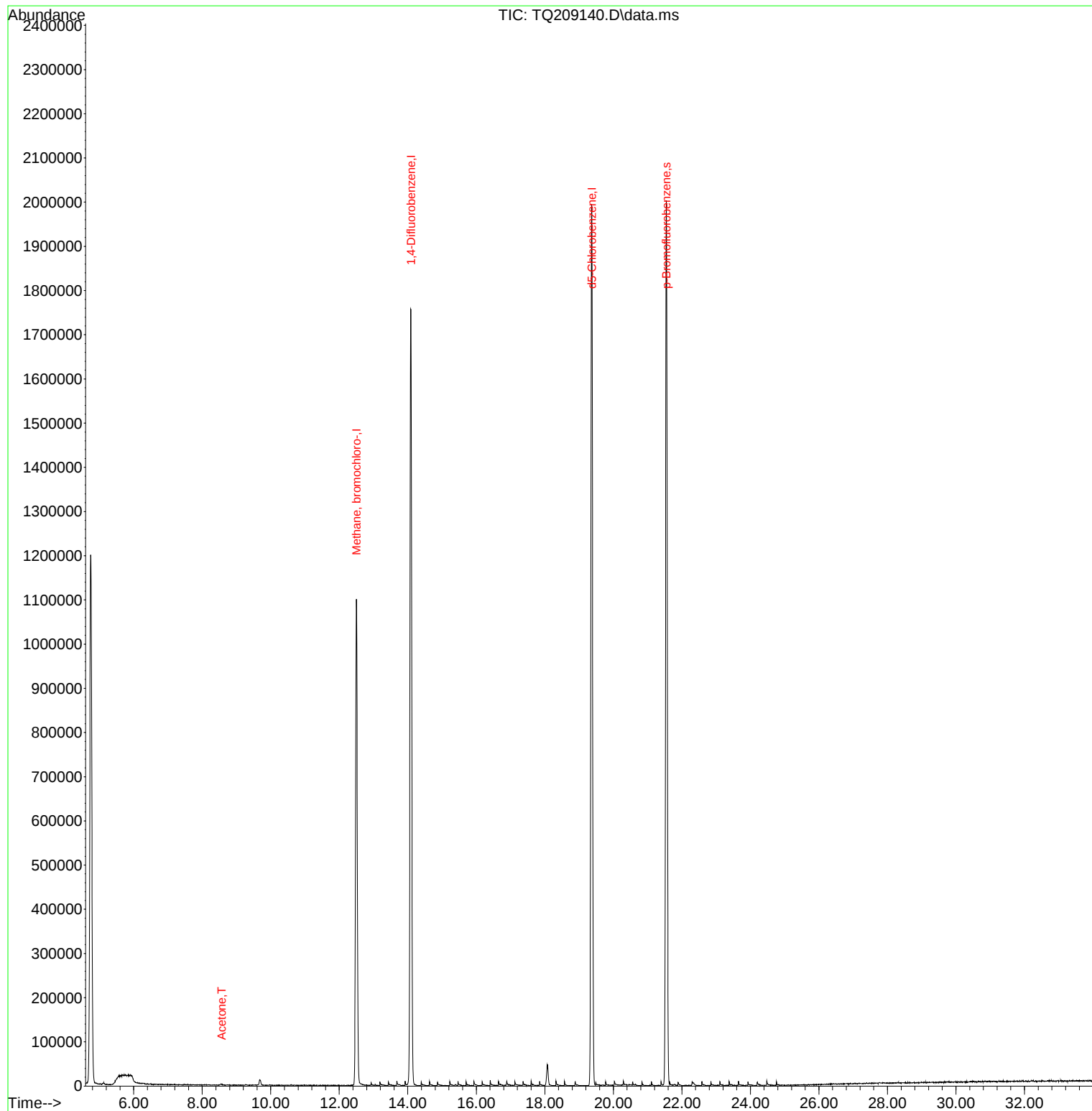
Internal Standards						
1) Methane, bromochloro-	12.500	49	940776	10.00	ppbv	0.00
37) 1,4-Difluorobenzene	14.091	114	2583688	10.00	ppbv	0.00
53) d5-Chlorobenzene	19.370	117	2223416	10.00	ppbv	0.00
System Monitoring Compounds						
64) p-Bromofluorobenzene	21.547	95	1410616	8.93	ppbv	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	=	89.30%	
Target Compounds						Qvalue
14) Acetone	8.562	43	5513	0.05	ppbv	98
18) Methylene Chloride	9.683	49	12839	Below	Cal	97
50) Tetrachloroethylene	18.072	166	25267	Below	Cal	98

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

Data Path : C:\msdchem\1\data\091219\
Data File : TQ209140.D
Acq On : 12 Sep 2019 7:56 pm
Sample : QBS090919A
Operator : AS
Sample : QBS090919A
Misc : QBT02091219A Batch Cert. Can# Y72
ALS Vial : 7 Sample Multiplier: 1

Inst : T015_AIR2

Quant Time: Sep 12 22:24:07 2019
Quant Method : C:\msdchem\1\methods\AIR-2-0024.M
Quant Title : T015 VOC Analysis
DataAcq Meth: AIRACQNEW061419.M
QLast Update : Fri Sep 06 16:22:03 2019
Response via : Initial Calibration



BENCHSHEETS

SDG: 19J0219
CLASS: AIR
METHOD: EPA TO-15

PREPARATION BENCH SHEET-AIR : BJ90653

Preparation Date: 10/10/2019 09:00

York Analytical Laboratories, Inc.

Printed: 10/11/2019 7:47:01PM

Matrix: Air

Preparation: EPA TO15 PREP

Surrogate used: Y19F319 100 ul

Lab Number	Analysis	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0219-01 A	Volatile Organics, EPA TO15 Full List	400	400				
19J0219-01RE1 A	Volatile Organics, EPA TO15 Full List	400	400				Added 10/11/2019 by AS
19J0219-01RE2 A	Volatile Organics, EPA TO15 Full List	400	400				Added 10/11/2019 by AS
19J0219-02 A	Volatile Organics, EPA TO15 Full List	400	400				
19J0219-03 A	Volatile Organics, EPA TO15 Full List	400	400				
19J0219-03RE1 A	Volatile Organics, EPA TO15 Full List	400	400				Added 10/11/2019 by AS
19J0219-04 A	Volatile Organics, TO15 BTEX MTBE List	400	400				Added for BatchQC in: BJ9C
19J0219-04 A	Volatile Organics, EPA TO15 Full List	400	400				
19J0510-01 A	Volatile Organics, TO15 BTEX MTBE List	400	400				
19J0510-02 A	Volatile Organics, TO15 BTEX MTBE List	400	400				
19J0510-03 A	Volatile Organics, TO15 BTEX MTBE List	400	400				
19J0510-04 A	Volatile Organics, TO15 BTEX MTBE List	400	400				
BJ90653-BLK1	QC	400	400				
BJ90653-BS1	QC	400	400	Y19I395		400	
BJ90653-DUP1	QC	400	400		19J0219-04		

Preparations Performed by AS

Date: 10/10/2019 09:00

Injection Logs

York Analytical Laboratories, Inc.

TO15 Summa Canister Injection Log - System 1

Batch ID	Sample ID	Final Canister Press./Vac. In field	Canister Pressure/Vacuum (psig or in. Hg vac)	Add'l Press. for Analysis	Pressurization	ALS	Sample Vol.	Total Dilution	Tune Time	COMMENTS	ISTD	Date	Analyst
B590653	1950249-01	-4.99	-4.0	5.3	1.570	9	40	15.70	10:01	80x	40	11/19/19	KT/AS
	-02	-4.99	-4.3	6.1	1.652	15	40	16.52			40		
	-03	-4.97	-4.2	5.2	1.574	14	40	15.74		50x	40		
	-04	-4.98	-4.0	5.7	1.601	13	750	0.854		Dup	40		
	1950240-01	-8	-7.1	5.9	1.836	16	40	18.36		run 1x	40		
	-02	-8	-6.3	6.9	1.860	12	40	18.60		1x	40		
	1950249-01RE	-4.99	-4.0	5.3	1.570	9	5	125.6		need + Dil'n	40		
	0249-01RE	-4.97	-4.2	5.2	1.574	14	8	78.7			40		
	1950249-01RE	-4.99	-4.0	5.3	1.570	9	8	211.4		4 Press Factor 2.693	40		
	0249-01RE	-4.99	-4.0	5.3	1.570	9	5	612.2		4 Press. Fact. 4.874	40		
	1950510-01	Tedlar	-	-	-	6	40	10		RE - surr cut	40		
	-02		-	-	-	7	40	10		1x	40		
	-03		-	-	-	8	40	10		4x	40		
	-04		-	-	-	10	40	10		1x	40		
	-01	Tedlar	-	-	-	6	40	10			40		
	-02		-	-	-	7	400	1.0			40		
	-03		-	-	-	8	100	4.0		sur. out - use 10x	40		
	-04		-	-	-	10	400	1.0			40		
											40		
											40		
											40		
											40		

Media Request Form

York Analytical Laboratories, Inc.

Air Sampling Media Request e-Form

Date of Request:

9/24/2019

Date Media Needed to Log-In: **9/24/2019**

Order Completed on: 9/24/19

Requested By: Lidya

Completed By: PPI/LW

Order No.:

1064974

Client: Langan-NYC

Date of Request:

9/24/2019

Date to Client:

9/25/2019

Client Project ID: **2413 Third Ave Bronx**

Client Contact Person: Eric Monfort

Delivery Method (x):

XX

York Courier

Client Pickup

Address for Drop Off:

2413 Third Ave, Bronx NY

Special instructions/Additional Info:

5 summas + 1 extra

Ambient Air

SV

Other

Type of Samples Expected (x):

1

5

Type of Media Needed	Quantity	Digital Gauge (x)	Indiv. Cert. (x)	Comments
Summa Canisters- 6 Liter	⑥ pp/Lu			Digital
Summa Canisters- 3 Liter				
Tedlar Bag, 1 L				
Flow controller, grab				
Flow controller, 1 hour				
Flow controller, 2 hour	⑥ pp/Lu			
Flow controller, 4 hour				
Flow controller, 6 hour				
Flow controller, 8 hour				
Flow controller, 12 hour				
Flow controller, 24 hour				

Assets Provided under this Request

[illegible]

Check Out Receipt

Custodian: Langan - NYC (PSN0000112)

Assets Checked Out:

Barcode	Description	Brand	Model	Serial Number	Condition	Due Date
AST0000169	YORK Canister 6L Y63	Ambient		Y63	Good	10/9/2019
AST0000195	YORK Controller Adjustable Y-11-DIGITAL			Y-11	Good	10/9/2019
AST0000208	YORK Controller Adjustable Y-24-DIGITAL			Y-24	Good	10/9/2019
AST0000313	YORK Flow Controller-24 hr. Adjustable-DIGITAL		CS1200E4	7268	Good	10/9/2019
AST0000317	YORK Flow Controller-8 hr. Adjustable-DIGITAL		CS1200E3	7360	Good	10/9/2019
AST0000201	YORK Controller Adjustable Y-17-DIGITAL			Y-17	Good	10/9/2019
AST0000309	YORK Flow Controller-24 hr. Adjustable-DIGITAL		CS1200E	7270	Good	10/9/2019
AST0000500	YORK Canister 6L w/gauge 23995	Ambient	01-29-10622VG	23995	Good	10/9/2019
AST0000509	YORK Canister 6L w/gauge 24128	Ambient	01-29-10622VG	24128	Good	10/9/2019
AST0000537	YORK Canister 6L w/gauge 24254	Ambient		24254	Good	10/9/2019
AST0000602	YORK Canister 6L w/gauge 28801	Ambient	Silonite	28801	Good	10/9/2019
AST0000613	YORK Canister 6L w/gauge 28849	Ambient	Silonite		Good	10/9/2019

Comments:

Signatures:

Custodian _____ Date _____
 Asset Control Officer  Date 9/24/19